



CONSTRUCTION EQUIPMENT

SWA233774-10 VOLVO EC220E 314027 - COOLANT



Sample No: VCP408561
Oil Type: VOLVO COOLANT VCS (YELLOW)
Job No: SWA233774-10



SAMPLE INFORMATION

Sample Number	VCP408561	VCP323027	VCP313830	VCP275713
Sample Date	27 Apr 2023	21 Sep 2021	15 Apr 2021	17 Sep 2020
Machine Hours	6997	4100	3159	1980
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

ULSTER COUNTY RESOURCE RECOVERY AGENCY
 999 FLATBUSH AVE
 KINGSTON, NY
 US 12401
 Contact: CHARLES WHITTAKER
 cwhf@ucrra.net
 T: (845)399-2686
 F:



COOLANT CONDITION

pH	Scale 0-14	7.14	7.53	7.35	7.79
Reserve Alkalinity	Scale 0-20	---	---	---	---
Nitrites	ppm	0	0	0	NT
Percentage Glycol	%	49.1	50	48	47
Freezing Point	°C	-33	-38	-33	-30

Diagnosis

The fluid is suitable for further service. There is no indication of any contamination in the coolant. The carboxylate level of this fluid is acceptable. The glycol level is acceptable. The pH level of this fluid is within the acceptable limits.



CONTAMINATION

Coolant Appearance	normal	normal	normal	normal
Coolant Color	Yllow	Yllow	Yllow	Yllow

