

EA02-025

FORD 10/27/03

APPENDIX N

BOOK 37

PART 2 OF 3

What is SDS requirement number?

Visteon 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?

Visteon 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.

TE by 3/5/99
*TT suggested looking at an automotive ceramic diaphragm pressure
transducer (not a switch) that is used for ABS.*

Brake Pressure Switch Test Log
Updated 2/16/09

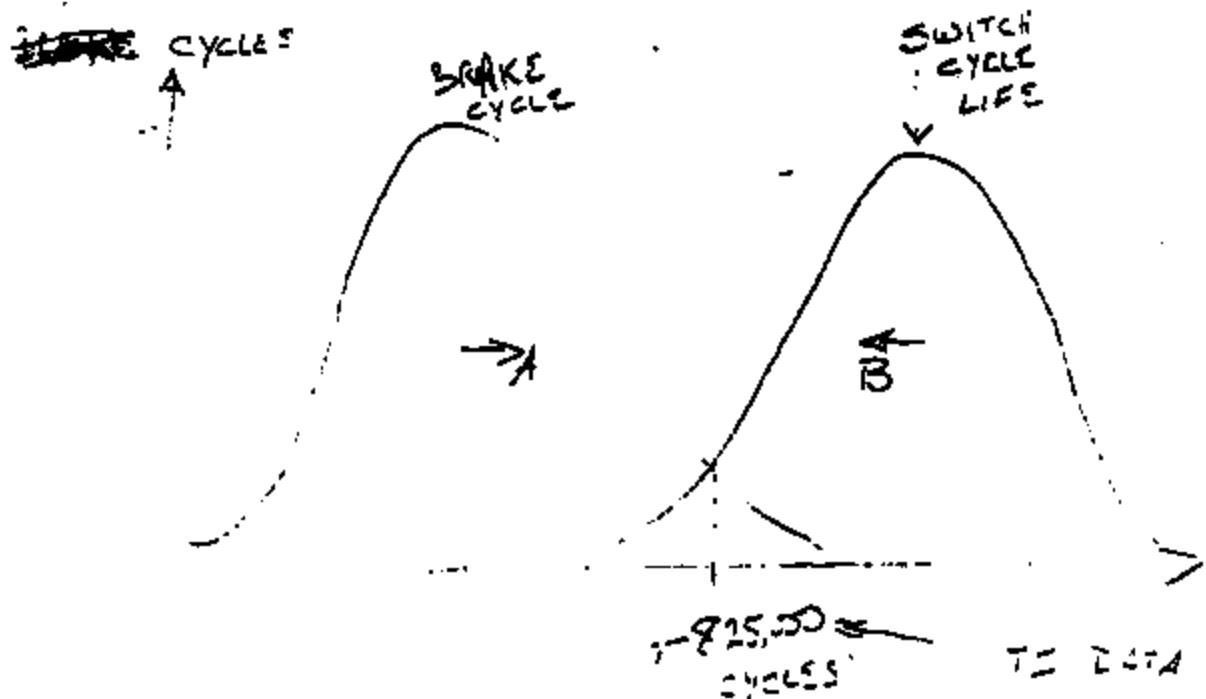
Category	Test	Location	Test Parameters	Results Update
Lab Simulation of Potential Location in Switch	1	T1	Various Levels of Brake Fluid, Water, Detergent 14Vdc to one terminal, Input port grounded	100+ hours into test, max current 5mA No significant change with time
	2	T1	Various Levels of Brake Fluid, Water, Detergent 1 Amp through switch terminals	100+ hours into test No significant temperature rise with time
	3	AVT	Brake Fluid in Switch, 24 VDC to one terminal Neuron Grounded	> 200 hours into test, max current 7mA No significant change with time
	4	AVT	Brake Fluid in Switch, 24 VDC to one terminal Input port Grounded, Ambient at 100 C	16 hours into test max current 5mA No significant temperature rise with time
	5	AVT	Brake Fluid in Switch, 18 Amps Through switch terminals	Temperature rise of 20 C above room temp Delta T reached steady state at 20 C
	6	T1	Brake Master cylinder into Switch Water in Brake	Expected update 2/19
No Cycle Pressure on Pressure Switch	7	T1	0-1400 psig pressure pulses at 135C ambient over E3	Pulse at 6000 cycles, no leak. Will continue to follow.
Drainage Wear Field or Lab Condition	8	T1	0-1400 psig pressure pulses at 135C ambient	Pulse withdrawn every 2000 cycles, characterized for wear
	9	Central Lab	Various Fluid returns, from dealer lots, junkyards	Parts in Central Lab, being processed
Design Of Experiments Evaluating Factors Selecting Drainage Water	10	T1	Various Levels of Brake Fluid, Water, Under E3 conditions, In lab	Test plan structured. Expected Phase One to begin 2/19
On-Vehicle Characterization of Pressure & Temperature within a Car	11	AVT	Monitor Pressure and Temperatures at Switch Location for ABS and non-ABS driving events.	Logistics being worked out.

Telecon

2/16/99

From: Norm LaPointe

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



95% Factor
Driver 16 sec per mile
x Miles per Car miles

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

3713 1730

PRODUCED BY FORD

ER02-025-A 8891

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

From: I3040625--EXTERNAL Date and time 03/16/99 17:09:05
To: FPORTER --FORDMAIL 'Fred Porter' ; For WLADPOINT--FORDMAIL 'Norm LaPointe' ; F
SLAROUCH--FORDMAIL 'Steve LaRouche' ; REIMERS--FORDMAIL 'Steve Reimers' ; F
cc: PHE@KSL2--EXTERNAL Beringhause, Steve OTFWOGYK--EXTERNAL Sharpe, Robert

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

cc: "Beringhause, Steven" <sheringhause@mail.mc.ti.com>,
"Dague, Bryan" <bdauges@mail.mc.ti.com>,
"McQuirk, Andy" <a-mcquirk@mail.mc.ti.com>,
"Baumann, Russ" <rbaumann@mail.mc.ti.com>,
"Sharpe, Robert" <rsharpes@mail.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

IPM2-025-A 9892

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

From: 12060623--EXTERNAL Date and time 02/17/99 01:48:48
To: FPORTER --FORDMAIL 'Fred Porter' ; Fox MLAPPOINT--FORDMAIL 'Norm LaPointe' ; F
SLAROUCHE--FORDMAIL 'Steve LaRouche' ; GREIMERS--FORDMAIL 'Steve Reimers' ; F
From: Rahman, Asiz
Subject: 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 Lab 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
Asiz.

Attachments sent separately:

Data Type	File Name
BINARY	BRAKEPRT.xls_pc

3713 1392

PRODUCED BY FORD

EM02-020-A 0003

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

From: I2060025--EXTERNAL Date and time 03/18/99 12:49:21
To: FPORTER --FORDMAIL 'Fred Porter' [Fax MLAPPOINT--FORDMAIL 'Norm LaPointe' [P
SLAROUCH--FURMAIL 'Steve Lafouche' [BREIMERS--FORDMAIL 'Steve Reimers' [P
cc: PHB4KSL1--EXTERNAL Beringhausen, Steve OTFWOGYX--EXTERNAL Sharpe, Robert

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

cc: "Beringhausen, Steven" <aberlinghausen@mail.mc.ti.com>,
"Dague, Bryan" <bdague@mail.mc.ti.com>,
"Baumann, Russ" <rbaumann@mail.mc.ti.com>,
"McGuirk, Andy" <a-moguirh@mail.mc.ti.com>,
"Sharpe, Robert" <rsharp@mail.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,
Asiz

Attachments sent separately:

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

3713 1387

PRODUCED BY FORD

ER02-025-A 9584

99 00607

Raw DATA

NO FINAL REPORT
YET

3713 3006

PRODUCED BY FORD

2002-026-A 9885

8514 SL

All shaded areas must be filled in to process your request
Information can only

Request for Central Laboratory Service

13000 Conner Dr., Dearborn MI 48126-1267 Phone [313] 32-31678 FAX [313] 32-31614

Your Name (Printed) <i>STEVENS G-B</i>	Telephone <i>313 323 1656</i>	Phone ID <i>GSTEVEN1</i>	FAX <i>313 390 7777</i>		
Secondary Contact <i>None</i>	Telephone <i>313 323 2181</i>	Phone ID <i>NONE</i>	FAX <i>313 337 8256</i>		
Room No/Mail Drop/PO Box <i>MN 53216-26263</i>	Department/Activity <i>AVT MATERIALS</i>	Building <i>45</i>	Location Code <i>5102 T13</i>	Dept. # <i>000</i>	Work/Tel # (Wk 2100 Tel Only)
Total # of Samples <i>21</i>	Sample Handling <input checked="" type="checkbox"/> Return after test <input type="checkbox"/> Dispose after test <input type="checkbox"/> Dispose after 30 days	TOX/CASH	Source	Supplier Code	
Part/Material Name <i>SPEED CONTROL CUTOFF SWITCH</i>	Sample Identification (Continue below if needed) <i>SEE ATTACHMENT</i>	Part Number (If any) <i>FLVY-777214 N/A</i>	Material Specification (If any)	CPRC Code	Supplier

Name of Investigator/Associate Test Requested (Check all that apply)

- Production/Post production Perform Test as in Lab No. _____
 Lab. Patient Analysis Photograph (Describe below) _____
 Lab. Logos Lab Specimen _____ or a part _____
 Specialized Compliance Other (Describe below) _____

Requester Info. Box (For requester use)

Step testing over patient? Does this require O&G approval? "Yes", who is the requested contact? _____
 No Yes No Yes _____

Do you want to know your CL contact and name? Yes

Additional Sample Information/Testing Requirements

*Examine, Discard, and possible re-sampling. If the problem
continues with N/A Testing, no further testing will be done.
Or possible further tests via ESRIC.*

Summary and Final Findings: None

Reasons (Check all that apply)
 Do you want the report *48-1-200*? FAX preliminary results FAX final written
 Do you need more reports *48-1-200*? FAX typed report Mail typed written

Reasons (Check all that apply)

Mail typed report Electronically transfer report
 FAX preliminary results FAX final written

For information about services or assistance in completing this form please refer to the Central Laboratory Web page.
 Laboratory number and date cannot be assigned without sample of specimen.
 Samples will be disposed of after 30 days unless otherwise indicated above.

3713 3007

PRODUCED BY FORD

ERB2-825-A 9896

Project No. 2097
Book No. 2097

TLE Speed Control Circuit Switch

From Page No. 1

Px

(b) SDA ATTACHED TO PROP VALUE

CONNECTOR BREAKS FROM CONNECTOR

SDA ATTACHED TO WIRE IN BOX (BECOME SWING - PROBABLY
WIRE SWING IN PROP BOX IS BAD, BUT IS NOT DESCRIBED
SWING - THIS PARTS NUMBER FOR CONNECTOR AS OTHER
ASSEMBLIES.

CANOPY SWING CABLE TAKEN OUT OF BOX

SWING CONNECTOR ON SWING CABLE

SWING CONNECTOR IN WIRE BOX SWING CABLE

TERMINALS EXPOSED ON SWING CABLE

MV

TO THE CIRCUIT (b)

SDA ATTACHED TO PROP VALUE

SWING CONNECTOR

PROBABLY SWING CONNECTOR, CONNECTOR, TERMINAL, SWING
PROP BOX

CANOPY SWING CABLE SWING CABLE WITH PROP CABLE CONNECTORS

Px

AS C.V. (b) DC 27.72

SDA ATTACHED TO PROP VALUE

CONNECTOR ATTACHED SWING CONNECTOR

NO SWING TO WIRE

TERMINAL IN SWING CABLE SWING & CABLE

CANOPY SWING CABLE SWING CABLE

SWING CONNECTOR ON SWING CABLE

TERMINAL IN SWING CABLE SWING CABLE

TERMINAL SWING CABLE

Px

TC 5-93 (b) DC 3081

CONNECTOR THAT SWINGS

NO SWING TO WIRE

SWING CONNECTOR NO SWING

TERMINAL IN SWING CABLE SWING & CABLE (IN SWING CABLE)

SWING CONNECTOR SWING CABLE SWING CABLE

SWING CONNECTOR SWING CABLE

TERMINAL IN SWING CABLE SWING CABLE

TERMINAL SWING CABLE

To Page No. 1

Witnessed & Understood by me,

Date

Entered by

Date

3713 3008

E962-025-A 8887

PRODUCED BY FORD

Project No. 260607

80

Book No. 697 TITLE Steam Garage Cut on S.

From Page No. —

PX

J.C. (4) DC 2028

CONCRETE SURF. FLAT TOP

NO. 10 CONCRETE TO WEDS

BLACK TROWEL IN WORKING

INVESTIGATION IN 200 SQM. 100% & DENSE

WEDS & CONCRETE CLEAN. BLACK CONCRETE

TOOK 20 MIN.

INVESTIGATIONS LEVEL IN WORKING FROM 200

INVESTIGATING CLEAN.

PX

GEN. MUR (43) DC 3275

CONCRETE SURF. FLAT TOP

NO. 10 CONCRETE TO WEDS (WORK, DENSE ?)

CENTER OF SURF. CONCRETE THICKENED AND WORKING

INVESTIGATION IN 200 SQM. 100% DENSE

CONCRETE CLEAN. CLEAN BELOW GRAY SURF.

TOOK 20 MIN. 200

INVESTIGATING IN WORKING FROM 200

INVESTIGATING CLEAN.

NY

6-92 J.C. (4) DC 2115

CONCRETE SURF. FLAT TOP (NO. 10 CONCRETE
TO WEDS)

NO. 10 CONCRETE TO WEDS

BLACK TROWEL IN WORKING

INVESTIGATION IN 200 SQM. NOT DENSE - ONE CENTER
CONCRETE CLEAN. BLACK CONCRETE

INVESTIGATION IN WORKING FROM 200

INVESTIGATING CLEAN.

To Page N

Witnessed & Understood by me,

Date

Invented by

Date

Reinforced by

3713 3009

ERB2-625-A 9688

PRODUCED BY FORD

TLE Spaced Carter Grom Switch

Project No. 2900607
Book No 2697

From Page No. —

PX

Cable (4)

DC 3025A

OR WHITE SIDE OR CONNECTION NOT BLACK SIDE
WIRE TWISTED, BUT NO ALUMINUM DRAWS
BLACK INSULATION WITH COPPER OR TIN CHROME ENDINGS
IN HOLLOW

INSULATED IN TWO TONE GREEN, DARK, & LIGHT
GREEN & DARK GREEN BROWN GREEN SIDE

INSULATED SIDE

NOT INSULATED ON SIDE IN HOLLOW

TERMINATION PLATE

NY

Bushing (4)

DC 2031

MOST OF BASE MISSING

CONTACTS, TERMINALS, TRAVELER PIN MISSING
NO CIRCLIPS

PART OF FACE PLATE SWINGER IN CENTER
WITH JUST A CIRCLIP DRAWN

BLACK INSULATION IN HOLLOW

PX 7

T.C. 47

DC 3081A

EXTENDED MANT WITH ONE WHITE SIDE AND
ONE DARK SIDE

COLLAR ON END SIDE

SOME ADHESIVE TO WIRE (HOLLOW?)

BLACK INSULATION WITH COPPER OR TIN COATED
COPPER AL HOLLOW

INSULATED IN TWO TONE GREEN, DARK & LIGHT

GREEN SIDE

INSULATED IN HOLLOW DARK SIDE

TERMINATION PLATE

To Page No. —

Received & Understood by me,

Date

Entered by

Date

Entered by

Date

3713 3010

8882-825-A 8882

PRODUCED BY FOR

From Page No. _____

PX

TC (#5) DC 2053A

TRANSMITTER AND RECEIVER MODULE (TRANSISTOR BRIDGE
PLUG)

CONNECTOR PLUG POSITION

NO CONNECTOR TO WIRE.

REPACKED TRANSISTOR DIODES IN MODULE

IMPROVED IN TESTS FROM 4.000 ~ 6.000 AMPS

AND CONNECTOR WAS WITHDRAWN DURING TEST

CONNECTOR TO BASE OF MODULE

REMOVED TO WIRE SOLDER TURNS FROM TEST

JUMPER PLUG CIRCUIT

IMPROVED IN WIRELESS TEST SCHEM

TESTED AND CLEANED

IN BOX - NO CONNECTORS

NY

4-92 86922 (#1TX) DC 2059

TERMINAL 1 OPEN

TERMINAL 2 CONTROL POWER

3-PIN PLUG POSITION IN MODULE

PY

3-93 91358 (#1TX) DC 3023

TERMINAL 1 GND LINE CLEANS IN PY

REPACK TRANSISTOR IN MODULE

PY

12-92 87774 (#1RX) DC 2321

TERMINAL 1 GND LINE CLEANS IN PY

REPACK TRANSISTOR IN MODULE

PY

9-92 88087 (#4TX) DC 2045

CIRCUIT CLEANS IN PY

ONE TERMINAL - GND CONNECTION

IN AREA INDICATED BY CONNECTOR,

OTHER TERMINAL CLEANS

BLACK RESISTIVE WIRE TESTED FOR BREAK

DISBURSED IN HOT FOAM

To Page No. _____

Witnessed & Understood by me.

Date

Invented by

Date

Blemished by

3713 3011

2002-025-A 8888

PRODUCED BY FORD

LE Space Control Center Station

1m Page No. _____

33

6/8

PY

3-93 71337 (#3TX) DC 3015

TERMINALS AND CAVITY CLEAN & DRY

BLACK RESIN & POLYURETHANE SURFACE

NO WEAR/ST.

NX

7-93 79164 (#4TX) DC 2006

TERMINALS & CAVITY CLEAN & DRY

BLACK RESIN IN PLACE

PX

3-13 65614 (#5TX) DC 3025A

TERMINALS & CAVITY CLEAN & DRY

BLACK RESIN IN PLACE

PX

12-93 GMAG (#9TX) DL 2260

TERMINALS & CAVITY CLEAN & DRY

BLACK RESIN IN PLACE

DISASSEMBLY OF SWITCHES

PX

TERMINALS & CAVITY CLEAN & DRY

TERMINAL CAVITY PLATE

NO RESIN ON TERMINAL CAVITY PLATE, DRY SURFACE

NO SWELLING SURFACE

APPENDAGE TO THE SWITCH (SWELLING, SWELL)

IN SWITCH CAVITY

NO SWELLING SURFACE

RESINLESS

TERMINAL TWO POSITION IN PLACE IN CAVITY REPORTING

NO SWELLING SURFACE, NO SWELLING, NO SWELLING

NO SWELLING SURFACE & SWELL/CLEAN

CLEAN SURFACE

WEIGHT ADJUSTMENT INSTANT - ADJUSTED TO 500 gm

NO SWELLING SURFACE IN CAVITY

NO APPARENT DAMAGE TO TERMINAL

BLOW TORQUE

KEPT IN POSITION TO CONFIRM TO Page No. _____

Received & Understood by me,

Date

Inventoried by WPSU

Date

TERMINAL TEST PLATES

3713 3012

EAE2-629-A 0001

PRODUCED BY FORD

From Page No.

PX

42 Kanton - DEFORMED - NO REPAIRS

DEFORMED

NOT BROKEN

43 Kanton - DEFORMED TO SIDE

TO WISH - BLACK

BOLTS WHICH IS CONSIDERED
CONVENTIONAL TO WISHNO REPAIRS POSSIBLE, CANNOT
NOT BROKEN

Spare arm / block return to U.S. side -

WISH + CONVENTION

INTERIOR OF ONE SIDE

JUST DISCUSS ON WISH, CONVENTION, FAIR

BLACK SECTION IN HORIZONTAL CRACK

PX

Convy Day - Tensioned convention

Bent Convention Pairs - NO REPAIRS

WISH Pairs

Env. Side IN TENS, RELEASE, RETURN TO
MANUFACTURERFront side crimped with blue & white
copper conductors - Wires - Wires (C
GROUTED - Cables or no - Tensile)X-ray Pairs Pairs in place be considered
possibleNormal operation discussed none are
current 1 min. after final tension.

Oversize

Hexentric Gage, 3mm OK

41 Kanton - One side on one side deformation
[redacted] to tensile side in Tensile side
does not seem to have been broken

To Page

Witnessed & Understood by me,

Date

Invented by

Date

Reinforced by

3713 3013

LE Space Counter Glass Switch

Project No. 25-257
Book No. 25-257

On Page No. 1

55

PX

Counters

#2 Kinston - Does NOT appear to have
been produced

#3 Kinston - Same

Kinston side of Westwood Counter - Location
Black Discoloration
Inside the glass inside panel of counter, which,
covered with white fine counter deposits.

Black deposit in Newgate Counter

Lia Pausch

3-4-71

To Page No.

Read & Understood by me.

Date

Invented by

Date

37133014

ER02-025-A 5003

PRODUCED BY FORD

Project No. 5514Book No. 697 TITLE Sonic Cancer Cancer S.From Page No. 5514 StampsContinuation: See Page 78Two Systems Feed Back OASISR [REDACTED] 92 TC EZYC DC 2063LOOPSVia FaxBureau Telephone Units Section or Post OfficeAvailable in NovemberProcedure Bureau Telephone by TelecommunicationsBureau Review on Telephone & AT InterlineTelephone where there some telephone availableATC Office AnnexAny year interest, please, John Adams InterlineCommentsFace on our contract with Bureau Bureauand for non-delivery damages.Moreover, please negotiate to your bestefforts OFCShuttle service between Bureau Section tothe Bureau Phone, + Telephone, + Office, + OfficeOffice AnnexNY [REDACTED] 92 TC EZYC 2123LOOPSVia FaxBureau Telephone Units Section or Post OfficeAvailable in NovemberProcedure Bureau Phone units Bureauby Telecommunications available in Bureau Office, + TelephoneTelephone available Bureau Office Annex.ATC Office AnnexTo Page

Witnessed & Understood by me.

Date

Invented by

Date

Recorded by

3713 3015

ITLE Space Curve Curve S

Project No. 11-3-47

Book No. 2687

rom Page No. 514

BW. 300. INTACT, IN PLACE. BONE FRESH. TO MATURE STAGES.

BLACK SKIN. WITH COUGH. NO ANSWER. ANSWERED

WALK OR CRAWL.

REMOVED CURVATURE CURVATURE. SKIN

REMOVED DORSAL PLATE. TO BLACK SKIN. ALL FROM THE
JUVENILE STAGE.

REMOVED IN TESTIMONIAL. SKIN

Lip skin

3-13-59

To Page No.

Witnessed & Understood by me,

Date

Invented by

Date

Recorded by

3713 3016
E902-626-A 9966

PRODUCED BY FORD

TITLE Switch - Speed Control Cut-off

Project No. 2000107
Book No. 2771

From Page No. -

Re: G. Stevens, S. Labouche (313) 32-6886 (313) 39-C7224

Subject: Switch - Speed Control Cut-off

Part Number: F2UV-9F924-1

Specification: Not Provided

Supplier: Texas Instruments

Received: Nine samples, identified as follows:

PY614995 - cup face & hexport

NY736947 - cup face & hexport

PY1005824 - cup face, hexport, cup interior

N4754410 - 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 fresh, 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)

NY736947 cup face (5)

All Particles

Particles 1 & 2

Particle 3

Particles 4 & 5

Zinc

Zinc Iron

Iron

Zinc

Copper

Iron

Silicon

Sulfur

Calcium

Silicon

Sulfur

* Spectra saved on ISS system show no peak labeled. NDS analysis

identified this peak as actually Fe. The peak is mislabeled in file:

(Report 5, 3, 3)

4 hexport 4, 3, 2

2 hexport 3, 1

4 hexport 6, 5, 4, 3, 2, 1

9, 6 (hexport 6, 4, 3, 2, 5)

To Page No. 20

Witnessed & Understood by me,

Date

Invented by

Date

Recorded by

3713 3017

PRODUCED BY FOID

EAB2-925-A 9208

3514

From Page No. 12

E1 hexant (3)

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

N hexant (3)

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

P surface (3)

All Particles
Copper
Silver
Zinc
Iron
Potassium

E2 hexant (4)

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

P exotherm(1)

All Particles
Copper
Zinc
Chromium
Iron
Potassium
Sulfur

NP hexant(4)

All Particles
Copper
Zinc
Sulfur
Potassium
Silicon
Silver
Chromium
Iron

N hexant (3)

All Particles
Zinc
Copper
Silver
Potassium
Sulfur

All Spectra saved on IES system.

All elements of copy 1) results
to Screen / Photo.

5/1/97

CD

To Page No.

