

S-O-SSM Services

www.westrac.com

^u Customer Information

Evaluation / Recommendation

STATEWEST GROUP
ATTN: Clint Cragan
157 LANE STREET
BOULDER, WA ,Australia 6432

For accurate analysis the oil brand, type and grade are required on the sample card. Hours on oil not quoted. The sodium may indicate washdown/external water or coolant entry. This sample is contaminated by 0.3% water. Check the seals, breathers and fill point for dirt entry points. Pressurise the cooling and/or aftercooler system to check for leaks. The copper is possibly leaching from the cooler core. The particle count is elevated. Check filter media and screen for wear particles and contaminants and resample after any adjustments or repairs. For enquiries regarding this evaluation, please contact Jim Durning Place 18,377,9757, More samples are needed to interpreted by 11 Required.

Sample Notes: **Unit Information** Unit Number WL146 Equip Make Caterpillar Compart Make Equip Model 990 II Location Compart Model BCR10015 Compart Serial Compartment TRANSMISSION POWER SHIFT **Equip Serial** Job No Lab No 44G1881945 Type Oil Sample Reading Groups: Elemental Physical Particle Count (Parts per Millilitre)

Sample Ir	nform	ation		Fluid Change History									
Date Taken	Eval	On Equip	On Oil	Oil Added	Fluid Chg	Filter Chg	Туре	Grade	SCA				
25/Jun/14	С	39207	0	0	0 N		INSUFF OIL INFO	IOI					
	Date Taken	Date Taken Eval		Date Taken Eval On Equip On Oil	Date Taken Eval On Equip On Oil Oil Added	Date Taken Eval On Equip On Oil Oil Added Fluid Chg	Date Taken Eval On Equip On Oil Oil Added Fluid Chg Filter Chg	Date Taken Eval On Equip On Oil Oil Added Fluid Chg Filter Chg Type	Date Taken Eval On Equip On Oil Oil Added Fluid Chg Filter Chg Type Grade				

	Sample Readings														
F	PQI	Fe	Cu	Cr	Pb	Sn	Ni	Al	Si	Na	K				
	3	14	1180	<1	<1	<1	<1	<1	6	20	<1				

	Sample Readings																			
LabNo	Мо	В	Ва	Mg	Ca	Zn	Р	H2O	V40	OXI	NIT	SUL	10μ	25μ						
44G1881945	4	38	<1	9	2573	995	984	0.3	98.1	2	4	18	2348	64						
	·														·					

Printed: 9/07/2014 11:45:50PM This report is valid only to the sample indicated on this report. Use this report in conjunction with other maintenance procedures.

WesTrac Pty Ltd A.B.N. 63 009 342 572

128-136 Great Eastern Highway, South Guildford, Western Australia, 6055

Telephone:(08) 9377 9521 Facsimile:(08) 9377 9802

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	Cr CHROME	Pb LEAD	AI ALUMINIUM	Si SILICON	Mo MOLYBDENUM	Na SODIUM	Sn TIN	Mg MAGNESIUM	Ni NICKEL	Ca			
CALCIUM													
Zn ZINC	Cu COPPER	Ag SILVER	Cd CADMIUM	Mn MANGANESE	Ti TITANIUM	B BORON	Ba BARIUM	K POTASSIUM	P PHOSPHATE	V VANADIUM			
OIL CONDITION	ST SOOT	OXI OXIDATION	SUL SULPHATION	NIT NITRATION VIS VIS	SCOSITY								
CONTAMINANT	TESTS	W WATER	F FUEL A VISUAL INSPECTION C	PCT PARTICLE COUNTIN	PQI PARTICLE QUA WEAR ELEMENTS O								

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