

S-O-S<sup>SM</sup> Services

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<sup>u</sup> Customer Information

Evaluation / Recommendation

STATEWEST GROUP
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For accurate analysis the oil brand, type and grade are required on the sample card. Hours on oil not quoted. The aluminium and silicon indicate possible dirt entry. Check the seals, breathers and fill point for dirt entry points. The ISO oil cleanliness code range >6 micron is high. Check filter media and screen for wear particles and contaminants. For enquiries regarding this evaluation, please contact Jim Durning Ph 08 9377 9757. More samples are needed to establish a trend.

Sample Notes:

Monitor Compartment.

Interpreted by: Jim Durning

	Unit Information																					
Unit Num	Unit Number WL146 Equip Make Caterpillar													Compart Make								
Location Equip Model 990 II											Compart Model											
Compartment HYDRAULIC SYSTEM Equip Serial BCR10015											Compart Serial											
Job No T									Oil		Lab No 44G1881901								901			
Sample Reading Groups:  Elemental  Physical  Particle Count ( Parts per Millilitre )																						
	Sample Information Fluid Change History									Sample Readings												
Lab No	Date Taken	Eval	On Equip	On Oil	Oil Added	Fluid Chg	Filter Chg	Туре	Grade	SCA	PQI	Fe	Cu	Cr	Pb	Sn	Ni	Al	Si	Na		
44G1881901	25/Jun/14	В	39207	0	0	N	N	INSUFF OIL INFO	IOI		0	9	1	<1	<1	<1	<1	5	11	3	T <	
																					$\vdash$	

	Sample Readings																				
LabNo	Мо	В	Ва	Mg	Ca	Zn	Р	H2O	V40	OXI	NIT	SUL	10μ	25μ							
44G1881901	1	2	<1	12	2785	1205	965	0.0	98.4	3	4	17	150	3							
										·		·				·	·	·			·

Printed: 9/07/2014 11:33:29PM This report is valid only to the sample indicated on this report. Use this report in conjunction with other maintenance procedures.

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THIS ANALYSIS IS INTENDED AS AN AID IN PREDICTING MECHANICAL WEAR. NO GUARANTEE, EXPRESS OR IMPLIED, IS MADE AGAINST FAILURE OF THIS PIECE OF EQUIPMENT OR A COMPONENT PART THERE OF

## **OUR VISION - TO BE THE WORLDS BEST S.O.S LABORATORY IN ALL KEY MEASURES**

SCHEDULED OIL SAMPLING IS AN ACCURATE AND RELIABLE PROGRAM WHICH WILL IMPROVE PRODUCTIVITY AND REDUCE MAINTENANCE COSTS

## TAKING A GOOD SAMPLE

- ENSURE THAT ALL EQUIPMENT IS SAFE TO WORK ON AND THAT SAFE WORK PRACTICES ARE FOLLOWED WHEN EXTRACTING SAMPLES.
- ENSURE THE AREA AREOUND THE SAMPLE EXTRACTION POINT IS CLEAN AND FREE OF CONTAMINANTS. DO NOT REUSE ANY PART OF THE SAMPLE KIT TO AVOID CROSS CONTAMINATION.
- EXTRACT THE SAMPLE FROM HOT, WELL MIXED FLUID PREFFERABLY USING THE ENGINE, TRANSMISSION AND HYDRAULIC SYSTEM SOS SAMPLE VALVE, WHERE FITTED.
- WHEN THE SUCTION EXTRACTION METHOD IS USED, IT IS BEST TO TAKE THE SAMPLE FROM MID LEVEL FLUID. NOTE: DO NOT TAKE THE SAMPLE FROM THE OIL DRAIN OR FROM THE FILTERS.
- PLEASE USE OIL COMMANDER TO GENERATE THE SAMPLE CARD, ALTERATIVELY FILL IN THE CORRECT SAMPLE CARD WITH C OMPLETE AND ACCURATE INFORMATION. NOTE: WHEN INSUFFICIENT INFORMATION IS
  RECEIVED THE SAMPLE WILL NOT BE PROCESSED. ENSURE SUFFICIENT FLUID IS PROVIDE FOR A COMPLETE TEST

COMMIT TO CONTINUOUS SOS SAMPLING AT REGULAR INTERVALS, THIS WILL PRODUCE TREND RESULTS THAT CAN BE EASILY UNDERSTOOD AND GRAPHED.

