




Energy Conservation Measure implemented in 2006-2007

	Title of the measure Compressor ADU isolation	Sector ... Mining.			
		Technology - Compressor			
Description of the energy conservation measure: Air drying unit was required for instrument air in the plant. Compressed air was being used for filtration and instruments. The compressed air requirement of the filters was almost 90 %, but complete air was going through the dessicant type air drying unit. The line arrangement was changed and ADU was put in instrument air supply line only. The air purging time was increased in the ADU. This resulted in energy saving without much investment.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 0.10 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 1.64 lakhs					
First year other savings,					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	293				
Energy consumption after	243				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
Company complete address: Mill, Rajpura Dariba Mines, P.O – Dariba, Dist –Rajasamand Rajasthan, Pin- 313211 Tel – 02952265283, Mobile- 9413664800 e-mail- vishwaroop.sharma@vedanta.co.in Contact person who could be contacted for more information: Sh V.R.Sharma, AGM (OD),				We authorise Bureau to use this information for dissemination Signature Date 8-11-07	


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	Title of the measure Installation of RV drum filter	Sector ... Mining.			
		Technology - Dewatering			
Description of the energy conservation measure: The disc filter was being used for filtration of Zinc concentrate slurry resulting in high moisture (16-18 %) content in filter cake product which was difficult to transport through dumpers / trucks and consuming more diesel due to more weight of water content. The requirement of vacuum was 650 mm Hg at 100 kW and compressed air through 400 cfm screw compressor of 23 kW. This filter was replaced with Rotary Vacuum Drum filter producing filter cake of 10 % moisture at vacuum of 500mm Hg through 70 kW without compressed air. For filter cake discharge small amount of blower air is required meeting with existing Air Blower.					
Picture/ sketch/ drawing before modification (if available)		Picture/ sketch/ drawing after modification			
					
Disc Filter		Drum filter			
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 11.45 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 9.18 lakhs					
First year other savings, Rs.: 4.5 lakhs					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	649				
Energy consumption after	929				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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	Title of the measure G-max in grinding circuit (Six sigma project)	Sector ... Mining.			
		Technology - Milling			
Description of the energy conservation measure: After successful trial of g-Max 15 hydrocyclone in one Mill. In other mills Krebs D-15 two cyclones were being used for classification in grinding circuit resulting in low throughput due to high 600 % recirculating load. These cyclones were replaced by single g-MaX 15 upgraded hydrocyclone has reduced recirculating load by 50 % resulting in improvement in plant recovery efficiency and consistency of downstream operation.					
Picture/ sketch/ drawing before modification (if available)		Picture/ sketch/ drawing after modification			
					
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 9.91 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 0.82 lakhs					
First year other savings, Rs.: 140 lakhs due to increase in 2 % Lead metal recovery.					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	656.20				
Energy consumption after	655.95				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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	Title of the measure LHD (2 Cu yard)	Sector ... Mining.			
		Technology – mucking			
Description of the energy conservation measure: The LHD (Load Haul Dump) is used for mucking from stopes and dumping ore into ore-pass. It is specially designed underground mining equipment. LHD are electrically driven in this mine. A flexible trailing cable on a drum powers this LHD. The productivity of mucking has increased due to replacement of old LHD. The availability and utilization has appreciably improved resulting in reduction in specific power consumption.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 98.07 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 2.62 lakhs					
First year other savings,-- Mine production increased					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	-				
Energy consumption after	-				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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Energy Conservation Measure implemented in 2006-2007

	Title of the measure Reduction in speed of Thickener pumps	Sector ... Mining.			
		Technology - pumping			
Description of the energy conservation measure: Thickner underflow pumps are in operation round the clock. Slurry is either recycled or fed to the filters as per requirement. Valves were being throttled at the output. The motor rating was 22 kW, 1440 rpm. The motor was replaced with 960 rpm, 11 kW motor tria optimization with a VFD. Motor pulleys were changed. Now the valves are opened fully resulting in energy saving and reduction in chances of line jamming. This was done in other thickener as well.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 0.50 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 1.31 lakhs					
First year other savings,					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	157				
Energy consumption after	117				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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	Title of the measure Installation of Spot compressor	Sector ... Mining.			
		Technology - Compressor			
Description of the energy conservation measure: Mining equipments are run either by electrical energy or compressed air. The compressors are situated at the surface level. Air is supplied via a large network of pipelines to the underground working sites. There is lot of losses due to leakage and pressure drop. A small compressor of 200 cfm was installed at the skip hoisting level for operation of gates and other small activities during shift changeover times and on public holidays. This resulted in stoppage of one 550HP compressor at the surface during less demand.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 3.44 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 3.28 lakhs					
First year other savings,					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	--				
Energy consumption after	--				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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	Title of the measure EE electronic choke tube fittings	Sector ... Mining.			
		Technology – lighting			
Description of the energy conservation measure: Lighting is required 24 hrs in few places in the plant. There have been lot of changes in the lighting system at our pump floor during last ten years. Forty number of dust / water proof electronic choke tube fittings with energy efficient T-8 lamps were installed replacing the 125 W HPMV fittings. This resulted in increased energy saving. Additional benefits were reduction in maintenance cost and improvement in lux level.					
Picture/ sketch/ drawing before modification (if available)			Picture/ sketch/ drawing after modification		
					
Agency that executed the project (with complete address and email): Inhouse					
Total investment, Rs.: 1.0 lakhs			Year of implementation: 2006-07		
First year energy cost savings, Rs.: 0.66 lakhs					
First year other savings,-- Rs 0.5 lakhs on maintenance					
On annual basis	kWh 000'	Coal (Tons)	Gas Nm ³	Oil (kL)	Other
Energy consumption before	34				
Energy consumption after	14				
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28				
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	Title of the measure VFD for series pump	Sector ... Mining.
		Technology - Pumping
Description of the energy conservation measure: After successful trial of VFD in series pumps. New VFD installed in standby series pump for pumping waste slurry. Two pumps Vasa 200 of 90 and 110 kW were replaced by 110 kW single stage HD 150 pump. Due to isolation of one pump and controlled rpm through ultrasonic level sensor in the sump the power was reduced by 1.5 lakh units per annum.		
Picture/ sketch/ drawing before modification (if available)	Picture/ sketch/ drawing after modification	
		
Picture showing old foundation of removed pump and single pump		
VFD panel – 110 kW for series pump		
Agency that executed the project (with complete address and email): Inhouse		
Total investment, Rs.: 7.44 lakhs		Year of implementation: 2006-07
First year energy cost savings, Rs.: 4.92 lakhs		
First year other savings, Rs.: 1.0 lakhs in maintenance cost		
On annual basis	kWh 000'	Coal (Tons)
Energy consumption before	560.46	Gas Nm ³
Energy consumption after	410.00	Oil (kL)
Energy tariff, Rs/ kWh/ Ton/ Nm ³ / kL ...	3.28	Other
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