Depot: ULSKIN
Unique No: 10456920
Signed: Doug Bogart
Report Date: 09 May 2023

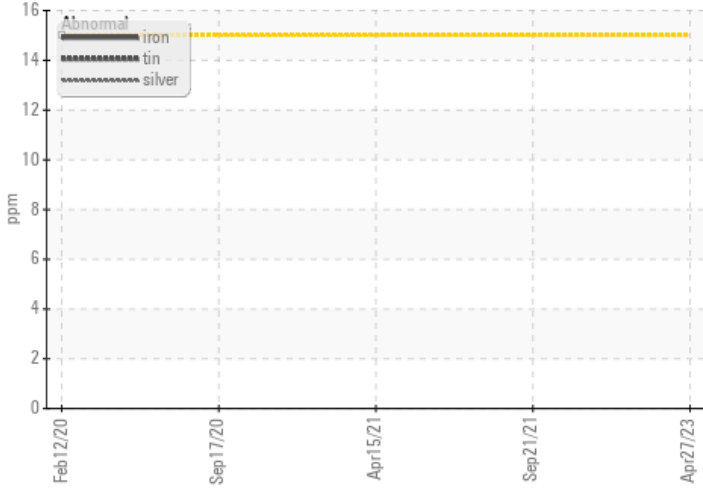


CONSTRUCTION EQUIPMENT

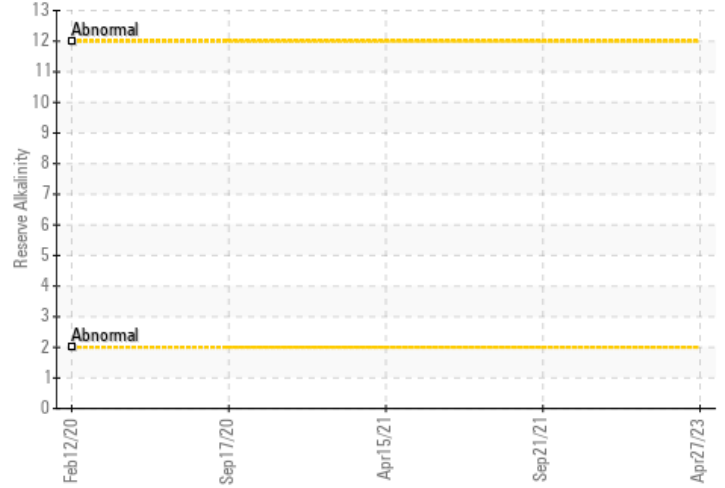


VOLVO GRAPHS

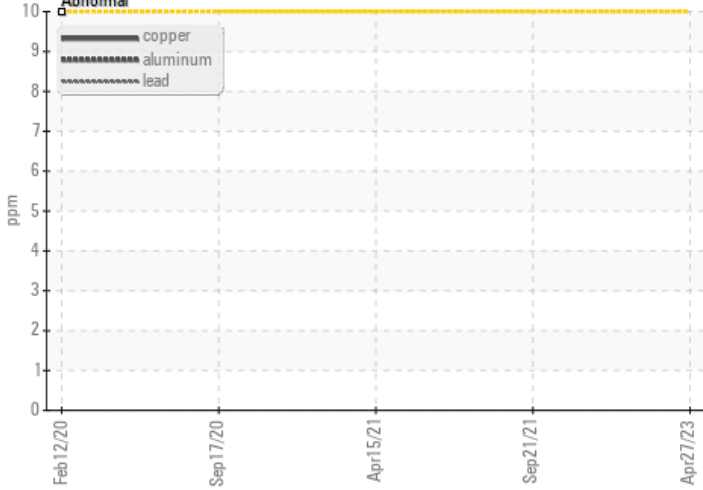
Iron/Tin/Silver



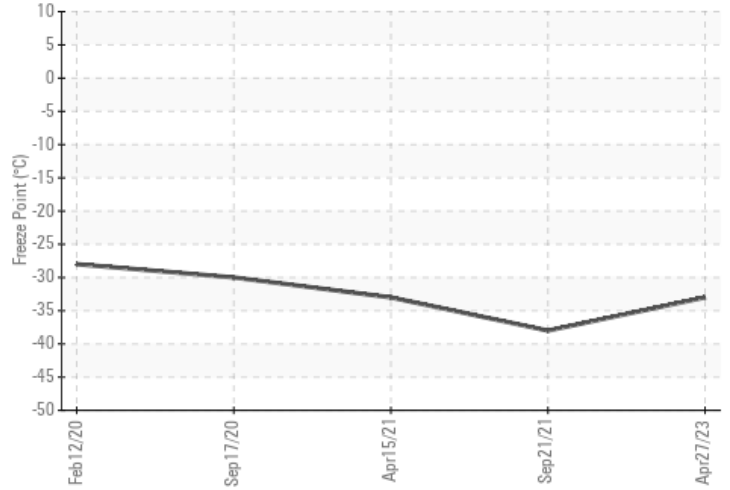
Reserve Alkalinity



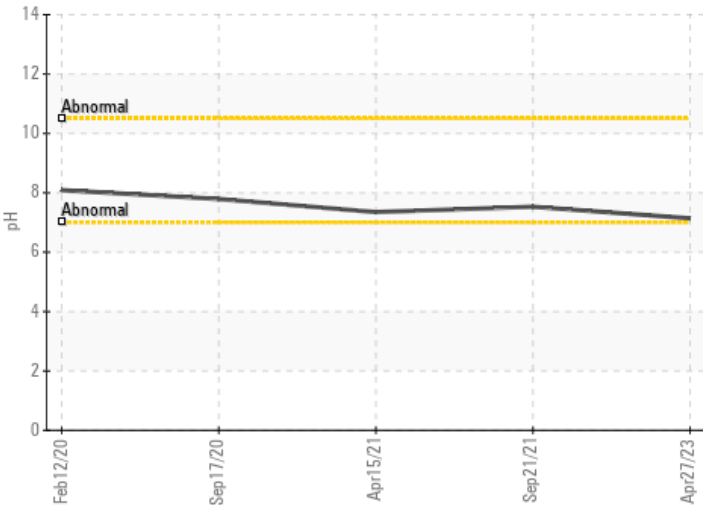
Copper/Aluminum/Lead



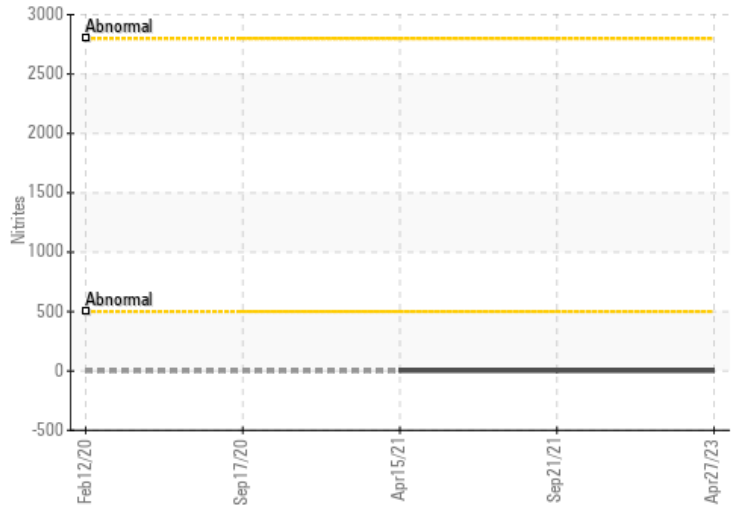
Freeze Point



pH



Nitrites





CONSTRUCTION EQUIPMENT

VOLVO EC220E 314027 - DIESEL ENGINE



Sample No: VCP424006
Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VCP424006	VCP404692	VCP323031	VCP303778
Sample Date	30 Oct 2023	27 Apr 2023	21 Sep 2021	15 Apr 2021
Machine Hours	7650	6997	4100	3159
Oil Hours	0	700	500	600
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

ULSTER COUNTY RESOURCE RECOVERY AGENCY
 999 FLATBUSH AVE
 KINGSTON, NY
 US 12401
 Contact: CHARLES WHITTAKER
 cwhf@ucrra.net
 T: (845)399-2686
 F:



OIL CONDITION

Visc @ 100°C	cSt	13.5	13.6	13.3	13.8
Base Number (BN)	mg KOH/g	8.9	8.7	---	---
Oxidation (PA)	%	96	88	90	97

