EA02-025

FORD 10/27/03

APPENDIX N

BOOK 37

PART 2 OF 3

What is SDS requirement number?

Vinteon Speed Control **by** *completed*

SDS (SC-0068) states: The stop lamp switch and redundant deactivator switch must be on the same fused circuit.

Is it feasible to disconnect the switch as immediate containment?

Yes. The customer will not have use of the speed control.

Is it acceptable to Jumper out the switch as immediate containment?

Vinteon Speed Control **by** *completed*

NO... Would eliminate an important safety feature of the speed control system. The Brake Pressure Switch provides the redundant method for sensing brake application independent of the primary system deactivation mode. This is an SDS (SC-0005) requirement.

Elimination of this feature requires the concurrence of the OGC.

Other recommendations for immediate containment?

All **by** **on-going**

Add fuse between the stop lamp fuse and the brake pressure switch?

Recommendations for increased Life of switch.

TI **by** **3/5/99**

TI suggested looking at an Automotive ceramic diaphragm pressure transducer (not a switch) that is used for ABS.

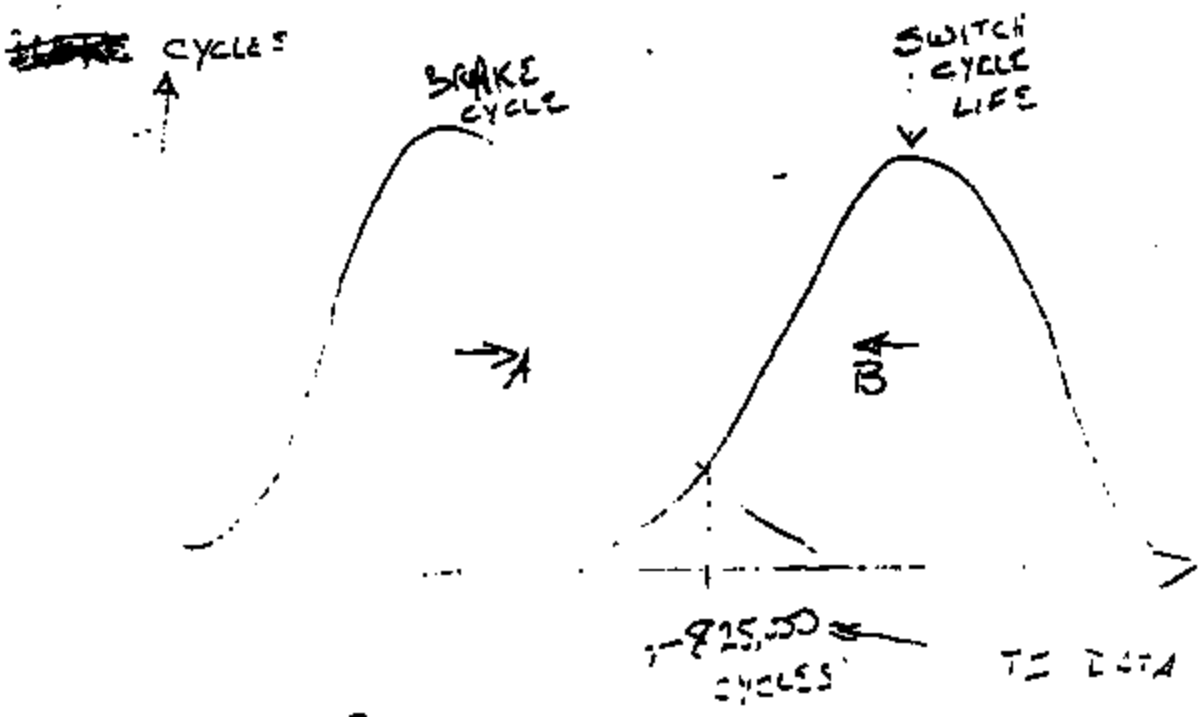
Brake Pressure Switch Test Log
Updated 2/16/99

Category	Test	Location	Test Parameters	Results Update
Lab Simulation	1	TI	Various Levels of Brake Fluid, Water, Detergent	100+ hours into test, max current 5mA
of Potential Ignition			14Vdc to one terminal, hotspot grounded	No significant change with time
in Switch	2	TI	Various Levels of Brake Fluid, Water, Detergent	100+ hours into test
			1 Amp through switch terminals	No significant temperature rise with time
	3	AVT	Brake Fluid in Switch, 24 VDC to one terminal	> 200 hours into test, max current 7mA
			Hotspot Grounded	No significant change with time
	4	AVT	Brake Fluid in Switch, 24 VDC to one terminal	96 hours into test max current 5mA
			Hotspot Grounded, Ambient at 100 C	No significant temperature rise with time
	5	AVT	Brake Fluid in Switch, 16 Amps	Temperature rise of 20 C above room temp
			Through switch terminals	Delta T reached steady state at 25 C
	6	TI	Build heater element into Switch	Expected update 2/19
			Heat till failure	
Life Cycle Reliability	7	TI	0-1400 psig pressure pulses at 135C ambient	Parts at 600k cycles, no leaks.
of Pressure Switch			per ES	Will continue to failure
Discharge Water	8	TI	0-1400 psig pressure pulses at 135C ambient	Parts withdrawn every 200k cycles, characterized for water
Field vs Lab Correlation	9	Central Labs	Various Field returns, from dealer lots, junkyards	Parts in Central Labs, being processed
Design Of Experiments	10	TI	Various Levels of Brake Fluid, Water,	Test being structured. Expected Phase One to begin 2/19
Evaluating Factors			Under ES conditions, to failure	
Effecting Discharge Water				
On-Vehicle Characterization	11	AVT	Monitor Pressure and Temperature	Logistics being worked out.
of Pressure & Temperature			at Switch Location for ABS and non-ABS	
Profile in Town Car			braking events.	

Telecon 2/16/99

FROM: Norm LaPointe

Re: GTO Correlation Data for Brake Application vs 99% Reliability of Switch



99% Point =
Driver 16 Cars per mile
x Number Car miles

Need new Theory for B if A moves to right because of ABS modulation.

3713 1730

PRODUCED BY FORD

ER82-825-A 9891

****
* Note printed by FPORTER on 22 Feb 1999 at 16:45:00 *
****

From: I2060625--EXTERNAL Date and time 02/16/99 17:09:05
To: FPORTER --FORDMAIL 'Fred Porter (For NLAPOINT--FORDMAIL 'Norm LaPointe (F
SLAROUCH--FORDMAI 'Steve LaRouche (SREIMERS--FORDMAIL 'Steve Reimers (F
cc: PMBsKSL2--EXTERNAL Beringhause, Steve OTFWOGYK--EXTERNAL Sharpe, Robert

From: Rahman, Aziz
Subject: Brake Pressure Switch Test Log.xls

cc: "Beringhause, Steven"<sberinghause@email.mc.ti.com>,
"Dague, Bryan"<bdague@email.mc.ti.com>,
"McGuirk, Andy"<a-mcguirk@email.mc.ti.com>,
"Baumann, Russ"<rbaumann@email.mc.ti.com>,
"Sharpe, Robert"<rsharpe@email.mc.ti.com>

<<Brake Pressure Switch Test Log.xls>>

Team,

This is a first pass at the test log we can use to track our tests and to update the core team on Wednesday meetings. Please review/add/edit/comment.

Thanks
Aziz.

Attachments sent separately:

Data Type	File Name
BINARY	BRAKEPRE.XLS_PC

3713 1391

PRODUCED BY FORD

E982-625-A 9892

```
**********************************************************************
*          Note printed by FPORTER on 22 Feb 1999 at 16:45:06        *
**********************************************************************

From: I2060825--EXTERNAL                      Date and time    02/17/99 01:48:48
To: FPORTER --FORDMAIL 'Fred Porter ( For NLAPOINT--FORDMAIL 'Norm LaPointe ( F
    SLAROUCH--FORDMAI  'Steve LaRouche )  SREIMERS--FORDMAIL 'Steve Reimers ( F

From: Rahman, Aziz
Subject: Brake Pressure Switch Evaluation Plan.xls

 <<Brake Pressure Switch Evaluation Plan.xls>>

Team, please review evaluation plan. It is basically a collation of Steve R.
and Norm's inputs. I will add the switch dissection section tomorrow. The
pressure calibration station from TI is expected to arrive on Thursday and
will probably reside at Central Labs due to availability of high pressure
air.

Steve R. will Allan be available to perform the electrical characterizations
data collection? I can definitely help with data analysis and maintenance of
the database.

Please review the attachment and let's discuss tomorrow.

Thanks
Aziz.

Attachments sent separately:

    Data Type            File Name
    ---------------      ----------------
    BINARY               BRAKEPRE.XLS_PC
```

3713 1392

****
* Note printed by FPORTER on 22 Feb 1999 at 17:02:20 *
****

From: I2060825--EXTERNAL Date and time 02/18/99 12:49:21
To: FPORTER --FORDMAIL 'Fred Porter (For NLAPOINT--FORDMAIL 'Norm LaPointe (F
SLAROUCH--FORDMAIL 'Steve LaRouche (SREIMERS--FORDMAIL 'Steve Reimers (F
cc: PHB4K5L3--EXTERNAL Beringhause, Steve OTFWOGYX--EXTERNAL Sharpe, Robert

From: Rahman, Aziz
Subject: Switch Log and Eval. Procedure

cc: "Beringhause, Steven"<sberinghause@email.mc.ti.com>,
"Dague, Bryan"<bdague@email.mc.ti.com>,
"Baumann, Russ"<rbaumann@email.mc.ti.com>,
"McGuirk, Andy"<a-mcguirk@email.mc.ti.com>,
"Sharpe, Robert"<rsharpe@email.mc.ti.com>

Updated as of 2/18/99. There were some switches from the initial 24 switch survey that were opened up at AVT and the tag and switch parts were not kept together. I have noted this in the log.

Since the tag numbers for every incoming shipment start from 1. I suggest we use VIN numbers to track the database. This will uniquely identify the switch.

I suggest that the switch analysis priority be as follows:

- Switches from underhood fires, which have not been severely damaged
- Switches from Town Cars, starting by highest mileage and descending
- Switches from CV and GM, starting by highest mileage and descending
- Severely damaged switches from underhood fires
- Disassembled switches, with suspect paperwork trail

<<SwitchLog>>
Evaluation Procedure updated as of 2/18/99. Note identification of harness wires by color.

<<EVALPROC>>
I think we are closing in on finalizing the log format and the evaluation procedures. I believe that these are good enough for us to start using them for data entry.

In order to reduce confusion, I will plan on updating the log once a week. Please delete the earlier versions, so that you have only one latest copy.

Please comment..

Thanks.
Aziz

Attachments sent separately:

Data Type	File Name
BINARY	SWITCHLO.XLS_PC
BINARY	EVALPROC.XLS_PC

9900607

RAW DATA

NO FINAL REPORT YET

8514 SL

All shaded areas must be filled in to process your request

Request for Central Laboratory Service

Advancement Use Only

Laboratory Number	Date
99036077	2-22-99 SL

15000 Commy Dr., Dearborn MI 48120-1347 Phone (313) 32-31675 FAX (313) 32-31614

Your Name (Send report to)	Telephone	PROFS ID	FAX
STEVEN GRETA	313 323 1688	GSTEVEN1	313 390 777
Secondary Contact	**Telephone**	**PROFS ID**	**FAX**
NORM LaPRAIRIE	313 994-2180	NLAPRAIR	313 337 8256

Send Report To

Room No/Mail Drop/PO Box	Department/Activity	Building	Location Code	Dept. #	Work Task # (For 5100 Lev. Only)
MD 5036 Z6065	AVT MATERIALS	#5	5140	T13	XQ6104

Samples

Total # of Samples	Sample Handling	TOX/CASE	Source	Supplier Code
21	X Return after test ___ Dispose after test ___ Dispose after 30 days			

Part/Material Name	Sample Identification (Continue below if needed)	Part Number (If any)	Material Specification (If any)	CPEC Code	Supplier
SPEED CONTROL	SEE ATTACHED SHEET	F2VY-9F924	NA		TRW
CRUISE SWITCH					

Investigation

Nature of Investigation/Specific Tests Required (Check all that apply)

- ___ Production/Plant problem
- ___ Perform Tests as in Lab No. _____
- X Failure Analysis
- ___ Paragraph (Describe below)
- ___ Legal
- ___ Use Specification _____ as a guide
- ___ Specification Compliance
- ___ Other (Describe below)

Requester Info. Box (For requester use)

Stop testing upon failure?	Does this request CAR system?	(If "Yes", what is the expected turnaround?)	Do you want us to know your CL contact and finding?
___ No ___ Yes	___ No ___ Yes		___ Yes

Additional Sample Information/Testing Requirements

EVALUATE SPEED CONTROL SWITCH TO DETERMINE CAUSE OF INTERMITTENT OPERATION DURING CRUISE CONTROL.

SWITCH HAS BEEN FIELD RETURNED FOR INTERMITTENT OPERATION.

Report

Date you want this report 4-1-99

Date you must have report ASAP

Format (Check all that apply)

- ___ FAX preliminary results
- ___ FAX typed report
- ___ FAX hand written
- ___ Mail hand written
- X Mail typed report
- ___ Electronically transfer report
- ___ Phone preliminary results

(www.qualnet.com/central/forms.html)

For information about services or assistance in completing this form, please refer to the Central Laboratory WWW page.
Laboratory number and date stamped by assigned without receipt of samples.
Samples will be disposed of after 30 days unless otherwise indicated above.

3713 3007

PRODUCED BY FORD

ER82-625-A 9806

TLE Speed Control Circuit Switch Project No. 2500607 Book No. 2597

From Page No. 3/5

[redacted] (M3) Still Attached to Prof Value DC 3098

Still Attached to Prof Value

Still Attached to Prof Value

93 C Val (M10) DC 2372

Still Attached to Prof Value

TC 5-93 (M13) DC 3089

To Page No.

Invented by Date

Witnessed & Understood by me, Date

Recorded by

Project No. 92E607

80 Book No. 2697 TITLE Speed Servo Circuit Sub-...

From Page No. ...

PX [redacted] J.S. (4) DC 2078

Connector Size Engraved

No Ground to Wires

Black Resistor is Nearest

Impression in Body Size, Sign & Date

Wires 2 and 3 of Cable Blue Code Tape

Dimensions Legible in Inches from Side

Tolerances Given

RX Gen. Mgr (43) DC 3275

Connector Front Engraved

Some Numbers in Wires (Power, Ground ?)

Color of Rust Coverage Related to Impact

Impression in Body Size, Sign, Date

Cavity 3 Wire Color Below Dash Seal

Tolerances Not Given

Impression of Wire Size Code

Tolerances Given

NX 6-82 J.S (4) DC 2115

Connector Not Fully Engaged (or Wire Slide Not Fully Seated)

No Ground to Wires

Black Resistor is Nearest

Impression in Body Size, Sign - Date Code

Cavity 3 Wire Color Below Dash Seal Size

Impression in Wire Size Code

Tolerances Given

To Page N

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3009

EB82-825-A 9688 PRODUCED BY FORD

Project No. 990607

TLE SPEED CONTROL CIRCUIT SYSTEM Book No 2607

rom Page No. 4

PX [redacted] 2 C.V.C. (#4) DC 3025A

OF WIRE SIDE OF CONNECTOR NOT BUILT BUSHING

WIRES THERE, BUT NO MORE DRAWN

BLACK WIRING WITH COPPER ON BOTH CROSSED AVENUE

IN HEIGHT

INTERSECTION IN 500 THE SIDE, DEEP, 8 SECTIONS

CONTACTS WIRES CLOSE BRIDGE SIDE SIDE

W

LOCATION CONNECTION

NOT REQUIRED OR SIDE IN WIRE

TERMINATION SYSTEM

NY [redacted] BUSSED (#6) DC 2031

MOST OF BASE MISSING

CONTACTS, TERMINALS, TRANSFER PIN ASSEMBLING

NO CONTACTS

PART OF FACE OF CAP BROKEN IN CENTER

WITH RUST & CORROSION DEPOSITS

BOTTOM BELOW IN HEIGHT

PX [redacted] T.C. #7 DC 3081A

ENTRANCE MAST WITH SAFE WIRE OPENING TO

AN INNER BLOCK

CONTACTS PART BROKEN

SOME MISSING OR WITH (UNKNOWN?)

SMALL BUSHING WITH COPPER ON RUST COVERED

SLIGHTLY IN HEIGHT

INTERSECTION IN THE SIDE SIDE & BOTH

CONTACTS WIRE COPPER BELOW ANY SIDE

SIDE WIRES

PLUG SIDE

INTERSECTION IN WIRE PLUG SIDE

TERMINATION SYSTEM

To Page No.

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3010

PRODUCED BY FOR

8882-825-8 9999

Project No. 35200T

32 Book No. 334 TITLE Speed Control Cruise Switch

From Page No.

[redacted] T.C (#5) DC 2043A

[illegible] (Through Blue 3)

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

IN BOX - NO CONNECTORS

NX [redacted] 4-92 86922 (#7TX) DC 2059

[illegible]

[illegible]

[illegible]

PX [redacted] 3-93 91358 (#11TX) DC 3023

[illegible]

[illegible]

PX [redacted] 12-92 87274 (#10TX) DC 2331

[illegible]

[illegible]

PX [redacted] 9-92 88087 (#4TX) DC 2048

[illegible]

[illegible]

IN AREA BEHIND TC CONNECTOR.

OTHER TERMINALS CLEAN

BLACK RESIDUE WITH TERMINAL BEING

[illegible]

To Page No.

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3011

2982-625-A 9886 PRODUCED BY FORD

Project No. 9920 607

TLE Speed Control Cruise Switch Book No. 2697 33

From Page No. 6/8

PX [redacted] 3-93 71337 (#3TX) DS 3015
TERMINALS AND CAVITY CLEAN & DRY
BLACK BEHIND & BROWN BEHIND SHOULD
BE HIGHEST.

NX [redacted] 7-92 73164 (#9TX) DS 2006
TERMINALS & CAVITY CLEAN & DRY
BLACK BEHIND IN FRONT.

PX [redacted] 3-93 635614 (#8TX) DS 3025A
TERMINALS & CAVITY CLEAN & DRY
BLACK BEHIND IN FRONT

PX [redacted] 12-92 GM MAP (#9TX) DS 2260
TERMINALS & CAVITY CLEAN & DRY
BLACK BEHIND IN FRONT

DISASSEMBLE OF Speed SWITCHES

PX [redacted] TERMINALS & CAVITY CLEAN & DRY
Between Cavity Pins
CUT CABLES WHERE CONNECTOR BEING CHANGE FROM
EXISTING WIRE, INSERT, IN PLACE, DATA RECORD
TO MATCH CONNECTOR
APPROVED TO BE USED (SUPERSEDING ORIGIN)
IN SWITCH CAVITY
MAKE UP CUT CABLES WITH BUTT CRIMPS
REMOVE
TRANSFER TAB RETAINER IN PLACE BY CAREFULLY PRYING
UP WITH SMALL PICK THE CAVITY WHERE CUT
WIRE ON CONNECTOR & WIRE CLEAN
OPEN END
USE BUTT CRIMP INSERT & REFERENCE TO SIDE OF
#1 CAVITY SIDE TERMINAL END SIDE TERM
WIRE TO
NO ADVANCED DAMAGE TO WIRE OR
BEING TERM
SIDE
KAPTON DEPENDED TO CONTINUED

To Page No.

Witnessed & Understood by me. Date Invented by Wright. Date

TEST TIGHT PINS

3713 3012

E982-626-R 9801 PRODUCED BY FORD

Project No. 8466007

84 Book No. 097 TITLE SPEED CONTROL CUTOFF SWITCH

From Page No.

PX [redacted]

#2 KAPTON = DEFORMED = NO ADHERENCE
DAMAGED
NOT BRAZED

#3 KAPTON DEFORMED TO CONFORM
TO WISHBONE BRACE
BONDING WASHER IS CONTACTED
CONDUCTOR & WASHER
NO ADHERENCE TERMINAL, CONNECTOR =
NOT BRAZED

SOME BRAZ/SOLDER ABSENT AT SEAL/SIDE OF
WASHER & CONDUCTOR
INTERIOR OF CUP BRAZE
DUST DEPOSITS ON WASHER, ARMATURE, & PLATE
BRAZE REGION IN NORMAL CONDITION

PX [redacted]

SEALED DEV = TERMINALS CONTAMINATED
BRAZED CERAMIC PLATE = NO CONTAMINATION
UNDER PLATE
ENV SEAL INTACT, NO LEAKAGE, ADHERED TO
METAL SURFACES
EDGE OF CUP COATED WITH BRAZE & WHITE
CORROSION DEPOSITS = WELL - WELDED (
SUBSEQUENTLY COATED AT BASE TERM.)
X-RAY OF FERRULE IN PLACE NO CONTAMINANT
PRESENT
MAGNIFIED OPTICAL DISCOLORED AREA ON
CONDUCTOR & WASHER BRAZE SURFACE
OTHERWISE OK
HERMETIC SEAL OK

#1 KAPTON = ONE SIDE OF BRAZE SIDE DISCOLORED
NOT TO SCALE = DETAILED VIEW IN TEXT ABOVE
DATA NOT ABLE TO MEASURE BRAZE ANGLE

To Page #

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3013

ER82-625-A 8982 PRODUCED BY FORD

Px [redacted] Counter

#2 Fraction – Does not appear to have Been Bleached

#3 Fraction – Sand

Fraction Sand of Washed & Combined – Consisting Mainly of Discolorations Inside of Cube Interior Face of Cylinder, Lumps, Covered with White Rust Colored Deposits.

Bulk Density in Vibrator Cone

L. LaRocque
3-4-93

Witnessed & Understood by me. | Date | Invented by | Date

3713 3014

ER82-825-R 9/93

PRODUCED BY FORD

Project No. [redacted]

38 Book No. 697 TITLE Stress Corrosion Cracking S...

From Page No. 55H Steam

Continued: See Page 78

TUBE SHEETS FEEDS FROM OASIS

[redacted] 93 TC E2VC DC 3063

LOOKS

VIA SEAM

BUTT WELDING WITH BACKING OR INT COUNTER BORE IN HEADER

PROPERLY BEVELED TUBE TO TUBESHEET BUTT WELD PENETRATION AT ENTRY OF TUBE WITH ONE SIDE THROUGH WELDING CUT CRACK ALONG ONE SIDE INTACT, NO PLUGS, JOINT NOT TO EXTEND BEYOND

EACH OR ANY COVERED WITH BUTT WELDS AND EITHER COUNTER BORE OR NOT

NECESSARY TUBE NEEDING TO BE CUT FROM

CRACKED END

SHOULD CRACK EXTEND ALONG ADJACENT TO

OR BEYOND TUBE / TUBESHEET JOINT EITHER

COUNTER BORED

NT [redacted] 92 TC E2VC 2130

LOOPS

VIA SEAM

BUTT WELDING WITH BACKING OR PLATE COUNTER

BORED IN HEADER

PROPERLY BEVELED TUBE WITH BUTT WELDED

TO TUBESHEET WITH PENETRATION AT ENTRY OF TUBE

TUBE CRACKED WITHIN CLOSURE WELD

ONE SIDE CRACK

To Page

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3015

Project No. [illegible]

ITLE Speed Control Cruise System Book No. 2697

rom Page No. 3514

½

Bad Idea Intact (In Place) Both Adh. To Mating Surface.
Rubber Surface With Cohesive Failure Evident
Both Sides.

Good Contact Surface Area
Indicated By Rubber Surface All Torn In
Specific Spots.
Base Of Thermal Film

L. Lefever
3-17-77

To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	

3713 3016

E982-625-A 9965

PRODUCED BY FORD

TITLE Switch - Speed Control Cutoff Project No. 30CC1C7 Book No. 2771 19

From Page No. —

Re: G. Stevens | S. LaRouche (313) 32-[illegible]86 (313) 39-C7224

Subject: Switch - Speed Control Cutoff
Part Number: F2VY-9F924-A
Specification: Not Provided
Supplier: Texas Instruments

Received: Nine samples identified as follows:
PY614995 – cup face & hexport
NY736847 – cup face & hexport
PY605826 – cup face, hexport & cup interior
N954410 – hexport & cup interior

Object: Determine the elemental composition of the particles

Surface Analysis

Five of the nine particles were moist. They needed to be cleaned in the ultrasonic in freon then filtered with vacuum.
The elements detected are listed in decreasing order of intensity.
The number of particles is listed in parentheses.

PY614995 cup face (5)

Particles 1 & 2	Particle 3	Particles 4 & 5
Zinc	Iron	Zinc
Iron		Iron
Copper		Copper
Silicon		Sulfur
Calcium		Silicon
		Calcium

NY736847 cup face (4)
All Particles
Zinc
Copper
Silver
Iron
Potassium
Silicon
Sulfur
Calcium

*Spectra saved on ISIS system show No peak labeled. WDS analysis confirmed that peak is actually Zn. The peak is mislabeled in file.

(1) export 5, 3, 3)
Zn export 3, 1
96 (export 6, 4, 3, 2, 1)
4) export 4, 3, 2
4) export 6, 5, 4, 3, 2, 1

To Page No. 20

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

[redacted]

3713 3017

PRODUCED BY FORD

EN62-825-A 9906

20 3514 Project No. 91C067
Book No. 2771 TITLE Spitch - Seed Control Cutoff

From Page No. 8

P[redacted] hexpart (5)

Particle 1	Particle 2	Particle 3	Particle 4	Particle 5
Iron	Iron	Iron	Iron	Zinc
Copper	Copper	Manganese		Iron
Manganese	Chromium	Aluminium		Copper
Sulfur	Potassium	Sulfur		Sulfur
	Sulfur	Silicon		Silicon
	Aluminium			Calcium
	Manganese			
	Silicon			
	Calcium			

N[redacted] hexpart (5)

Particle 1	Particle 2	Particle 3
Iron	Zinc	Iron
Potassium	Copper	Potassium
Sulfur	Iron	Sulfur
	Potassium	Copper
	Silicon	
	Sulfur	

P[redacted] cupface (3)

All Particles
Copper
Silver
Zinc
Iron
Potassium

D[redacted] hexpart (4)

Particles 1+4	Particles 2+3
Copper	Copper
Zinc	Zinc
Potassium	Potassium
Sulfur	Sulfur
Chromium	Silicon

P[redacted] cupinterior (4)

All Particles
Copper
Zinc
Chromium
Iron
Potassium
Sulfur

NP[redacted] (4)

All Particles
Copper
Zinc
Sulfur
Potassium
Silicon
Chromium
Iron

N[redacted] cupinterior (5)

All Particles
Zinc
Copper
Silver
Potassium
Sulfur

All Spectra saved on DES system.
All Elements + copy of results to Steve Deloche.
5/14/89

To Page No.

