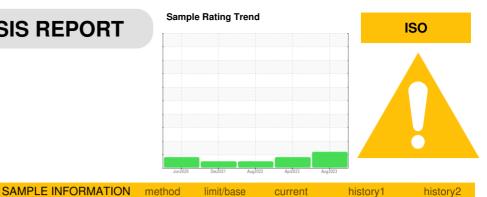


OIL ANALYSIS REPORT



TK253 - CAPITOL SUPPLY

Hydraulic System Fluid AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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 a light amount of silt (particulates < 14 microns in size) present in the oil.

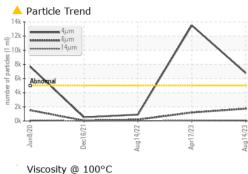
Fluid Condition

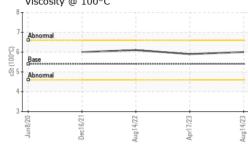
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

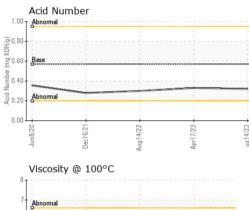
Sample Date(Client Info14 Aug 202317 Apr 202314 Aug 2024Machine AgehrsClient Info000Oil AgehrsClient Info000Oil ChangedClient InfoN/ANot ChangedN/ASample StatusImageClient InfoN/AABNORMALNORMALWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM 05185m>20444ChromiumppmASTM 05185m>10000NickelppmASTM 05185m>10000ItaniumppmASTM 05185m>10000AluminumppmASTM 05185m>10000AuminumppmASTM 05185m>10000AutimonyppmASTM 05185m>10000AntimonyppmASTM 05185m>10000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5000AutimumppmASTM 05185m5 <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>WC0772502</th> <th>WC0698829</th> <th>WC0679391</th>	Sample Number		Client Info		WC0772502	WC0698829	WC0679391
Oil Age hrs Client Info N/A Not Changd N/A Sample Status I Image Current Nistory1 Nistory1 WEAR METALS method Imit/base current history1 Nistory2 Iron ppm ASTM D5185m >20 4 4 4 Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >10 0 0 0 Itaminum ppm ASTM D5185m >10 0 0 <1 Lead ppm ASTM D5185m >10 0 0 <1 Lead ppm ASTM D5185m >10 0 0 0 Cadmium ppm ASTM D5185m >10 0 0 0 Astm D5185m >10 0 0 0 0 0 Astm D5185m 5 0 0 1 1 1 1 <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>14 Aug 2023</th> <th>17 Apr 2023</th> <th>14 Aug 2022</th>	Sample Date		Client Info		14 Aug 2023	17 Apr 2023	14 Aug 2022
Oil Changed Sample Status Client Info N/A Not Changd ATTENTION N/A WEAR METALS method Imit/base current history1 history2 Iron ppm ASTN D5185m >20 4 4 4 Chromium ppm ASTN D5185m >10 <1 <1 <1 Nickel ppm ASTN D5185m >10 0 0 0 Silver ppm ASTN D5185m >10 0 0 0 Copper ppm ASTN D5185m >10 0 0 0 Cadmium ppm ASTN D5185m >10 0 0 0 Cadmium ppm ASTN D5185m >10 0 0 0 Cadmium ppm ASTN D5185m 5 0 0 1 AstN D5185m 5 0 0 0 1 1 Mandanese ppm ASTN D5185m 5 0 0 1	Machine Age	hrs	Client Info		0	0	0
Sample Status method Imit/base current history1 history2 Iron ppm ASTM D5185m >20 4 4 4 Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 10 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 0 0 Addium ppm ASTM D5185m >10 0	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 4 4 4 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m >10 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Aduminum ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 5 0 0 0 0 Antimony ppm ASTM D5185m 5 0 0 1 1 1 Boron pd ASTM D5185m <t< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>N/A</th><th>Not Changd</th><th>N/A</th></t<>	Oil Changed		Client Info		N/A	Not Changd	N/A
Iron ppm ASTM D5185m >20 4 4 4 Chromium ppm ASTM D5185m >10 <1	Sample Status				ATTENTION	ABNORMAL	NORMAL
Chromium ppm ASTM D5185m >10 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 10 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >10 0 0 0 Yanadium ppm ASTM D5185m >10 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDTIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Maganese ppm ASTM D5185m 5 0 0 0 Maganesium ppm ASTM D5185m 200 83 86 82	Iron	ppm	ASTM D5185m	>20	4	4	4
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 0 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >75 <1	Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >10 0 0 <1	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum ppm ASTM D5185m >10 0 0 <1 Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >75 <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >75 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >75 <1 <1 1 Tin ppm ASTM D5185m >75 <1	Aluminum	ppm	ASTM D5185m	>10	0	0	<1
Tin ppm ASTM D5185m >10 0 0 0 Antimony ppm ASTM D5185m 0 0 0 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 0 0 0 Manganese ppm ASTM D5185m 5 0 0 <1	Lead	ppm	ASTM D5185m	>10	0	0	0
Antimony ppm ASTM D5185m 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 0 0 0 Manganese ppm ASTM D5185m 5 0 0 <1	Copper	ppm	ASTM D5185m	>75	<1	<1	1
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 0 0 1 Barium ppm ASTM D5185m 5 0 0 1 Manganese ppm ASTM D5185m 5 0 0 1 Magnesium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 200 83 86 82 Sulfur ppm ASTM D5185m 200 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 Q Q Q	Tin	ppm	ASTM D5185m	>10	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 1 Barium ppm ASTM D5185m 5 0 0 1 Barium ppm ASTM D5185m 5 0 0 1 Magnese ppm ASTM D5185m 5 0 0 <1 Magnesium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 200 83 86 82 Sulfur ppm ASTM D5185m 200 83 86 82 Sulfur ppm ASTM D5185m 200 4044 4109 3959 CONTAMINANTS method limit/base current history1 his	Antimony	ppm	ASTM D5185m				
