



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
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Chassis Hydraulic
Unit #: 0156980
Model #: 8204
WO #: MN28904

Sample #: 150406322
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS								INFRARED ANALYSIS		PARTICLE COUNT			PHYSICAL TESTS				
Date Taken	Changed		Quarts Oil Added	Meter on Oil	CU Copper PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	NA Sodium PPM	Sheet	Oxidation	ISO Code	µm 5	µm 10	µm 15	Por-Ferrous Debris	Viscosity	Anti-Freeze	Water	
	Oil	Filt																				
3/14/15	N	N		3176		4	4	0	5	12	0	2	0	6	20/16	7223	1250	535	1	8.0	N	N

Interpretation
Results of latest sample indicate elements tested didn't exceed normal specifications for this compartment. No excessive wear is indicated at this time. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation
Continue to monitor compartment by sampling at recommended intervals.

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	Sect	Oxidation	ISO Code	µm 5	µm 10	µm 15	PO-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
3/14/15	N	N		3176		4	4	0	5	12	0	2	0	6	20/16	7223	1250	535	1	8.0	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING															SEE REVERSE SIDE FOR TEST EXPLANATIONS							



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Sample For: SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Hydraulic System
Unit #: 0156980
Model #: 8204
WO #: MN28904

Sample #: 150406323
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS								INFRARED ANALYSIS		PARTICLE COUNT			PHYSICAL TESTS			
Date Taken	Changed		Quarts Oil Added	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	pH-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																			
3/14/15	U	U		3176	6	12	0	4	13	1	3	0	8	19/14	2616	331	149	7	7.5	N	N

Interpretation

Results of latest sample indicate elements tested didn't exceed normal specifications for this compartment. No excessive wear is indicated at this time. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation

Continue to monitor compartment by sampling at recommended intervals.

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	POF Ferrous Debris	Viscosity	Anti-Freeze	Water	
	Oil	Filt																					
3/14/15	U	U		3176		6	12	0	4	13	1	3	0	8	19/14	2616	331	149	7	7.5	N	N	
CURRENT SAMPLE IS INCLUDED IN TRENDING												SEE REVERSE SIDE FOR TEST EXPLANATIONS											



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Sample For: SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Powershift Transmission
Unit #: 0156980
Model #: 8204
WO #: WM28904

Sample #: 150406321
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS								INFRARED ANALYSIS		PARTICLE COUNT			PHYSICAL TESTS		
Date Taken	Changed	Quarts Oil Added	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	Pol-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt.																		
3/14/15	U	U	3176	17	48	0	2	6	1	7	0	8	21/16	11626	1640	450	24	6.8	N	N

Interpretation

Results of latest sample indicate elements tested didn't exceed normal specifications for this compartment. No excessive wear is indicated at this time. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation

Continue to monitor compartment by sampling at recommended intervals.

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	Seal	Oxidation	ISO Code	µm 5	µm 10	µm 15	PC-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt.																				
3/14/15	U	U		3176		17	48	0	2	6	1	7	0	8	21/16	11626	1640	450	24	6.8	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING					SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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Sample For:

SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Left Front Planetary
Unit #: 0156980
Model #: 8204
WO #: WJN28904

ACTION
Sample #: 150406319
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight:

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS										PARTICLE COUNT			PHYSICAL TESTS			
Date Taken	Changed		Quarts Oil Added	Meter on Oil	CU Copper PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	NA Sodium PPM	MO Molybdenum PPM	SN Tin PPM	ISO Code	5µm	15µm	20µm	Pd-Ferrous Debris	Viscosity	Anti-Water	
	Oil	Fltr																		Freeze	Wet
3/14/15	U			3176	1	679	4	18	66	0	6	0	0	23/17	44908	932	382	275	12.1	N	N

Interpretation

The analysis of the oil sample taken from your left front Planetary indicates that Aluminum, Chrome and Silicon are slightly high; Iron is extremely high. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation

Appears some dirt is getting into compartment. When you drain compartment, check for visible metal pieces and other abnormal conditions. Also check magnetic drain plug. If no problem is found resample new oil after 100 hours.

TRENDING SAMPLE INFORMATION						WEAR METALS 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	MO Molybdenum PPM	SN Tin PPM	ISO Code	5µm	15µm	20µm	Pd-Ferrous Debris	Viscosity	Anti-Freeze	Wash	
	Oil	Fltr																					
3/14/15	U			3176		1	679	4	18	66	0	6	0	0	23/17	44908	932	382	275	12.1	N	N	
CURRENT SAMPLE IS INCLUDED IN TRENDING						SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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S.O.SSM Services



Sample For: SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Right Front Planetary
Unit #: 0156980
Model #: 8204
WO #: WNZ8904

Sample #: 150406320
Date Received: 4/20/15

Oil Brand:
Oil Blend:
Oil Weight

ACTION

CURRENT SAMPLE INFORMATION					WEAR METALS 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	MO Molybdenum PPM	SN Tin PPM	ISO Code	µm 5	µm 15	µm 20	Polferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
3/14/15	U			3176		3	612	4	11	51	0	7	1	0	23/20	69976	5633	505	214	13.3	N	N

USED AGCHEM PRIME

Interpretation
The analysis of the oil sample taken from your Right Front Planetary indicates that Chrome and Silicon are slightly high: Iron is extremely high. When the MILES/HOURS ON OIL data are unknown, we use the full oil change interval to analyze the sample.

