



CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - DIESEL ENGINE



Sample No: VCP124571

Oil Type: SAE 15W40

Job No:



SAMPLE INFORMATION

Sample Number	VCP124571	VCP008960	---	---
Sample Date	17 May 2006	14 Jul 2005	---	---
Machine Hours	7181	6485	---	---
Oil Hours	300	100	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	SEVERE	---	---

HOFFMAN EQUIPMENT - LIONVILLE
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 US 19341
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OIL CONDITION

Visc @ 100°C	cSt	13.1	16.13	---	---
Oxidation (PA)	%	70	100	---	---



CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0.6	0.2	---	---
Nitration (PA)	%	25	45	---	---
Sulfation (PA)	%	37	30	---	---
Glycol	%	NEG	▲ 0.10	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	8	▲ 34	---	---
Sodium	ppm	7	▲ 716	---	---
Potassium	ppm	2	▲ 1815	---	---

Diagnosis

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



WEAR METALS

Iron	ppm	38	▲ 442	---	---
Copper	ppm	22	▲ 349	---	---
Lead	ppm	10	▲ 513	---	---
Tin	ppm	3	▲ 9	---	---
Aluminum	ppm	3	5	---	---
Chromium	ppm	2	2	---	---
Molybdenum	ppm	28	64	---	---
Nickel	ppm	1	2	---	---
Titanium	ppm	<1	<1	---	---
Silver	ppm	0	1	---	---
Manganese	ppm	<1	17	---	---
Vanadium	ppm	0	0	---	---



ADDITIVES

Calcium	ppm	2405	1830	---	---
Magnesium	ppm	239	110	---	---
Zinc	ppm	1254	912	---	---
Phosphorus	ppm	1160	1431	---	---
Barium	ppm	0	<1	---	---
Boron	ppm	14	88	---	---

