

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area [300137603] TA-58620 WHPU

Hydraulic System Fluid CASTROL TRANSAQUA HT (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable. The water concentration level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC	PC	
Sample Date		Client Info		23 Mar 2023	25 Apr 2022	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	SEVERE	
WEAR METAL	S	method	limit/base	current	history1	history2
PQ		ASTM D8184*		0	0	
Iron	ppm	ASTM D5185(m)	>20	31	1 18	
Chromium	ppm	ASTM D5185(m)	>10	<1	1	
Nickel	ppm	ASTM D5185(m)	>10	0	0	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		<1	<1	
Aluminum	ppm	ASTM D5185(m)	>10	1	<1	
Lead	ppm	ASTM D5185(m)	>20	1	1	
Copper	ppm	ASTM D5185(m)	>20	2	2	
Tin	ppm	ASTM D5185(m)		<1	2	
Antimony	ppm	ASTM D5185(m)		0	0	
Vanadium	ppm	ASTM D5185(m)		0	<1	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		179	194	
Barium	ppm	ASTM D5185(m)		0	0	
Molybdenum	ppm	ASTM D5185(m)		16	2	
Manganese	ppm	ASTM D5185(m)		0	<1	
Magnesium	ppm	ASTM D5185(m)		3	2	
Calcium	ppm	ASTM D5185(m)		19	15	
Phosphorus	ppm	ASTM D5185(m)	145	182	175	
Zinc	ppm	ASTM D5185(m)		24	13	
Sulfur	ppm	ASTM D5185(m)		191	28	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	6	5	
Sodium	ppm	ASTM D5185(m)	>650	907	656	
Potassium	ppm	ASTM D5185(m)	>20	307	4	
Water	%	ASTM D6304*	>60	43.7	52.18	
ppm Water	ppm	ASTM D6304*	>600000	437000	521810.0	
FLUID CLEANL	INESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	4705	509982	
Particles >6µm		ASTM D7647	>1300	975	▲ 151512	
Particles >14µm		ASTM D7647	>160	102	▲ 6171	
Particles >21µm		ASTM D7647	>40	38	▲ 488	
Particles >38µm		ASTM D7647	>10	6	0	
Particles >71µm		ASTM D7647	>3	3	0	
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Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/17/14	▲ 26/24/20 ocation: Josh H	