Witnessed & Understood by me,

Date

Invested by

Date

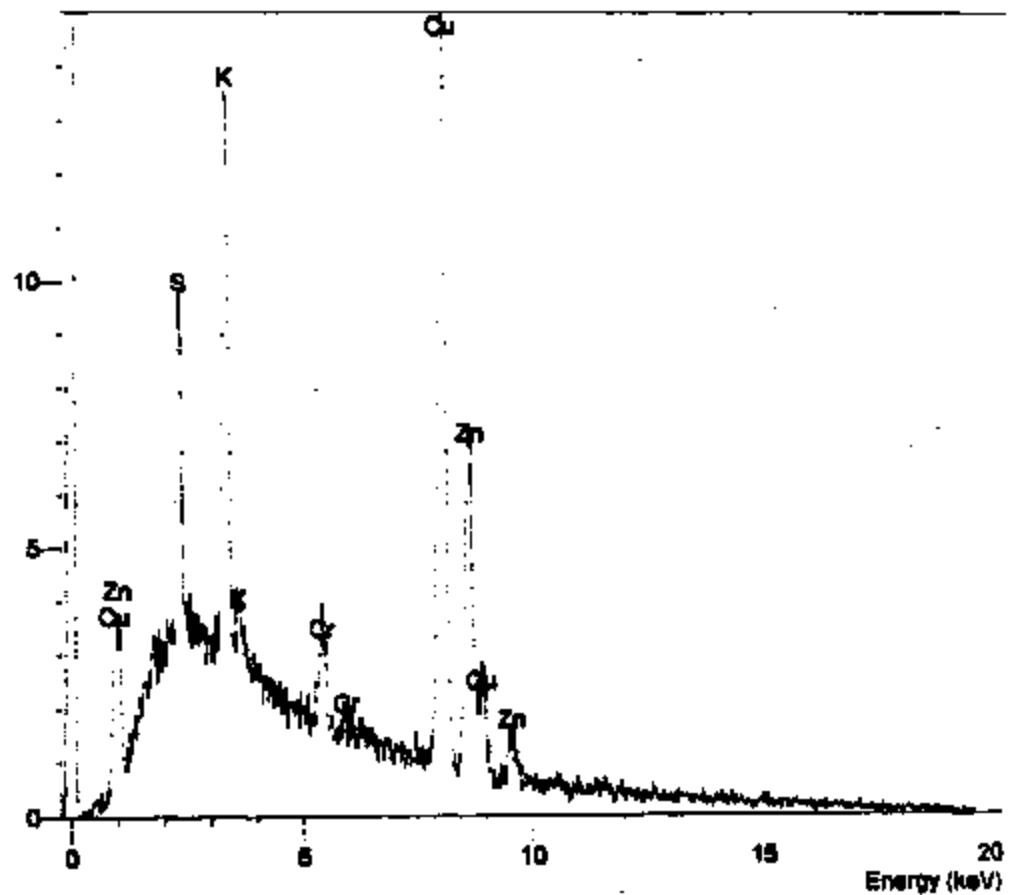
Recorded by

3713 3018

PRODUCED BY FORD

ER02-025-A 2987

Operator: Chantal Stevenson
Client: [REDACTED]
Job: 9600007
20hexpert4 (5/7/98 10:34)
cps



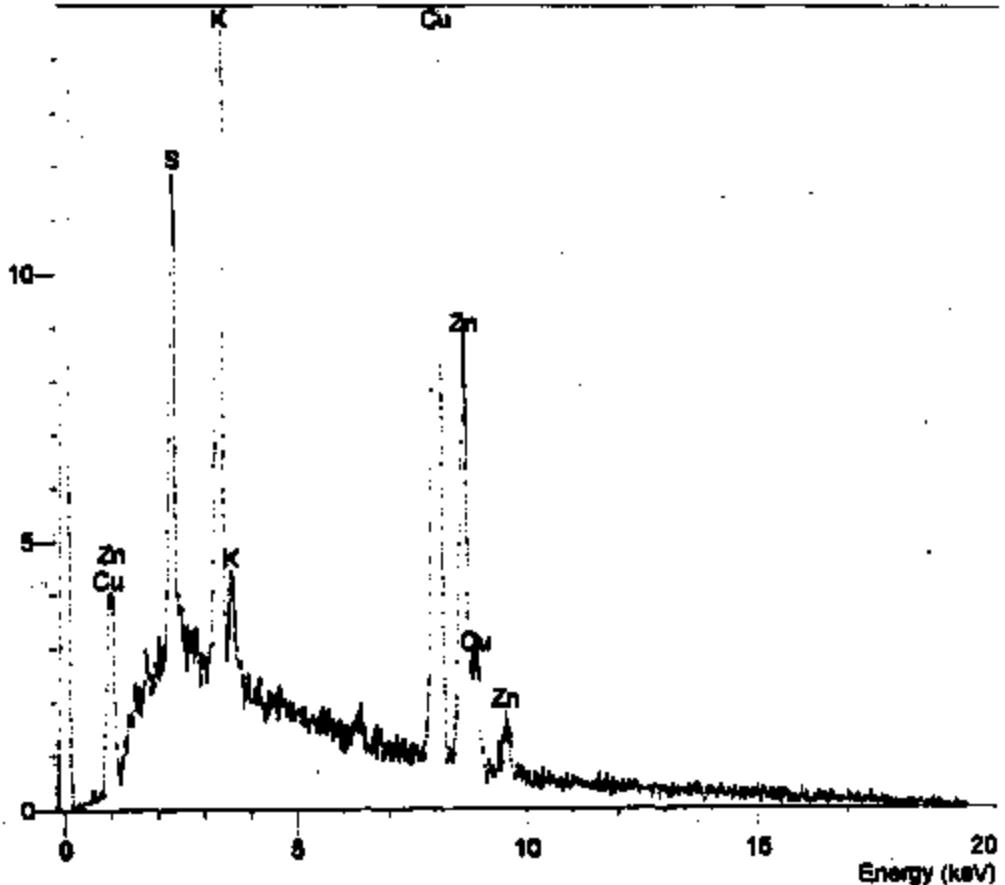
3713 3019

PRODUCED BY FORD

ENR2-625-A 9906

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9800607
26hexpart3 (5/7/98 16:31)

cps

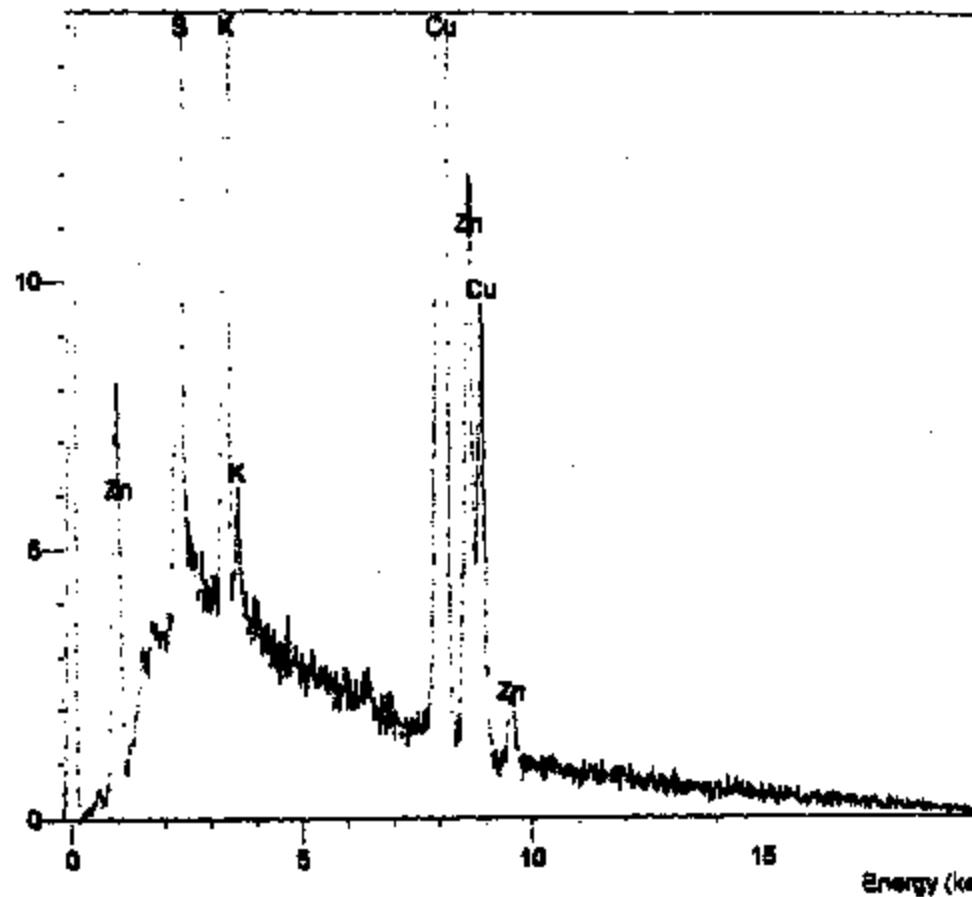


3713 3020

PRODUCED BY FORD

E982-625-A 9900

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900007
26Nov01 (5/7/01 16:27)



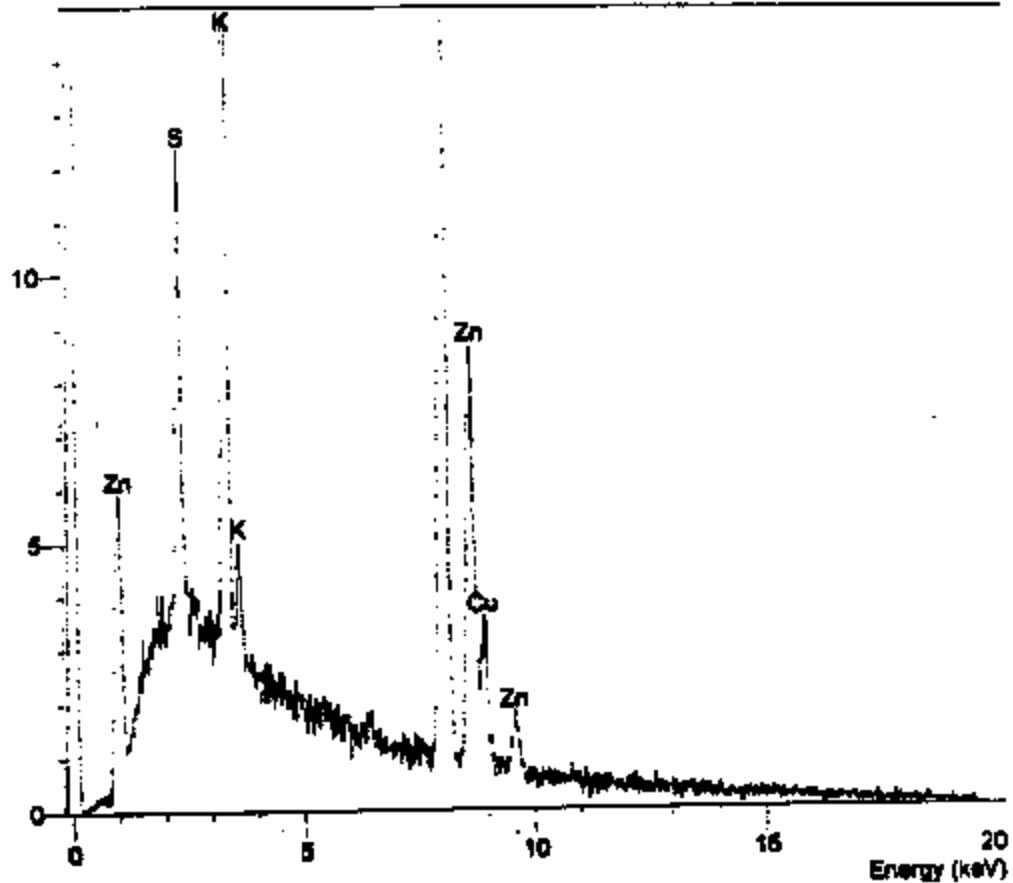
3713 302

PRODUCED BY

E902-623-A 1

Operator : Chantell Stevenson
Client : ██████████
Job : 6500607
26hexpart1 (5/7/99 16:24)

cps



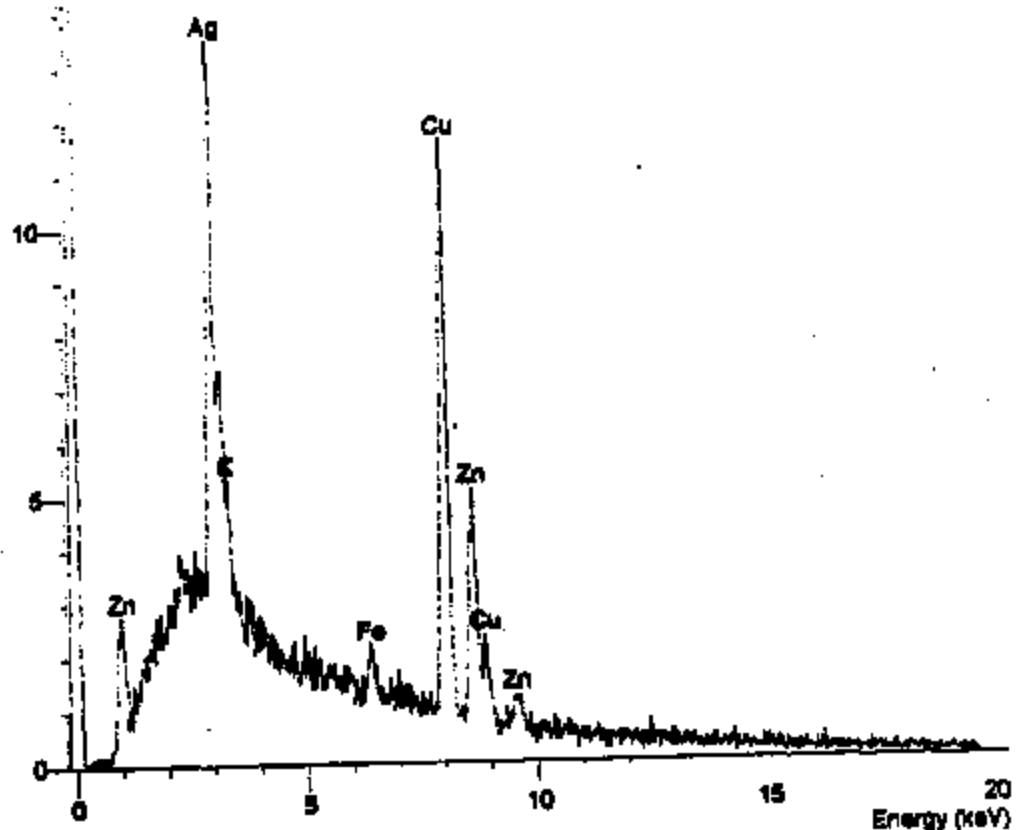
3713 3022

PRODUCED BY FORD

E982-925-4 0811

Operator : Chantell Stevenson
Client : [REDACTED]
Job : R000807
26cupfacepart3 (5/7/99 18:18)

cps

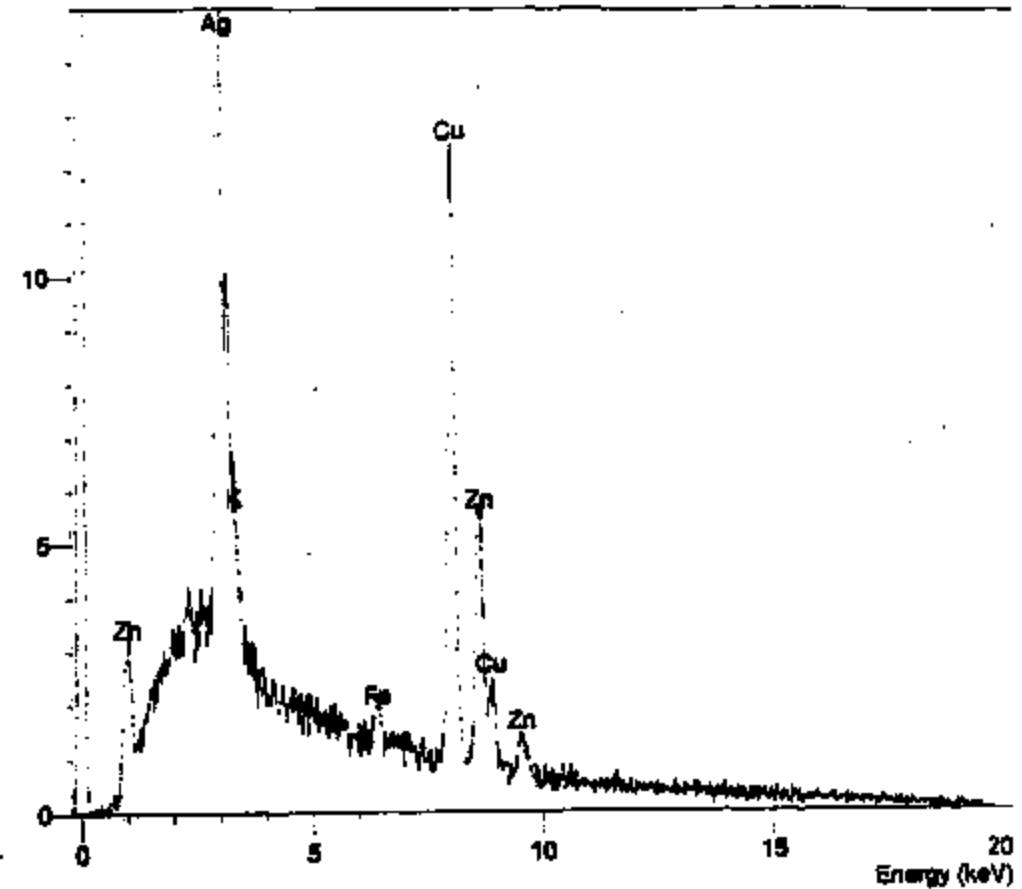


3713 3023

PRODUCED BY FORD

E982-825-R 9812

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900607
26cupfacepart2 (5/7/99 10:14)

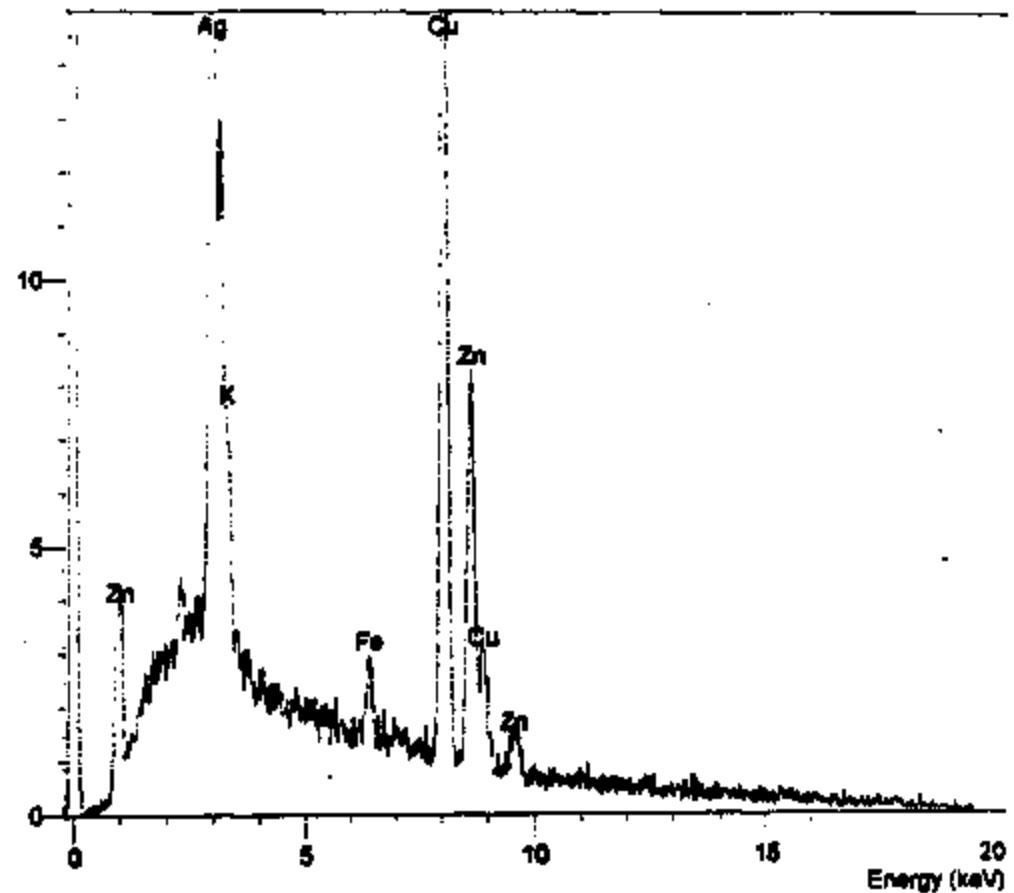


3713 3024

PRODUCED BY FORD

EPIC-525-A 9913

Operator : Chantal Stevenson
Client : ██████████
Job : 9900607
26cupfacepart1 (5/7/09 18:11)
cpa

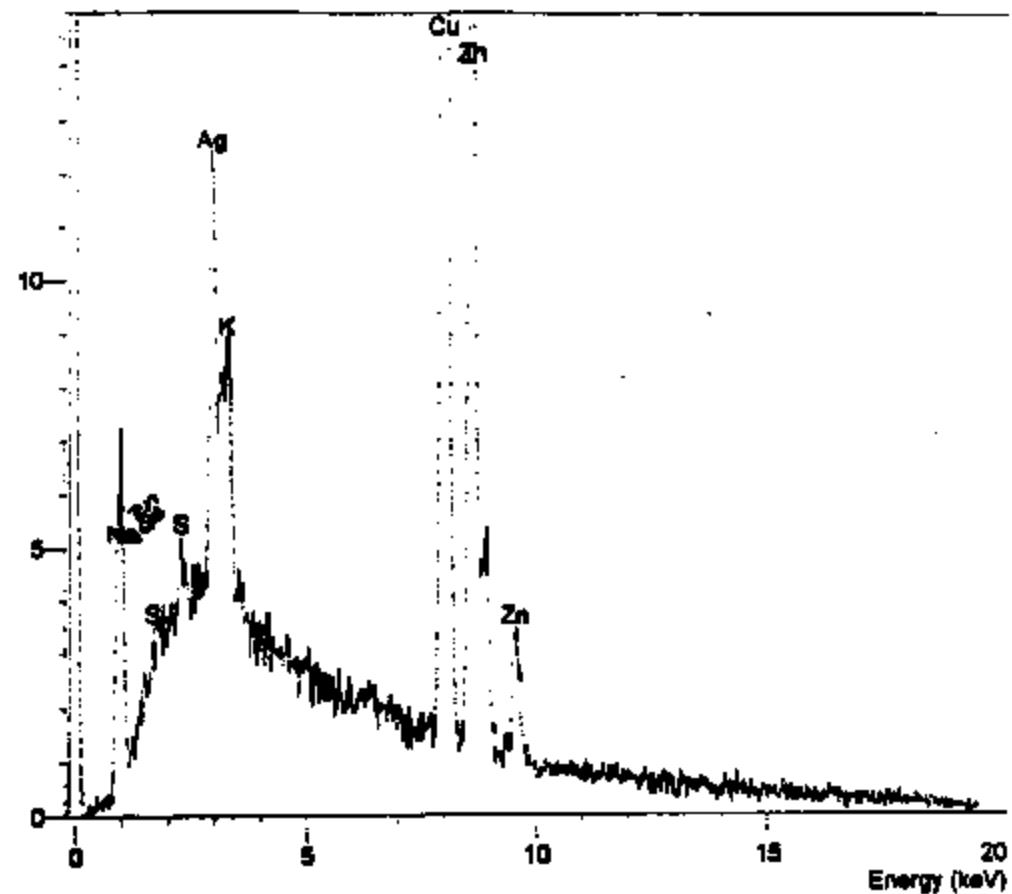


3713 3025

PRODUCED BY POND

E982-823-A 5814

Operator : Chantell Stevenson
Client : ██████████
Job : 9900607
10cparts (5/7/99 10:02)
cps

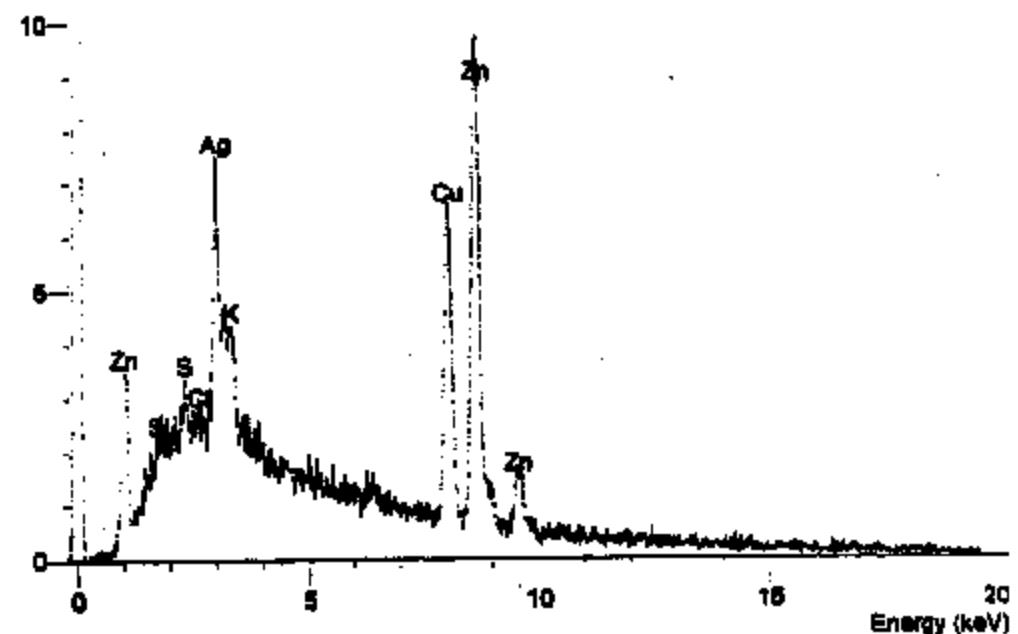


3713 3026

PRODUCED BY FORD

E962-625-A 8815

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 0000607
10cipart4 (5/7/99 15:26)