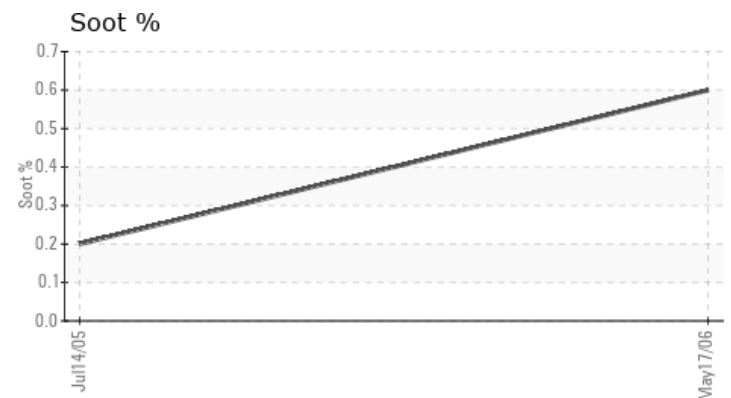
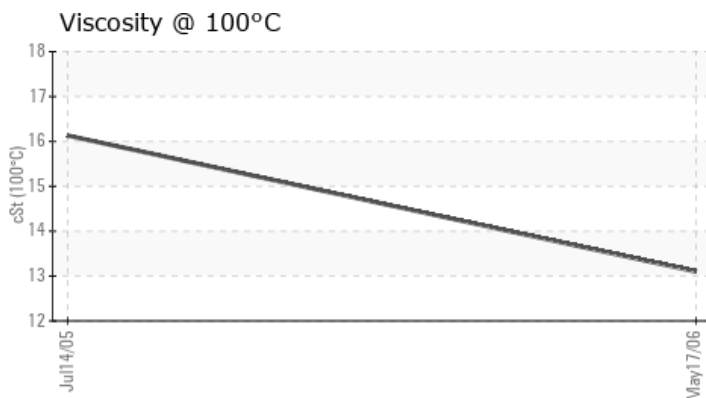
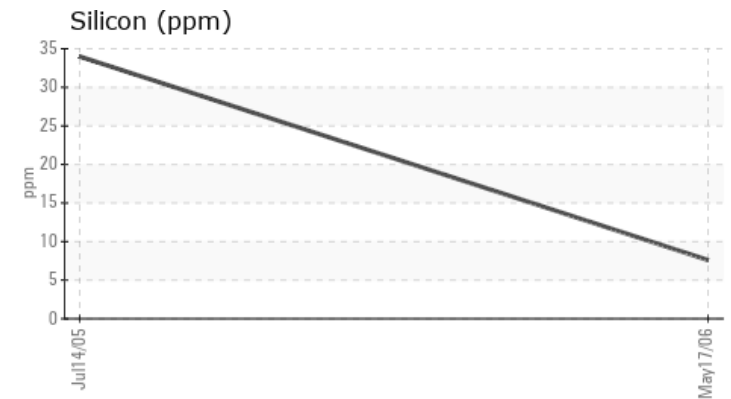
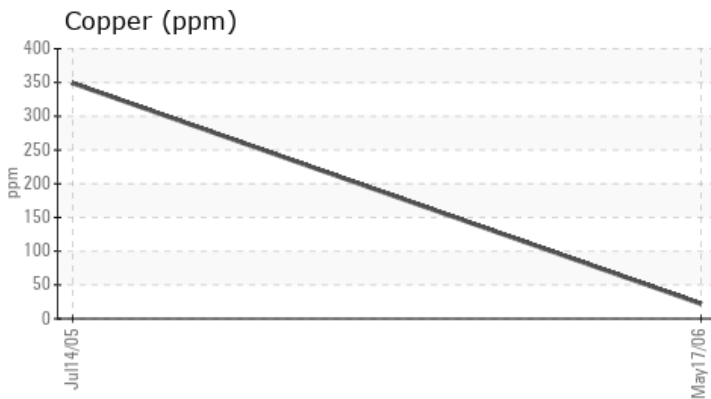
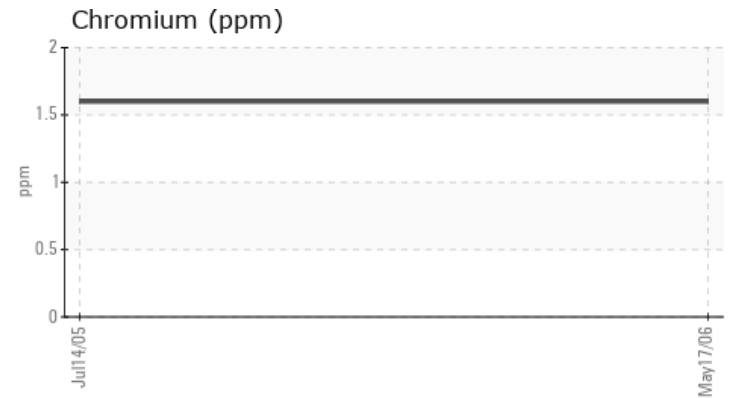
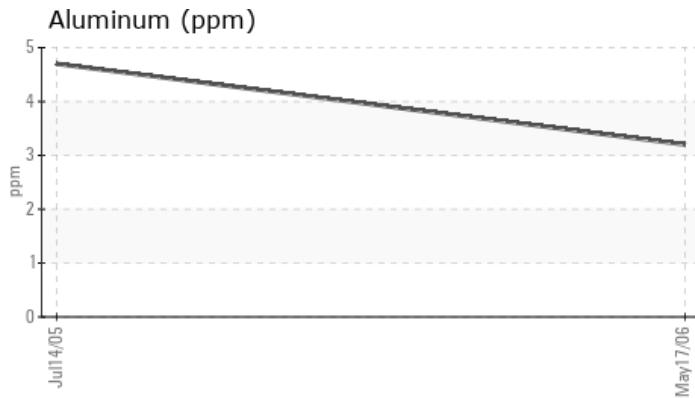
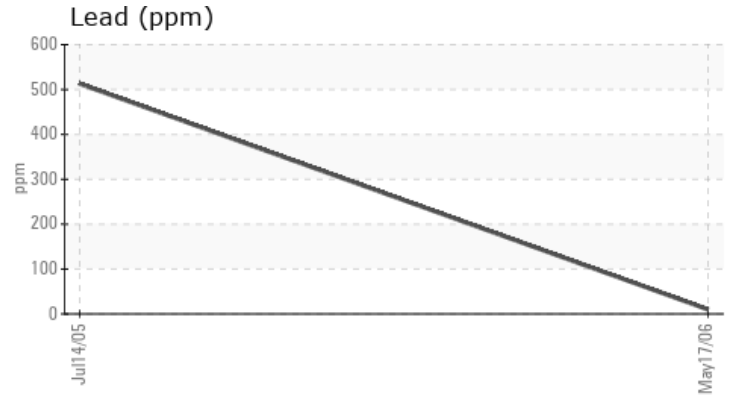
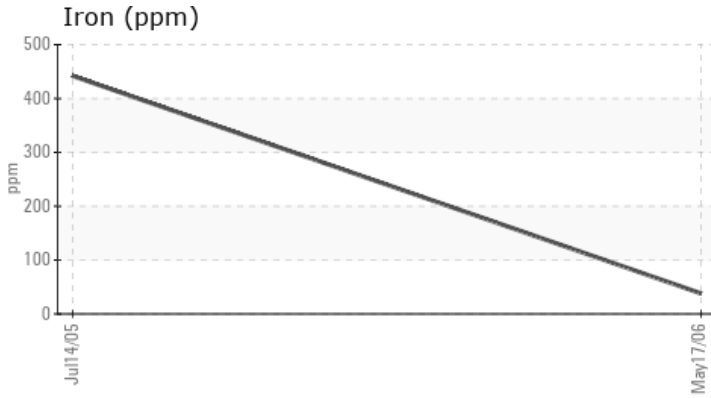
Depot: VOLVO8879
Unique No: 3695090
Signed:
Report Date: 24 May 2006



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - TRANSMISSION



Sample No: VCP024572

Oil Type: SAE 15W40

Job No:



SAMPLE INFORMATION

Sample Number	VCP024572	---	---	---
Sample Date	17 May 2006	---	---	---
Machine Hours	7181	---	---	---
Oil Hours	400	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	█ 26.65	---	---	---
-------------	-----	---------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	█ 3	---	---	---
Sodium	ppm	█ 13	---	---	---
Potassium	ppm	█ 2	---	---	---

Diagnosis

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



WEAR METALS

Iron	ppm	█ 26	---	---	---
Copper	ppm	█ 187	---	---	---
Lead	ppm	█ 12	---	---	---
Tin	ppm	█ 9	---	---	---
Aluminum	ppm	█ 6	---	---	---
Chromium	ppm	█ <1	---	---	---
Molybdenum	ppm	2	---	---	---
Nickel	ppm	█ <1	---	---	---
Titanium	ppm	█ 0	---	---	---
Silver	ppm	█ <1	---	---	---
Manganese	ppm	<1	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	416	---	---	---
Magnesium	ppm	8	---	---	---
Zinc	ppm	136	---	---	---
Phosphorus	ppm	470	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	91	---	---	---

