

OIL ANALYSIS REPORT

Sample Rating Trend

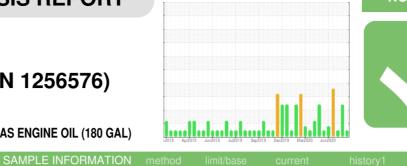
NORMAL



Area EDLTAY Machine Id TAYM01BE (S/N 1256576) Component

Biogas Engine

CHEVRON HDAX 6500 LFG GAS ENGINE OIL (180 GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

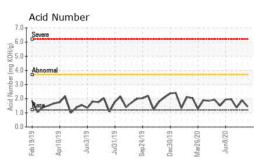
Fluid Condition

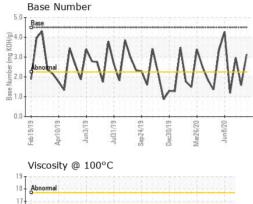
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

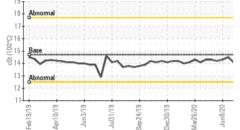
Sample Number		Client Info		WC0788202	WC0526601	WC0372312
Sample Date		Client Info		02 Mar 2023	20 Jan 2023	30 Jul 2020
Machine Age	hrs	Client Info		1660	904	50501
Oil Age	hrs	Client Info		1660	904	384
Oil Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>15	2	4	5
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>6	1	2	3
Lead	ppm	ASTM D5185m	>20	1	0	0
Copper	ppm	ASTM D5185m	>6	<1	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Antimony	ppm	ASTM D5185m				4
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		5	4	6
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		3	2	2
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		25	10	12
Calcium	ppm	ASTM D5185m		1594	1791	1573
Phosphorus	ppm	ASTM D5185m		284	294	251
Zinc	ppm	ASTM D5185m		354	375	304
Sulfur	ppm	ASTM D5185m		3925	4043	2893
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>181	4	5	28
Sodium	ppm	ASTM D5185m	>20	<1	0	2
Potassium	ppm	ASTM D5185m	>20	2	2	9
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>2	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	3.8	4.4	3.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	24.5	20.7



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FLUID DEGRADA						
	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.4	11.6	8.7
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	1.43	1 .88	1.369
Base Number (BN)	mg KOH/g	ASTM D2896	4.5	3.14	1 .58	2.97
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	NEG	NEG	NEG
Free Water	scalar	*Visual	2.L	NEG	NEG	NEG
- FLUID PROPERT		method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	14.7	14.0	14.5	14.1
GRAPHS	001					
Iron (ppm)			30	Lead (ppm)		
20 Severe			20	Abnormal		
Abnormal			A und			
10		An al	10	Severe		
	6	~ · · ·	0			
Feb19/19 Apr10/19 Jun3/19	Sep 24/19	Dec30/19 Mar26/20	7/0110	Feb19/19 Apr10/19 Jun3/19	Jul31/19 Sep24/19	Mar26/20 Jun8/20
Aluminum (ppm)	š	ŏΣ	2	Chromium (p	- 0, L	5 2 7
15 T 2 3 3 3 5 5 5 5 5 7 7 3 3 3 5 5			6	Severe		
Severe						
10			4	Abnormal		
Abnormal			A Had			
Abnormal	~	~~~		-		~~ ~^
Abnormal					19 	
Abnormal	sep24/19	Aar26/20			Jul31/19	Mar26/20
Copper (ppm)	Sep24/19	Mar26/20		61/01/dy Silicon (ppm)	Jul31/19 Sep24/19	Jun 8/20
Abnormal 6 UR LP 6 UR LP 7	Sep24/19	Mar26/20	300	6L/6L04 Silicon (ppm)		Ma26,20
Abnormal Abnormal 6 U/Europ 6 U/Europ Copper (ppm) 20 5 5 5 6 U/Europ 5 5 6 U/Europ 5 5 6 U/Europ	Sep24/19 - 5	Ma26/20	3000 3000 2000	Silicon (ppm)		Mar26/20
Abnormal 6 U/01/04 6 U/01/04 7 U/01/04 7 U/01/04 7	Sep24/19 +	Mar26/20	2 0 300 200	6L/6L04 Silicon (ppm)		Mar26/20
Abnormal 6 U/Eun Copper (ppm) Copper (ppm)		-^-		GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/G		1~
Abnormal 6 U/BUP Copper (ppm) Copper (ppm)		-^-		GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/GL/G		1~
donormal 6 L/0	Sep24/19	Ma26/20/19 + P Dec:30/19 + P P P P P P P P P P P P P P P P P P		Feb19/19 Feb	Jul31/19 5 Sep24/19 5 De=20/19	1~
Copper (ppm) Copper (ppm) Copper (ppm) Copper (ppm) Viscosity @ 100°C	Sep24/19	-^-		6L/G1/qay Silicon (ppm) 6L/G1/qay Base Number	Jul31/19 5 Sep24/19 5 De=20/19	1~
Abnormal 6U/EUR/EUR/ 6U/EUR/	Sep24/19	-^-		6L/G1/qay Silicon (ppm) 6L/G1/qay Base Number	Jul31/19 5 Sep24/19 5 De=20/19	1~
Abnormal Copper (ppm) Copper (ppm) Severe 6U/Eun	Sep24/19	-^-		6L/G1/qay Silicon (ppm) 6L/G1/qay Base Number	Jul31/19 5 Sep24/19 5 De=20/19	1~
Abnormal 61/10	Sep24/19	-^-		6L/G1/qay Silicon (ppm) 6L/G1/qay Base Number	Jul31/19 5 Sep24/19 5 De=20/19	1~
Abnormal Copper (ppm) Copper (ppm) Copper (ppm) Copper (ppm) Viscosity @ 100°C	Sep24/19	Ma26/20	3000 3000 3000 400 400 400 400 40	61/61/qi Silicon (ppm) Base Number	Sep24/19	Maz6/20
Abnormal 61/10	Sep24/19	-^-	3000 3000 3000 400 400 400 400 40	6L/G1/qay Silicon (ppm) 6L/G1/qay Base Number	Jul31/19 5 Sep24/19 5 De=20/19	Mar26/20 Mar26/20



Test Package : MOB 2 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

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