

**OIL ANALYSIS REPORT** 

Special Metals - S01200 **FK404** 

Component **Unknown Component** 

ESSO NUTO H ISO 46 (--- GAL)

# Sample Rating Trend ISO

## DIAGNOSIS

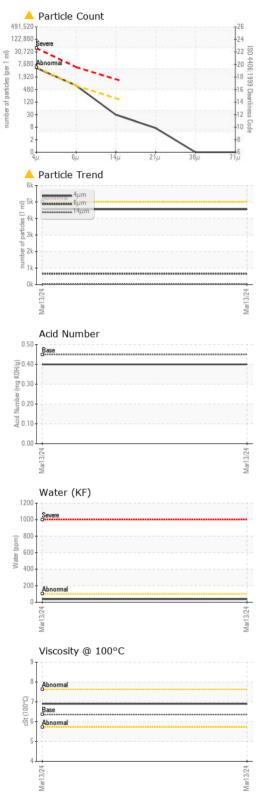
### Recommendation

The sample submitted is 2 times dirtier than the ISO dirt count recommendation of 19/16/14.

Machine ID					Mar2024		
Department   Client Info   Sales	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sent to WC   Client Info   Client Info   E30001220   Client Info   C	Machine ID		Client Info		Virgin Nuto 46		
Sample Number   Client Info   E30001220	Department		Client Info		Sales		
Sample Date	Sent to WC		Client Info		03/13/2024		
Machine Age         hrs         Client Info         0             Oil Age         hrs         Client Info         0             Oil Changed         Client Info         N/A             Sample Status         ABNORMAL             WEAR METALS         method         limit/base         current         history1         histo           Iron         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         0             Lead         ppm         ASTM D5185(m)         0             Copper         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Vanadium         ppm	Sample Number		Client Info		E30001220		
Oil Age         hrs         Client Info         0             Sample Status         ABNORMAL             WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         0             Lead         ppm         ASTM D5185(m)         0             Copper         ppm         ASTM D5185(m)         0             Tin         ppm         ASTM D5185(m)         0             Antimony         ppm         ASTM D5185(m)         0             Vanadium	Sample Date		Client Info		13 Mar 2024		
Client Info   N/A	Machine Age	hrs	Client Info		0		
WEAR METALS         method         limi/base         current         history1         history1           Iron         ppm         ASTM D5185(m)         0             Ohromium         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Titanium         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         0             Copper         ppm         ASTM D5185(m)         0             Copper         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         A	Oil Age	hrs	Client Info		0		
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Nickel         ppm         ASTM D5185(m)         0             Titanium         ppm         ASTM D5185(m)         0             Silver         ppm         ASTM D5185(m)         0             Aluminum         ppm         ASTM D5185(m)         0             Lead         ppm         ASTM D5185(m)         0             Copper         ppm         ASTM D5185(m)         0             Tin         ppm         ASTM D5185(m)         0             Antimony         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         ASTM D5185(m)         0	Oil Changed		Client Info		N/A		
	Sample Status				ABNORMAL		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)		0		
Titanium	Chromium	ppm	ASTM D5185(m)		0		
Silver	Nickel	ppm	ASTM D5185(m)		<1		
Aluminum	Titanium	ppm	ASTM D5185(m)		0		
Lead	Silver	ppm	ASTM D5185(m)		0		
Copper         ppm         ASTM D5185(m)         0             Tin         ppm         ASTM D5185(m)         0             Antimony         ppm         ASTM D5185(m)         0             Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         history1         history1           Boron         ppm         ASTM D5185(m)         0              Barium         ppm         ASTM D5185(m)         0              Molybdenum         ppm         ASTM D5185(m)         0              Magnesium         ppm         ASTM D5185(m)         5         2             Calcium	Aluminum	ppm	ASTM D5185(m)		<1		
Tin ppm ASTM D5185(m) 0 Antimony ppm ASTM D5185(m) 0	Lead	ppm	ASTM D5185(m)		0		
Antimony	Copper	ppm	ASTM D5185(m)		0		
Vanadium         ppm         ASTM D5185(m)         0             Beryllium         ppm         ASTM D5185(m)         0             Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         histo           Boron         ppm         ASTM D5185(m)         0             Barium         ppm         ASTM D5185(m)         0             Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         5         2             Magnesium         ppm         ASTM D5185(m)         50         52             Phosphorus         ppm         ASTM D5185(m)         330         323             Zinc         ppm         ASTM D5185(m)         2700         1022             Sulfur         ppm         ASTM D5185(m)         <1	Tin	ppm	ASTM D5185(m)		0		
Beryllium	Antimony	ppm	ASTM D5185(m)		0		
Cadmium         ppm         ASTM D5185(m)         0             ADDITIVES         method         limit/base         current         history1         histor           Boron         ppm         ASTM D5185(m)         0         <1	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron   ppm   ASTM D5185(m)   0   0   0   0   0   0   0   0   0	Cadmium	ppm	ASTM D5185(m)		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Barium	Boron	ppm	ASTM D5185(m)	0	<1		
Molybdenum         ppm         ASTM D5185(m)         0             Manganese         ppm         ASTM D5185(m)         5         2             Magnesium         ppm         ASTM D5185(m)         50         52             Calcium         ppm         ASTM D5185(m)         330         323             Phosphorus         ppm         ASTM D5185(m)         410         407             Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1	Barium		ASTM D5185(m)	0	0		
Manganese         ppm         ASTM D5185(m)         0             Magnesium         ppm         ASTM D5185(m)         5         2             Calcium         ppm         ASTM D5185(m)         50         52             Phosphorus         ppm         ASTM D5185(m)         330         323             Zinc         ppm         ASTM D5185(m)         410         407             Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1	Molybdenum		, ,		0		
Calcium         ppm         ASTM D5185(m)         50         52             Phosphorus         ppm         ASTM D5185(m)         330         323             Zinc         ppm         ASTM D5185(m)         410         407             Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1	•		ASTM D5185(m)		0		
Phosphorus         ppm         ASTM D5185(m)         330         323             Zinc         ppm         ASTM D5185(m)         410         407             Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         histo           Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1             Water         %         ASTM D6304*         0.0003	Magnesium	ppm	ASTM D5185(m)	5	2		
Zinc         ppm         ASTM D5185(m)         410         407             Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1             Water         %         ASTM D6304*         0.0003	Calcium	ppm	ASTM D5185(m)	50	52		
Sulfur         ppm         ASTM D5185(m)         2700         1022             Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1             Water         %         ASTM D6304*         0.0003	Phosphorus	ppm	ASTM D5185(m)	330	323		
Lithium         ppm         ASTM D5185(m)         <1             CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1			ASTM D5185(m)	410	407		
CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1	Sulfur	ppm	ASTM D5185(m)	2700	1022		
Silicon         ppm         ASTM D5185(m)         0             Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1             Water         %         ASTM D6304*         0.003	Lithium	ppm	ASTM D5185(m)		<1		
Sodium         ppm         ASTM D5185(m)         0             Potassium         ppm         ASTM D5185(m)         >20         <1	CONTAMINANTS	j	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185(m)         >20         <1             Water         %         ASTM D6304*         0.003	Silicon	ppm	ASTM D5185(m)		0		
Water % ASTM D6304* 0.003	Sodium	ppm	ASTM D5185(m)		0		
	Potassium	ppm	ASTM D5185(m)	>20	<1		
ppm Water ppm ASTM D6304* <b>36</b>	Water	%	ASTM D6304*		0.003		
	ppm Water	ppm	ASTM D6304*		36		