Depot: VOLVO8879
Unique No: 3695220
Signed:
Report Date: 24 May 2006

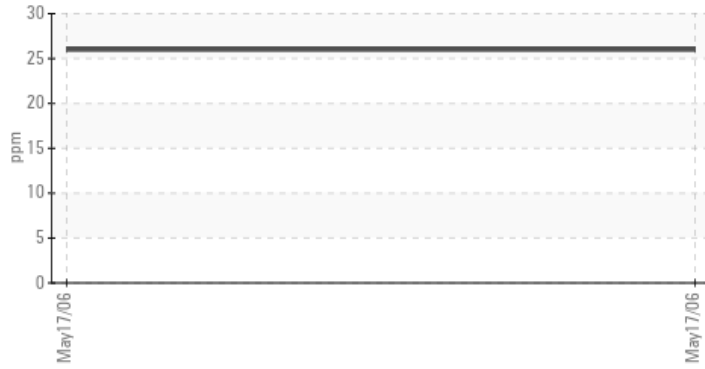


CONSTRUCTION EQUIPMENT

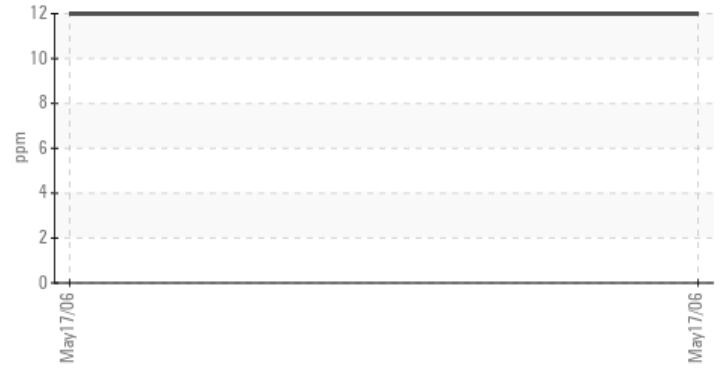


GRAPHS

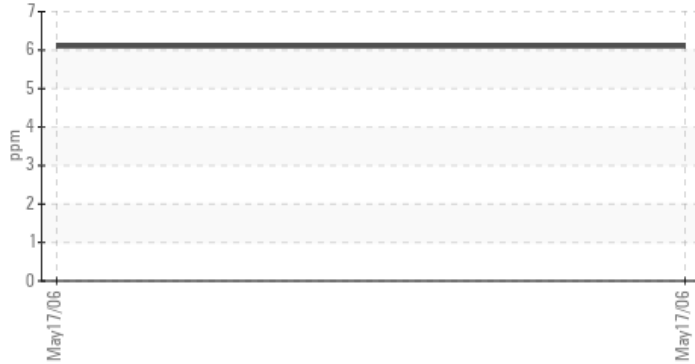
Iron (ppm)



Lead (ppm)



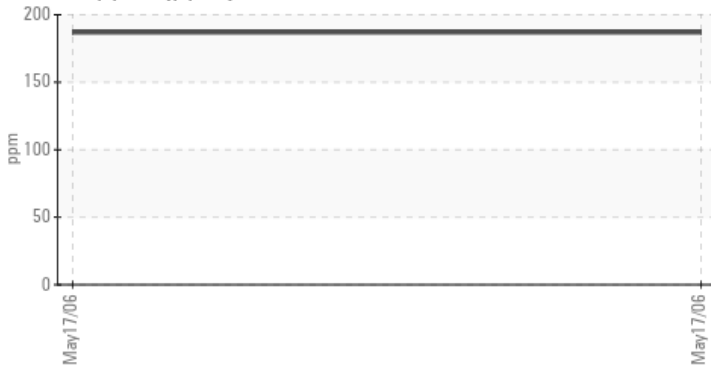
Aluminum (ppm)



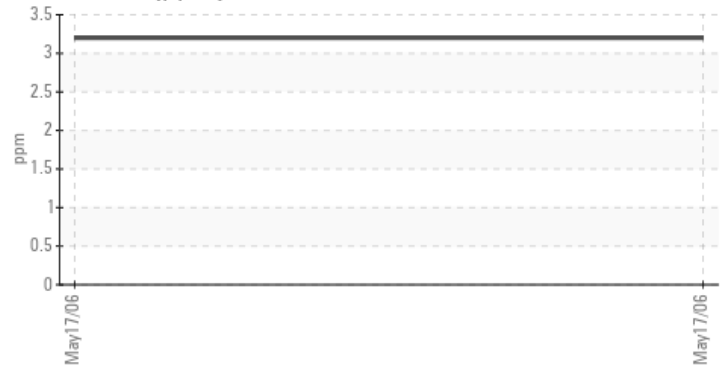
Chromium (ppm)



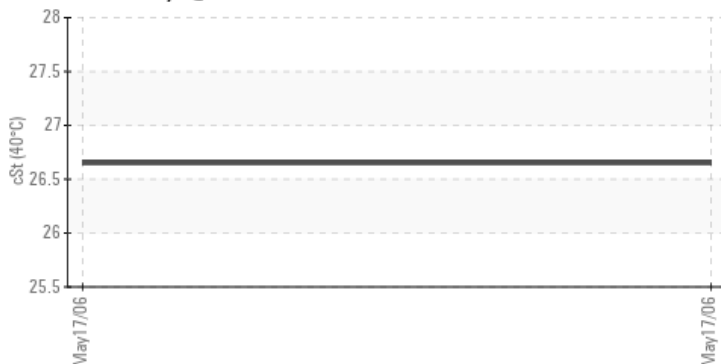
Copper (ppm)