OIL ANALYSIS REPORT

1000	Glycol Contamination	FLUID DEGRA		method	limit/base	current	history1	history2
1000-	sodium				3.35	2.25		
800- 600-	0.20	Acid Number (AN) Alkiline Reserve (Oils)		ASTM D974* ASTM D1121*		2.25	2.66	
E 400	0.15	VISUAL		method	limit/base	current	history1	history2
	- completents	White Metal	scalar	Visual*	NONE	NONE	NONE	
200	0.05	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
0.	0.00	Precipitate	scalar	Visual*	NONE	NONE	NONE	
	Apr25/22 Mar23/23	Silt					NONE	
	Ap		scalar	Visual*	NONE	NONE		
	Reserve Alkalinity	Debris	scalar	Visual*	NONE	NONE	NONE	
280	Abnormal	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
260		Appearance	scalar	Visual*	NORML	FRGLY	FRGLY	
<u>1</u> 240		Odor	scalar	Visual*	NORML	NORML	NORML	
Alka 220	Base	Emulsified Water	scalar	Visual*	>60	>10%	>10%	
200 ·		Free Water	scalar	Visual*		NEG	NEG	
مد 180 -		FLUID PROPE	RTIES	method	limit/base	current	history1	history2
160	Abnormal	Hq	Scale 0-14	ASTM D1287*		8.77		
	Apr25/22	pH Visc @ 40°C	cSt	ASTM D7279(m)	2.3	2.8	2.3	
	₹							
800000	Water (KF)	SAMPLE IMAG	iES	method	limit/base	current	history1	history2
700000	Severe					MELE RUT	1 All	
600000	Abnormal	Color				and the second		no image
E 500000.							NES- TO -	
400000 · vater 300000 ·								
200000.	-							
100000	-	Bottom						no image
0.	22							
	Apr25/22			_				
						Particle Coun	t	
250	PQ	Ferrous Alloys			491,52	Particle Coun	t	T ²⁶
	PQ	Ferrous Alloys			491,52	0	t	26
250 200		Ferrous Alloys			122,88	0 Severe	t	-24
200- 150-	PQ	Ferrous Alloys			30,72	0 Severe 0	t	-24 -22
200	PQ	Ferrous Alloys			30,72	0 Severe 0 Abnormal	t	-24 -22
200- 150- 문 100-	PQ	Ferrous Alloys			30,72	0 Severe 0 Abnormal	t	-24 -22
200- 150- 문	PQ	Ferrous Alloys	s		122,88 30,72 (m 1,56) 52/62/eW 48	Severe Abnormal	t	+24
200- 150- 문 100-	PQ Severe Abnomal	Ferrous Alloys	5		122,88 30,72 (m 1,56) 52/62/eW 48	Abnormal	t	-24 -22
200- 150- 문 100-	PQ Severe Abnomal	Ferrous Alloys	s		122,88 30,72 (m 7,68) 520527eW 48 48	Severe Abnormal	t	+24 -22 ISO 4406:1999 Clean 18 1999 Clean 16 Clean 14 14
200- 150- 문 100-	PQ Severe Abnomal	Ferrous Alloys	S		122,88 30,72 (m 1,56) 52/62/eW 48	Severe Abnormal	t	-24 -22
200- 원 150- 100- 50- 0-	PQ Severe Abnomal	Ferrous Alloys	S		122.88 30.72 (EC CCCPEW) (EC C	Severe Abnormal	t	+24 +22 -20 4406:1999 Clean 18 999 Clean 16 Clean 14 14
200 - 150 - 100 - 50 - 0 -	PQ Ahnomal	Ferrous Alloys	5		122.88 30.72 (EC CCCPEW) (EC C	Severe Abnormal	t	+24 +22 -20 4406:1999 Clean 18 999 Clean 16 Clean 14 14
200. 2 150. 50. 0. 600k € 500k	PQ Ahnomal	Ferrous Alloys	S		122.88 30.72 ([u [, as d] september 2000 (120) (1200 (0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0	t 14µ 21µ	+24 -22 ISO 4406:1999 Clean 18 1999 Clean 16 Clean 14 14
200- 2 150- 50- 50- 600k 2 500k 2 500k 2 500k 3 600k	PQ	Ferrous Alloys	S		122.88 30.72 ([u [, as d] september 2000 (120) (1200 (0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0		+24 +22 +20 130 4406 1993 Cleaniness Code +14 -112 Code +12 -112
200. 2 150. 50. 0. 600k € 500k	PQ	Ferrous Alloys	S		122.88 30.72 ([u [, as d] september (C2000000000000000000000000000000000000	0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0		+24 +22 +20 130 4406 1993 Cleaniness Code +14 -112 Code +12 -112
200. 150. 2 100. 50. 600k. 100. 600k. 100. 10	PQ Severe Abnormal Particle Trend	Ferrous Alloys	5		122.88 30.72 ([u [, as d] september (C2000000000000000000000000000000000000	0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0		+24 +22 +20 ISO 4406:1999 Cleaniness Code +16 -112 Code +12 Code +10
200- 150- 20- 50- 600k- (E500k- (E500k- (E)) 899- 800k- 20- 20- 20- 20- 20- 20- 20- 20- 20- 20	PQ Severe Anormal Particle Trend	Ferrous Alloys	S		122.88 30.72 ([u [, as d] september (C2000000000000000000000000000000000000	0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0		+24 +22 +20 ISO 4406:1999 Cleaniness Code +16 -112 Code +12 Code +10
200. 150. 2 100. 50. 600k. 1 500k. 1	PQ Severe Anomal Particle Trend	Ferrous Alloys	S		122.88 30.72 ([u [, ad] september 1.92 ([u [Acid Number		-24 -22 -20 1406:1999 Obaniness Code -16 -17 -17 -17 -17 -17 -17 -17 -17 -17 -17
200. 150. 200. 50. 600k. E 500k. E 500k. S 400k. S 400k. S 400k. S 400k. S 0. 100.	PQ Severe Anomal Particle Trend	Ferrous Alloys	S		122.88 30.72 ([u [, as d] september (C2000000000000000000000000000000000000	0 Severe 0 Abnormal 0 0 0 0 0 0 0 0 0 0 0 0 0		+24 +22 +20 ISO 4406:1999 Cleaniness Code +16 -112 Code +12 Code +10
200. 150. 200. 50. 600k. 50. 50. 50. 50. 50. 50. 50. 50	PQ Severe Abnomal Particle Trend Anomal Anomal Control Laborator	Ferrous Alloys		r Line, Burlin	122.88 30.72 (m 1.32) (m 1.32)	Acid Number		-24 -22 -20 Claniness Code -14 -12 Code -12 Code -12 Code -12 Code -12 Code -14 -12 Code -12 Code -14 -12 Code -12 Code
200. 150. 200. 50. 600k. E 500k. E 500k. S 400k. S 400k. S 400k. S 400k. S 200k. S 200k.	PQ Severe Abnormal Ab	Ferrous Alloys	5 Appleby Recei Teste Diagr sts: KF, I cc at 1-8 ethod mo	ved : 14 d : 18 osed : 25 <v100, f<br="" ph,="">00-268-213 odified, (e) te</v100,>	122.88 30.72 CECECTEW (III 1 - 1-0 1 - 1-2 CECECTEW (III 1 - 1-0 CECECTEW (III 1 - 1-0 CECECTEW (I	Acid Number Abnormal Acid Number Acid Number Acid Number Acid Number Acid Number Acid Number Acid Number Acid Number Marson Alk, TAN Man) mal lab.	Suncor - Terra N Scotia Centre, 23 Contac joshynes T: (-24 -22 -20 4406:1999 Cleanliness Code -14 18 1999 Cleanliness Code -14 -12 Code -12 Code -14 -12 Code -14 -14 -12 Code -14 -12 Code -

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