Å ATLAS

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id GEN-12 Component Diesel Engine Fluid CHEVRON 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

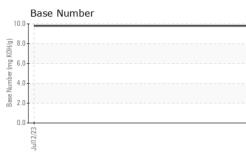
Fluid Condition

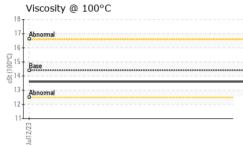
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		AO000039		
Sample Date		Client Info		12 Jul 2023		
Machine Age	hrs	Client Info		22346		
Oil Age	hrs	Client Info		596		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method	20	NEG		
-	_					
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	0		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	0		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071 1219	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071 1219 1119	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071 1219 1119 1365	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071 1219 1119 1365 3935		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 68 <1 1071 1219 1119 1365 3935 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	0 0 68 <1 1071 1219 1119 1365 3935 current 5	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base >25 >50	0 0 68 <1 1071 1219 1119 1365 3935 <u>current</u> 5 3	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >50 >20	0 0 68 <1 1071 1219 1119 1365 3935 current 5 3 3 0	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >50 >20 limit/base >3	0 0 68 <1 1071 1219 1119 1365 3935 current 5 3 0 0	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >50 >20 limit/base >3	0 0 68 <1 1071 1219 1119 1365 3935 current 5 3 3 0 current 0.1	 history1 history1 	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >50 >20 limit/base >3 >20	0 0 68 <1 1071 1219 1119 1365 3935 <i>current</i> 5 3 3 0 <i>current</i> 0.1 6.5	 history1 history1 history1	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >25 >50 >20 Imit/base >3 >20 >30	0 0 68 <1 1071 1219 1119 1365 3935 <i>current</i> 5 3 3 0 <i>current</i> 0.1 6.5 19.1	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >50 >20 limit/base >3 >20 >30 limit/base	0 0 68 <1 1071 1219 1119 1365 3935 current 5 3 3 0 current 0.1 6.5 19.1	history1 history1 history1	 history2 history2 history2 history2 history2



OIL ANALYSIS REPORT





	White Metal	scalar *Vis	sual NON	e N	ONE		
	Yellow Metal	scalar *Vis	sual NON	e N	ONE		
	Precipitate	scalar *Vis		E N	ONE		
	Silt	scalar *Vis	sual NON	e N	ONE		
	Debris	scalar *Vis	sual NON	e N	ONE		
	Sand/Dirt	scalar *Vis	sual NON	e N	ONE		
Jul12/23	Appearance	scalar *Vis	sual NORI	ML N	ORML		
٦	Odor	scalar *Vis	sual NORI	ML N	ORML		
	Emulsified Water	scalar *Vis			EG		
	Free Water	scalar *Vis	ual	N	EG		
	FLUID PROPERT	IES m	ethod limit	/base	current	history1	history2
	Visc @ 100°C		M D445 14.4	1	3.6		
	GRAPHS			-			
	Ferrous Alloys						
	¹⁰						
	8 - iron						
	nickel						
1	6						
	E 4						
	2						
	0	********					
	Juli 2/23		Jul12/23				
	Jult		Jul				
	Non-ferrous Metals	5					
	10 copper						
	8 - Research lead						
Ę	u d						
	4						
	2						
	2						
	0		57				
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
	ul12/23		ul12/2				
	2000 C		Jul12/23				
	Viscosity @ 100°C		Jul12/2		se Number		
	Viscosity @ 100°C		Jul122	Ba	se Number		
	Viscosity @ 100°C		Jul126	10.0	se Number		
2	Viscosity @ 100°C		22 Un	10.0	se Number		
12-00	Viscosity @ 100°C		22Thu	10.0	se Number		
12-000 T - 59-	Viscosity @ 100°C		221Inc	10.0	se Number		
10-000 17 820	Viscosity @ 100°C		221Inc	10.0 8.0 (6)/HOX but	se Number		
	Viscosity @ 100°C		221Inc	10.0 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,0	se Number		
(1-001) 787	Viscosity @ 100°C			10.0 (b)(HO) Bu) (b)(HO) Bu) (b)(HO) Bu) (b)(HO) Bu) (b)(HO) Bu) (c)(b)(HO) Bu) (c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(	se Number		
13-00 U 8-0	Viscosity @ 100°C		Juli223	10.0 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,000 (0,00) (0,000 (0,00) (0,000 (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,00) (0,0	se Number		
Laboratory Sample No. Lab Number Unique Number	Viscosity @ 100°C		EZZIJII Kve., Cary, NC : 19 Jul 202 : 20 Jul 202	10.0 (0)HOX bul see 2.0 0.0 EZ7513 23	se Number	Ν	L SERVICE /EST CR 14 /IDLAND, T US 7970
Laboratory Sample No. Lab Number	Viscosity @ 100°C	01 Madison A Received Diagnosed Diagnostician	Ave., Cary, NC : 19 Jul 202 : 20 Jul 202 : Wes Davis	10.0 (0)HOX bul see 2.0 0.0 EZ7513 23		10218 W	L SERVICE /EST CR 14 /IDLAND, T US 7970 IAN GARCI

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: ADRIAN GARCIA - DEEMID

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