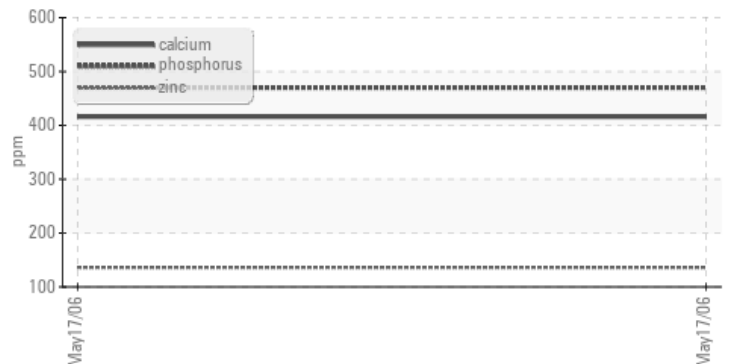
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - FRONT AXLE



Sample No: VCP019033

Oil Type: {unknown}

Job No:



SAMPLE INFORMATION

Sample Number	VCP019033	---	---	---
Sample Date	28 Jul 2005	---	---	---
Machine Hours	6488	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	ABNORMAL	---	---	---

HOFFMAN EQUIPMENT - LIONVILLE

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OIL CONDITION

Visc @ 40°C	cSt	189.8	---	---	---
-------------	-----	-------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	31	---	---	---
Sodium	ppm	<1	---	---	---
Potassium	ppm	6	---	---	---

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the component. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	461	---	---	---
Copper	ppm	77	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	3	---	---	---
Aluminum	ppm	1	---	---	---
Chromium	ppm	6	---	---	---
Molybdenum	ppm	0	---	---	---
Nickel	ppm	4	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	9	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	30	---	---	---
Magnesium	ppm	2	---	---	---
Zinc	ppm	15	---	---	---
Phosphorus	ppm	793	---	---	---
Barium	ppm	2	---	---	---
Boron	ppm	94	---	---	---

Depot: VOLVO8879

Unique No: 3071351

Signed:

Report Date: 02 Aug 2005

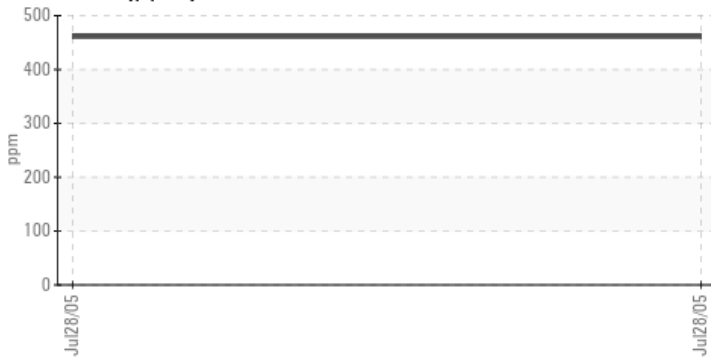


CONSTRUCTION EQUIPMENT

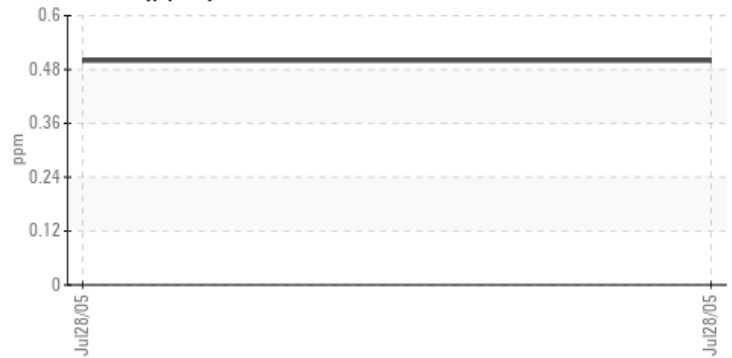


GRAPHS

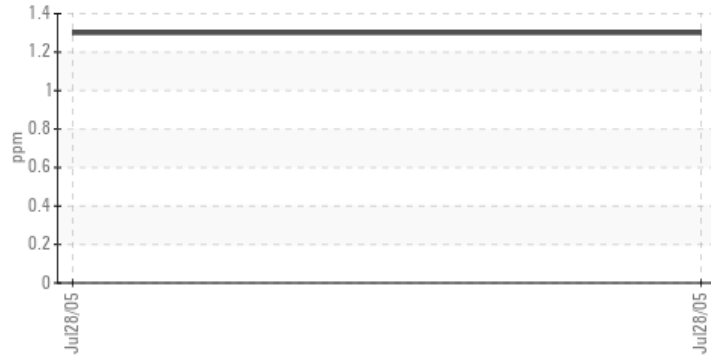
Iron (ppm)



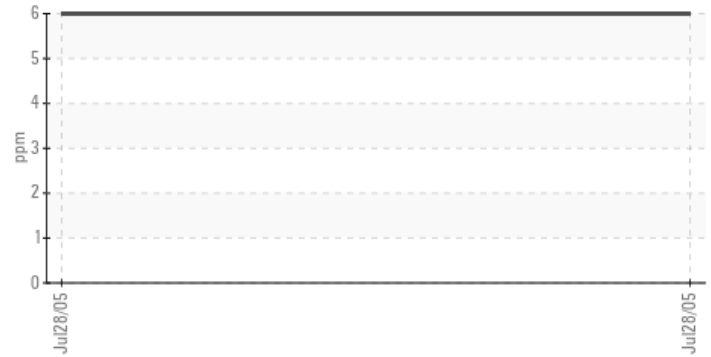
Lead (ppm)



