

Client:

Unit #: 2018 Mazda CX-9 AWD

Unit Location:

Component: ENGINE

Location:

Serial #:

Make: MAZDA

Model: 2018 CX-9

OAS #: 4 CYL, 2.5 L TURBO GDI

ATTN:

Date analyzed: 05/12/21

Work order: 21C166868

Oil brand & grade: Castrol Edge Advanced 5W30 Full Syn (2020)

Client Ref #:




AGAT

Laboratories

Equipment Reliability and Lubricants Testing Services

3650 21st Street N.E., Calgary, AB, T2E6V6

Phone:(403)299-2000 Fax:(403)299-2105



LEGEND - LC -Lower Critical LR -Lower Reportable UR -Upper Reportable UC -Upper Critical *Ital* -Custom Limit

UNIT DATA					SPECTROGRAPHIC ANALYSIS (PPM)																											
Sample#	Date Sampled	Component Service	Oil Service	Oil Changed	Al Aluminum	Cr Chromium	Cu Copper	Fe Iron	Sn Tin	Pb Lead	Si Silicon	Mo Molybdenum	Ni Nickel	Ag Silver	K Potassium	Na Sodium	B Boron	Ba Barium	Ca Calcium	Mg Magnesium	Mn Manganese	P Phosphorus	Zn Zinc									
New Oil					0	0	0	0	0	0	8	93	0	0	0	0	74	0	887	1407	0	809	1039									
292501	05/11/21			N	3	0	1	12	0	0	26	78	0	0	122 UC	13	21 LC	1	720	1300	0	641	892									
PHYSICAL PROPERTIES									ISO CLEANLINESS					OIL DEGRADATION																		
Sample#	Glycol	H2O	% Fuel	Viscosity		% Solids	KF	°C	Micron size				% SOOT			abs/cm-1			ZDDP			TAN	TBN	Min. RPVOT								
				40°C	100°C			Flash Point	4	6	14	ISO Code				COX	SO4															
New Oil				60.2	10.2															2.47			10.9									
292501	N	N		51.7	9.0									0.0			14	27 UC 31 UC	5	0	8.7											
WEAR CONTROL CHART									COMMENTS																							
Sample#	0	30	60	90	120	150	Comments:																									
292501		16															The spectrographic analysis results were confirmed by rerun REFER TO REVERSE FOR QUALITY CONTROL REPORT, EXPLANATION OF VARIANCE AND POSSIBLE CAUSES.															
							Should you wish to provide feedback to AGAT Laboratories, please access our Customer review form at www.agatlabs.com/review.htm . This input is extremely important to us because your well being and satisfaction is our number one priority.																									

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<u>Flagged Result</u>	<u>Possible Causes</u>	<u>Significance of Result / Recommended Action</u>
B - Boron	Boron is a common anti-wear (AW) and extreme pressure (EP) additive in engine and gear oils.	Lower than expected boron levels may indicate additive depletion/precipitation or dilution. Identify and evaluate the cause. Verify the identity of the oil in use.
COx - Oil Degradation	Excessive oil oxidation product levels may be due to overheating, extended oil drain intervals, the use of an improper oil type or additive package or the presence of combustion products/blow-by.	Higher than expected levels of oil oxidation products may indicate that the fluid has reached the end of its useful lifetime. Identify and evaluate the source. Consider changing the oil. Resample to monitor.
K - Potassium	Potassium may be used in coolant additives. High levels of potassium and sodium suggest the presence of a coolant leak.	Higher than expected potassium levels may indicate contamination. Identify and evaluate source. Check for coolant leaks, seal failures, cracked heads or liners and resample to monitor.
NOx - Nitration	Excessive oil nitration levels may be due to incorrect air/fuel ratio, incorrect spark timing, excessive loads, low operating temperature or piston-ring blow-by.	Higher than expected levels of nitration may indicate that the fluid has reached the end of its useful lifetime. Identify and evaluate the source. Consider changing the oil. Resample to monitor.