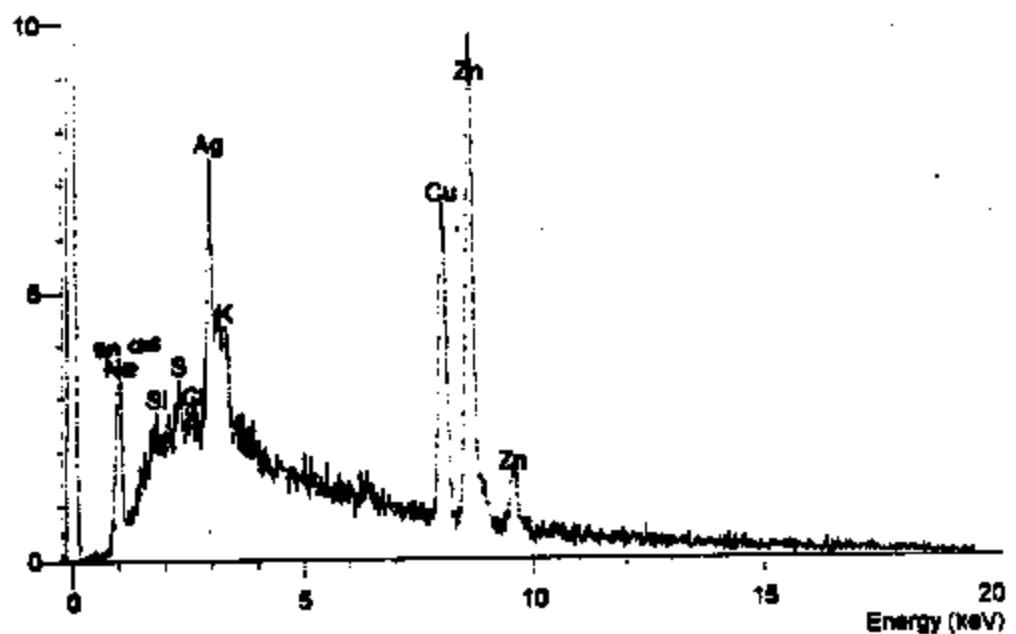
3713 3027

PRODUCED BY FORD

EAB2-B25-A 9910

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900607
10cipart3 (5/7/99 15:28)

cps

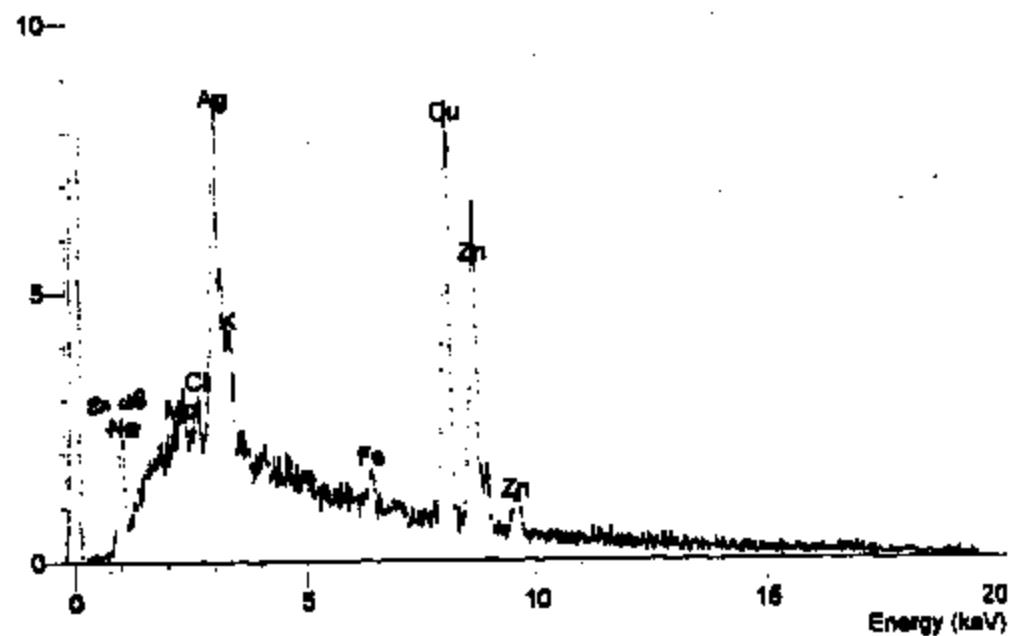


3713 3026

PRODUCED BY FORD

E982-025-A 0017

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900607
10cigar2 (5/7/98 15:23)



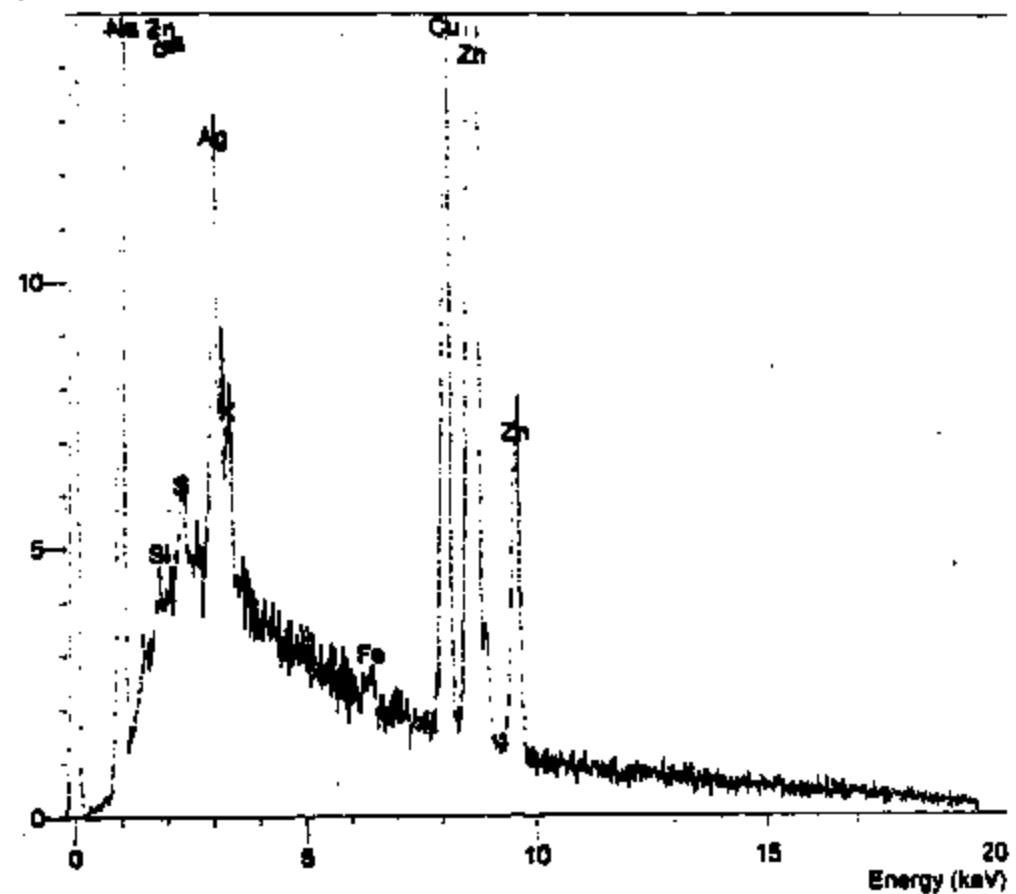
3713 3029

PRODUCED BY FORD

ER62-625-A 9918

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900607
10cpart1 (5/7/99 15:18)

cps

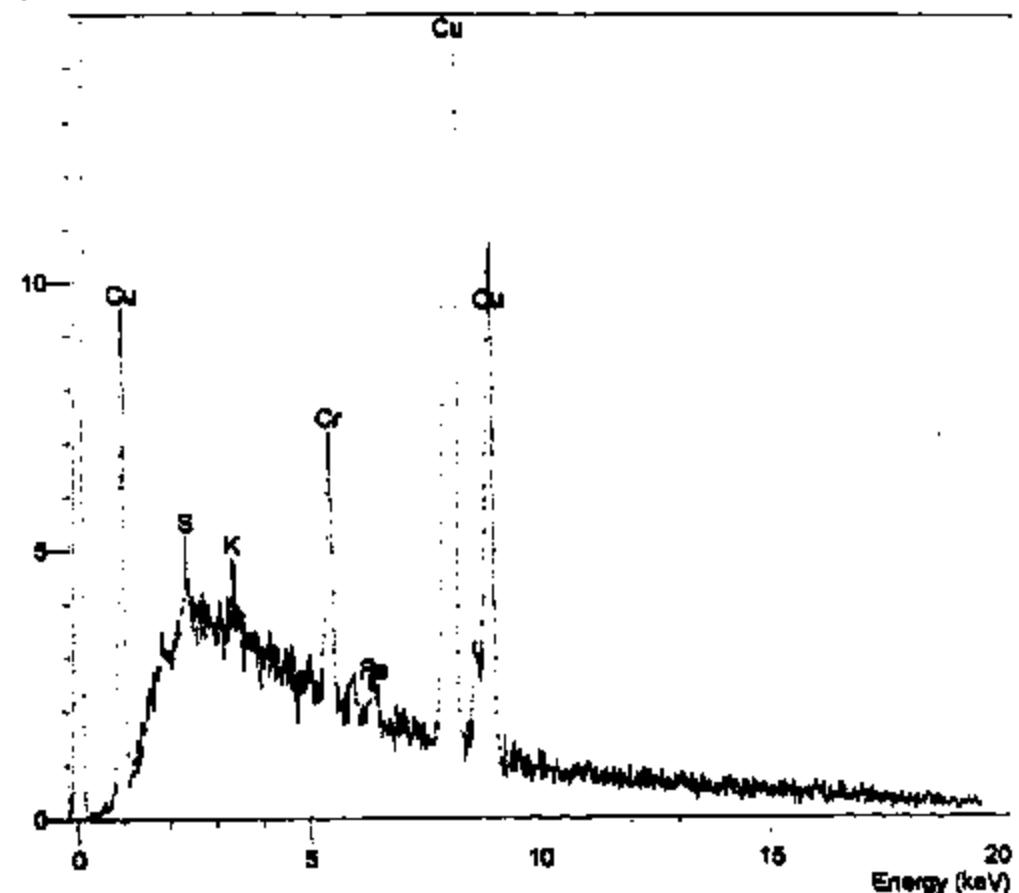


3713 3030

PRODUCED BY FORD

2002-025-A 2818

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900807
28cpart4 (5/7/99 15:15)



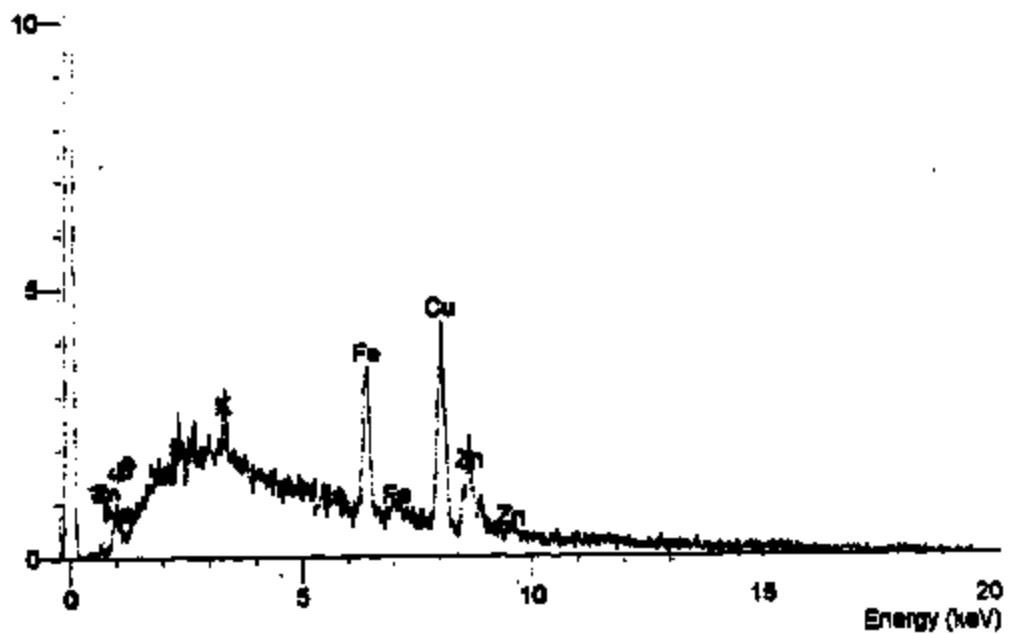
3713 3031

PRODUCED BY FORD

ENR2-525-A 9929

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 9900807
26cpart3 (5/7/99 15:11)

cps



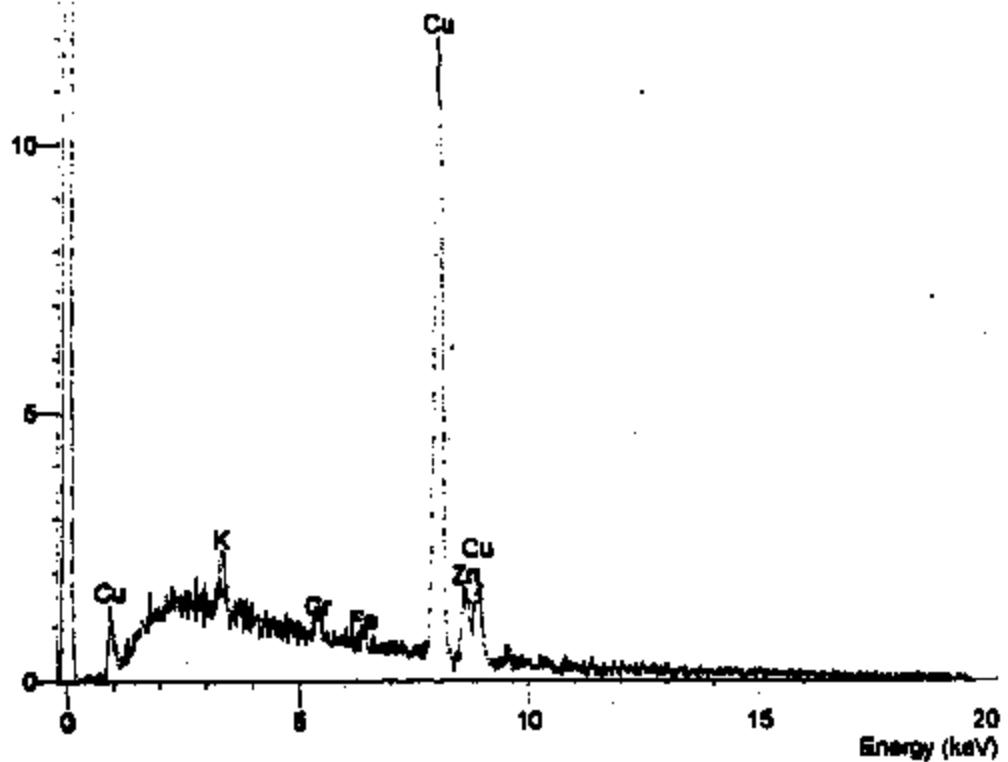
3713 3032

PRODUCED BY FORD

ER02-029-A 0021

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

cps



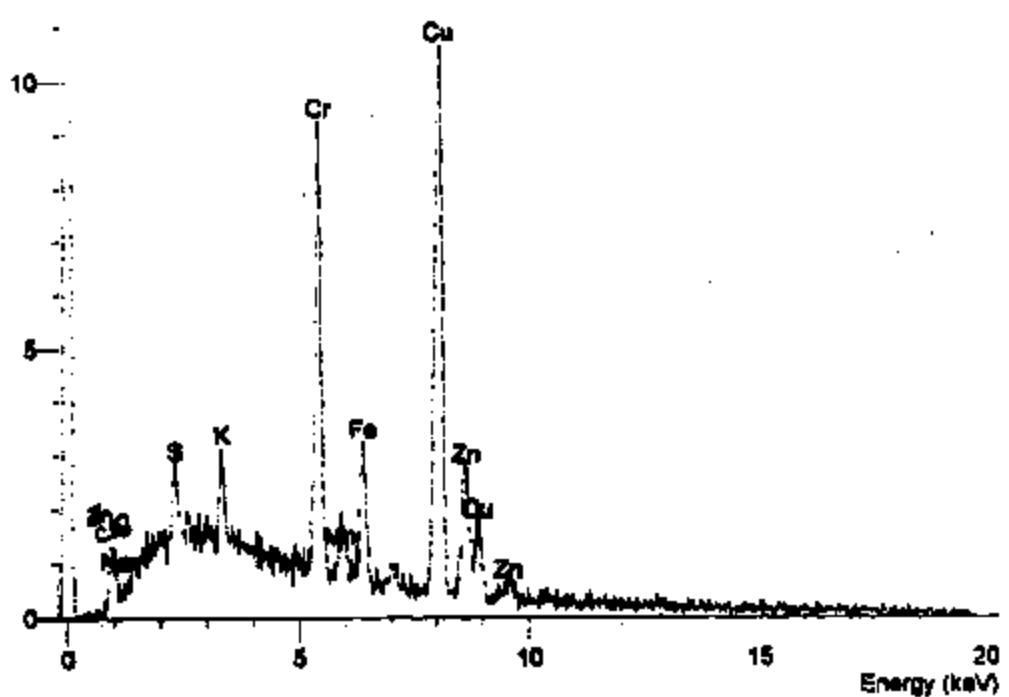
3713 3033

PRODUCED BY FORD

E982-625-A 8922

Operator : Chantell Stevenson
Client [REDACTED]
Job : 9900807
Specimen1 (5/7/99 15:06)

cps

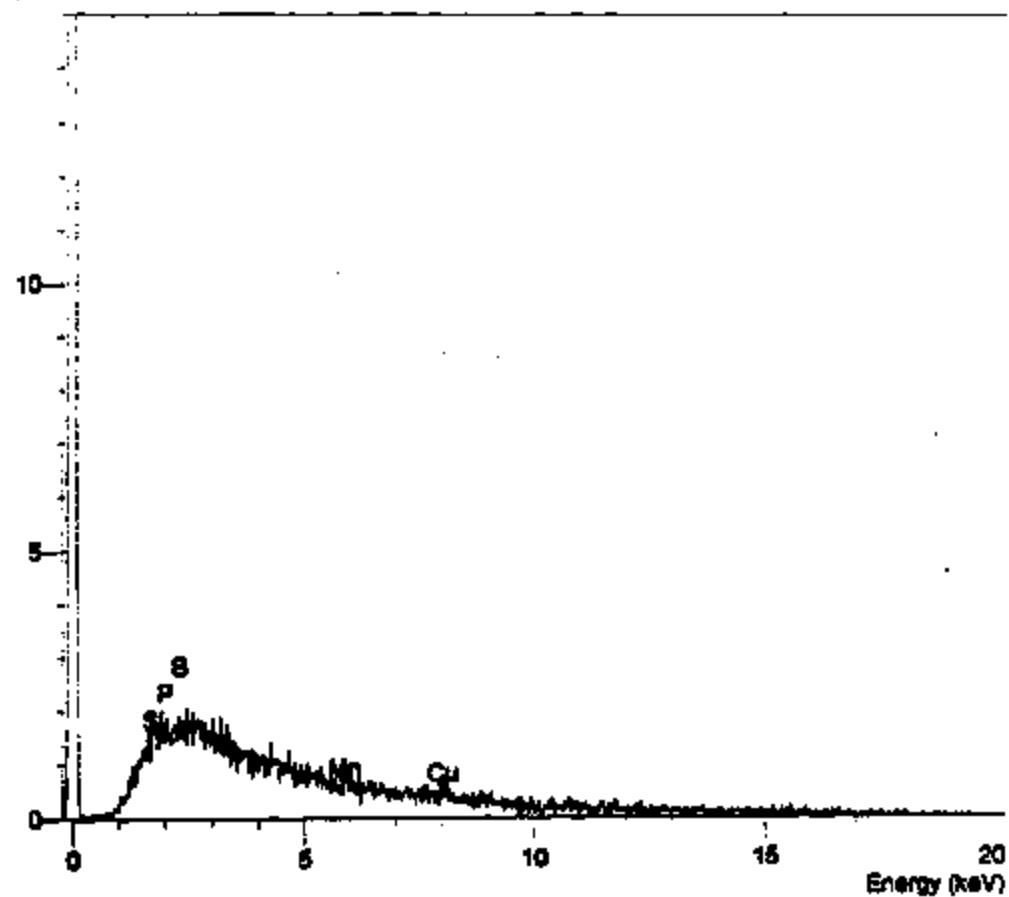


3713 3034

PRODUCED BY FORD

ENR-825-A 9923

Operator : Chantal Stevenson
Client : [REDACTED]
Job : 9900607
26carbontape (5/7/99 15:02)
cps



