



ZIEGLER S-O-S ANALYSIS LAB
901 WEST 94TH STREET
MINNEAPOLIS, MN 55420-4299
(952) 888-4121 (800) 352-2812

S.O.SSM Services



Sample For:

SHOP SAMPLE
ROGER TULIBASKI
720 3RD AVE SW
CROOKSTON MN 56716-0538

Serial #: 8530238
Compartment: ENGINE
Unit #: 854
Model #: 854
WO #: WC53132

Sample #: 150606831
Date Received: 6/18/15
Oil Brand:
Oil Blend:
Oil Weight

C H S AG SERVICES/LAKE

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS										INFRARED ANALYSIS			PHYSICAL TESTS				
Date Taken	Changed		Quarts Oil Added	Meter	Meter on Oil	K Potassium PPM	CU Copper PPM	NA Sodium PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	SN Tin PPM	INFRARED ANALYSIS			PHYSICAL TESTS				
	Oil	Filter													Soot	Sulfation	Oxidation	Po-Ferrous Debris	Viscosity	Anti-Freeze Dilution	Fuel	Water
6/18/15	U	U		6683		1	2	4	25	3	4	7	1	0	78	19	13	5	15.6	N	N	N

Interpretation

The analysis of the oil sample taken from your ENGINE indicates that Soot is slightly high. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation

Soot level is influenced by fuel system operation, lugging and/or inlet air restriction. High Soot readings will increase engine wear.

TRENDING SAMPLE INFORMATION					WEAR METALS ANALYSIS										INFRARED ANALYSIS			PHYSICAL TESTS				
Date Taken	Changed		Quants Oil Added	Meter	Meter on Oil	K Potassium PPM	CU Copper PPM	NA Sodium PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	SN Tin PPM	Soot	Sulfation	Oxidation	Po-Ferrous Debris	Viscosity	Anti-Freeze	Fuel Dilution	Water
	Oil	Filter																				
6/18/15	U	U		6683		1	2	4	25	3	4	7	1	0	78	19	13	5	15.6	N	N	N
12/09/08	N	N		4949		1	3	6	41	3	3	10	3	0	32	18	13	11	14.0	N	N	N
1/21/08	N	N		4450		1	2	5	38	4	3	12	2	1	39	18	13	1	14.8	N	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING					SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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Sample For: SHOP SAMPLE
ROGER TULIBASKI
720 3RD AVE SW
CROOKSTON MN 56716-0538

Serial #: 8530238
Compartment: HYDRAULIC SYSTEM
Unit #: 854
Model #: WC53132
WO #:

Sample #: 150606830
Date Received: 6/18/15
Oil Brand:
Oil Blend:
Oil Weight:

C H S AG SERVICES/LAKE

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS								INFRARED ANALYSIS		PARTICLE COUNT			PHYSICAL TESTS				
Date Taken	Changed		Quarts Oil Added	Meter	Meter on Oil	CU Copper PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	NA Sodium PPM	Soot	Oxidation	ISO Code	µm 5	µm 10	µm 15	PO-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
6/18/15	U	U		6683		120	20	0	1	10	14	2	0	6	21/16	14327	2130	425	7	8.2	N	N

Interpretation
The analysis of the oil sample taken from your Hydraulic System indicates that Copper and Iron are slightly high. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation
If the filter is clean and the readings don't increase with future sampling, no action is required.

TRENDING SAMPLE INFORMATION					WEAR METALS ANALYSIS										INFRARED ANALYSIS		PARTICLE COUNT			PHYSICAL TESTS		
Date Taken	Changed		Quarts Oil Added	Meter	Meter on Oil	CU Copper PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	NA Sodium PPM	Soot	Oxidation	ISO Code	µm 5	µm 10	µm 15	Po-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
6/18/15	U	U		6683		120	20	0	1	10	14	2	0	6	21/16	14327	2130	425	7	8.2	N	N
12/09/08	N	N		4949		210	26	0	3	4	25	5	0	0	22/15	26390	1631	213	15	8.8	N	N
1/21/08	N	N		4450		170	29	0	3	5	26	6	0	0	20/13	5621	103	42	2	6.7	N	N

CURRENT SAMPLE IS INCLUDED IN TRENDING

SEE REVERSE SIDE FOR TEST EXPLANATIONS



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Sample For: SHOP SAMPLE
ROGER TULIBASKI
720 3RD AVE SW
CROOKSTON MN 56716-0538

Serial #: 8530238
Compartment: RADIATOR
Unit #: 854
Model #: WC53132
WO #: C H S AG SERVICES/LAKE

ACTION
Sample #: 150690488
Date Received: 6/18/15
Date Taken: 6/17/15
Service Meter: 6683
Hours on Sample:

Glycol Concentration (%) <small>50/50 or Greater Unless Specified Otherwise</small>	36%	(30 - 65%)	Coolant Properties		Supplemental Coolant Additive (ppm)	410	See Back Charts
Freeze Point (°F)	-5		Conductivity (µmhos/cm)	3190	(<7500)	Color	GREEN DEAC
Boil Point (°F) 0.0 psi	219		pH	8.9	(7.0 - 11.0)	Visual Contamination	CLOUDY

Interpretation
Test result for supplemental coolant additive is low and coolant is cloudy.

Recommendation
You need to add supplemental coolant additive. If coolant is more than 3 years old drain and flush system, refill with new 50/50 antifreeze water mix with recommended amount of supplemental coolant additive. If you don't use supplemental coolant additive every 250 hours, we strongly recommend using long life coolant.

TRENDING SAMPLE INFORMATION					COOLANT ANALYSIS							
Date Taken	Changed		Meter Reading	Hours On Cool	GLYC	FP	BP	CONDUCT	pH	SCA	Color	Visual Contamination
	Cool	Filter										
6/17/15	U		6683	0	36	-5	219	3190	8.9	410	GREEN	CLOUDY
12/09/08	N		4949	0	44	-20	223	2680	9.4	950	GREEN	CLEAR
1/21/08	U		4450	0	54	-44	229	2400	9.0	545	GREEN	SLIGHTLY CLOUDY
CURRENT SAMPLE IS INCLUDED IN TRENDING					SEE REVERSE SIDE FOR TEST EXPLANATIONS							