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 1 Barium ppm ASTM D5185m 5 0 0 0 Manganese ppm ASTM D5185m 5 0 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 5 0 0 1 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 5 0 0 <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTW D5185m 5 0 0 0 Molybdenum ppm ASTW D5185m 5 0 0 <1 Manganese ppm ASTW D5185m 25 30 31 35 Calcium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 200 83 86 82 Sulfur ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 0 0 FLUID CLEANLINESS method limit/base curre	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 0 0 <1 Manganese ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 300 337 344 351 Sulfur ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 <1 <1 Potassium ppm ASTM D5185m >20 0 0 0 FLUID CLEANLINESS method limit/base	Boron	ppm	ASTM D5185m	5	0	0	1
Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	5	0	0	0
Magnesium ppm ASTM D5185m 25 30 31 35 Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 <1 <1 Potassium ppm ASTM D5185m >20 <1 <1 <1 Potassium ppm ASTM D5185m >20 <0 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 6785 13509 902 Particles >14µm ASTM D7647 >100 1742 1199 191 Particles >21µm ASTM D7647 >40 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>5</td> <th>0</th> <td>0</td> <td><1</td>	Molybdenum	ppm	ASTM D5185m	5	0	0	<1
Calcium ppm ASTM D5185m 200 83 86 82 Phosphorus ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus ppm ASTM D5185m 300 337 344 351 Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	25	30	31	35
Zinc ppm ASTM D5185m 370 391 401 422 Sulfur ppm ASTM D5185m 2500 4044 4109 3959 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	200	83	86	82
SulfurppmASTM D5185m2500404441093959CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Phosphorus	ppm	ASTM D5185m	300	337	344	351
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20<1	Zinc	ppm	ASTM D5185m	370	391	401	422
Silicon ppm ASTM D5185m >20 <1 <1 <1 Sodium ppm ASTM D5185m >20 0 0 0 Potassium ppm ASTM D5185m >20 0 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 ▲ 6785 ▲ 13509 902 Particles >6µm ASTM D7647 >1300 ▲ 1742 1199 191 Particles >6µm ASTM D7647 >160 97 61 24 Particles >14µm ASTM D7647 >40 22 17 9 Particles >21µm ASTM D7647 >10 0 1 0 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) 19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2 <td>Sulfur</td> <td>ppm</td> <td>ASTM D5185m</td> <td>2500</td> <th>4044</th> <td>4109</td> <td>3959</td>	Sulfur	ppm	ASTM D5185m	2500	4044	4109	3959
Sodium ppm ASTM D5185m <1 1 Potassium ppm ASTM D5185m >20 0 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 ▲ 6785 ▲ 13509 902 Particles >6µm ASTM D7647 >100 ▲ 1742 1199 191 Particles >14µm ASTM D7647 >160 97 61 24 Particles >21µm ASTM D7647 >40 22 177 9 Particles >38µm ASTM D7647 >10 0 1 0 Particles >71µm ASTM D7647 >3 0 0 0 Oli Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	\$	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 ▲ 6785 ▲ 13509 902 Particles >6µm ASTM D7647 >1300 ▲ 1742 1199 191 Particles >14µm ASTM D7647 >160 97 61 24 Particles >21µm ASTM D7647 >40 22 17 9 Particles >38µm ASTM D7647 >10 0 1 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>20	<1	<1	<1
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 ▲ 6785 ▲ 13509 902 Particles >6µm ASTM D7647 >1300 ▲ 1742 1199 191 Particles >6µm ASTM D7647 >160 97 61 24 Particles >14µm ASTM D7647 >40 22 17 9 Particles >21µm ASTM D7647 >10 0 1 0 Particles >38µm ASTM D7647 >10 0 1 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		<1	<1	1
Particles >4μm ASTM D7647 >5000 ▲ 6785 ▲ 13509 902 Particles >6μm ASTM D7647 >1300 ▲ 1742 1199 191 Particles >14μm ASTM D7647 >160 97 61 24 Particles >21μm ASTM D7647 >40 22 17 9 Particles >38μm ASTM D7647 >10 0 1 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12	Potassium	ppm	ASTM D5185m	>20	0	0	0
Particles >6µm ASTM D7647 >1300 ▲ 1742 1199 191 Particles >14µm ASTM D7647 >160 97 61 24 Particles >21µm ASTM D7647 >40 22 17 9 Particles >38µm ASTM D7647 >10 0 1 0 Particles >38µm ASTM D7647 >3 0 0 0 Oli Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14µm ASTM D7647 >160 97 61 24 Particles >21µm ASTM D7647 >40 22 17 9 Particles >38µm ASTM D7647 >10 0 1 0 Particles >38µm ASTM D7647 >3 0 0 0 Particles >71µm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>5000	6 785	13509	902
Particles >21μm ASTM D7647 >40 22 17 9 Particles >38μm ASTM D7647 >10 0 1 0 Particles >38μm ASTM D7647 >3 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	<u> </u>	1199	191
Particles >38μm ASTM D7647 >10 0 1 0 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>160	97	61	24
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>40	22	17	9
Oil Cleanliness ISO 4406 (c) >19/17/14 20/18/14 21/17/13 17/15/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm				0	1	0
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0	0	0
	Oil Cleanliness		ISO 4406 (c)	>19/17/14	20/18/14	🔺 21/17/13	17/15/12
Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.32 0.33 0.30	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.32	0.33	0.30