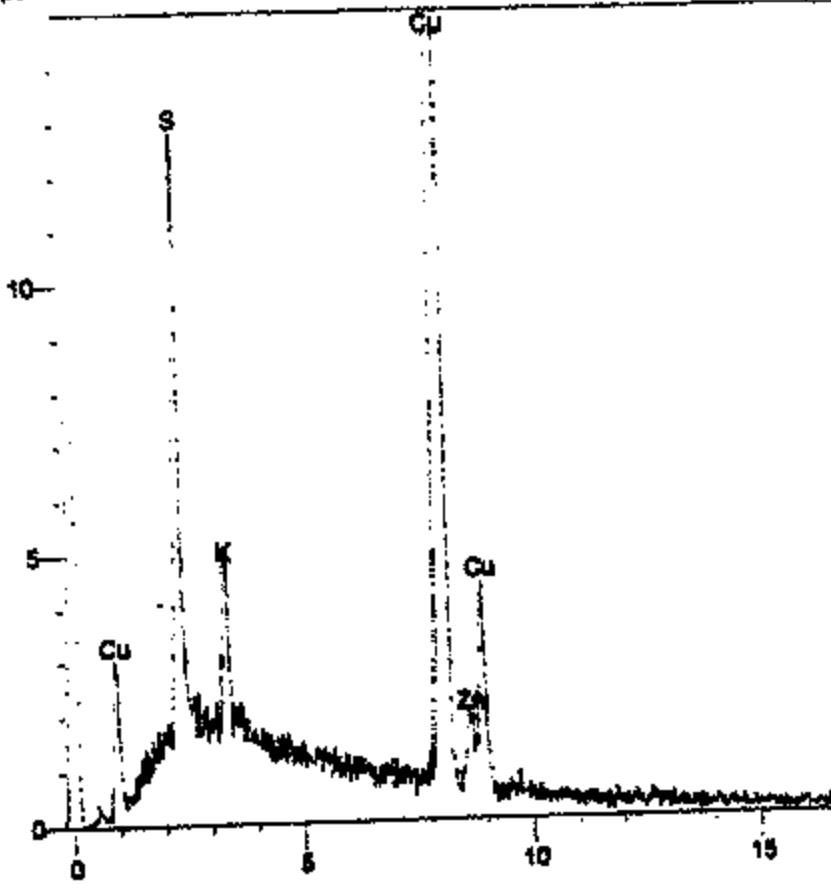
3713 3036

PRODUCED BY POND

E382-625-A 8824

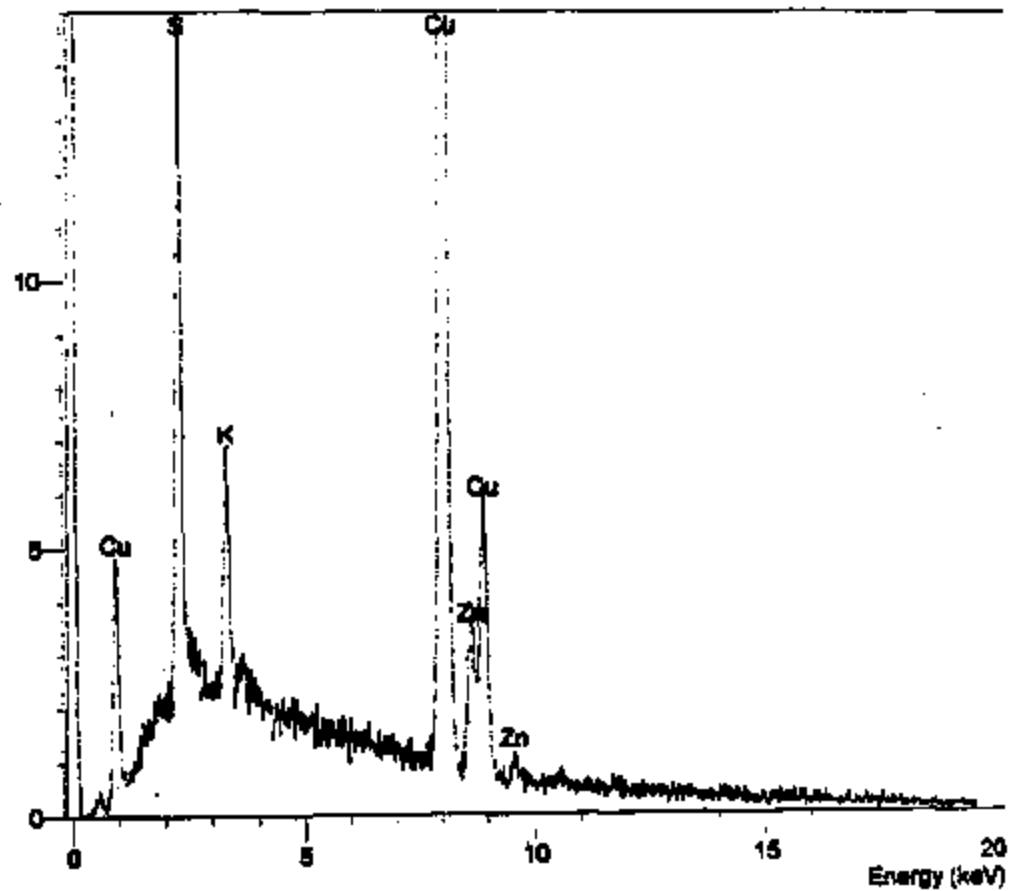
Operator : Chantell Stevenson
Client : [REDACTED]
Job : 9900607
10hexpan4 (5/7/99 14:53)

cps



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

cps



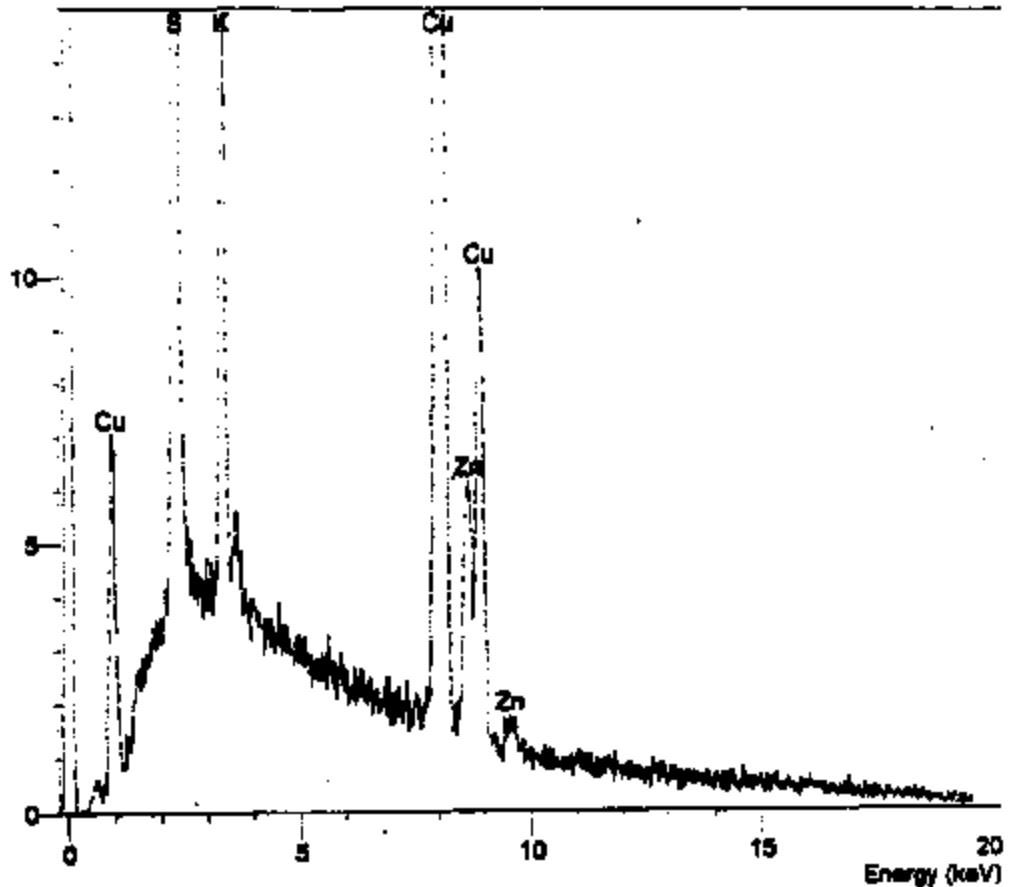
3713 3037

PRODUCED BY FORD

E982-825-A 8826

Operator : Chantall Stevenson
Client : [REDACTED]
Job : 9900607
10hexpart2 (5/7/99 14:48)

cps

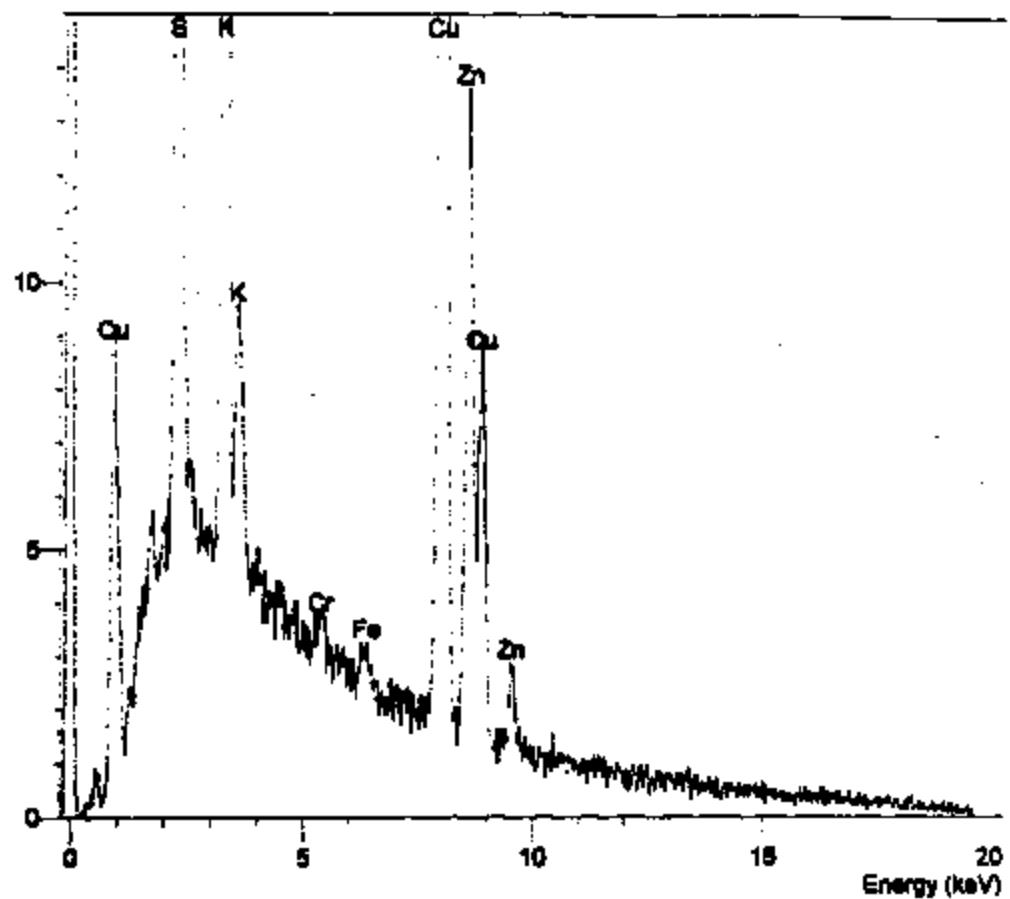


3713 3038

PRODUCED BY FORD

ER02-025-A 9927

Operator : Chantell Stevenson
Client [REDACTED]
Job : 9800807
10hexpert1 (5/6/98 11:34)
cps



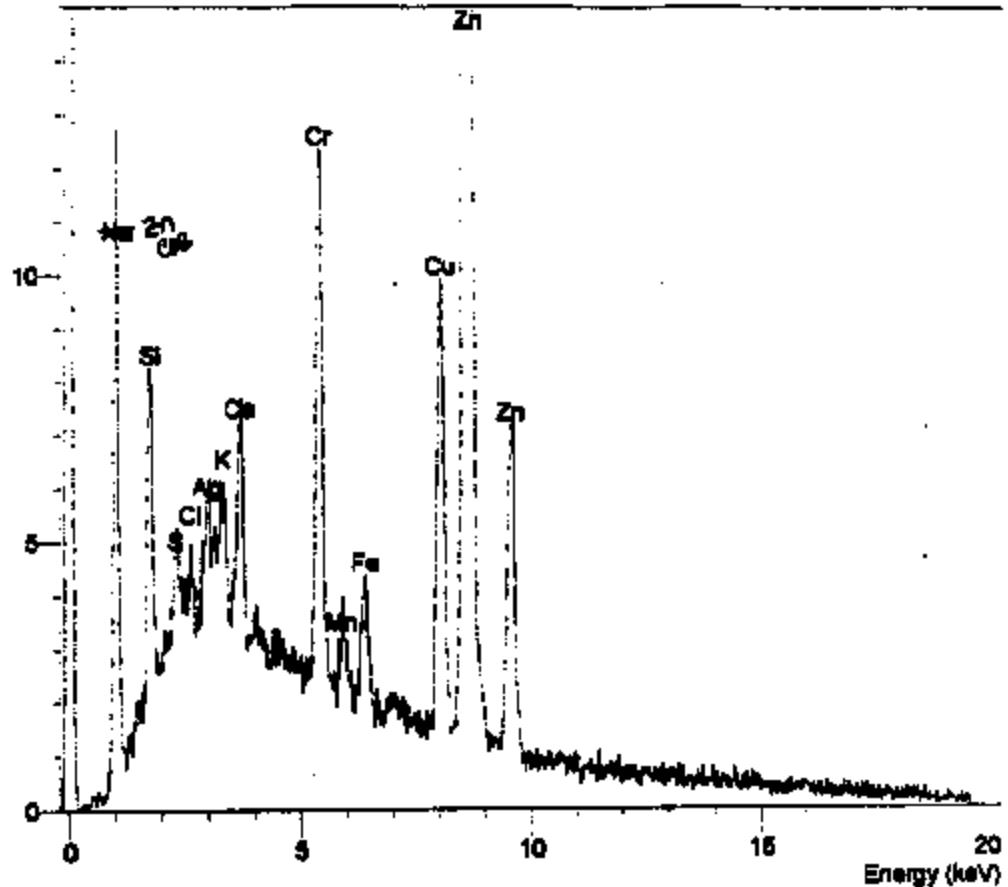
3713 3039

PRODUCED BY FORD

ER02-023-A 8628

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 9900607
47facepartB (5/8/99 11:07)

cps

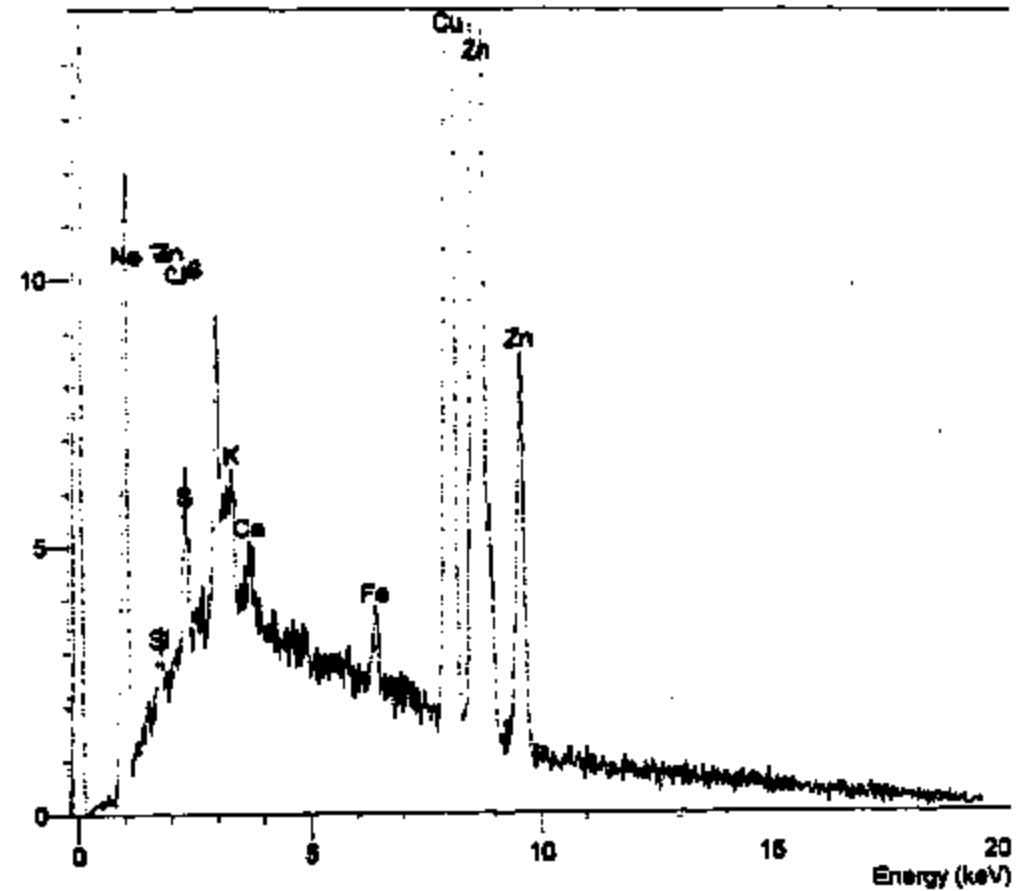


3713 3040

PRODUCED BY PORD

ER02-025-A 5629

Operator : Chantell Stevenson
Client : ██████████
Job : 9900807
47facepart5 (5/6/99 11:04)



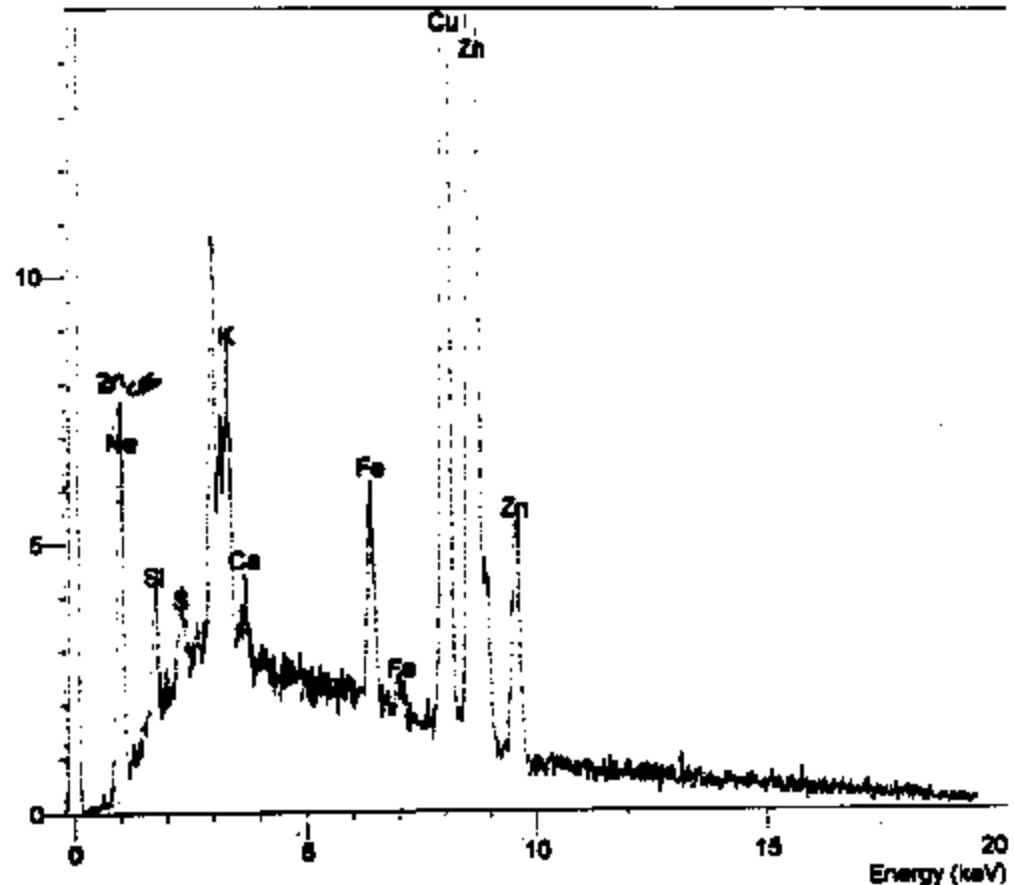
3713 3041

PRODUCED BY FORD

9902-029-A 8838

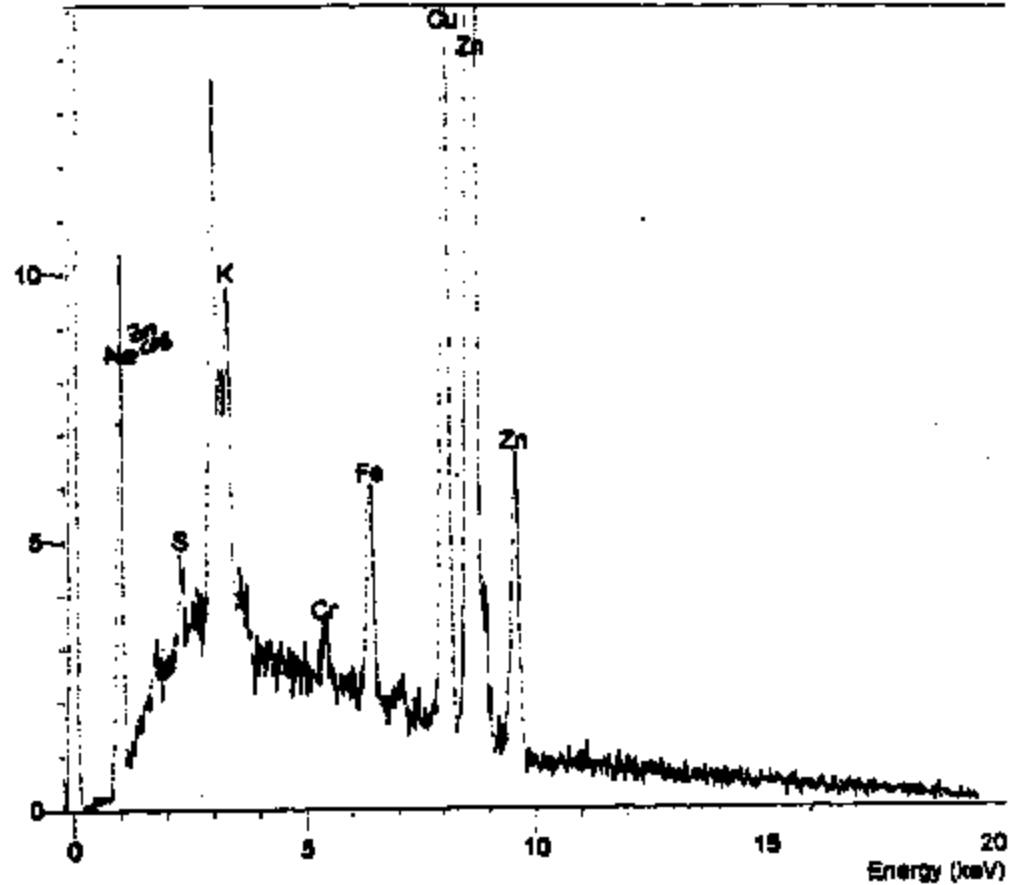
Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900007
47facepart4 (5/6/99 11:00)

cps



3713 3042
PRODUCED BY POND
E982-825-A 9831

Operator: Chantel Stevenson
Client: [REDACTED]
Job: 9900807
47Recapart3 (5/6/99 10:57)
cps

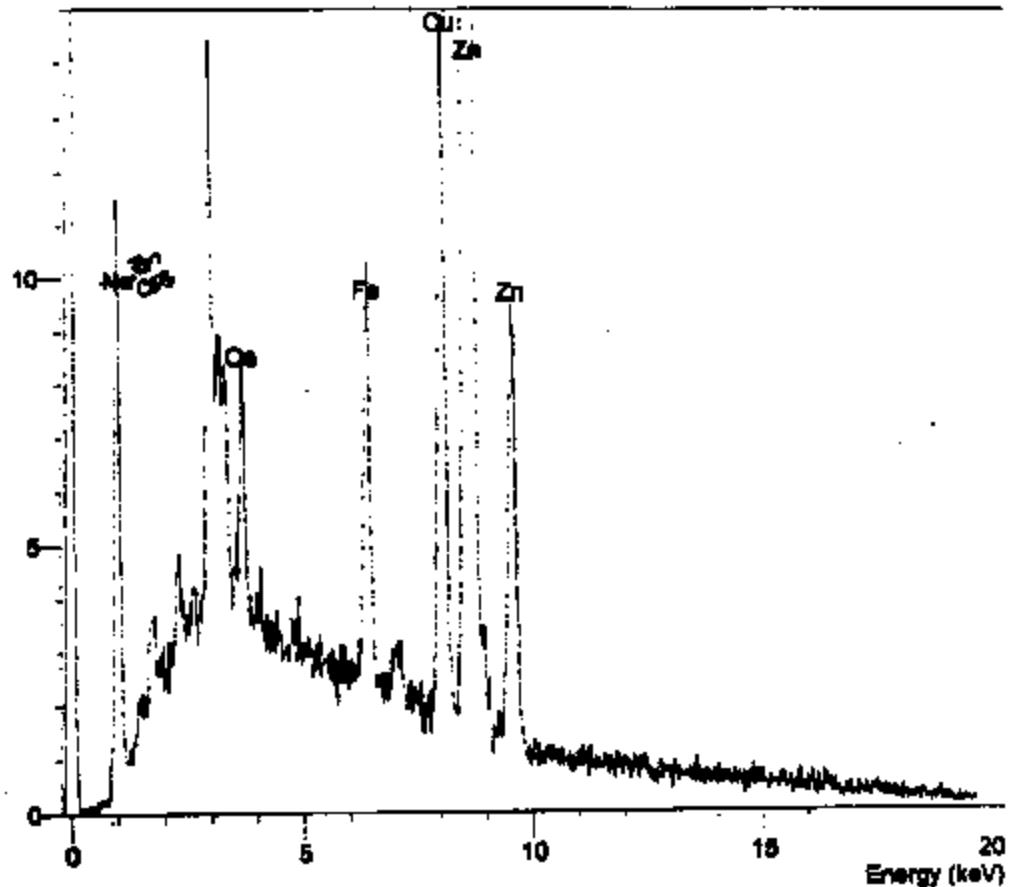


3713 3043

PRODUCED BY FORD

ER02-625-A 8932

Operator : Chantell Stevenson
Client [REDACTED]
Job : 9900807
47facepart2 (5/6/99 10:54)
cps

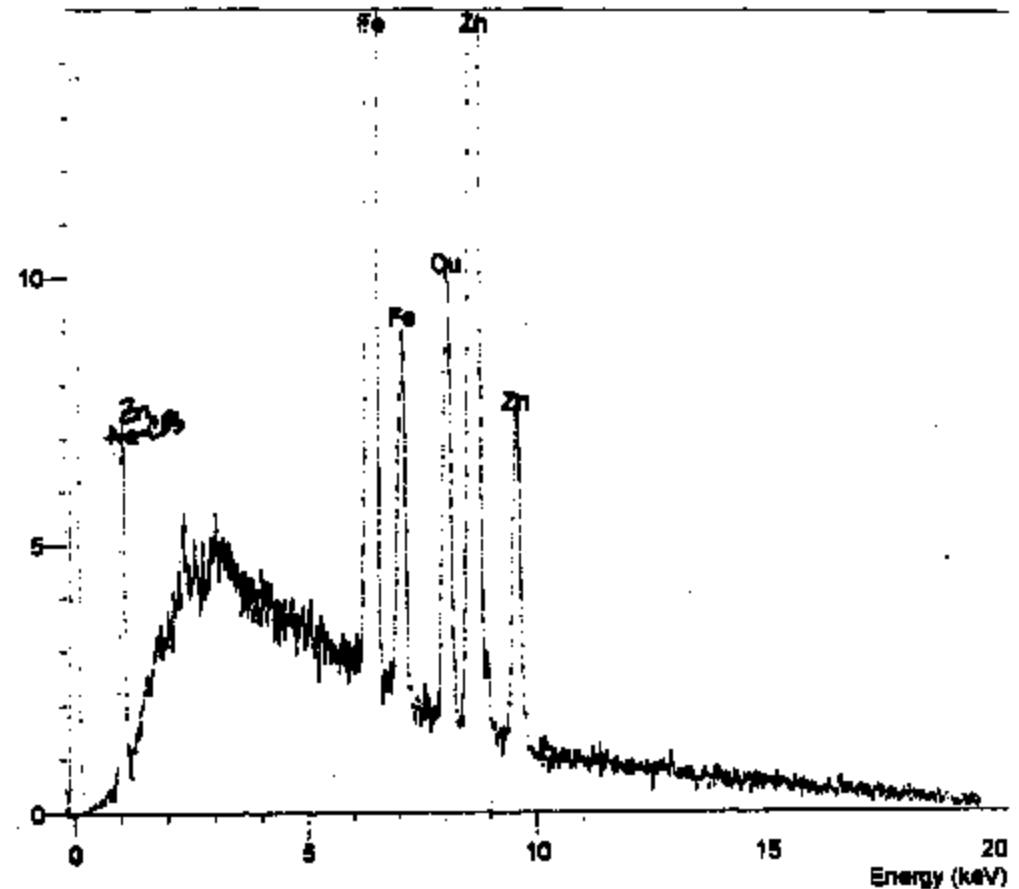


3713 3044

PRODUCED BY FORD

2002-025-A 9933

Operator : Chantal Stevenson
Client : [REDACTED]
Job : 9900607
47facapart1 (5/6/99 10:51)