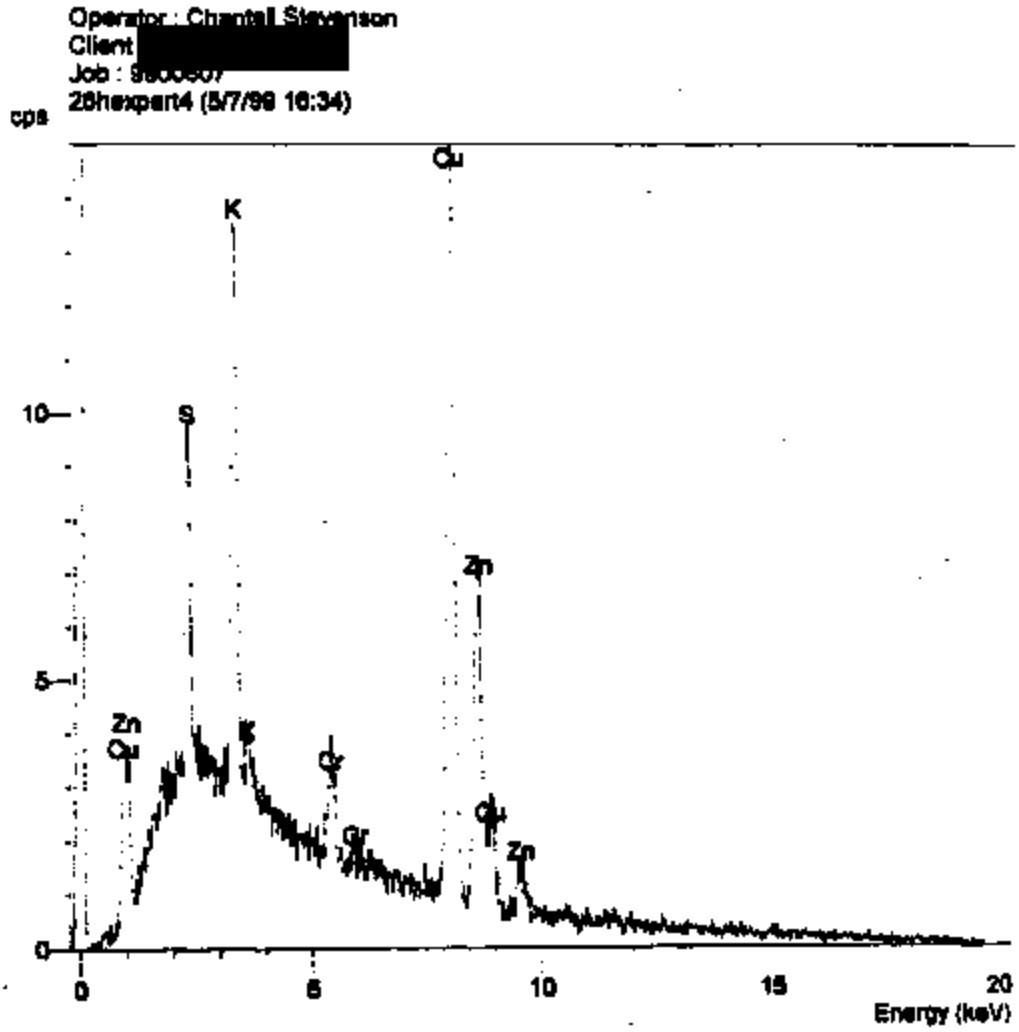
Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

[redacted]

3713 3018

PRODUCED BY FORD

ER82-625-A 9987

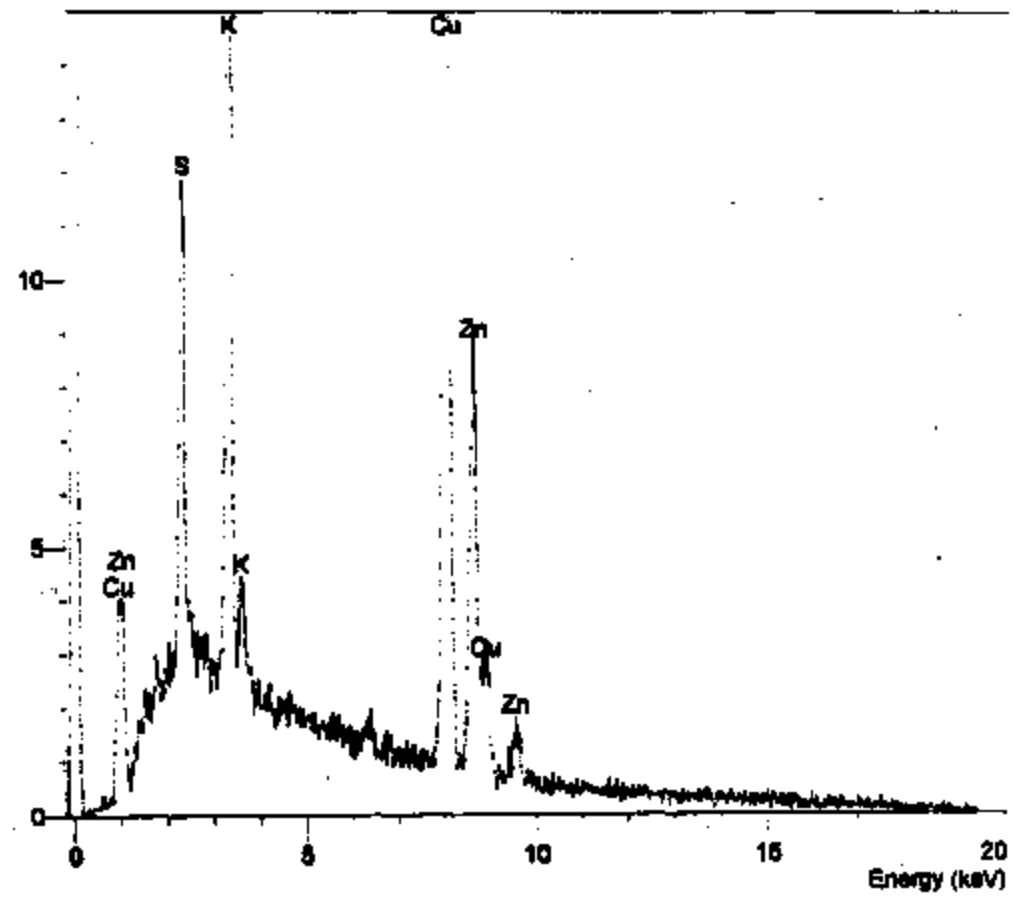


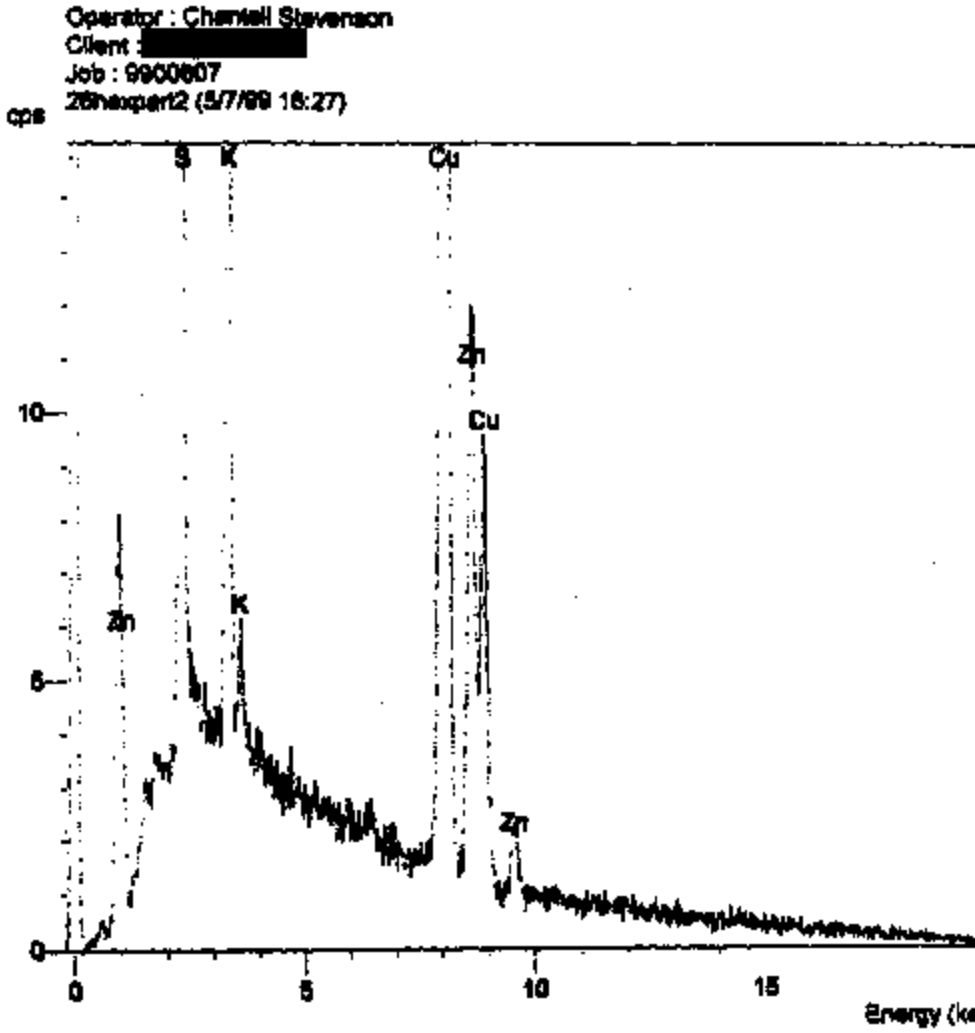
3713 3019

PRODUCED BY FORD

ER62-625-A 9806

Operator : Chantal Stevenson
Client : [redacted]
Job : 9900507
28haxpart3 (5/7/99 16:31)

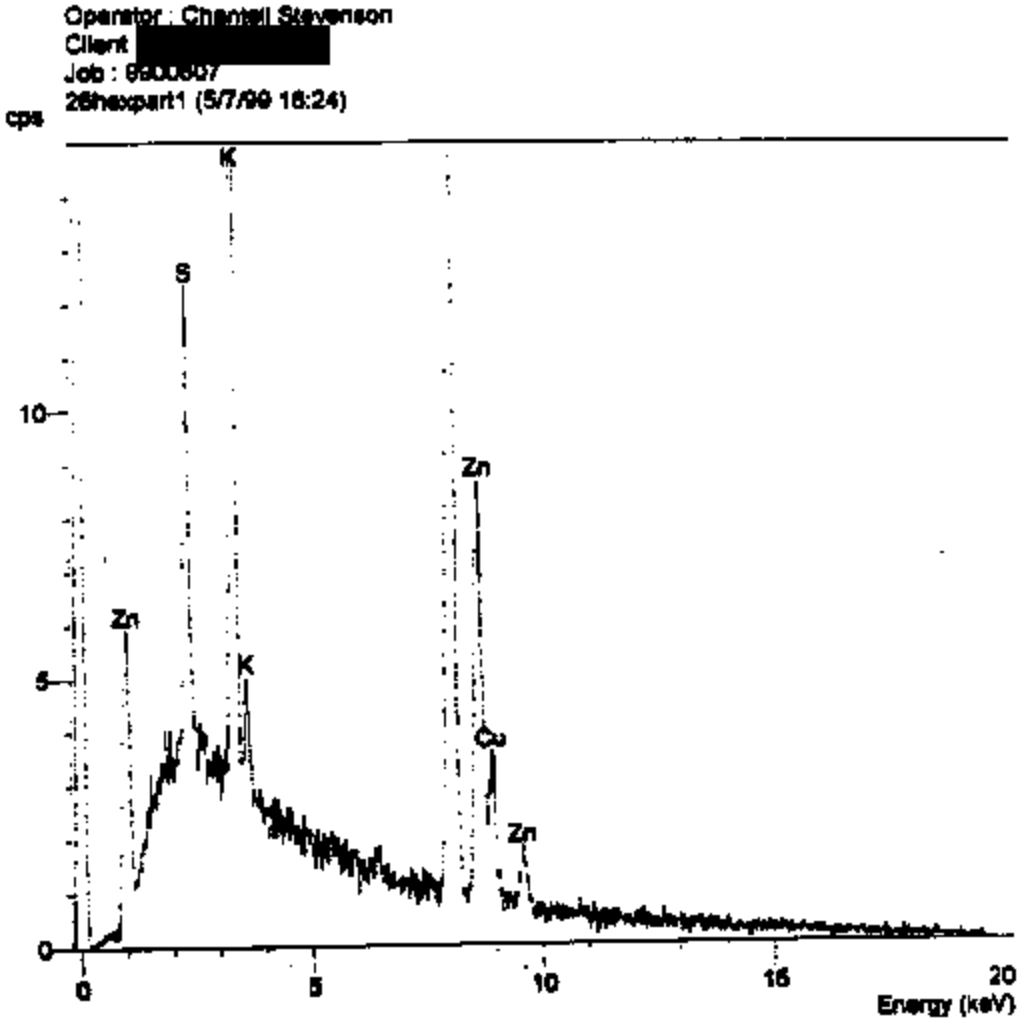


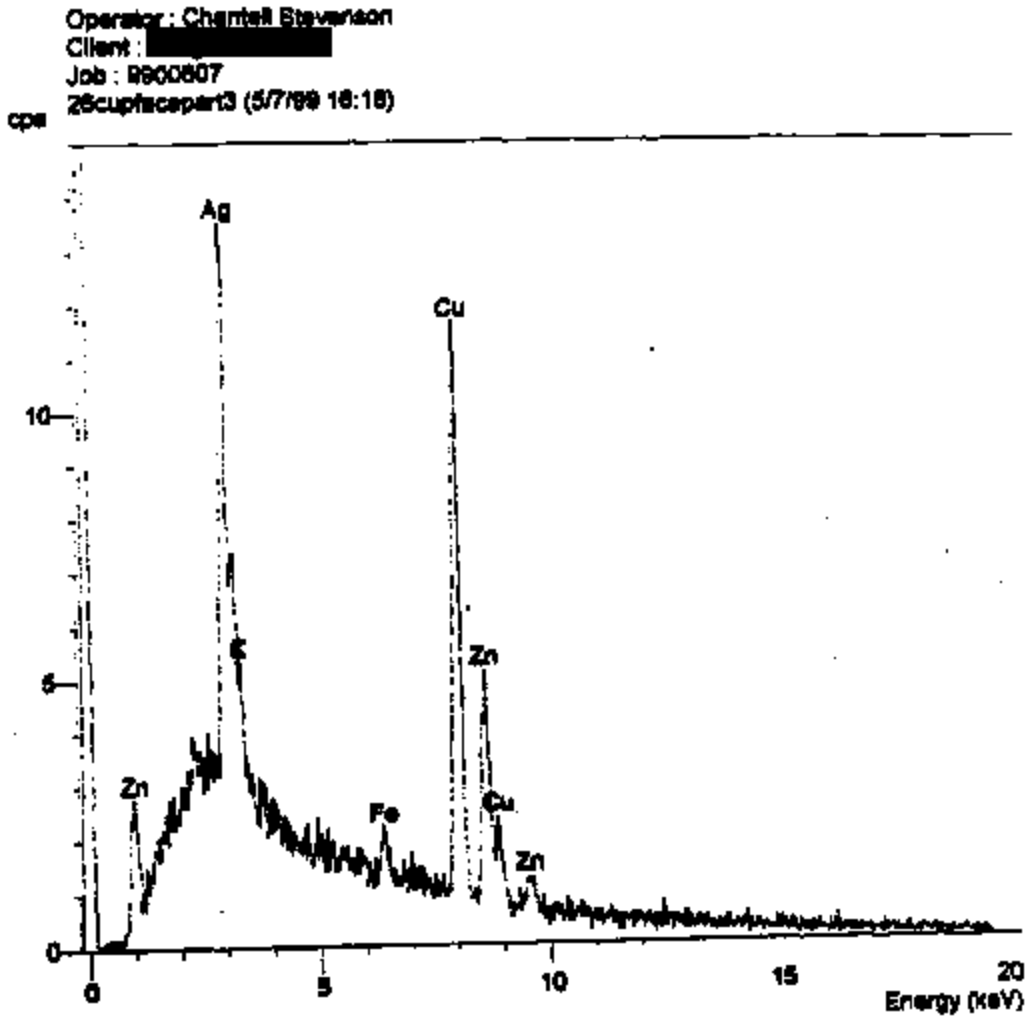


3713 302

PRODUCED BY

EX62-625-A 1



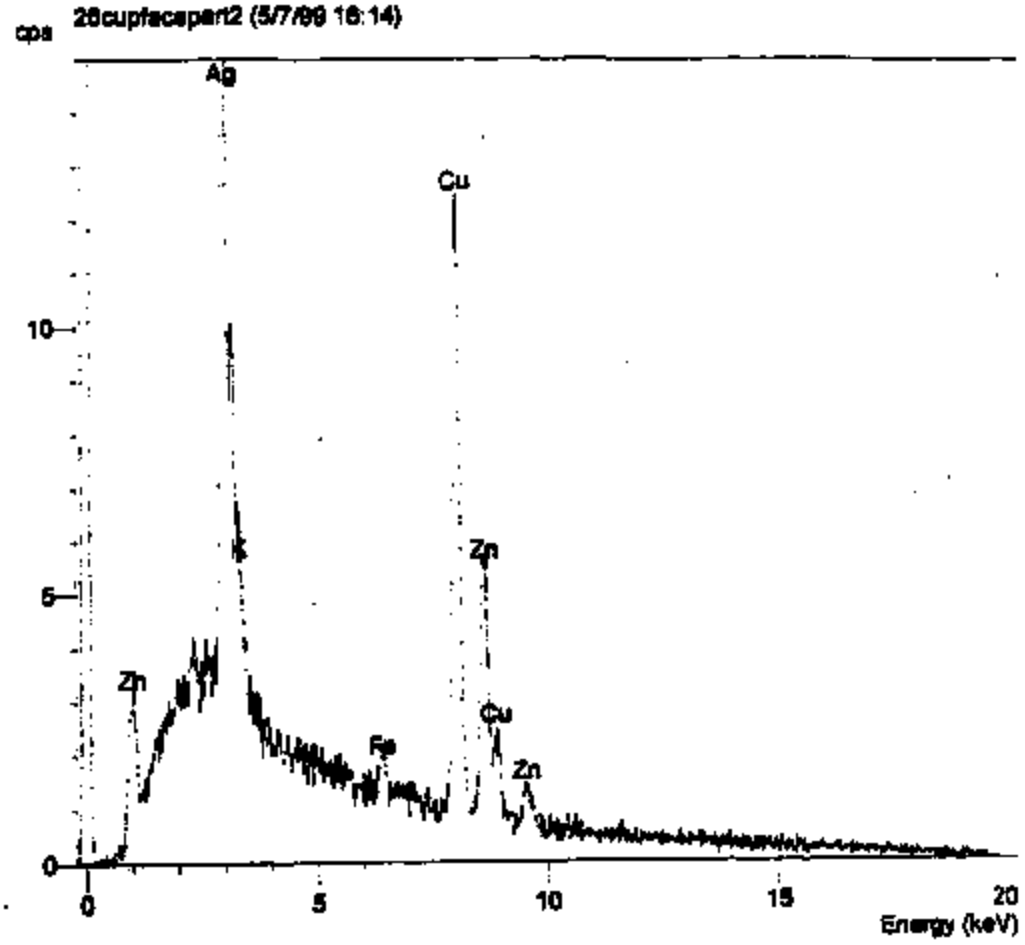


3713 3023

PRODUCED BY FORD

8982-825-R 3812

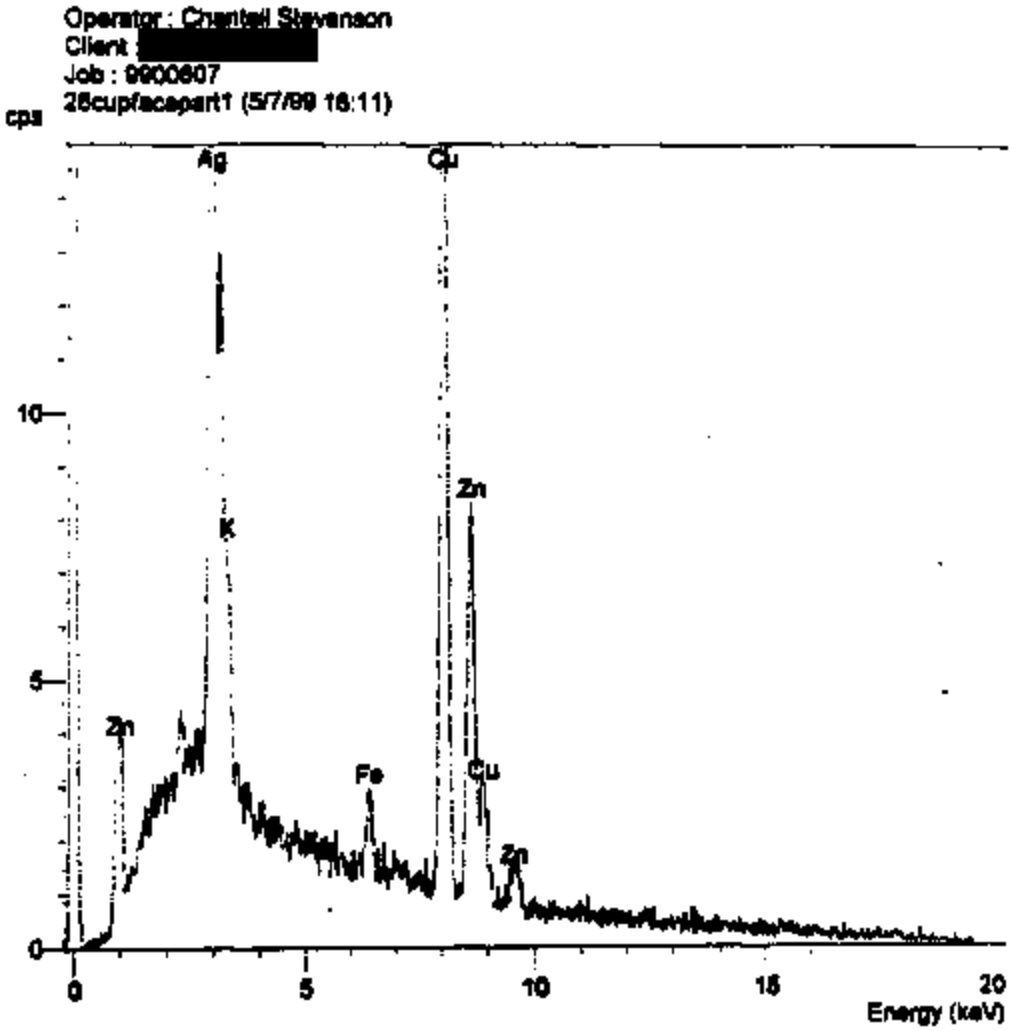
Operator : Chantell Stevenson
Client : [redacted]
Job : 9900807
26cupfacepart2 (5/7/99 16:14)



3713 3024

PRODUCED BY FORD

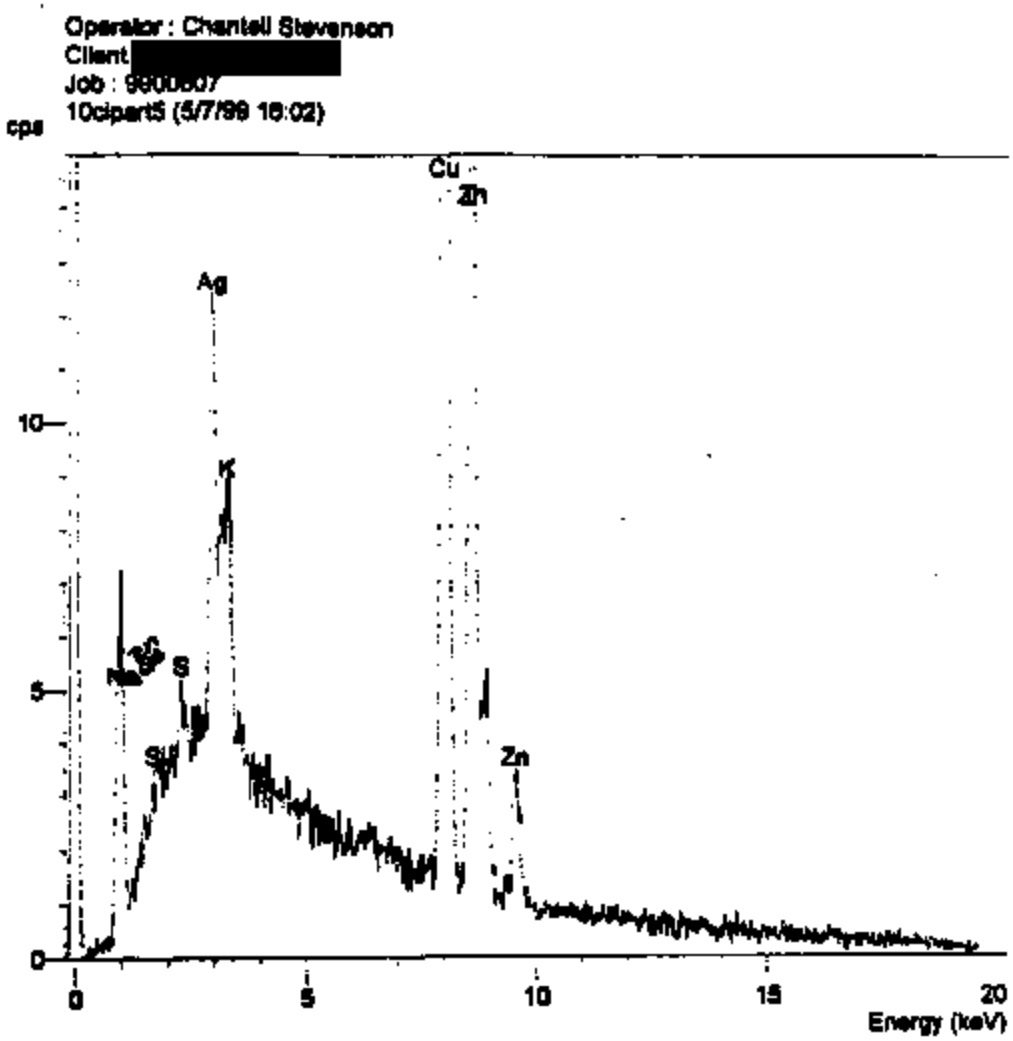
[redacted] 9913



3713 3025

PRODUCED BY FORD

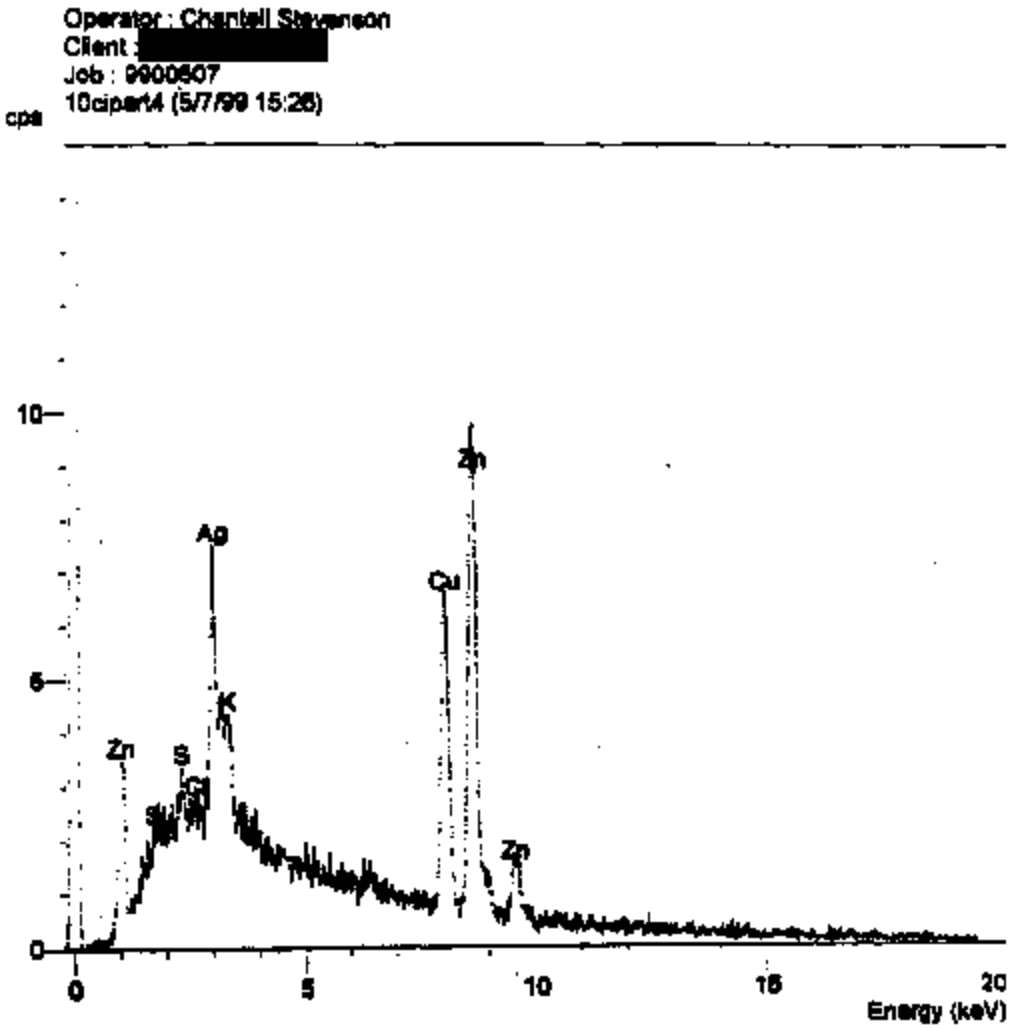
ER82-025-A 9814



3713 3026

PRODUCED BY FORD

EA62-625-A 5915

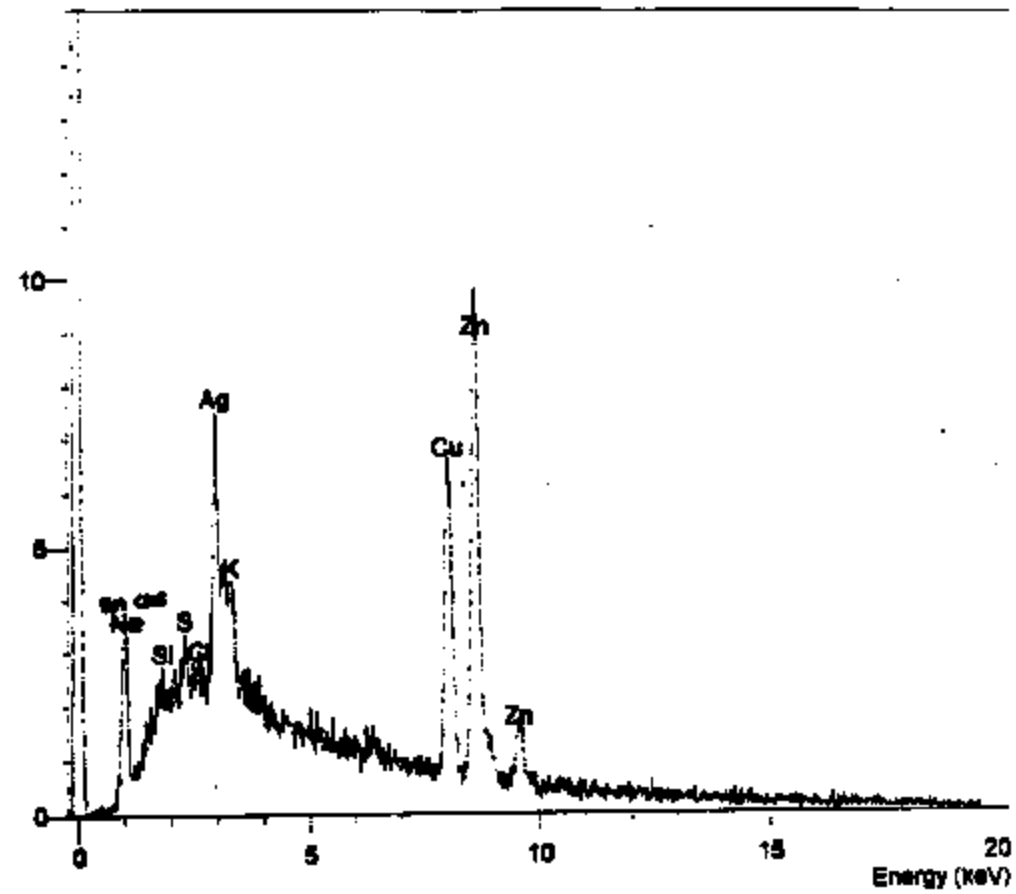


3713 3027

PRODUCED BY FORD

EA62-825-A 9918

Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
10cipart3 (5/7/99 15:26)