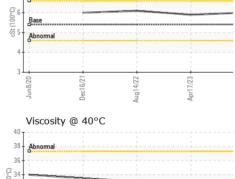


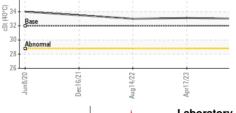
OIL ANALYSIS REPORT











Certificate L2367

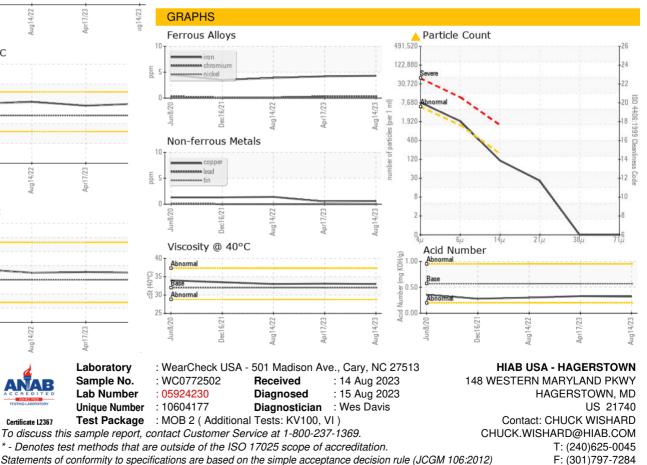
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VISUAL		method	limit/base	current	history1	history2
VIOUAL		method	IIIIII/Dase	Current	history	Thistory2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	33.0	33.1	33.0
Visc @ 100°C	cSt	ASTM D445	5.4	6	5.9	6.1
Viscosity Index (VI)	Scale	ASTM D2270	102	128	123	134
SAMPLE IMAGES	6	method	limit/base	current	history1	history2





Bottom



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

Contact/Location: CHUCK WISHARD - CARHAG