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**REAL BIG POWER CO.**  
Sherwin Alumina  
Cuyahoga Falls, OH

**SAVE**

Sample ID: GPP-297229  
Equip. Desc.: GTG 1B; Gas Turbine  
Lubricant Type: Mobil DTE-832  
Reservoir Cap.: 6,200.00 Gal(s) 23,467.00 Ltr(s)  
Machine Time: 11,319.0  
Lube Time: 1,206.0 Hr(s)

Sample Date: 11/11/2001  
Received Date: 11/26/2001  
Test Date: 12/5/2001  
Prev. Sample: 4/25/2001 **C**  
First Sample: 4/9/2001  
No. Samples: 7

Gas Turbine Generator 1B (297229); is one of three-(3) main turbines for GPP and first rated **CRITICAL** 9/25/2001.

**Recommendation:** Consider scheduling this equipment for maintenance action in the near future. Specifically abnormal Aluminum bearing wear. Compare past performance data with current information.



Although the equipment particle concentration (EPC) has decreased for this equipment from 1,093 to 717 and is within acceptable limits for this type of equipment, analytical results show the presence of 70 micrometer (um) White Non-Ferrous Severe Sliding wear and Cutting wear particles. Testing is also show the presence of 70um Rolling Contact (Bearing) wear particles. The Rolling contact (Bearing) wear show the continued signs of tempering or rainbow coloration from elevated temperatures at the critical contact point. The Aluminum is the Babbiting from the Journal Bearing.

Upon opening of Gas Turbine Generator 1B (297229); the journal bearing was found with significant striations with Varnish & Lacquer accumulation as result of over heating of the oil. The sleeve is composed of white non-ferrous metal that has been wiped.

Secondary Damage, Property Damage and Service Interruption was minimized. Service Interruption & Downtime was minimized. Maintenance scheduled and performed during holiday weekend slow period.

Optimized equipment performance and savings for the utility, customers and investors.



### CUSTOMER ESTIMATED SAVINGS:

|                             |           |
|-----------------------------|-----------|
| Original Component Savings: | 9,756,480 |
| Secondary Damage Savings:   | 76,300    |
| Business Interruption:      | 250,000   |
| Property Damage:            | 0         |
| Rush Shipping Cost Savings: | 13,500    |
| Overtime Repair Savings:    | 3,425     |

**Total SAVINGS: \$ 10,099,705**

**REAL Return on Investment: 948:1**