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



CONTAMINATION

Soot %	%	0.2	0.2	0.2	0.2
Nitration (PA)	%	80	78	67	73
Sulfation (PA)	%	64	58	62	65
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	20	13	20	16
Sodium	ppm	2	3	3	4
Potassium	ppm	0	1	0	<1



WEAR METALS

Iron	ppm	17	12	8	12
Copper	ppm	<1	<1	<1	2
Lead	ppm	0	0	<1	1
Tin	ppm	<1	0	<1	1
Aluminum	ppm	12	7	10	9
Chromium	ppm	1	2	<1	1
Molybdenum	ppm	43	48	45	45
Nickel	ppm	<1	<1	<1	1
Titanium	ppm	<1	<1	0	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	1786	1708	1867	1882
Magnesium	ppm	576	561	573	550
Zinc	ppm	1255	1184	1033	988
Phosphorus	ppm	1032	930	848	816
Barium	ppm	0	0	0	0
Boron	ppm	27	35	28	36

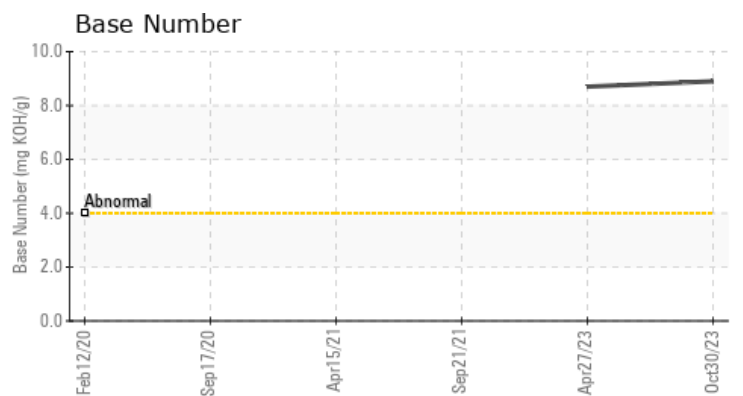
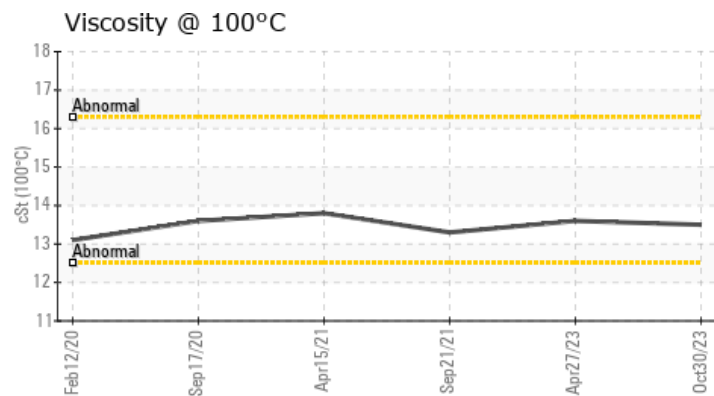
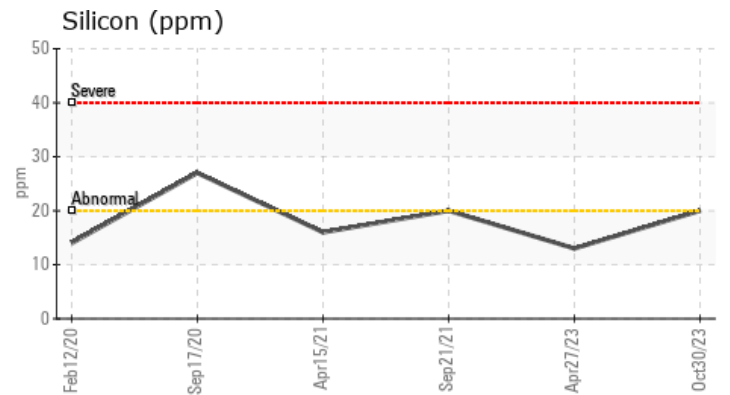
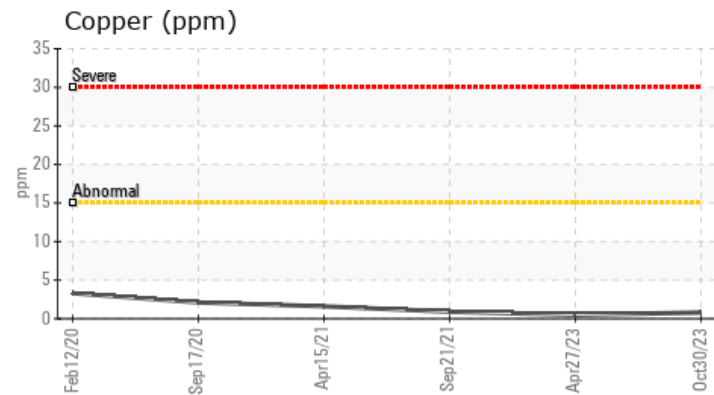
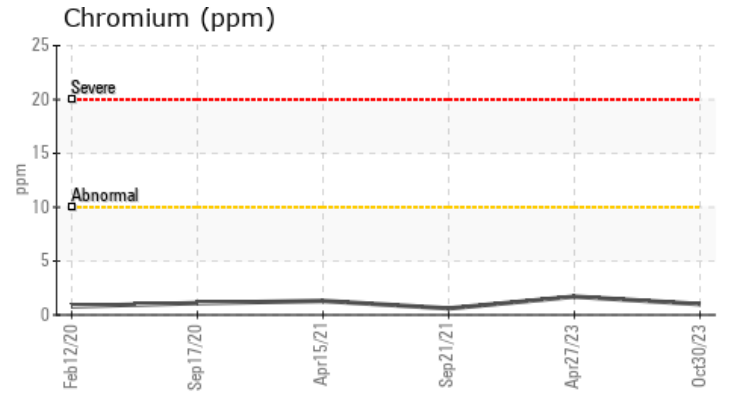