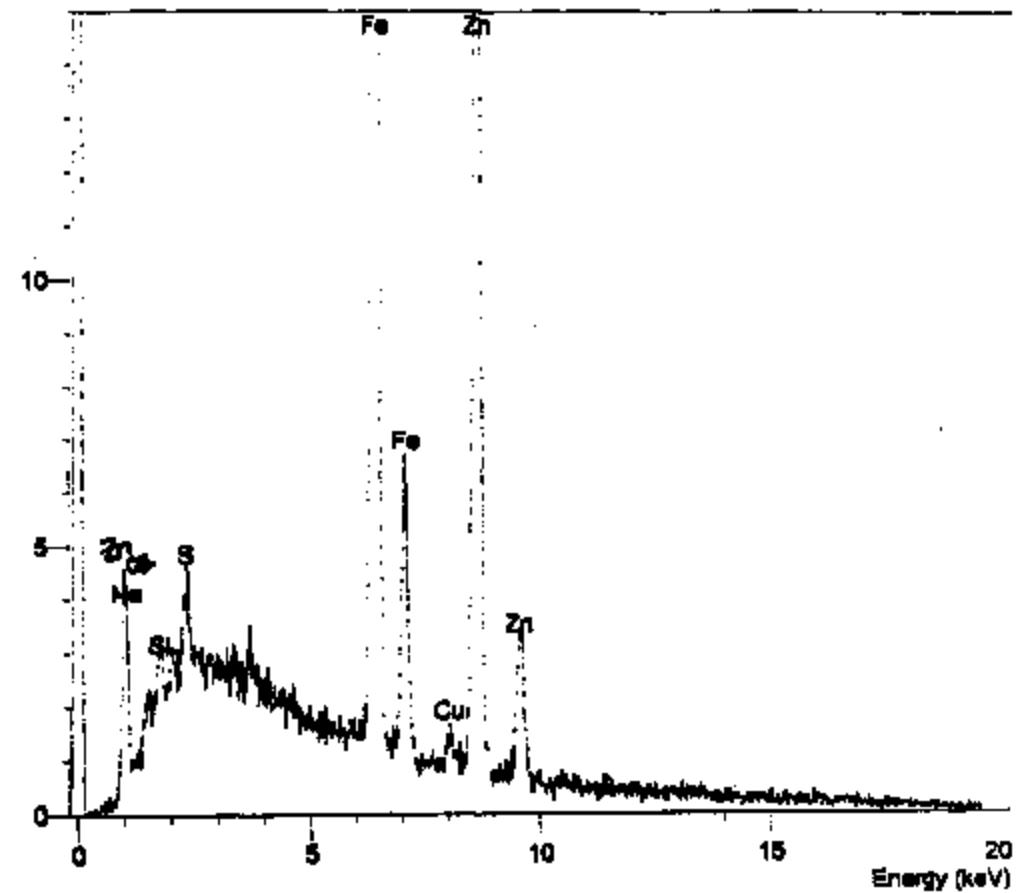


3713 3045

PRODUCED BY FORD

ER02-625-A 9934

Operator: Chantell Stevenson
Client: [REDACTED]
Job: 9900607
951acepart5 (5/6/99 10:49)



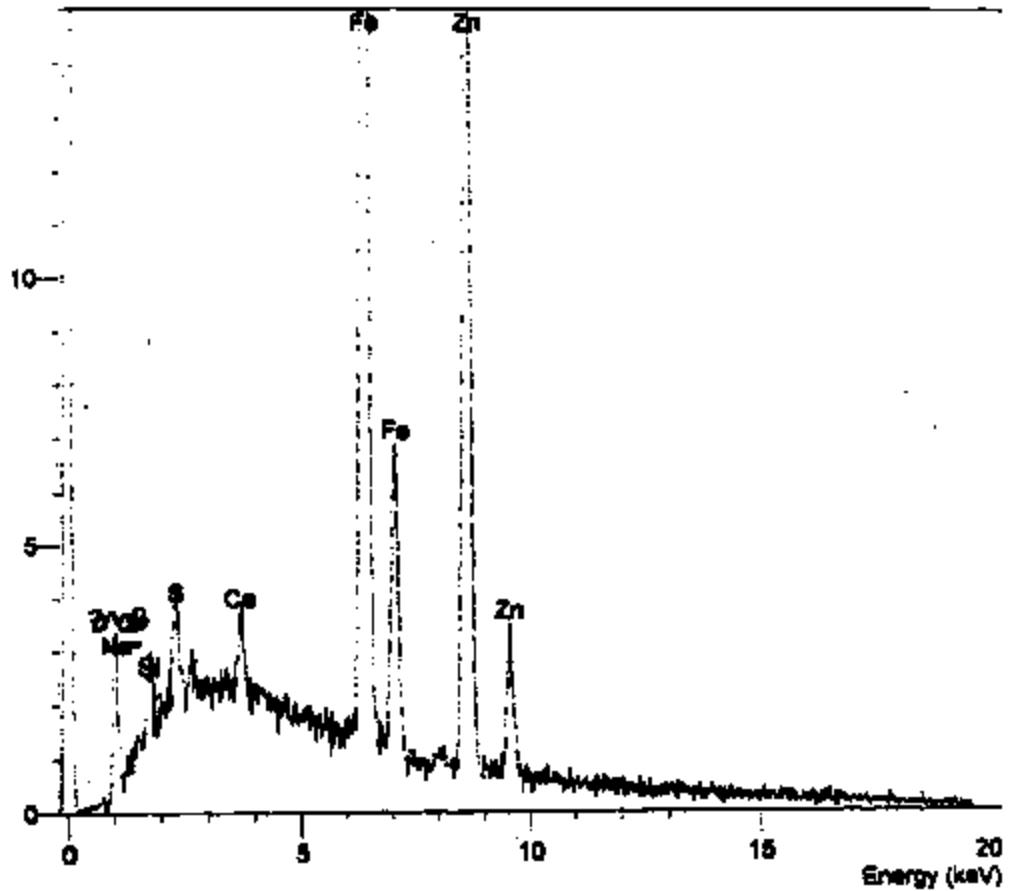
3713 3046

PRODUCED BY FORD

E902-025-A 6836

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900807
86facapart4 (5/8/99 10:45)

cps

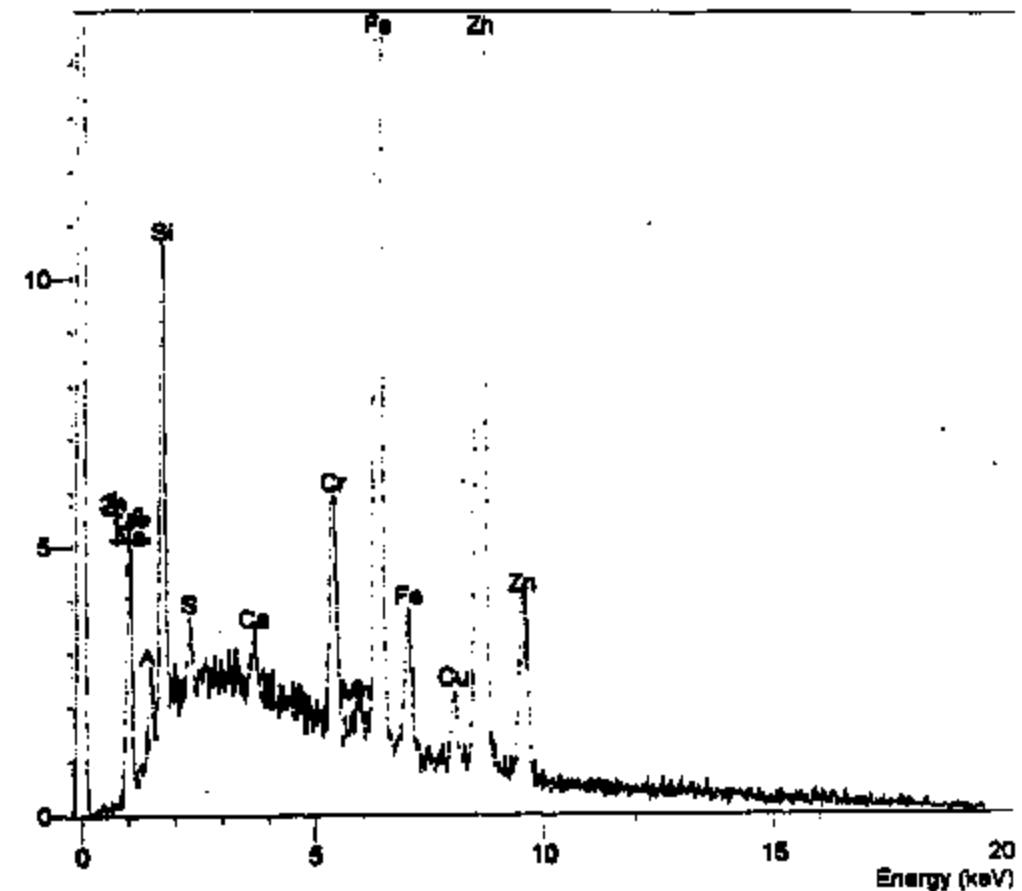


3713 3047

PRODUCED BY FORD

EP02-025-R 9936

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9500607
95facapart3 (5/6/99 10:41)



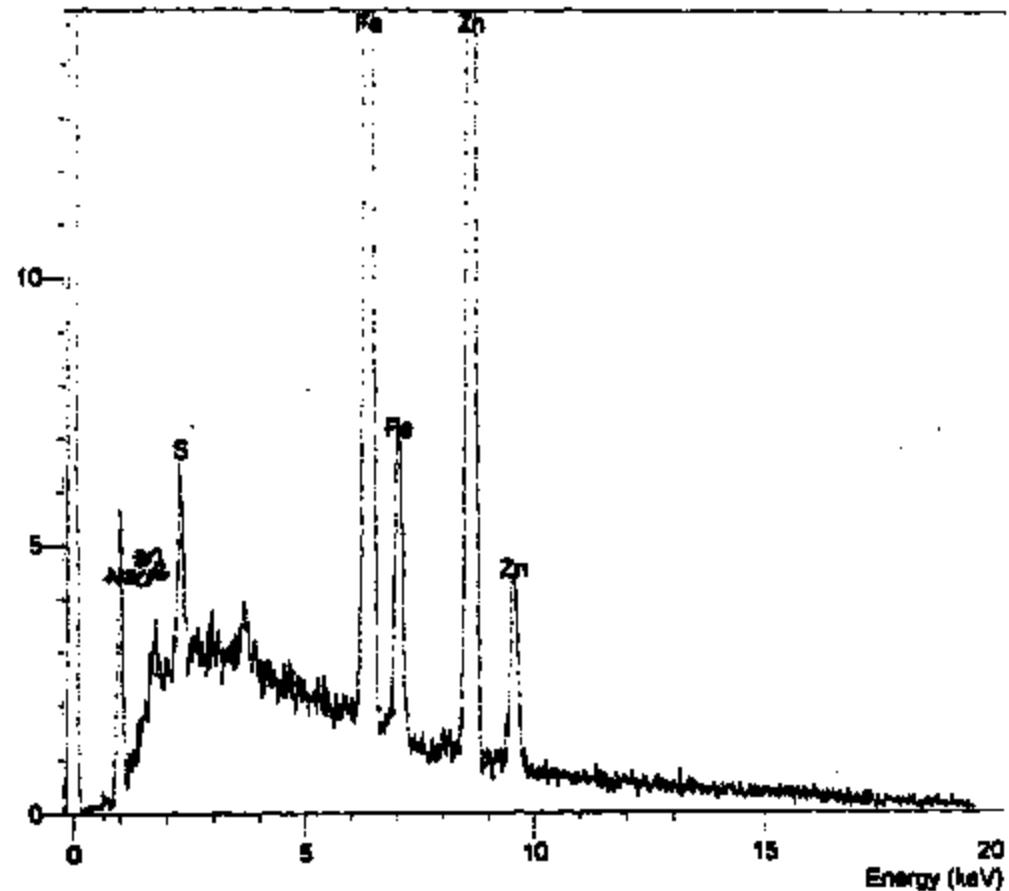
3713 3048

PRODUCED BY FORD

E982-025-R 9837

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 9600607
95facapart2 (5/6/99 10:38)

cps



3713 3049

PRODUCED BY POR

2982-825-A 9836

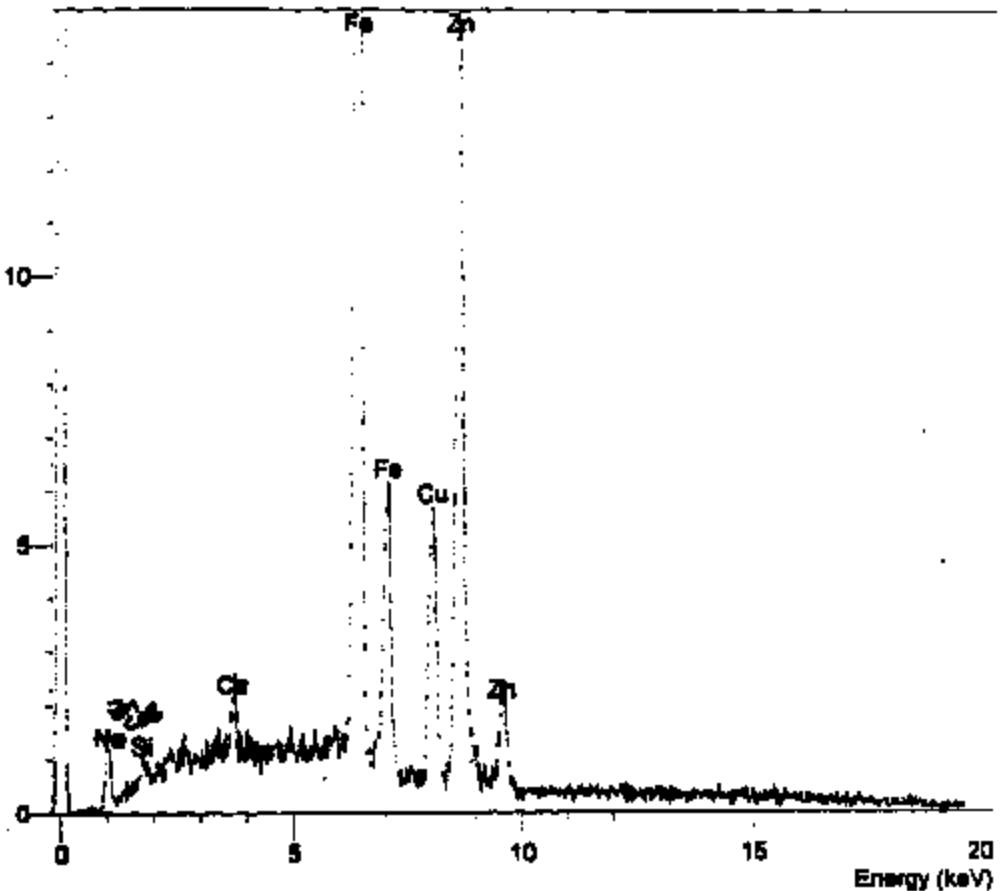
Operator : Chantell Stevenson

Client : [REDACTED]

Job : 9900807

99fecapart1 (5/6/99 10:35)

cps



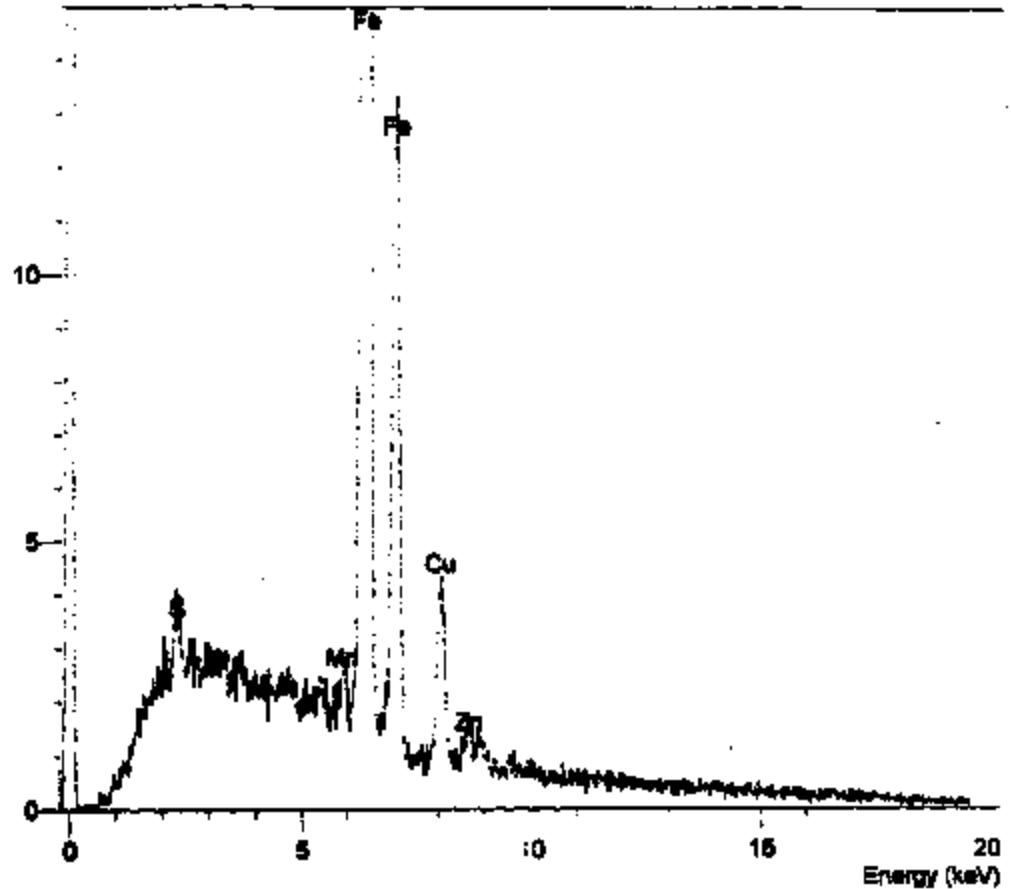
3713 3050

PRODUCED BY FORD

E982-825-A 9838

Operator: Chantell Stevenson
Client [REDACTED]
Job: 9900007
95hexpart5 (5/6/99 10:26)

cps



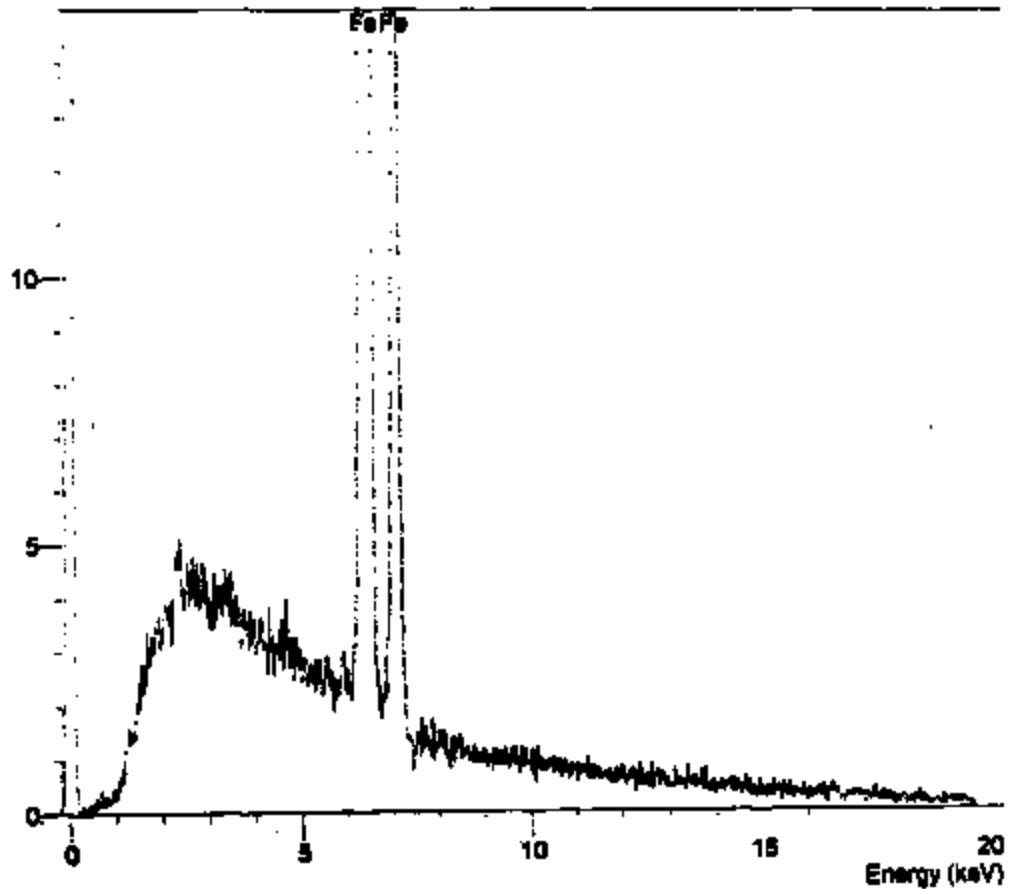
3713 3061

PRODUCED BY FORD

E982-025-A 9949

Operator : Chantell Stevenson
Client : ~~XXXXXXXXXX~~
Job : 9900607
95hxpart4 (5/5/99 10:23)

cps



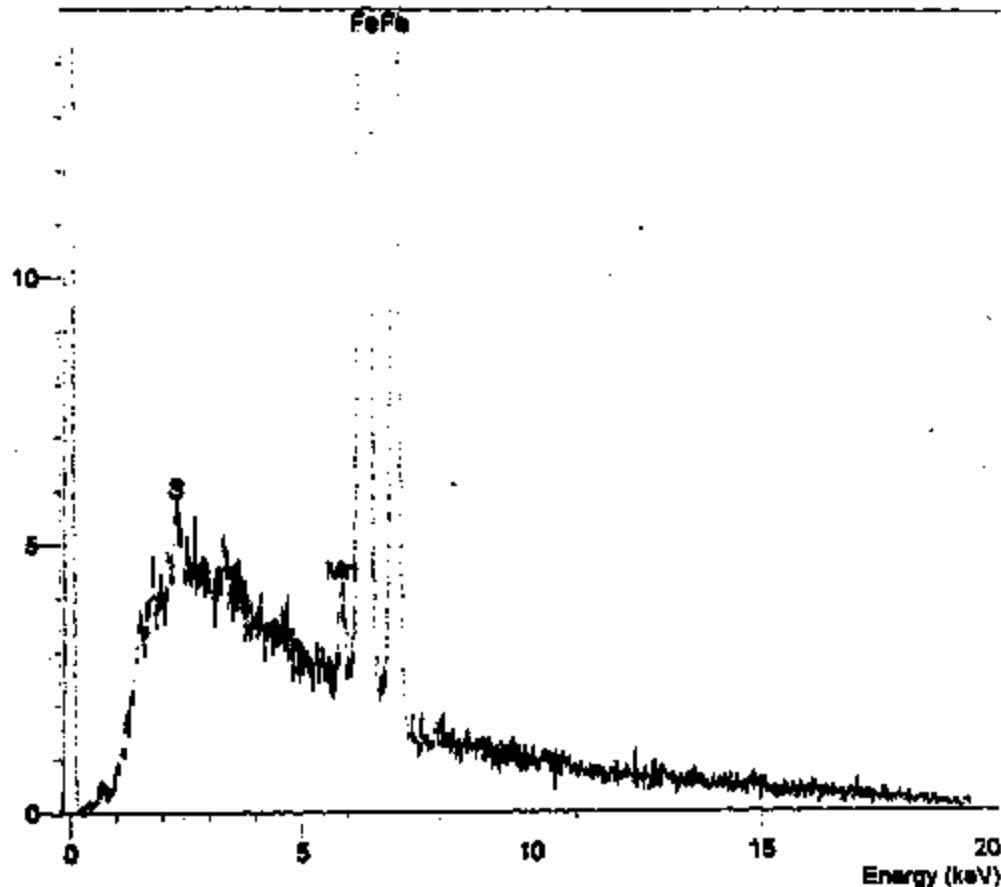
3713 3052

PRODUCED BY POND

E982-025-A 9941

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 8900607
95nexpart3 (5/5/98 10:21)