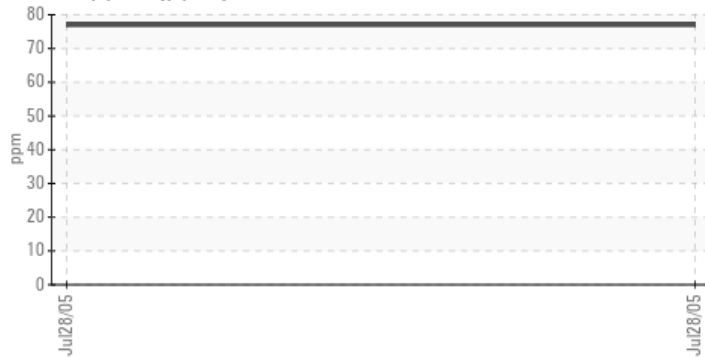
Aluminum (ppm)



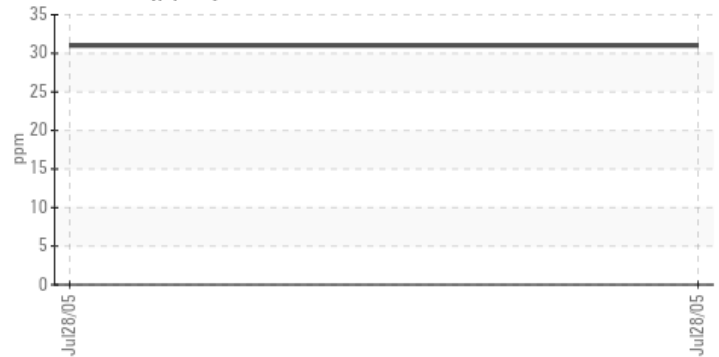
Chromium (ppm)



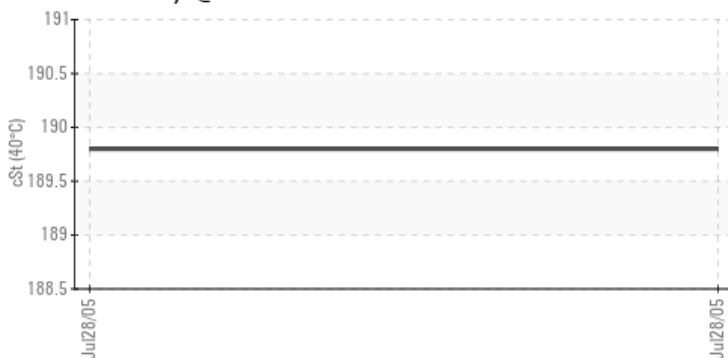
▲ Copper (ppm)



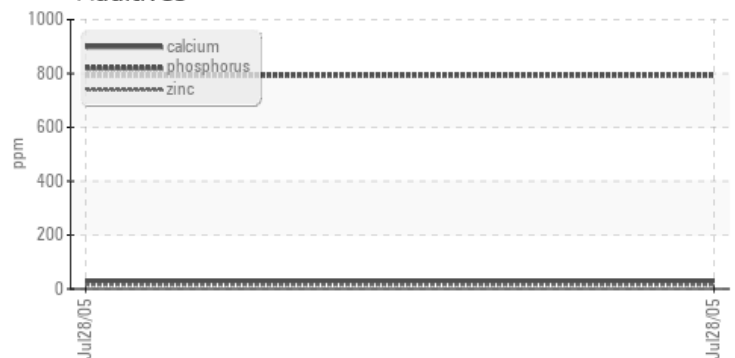
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - BOGIE/CENTER AXLE



Sample No: VCP019024

Oil Type: {unknown}

Job No:



SAMPLE INFORMATION

Sample Number	VCP019024	---	---	---
Sample Date	28 Jul 2005	---	---	---
Machine Hours	6488	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	170.8	---	---	---
-------------	-----	-------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	33	---	---	---
Sodium	ppm	0	---	---	---
Potassium	ppm	6	---	---	---

Diagnosis

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



WEAR METALS

Iron	ppm	311	---	---	---
Copper	ppm	35	---	---	---
Lead	ppm	<1	---	---	---
Tin	ppm	2	---	---	---
Aluminum	ppm	1	---	---	---
Chromium	ppm	5	---	---	---
Molybdenum	ppm	0	---	---	---
Nickel	ppm	3	---	---	---
Titanium	ppm	1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	9	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	11	---	---	---
Magnesium	ppm	4	---	---	---
Zinc	ppm	13	---	---	---
Phosphorus	ppm	683	---	---	---
Barium	ppm	2	---	---	---
Boron	ppm	35	---	---	---