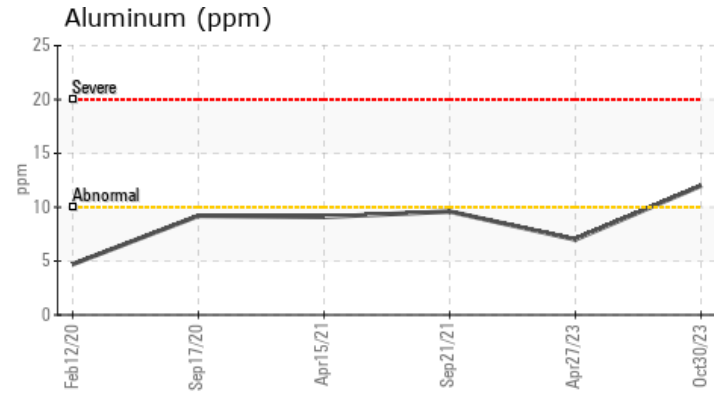
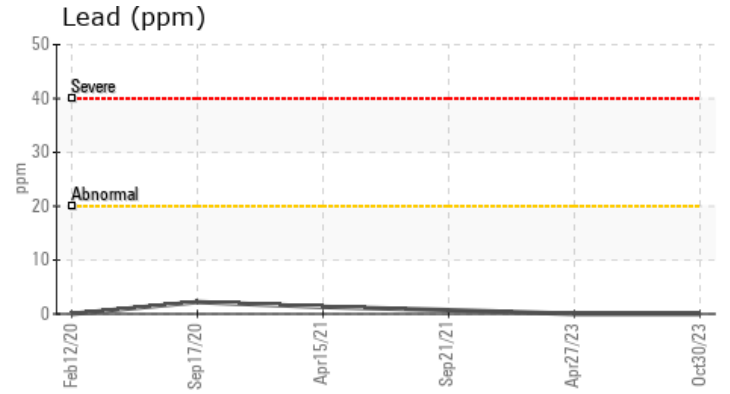
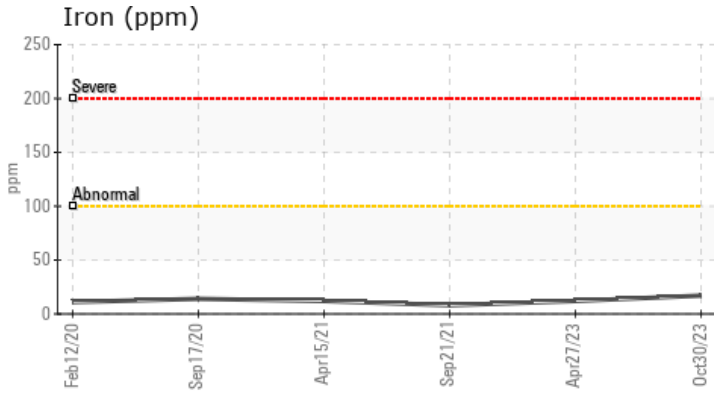
Depot: ULSKIN
Unique No: 10728031
Signed: Don Baldrige
Report Date: 08 Nov 2023



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

SWA233774-10 VOLVO EC220E 3140Z7 - HYDRAULIC SYSTEM



Sample No: VCP407391
Oil Type: VOLVO SUPER HYDRAULIC OIL 46
Job No: SWA233774-10



SAMPLE INFORMATION

Sample Number	VCP407391	VCP323024	VCP303776	VCP267808
Sample Date	27 Apr 2023	21 Sep 2021	15 Apr 2021	18 Sep 2020
Machine Hours	6997	4100	3159	1980
Oil Hours	0	2000	3000	2000
Oil Changed	Not Chngd	Changed	Not Chngd	Not Chngd
Sample Status	ABNORMAL	NORMAL	ABNORMAL	ATTENTION

ULSTER COUNTY RESOURCE RECOVERY AGENCY
 999 FLATBUSH AVE
 KINGSTON, NY
 US 12401
 Contact: CHARLES WHITTAKER
 cwhf@ucrra.net
 T: (845)399-2686
 F:



OIL CONDITION

Visc @ 40°C	cSt	38.6	42.3	43.4	42.4
Acid Number (AN)	mg KOH/g	0.30	0.616	0.473	0.635



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		▲ 77406	6487	---	▲ 57373
Particles >6µm		982	1209	---	6295
Particles >14µm		50	95	---	222
ISO 4406:1999 (c)		23/17/13	20/17/14	---	23/20/15
Silicon	ppm	10	6	5	5
Sodium	ppm	6	2	3	2
Potassium	ppm	3	2	2	1

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The iron level is abnormal. All other component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



WEAR METALS

Iron	ppm	10	6	5	4
Copper	ppm	27	30	26	25
Lead	ppm	0	<1	1	<1
Tin	ppm	0	<1	<1	0
Aluminum	ppm	3	6	1	<1
Chromium	ppm	▲ 28	3	3	1
Molybdenum	ppm	5	0	0	0
Nickel	ppm	0	0	<1	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	0
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	582	86	90	83
Magnesium	ppm	40	1	2	<1
Zinc	ppm	390	469	504	498
Phosphorus	ppm	345	375	431	368
Barium	ppm	0	0	0	0
Boron	ppm	9	0	3	1

Depot: ULSKIN
Unique No: 10456503
Signed: Don Baldrige
Report Date: 08 May 2023

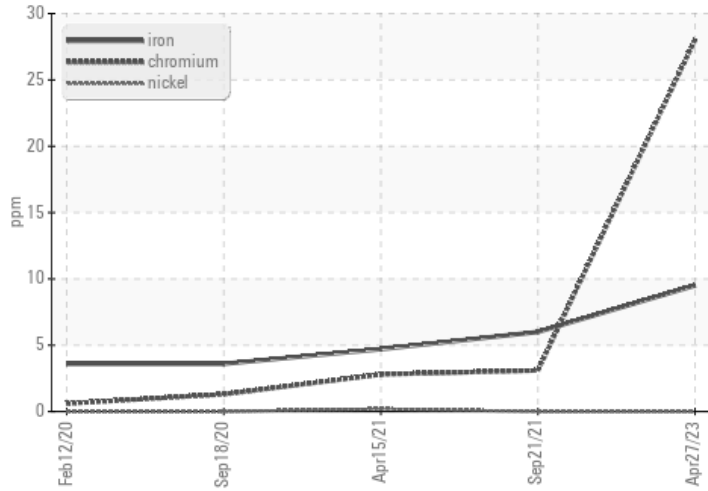


CONSTRUCTION EQUIPMENT

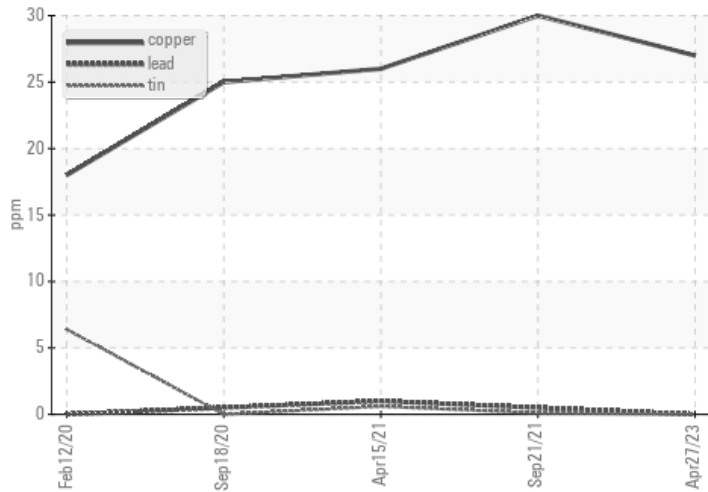


GRAPHS

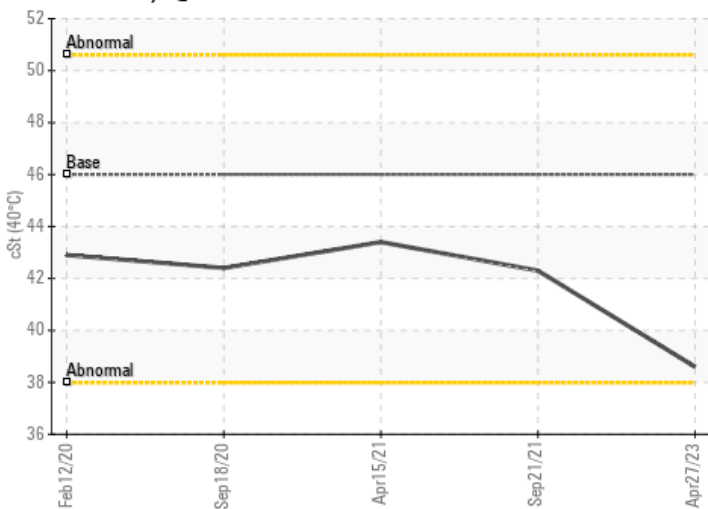
▲ Ferrous Alloys



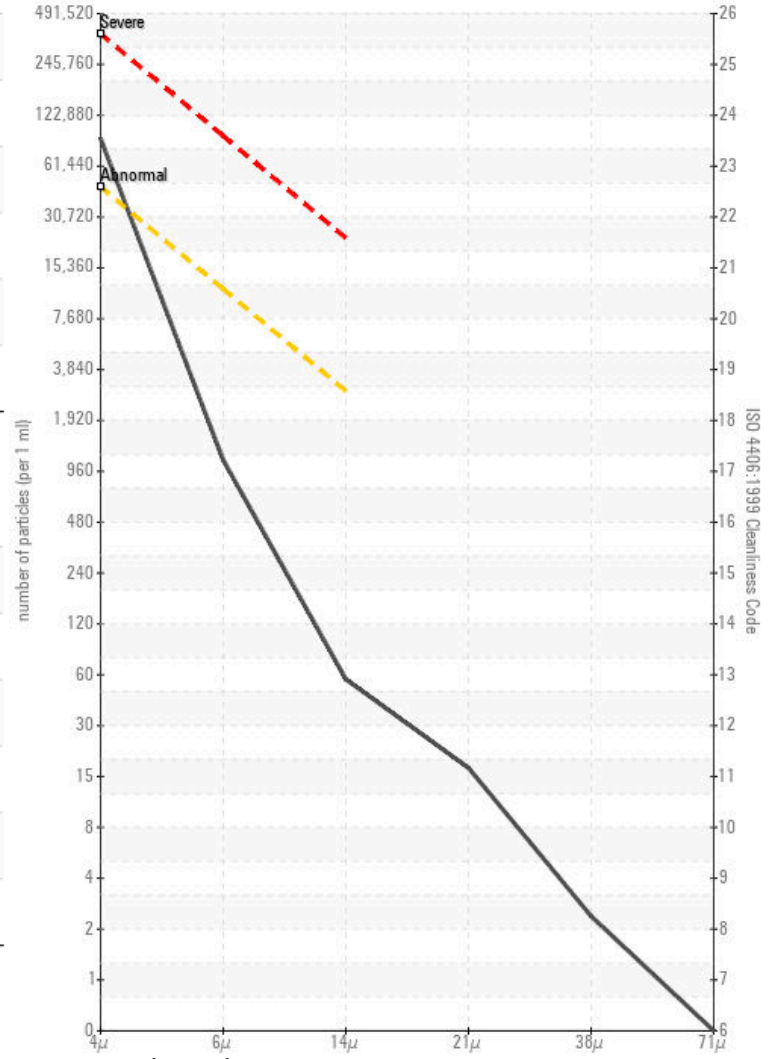
Non-ferrous Metals



Viscosity @ 40°C



▲ Particle Count



Acid Number





CONSTRUCTION EQUIPMENT

SWA233774-10 VOLVO EC220E 3140Z7 - REAR LEFT FINAL DRIVE



Sample No: VCP407394
