

Client: 9999800

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



Equipment Reliability and Lubricants Testing Services

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

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



ATTN:

Date analyzed: 11/26/21

Work order: 21C172092

Oil brand & grade: Kirkland Syn 5W30 (2021)

Client Ref #:

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	5	91	0	0	0	2	248	0	1510	553	0	778	1031
309731	11/25/21	64500 kms		N	1	0	1	6	0	1	12	69	0	0	119 UC	16	41 LC	1	1120	534	0	616	778
281881	08/24/21			N	2	0	0	6	0	1	15	85	0	0	83 UC	9	36 LR	1	985	806 LR	0	767	1020
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 40°C	Viscosity 100°C	% Solids	KF	°C Flash Point	Micron size 4	Micron size 6	Micron size 14	ISO Code	% SOOT	OXD	NOX	abs/cm-1 COX	abs/cm-1 SO4	ZDDP	TAN	TBN	Min. RPVOT
New Oil				67.4	11.4														3.26	7.4	
309731	N	N	5.9	41.8 LC	8.4 LC								0.0	6	12	12	7	0		6.2	
281881	N	N	2.5	52.0	9.4								0.0	6	15	18	6	0		7.3	
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:
309731		9					- The Viscosity results were confirmed by a duplicate. 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.
281881		9					
292501		16					

* COMPONENT SERIAL NUMBER MUST BE GIVEN TO GENERATE HISTORY. Bold faced elements are included in Wear Control Chart.

AGAT Laboratories Liability Shall Not Exceed The Cost Of Analysis. *Results relate only to the items tested

Client: 9999800
MICHAEL AMIGO
3, SEWA CRESCENT
WINNIPEG, MB R2R 0K1
ATTN: MICHAEL AMIGO

Unit No.: 2018 Mazda CX-9 AWD
Unit Location:
Component: ENGINE
Location:
Serial No.:
Make: MAZDA
Model: 2018 CX-9
OAS No.: 4 CYL, 2.5 L TURBO GDI

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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.
Fuel - Fuel Dilution	Fuel dilution may be due to excessive blow-by, excessive idling, cold weather starting, faulty injector, leaking fuel transfer pump seals or stop and go driving. Fuel dilution may be correlated with decreased oil viscosity.	Fuel dilution indicates contamination of the sample with fuel. Identify and evaluate the source. Consider changing the oil.
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.
VISC100 - Viscosity at 100 C	Lower than expected viscosity may be due to contamination with lower grade oil, fuel or degradation due to shearing or extended drain intervals.	Lower than expected viscosity may indicate contamination or degradation of the oil. Verify the identity and grade of the oil in use. Identify and evaluate the cause. Consider changing the oil.
VISC40 - Viscosity at 40 C	Lower than expected viscosity may be due to contamination with lower grade oil, fuel or degradation due to shearing or extended drain intervals.	Lower than expected viscosity may indicate contamination or degradation of the oil. Verify the identity and grade of the oil in use. Identify and evaluate the cause. Consider changing the oil.

Client: 9999800

MICHAEL AMIGO
3, SEWA CRESCENT

WINNIPEG, MB R2R 0K1

ATTN: MICHAEL AMIGO

Unit #: 2018 Mazda CX-9 AWD
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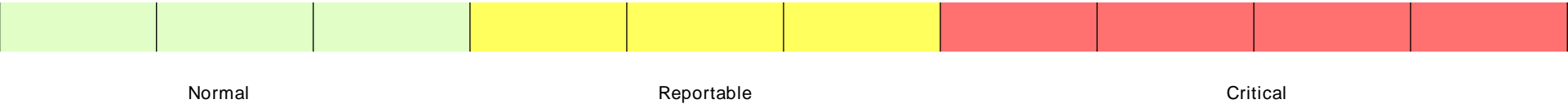
Oil brand & grade: Kirkland Syn 5W30 (2021)
Sample #: C-946867
Date Sampled: 11/26/21
Date Analyzed: 11/26/21
Work order: 21C172092
Client Ref #:



Sample Status and Trending

Sample Score: Your Sample Score: 10

Rankings: 0-3 Normal, 4-6 Reportable, 7-10 Critical



Trend Graphs