Depot: VOLVO8879
Unique No: 3071352
Signed:
Report Date: 02 Aug 2005

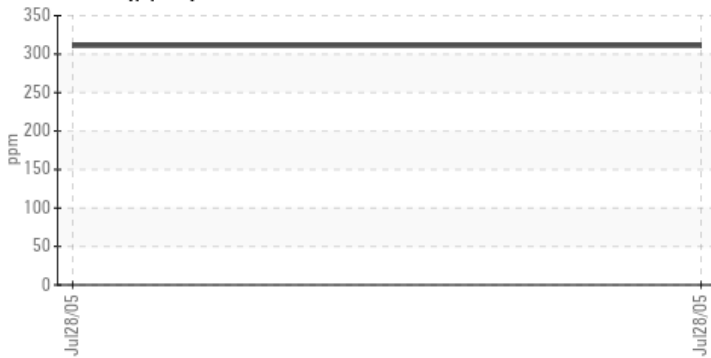


CONSTRUCTION EQUIPMENT

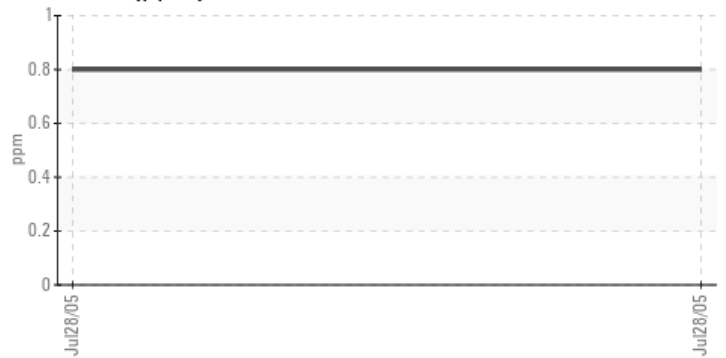


GRAPHS

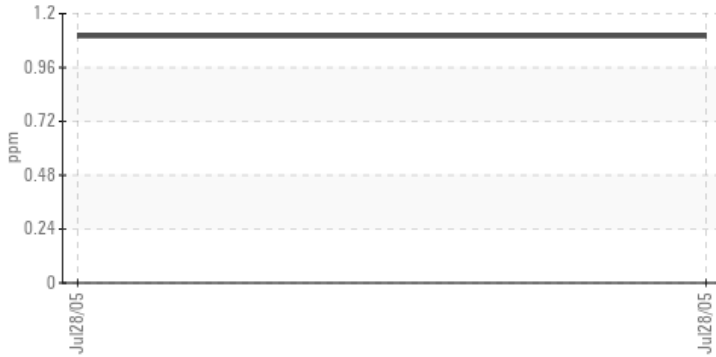
Iron (ppm)



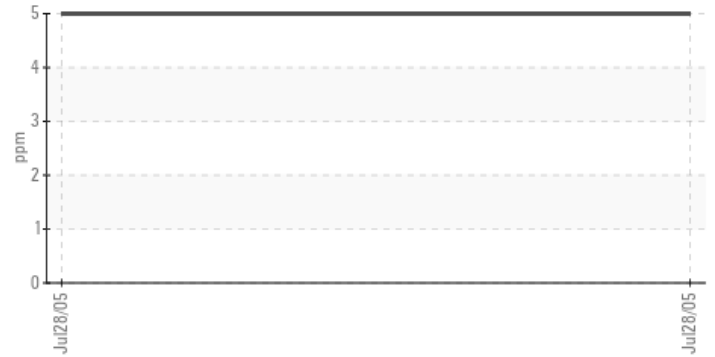
Lead (ppm)



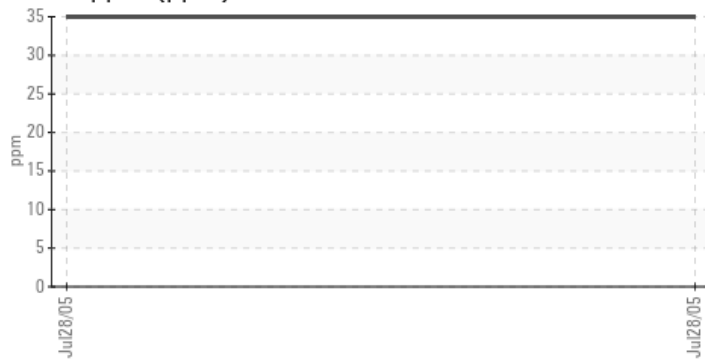
Aluminum (ppm)



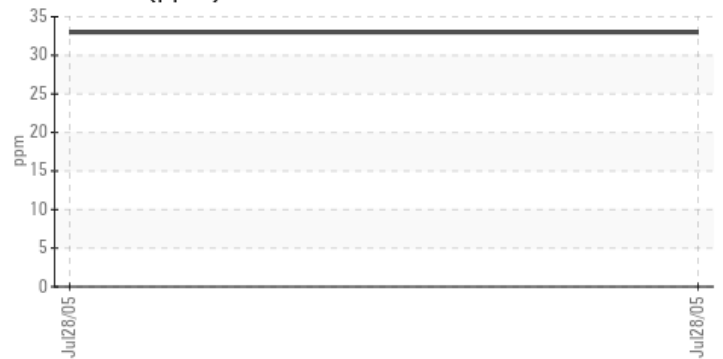
Chromium (ppm)



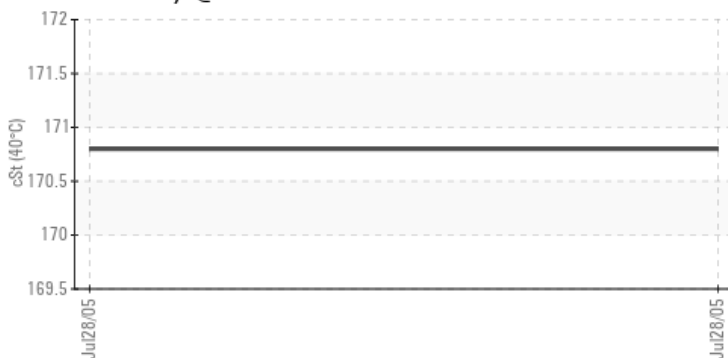
Copper (ppm)