Oil Type: VOLVO WB 101
Job No: SWA233774-10



ULSTER COUNTY RESOURCE RECOVERY AGENCY
 999 FLATBUSH AVE
 KINGSTON, NY
 US 12401
 Contact: CHARLES WHITTAKER
 cwhf@ucrra.net
 T: (845)399-2686
 F:



SAMPLE INFORMATION

Sample Number	VCP407394	VCP323028	VCP303775	VCP267806
Sample Date	27 Apr 2023	21 Sep 2021	15 Apr 2021	17 Sep 2020
Machine Hours	6997	4100	3159	1980
Oil Hours	0	1000	1000	1000
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 40°C	cSt	▲ 164	■ 154	■ 295	■ 102
-------------	-----	--------------	-------	-------	-------



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	■ 6	■ 1	■ 2	■ 6
Sodium	ppm	■ 2	■ <1	■ 2	■ 2
Potassium	ppm	■ 2	■ 0	■ 0	■ 0



WEAR METALS

Iron	ppm	■ 76	■ 14	■ 34	■ 29
Copper	ppm	■ <1	■ 0	■ <1	■ <1
Lead	ppm	■ 0	■ 0	■ <1	■ 2
Tin	ppm	■ 0	■ 0	■ <1	■ 0
Aluminum	ppm	■ <1	■ 0	■ <1	■ 1
Chromium	ppm	■ <1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ <1	■ 1	■ <1	■ <1
Nickel	ppm	■ 1	0	<1	<1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	0	<1	<1	0
Manganese	ppm	■ 1	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	▲ 68	■ 132	215	■ 1187
Magnesium	ppm	■ 18	■ 22	■ 42	■ 655
Zinc	ppm	▲ 41	■ 77	■ 76	■ 654
Phosphorus	ppm	■ 1039	■ 1008	■ 988	■ 731
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 182	■ 180	■ 199	■ 85

Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is higher than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type.