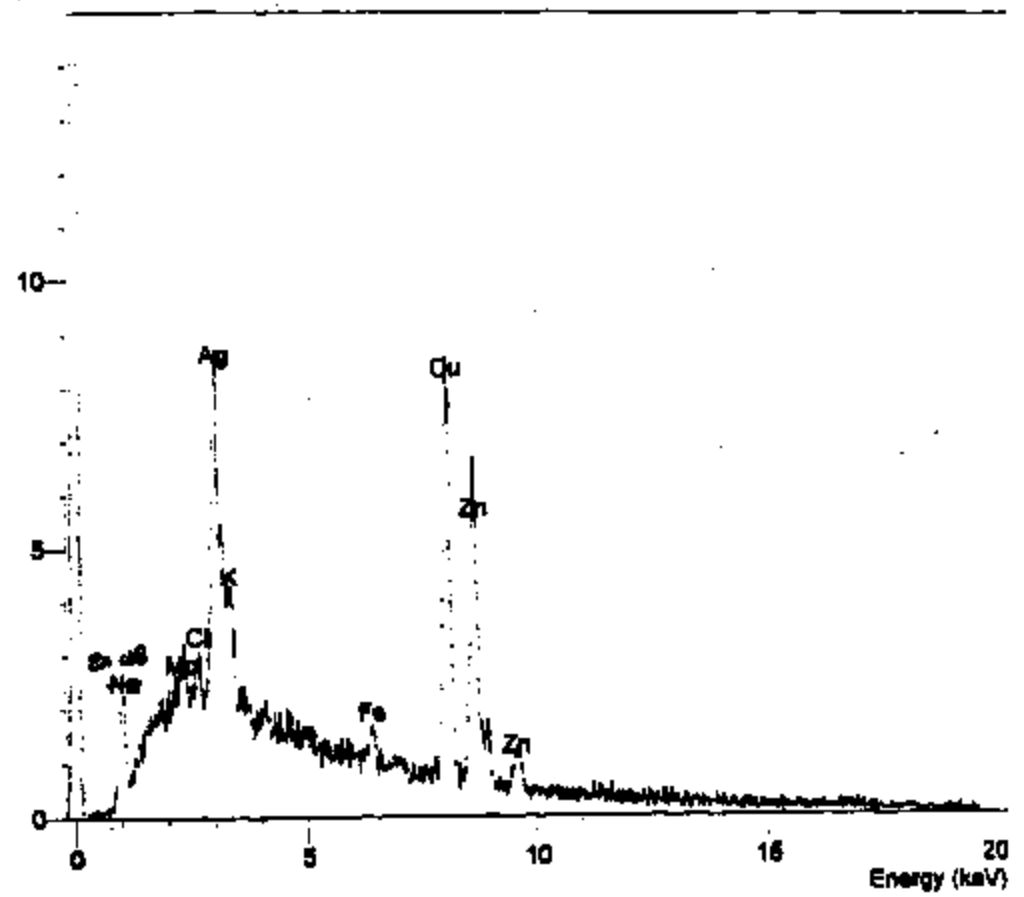


3713 3028

PRODUCED BY FORD

E982-025-A 9917

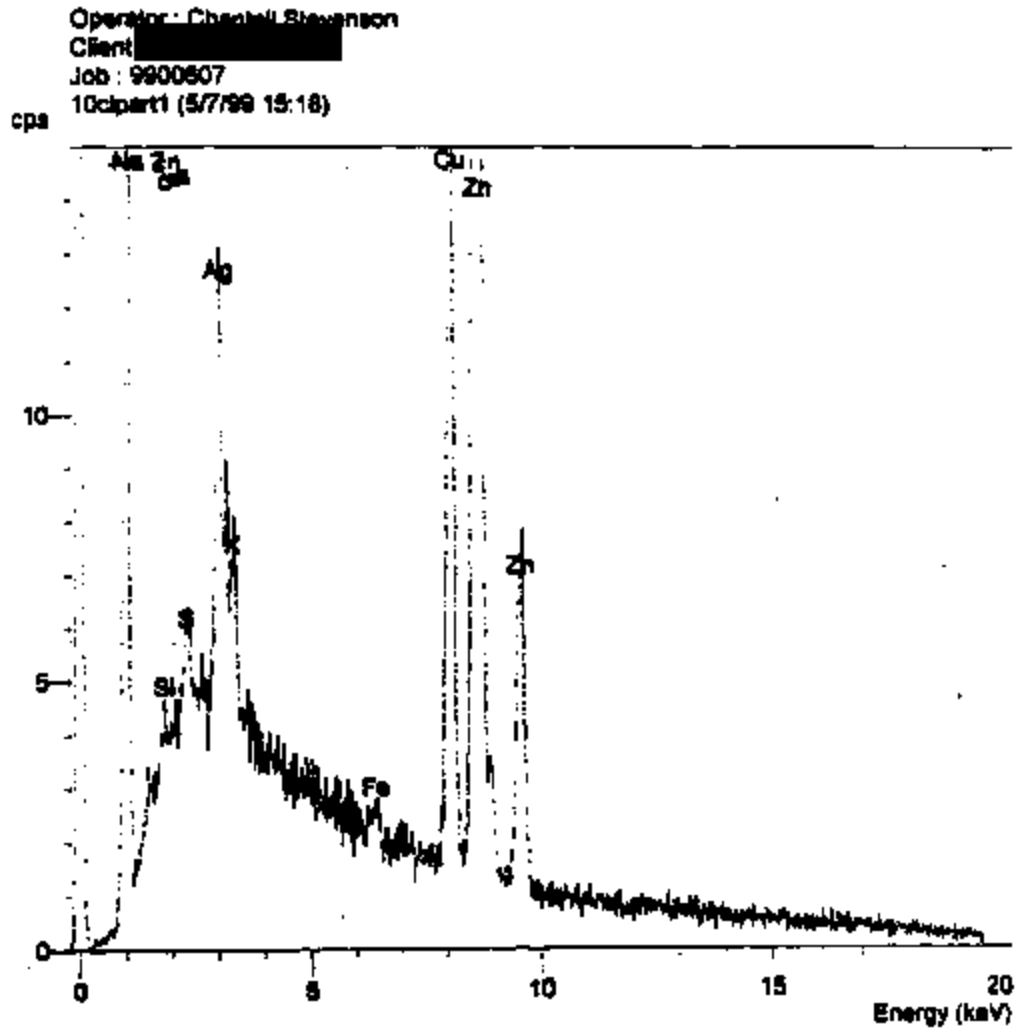
Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
10cipart2 (5/7/99 15:23)



3713 3029

PRODUCED BY FORD

EN62-825-A 9918

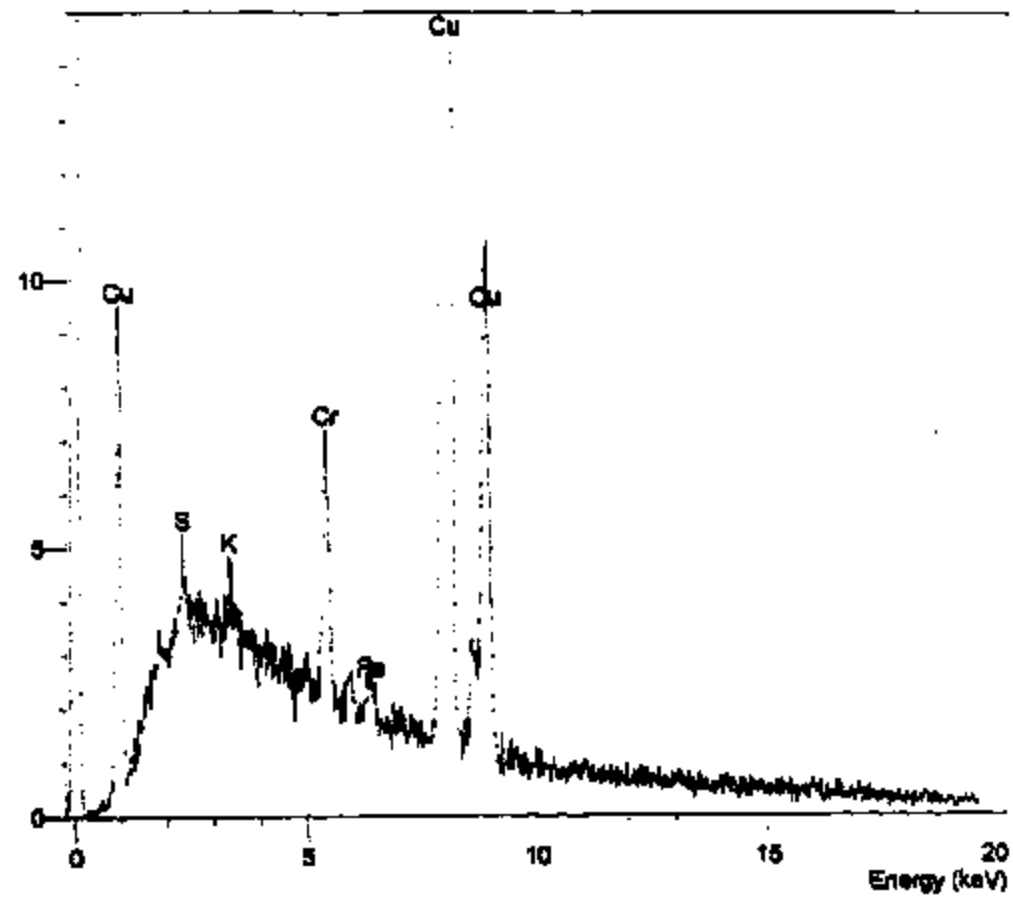


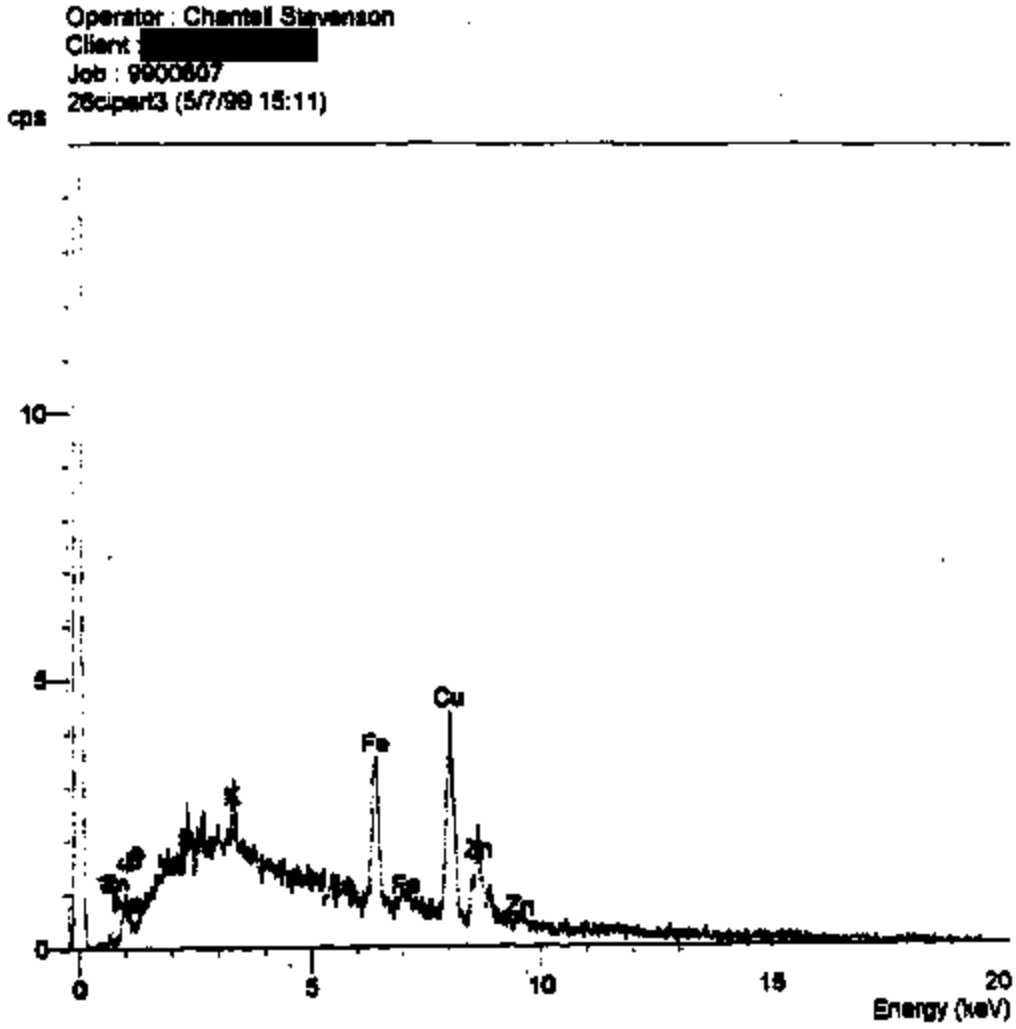
3713 3030

PRODUCED BY FORD

ER82-625-R 9819

Operator : Chantell Stevenson
Client : [redacted]
Job : 9900507
28clpart4 (5/7/99 15:15)



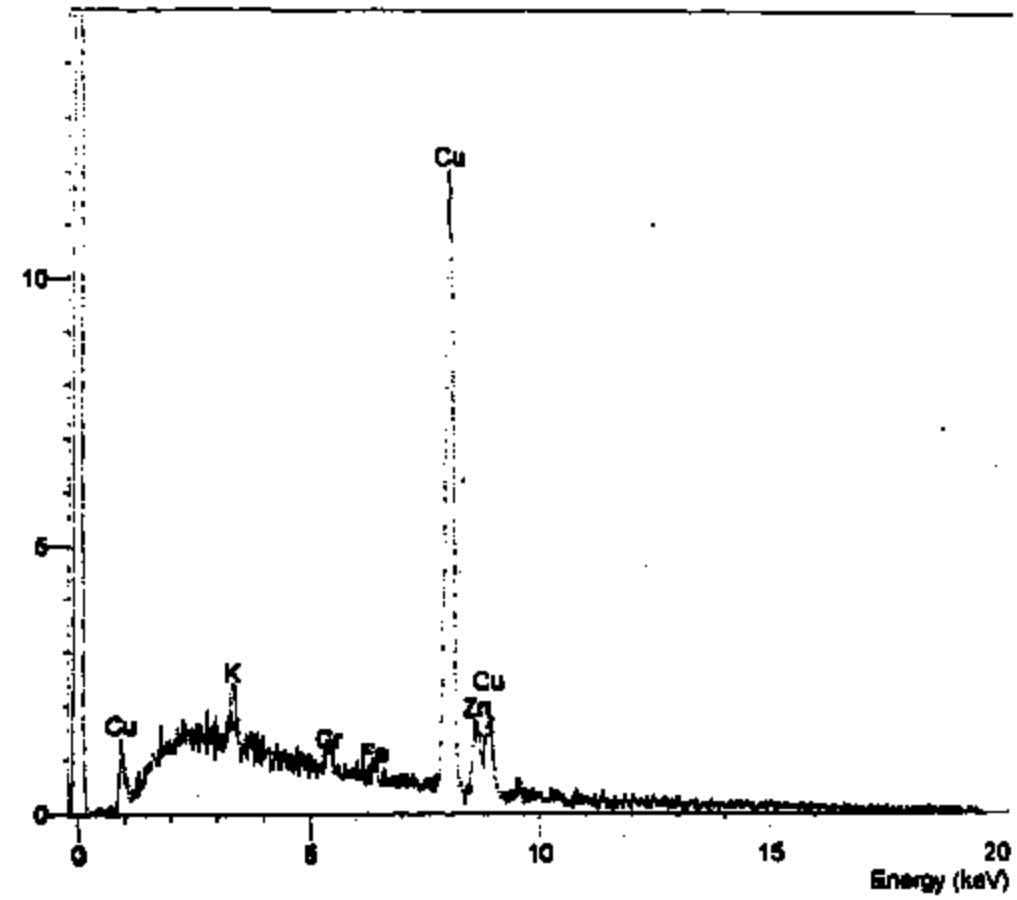


3713 3032

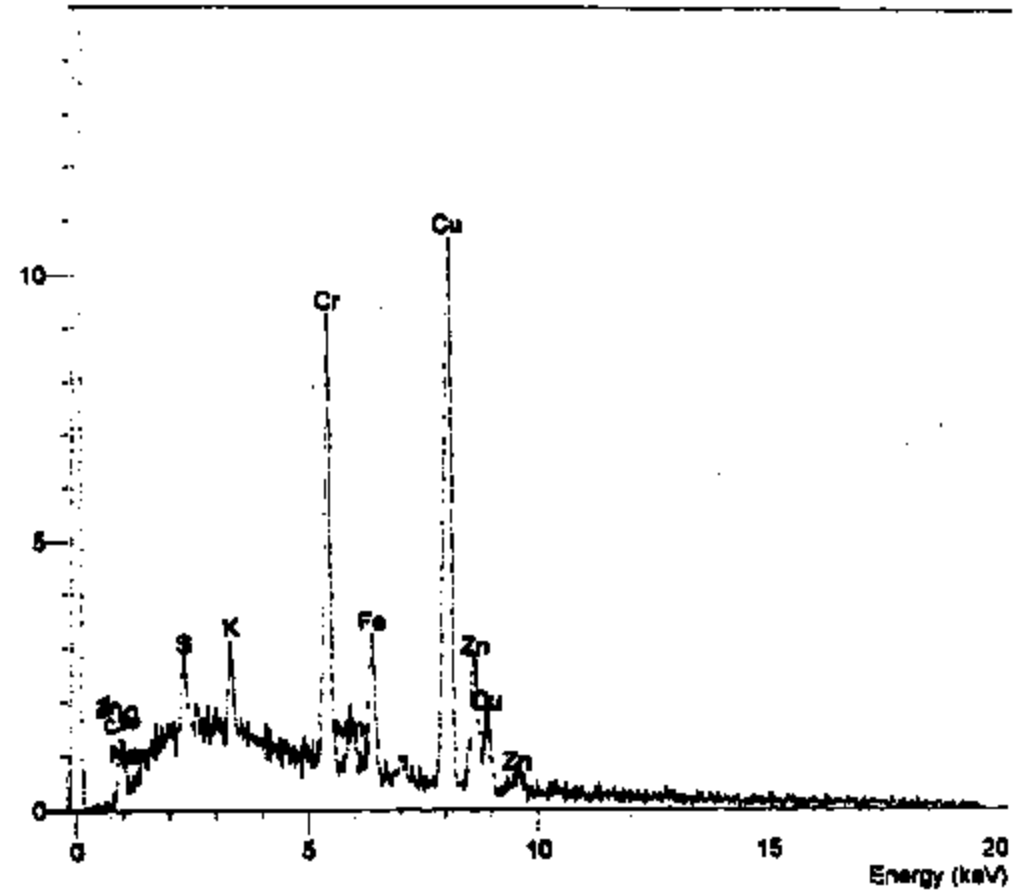
PRODUCED BY FORD

ER62-625-R 9921

Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
28clpart2 (5/7/99 15:09)



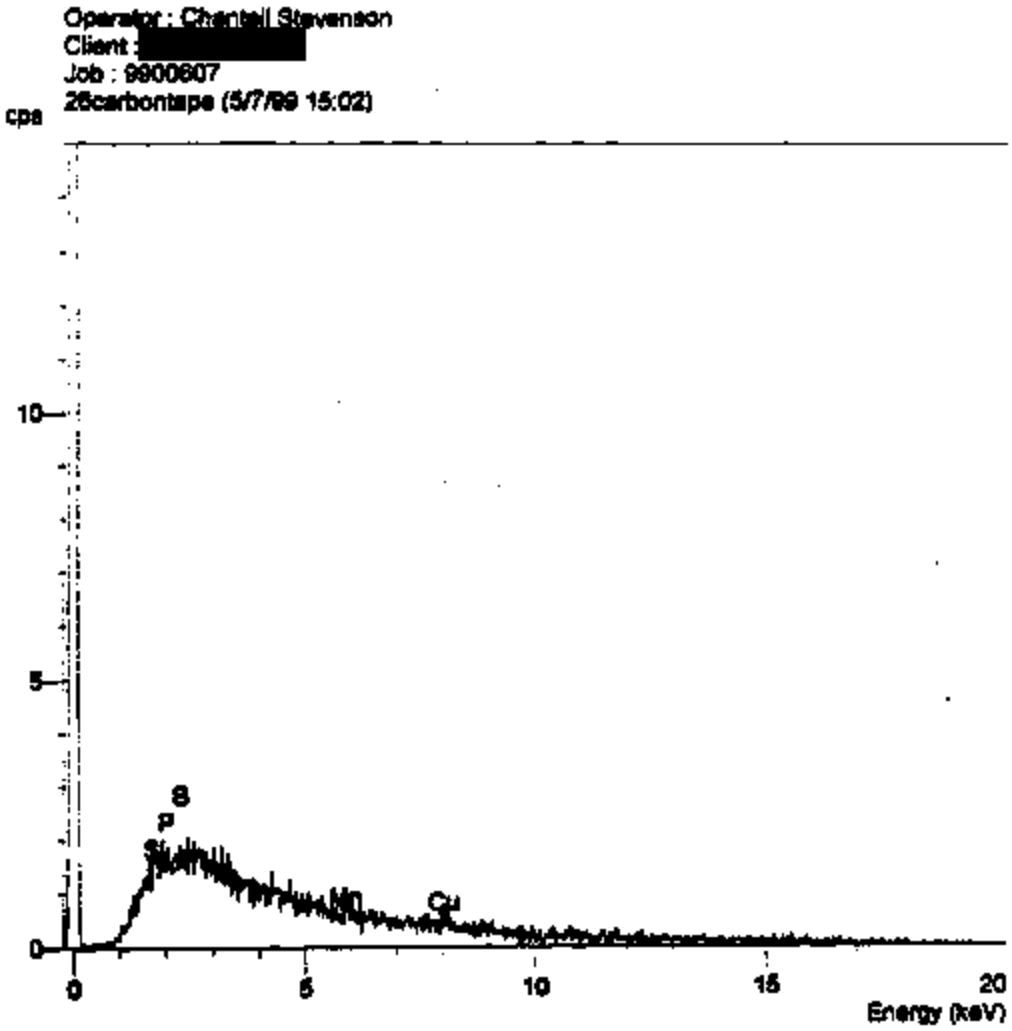
Operator : Chantell Stevenson
Client [redacted]
Job : 9900607
26cipart1 (5/7/99 15:06)

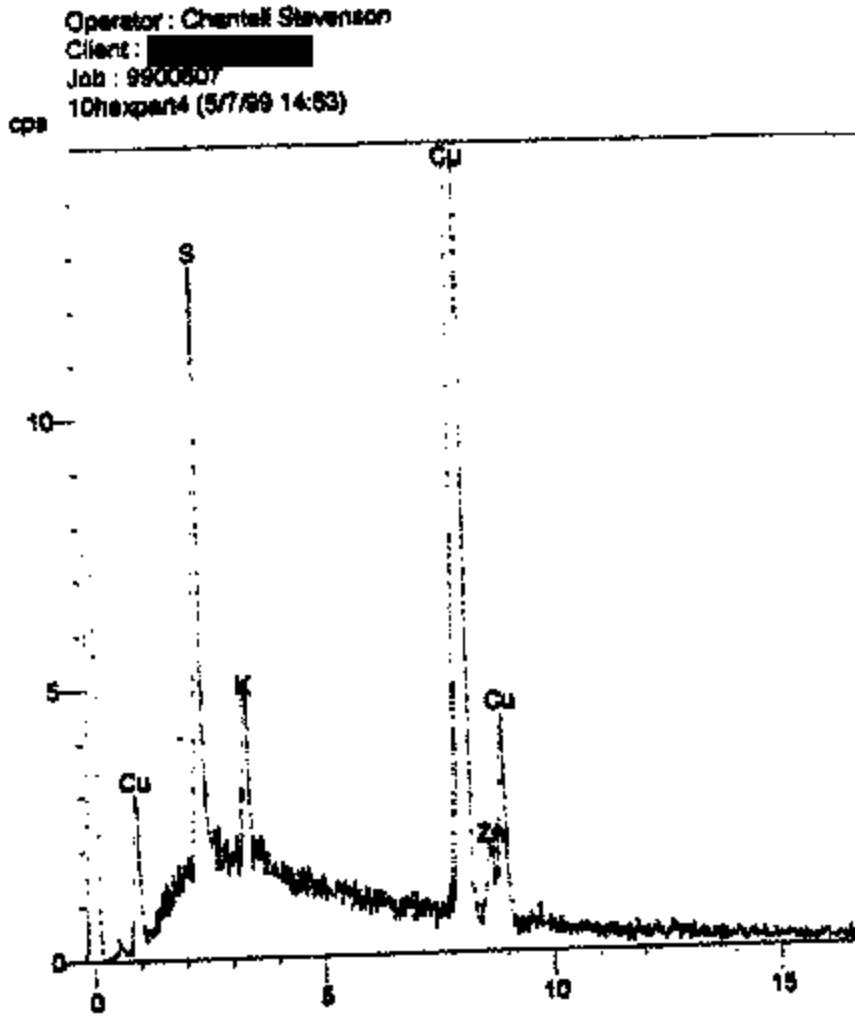


3713 3034

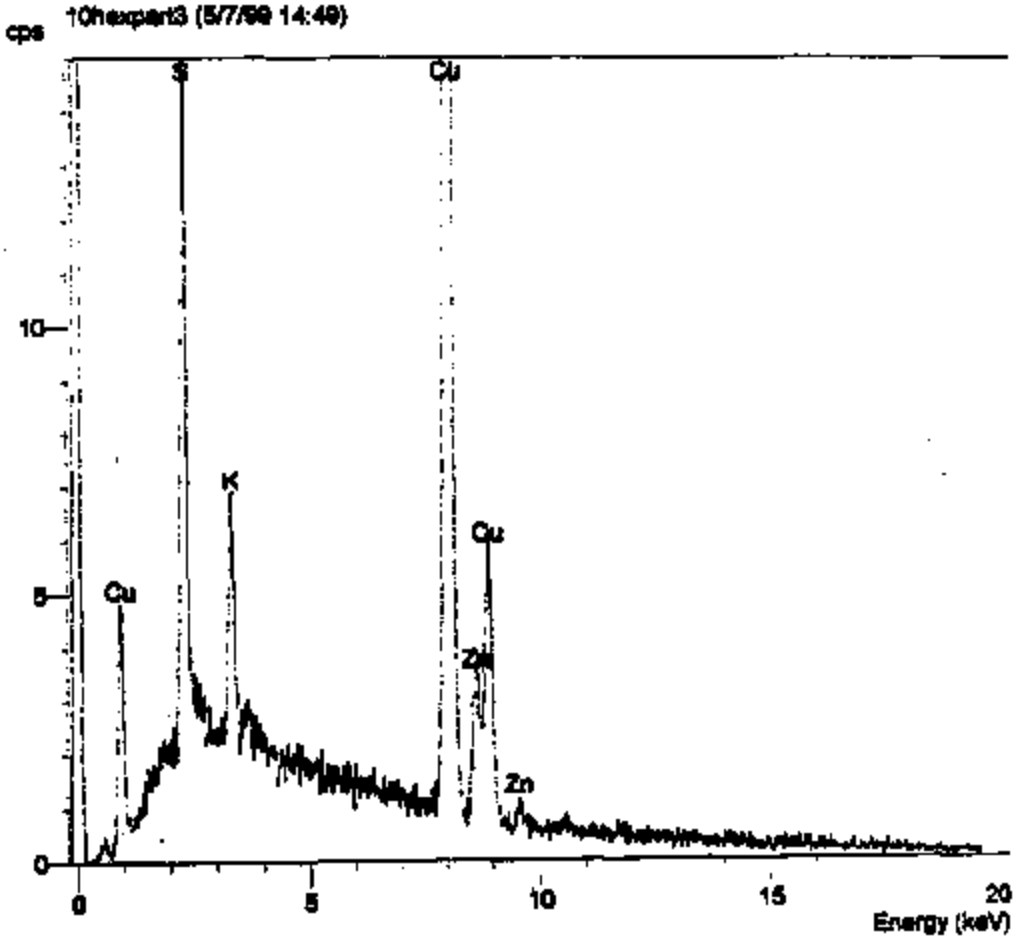
PRODUCED BY FORD

ER62-625-A 8823


Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
26carbontape (5/7/99 15:02)
cps
10
5
0
S
P
Mn
Cu
0
5
10
15
20
Energy (keV)


Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
10hexpart4 (5/7/99 14:53)
cps
Cu
S
10
5
K
Cu
Cu
Zn
0
0
5
10
15

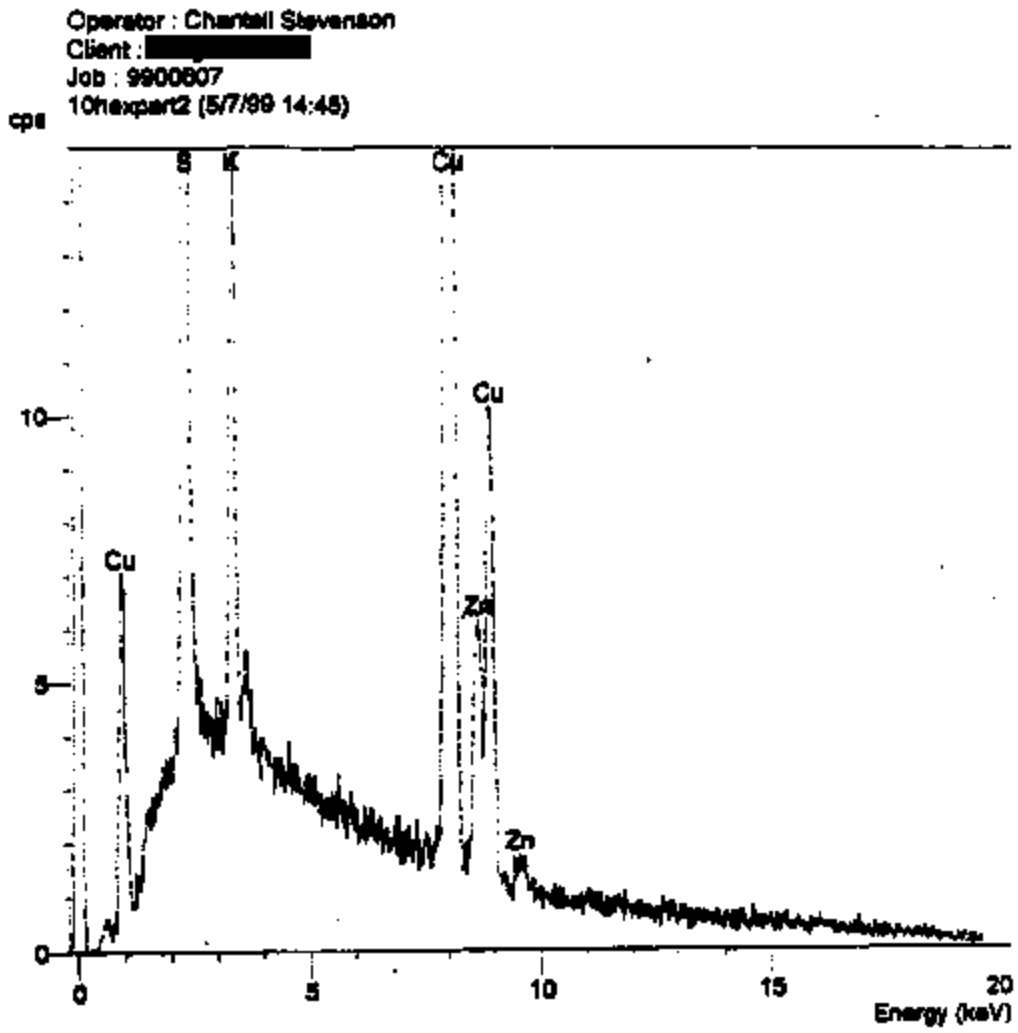
Operator : Chantell Stevenson
Client [redacted]
Job : 9900607
10hexpert3 (5/7/99 14:49)

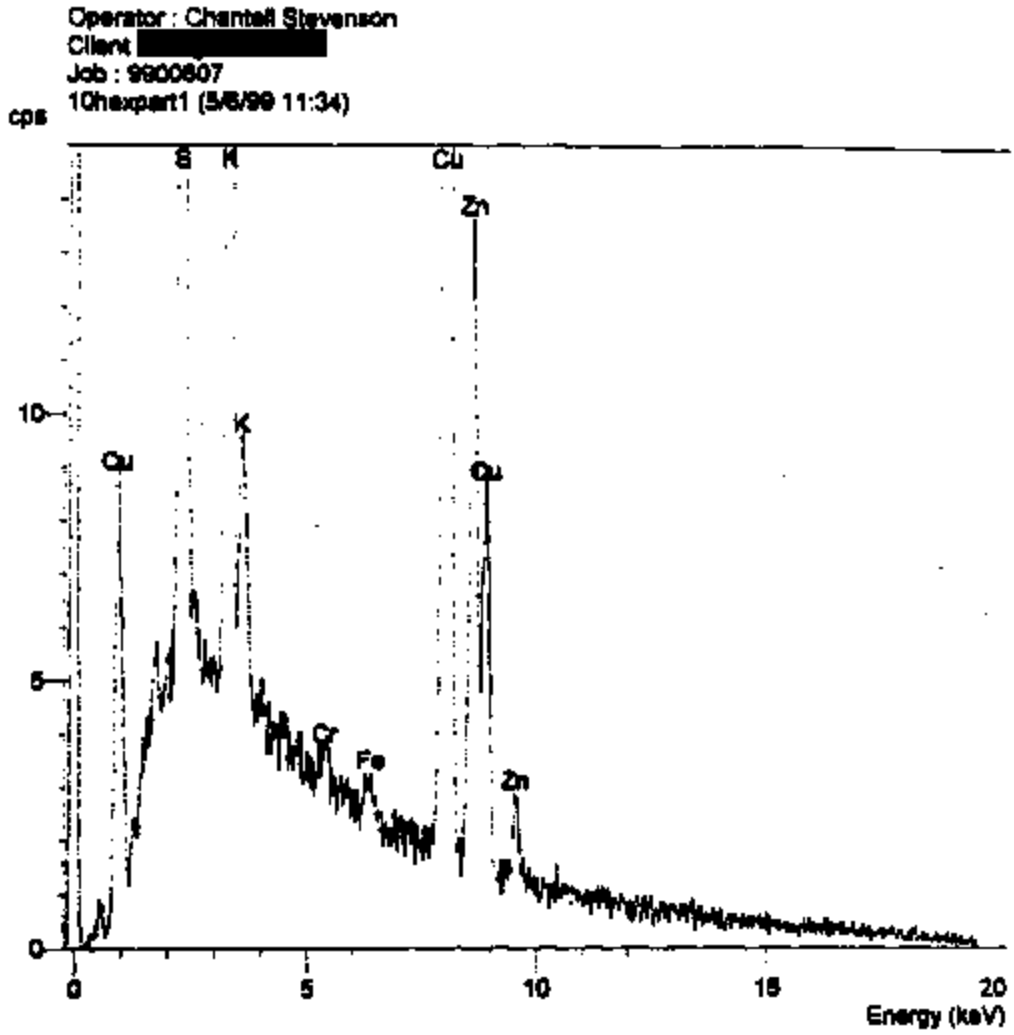


3713 3037

PRODUCED BY FORD

E982-625-A 9626

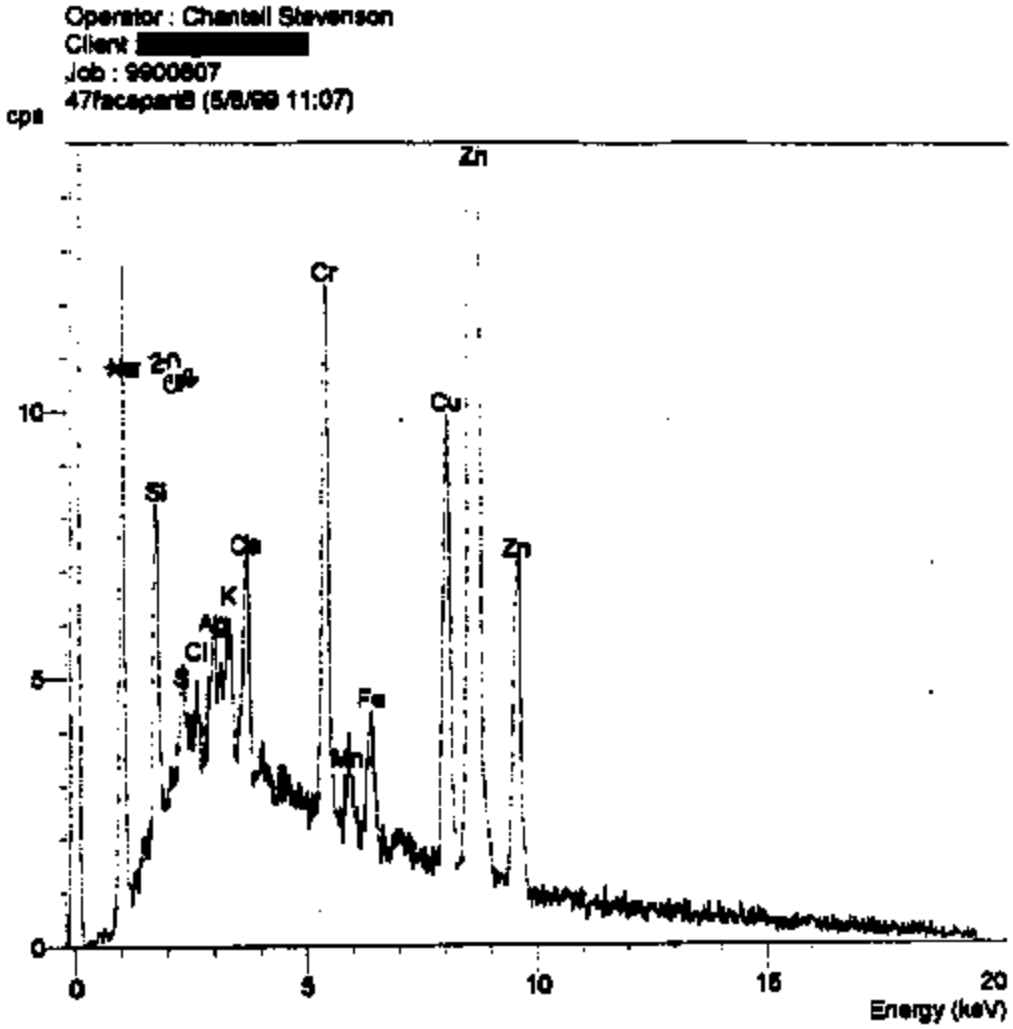

Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
10hexpart2 (5/7/99 14:45)
cps
S
K
Cu
Cu
Cu
Zn
Zn
10
5
0
0
5
10
15
20
Energy (keV)

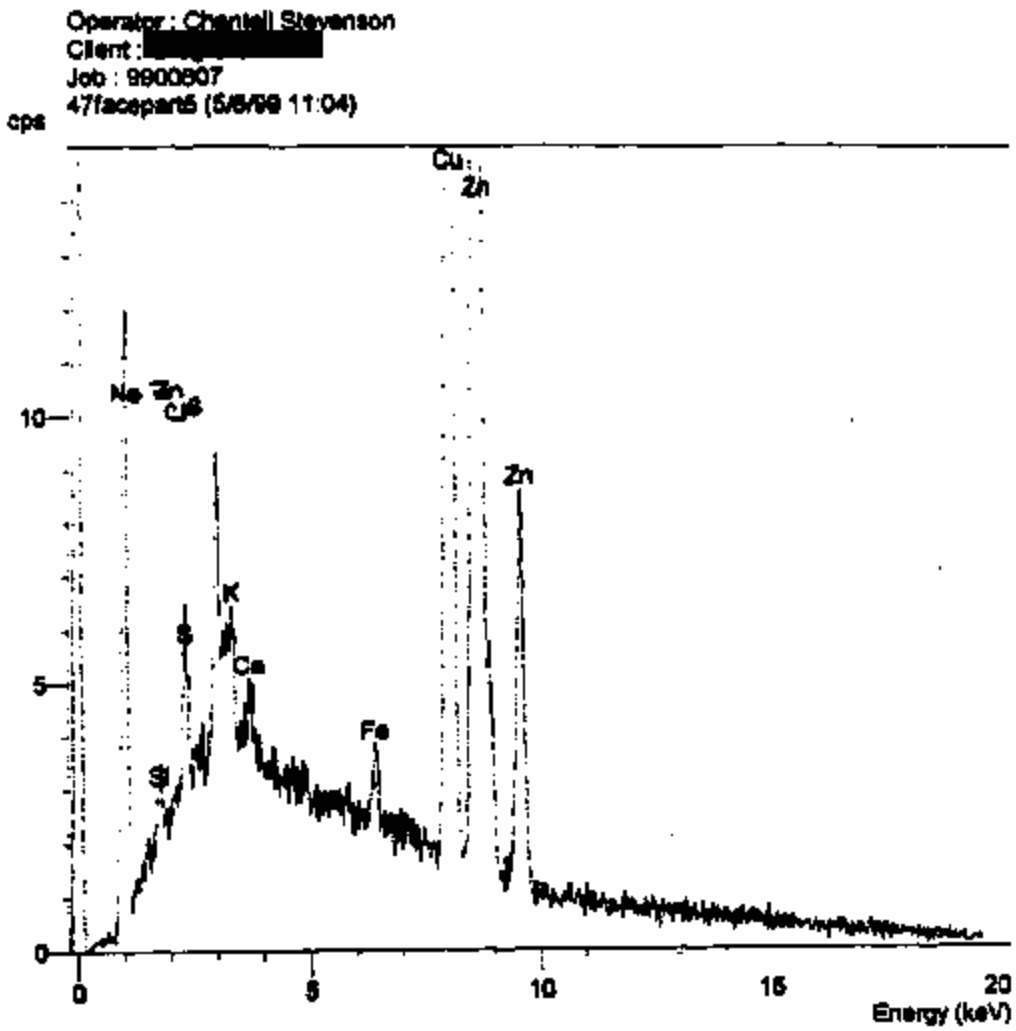


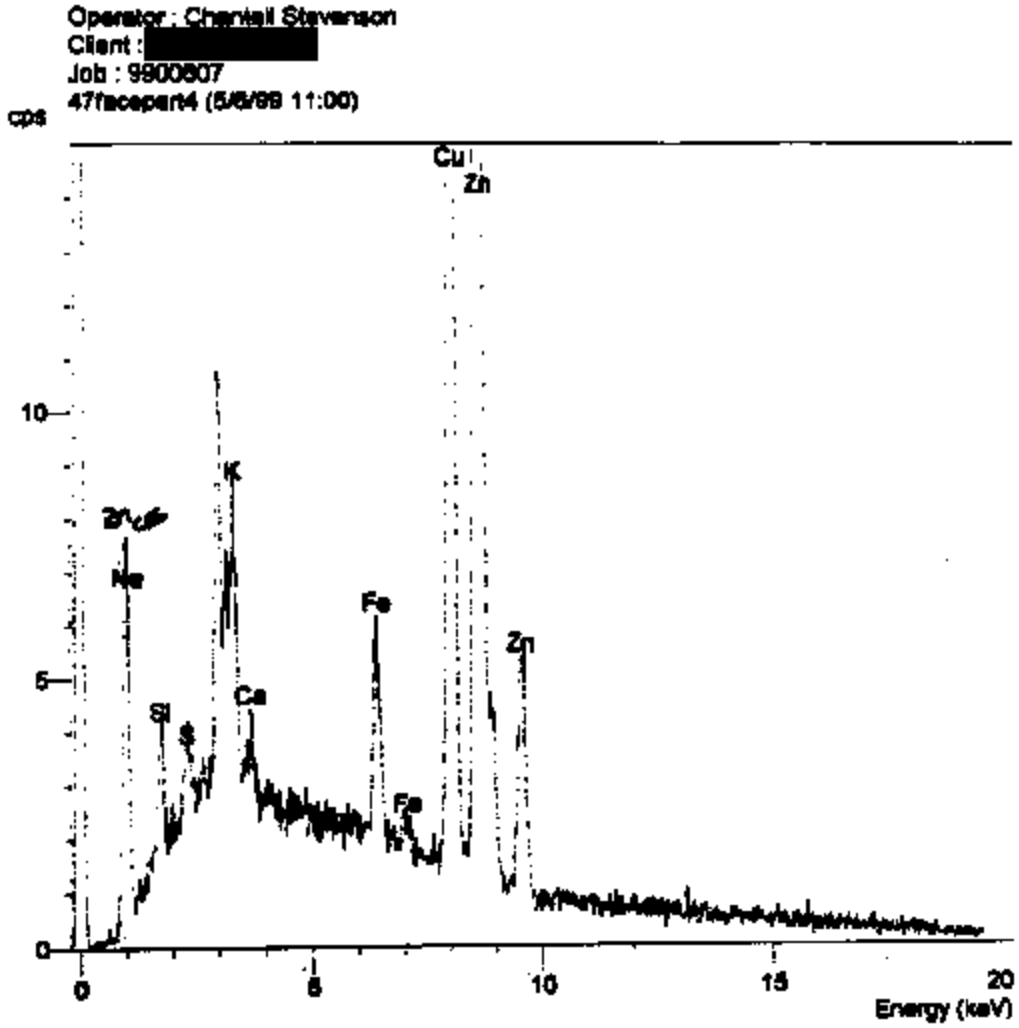
3713 3039

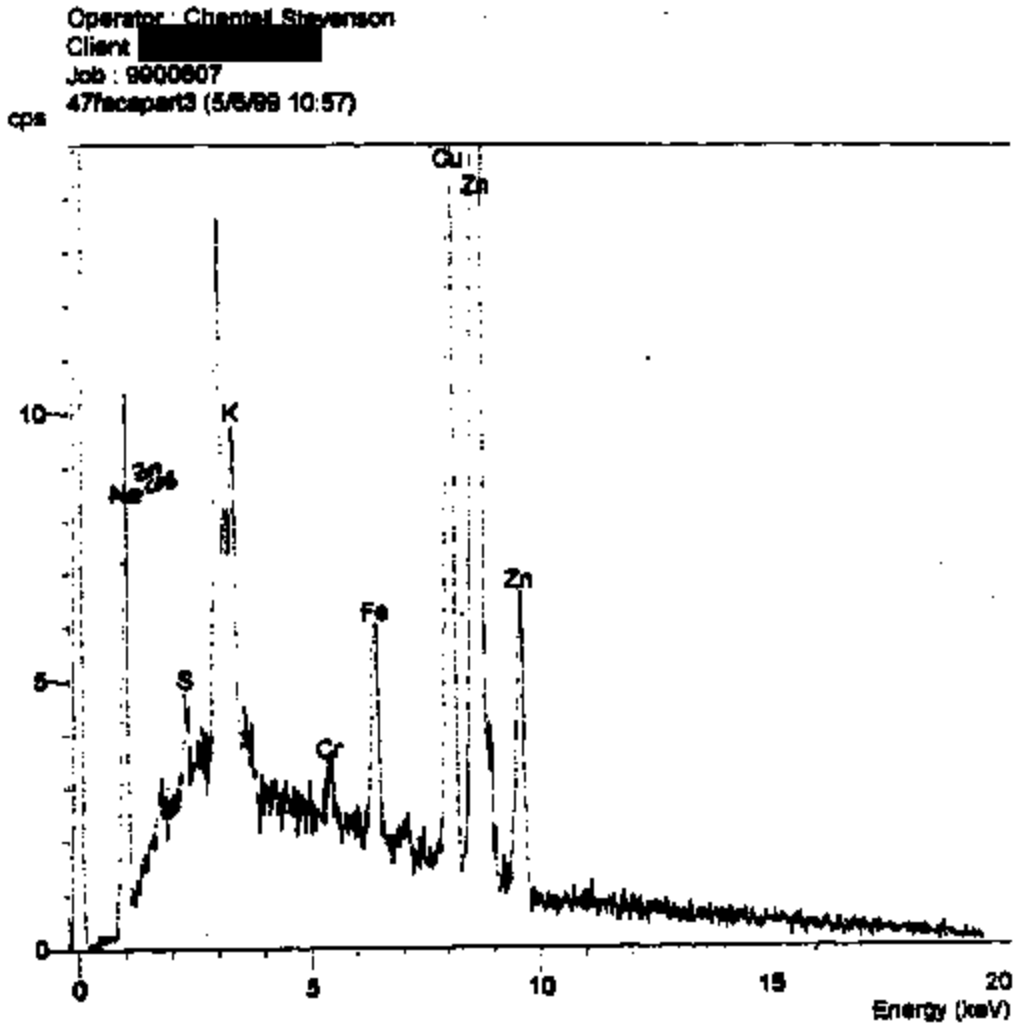
PRODUCED BY FORD

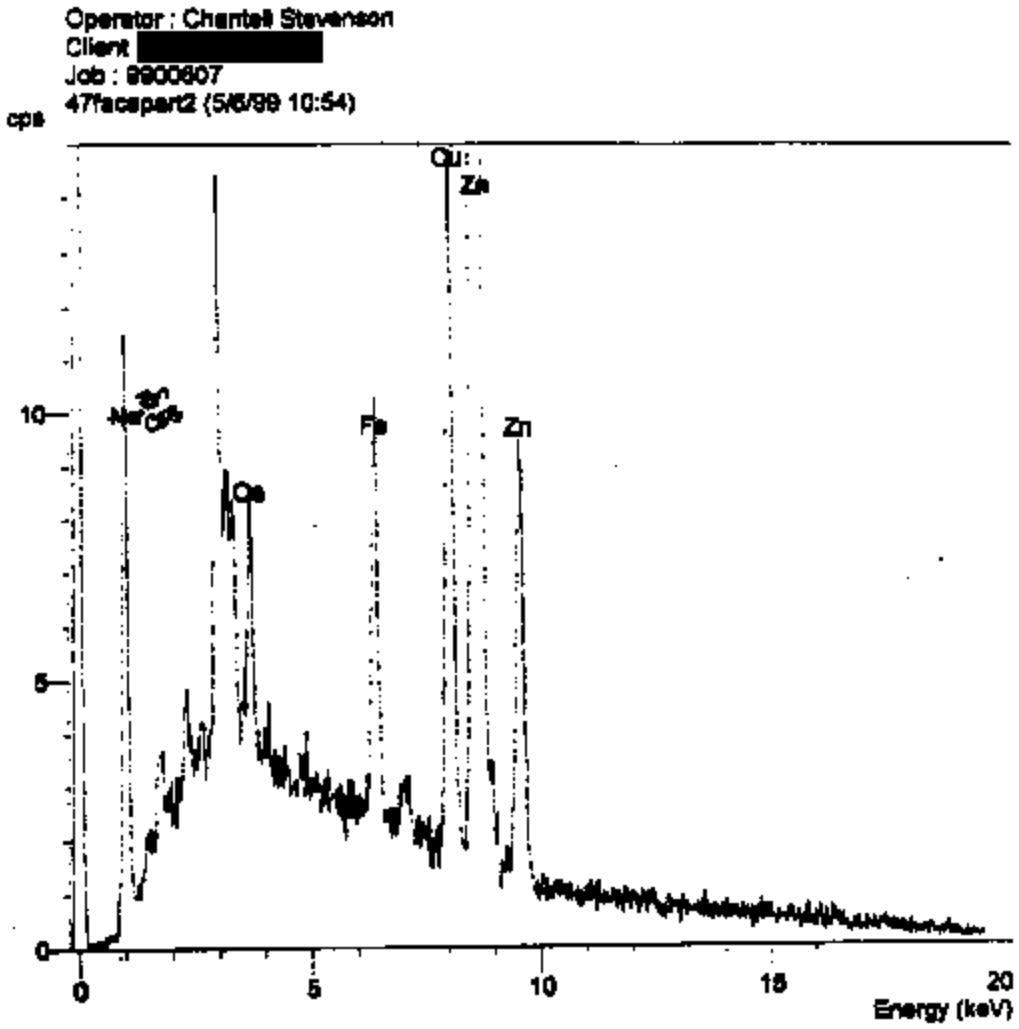
ER82-625-A 9828




Operator : Chantell Stevenson
Client : [redacted]
Job : 9900807
47facepart5 (5/6/99 11:04)
cps
Cu
Zn
Na
Zn
Cu
Zn
K
S
Ca
Fe
Si
10
5
0
0
5
10
15
20
Energy (keV)



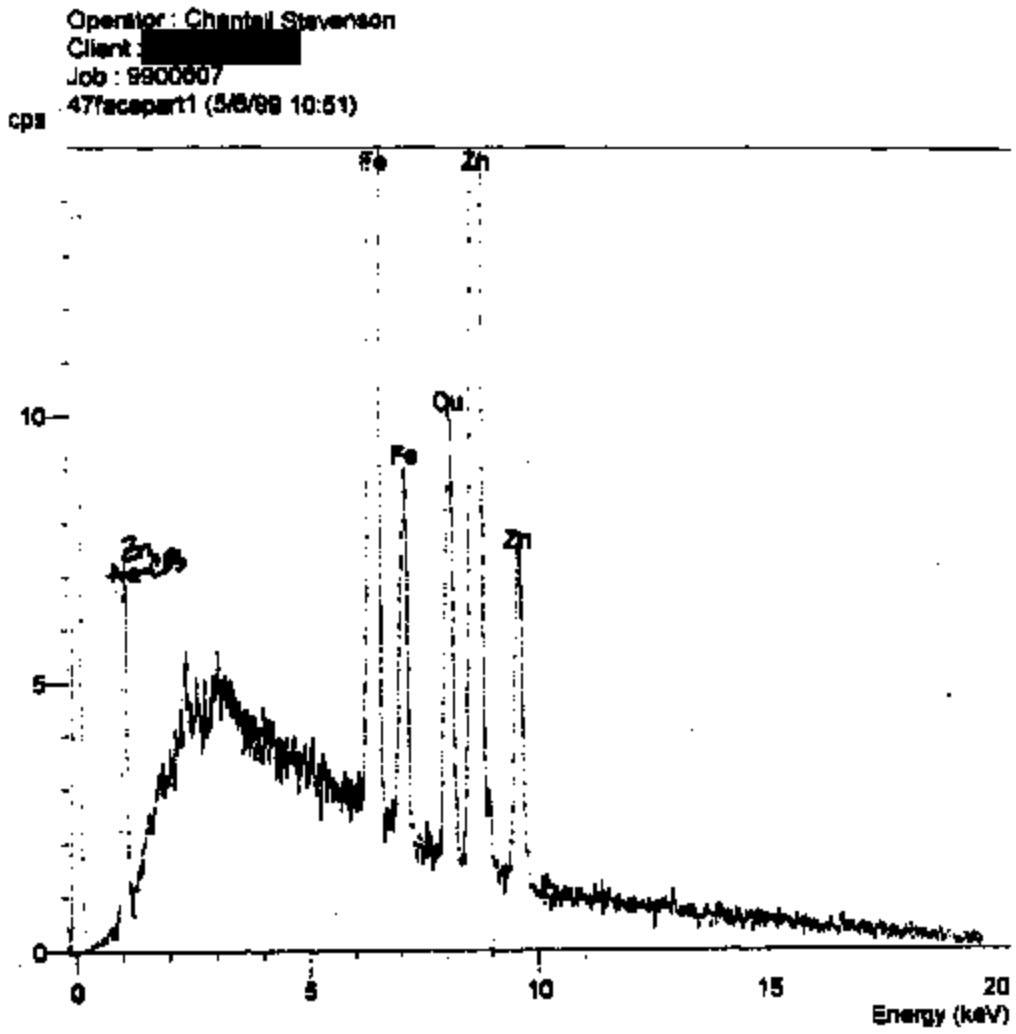

Operator : Chantal Stevenson
Client [redacted]
Job : 9900807
47facapart3 (5/6/99 10:57)
cps
Cu
Zn
K
Fe
Zn
S
Cr
0
5
10
15
20
Energy (keV)