Recommendation
Appears some dirt is getting into compartment. When you drain compartment, check for visible metal pieces and other abnormal conditions. Also check magnetic drain plug. If no problem is found resample new oil after 100 hours.

TRENDING SAMPLE INFORMATION					WEAR METALS 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	MO Molybdenum PPM	SN Tin PPM	ISO Code	µm 5	µm 15	µm 20	Polferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
3/14/15	U			3176		3	612	4	11	51	0	7	1	0	23/20	69976	5633	505	214	13.3	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING					SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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S.O.SSM Services



Sample For: SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Rear Differential
Unit #: 0156980
Model #: 8204
WO #: WM28904

ACTION
Sample #: 150406318
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION						WEAR METALS ANALYSIS										PARTICLE COUNT				PHYSICAL TESTS		
Date Taken	Changed		Quarts Oil Added	Meter on Oil	CU Copper PPM	FE Iron PPM	CR Chromium PPM	AL Aluminum PPM	SI Silicon PPM	PB Lead PPM	NA Sodium PPM	MO Molybdenum PPM	SN Tin PPM	ISO Code	µm 5	µm 15	µm 20	Pc-Ferrous Debris	Viscosity	Anti-Freeze	Water	
	Oil	Filt																				
3/14/15	U			3176	1	1503	3	3	38	0	1	8	0	24/24	99999	99999	99999	1962	23.1	N	N	

Interpretation
The analysis of the oil sample taken from your Rear Differential indicates that Iron is extremely high and your particle count is high.

Recommendation
When you drain compartment, check for visible metal pieces and other abnormal conditions. also check magnetic drain plug. If no problem is found resample new oil after 100 hours.

TRENDING SAMPLE INFORMATION					WEAR METALS 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	MO Molybdenum PPM	SN Tin PPM	ISO Code	µm 5	µm 15	µm 20	PC-Ferrous Debris	Viscosity	Anti-Freeze	Water
	Oil	Filt																				
3/14/15	U			3176		1	1503	3	3	38	0	1	8	0	24/24	99999	99999	99999	1962	23.1	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING					SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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S.O.SSM Services



Sample For: SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCA8204JNT001066
Compartment: Diesel Engine
Unit #: 0156980
Model #: 8204
WO #: MN28904

Sample #: 150406317
Date Received: 4/20/15
Oil Brand:
Oil Blend:
Oil Weight

USED AGCHEM PRIME

CURRENT SAMPLE INFORMATION					WEAR METALS ANALYSIS										INFRARED ANALYSIS			PHYSICAL TESTS			
Date Taken	Changed		Quarts Oil Added	Meter 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	Pd-Ferrous Debris	Viscosity	Anti-Freeze	Fuel Dilution	Water
	Oil	Filter																			
3/14/15	U	U		3176	1	0	4	13	0	2	2	0	0	84	22	13	0	13.6	N	N	N

Interpretation

The analysis of the oil sample taken from your Diesel 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

Continue to monitor compartment by sampling at recommended intervals.

TRENDING 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	Soot	Sulfation	Oxidation	Pd-Ferrous Debris	Viscosity	Anti-Freeze	Fuel Dilution	Water	
	Oil	Filter																					
3/14/15	U	U		3176		1	0	4	13	0	2	2	0	0	84	22	13		0	13.6	N	N	N
CURRENT SAMPLE IS INCLUDED IN TRENDING						SEE REVERSE SIDE FOR TEST EXPLANATIONS																	



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Sample For:

SHOP SAMPLE
WILLIAM NEWBURY
951 PARK DR
ATLANTIC IA 50022

Serial #: AGCAB8204JNT001066
Compartment: Radiator
Unit #: 0156980
Model #: 8204
WO #: MN28904
USED AGCHEM PRIME

ACTION
Sample #: 150490493
Date Received: 4/20/15
Date Taken: 3/16/15
Service Meter: 3176
Hours on Sample:

Glycol Concentration (%) <small>Ethylene Glycol Assumed Unless Specified Otherwise</small>	68 %	(30 - 65%)	Coolant Properties	Conductivity (µmhos/cm)	1532	Supplemental Coolant Additive (ppm)	2165	See Back Charts
Freeze Point (°F)	- 88			pH	9.0	Color	ORANGE	ELC
Boil Point (°F) 0.0 psi	238					Visual Contamination	CLEAR	

Interpretation
Test result show Glycol % is higher than recommended.

Recommendation
Reduce your Glycol % by draining some coolant and adding deionized or distilled water.

TRENDING SAMPLE INFORMATION				COOLANT ANALYSIS								
Date Taken	Changed		Meter Reading	Hours On Cool	GLYC	FP	BP	CONDUCT	pH	SCA	Color	Visual Contamination
	Cool	Filter										
3/16/15	U		3176	0	68	- 88	238	1532	9.0	2165	ORANGE	ELC
CURRENT SAMPLE IS INCLUDED IN TRENDING												
SEE REVERSE SIDE FOR TEST EXPLANATIONS												