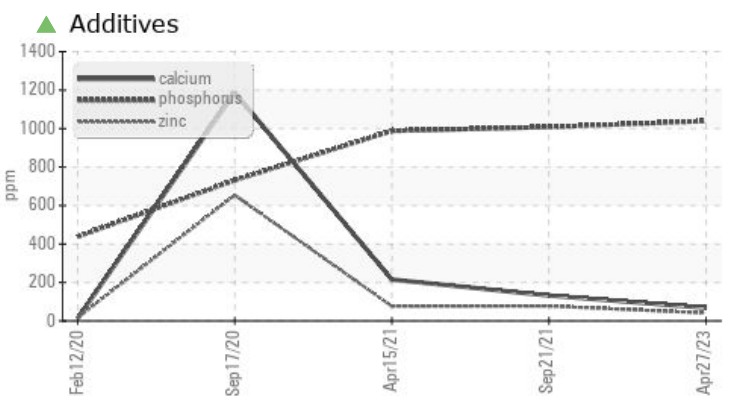
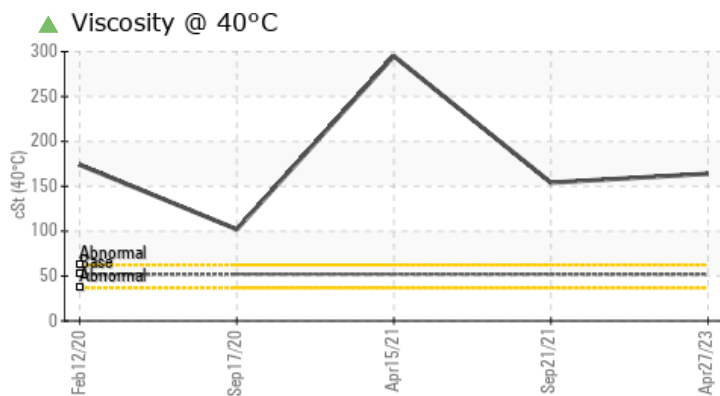
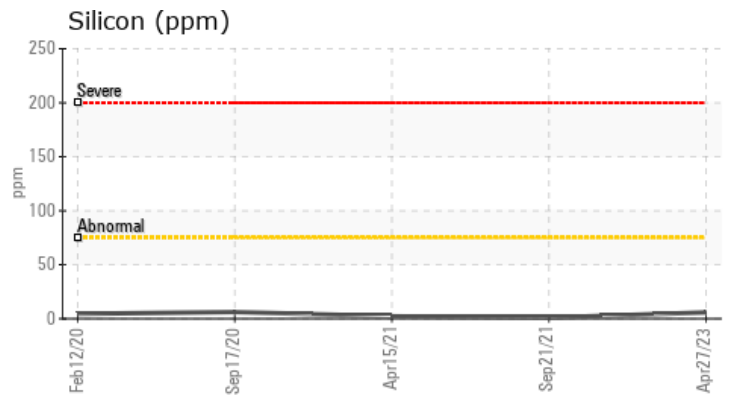
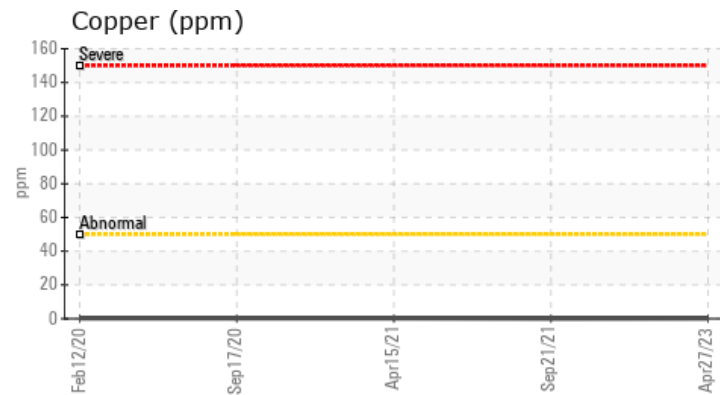
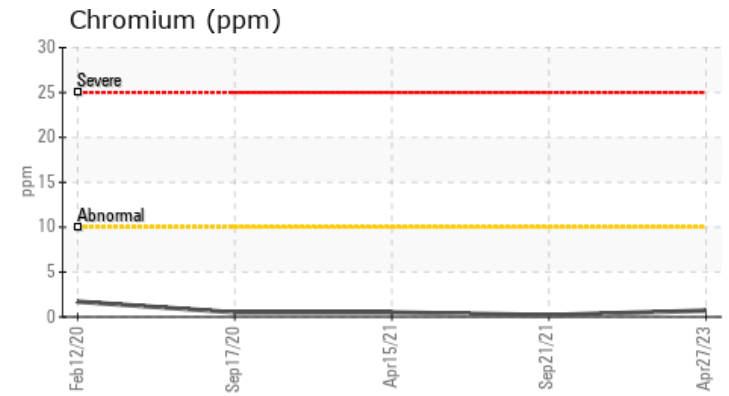
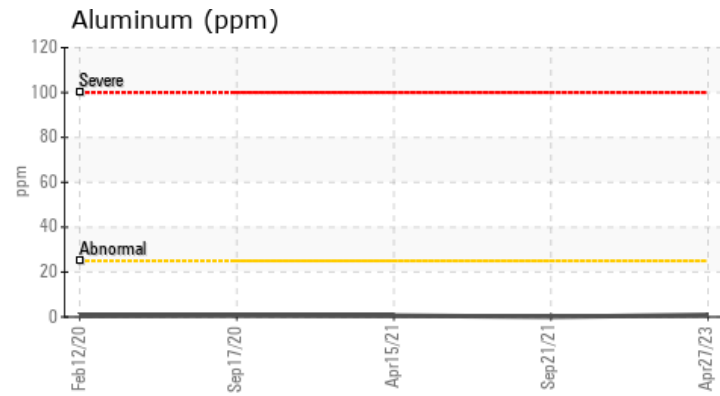
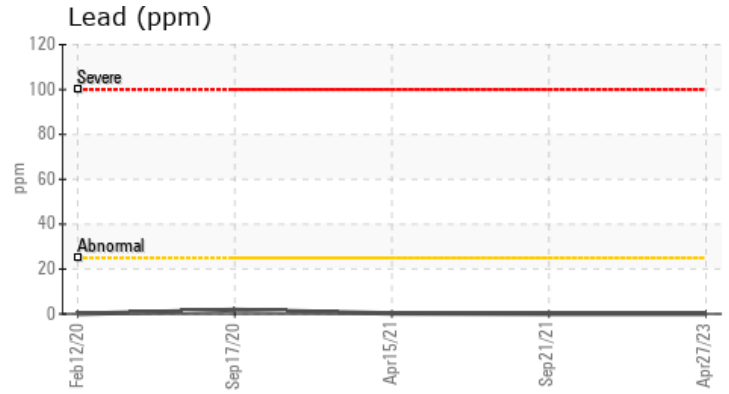
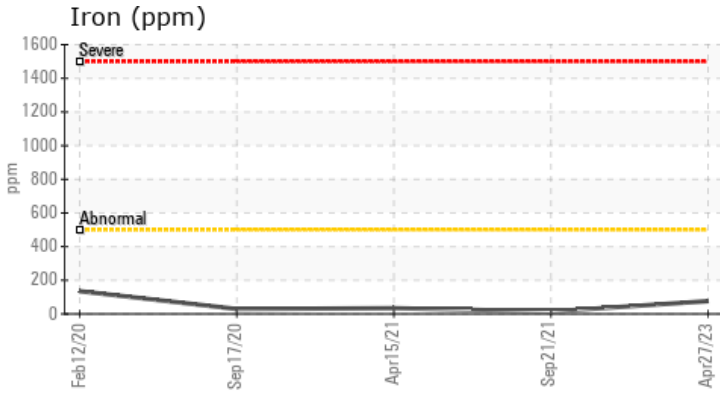
Depot: ULSKIN
Unique No: 10456828
Signed: Sean Felton
Report Date: 08 May 2023