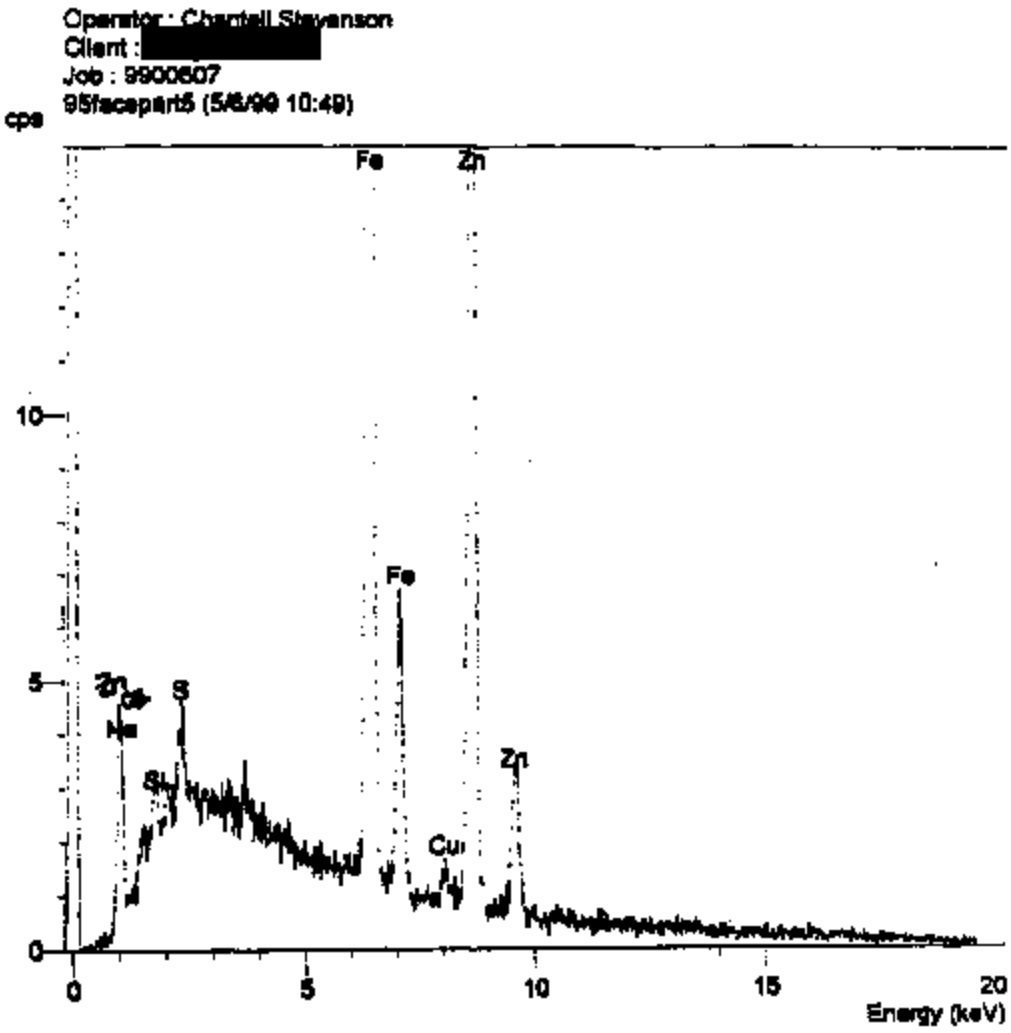


3713 3044

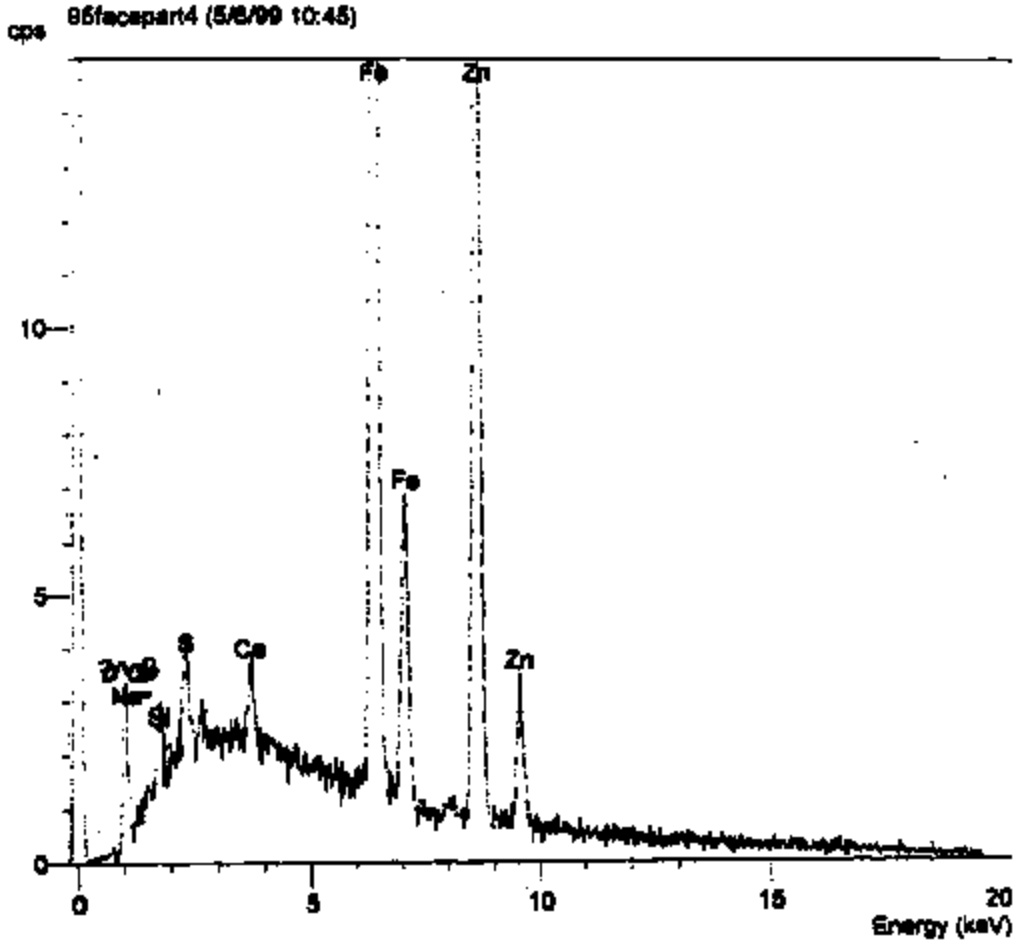
PRODUCED BY FORD

E982-625-6 9933




Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
95facepart5 (5/6/99 10:49)
cps
Fe
Zn
10
Fe
5
Zn
Ca
Ka
S
Si
Zn
Cu
0
0
5
10
15
20
Energy (keV)

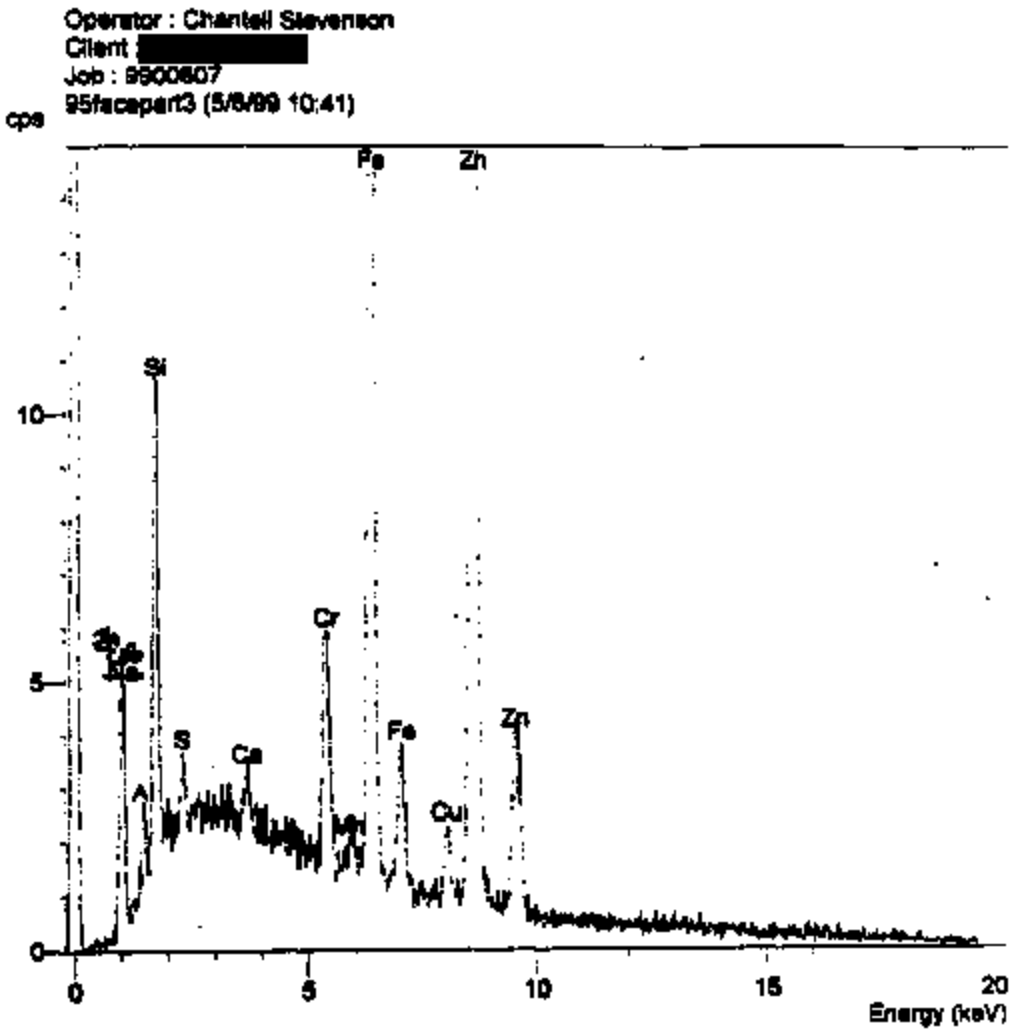
Operator : Chantel Stevenson
Client : [redacted]
Job : 9900607
95facepart4 (5/6/99 10:45)

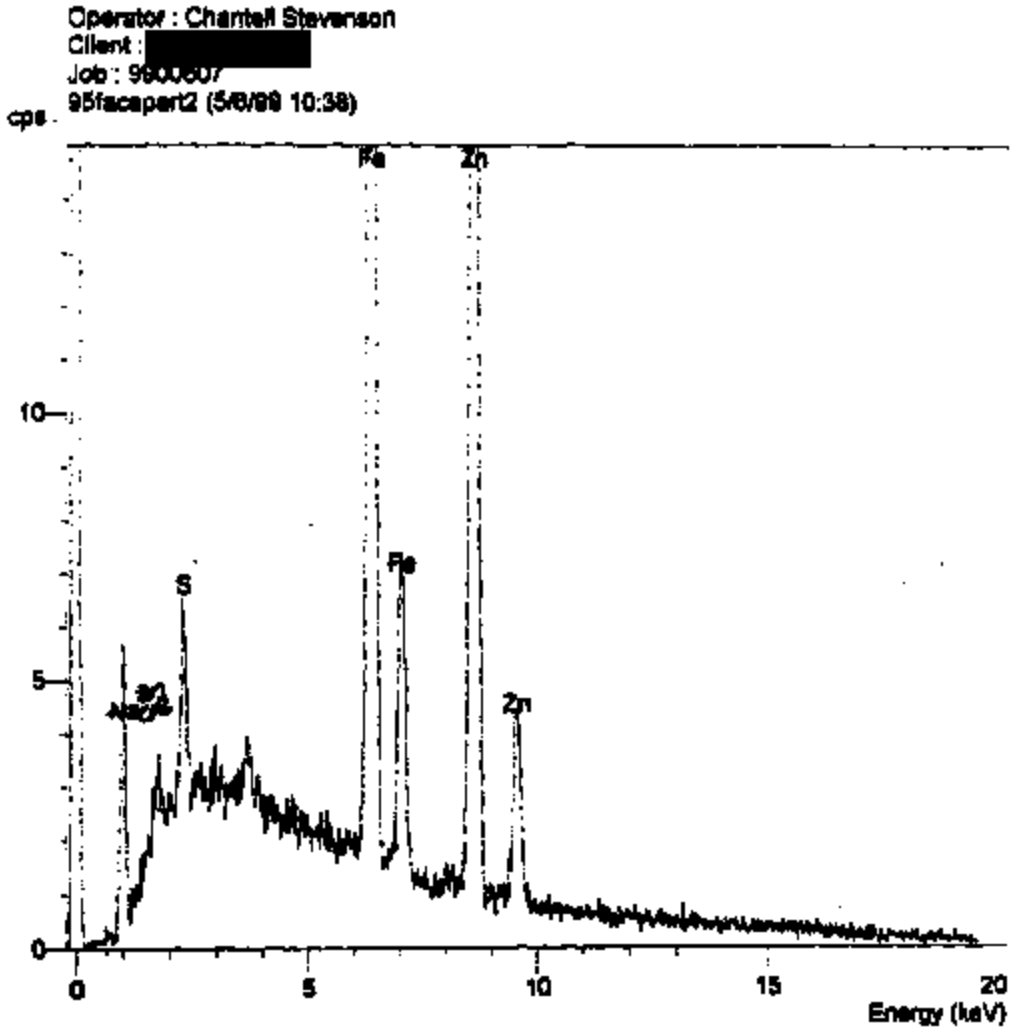


3713 3047

PRODUCED BY FORD

ER82-625-R 9936

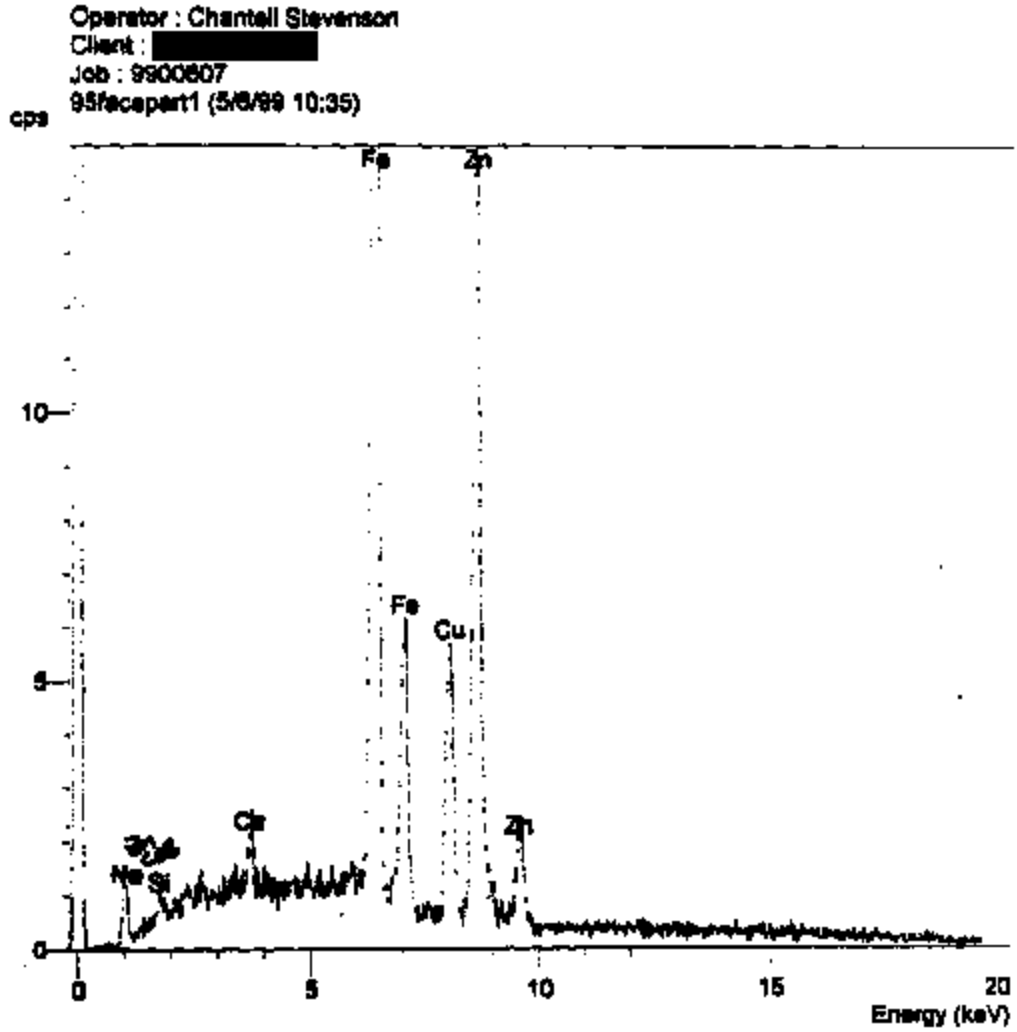


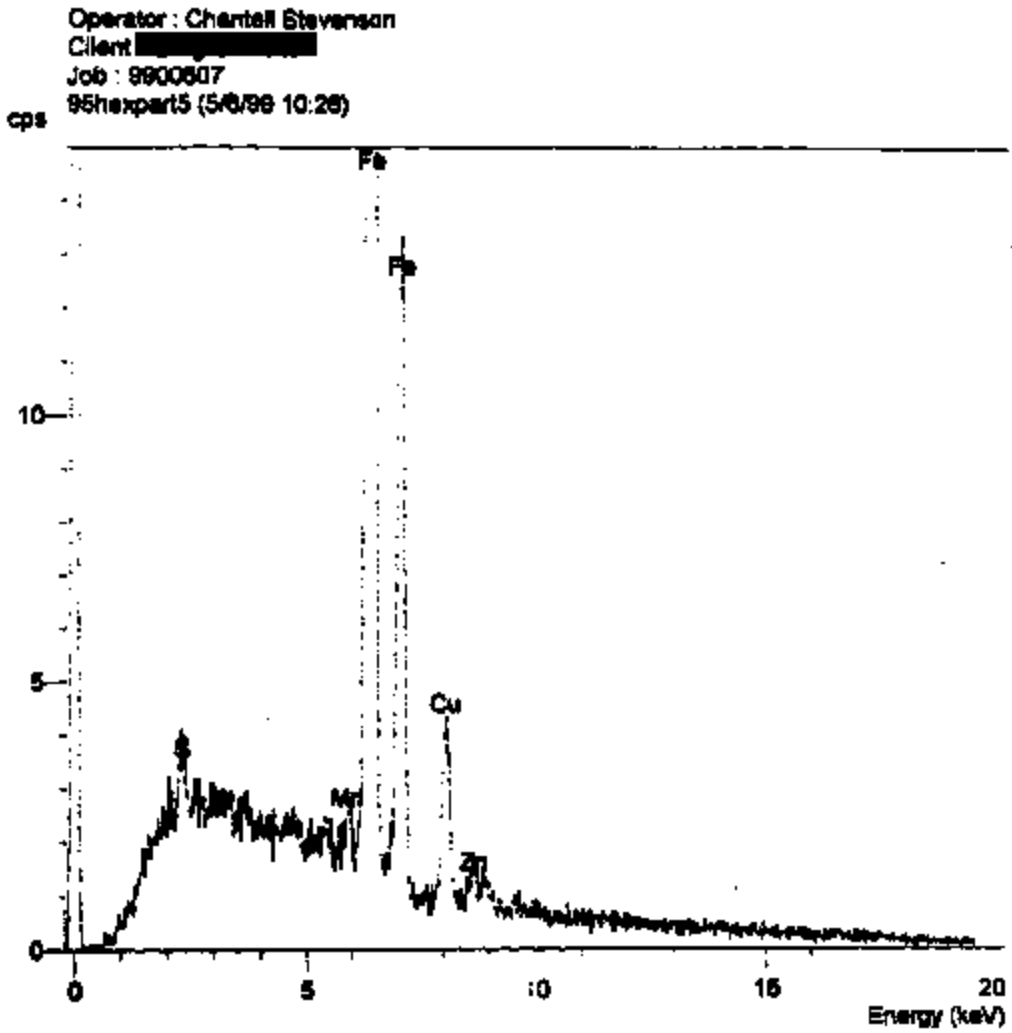


3713 3049

PRODUCED BY FOR

E982-625-A 9838

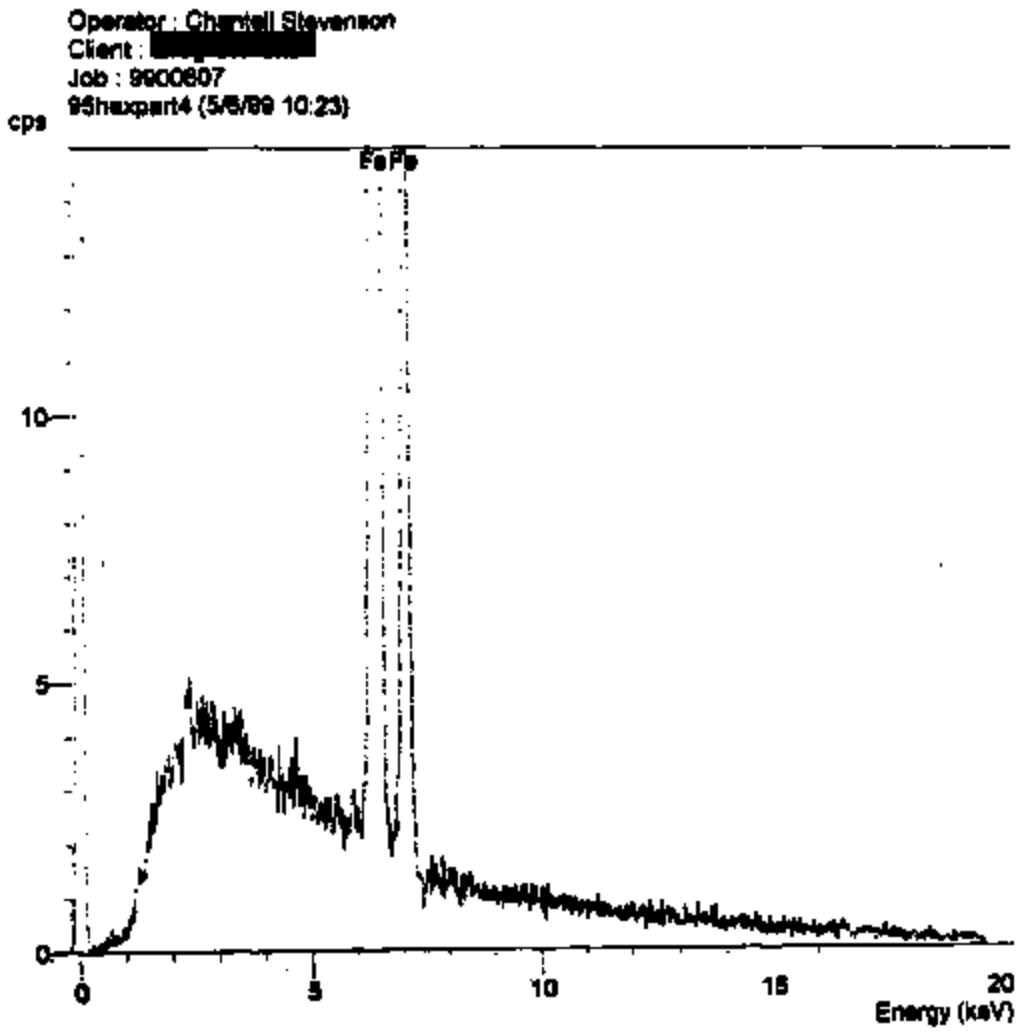




3713 3051

PRODUCED BY FORD

E982-625-A 9949

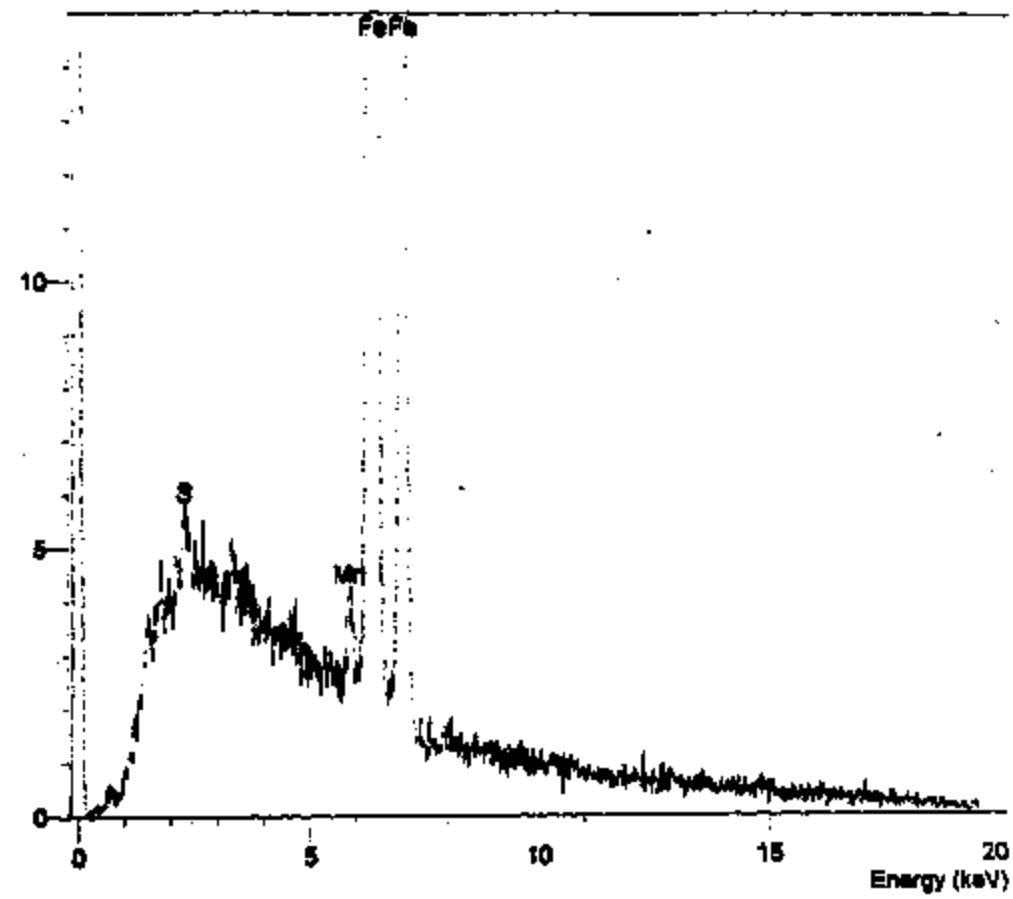


3713 3052

PRODUCED BY FORD

ER62-025-A 9841

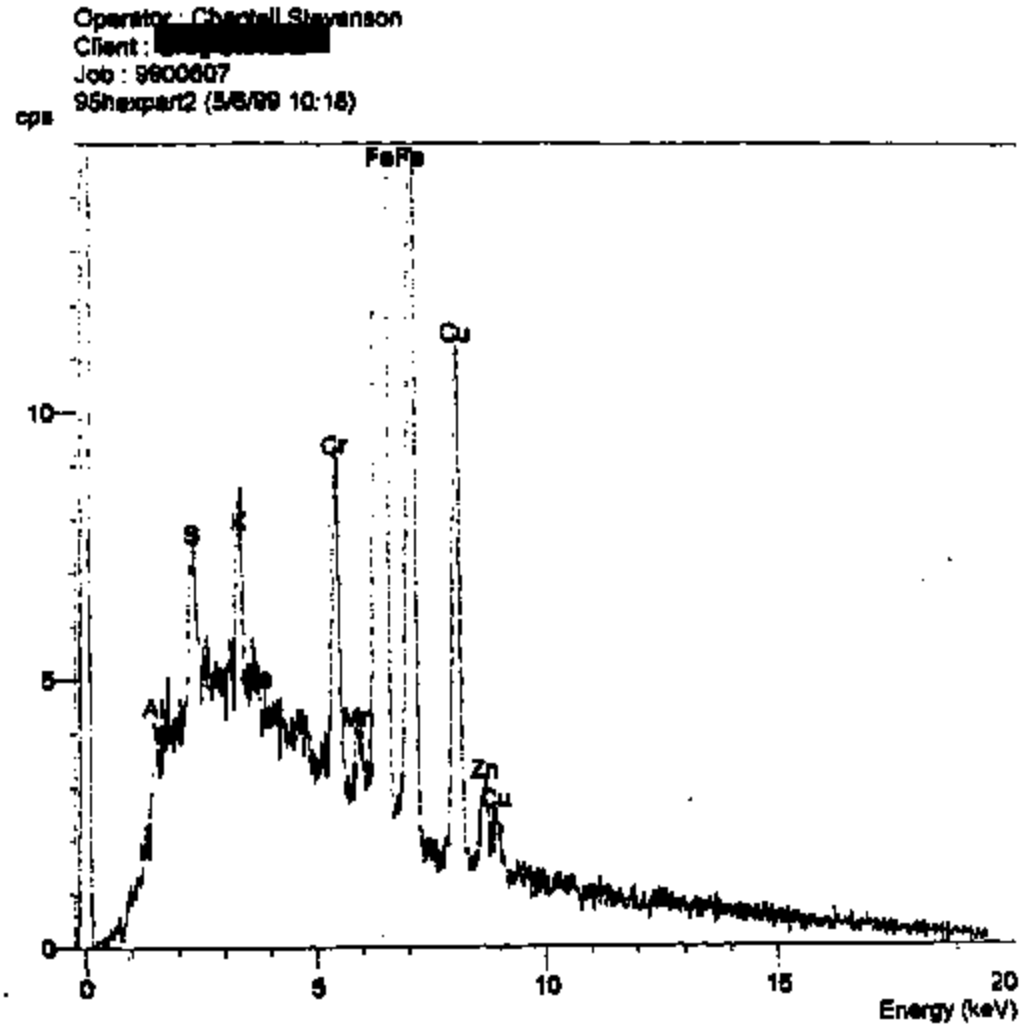
Operator : Chantell Stevenson
Client : [redacted]
Job : 9900607
95hexpart3 (5/6/99 10:21)