cps



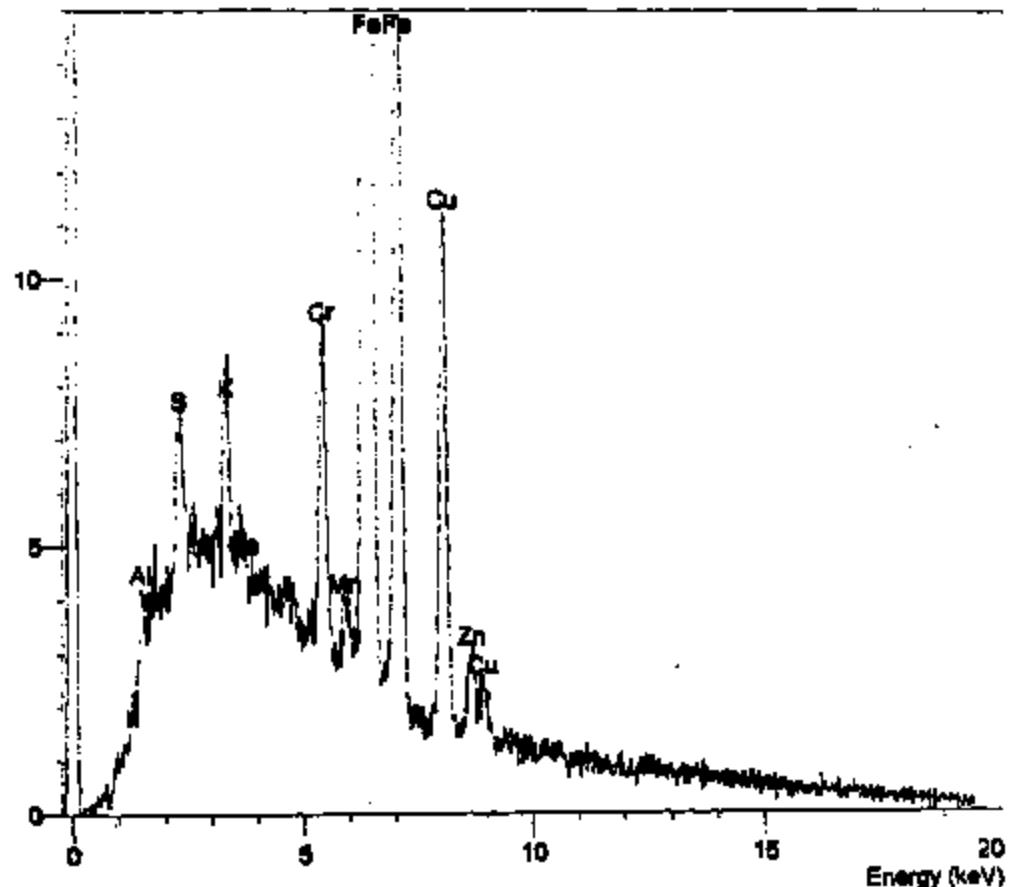
3713 3053

PRODUCED BY PC

E982-825-A 8942

Operator: Chantell Stevenson
Client: ~~XXXXXXXXXX~~
Job: 9800607
98expert2 (5/6/98 10:16)

cps



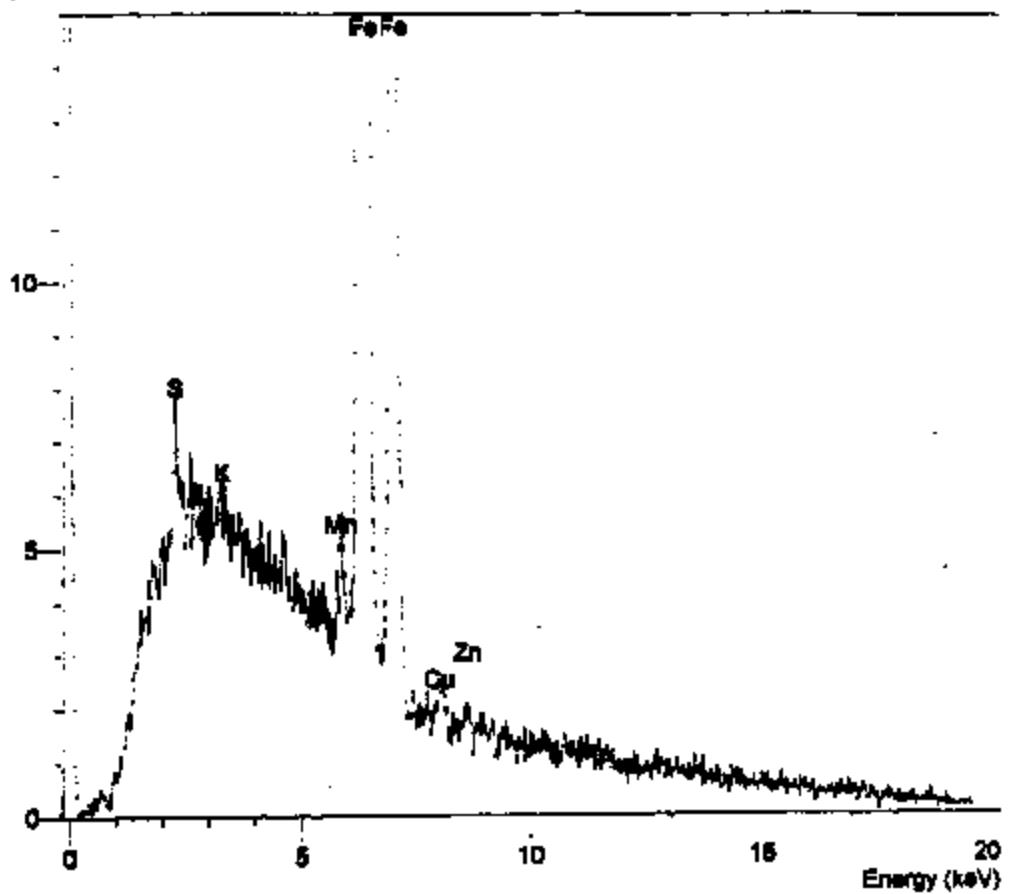
3713 3054

PRODUCED BY FORD

EN62-625-R 9843

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

cps

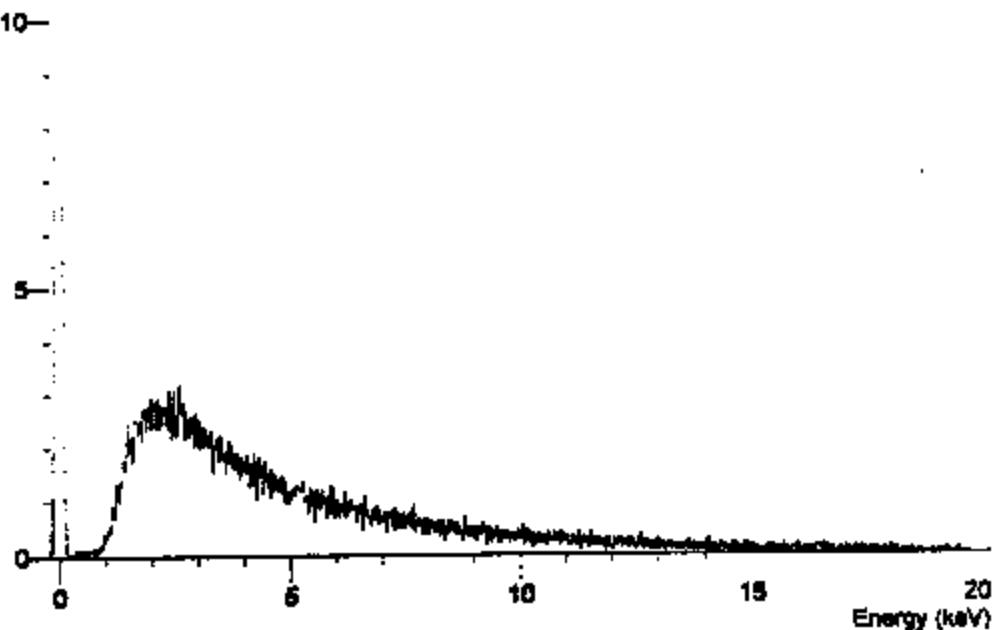


3713 3055

PRODUCED BY FORD

EN02-025-A 9844

Operator : Challall Stevenson
Client : [REDACTED]
Job : 9900507
cps carbon tape (5/6/99 10:12)

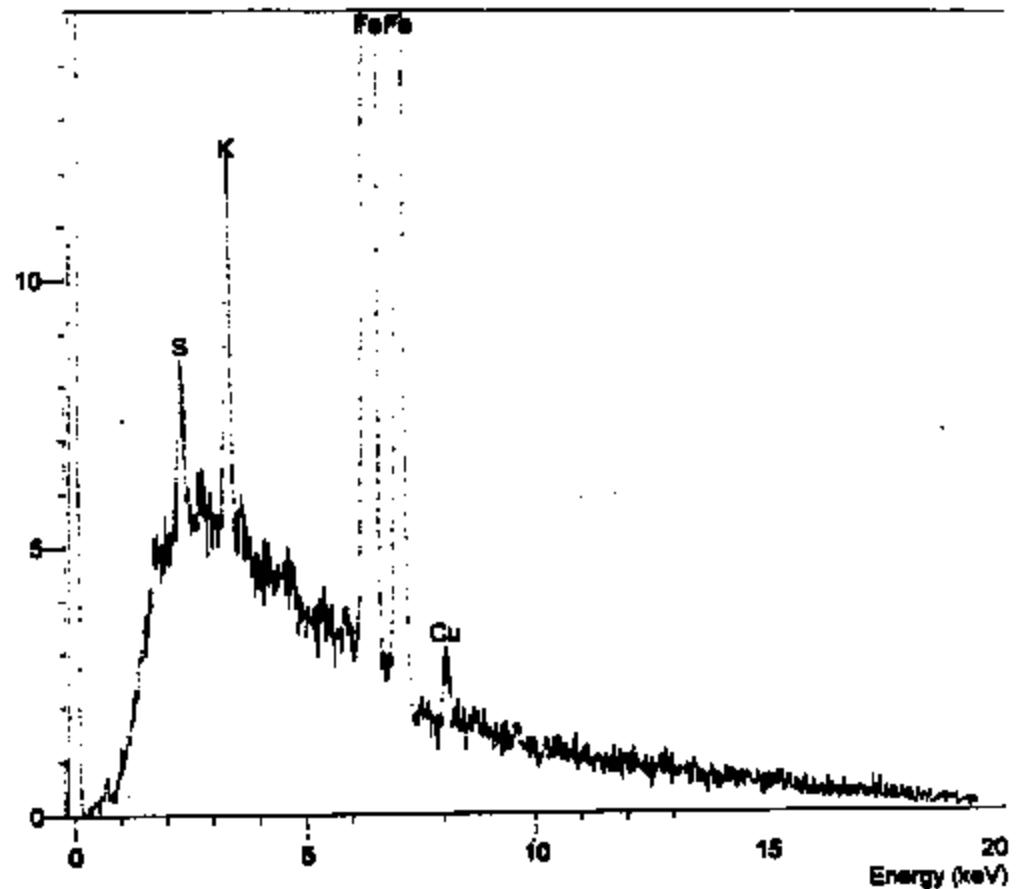


3713 3056

PRODUCED BY FORD

ER02-025-A 0045

Operator: Chestell Stevenson
Client: [REDACTED]
Job: 9800607
47hexpart6 (5/5/98 10:07)
cps



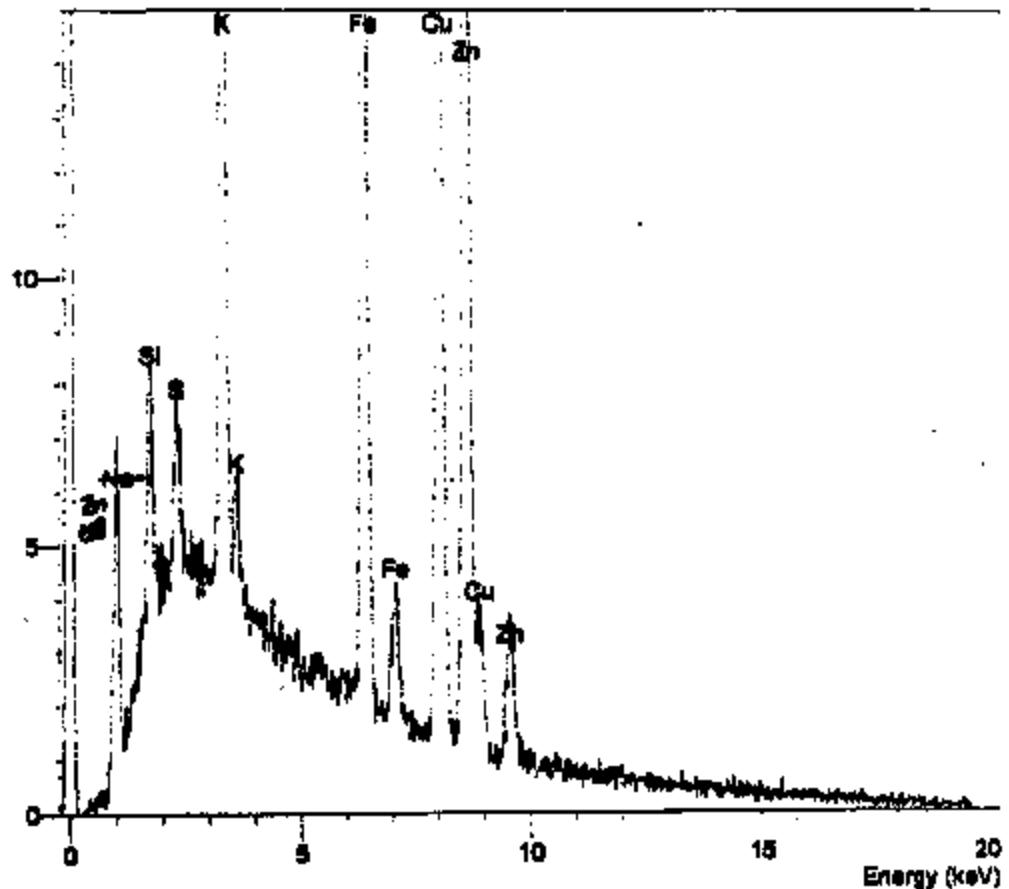
3713 3057

PRODUCED BY FORD

EM22-525-A 2945

Operator : Chantell Stevenson
Client : XXXXXXXXXX
Job : 9900607
47hexpart4 (5/8/99 10:05)

cps



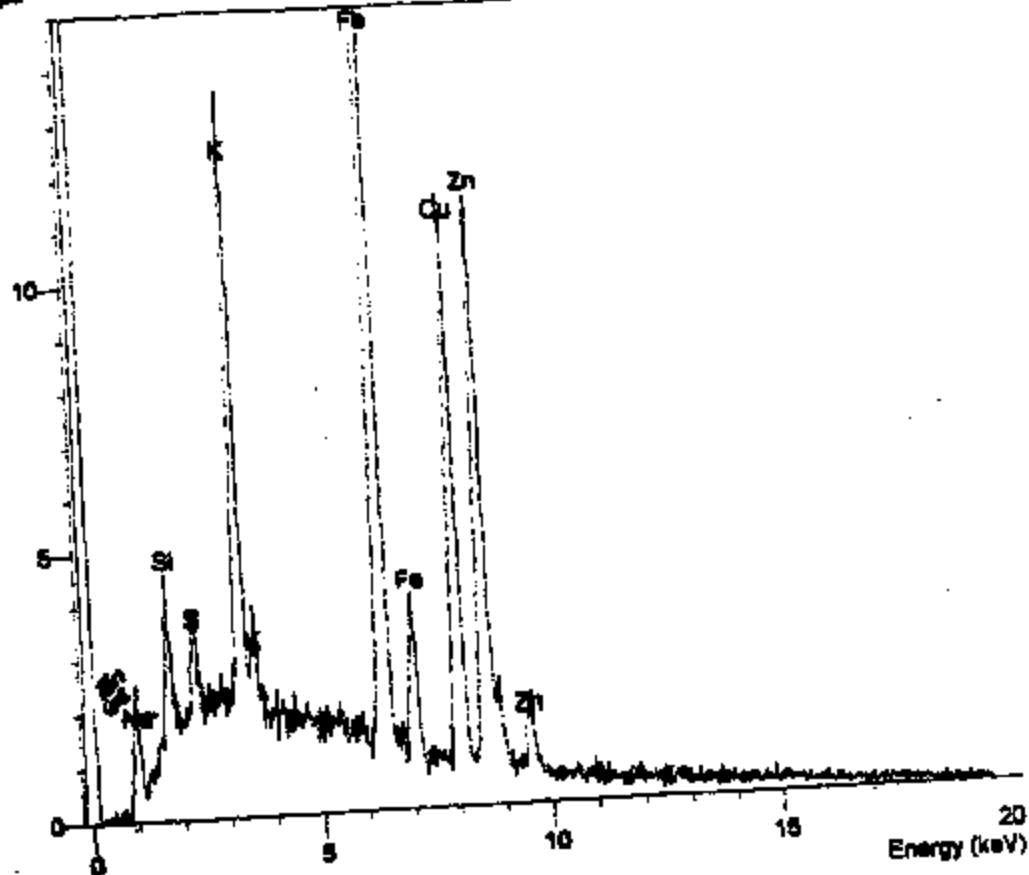
3713 3058

PRODUCED BY FORD

EP82-825-A 9847

Operator : Chantell Stevenson
Client : [REDACTED]
Job : 89000807
47hexpert3 (5/6/99 10:02)

cps

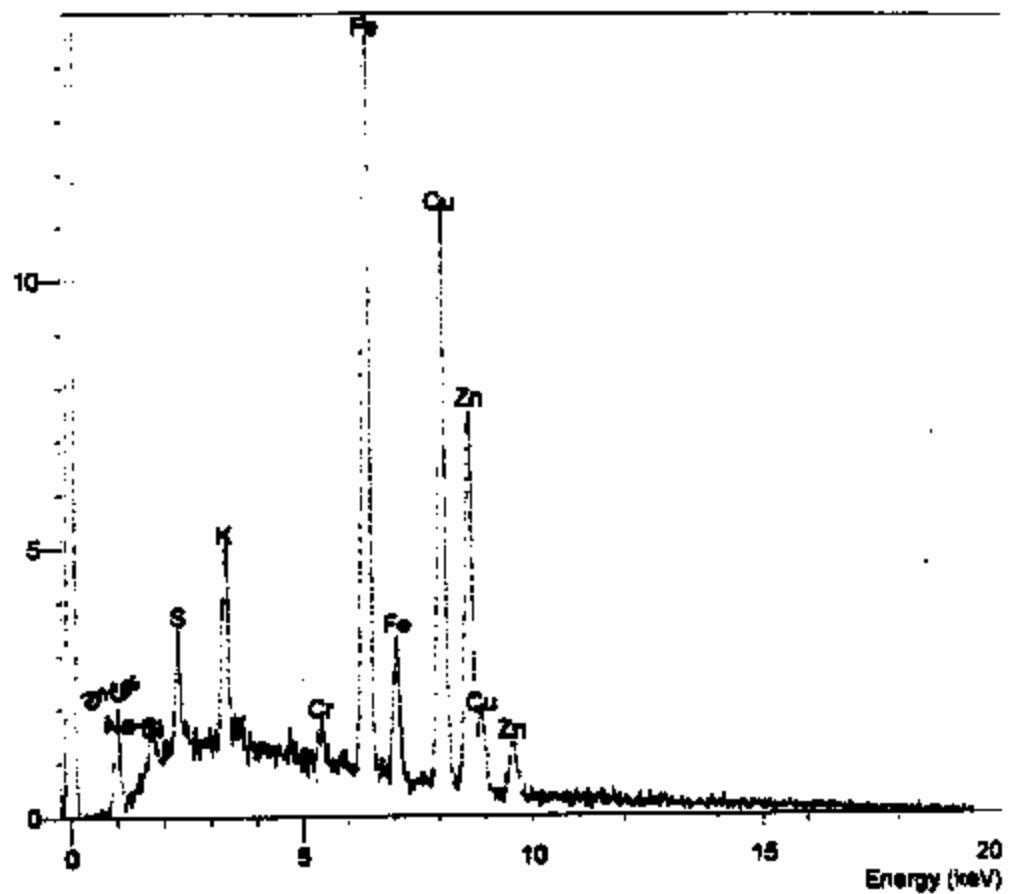


3713 3059

PRODUCED BY

ENR2-025-A 894

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



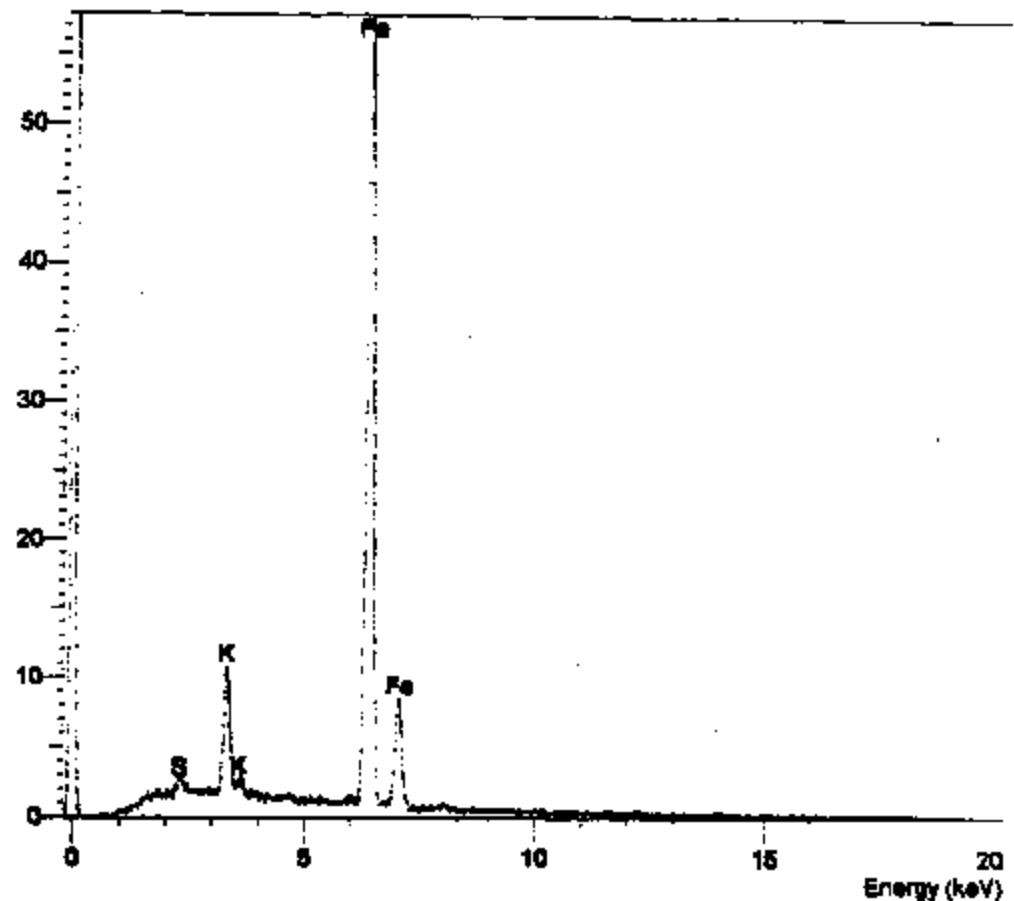
3713 3060

PRODUCED BY POLD

5902-025-R 2040

Operator: Chantell Stevenson
Client: ██████████
Job: 9900807
47hexpart1 (5/5/99 16:07)

cps



3713 3061

PRODUCED BY PORD

ENR2-622-A 9950



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

Report 9800807

April 13, 1989

To: G. Stevens/Schiff [REDACTED] (313) 32-38686 (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, 1989, from S. LaRouche:

- NY880043, Top, ~4mL green fluid labeled- "Brake fluid reservoir top, 3/1/89, NY [REDACTED] 92TC"
- NY [REDACTED] Master Cylinder, ~5mL green fluid labeled - "Master cylinder front port, 3/1/89, 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 NY [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 GM Dow HD 50-4.

Data and Analysis:

Molecular Characterization
(FTIR, Qualitative)

PY880043 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.

NY734410 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).

