



Monolec Ultra[®] Engine Oil (8800) and LEAPSM Oil Analysis

Beaufort Jasper Water & Sewer Authority – South Carolina Stationary Generators at Water Treatment Plant

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Customer Profile

Beaufort Jasper Water and Sewer Authority provides the main source of water to coastal communities in its service area, which extends over 1,500 square miles across two counties in South Carolina.

The rapid growth of the coastal area demands that BJWSA continues to invest and maintain its equipment at peak performance. Today the water plants can process more than 39 million gallons per day.

Application

BJWSA has seven large diesel standby generators to power its facilities in case of emergency power outages. These stationary generators are powered by Cat engines, which vary in size according to power requirements. The engine models include Cat 3208, 3512, 3508 and 3516. Each generator holds 50 to 80 gallons of oil.

Challenge

The generators must be ready at a moment's notice. However, with equipment like this that is idle most of the time, there are usually problems with moisture, acid buildup, fuel dilution and oil oxidation. BJWSA was running its generators monthly to check their readiness, but the Maintenance Department knew that something more needed to be done.

LE Solution

The BJWSA Maintenance Department decided a proactive preventive program was needed. With the help of Helmut von Schweinitz, LE consultant, the following procedures were implemented.

- Use Monolec Ultra Engine Oil (8800) – LE's long-life engine oil – to combat acids and oil oxidation and to enable extended drain intervals.



Generator with Cat 3512 engine



Generator with Cat 3508 engine

- Pull oil samples regularly for routine monitoring of engine and oil condition using LEAP oil analysis.

Results

By implementing these preventive maintenance steps, BJWSA has reduced the costs associated with frequent oil changes and downtime. BJWSA has moved from its



traditional once-per-year oil changes to condition-based monitoring. Knowing the condition of the oil and the engines has enabled BJWSA to go five years without an oil change, saving time, labor and materials.

"It is easier to use these tools that detect contamination or a defect in equipment than to incur the costs of an equipment failure, especially at a critical time," said Al Legare, maintenance manager.



COMPANY INFORMATION
 BEALFORT JASPER WATER SEWER
 STEVE LEE
 843-987-9200
 PO BOX 1082
 IRMO, SC 29063

UNIT ID
3508 CAT E
SECOND ID
CWTP GEN
UNIT TYPE
DIESEL ENGINE
APPLICATION
UTILITY

ACCOUNT NUMBER 59300002850009
DATE SAMPLED 09/21/10
DATE RECEIVED 09/27/10
DATE COMPLETED 09/28/10

TRACKING # 10021A01056
MANUFACTURER/MODEL CATERPILLAR 3508
LUBE MFR LUBRICATION ENGINEERS
LUBE TYPE - GRADE 8800 MONOLEC ULTRA Engine Oil SAE 15W40
MICRON RATING 15
FILTER TYPE FULLFLOW
SUMP CAPACITY 50.00
HYD SYSTEM PRESSURE 0
FLUID ADDED

OVERALL SEVERITY OF REPORT
 based on comments, not individual tags



LAB # 794050
LOCATION I
ANALYST FLG

FLUID ANALYSIS REPORT - 800-537-7683

COMMENTS Data indicates no abnormal findings. Resample at normal interval;

S A M P L E #	WEAR METALS PPM							CONTAMINANT METALS - PPM					MULTI-SOURCE METALS - PPM				ADDITIVE METALS PPM						
	CHROMIUM	NICKEL	ALUMINUM	COPPER	LEAD	TIN	CADMIUM	SILICON	VANADIUM	SILICON	SODIUM	POTASSIUM	TITANIUM	MOLYBDENUM	ANTIMONY	MANGANESE	LITHIUM	BORON	MAGNESIUM	CALCIUM	BARIUM	PHOSPHORUS	ZINC
2	4	0	0	0	5	0	0	0	0	2	3	0	0	34	0	0	0	24	1003	997	0	1015	1103
1	4	0	0	0	4	0	0	0	0	4	4	0	0	35	0	0	0	22	1012	1052	0	1076	1227

S A M P L E #	DATE RECEIVED	UNIT TIME LUBE TIME	L U B E C H G	F I L T E R C H G	F U E L e s t	S O O T V o l.	W A T E R I n f r a r e d	V I S 4 0 C C S	V I S 1 0 0 C C S	T A N T o t a l A c i d	T B N T o t a l B a s e	I-R O X I D A	I-R N I T R A	I S O C O D E	4	6	10	14	21	38	70	100	
															M I C R O N								
2	09/21/10	615	N	N	<1%	<.1%	<.1		13.9		7.94												
1	02/15/10	580	N	U	<1%	<.1%	<.1		14.3		7.38												
	02/23/10	93																					

Thank you to Al Legare, maintenance director, all of the maintenance staff, and Helmut von Schweinitz, LE lubrication consultant (pictured), for providing the information used in this report.



Monolec Ultra® is a registered trademark and LEAP™ is a service mark of Lubrication Engineers, Inc.

Based on actual user experience. Individual results may vary. Not intended to supersede manufacturer specifications.

SIC 4941
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