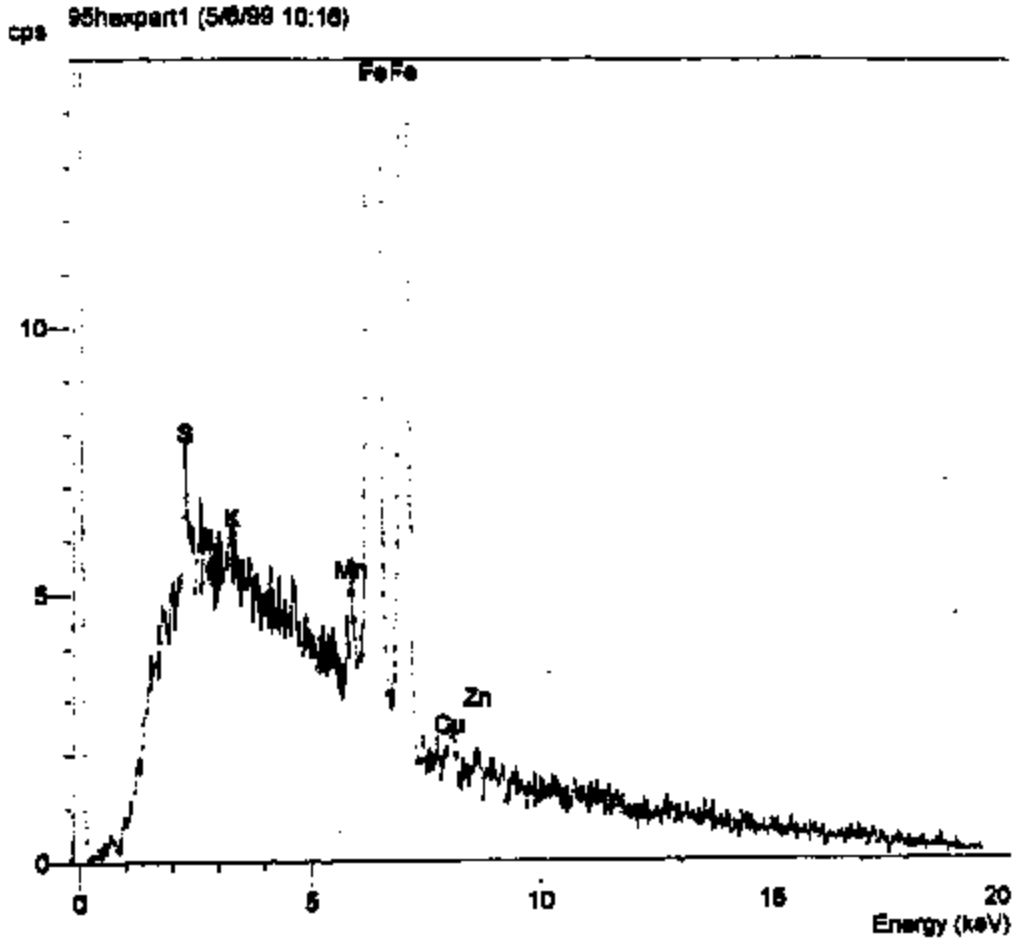
3713 3053

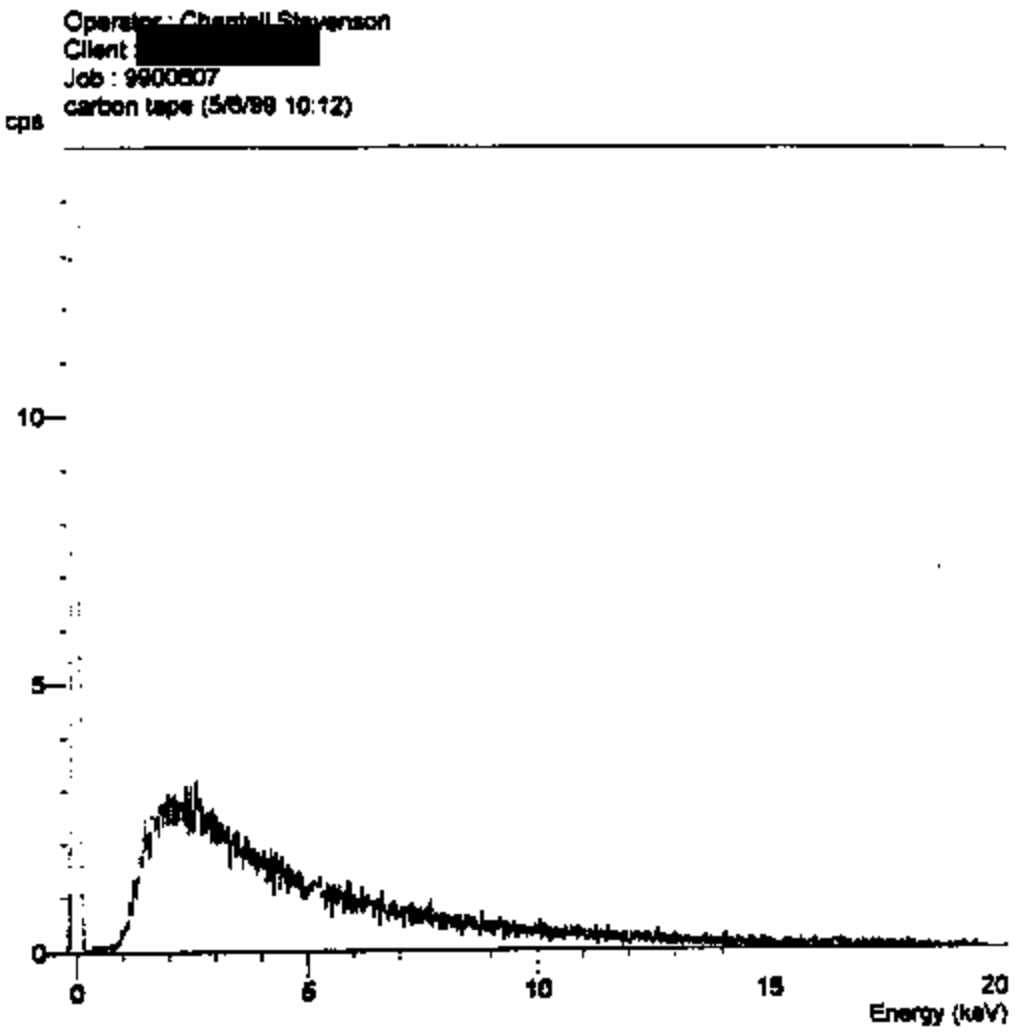
PRODUCED BY FC

ER62-625-A 9942



Operator : Chantell Stevenson
Client [redacted]
Job : 9900607
95hexpart1 (5/6/99 10:16)

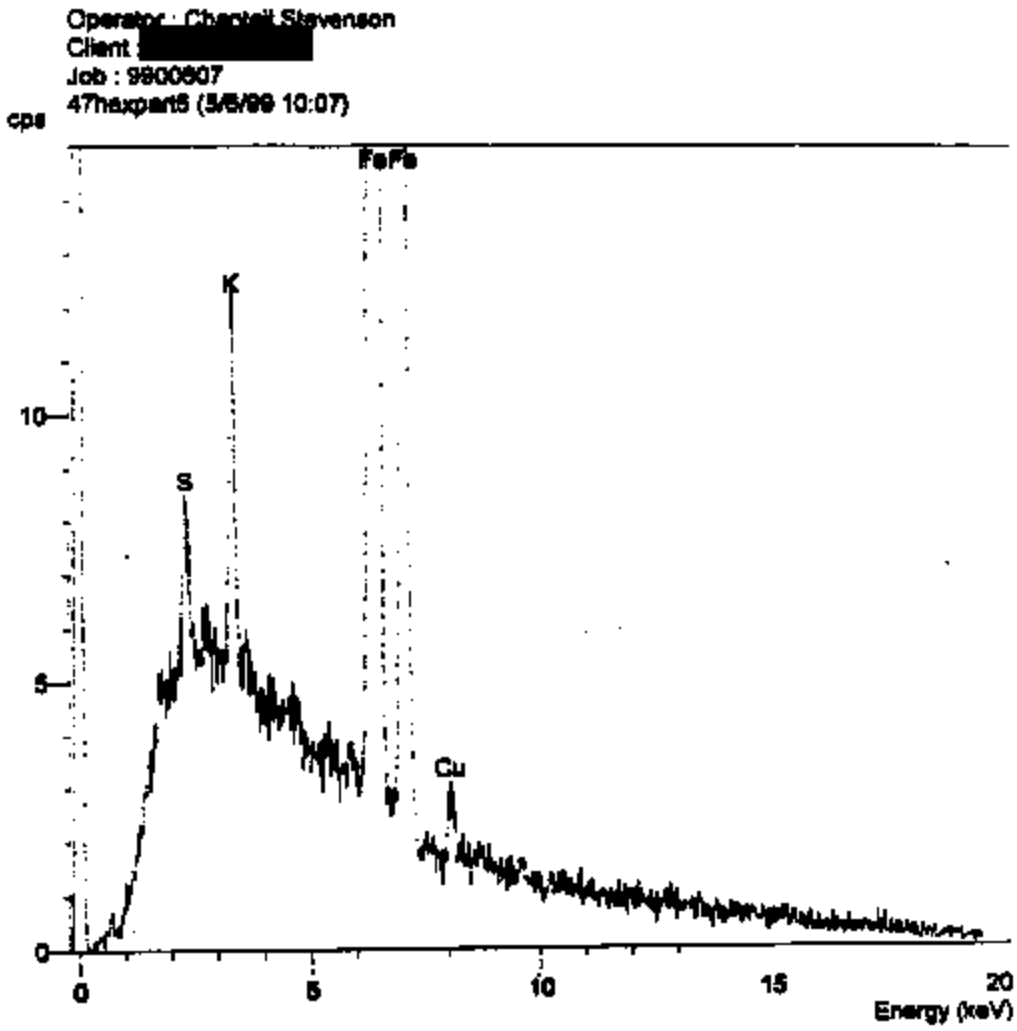




3713 3056

PRODUCED BY FORD

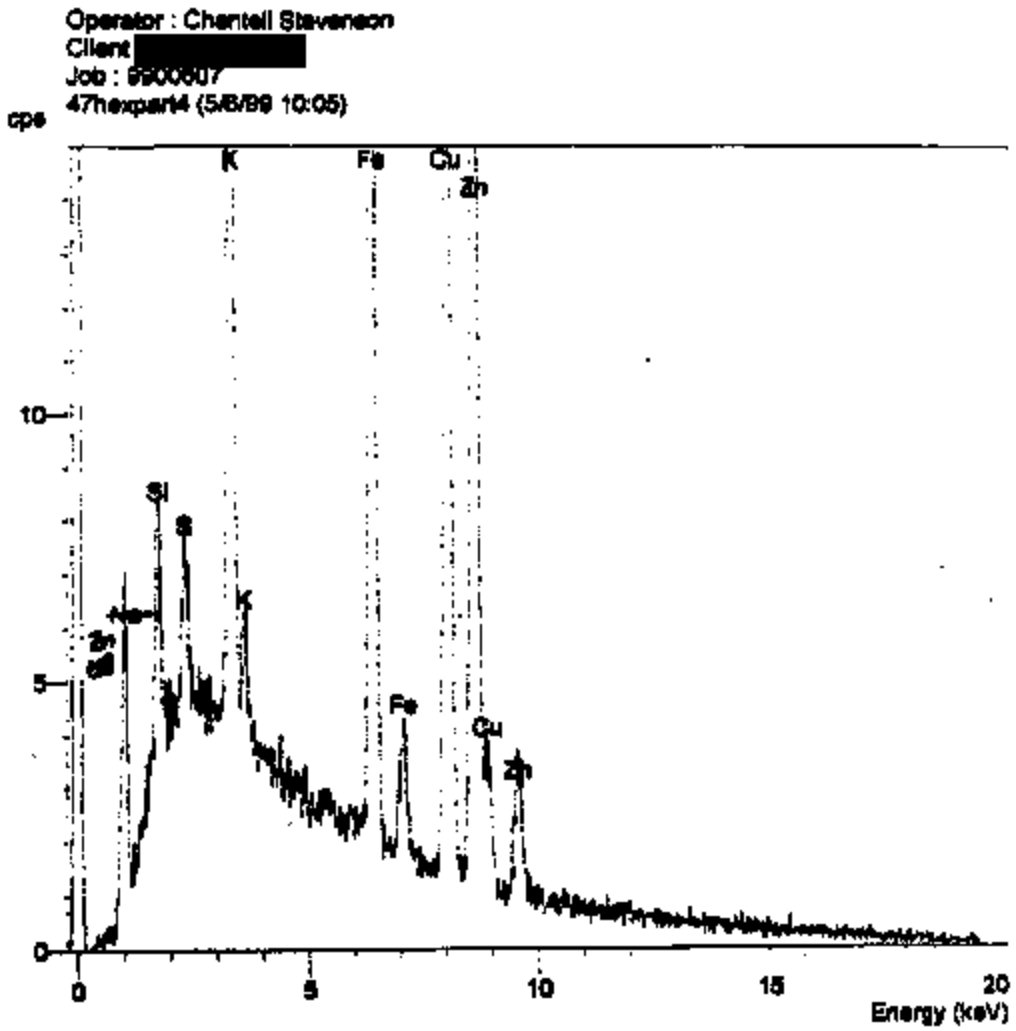
ER82-625-A 9845



3713 3057

PRODUCED BY FORD

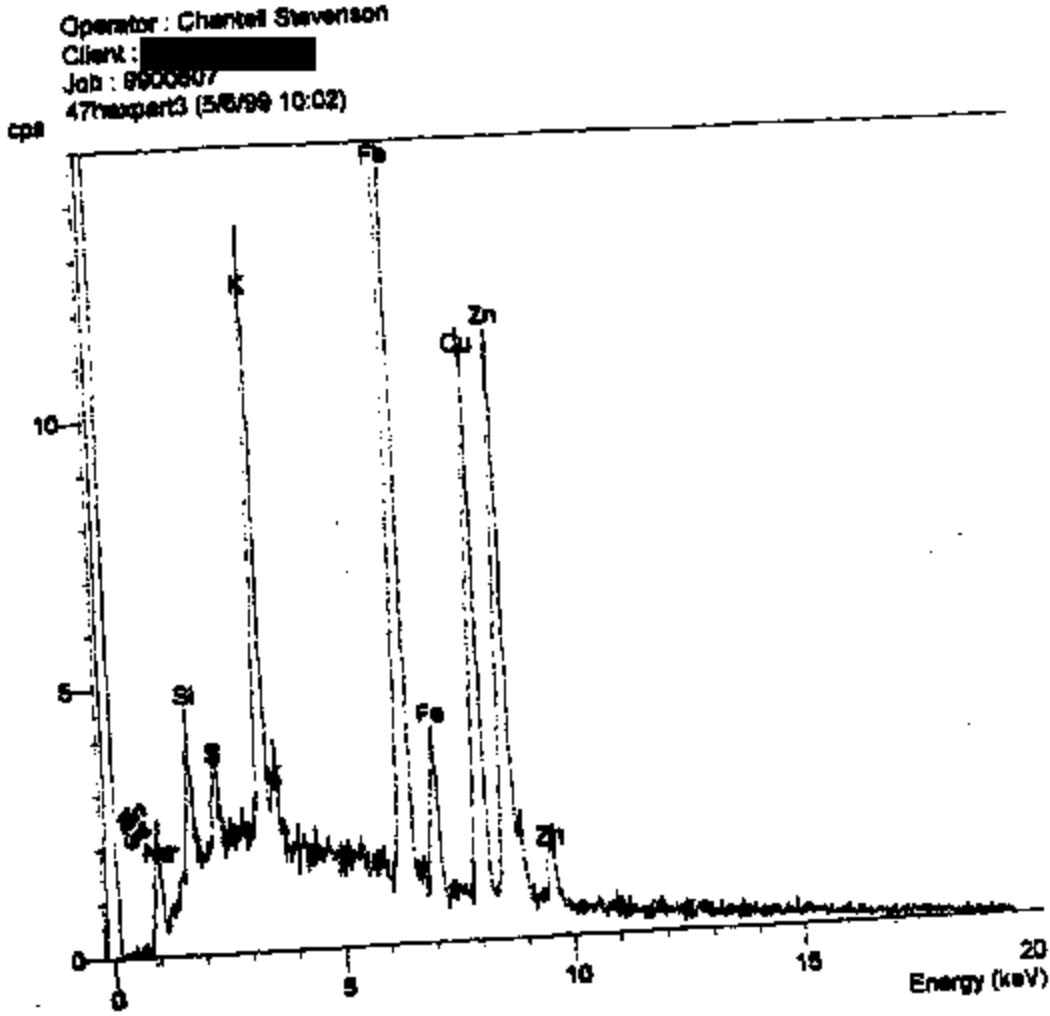
ER62-625-A 9946



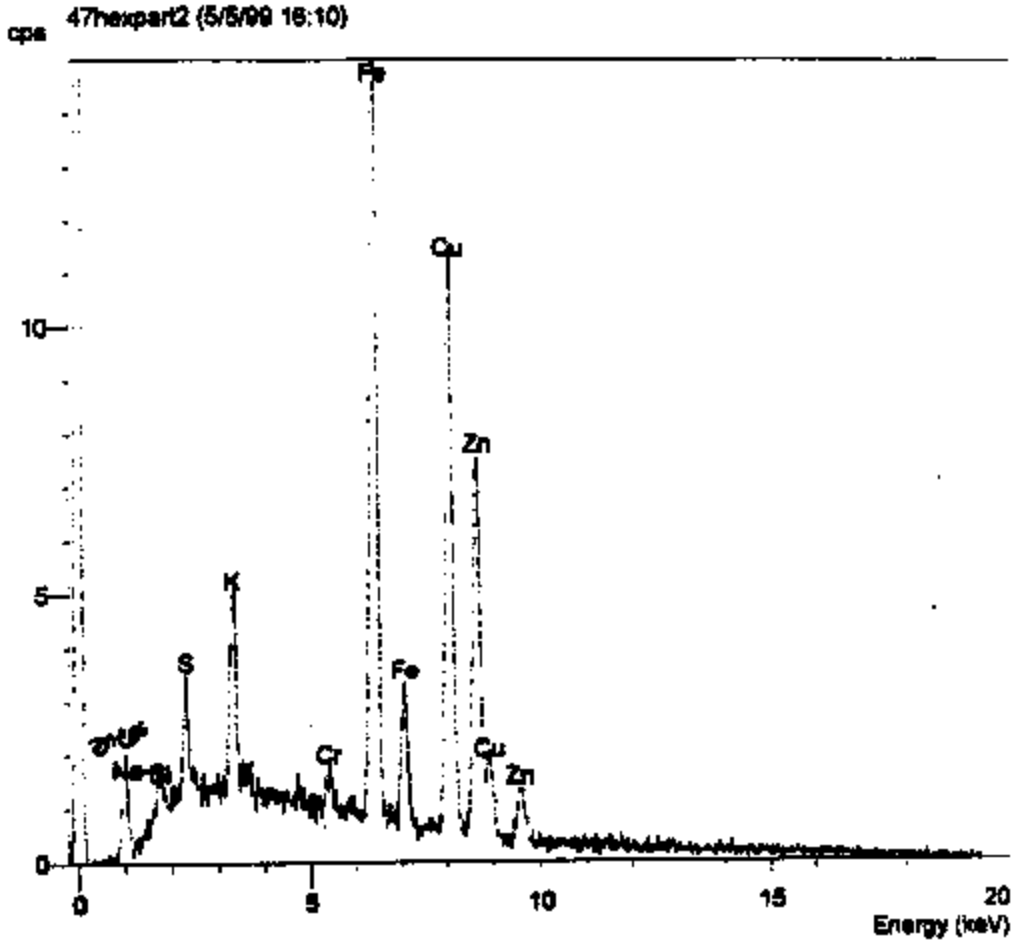
3713 3056

PRODUCED BY FORD

ER82-825-A 9947


Operator : Chantell Stevenson
Client : [redacted]
Job : 99006507
47maxpart3 (5/6/99 10:02)
cps
Fe
K
Zn
Cu
Si
S
Fe
Zn
10
5
0
0
5
10
15
20
Energy (keV)

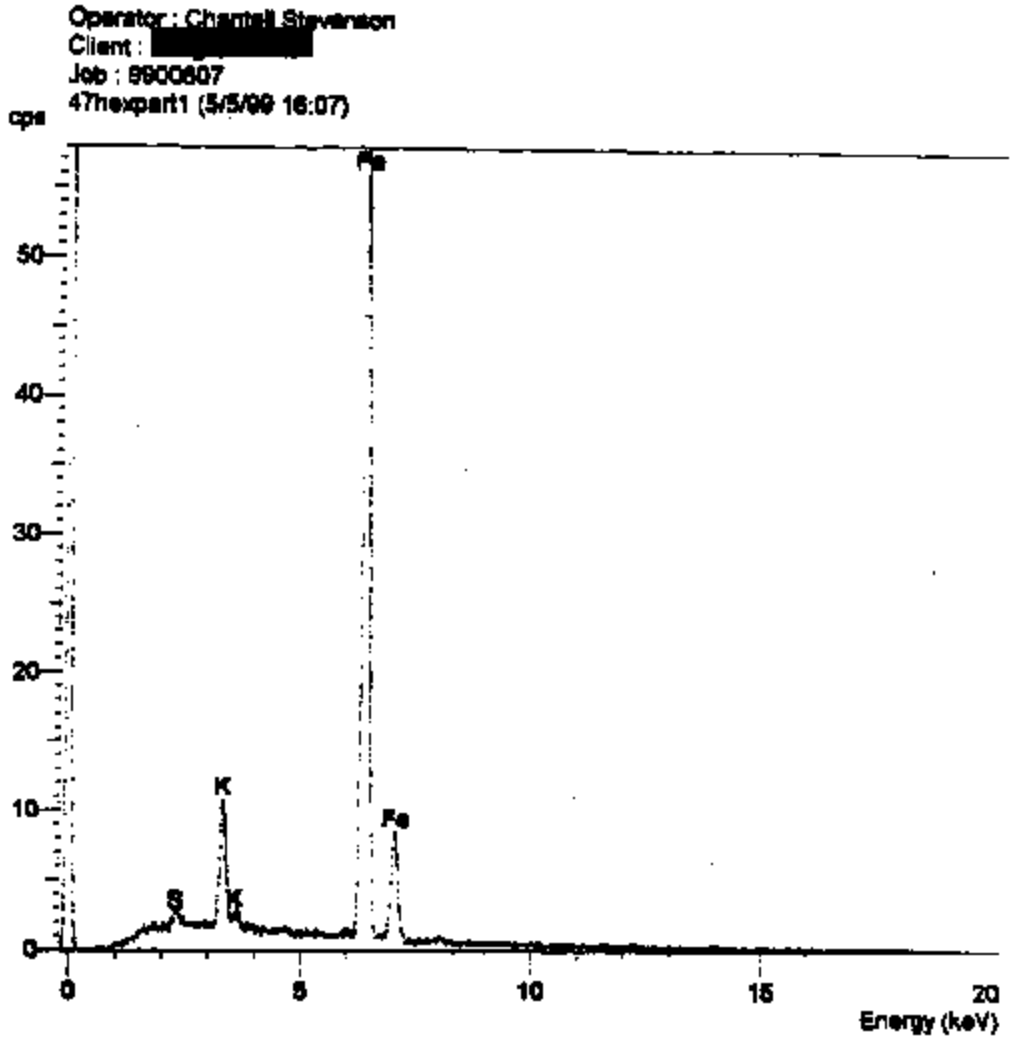
Operator : Chantel Stevenson
Client : [redacted]
Job : 9900607
47hexpart2 (5/5/99 16:10)



3713 3060

PRODUCED BY FORD

E982-625-R 9949



3713 3061

PRODUCED BY FORD

EP82-625-A 9856

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1267
FAX (313) 322-1614

Report 9900607

April 13, 1999

To: G. Stevens/S[redacted] (313) 32-36696 (313) 39-07224 FAX

From: Gayle D. Gulten (313) 32-27322

Subject: Deposits - Speed Control Switch
Source: N[redacted] and PY[redacted]

Received: The following items were received on March 25, 1999, from S. LaRouche:
- NY999063, Top, ~4mL green fluid labeled- "Brake fluid reservoir top, 3/1/99, N[redacted] 92TC"
- N[redacted] Master Cylinder, ~5mL green fluid labeled - "Master cylinder front port, 3/1/99, NY[redacted]
- PY[redacted] Cup
- PY[redacted] Hexport
- NY[redacted] Cup
- NY[redacted] Hexport

Object: Determine if oxalate and/or brake fluid is present in the cup and hexports and what the nature of the black residue is in the fluids.

Conclusion: Brake fluid was found in all the samples tested. Oxalate-type materials were found in both the N[redacted] export (hydrocarbon may also be present in both this hexport and cup sample) and the PY[redacted] hexport samples. Both of the NY[redacted] brake fluid samples showed evidence of nitrogenous and/or carboxylic acid salt material as well as possibly some hydrocarbon. The darker residue in these fluids could not be separated, however, these fluids contain elevated levels of zinc and copper as well as probably sulfur (which may account for the darker color). The zinc and copper may have been absorbed from the metallic constituents and be present as the metallic portions of the carboxylic acid salt while the sulfur may indicate the presence of a sulfur-based material (possibly such as a mineral oil-based (hydrocarbon) material, i.e. lubricating oil). Based on the boron levels and the infrared, neither of these two brake fluids appears to be factory fill Dow HD 50-4.

Data and Analysis:

Molecular Characterization
(FTIR, Qualitative)

PY[redacted] Deposit

Spectra of the cup are characteristic of essentially a glycol ether-based material.

Spectra of the hexport are characteristic of essentially a glycol ether-based material and an oxalate.

NY[redacted] Deposit

Spectra of the cup are characteristic of essentially a glycol ether-based material (some hydrocarbon may also be possible).

Spectra of the hexport are characteristic of essentially a glycol ether-based material, an oxalate, and other material (possibly including a hydrocarbon).

NY999063 Fluids

Spectra of the reservoir top brake fluid are characteristic of a glycol ether based material and other material (possibly including nitrogenous and/or carboxylic acid salt and hydrocarbon).

Spectra of the master cylinder brake fluid are characteristic of a glycol ether-based material and other (possibly including nitrogenous and/or carboxylic acid salt and possibly hydrocarbon).

Elemental Analysis, mg/kg
(ASTM D 5185-93)[1]

	Top	Master Cylinder	Unused Dow HD 50-4
Aluminum	1	2	<1
Boron	22	12	138
Barium	<1	<1	<1
Calcium	1	2	<1
Cadmium	1	1	<1
Chromium	1	1	<1
Copper	496	500	<1
Iron	4	8	1
Magnesiu	2	3	<1
Manganes	1	1	<1
Molybden	1	1	<1
Sodium	392	393	589
Nickel	<1	<1	<1
Phosphor	11	11	6
Lead	22	25	1
Sulfur	163	154	<1
Silicon	4	4	<1
Tin	9	9	5
Titanium	<1	<1	<1
Zinc	501	562	<1

Water Content of Fluids, % by weight (ASTM E 203): NY[redacted] - Reservoir Top 1.4; NY[redacted] - Master Cylinder 1.4

Particulates

Both the NY[redacted] reservoir top and master cylinder fluids were filtered through an 8µm nylon filter over a 40 Whatman filter. No particulates were gathered.

The precision and accuracy of results obtained by this method are within ±5% at 95% confidence level.

Contributor:

Concur: _____
Mary Hega
Organic Section

By: _____
Gayle D. Gullen (GGULLEN)
Product Materials Engineer

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 009900607
Date of Request: 02/22/1999 08:17:31 AM
Print Date: 03/25/1999 02:43:49 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:

Primary Contact: STEVENS, GREG - 10006	Phone: (313) 323-8606	PROFS ID: GSTEVENT	Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 18076	Phone: (313) 594-2686	PROFS ID: NLAPOINT	Fax: (313) 337-8256

Send Report to: MD 6064/6066, AVT MATERIALS, BLDG. #5
Bill to: Accng Location: 5100
Dept: T113
Work Task: XCG04

Sample Information:
Total Number of Containers: 21
Source: Not specified
Sample Handling: Return after test
Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INSTRUMENTS

Investigative Information:
Nature of Investigation/Requester Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:
EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Log-in Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRiviere, Steve Phone: 84-54876

View your test status at: 'HTTP://ledweb.pd7.ford.com/labs'

Program Name: KALISLab Engr Module
Program Version: Version: 2.0.6

PLEASE DETERMINE THE FOLLOWING:

CUT & HOUSING SURFACES
PRESENCE OF BRAKE FLUID
PRESENCE OF OXYGENATES, ETC.

BRAKE FLUID SAMPLE
PRESENCE OF OXYGENATES, ETC.
WATER CONTENT IF POSSIBLE

THANKS

STEVE LaRIVIERE

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1267
FAX (313) 322-1614

Report 9900607

April 13, 1999

To: G. Stevens/S. LaRouche (313) 32-36666 (313) 39-07224 FAX

From: Gayle D. Gullen (313) 32-27322

Subject: Deposits - Speed Control Switch
Source: NY[redacted] and PY[redacted]

Received: The following items were received on March 25, 1999, from S. LaRouche:
- NY[redacted] Top, ~4mL green fluid labeled- "Brake fluid reservoir top, 3/1/99, NY[redacted] 92TC"
- NY[redacted] Master Cylinder, ~5mL green fluid labeled - "Master cylinder front port. 3/1/99, N[redacted]"
- P[redacted] Cup
- P[redacted] Hexport
- N[redacted] Cup
- N[redacted] Hexport

Object: Determine if oxalate and/or brake fluid is present in the cup and hexports and what the nature of the black residue is in the fluids.