NY880043 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**

	<u>Top</u>	<u>Master Cylinder</u>	<u>Unused Cov HD 50-1</u>
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
Magnesium	2	3	<1
Manganese	1	1	<1
Molybdenum	1	1	<1
Sodium	392	393	588
Nickel	<1	<1	<1
Phosphorus	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 NY [REDACTED] - Reservoir Tank NY [REDACTED] - Master Cylinder
(ASTM E 203) 1.4 1.4

Participants

Both the N₂ 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 $\pm 5\%$ at 95% confidence level.

Contributor

Geeky

Mary Haga
Oncologist

1

Jay O. Hult
Gayle D. Gullen (GIGULLEN)
Product Manager, Business

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 002900507

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
Secondary Contact: LAPOINTE, NORM - 11075

Phone: (313) 323-8896 PROFS ID: GSSTEVEN1 Fax: (313) 380-7224
Phone: (313) 504-2086 PROFS ID: NLAPPOINT Fax: (313) 337-8264

Send Report to:
B6 to: MD 600400000, AYT MATERIALS, BLDG. #5
Acq. Location: 5100
Dept: T113
Work Task: X0004

Sample Information:

Total Number of Containers: 21
Source: Not specified

Sample Handling: Return after test
Supplier Code: Not specified

Container Item Name	Qty	Sample Identification	Part Number	Material Spec	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SH EET	F2VY-4F924-A	NA	00.00.00	TEXAS INST RUMEN TS

Investigation Information:

Name of Investigator/Requester Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:

EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPONTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Description/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: Lefebvre, Steve

Phone: 64-54876

View your test status at: <HTTP://Web.pd7.ford.com/kalis>

Program Name: KALIS Lab Engg Module
Program Version: Version 2.0.6

PLEASE DETERMINE THE FOLLOWING:

CAR & HORN/BUZZ Samples
Presence of Brake Fluid
Presence of OXYLATES, ETC.

Brake Fluid Samples,
Presence of OXYLATES, ETC.
Water Content if possible

Titanium

Steve Lefebvre



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

Report 9900607

April 13, 1999

To: G. Stevens/S. LaRouche (313) 32-38688 (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, 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 NY [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 materials 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

	<u>Top</u>	<u>Master Cylinder</u>	<u>Unused Dow HD-50-4</u>
Aluminum	1	2	<1
Boron	22	12	138
Berium	<1	61	<1
Calcium	1	2	<1
Cadmium	1	1	<1
Chromium	1	1	<1
Copper	495	500	<1
Iron	4	8	<1
Magnesium	2	3	<1
Manganese	1	1	<1
Molybdenum	1	1	<1
Sodium	382	383	589
Nickel	<1	<1	<1
Phosphorus	11	11	8
Lead	22	25	1
Sulfur	163	164	<1
Silicon	4	4	<1
Tin	9	9	5
Titanium	<1	<1	<1
Zinc	501	502	<1

Water Content of Fluids, % by weight NY _____ - Reservoir Tank
(ASTM E 203) 1.4 NY _____ - Master Cylinder

Particulars

Both the N2 reservoir top and master cylinder fluids were filtered through an 8um nylon filter over a 40 Whatman filter. No particulates were gathered.

The precision and accuracy of results obtained by this method are within $\pm 25\%$ at 95% confidence level.

Contributor

Сонячні

Mary Haga
Organic Section

Bye

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: D. 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

T_{IP} 74-L-C
9900607-1 9900607-2

	1	2
Aluminum	1	2
Boron	22	12
Barium	<1	<1
Calcium	1	2
Cadmium	1	1
Chromium	1	1
Copper	498	500
Iron	4	8
Magnesium	2	3
Manganese	1	1
Molybdenum	1	1
Sodium	302	383
Nickel	<1	<1
Phosphorus	11	11
Lead	22	25
Sulfur	163	164
Silicon	4	4
Tin	9	9
Titanium	<1	<1
Zinc	501	582

The precision and accuracy of results obtained by this method are within ±10% at 90% 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 Stevens
From: D. Schumacher 313.845.5038
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 percent¹
(ARL 3580B ICP-AES)

	<u>New</u>	<u>Used</u>
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

14

Project No. —

Book No.

TITLE

From Page No.

5

UV

import - glycolytic 'basic material' + $\alpha\beta\gamma$ etc +
possibly other glycoenzymes
especially glycol etc 'basic' material + glycoenzymes

181

Report - calculate the basal metabolic rate for each animal given the basal metabolic rate for a 70 kg human.

B. S., M. A. N.

Reserve the - glycol 2+ as your next +
then possibly you take a - group +
such as a sulf + hydroxyl

Fusco-cylindro-triangularis with long
intertidal tongue (partially ingested)
"fragments of a conch shell found in the sand"

As apparent, 3 isolates were present in the brace grid (5 total, thus 3% after 45 minutes = 5 min SPC = 4/8/45 = 4.22

To Page No.

Written & Illustrated by me

10

Journal of

18

第二部分

3713 3089

PRODUCED BY PORN

E992-025-A 1973

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 009900602
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) 323-6666 PROFS ID: GSTEVEN1 Fax: (313) 390-7224
Secondary Contact: LA POINTE, MORM - 10076 Phone: (313) 384-2688 PROFS ID: NLAPONT Fax: (313) 337-8256

Send Report to:
Bill to:

MD 5000/25005, AVT MATERIALS, BLDG. #5
Addy/Location: B105
Dept: T113
Work Task: X0004

Sample Information:

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

Container Name	Qty	Sample Identification	Part Number	Material Spec.	CPSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED BY SET	F2VY-3F324-A	NA	90.00.00	TEXAS INST RUMEN TS

Investigation Information:

Nature of Investigation/Requester Info.: Brk. Met typed report

Additional Sample Information/Test/Analysis Requirements:

EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPONTE TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Specimen Directions:

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

Report Format(s):

Loss-In Information:

Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve

Phone: 04-54878

View your test status at: <HTTP://bd4web.pd7.bsd.com/kals>

Program Name: KALIS Lab Engg Module
Program Version: Version: 2.0.0

Please determine the following:

Cut & Heat treat Samples
Presence of Brake Fluid
Presence of OXYLINTES, ETC.

Brake Fluid Samples
Presence of OXYLINTES, ETC.
Water Content if possible

Trunks

Steve LaRouche

Request for Central Laboratory Service

Receipt - Copy

Lab Request Number: 009900007
Date of Request: 02/22/1999 08:17:01 AM
Print Date: 03/25/1999 02:43:49 PM

Received Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:

Primary Contact: STEVENS, GREG - 10006
Secondary Contact: LA POINTE, NORM - 10076

Phone: (313) 323-8686 PROFS ID: GSTEVEN Fax: (313) 390-7224
Phone: (313) 504-2966 PROFS ID: NLAPONT Fax: (313) 337-8256

Send Report To:
Off to:
Addg. Location: 5100
Dept: 7113
Work Task: X02GM

Sample Information:

Total Number of Containers: 21
Source: Not specified

Sample Handling: Return after test
Supplie Code: Not specified

Part/Material Name	Qty	Sample Identification	Part Number	Material Spec	CECSC Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SH EET	F2VV-9F824-A	NA	00.00.00	TEXAS INST TUMBLIN 16

Investigation Information:

Nature of Investigation: Requester Info. Bsc: 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 Discrepancy:

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: LaFlamme, Steve

Phone: 81-54876

View your Web Status at: [HTTP://ATHENSWEB47.FORD.COM/KLABS/](http://athensweb47.ford.com/klabs/)

PLAETE DETERMINE THE FOLLOWING:
Cut & Heatcut Samples #Y734410
Presence of Brine Fluid
Presence of Oxyhalites, etc.

Brine Fluid Summary:

PRESENCE OF OXYHALITES, ETC.
WATER CURRENT IF POSSIBLE
filter for ICP
I / to next - sufficient
Want for ICP
and for ICP

Program Name: KALISLab Engr Module
Program Version: Version 2.0.6

Steve LaFlamme

Project No. _____

Book No. _____

TITLE _____

is No. _____

99067 Grey Stove, 1st floor

31w

-4m high flat brick pier around top
3/1/59 NY [REDACTED] 92TC

-5m high flat brick pier above front part
3/1/59 NY [REDACTED]

Louvered removed from PV

Face, top
height

Level now NY

NY

Face, top
height

To Page No. _____

• Understood by me.

J. Kinsler

Date

4/3/60

Invented by

Date

3713 3072

PRODUCED BY FORD

FBI-BUFFALO

From Page No. _____

NY [REDACTED]S. A. S.

Reservoir Type: Ice Water Hydrocarbons
NY [REDACTED] 3' 6" 4' 0" 5' 2"
7' 0" 7' 0" 7' 0" 7' 0"
12' 0" 12' 0" 12' 0" 12' 0"
15' 0" 15' 0" 15' 0" 15' 0"

FiresNY [REDACTED]

Report - glycol ether based material + xylate +
 possibly other hydrocarby
 esp. similarly glycol ether based material

EV [REDACTED]

Report - glycol ether based material + xylate +
 esp. identically glycol ether based material

B. & W. Flats N. [REDACTED]

Reservoir Type - glycol ether based material +
 other aliphatics including nitrogenous +
 carboxylic acid salts + hydrocarbons

Smaller cylinders - branched: glycol ether based
 material + other (possibly including)
 nitrogenous + carboxylic acid salts

As apparent, no insulators were present in the
 buried cables (filter fluff from the cable + 40 ft down
 - send for ICP - 4/2/55
M. C. Herr

To Page No. _____

Instructed & Understood by me.

Date

Invented by

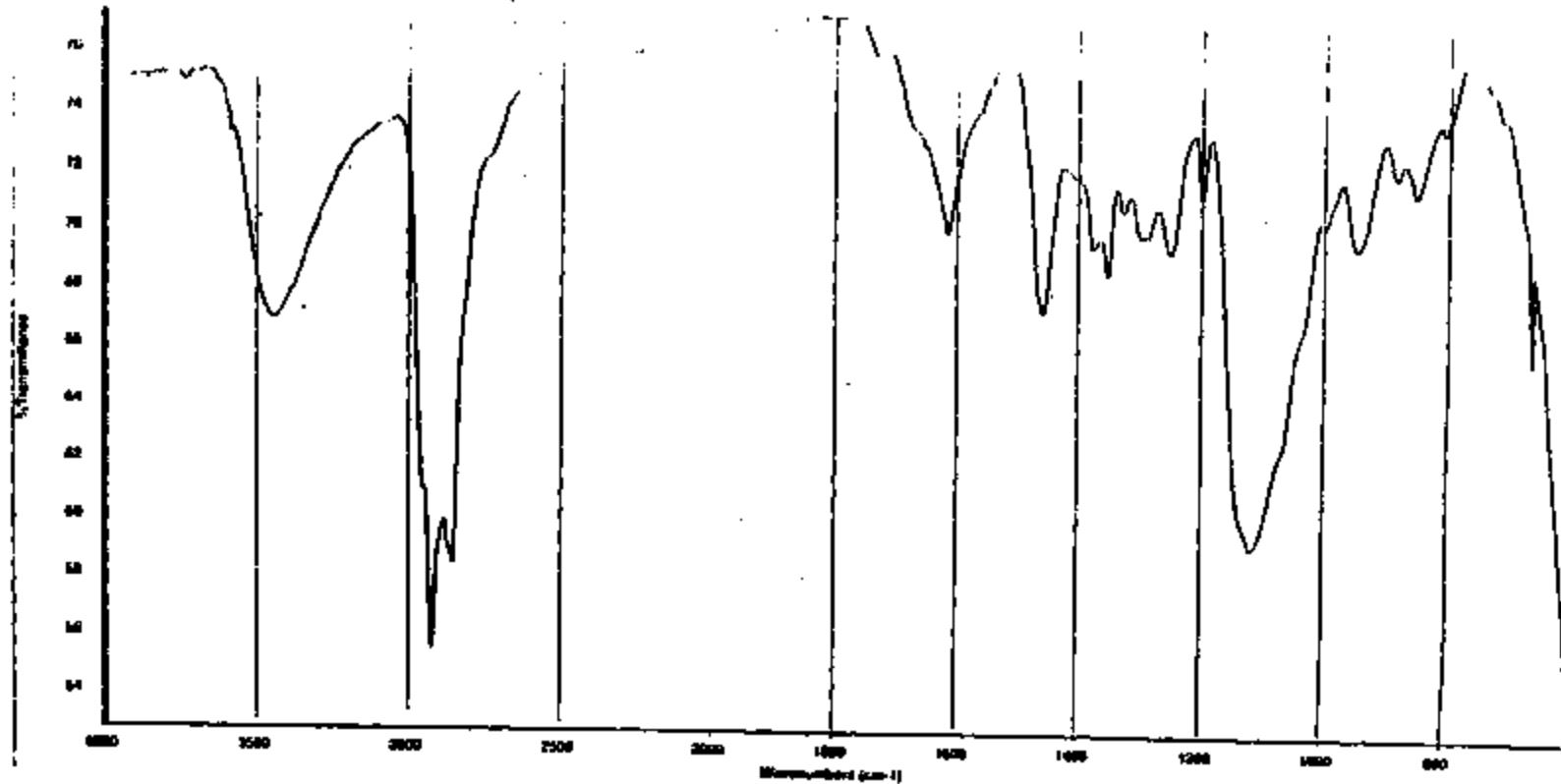
Date

3713 3073

PRODUCED BY FOND

9900607

Wed Apr 07 12:55:08 1999



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

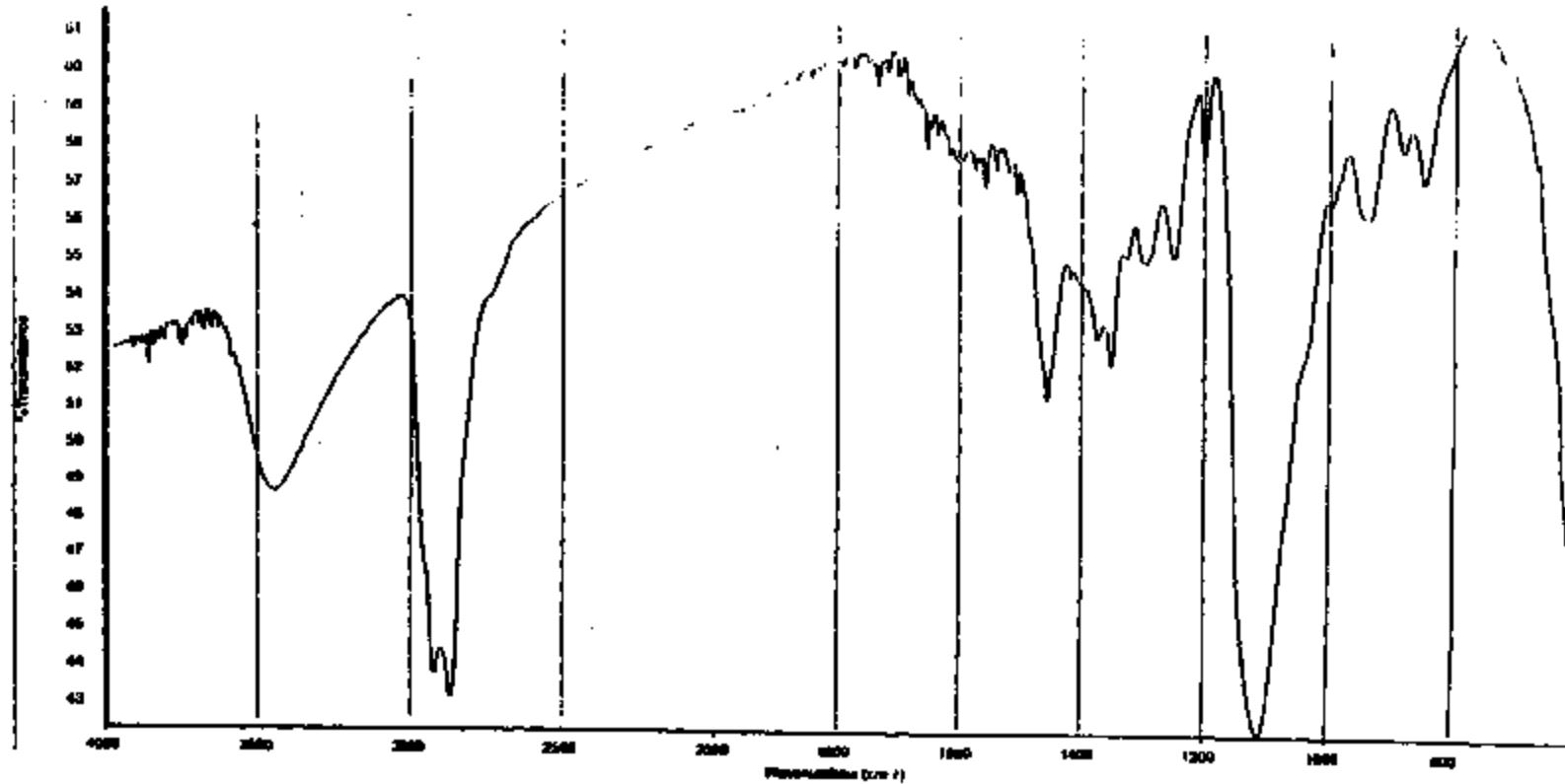
Sample
MCH

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

Number of sample scans: 12
Number of background scans: 12
Resolution: 4.000
Sample path: 2.0
Motor velocity: 0.0125
Aperture: 75.00

9900607

Wed Apr 17 19:30:44 1996



Collection date: Wed Apr 07 13:27:46 1998

99006072

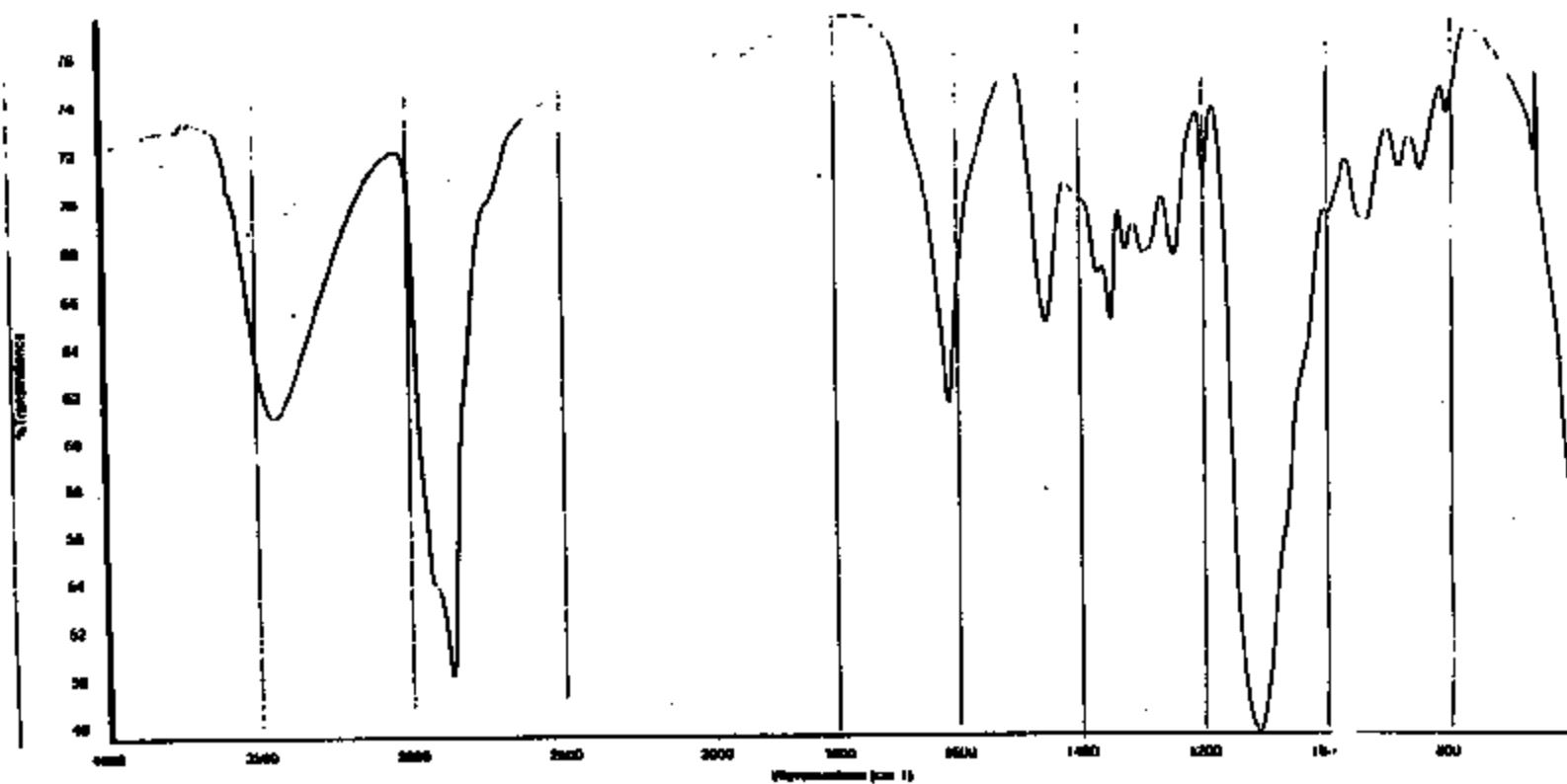
speed control cut off switch
cup NY734410
as received
between plates

$$\mathbf{g}_{\text{obs}} = \mathbf{h}_i(\theta_i) + \mathbf{f}_i + \mathcal{N}(\mathbf{f}_i)$$

Number of sample points = 17
 Number of bushy mountain beech = 11
 Mean elevation = 4 800
 Sample area = 2 D
 Mean velocity = 0.637 m
 Aperture = 75 m

9900607

Wed Apr 07 13:37:17 1999



Collection time: Wed Apr 07 13:35:25 1999

9900607c
meth

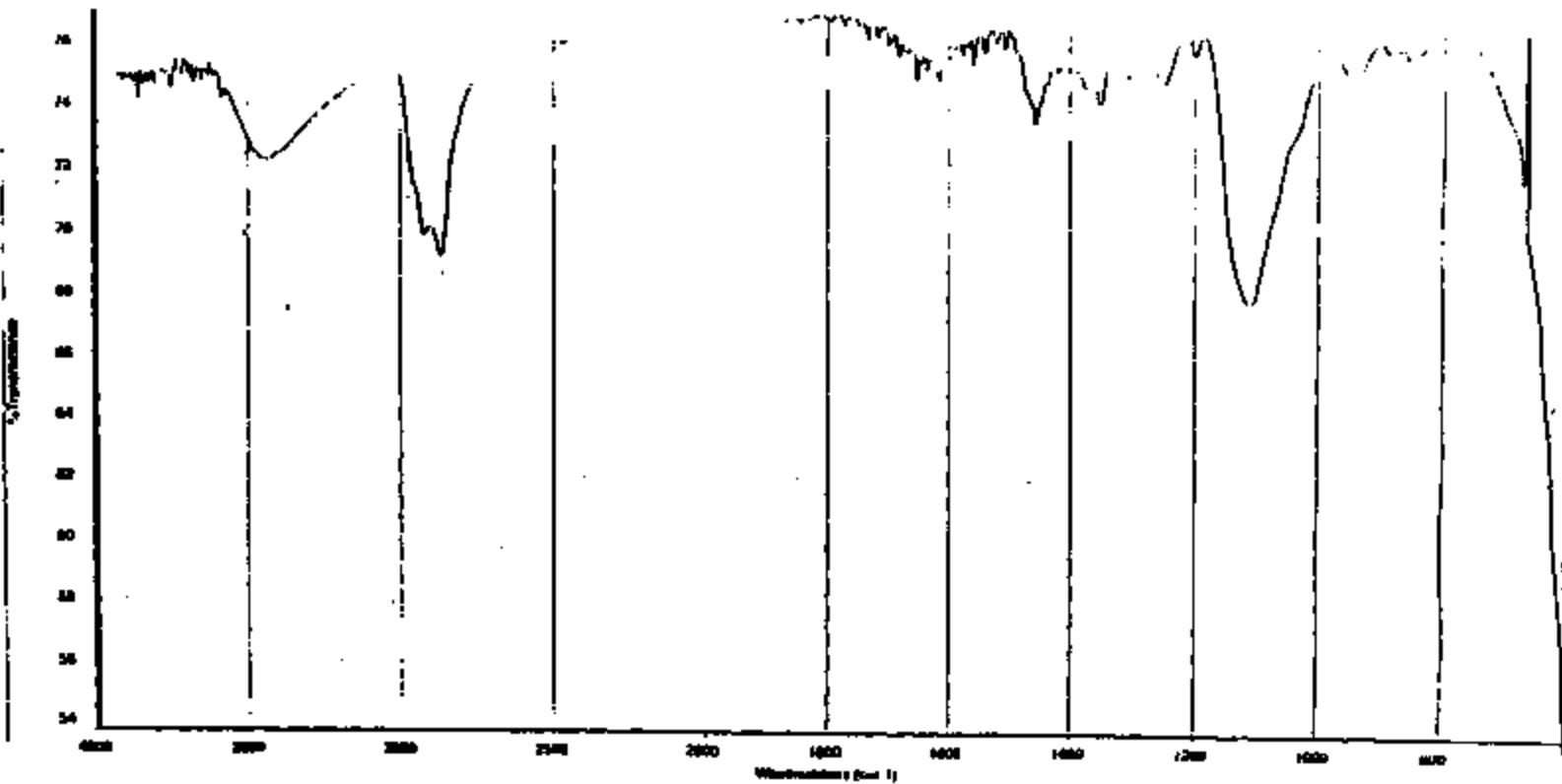
speed control cut off switch
hexaport py 805826
as received
between plates