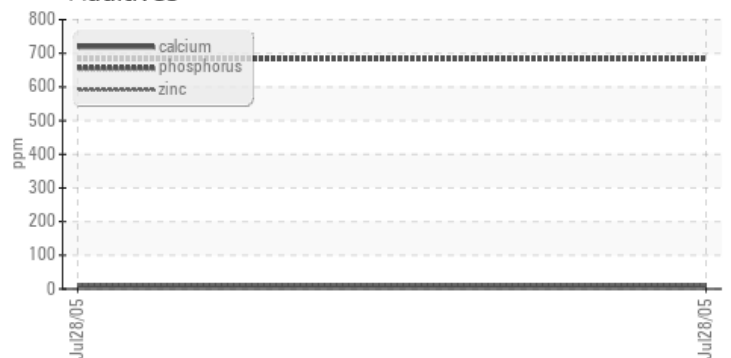
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - REAR AXLE



Sample No: VCP019022

Oil Type: {unknown}

Job No:



SAMPLE INFORMATION

Sample Number	VCP019022	---	---	---
Sample Date	28 Jul 2005	---	---	---
Machine Hours	6488	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	ABNORMAL	---	---	---

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OIL CONDITION

Visc @ 40°C	cSt	214.9	---	---	---
-------------	-----	-------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	▲ 58	---	---	---
Sodium	ppm	■ 0	---	---	---
Potassium	ppm	■ 10	---	---	---

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Elemental level of silicon (Si) above normal indicating ingress of seal material. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	■ 427	---	---	---
Copper	ppm	■ 34	---	---	---
Lead	ppm	■ 1	---	---	---
Tin	ppm	■ 1	---	---	---
Aluminum	ppm	■ 4	---	---	---
Chromium	ppm	■ 7	---	---	---
Molybdenum	ppm	0	---	---	---
Nickel	ppm	4	---	---	---
Titanium	ppm	2	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	9	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	8	---	---	---
Magnesium	ppm	0	---	---	---
Zinc	ppm	10	---	---	---
Phosphorus	ppm	893	---	---	---
Barium	ppm	1	---	---	---
Boron	ppm	139	---	---	---