# **OIL ANALYSIS REPORT**



ESS	method	limit/base	current	history1	history2
	ASTM D7647	>5000	4554		
	ASTM D7647	>640	<b>△</b> 658		
	ASTM D7647	>160	26		
	ASTM D7647	>40	6		
	ASTM D7647	>10	0		
	ASTM D7647	>3	0		
	ISO 4406 (c)	>19/16/14	<u> </u>		
TION	method	limit/base	current	history1	history2
mg KOH/g	ASTM D974*	0.45	0.40		
	method	limit/base	current	history1	history2
scalar	Visual*	NONE	NONE		
scalar	Visual*	NONE	NONE		
scalar	Visual*	NONE	NONE		
scalar	Visual*	NONE	NONE		
scalar	Visual*	NONE	NONE		
scalar	Visual*	NONE	NONE		
scalar	Visual*	NORML	NORML		
scalar	Visual*	NORML	NORML		
scalar	Visual*		NEG		
scalar	Visual*		NEG		
IES	method	limit/base	current	history1	history2
cSt	ASTM D7279(m)	46	42.9		
cSt	ASTM D7279(m)	6.36	6.9		
Scale	ASTM D2270*		118		
3	method	limit/base	current	history1	history2
			100	no image	no image
				no image	no image
	scalar sc	ASTM D7647 ISO 4406 (c) TION method mg KOH/g ASTM D974* method scalar Visual* scalar ASTM D7279(m) cSt ASTM D7279(m) Scale ASTM D2270*	ASTM D7647 >5000  ASTM D7647 >640  ASTM D7647 >160  ASTM D7647 >10  ASTM D7647 >10  ASTM D7647 >3  ISO 4406 (c) >19/16/14  ASTM D7647 >0.45  Method limit/base  mg KOH/g ASTM D974* 0.45  Method limit/base  scalar Visual* NONE  scalar Visual* NORML  scalar Visual* NORML  scalar Visual* Scalar Visual*  scalar Visual* NORML  scalar Visual*  Sca	ASTM D7647 >5000 4554  ASTM D7647 >640	ASTM D7647 >5000 4554  ASTM D7647 >640

: 14 Mar 2024

: 15 Mar 2024



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number : 02622011

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

: E30001220

Received **Tested** 

Unique Number : 5747130 Diagnosed : 15 Mar 2024 - Tatiana Sorkina Test Package: IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

To discuss this sample report, contact Customer Service at 1-905-372-2251. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

**Environmental 360 Solutions Ltd.** 

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