Conclusion: Brake fluid was found in all the samples tested. Oxalate-type materials were found in both the N[redacted] hexport (hydrocarbon may also be present in both this hexport and cup sample) and the PY[redacted] hexport samples. Both of the NY[redacted] brake fluid samples showed evidence of nitrogenous and/or carboxylic acid salt material as well as possibly some hydrocarbon. The darker residue in these fluids could not be separated, however, these fluids contain elevated levels of zinc and copper as well as probably sulfur [which may account for the darker color]. The zinc and copper may have been absorbed from the metallic constituents and be present as the metallic portions of the carboxylic acid salt while the sulfur may indicate the presence of a sulfur-based material [possibly such as a mineral oil-based (hydrocarbon) material, i.e. lubricating oil]. Based on the boron levels and the infrared, neither of these two brake fluids appears to be factory fill Dow HD 50-4.

Data and Analysis:

Molecular Characterization
(FTIR, Qualitative)

PY[redacted] Deposit

Spectra of the cup are characteristic of essentially a glycol ether-based material.

Spectra of the hexport are characteristic of essentially a glycol ether-based material and an oxalate.

NY[redacted] Deposit

Spectra of the cup are characteristic of essentially a glycol ether-based material [some hydrocarbon may also be possible].

Spectra of the hexport are characteristic of essentially a glycol ether-based material, an oxalate, and other material [possibly including a hydrocarbon].

NY[redacted] Fluids

Spectra of the reservoir top brake fluid are characteristic of a glycol ether based material and other material [possibly including nitrogenous and/or carboxylic acid salt and hydrocarbon].

Spectra of the master cylinder brake fluid are characteristic of a glycol ether-based material and other [possibly including nitrogenous and/or carboxylic acid salt and possibly hydrocarbon].

Elemental Analysis, mg/kg
(ASTM D 5185-93)[1]

	Top	Master Cylinder	Unused Dow HD 50-4
Aluminum	1	2	<1
Boron	22	12	138
Barium	<1	<1	<1
Calcium	1	2	<1
Cadmium	1	1	<1
Chromium	1	1	<1
Copper	496	500	<1
Iron	4	9	1
Magnesiu	2	3	<1
Manganes	1	1	<1
Molybden	1	1	<1
Sodium	392	383	589
Nickel	<1	<1	<1
Phosphor	11	11	6
Lead	22	25	1
Sulfur	163	164	<1
Silicon	4	4	<1
Tin	9	9	5
Titanium	<1	<1	<1
Zinc	501	582	<1

Water Content of Fluids, % by weight (ASTM E 203): NY[redacted] - Reservoir Top 1.4; NY[redacted] - Master Cylinder 1.4

Particulates

Both the NY[redacted] reservoir top and master cylinder fluids were filtered through an 8µm nylon filter over a 40 Whatman filter. No particulates were gathered.

The precision and accuracy of results obtained by this method are within ±5% at 95% confidence level.

Contributor:

Concur: _____
Mary Hega
Organic Section

By: _____
Gayle D. Gullen (GGULLEN)
Product Materials Engineer

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1287
FAX (313) 322-1614

Report 9900607

April 9, 1999

To: M. Haga

From: O. Schumacher 313 845 5039

Subject: Brake Fluid
Part Number: Not Provided
Specification: Not Provided
Supplier: Not Provided

Received: On February 22, 1999, two brake fluid aliquots were received.

Object: Determine the elemental concentration of the elements listed below in each aliquot.

Data and Analysis:

Elemental Analysis, mg/kg
(ASTM D 5185-93)[1]

	9900607-1	9900607-2
Aluminum	1	2
Boron	22	12
Barium	<1	<1
Calcium	1	2
Cadmium	1	1
Chromium	1	1
Copper	498	500
Iron	4	6
Magnesium	2	3
Manganese	1	1
Molybdenum	1	1
Sodium	382	383
Nickel	<1	<1
Phosphorus	11	11
Lead	22	25
Sulfur	183	184
Silicon	4	4
Tin	9	9
Titanium	<1	<1
Zinc	501	502

The precision and accuracy of results obtained by this method are within ±5% at 99% confidence level.

Concur: _____
James R. Manor, Supervisor
Analytical Chemistry Section

By: _____
Daniel E. Schumacher
Laboratory Engineer

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1267
FAX (313) 322-1514

Report 9900613

March 2, 1999

To: M. Haga/Greg Sievers

From: D. Schumacher 313.845.5039

Subject: Brake fluid
Part number: N.A.
Source: N.A.

Received: Two brake fluid samples were received on February 22, 1999.

Object: Determine the elemental concentration of the elements listed below in the samples.

Data and Analysis:

Concentration, weight percent[1]
(ARL 3580B ICP-AES)

	New	Used
Aluminum	<1	<1
Boron	138	150
Barium	<1	<1
Calcium	<1	18
Cadmium	<1	<1
Chromium	<1	3
Copper	<1	316
Iron	1	10
Magnesium	<1	1
Manganese	<1	1
Molybdenum	<1	5
Sodium	589	670
Nickel	<1	<1
Phosphorus	6	13
Lead	1	4
Sulfur	<1	19
Silicon	<1	31
Tin	5	9
Titanium	<1	<1
Zinc	<1	287

[1] The precision of this technique for this matrix is estimated to be ± 5% at a 95% confidence level.

Concur: _____
James R. Manor, Supervisor
Analytical Chemistry Section

By: _____
Daniel E. Schumacher
Laboratory Engineer

Project No. [illegible]

14 Book No. _____ TITLE [illegible]

From Page No. _____

[illegible]

[illegible]

[illegible]

EF-1 [illegible]

NY [redacted]

Report - glycol ether based material + oxalate + possibly other hydrocarbon
Specifically glycol ether based material + hydrocarbon

NY [redacted]

Report - glycol ether based material + oxalate
Specifically glycol ether based material

B. [illegible] NY [redacted]

Reservoir Tar - glycol ether based material +
other (possibly including nitrogen + carboxylic acid + hydrocarbon)

Powder cylinder - Tar - glycol ether based material (possibly including nitrogen + carboxylic acid + hydrocarbon)

As expected, pinholes were present in the base field (bottom) due to the + test
- Send for TCP - 4/8/95
M. C. Herr

To Page No. _____

Witnessed & Understood by me.	Date	Invented by	Date
		Recorded by	

3713 3069

PRODUCED BY FORD

ER82-025-A 9956

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 00990060Z
Date of Request: 02/22/1999 08:17:31 AM
Print Date: 03/25/1999 02:43:49 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requestor Information:

Primary Contact: STEVENS, GREG - 10006	Phone: (313) 323-6586	PROFS ID: GSTEVEN1	Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10076	Phone: (313) 594-2586	PROFS ID: NLAPOINT	Fax: (313) 337-8256

Send Report to: MD 5086/2508S, AVT MATERIALS, BLDG. #5
Bill to: Acctg.Location: 5109
Dept: T113
Work Task: XD004

Sample Information:
Total Number of Containers: 21
Source: Not specified
Sample Handling: Return after test
Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INSTRUMENTS

Investigation Information:
Nature of Investigation:Requestor Info. Doc: Mail typed report

Additional Sample Information/Testing Requirements:
EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Lab Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve
Phone: 84-54878

View your test status at: "HTTP://bd4web.pd7.ford.com/stats"

Program Name: KALISLab Engr Module
Program Version: Version: 2.0.6

PLEASE DETERMINE THE FOLLOWING:

CUP & HOUSING SAMPLES
PRESENCE OF BRAKE FLUID
PRESENCE OF OXYGENATES, ETC.

BRAKE FLUID SAMPLES
PRESENCE OF OXYGENATES, ETC.
WATER CONTENT IF POSSIBLE

THANKS

STEVE LaROUCHE

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 00990007
Date of Request: 02/22/1999 08:17:31 AM
Print Date: 03/25/1999 02:43:49 PM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:
Primary Contact: STEVENS, GREG - 10806 Phone: (313) 323-6686 PROFS ID: GSTEVEN1 Fax: (313) 390-7224
Secondary Contact: LA POINTE, NORM - 10076 Phone: (313) 594-2986 PROFS ID: NLAPOINT Fax: (313) 337-8256

Send Report to:
Bill to: MD 6098/20065, AVT MATERIALS, BLDG. #5
Accig.Location: 5100
Dept: 7113
Work Task: XQG04

Sample Information:
Total Number of Containers: 21 Sample Handling: Return after test
Source: Not specified Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CI/SC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INST RUMENTS

Investigation Information:
Nature of Investigation: Requestor Info. Elec: Mail typed report

Additional Sample Information/Testing Requirements:
EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Log-In Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRoucche, Steve Phone: 84-54876

View your test status at: "HTTP://labweb.qa7.ford.com/labs"

Program Name: KALISLab Entry Module
Program Version: Version 2.0.6

PLEASE DETERMINE THE FOLLOWING.
CUT & HEADSPACE SAMPLE # NY73440 PY60582G
PRESENCE OF BRAKE FLUID
PRESENCE OF OXYLYTES, ETC.

BRAKE FLUID SAMPLE
PRESENCE OF OXYLYTES, ETC.
WATER CONTENT IF POSSIBLE
After ID & Quantification
I do not Think
Thanks for ICP
Steve LaRoucche

3713 3071

EW82-425-A 9999

PRODUCED BY FORD

Project No. _____

Book No. _____ TITLE _____

s No. _____

99C607 Day Steven / S Ltd Prod 3/1/99

~4m Ligaw Blvd Bridgeport Museum Lot
3/1/99 NY [redacted] 9.2TC"

~5m Ligaw Blvd " Mgmt. Admin Bridgeport
3/1/99 NY [redacted]

Equipment removed from PY [redacted]
Fort Lee
Newport

Local route NY [redacted] Fort Lee
NY [redacted] Newport

To Page No. _____

a Understood by me.	Date	Invented by	Date
J Steven	4/3/99		

3713 3072

PRODUCED BY FORD

ER82-025-A 9661

Project No. [illegible]
Book No.
TITLE [illegible]

From Page No.

[illegible]

Reservoir [illegible]
NY [illegible]

Bldgs:

NY [redacted]

report - glycol ether based material + oxalate + possibly other hydrocarbon
sup. essentially glycol ether based material

[redacted]

report - glycol ether based material + oxalate
sup. essentially glycol ether based material

Bldg Flint N[redacted]

Reservoir [illegible] - glycol ether based material + other (possibly including nitrogenous and/or carboxylic acid salts + hydrocarbons)

Master cylinder - [illegible]: glycol ether based material + other (possibly including nitrogenous and/or carboxylic acid salts)

no apparent insolubles were present in the brake fluid (filtered thru [illegible] + 40 filter [illegible])
- send for ICP - 4/8/55.
M. C. [illegible]

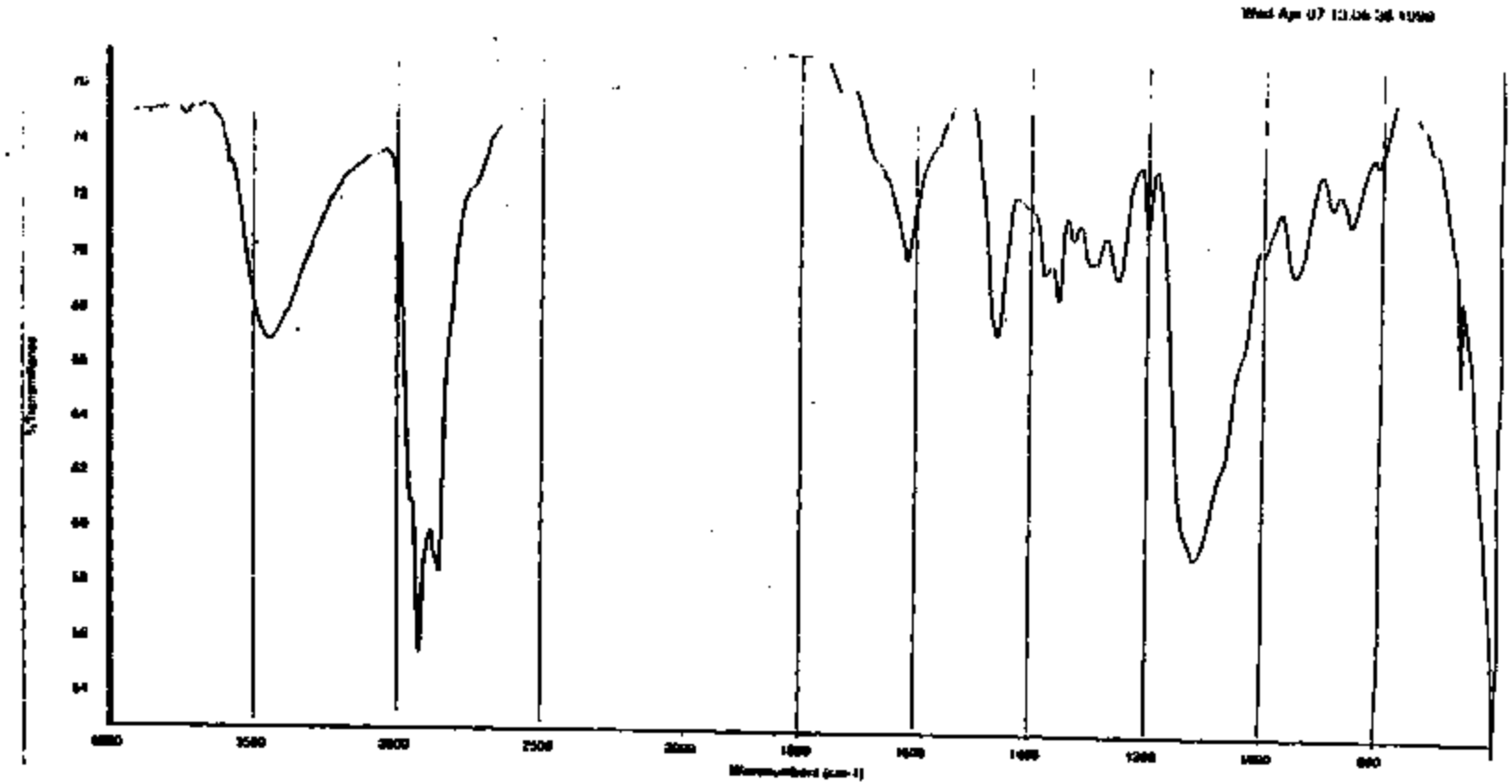
To Page No.

Witnessed & Understood by me, | Date | Invented by | Date

3713 3073

PRODUCED BY FORD

9900607



Collection time: Wed Apr 07 12:55:08 1999

9900607b

MCH

SPEED CONTROL CUT OFF SWITCH
NY 734410 HEXPORT
AS RECEIVED
BETWEEN PLATES

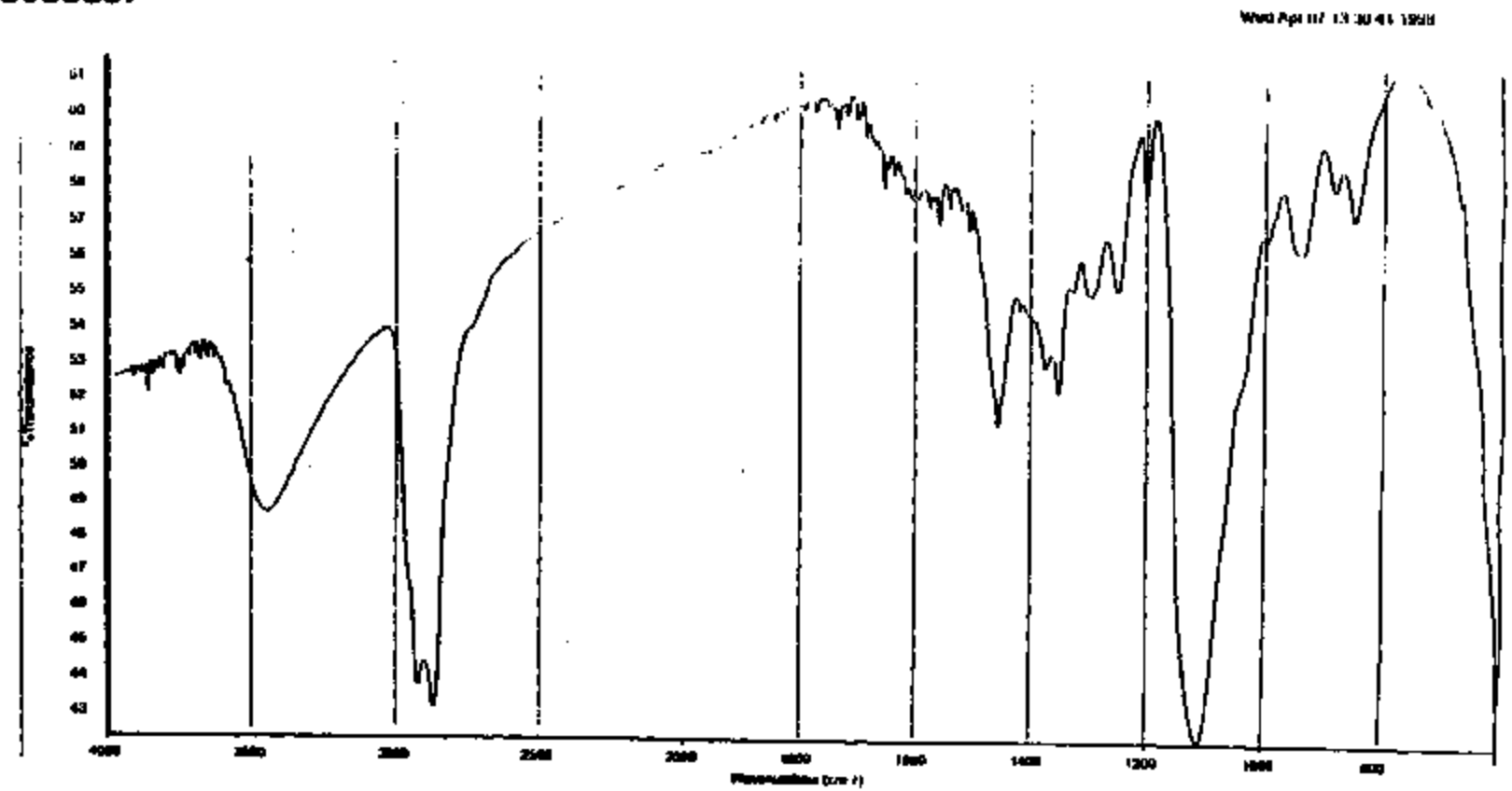
Number of sample scans: 32
Number of background scans: 32
Resolution: 4.000
Sample gain: 2.0
Mirror velocity: 0.6329
Aperture: 75.00

3713 3074

PRODUCED BY FORD

EM82-625-9 6853

9900607



Collection time Wed Apr 07 13:27:46 1999

9900607a

inch

speed control cut off switch
cup NY734410
as received
between plates

Number of sample scans: 1
Number of background scans: 1
Resolution: 4.000
Sample gain: 2.0
Mirror velocity: 0.63
Aperture: 75.00

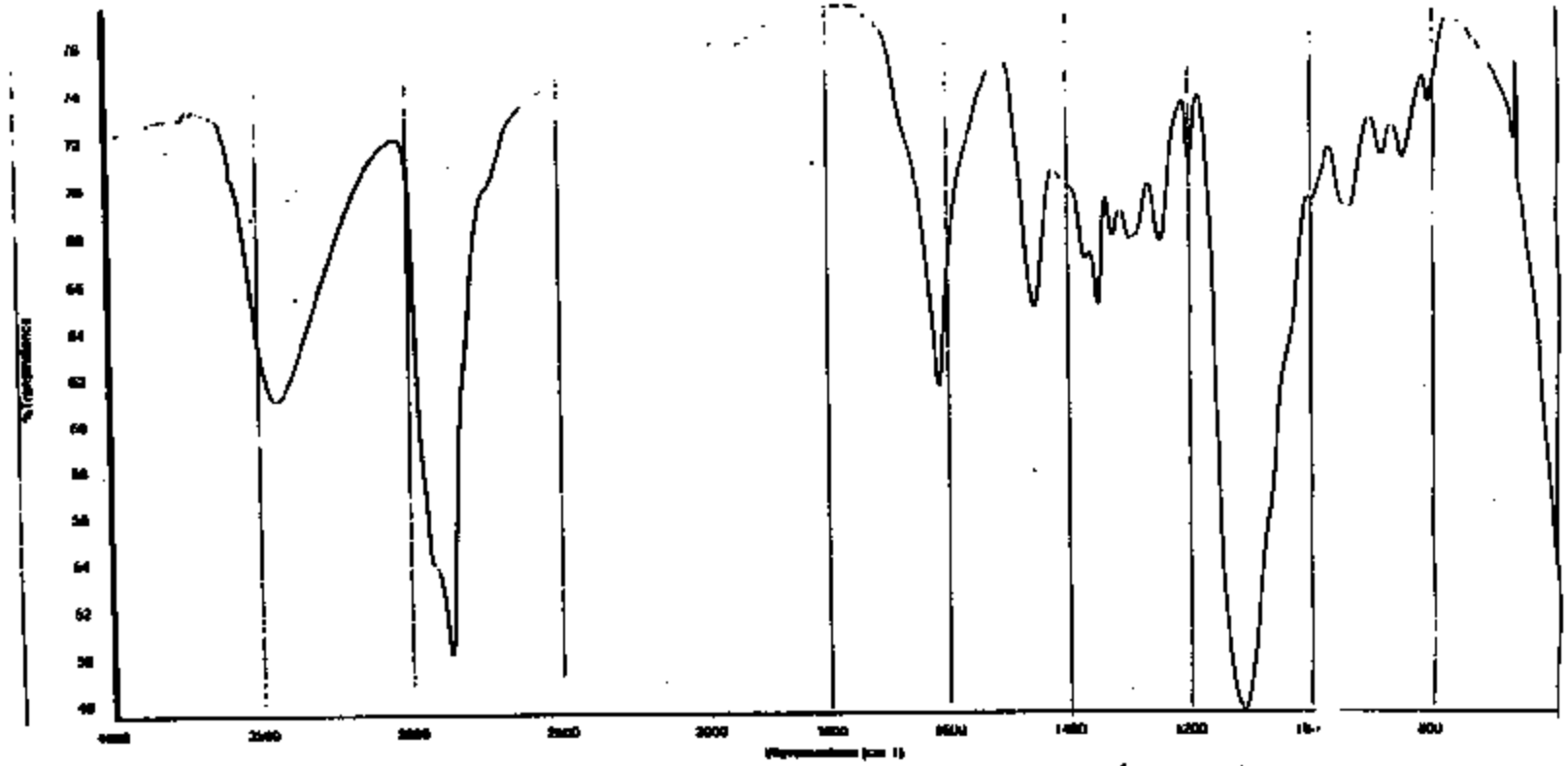
3713 3075

PRODUCED BY FORD

E982-92B-A 1998

9900607

Wed Apr 07 13:37:17 1999



Collection time: Wed Apr 07 13:36:25 1999

9900607c

rich

speed control cut off switch
beaport py 805826
as received
between plates

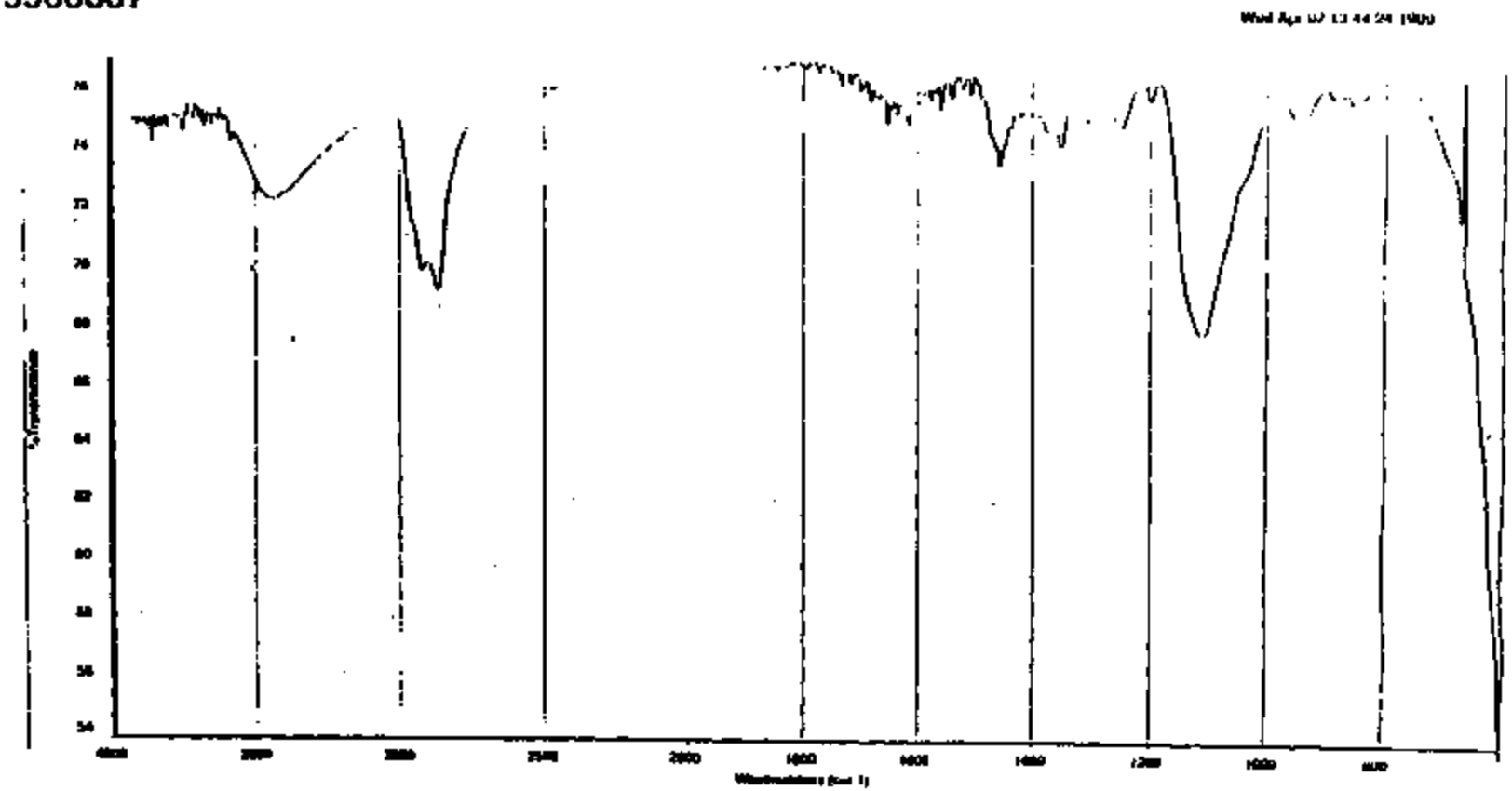
Number of sample scans: 32
Number of background scans: 32
Resolution: 4.000
Sample gain: 2.0
Mirror velocity: 0.6329
Aperture: 75.00

3713 3078

PRODUCED BY FORD

E982-825-4 9905

9900607



Collection time: Wed Apr 07 13:41:48 1999

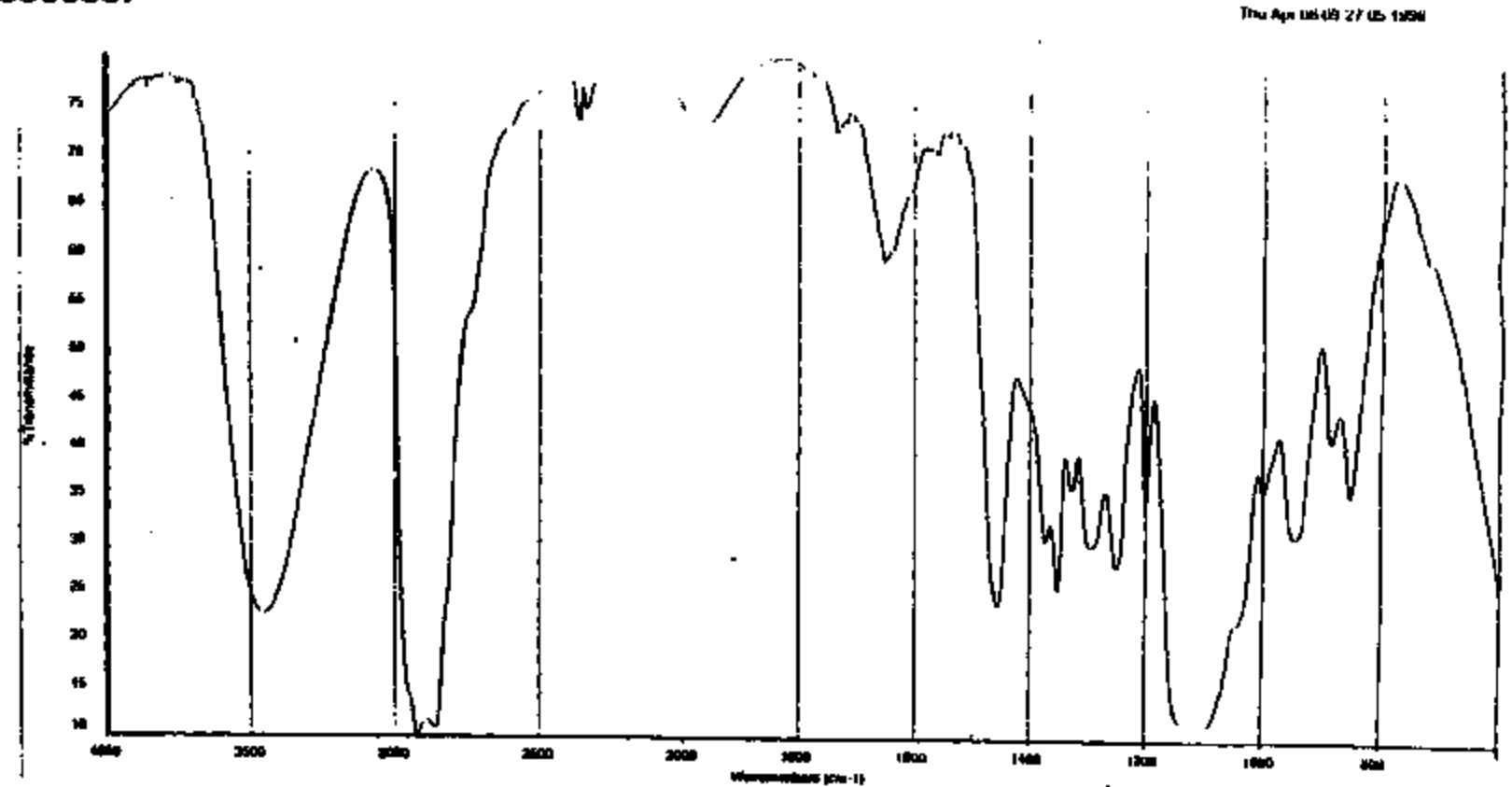
99006076

mch

speed control cut off switch
cup py 605826
as received
between plates

Number of sample scans: 32
Number of background scans: 32
Resolution: 4.000
Sample gain: 2.0
Mirror velocity: 0.63cm/s
Aperture: 75.00