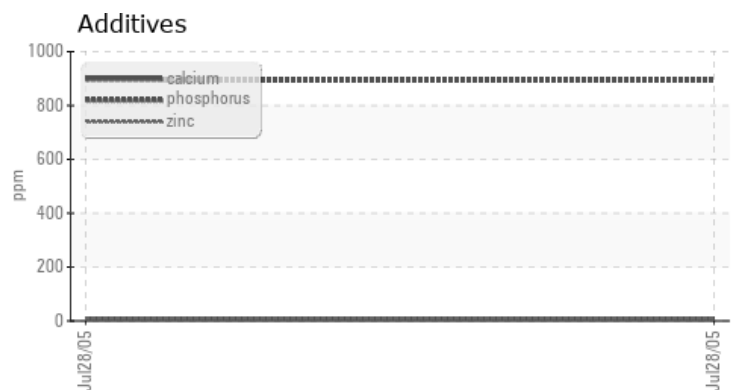
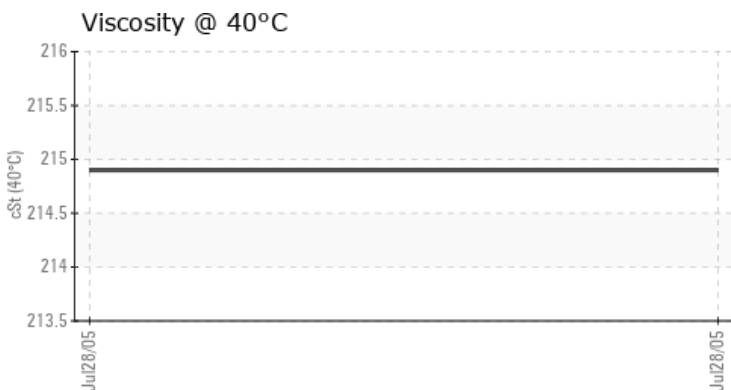
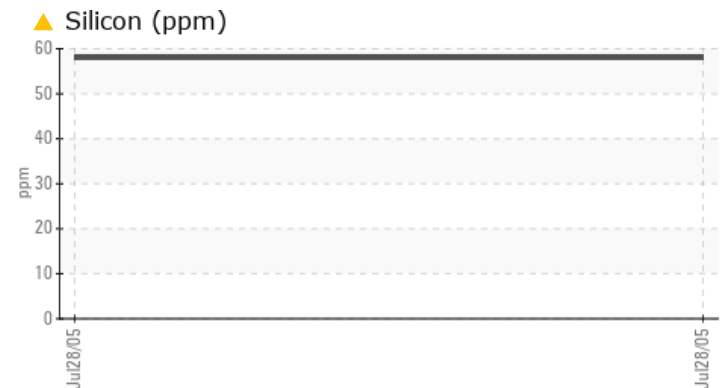
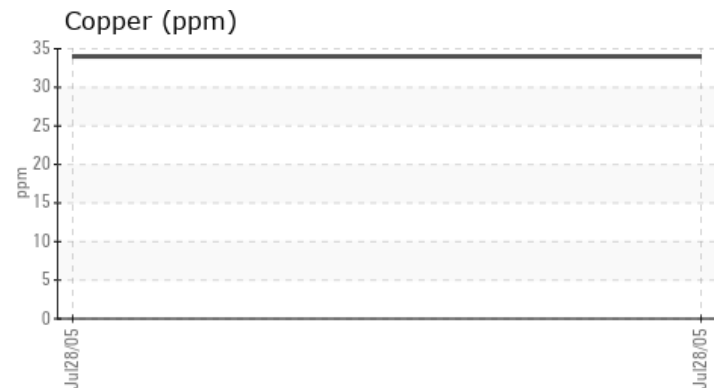
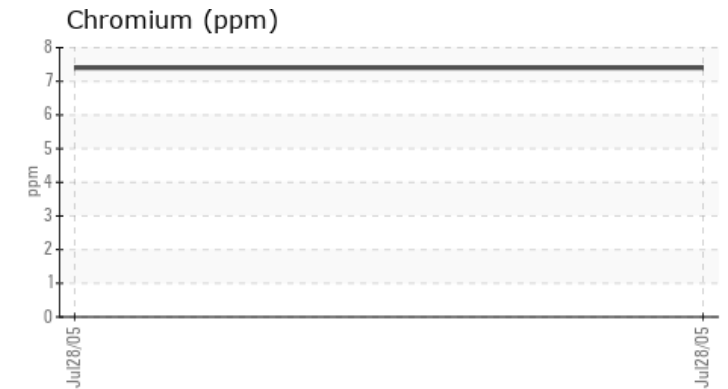
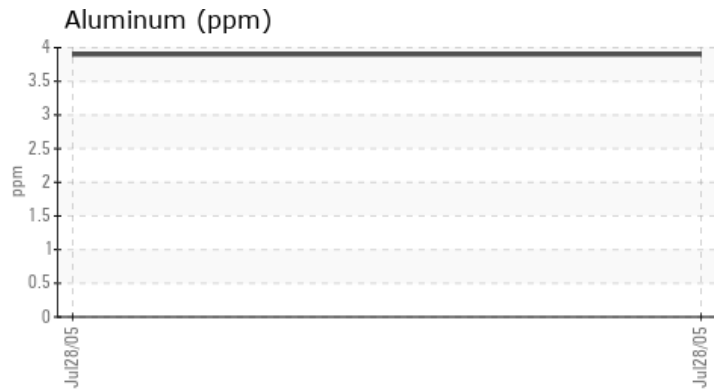
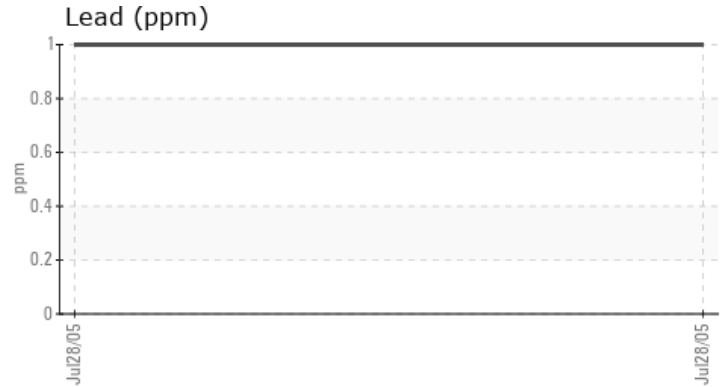
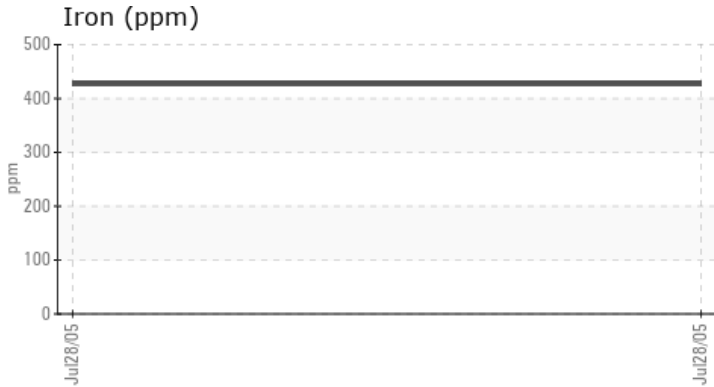
Depot: VOLVO8879
Unique No: 3071353
Signed:
Report Date: 02 Aug 2005



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO A30 60110 - DROP BOX



Sample No: VCP019034

Oil Type: {unknown}

Job No:



SAMPLE INFORMATION

Sample Number	VCP019034	---	---	---
Sample Date	28 Jul 2005	---	---	---
Machine Hours	6488	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	ABNORMAL	---	---	---

HOFFMAN EQUIPMENT - LIONVILLE

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OIL CONDITION

Visc @ 40°C	cSt	271.9	---	---	---
-------------	-----	-------	-----	-----	-----



CONTAMINATION

Water	%	NEG	---	---	---
Silicon	ppm	20	---	---	---
Sodium	ppm	3	---	---	---
Potassium	ppm	12	---	---	---

Diagnosis

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



WEAR METALS

Iron	ppm	350	---	---	---
Copper	ppm	3	---	---	---
Lead	ppm	2	---	---	---
Tin	ppm	<1	---	---	---
Aluminum	ppm	0	---	---	---
Chromium	ppm	4	---	---	---
Molybdenum	ppm	0	---	---	---
Nickel	ppm	3	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	10	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	280	---	---	---
Magnesium	ppm	3	---	---	---
Zinc	ppm	140	---	---	---
Phosphorus	ppm	1244	---	---	---
Barium	ppm	4	---	---	---
Boron	ppm	273	---	---	---

Depot: VOLVO8879

Unique No: 3071342

Signed:

Report Date: 02 Aug 2005



CONSTRUCTION EQUIPMENT



GRAPHS