ADDITIVE & WEAR ELEMENTS		PARTICLES UP TO 8 MICRON IN SIZE ARE MEASURED USING ICP EMISSION SPECTROMETORY									
Fe IRON	<b>Cr</b> CHROME	Pb LEAD	<b>AI</b> ALUMINIUM	Si SILICON	Mo MOLYBDENUM	Na SODIUM	Sn TIN	Mg MAGNESIUM	Ni NICKEL	Ca	
CALCIUM											
<b>Zn</b> ZINC	Cu COPPER	Ag SILVER	Cd CADMIUM	Mn MANGANESE	Ti TITANIUM	<b>B</b> BORON	Ba BARIUM	<b>K</b> POTASSIUM	<b>P</b> PHOSPHATE	<b>V</b> VANADIUM	
OIL CONDITION	ST SOOT	<b>OXI</b> OXIDATION	<b>SUL</b> SULPHATION	NIT NITRATION VIS VIS	SCOSITY						
CONTAMINANT	TESTS	<b>W</b> WATER	<b>F</b> FUEL A VISUAL INSPECTION C	PCT PARTICLE COUNTIN	<b>PQI</b> PARTICLE QUA WEAR ELEMENTS O		ON				

ACCEPTABLE: ALL TEST RESULTS ARE WITHIN ACCEPTABLE LIMITS. CONTINUE TO SAMPLE AT THE RECOMMENDED INTERVAL.

ACCEPTABLE (A.I): TEST RESULTS ARE ACCEPTABLE; HOWEVER THERE IS A PROBLEM WITH INFORMATION ON THE SAMPLE CARD. CORRECT OR CONFIRM THE INFORMATION.

REPORTABLE: SLIGHT CHANGES IN ONE OR MORE TEST RESULTS HAVE OCCURRED. THE COMPARTMENT NEEDS TO BE MONITORED, RESAMPLED OR CHECKED.

UNACCEPTABLE: ONE OR MORE TESTS HAVE HAD A LARGE INCREASE OR CHANGE IN THE RESULTS AND THE COMPARTMENT NEEDS INSPECTION AND OR CORRECTION ASAP.

URGENT: ONE OR MORE TEST RESULTS ARE EXCESSIVE AND THE COMPARTMENT NEEDS IMMEDIATE INSPECTION AND OR CORRECTION.

PLEASE NOTE: ENSURE THAT OIL SAMPLE RESULTS CORRELATE WITH OTHER DIAGNOSTIC INFORMATION BEFORE COMPARTMENTS ARE STRIPPED DOWN OR REPAIRS ARE UNDERTAKEN.
ALWAYS RESAMPLE

## DID YOU KNOW?

- THAT CONTAMINANTS SUCH AS DIRT ARE RESPONSIBLE FOR MOST ABRASIVE WEAR AS THEY ARE OFTEN HARDER THAN METAL.
- THAT IF YOUR COOLING SYSTEM IS NOT OPERATING WITHIN THE MANUFACTURERS RECOMMENDED TEMPERATURES YOU MAY REDUCE OIL LIFE. INCORRECT OPERATING TEMPERATURES MAY CREATE HARMFUL MOISTURE AND ACIDS TO BUILD UP THAT CAN ALSO REDUCE ENGINE LIFE.
- THAT NEW OIL AND DIESEL FUEL IS OFTEN CONTAMINATED BEFORE USE. ALL NEW FLUIDS SHOULD BE FILTERED BEFORE USE.
- THAT EXTENDED IDLING OR ENGINE LUGGING CAN INCREASE WEAR
- OTHER SERVICES WE SUPPLY (ADDITIONAL CHARGES APPLY).
   MICOSCOPIC PARTICLE ANALYSIS A REPORT WITH PHOTOS
- COOLANT ANALYSIS
   TBN (TOTAL BASE NUMBER)
   TAN (TOTAL ACID NUMBER)
   CONSULTING SERVICES
   TRAINING
   CONTAMINATION CONTROL