

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

014 - M-TRANS AST 20

Component New (Unused) Oil Fluid {not provided} (--- GAL)

DIAGNOSIS

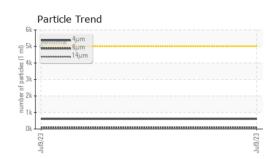
Recommendation

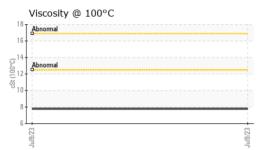
This is a baseline read-out on the submitted sample.

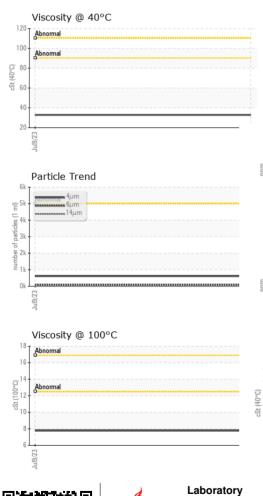
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0090188		
Sample Date		Client Info		09 Jul 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m		2		
Chromium	ppm	ASTM D5185m		0		
Nickel	ppm	ASTM D5185m		<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m		<1		
Aluminum	ppm	ASTM D5185m		<1		
Lead	ppm	ASTM D5185m		0		
Copper	ppm	ASTM D5185m		0		
Tin	ppm	ASTM D5185m		0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0		
Barium	ppm	ASTM D5185m		0		
Molybdenum	ppm	ASTM D5185m		<1		
Manganese	ppm	ASTM D5185m		0		
Magnesium	ppm	ASTM D5185m		12		
Calcium	ppm	ASTM D5185m		3405		
Phosphorus	ppm	ASTM D5185m		1092		
Zinc	ppm	ASTM D5185m		1288		
Sulfur	ppm	ASTM D5185m		4822		
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m		6		
Sodium	ppm	ASTM D5185m		0		
Potassium	ppm	ASTM D5185m	>20	1		
FLUID CLEANL	INESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	607		
Particles >6µm		ASTM D7647	>1300	104		
Particles >14µm		ASTM D7647	>160	12		
Particles >21µm		ASTM D7647	>40	3		
Particles >38µm		ASTM D7647	>10	0		
Particles >71µm		ASTM D7647	>3	0		
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/14/11		
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.66		



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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual		NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		32.81		, , , , , , , , , , , , , , , , , , ,
Visc @ 100°C	cSt	ASTM D445		7.77		
Viscosity Index (VI)	Scale	ASTM D2270		220		
SAMPLE IMAG	ES	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
GRAPHS						
Ferrous Alloys				Particle Count		
¹⁰			491,52	⁰ T		1 ²⁶
8 - iron 6 - iron			122,88	0-		-24
4			30,72	Severe		+22
2 -						
	***********		EZ = 7,68	0 Abnormal		-20 88
Jul9/23			Jul9/23 (per 1 m])	0-		-18 -18
Non-ferrous Metals	_		7,00 1,00 1,00 1,00 1,00 1,00 1,00 1,00			-16 0
¹⁰ T	5		of par		×	4406:1999 Cleaning Science 1999 Cleaning Science 1999 Cleaning Science 10 Control 1999 Cleaning Science 10 Cl
8 - copper			ag 12			-14 000
6 - tin			3	0-		-12 @
2				8-		+10
0						10
Jul9/23			Jul9/23	2 -		-8
7			7	0 4μ 6μ	14µ 21µ	38µ 71µ
Viscosity @ 40°C				Acid Number	14μ 21μ	50µ 11µ
20 Abnormal			(B/H			
00 + Abnormal			¥1.	5		
60 -				0 -		
40 -			.2. .1. .0 Mmber (mg KOH/g) .0 Mmber (mg KOH/g) .0 V	5		
20						
Jul9/23			Jul9/23	Jul9/23		Jul9/23
: 05894133	Received Diagnos Diagnost Diagnost	d : 10 . ed : 14 . ician : Jon '-IR, ICP-Nev	Jul 2023 Jul 2023 athan Heste wOil, KV100	r		LEY PETROLEUM MANDAN AVE MANDAN, ND US 58554 t: RIC ABERLE
		00-237-1369			D.ABERLE@PAR	

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 RICHARD.ABERLE@I

 * - 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)

Certificate L2367

Sample No. Lab Number Unique Number Test Package

T: (701)663-5091

F: (701)663-9445