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

SWA233774-10 VOLVO EC220E 3140Z7 - REAR RIGHT FINAL DRIVE



Sample No: VCP408560
Oil Type: VOLVO WB 101
Job No: SWA233774-10



ULSTER COUNTY RESOURCE RECOVERY AGENCY
 999 FLATBUSH AVE
 KINGSTON, NY
 US 12401
 Contact: CHARLES WHITTAKER
 cwhf@ucrra.net
 T: (845)399-2686
 F:



SAMPLE INFORMATION

Sample Number	VCP408560	VCP323594	VCP313825	VCP267802
Sample Date	27 Apr 2023	21 Sep 2021	15 Apr 2021	17 Sep 2020
Machine Hours	6997	4100	3159	1980
Oil Hours	0	1000	1000	1000
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



OIL CONDITION

Visc @ 40°C	cSt	154	165	295	107
-------------	-----	------------	-----	-----	-----



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	3	2	3	6
Sodium	ppm	2	<1	2	2
Potassium	ppm	2	0	<1	0



WEAR METALS

Iron	ppm	39	26	38	46
Copper	ppm	<1	0	<1	<1
Lead	ppm	0	0	0	1
Tin	ppm	0	0	<1	0
Aluminum	ppm	<1	<1	<1	<1
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	1	0	<1	<1
Nickel	ppm	1	0	<1	<1
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	<1	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	89	41	191	1055
Magnesium	ppm	26	14	56	576
Zinc	ppm	65	20	71	579
Phosphorus	ppm	1050	1027	976	665
Barium	ppm	0	0	0	0
Boron	ppm	180	186	198	76

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Confirm oil type. The condition of the oil is acceptable for the time in service.

Depot: ULSKIN
Unique No: 10456823
Signed: Don Baldrige
Report Date: 08 May 2023



CONSTRUCTION EQUIPMENT



GRAPHS