9900607



Collection time: Thu Apr 08 08:25:40 1999

9900607a

neat

Brake Fluid, ny 669063
reservoir, 3/1/99
as received
between plates

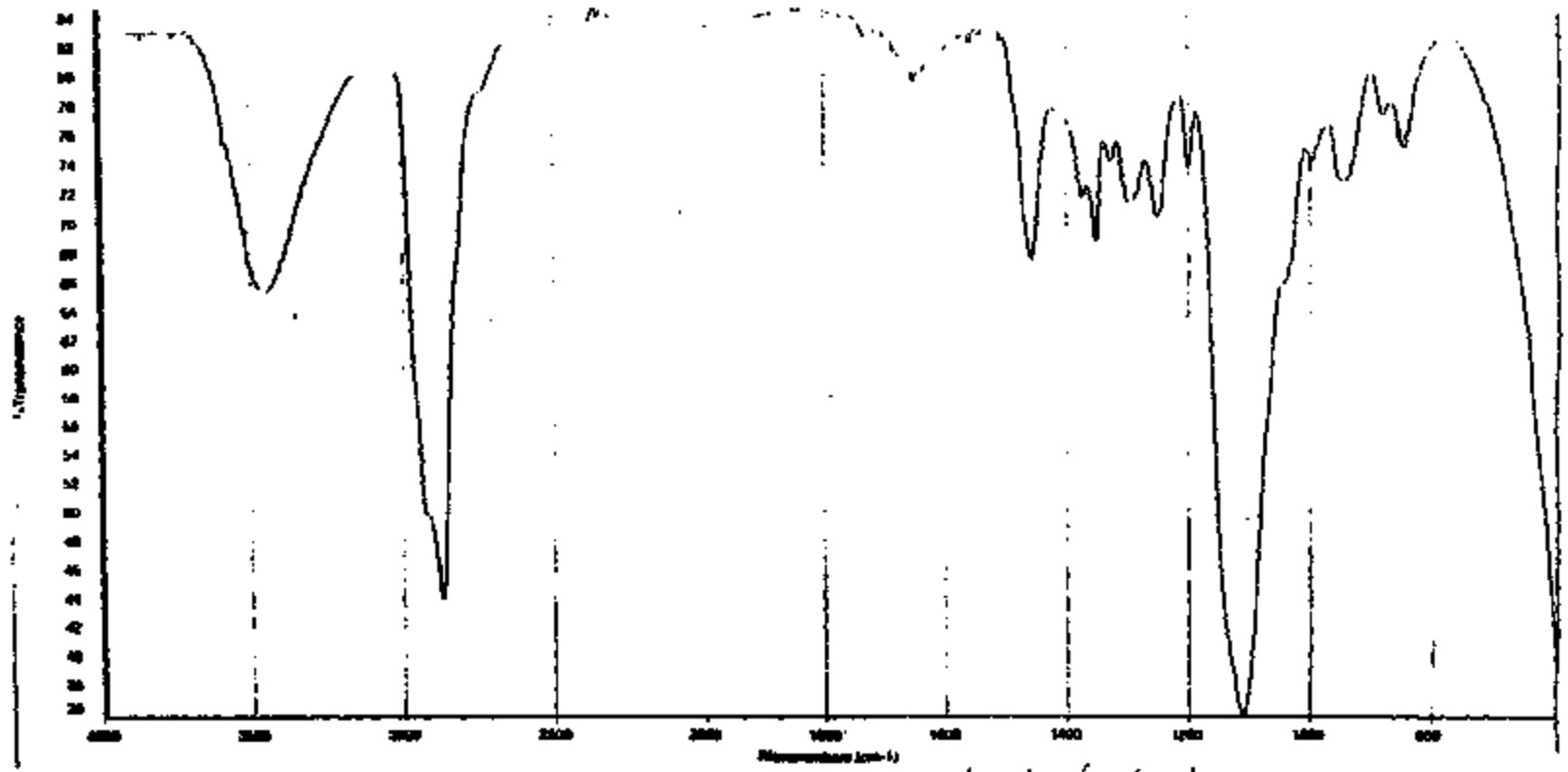
Number of sample scans: 32
Number of background scans: 32
Resolution: 4.000
Sample gain: 2.0
Mirror velocity: 0.6329
Aperture: 75.00

3713 3078

PRODUCED BY FORD

E982-429-6 9987

9900607



Collection time: Thu Apr 06 08:34:17 1989

sample

with

brake fluid, ny 699063
master cylinder, front port
as received
between plates

Number of sample scans: 32
Number of background scans: 32
Resolution: 4.000
Sample gain: 1.0
Mirror velocity: 0.6329
Aperture: 75.00

Central Laboratory
15000 Century Drive
Dearborn, MI 48120-1287
FAX (313) 322-1614

Report 9900667

March 10, 1999

To: Greg Stevens / Steve LaRouche

From: A. Wedepohl (313) 84-54240

Subject: Speed Control Cutoff Switch

Received: Six samples on white filter paper were submitted for SEM/EDS on March 9, 1999.

Object: Provide elemental composition for each of the six samples by EDS.

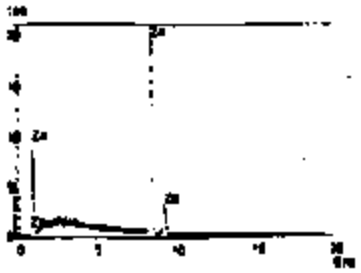
Data and Analysis:

Surface Analysis
(Visual Examination, Scanning Electron Microscopy (SEM),
Energy Dispersive X-ray Spectroscopy (EDS))

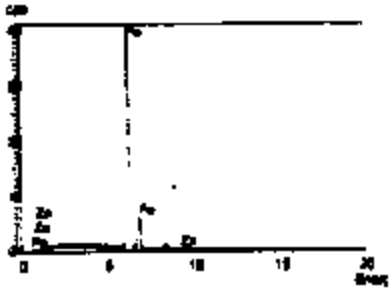
	Appearance	EDS Spectra
Sample 1	White Particles/Powder	Zn
Sample 2	Orange Particles. Fuzzy	Fe, trace Zn
Sample 3	Brown, crystalline Fragments	Fe, Zn
Sample 4	Black smudge	Mostly organic with isolated regions of Cu, Zn or Cu, Zn, S, K
Sample 5	Black smudge with chunks	same as 4
Sample 6	Gray particles	a. Cu, Cl, Zn b. Cu, Zn, Cl, Ag c. Cu, Zn, Cl d. Cu, Zn, Cl, Fe

By: _____
Andrew Wedepohl (AWEDEPOH)
Laboratory Engineer

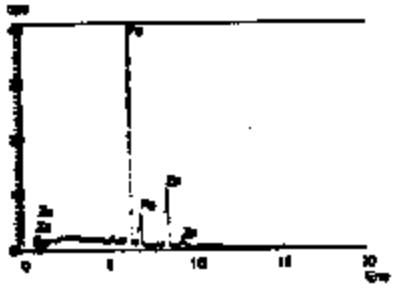
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900507
Sample 1 Zn (3/9/99 15:35)



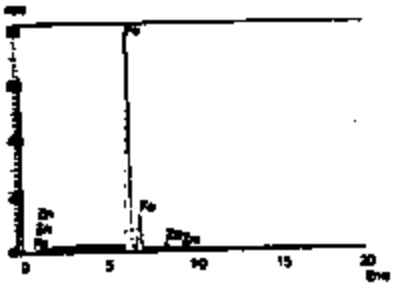
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900507
Sample 2 Fe (3/9/99 15:46)



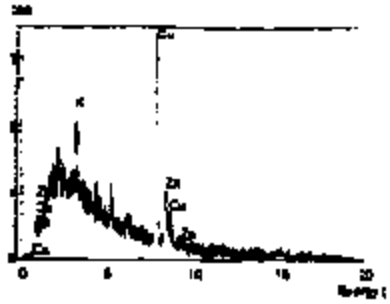
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900507
Sample 3 Fe-Zn (3/9/99 15:55)



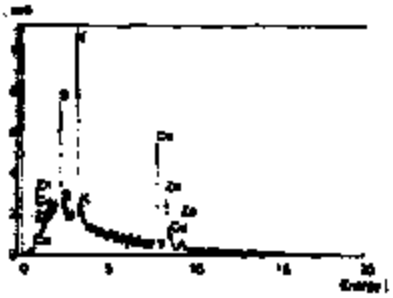
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900507
Spectrum 2 Fe (3/9/99 15:55)



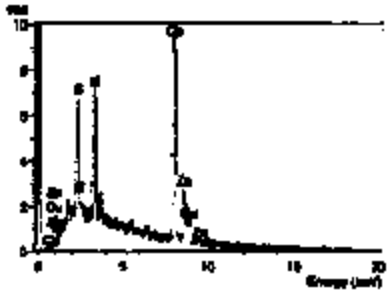
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900807
Sample 4 Cu-K-Zn (3/9/99 16:06)



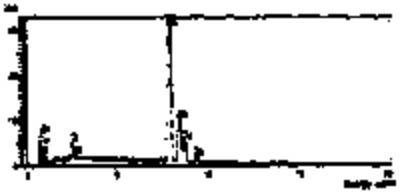
Operator : Andrew Wedepohl
Client [redacted]
Job : 9900807
Sample 4 K-S-Cu-Zn (3/9/99 16:11)



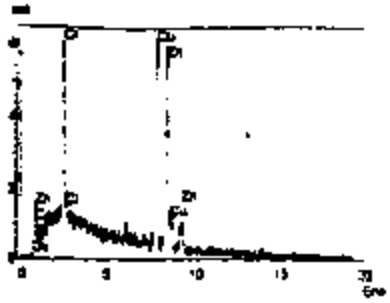
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900807
Sample 5 Cu-Zn-S-K (3/9/99 16:21)



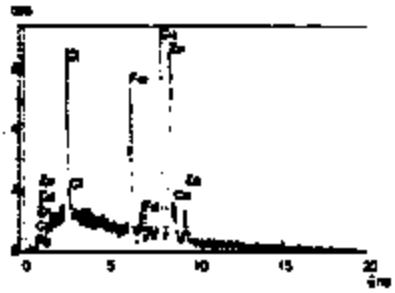
Operator : Andrew Wedepohl
Client [redacted]
Job : 9900807
Sample 6 Cu-Zn-Cl (3/9/99 16:32)



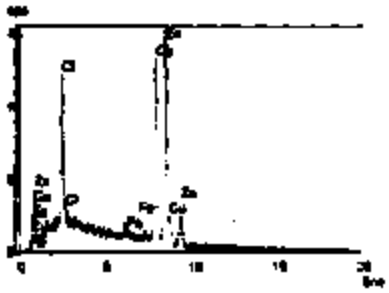
Operator : Andrew Wedepohl
Client : [redacted]
Job : 9900507
Sample 6 Cu-Zn-Cl (3/9/99 16:51)



Operator : Andrew Wedepohl
Client [redacted]
Job : [redacted]
Sample 6. (3/9/99 16:52)



Operator : Andrew Wedepohl
Client [redacted]
Job : 9900507
Sample 6 (3/9/99 16:54)



Project No. [redacted]

TITLE _____ Book No. [redacted]

From Page No. ___

TO: [redacted]

SUBJECT: SPEED CONTROL CUTOFF SWITCH

PART NUMBER: E2VY-9F924-A

SPECIFICATION: NOT PROVIDED

SUPPLIER: TEXAS INSTRUMENTS

RECEIVED: TWENTY-ONE SAMPLES WERE RECEIVED ON FEB 22, 1999

SUBJECT: TEST SWITCH PER MATRIX PROCEDURE AND EVALUATION PROCESS INSTRUCTIONS. TEST WERE PERFORMED

TEST DATA:

SEE MATRIX CHARTS ATTACHED TO THE FILED REPORT

To Page No. ___

Witnessed & Understood by me. Date 4/15/99

Submitted by [redacted] Date 4-15-99

Recorded by

3713 3084

PRODUCED BY FORD

ER82-625-A 9973

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 309900307
Date of Request: 02/22/1999 08:[illegible] AM
Print Date: 02/22/1999 09:31:41 AM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requestor Information:
Primary Contact: [redacted] 10006
Secondary Contact: LA POINTE, NORM - 10079 [redacted] Phone: (313) 594-4088 PROFS ID: NLAPOINT Fax: (313) 337-8258

Send Report to: MD 5008/2G085, AVT MATERIALS, BLDG. #5
Bill to: Acctg.Location: 5100
Dept: T113
Work Task: XQG04

Sample Information:
Total Number of Containers: 21 Sample Handling: Return after test
Source: Not specified Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INSTRUMENTS

Investigation Information:
Nature of Investigation: Requestor Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:
EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Log-in Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve Phone: 84-54878

View your test status at: 'HTTP://bd4web.pd7.ford.com/kals'

Program Name: KALS/Lab Engr Module
Program Version: Version: 2.0.6

Roman

Pressure & Resistance

3713 3085

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ESR2-825-A 0974

Brake Switch [redacted] g Checklist [redacted]

		Memphis PY[redacted]	A PY[redacted]	B NY[redacted]	C NY[redacted]	D VJ[redacted]	E NX[redacted]	F NY[redacted]	NX[redacted]
Field Info	1								
	2								
	3								
	4								
Switch + Connector Assembly	5								
	6								
	7								
	8								
Connector Body	9								
	10								
	12								
	13								
	14								
	15								
Switch External Unpressurized	16								
	17								
	18								
	19								
	20								
Switch Internal Unpressurized	24								
	25								
	26								
	27								
Switch	28								
	29								
	30								
	31								
Final Inspect	31								
	32								
	33								

Page 1

3713 3086

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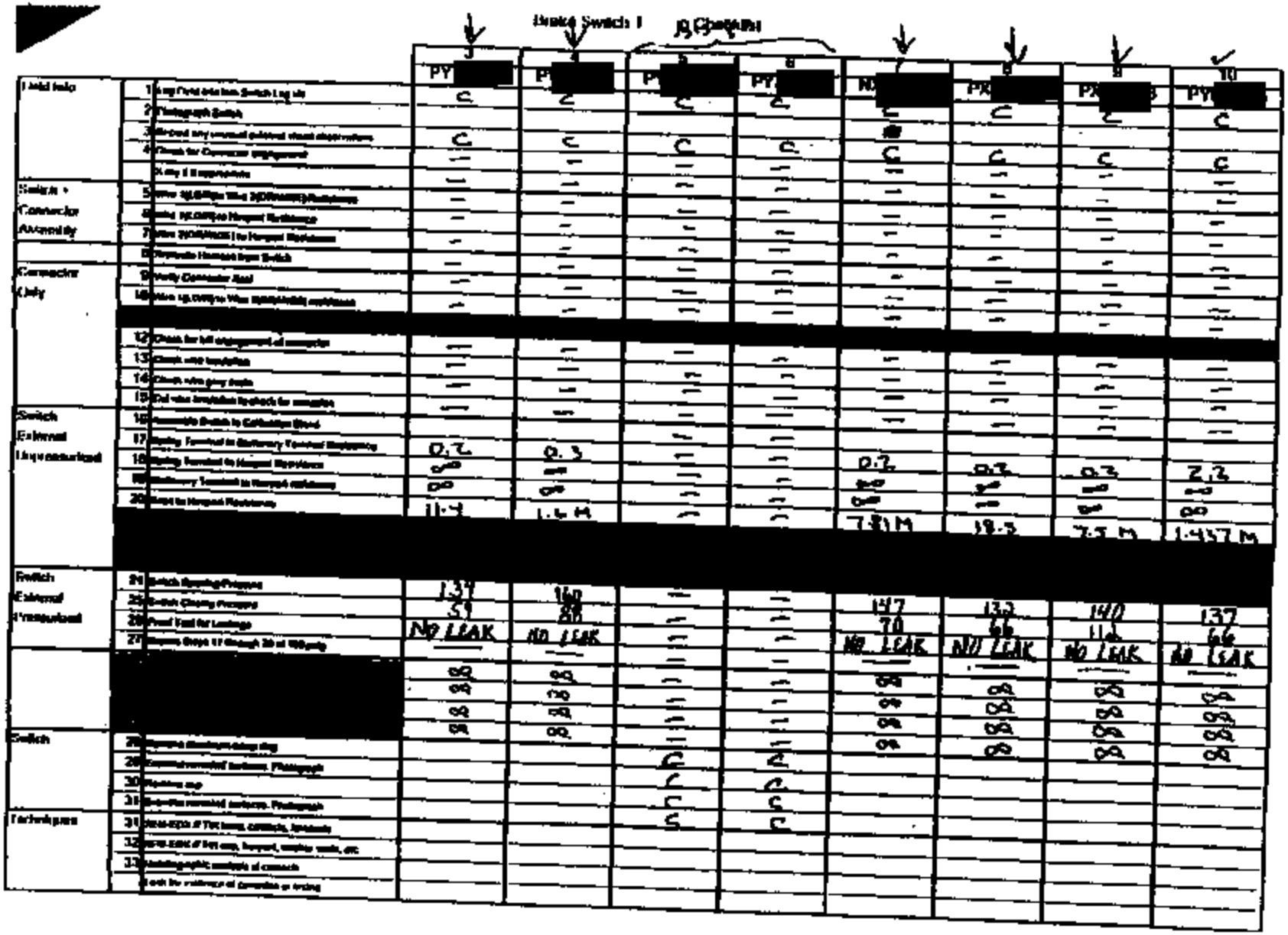
0982-825-8 8875



3713 3087

Brake Switch T g Checklist

			11	12	13	14	15	16	17	18
			PY [redacted]	PY [redacted]	PY [redacted]	PY [redacted]	PY [redacted]	BY [redacted]	PY [redacted]	PY [redacted]
Visual Insp.	1		2							
	2		[illegible]							
	3		C							
	4		—							
			—							
Switch + Connector Assembly	5		—							
	6		—							
	7		—							
	8		—							
Connector Only	9		—							
	10		—							
	12		—							
	13		—							
	14		—							
	15		—							
Switch External Unpressurized	16									
	17		0.2							
	18		OK							
	19		OK							
	20		OK							
Switch External Pressurized	24		1.39							
	25		21							
	26		NO LEAK							
	27		—							
			OK							
			OK							
			OK							
			OK							
Switch	28									
	29									
	30									
	31									
Archetypes	31									
	32									
	33									

Brake Switch 1 [redacted]

		19	20	21	22	23		2	3
		PX[redacted]	PX[redacted]	PX[redacted]	PX[redacted]	PX[redacted]	PX[redacted]	PX1[redacted]	PX[redacted]
Initial Data	1						C	C	C
	2						C	C	C
	3						C	C	C
	4						C	C	C
							—	—	—
Switch + Connector Assembly	5						0.3	0.1	0.2
	6						∞	∞	∞
	7						∞	∞	∞
	8								
Connector Body	9								
	10						∞	∞	∞
	12								
	13						C	C	C
	14								
	15								
Switch External Impermeability	16								
	17						0.3	0.1	0.2
	18						∞	∞	∞
	19						∞	∞	∞
	20						5.5	5.5	17.65 K
Switch External Pressurization	24						158	127	126
	25						68	62	64
	26						NO LEAK	NO LEAK	NO LEAK
	27						—	—	—
							∞	0.1	∞
							∞	∞	∞
							∞	∞	∞
							∞	∞	∞
Switch	28								
	29								
	30								
	31								
Investigation	31								
	32								
	33								

COBALTS DID NOT DIAL

3713 3089

(3) Brake Switch Tx Pendulum Checklist (2)

		4	5	6	7	8	9	10	11
		PY [redacted]	PY [redacted]	NY [redacted]	PY [redacted]	N [redacted]	PY [redacted]	PX [redacted]	NY [redacted]
Initial Info	1	C	C	C	C	C	C	C	C
	2	C	C	C	C	C	C	C	C
	3	C	C	C	C	C	C	C	C
	4	C	C	—	C	—	C	C	C
		C	—	—	—	—	C	—	C
Switch + Connector Assembly	5		0.2	—	0.2	—	2	0.2	
	6		00	—	00	—	6.01 m	00	
	7		00	—	00	—	6.48 m	00	
	8								
Connector Only	9								
	10		00	—	0	—	00	00	
	12					—			
	13	C	C	—	C	—		C	C
	14					—			
	15					—			
Switch External Measurement	16								
	17	0.1	0.2	—	0.3	—	1.5	0.2	P1
	18	00	00	—	00	—	6.15 m	00	P2
	19	00	00	—	00	—	6.36 m	00	P3
	20	00	16.6 K	—	0.46 m	—	0.4	6.8	P4
Switch External Pressurized	24	133	131	—	134	—	69	134	135
	25	63	82	—	66	—	66	108	74
	26	NO LEAK	NO LEAK	—	NO LEAK	—	NO LEAK	NO LEAK	NO LEAK
	27	—	—	—	—	—	—	—	—
	[redacted]	00	00	—	00	—	0.1	00	00
		00	00	—	00	—	~ 970K	00	00
		00	00	—	00	—	~ 970K	00	00
		00	00	—	00	—	00	00	00
Switch	28								
	29								
	30								
	31								
Techniques	32								
	33								

CONTACTS DID NOT OPEN

(1) Brake Switch Te... g Checklist

			12	13						
			PP[redacted]	PP[redacted]	PP[redacted]	PP[redacted]				
Initial Info	1		C	C						
	2		C	C						
	3		C	C						
	4		C	C						
			[redacted]	—						
Switch + Connector Assembly	5		0.3	0.3						
	6		2.8-3.1M	—						
	7		2.1-4.3M	OL						
	8									
Connector Only	9									
	10		OL	OL						
	11	[redacted]								
	12									
	13		C	C						
	14									
	15									
Switch External Inspection Test	16									
	17		0.2	0.2	>700K Ω	>130K Ω				
	18		34.1M	OL	>150K Ω	>17K Ω				
	19		35M	OL	>350K Ω	>80K Ω				
	20		63.4K	7.5M	OL	OL				
	21	[redacted]								
	22	[redacted]								
	23	[redacted]								
Switch External Inspection Test	24		150	150	152	No Sol. Sound				
	25		61	70	92	" " "				
	26		NO LEAK	NO LEAK	NO LEAK	NO LEAK				
	27		—	—	—	—				
[redacted]			0.1	OL	>1.0M Ω	170K Ω				
			OL	OL	>400K Ω	>140K Ω				
			OL	OL	>[redacted]K Ω	> 15K Ω				
			OL	OL	OL	OL				
Switch	28									
	29									
	30									
	31									
Techniques	31									
	32									
	33									

CONTACTS DID NOT OPEN

CONTACTS DID NOT OPEN (>1.0M Ω)

NO CONTACT LAUNCHING SOUND (>170K Ω)

3713 3091

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EMS-425-A 9809

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: [redacted]
Date of Request: 02/22/1999 08:17:31 AM
Print Date: 02/22/1999 09:31:41 AM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:
Primary Contact: [redacted]
Secondary Contact: LA POINTE, NORM - 10075 Phone: (313) 594-2686 PROFS ID: NLAPOINT Fax: (313) 337-8256

Send Report to: MD 5006/2G056, AVT MATERIALS, BLDG. #5
Bill to: Acctg.Location: 5100
Dept: T113
Work Task: XQG04

Sample Information:
Total Number of Containers: 21 Sample Handling: Return after test
Source: Not specified Supplier Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SHEET	F2VY-9F924-A	NA	00.00.00	TEXAS INSTRUMENTS

Investigation Information:
Nature of Investigation:Requester Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:
EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPOINTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Reporting Directions:
Date customer would like report: 04/01/1999
Date customer must have report: 04/01/1999

Report Format(s):

Log-in Information:
Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve Phone: 84-54878

View your test status at: 'HTTP://bd4web.pd7.ford.com/kalis'

Program Name: KALISLab Engr Module
Program Version: Version: 2.0.8

ALEX
FLUORO SCOPE

3713 3092

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E982-625-A 9981

Project No. [redacted]

TITLE Speed Control Cruise Switch

Book No. 2572

From Page No. Object: Fluoroscopically analyze the supplied switch and connector assemblies.

Received: Three speed (cruise) control cut-off switches were received on February 22, 1999 and were identified as:
PX[redacted]; PX[redacted] and PX[redacted]
Part # F2VY-9F924-A
Specification: not stated
Supplier: Texas Instruments

Test Data: Fluoroscopic Examination

Sample PX[redacted] switch, shows a mis-assembled internal connector double seal. The mis-assembly would allow leakage past the double seal.

The remaining two samples (switches) show the internal connector double seal with adequate optimum compression.

All three switches are similar in appearance. One of the side connector locks (locking dog) is mis-shaped. Instead of being square shouldered the shoulder exhibits an approx 30° draft. This allows one side of the connector to unlock. This prevents the sealing gasket from being properly compressed and would allow leakage past the seal.

In addition the switches knife edge that compresses the connector sealing gasket is mis-shaped and would potentially allow leakage.

The fluoroscopic image shows the connector sealing gasket containing large gaps. Most of the spaces interconnected. This suggests that the gasket is an open cell foam. To properly seal this connector the gasket should be a closed cell foam. Investigation of this gasket is HIGHLY recommended.

Attached are 6 pages of photographs

To Page No

Witnessed & Understood by me.	Date	Invented by	Date
			23 Feb 99

3713 3093

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EN82-825-A 9982

Vin PY [redacted]

5) 2Ω
6) 6.01 MΩ
7) 6.08 MΩ
10) open ckt.
11) wriTing

17) 1.5Ω
18) 6.25 MΩ
19) 6.36 MΩ
20) 0.4Ω
21) waiting

Vin PX [redacted]

5) 0.4Ω
6) ∞Ω
7) ∞Ω
10) ∞Ω
11) waiting
17) ~~∞Ω~~ 0.4Ω
18) ∞Ω
19) ∞Ω
20) 6.8Ω

(stationary closest to Fext

PX [redacted]

5) 0.4Ω
6) ∞Ω
7) ∞Ω
10)
11)

PY [redacted]

5) ∞Ω
6) ∞Ω
7) ∞Ω
10) ∞Ω
11)
17) 0.3Ω
18) ∞Ω
19) ∞Ω
20) 0.463 MΩ

3713 3101

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8982-625-A 9883

Vin PY [redacted]

5) 0.2 Ω
6) ∞ Ω
7) ∞ Ω
10) ∞ Ω
~~16~~
17) 0.2 Ω
18) ∞ Ω
19) ∞ Ω
20) 160 KΩ

Vin RX [redacted]

5) 0.2 Ω
6) ∞ Ω
7) ∞ Ω
10) ∞ Ω
17) 0.2 Ω
18) ∞ Ω
19) ∞ Ω
20) 17.65 KΩ

J Vin RY [redacted]

5) 0.3 Ω
6) 20.22 mΩ
7) 21.45 mΩ
10) ∞ Ω
17) 0.2 Ω
18) 34 mΩ
19) 39 mΩ
20) 63.4 KΩ

PY [redacted]

5) 0.3 Ω
6) ∞ Ω
7) ∞ Ω
10) ∞ Ω
17) 0.3 Ω
18) ∞ Ω
19) ∞ Ω
20) 55 Ω

Vin PY [redacted]

(17) 2.2 Ω
(18) ∞ Ω
(19) ∞ Ω
(20) 1.437 MΩ

Vin PY [redacted]

(17) 0.3 Ω
(18) ∞ Ω
(19) ∞ Ω
(20) 1.6 MΩ

Vin PX [redacted]

(17) 0.2 Ω
(18) ∞
(19) ∞
(20) 7.5 MΩ