JCPDS-1-108, *As Received*,
01-070-0002

Number of sample scans: 12
Number of background scans: 12
Resolution: 4.000
Sample size: 2.0
Motor velocity: 0.0329
Aperture: 75 cm

9900607

Wind Avg 13.44' m/s



Collection date: Wed Aug 07 13:41:48 1996

92006074

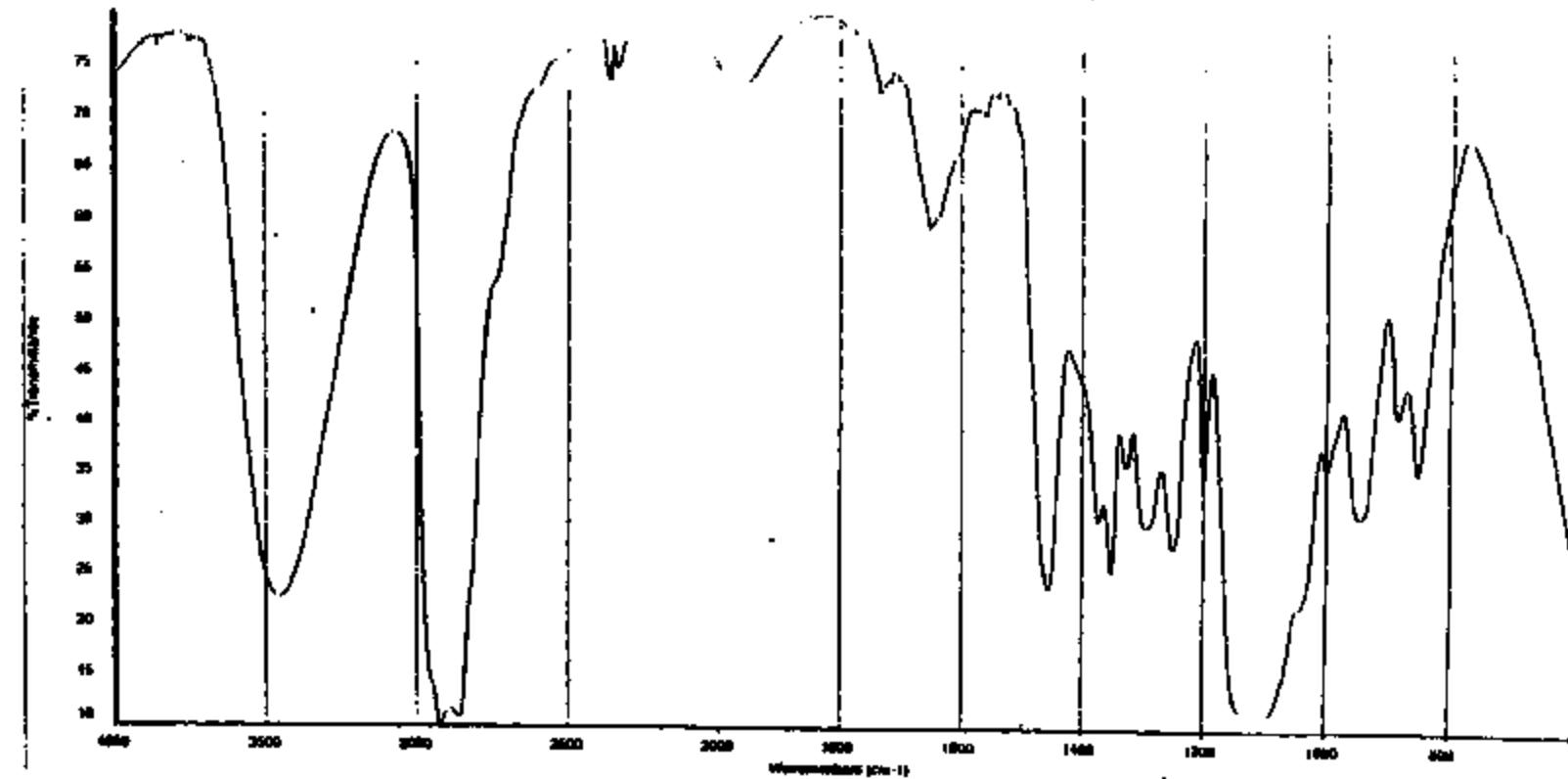
speed control cut off switch
cup py 805826
as received
between plates

and $\{e_i\}$, the

Number of sample points = 5^a
 Number of background points = 5^a
 Resolution = 4.001
 Sample size = 2.0
 Mean velocity = 0.01m/s
 Aperture = 75 μm

9900607

Thu Apr 09 09:27:05 1998



Collection time: Thu Apr 09 09:25:40 1998

9900607
each

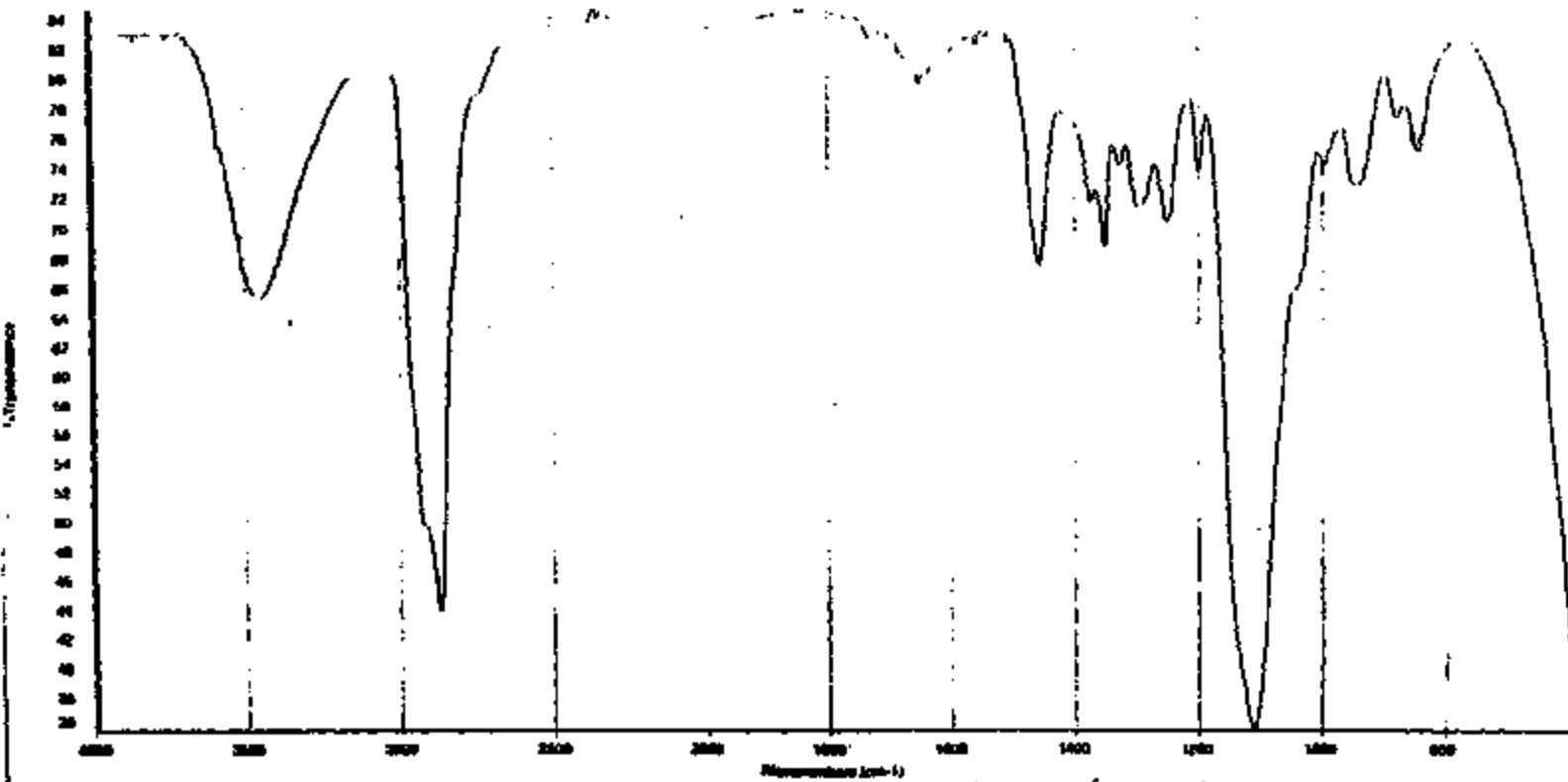
Brake Fluid, ny 669063
reservoir, 3/1/99
as received
between plates

Instrument: Nicolet FTIR
Model: Nexus 4000
Software: OMNIC 3.2
Resolution: 4.000
Sample size: 2.0
Mirror velocity: 0.6120
Aperture: 75.00

Number of sample scans: 32
Number of background scans: 12
Resolution: 4.000
Sample size: 2.0
Mirror velocity: 0.6120
Aperture: 75.00

9900607

1st Aug 08 06:35 2000



Collection time: Thu Aug 09 08:34:17 1990

1000007

Brake fluid, ny 689063
master cylinder, front part
as received
between plates

gby + elle trouvait que
elle l'aimait et le
malheureusement il
n'a pas été fini

Number of sample scans: 32
Number of background scans: 32
Replicates: 4 (02)
Sample gain: 1.0
Major velocity: 0.6329
Aperture: 25.00



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

Report 9900607

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

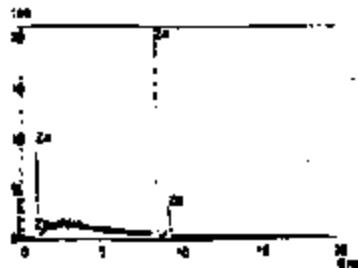
(Visual Examination, Scanning Electron Microscopy (SEM),
Energy Dispersive X-ray Spectroscopy (EDS))

	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

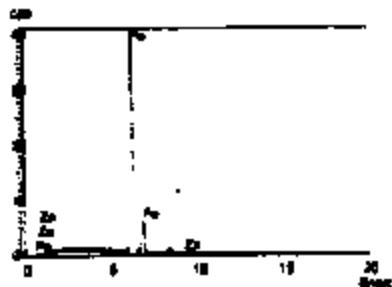
By:

Andrew Wedepohl (AWEDEPOH)
Laboratory Engineer

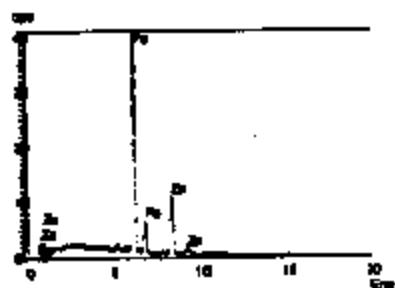
Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900607
Sample 1 Zn (3/9/99 15:35)



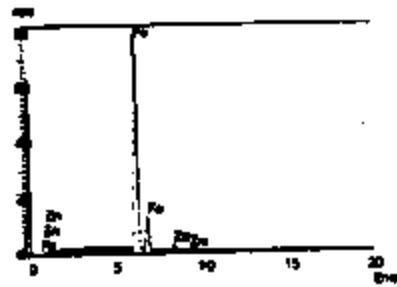
Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900607
Sample 2 Fe (3/9/99 15:46)



Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900607
Sample 3 Fe-Zn (3/9/99 16:55)



Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900607
Spectrum 2 Fe (3/9/99 16:56)

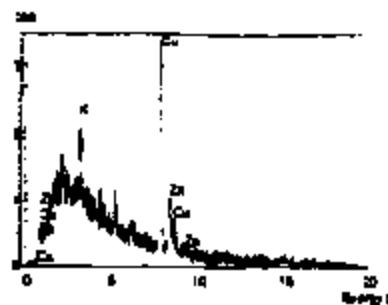


3713 3081

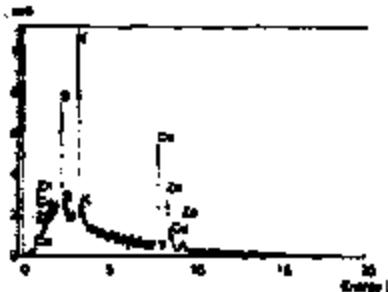
PRODUCED BY FORD

ER82-625-A 8878

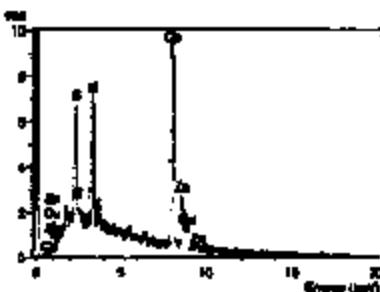
Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900807
Sample 4 Cu-K-2n (3/9/99 16:08)



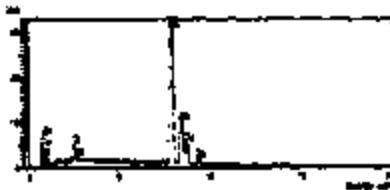
Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900807
Sample 4 K-S-Cu-Zn (3/9/99 16:11)



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)

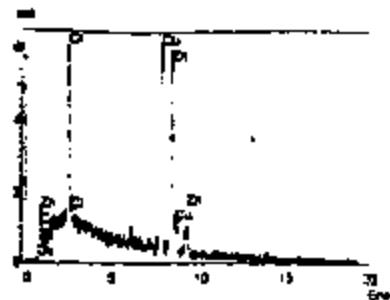


3713 3082

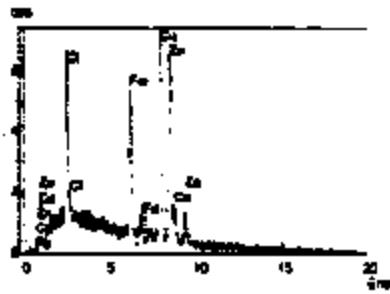
PRODUCED BY FORD

2002-025-4 9971

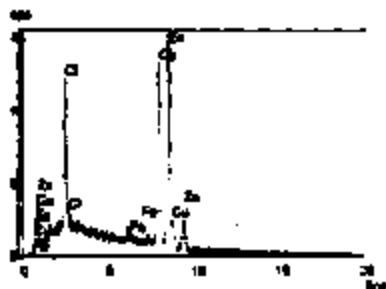
Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900507
Sample 6 Cu-Zn-Cl (3/9/99 16:51)



Operator : Andrew Wedepohl
Client : [REDACTED]
Job : 9900507
Sample 6. (3/9/99 16:52)



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



3713 3083

PRODUCED BY POND

E982-825-A 8872

Project No. 24-100
Book No. 25-44

TITLE _____

From Page No. _____

TO: [REDACTED]

SUBJECT: SPEED CONTROL CUTOFF SWITCH
PART NUMBER: F2VY-9F924-A
SPECIFICATION: NOT PROVIDED

SUPPLIER: TEXAS INSTRUMENTS

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

OBJECT: TEST SWITCH PIA MATRIX PROCEDURE AND
EVALUATION PROCESS INSTRUCTIONS THAT WERE PROVIDED.

TEST DATA:

SEE MATRIX CHARTS ATTACHED TO THE
FILED REPORT

To Page No. _____

Witnessed & Understood by me,



Date
4/15/99

Submitted by
[Signature]

Recorded by

Date
4-15-99

3713 3084

PRODUCED BY FORD

ERB2-625-A 9973

Request for Central Laboratory Service

Request - Copy

Lab Request Number: 3C690C907
Date of Request: 02/22/99 09:31:41 AM
Print Date: 02/22/99 09:31:41 AM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:

Primary Contact: [REDACTED] 10006
Secondary Contact: LA POINTE, NORM - 10073 Project: (313) 594-2000 PROJ ID: NLAPPOINT Fax: (313) 337-8258

Send Report to:
Bill to:
MD 5008/2G085, AVT MATERIALS, BLDG. #6
Acctg.Location: 3100
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 Specs	CPS/C Code	Supplier
SPEED CONTROL CUTOFF SWITCH	21	SEE ATTACHED SR EET	F2V7-4P024-A	NA	00.00.00	EXAS NST RUMEN TS

Investigation Information:

Nature of Investigation: Requisition Info. Box: Mail typed report

Additional Sample Information/Testing Requirements:

EXAMINE, DOCUMENT, AND ANALYZE SWITCHES PER PROTOCOL ESTABLISHED BY N. LAPONTE
TO ASSIST IN DETERMINING CAUSE OF POSSIBLE SWITCH FIRE OR LEAKAGE. SWITCHES
ARE FROM FIELD SURVEYS. MORE SWITCHES MAY FOLLOW.

Sampling Directions:

Date customer would like report: 04/01/1999

Date customer must have report: 04/01/1999

Report Format(s):

Login Information:

Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve

Phone: 84-54876

[View your test status at: \[HTTP://fd4web.pd7.ford.com/user\]\(http://fd4web.pd7.ford.com/user\)](http://fd4web.pd7.ford.com/user)

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

Routine

Pressing & Resistance³

3713 3085

PRODUCED BY FORD

E902-025-A 0074

Brake Switch Testing Checklist

	Mandatory P/T	A	B	C	D	E	F	G	H
Field Info									
1. Eng A 4WD into Brake Test	C	C	C	C	C	C	C	C	C
2. Photograph Switch	C	C	C	C	C	C	C	C	C
3. Record any unusual switch contact resistance	C	C	C	C	C	C	C	C	C
4. Check for connector engagement	C	-	-	-	-	-	-	-	-
5. Eng A 4WD into Brake Test	C	-	-	-	-	-	-	-	-
Switch + Connector Assembly									
6. New 10Ω to 10Ω Resistance	-	-	-	-	-	-	-	-	-
7. New 10Ω to 10Ω Resistance	-	-	-	-	-	-	-	-	-
8. Opened Return from Switch	-	-	-	-	-	-	-	-	-
Connector Only									
9. Multi-Contact Seal	C	-	-	-	-	-	-	-	-
10. New 10Ω to 10Ω Resistance	-	-	-	-	-	-	-	-	-
11. Check for full engagement of connector	-	-	-	-	-	-	-	-	-
12. Check wire insulation	C	-	-	-	-	-	-	-	-
13. Check wire gauge	C	-	-	-	-	-	-	-	-
14. Cut wire insulation to plug for connector	C	-	-	-	-	-	-	-	-
Switch External Inspected									
15. Remove Switch from Controller Board	C	-	-	-	-	-	-	-	-
16. Solder Ground to Controller Terminal Resistance	-	-	-	-	-	-	-	-	-
17. Solder Ground to Harness Resistance	-	-	-	-	-	-	-	-	-
18. Soldering Terminal to Harness resistance	-	-	-	-	-	-	-	-	-
19. Solder to Harness Resistance	-	-	-	-	-	-	-	-	-
20. Solder to Harness Resistance	-	-	-	-	-	-	-	-	-
21. Solder Wires A7 through 20 at 10Ω each	-	-	-	-	-	-	-	-	-
Switch Internal Inspected									
22. Check Opening Pressure	-	-	-	-	-	-	-	-	-
23. Check Closing Pressure	-	-	-	-	-	-	-	-	-
24. Check 1st for Leakage	-	-	-	-	-	-	-	-	-
25. Report Wires A7 through 20 at 10Ω each	-	-	-	-	-	-	-	-	-
Switch									
26. Solder aluminum tubing	C	C	C	C	C	C	C	C	C
27. Identify corroded contacts. Photograph	C	C	C	C	C	C	C	C	C
28. Inspect seal	C	C	C	C	C	C	C	C	C
29. Soldering corrected contacts. Photograph	C	C	C	C	C	C	C	C	C
Archiving									
30. Removal of 10Ω wires, contacts, insulation	C	C	C	C	C	C	C	C	C
31. Clean base or base cap, support, metal parts, etc.	C	C	C	C	C	C	C	C	C
32. Metallographic analysis of contacts	C	C	C	C	C	C	C	C	C
33. Check for evidence of corrosion or aging	C	C	C	C	C	C	C	C	C

Brake Switch Testing Checklist

	11	12	13	14	15	16	17	18
	PY	PY	PY	PX	PY	B1	PY	PY
Initial Setup	1. Bring Field Info from Status Log out 2. Photograph Switch 3. Record any unusual external visual observations 4. Check the Controller assignment 5. X-ray if appropriate	2						
Check + Controller Availability	6. Setting HICAS to 100% against OBD Pressure 7. Lowering Vehicle to Standard Height 8. Raise Vehicle to Standard Height 9. Diagnostic Scanner Tools Installed							
Controller Only	10. Verify Controller Board 11. Raise Vehicle to Standard Height							
	12. Check for full engagement of connector 13. Check wire insulation 14. Check wire gauge size 15. Get wire insulation check for connector							
Vehicle Internal Power-supplied	16. Assembly Vehicle in Calibration Stand 17. Raise Vehicle to Standard Height 18. Lower Vehicle to Standard Height 19. Assembly Scanner to Standard Height 20. Lower Vehicle to Standard Height	0.2						
Vehicle External Power-supplied	21. Brake Clamping Pressure 22. Brake Clamping Pressure 23. Test Tool for Leakage 24. Report Brake W through 40 to 100 psig	130	71	NO LEAK				
		0.1	0.0	0.0	0.0			
Brakes	25. Inspecting disc brakes for drag 26. Inspecting disc brakes, Wheelcups 27. Brakes map 28. Inspecting disc brakes, Wheelcups							
Archives	31. Photo-CD's of 1000 items, vehicles, components 32. Photo CD's of 1000 tools, equipment, vendor parts, etc. 33. Photographic analysis of contacts with the assistance of experience or training							

	Brake Switch 1							
	19	20	21	22	23	PX1	2	RX
	PW	PW	PW	PW	PW	PW	PW	PW
1. Headlight	3. Check light bulb switch logic					C	S	SPC
	2. Photograph switch					C	C	C
	3. Ground wire isolated required signal interpretation					C	C	C
	4. Check the Controller component					C	C	C
	5. Any other suggestion					C	C	C
2. Brake 1	5. Check 1st Multiple Wire 20/20/40/20/20 Resistance					0.3	0.4	0.2
3. Accelerator	6. Check 1st Multiple Wire 20/20/40/20/20 Resistance					0.0	0.0	0.0
4. Actuators	7. Check 2nd Multiple Wire 20/20/40/20/20 Resistance					0.0	0.0	0.1
	8. Components Harness Read Service							
5. Sensors	9. Verify Connection Read							
6. Body	10. Verify 1st Multiple Wire 20/20/40/20/20 Resistance					0.0	0.0	0.0
	11. Check for bad component or connection							
	12. Check wire insulation							
	13. Check wire insulation							
	14. Check short grey wire							
	15. Cut wire insulation to check for connection							
7. Brackets	16. Relocate switch in Controller Board							
8. Sensors 1	17. Spring Insulation Resistance Standard Resistance					0.3	0.1	0.2
9. Grounded ground	18. Spring Insulation Standard Resistance					0.0	0.0	0.0
	19. Grounding Insulation Standard Resistance					0.0	0.0	0.0
	20. Ground Insulation Standard Resistance					5.5	0.0	17.65K
10. Wires	21. Switch Operating Pressure					158	127	127
11. Sensors	22. Switch Closing Pressure					68	62	64
12. Powertrain	23. Total Seal for Leaking					NO LEAK	NO LEAK	NO LEAK
	24. Repeat Steps 17 through 26 at 100% duty					—	—	—
13. Wires	25. Remove aluminum clamping					0.0	0.1	0.0
	26. Remove rounded insulation. Photograph					0.0	0.0	0.0
	27. Remove cap					0.0	0.0	0.0
	28. Reapply rounded insulation. Photograph					0.0	0.0	0.0
14. Insulations	29. Solder 200% of 100% torque, insulation, insulation							
	30. Solder 200% of 100% torque, insulation, insulation, etc							
	31. Non-destructive analysis of insulation							
	32. Visual evidence of insulation or sealing							

COMPLTS
DID NOT
DATA

		3) Ground Switch T.L. P.T.O. Specified								2)	
		4	5	6	7	8	9	10	11		
1 Initial Audit		G	C	S	C	C	C	C	C		
2 Production Series		C	C	C	C	C	C	C	C		
3 Periodic audit program review of visual observations		C	C	C	C	C	C	C	C		
4 Check for Customer improvement		C	C	—	C	—	C	C	C		
5 Key ITI improvements		C	—	—	—	—	—	—	—		
6) Switch + Connector Assembly		Soldered Contact Value Acceptability Requirements		0.2	—	0.0	—	—	—	0.4	
7) Soldered Contact Value Acceptability Requirements		0.0		—	0.0	—	—	—	—	0.0	
8) Inspect Assembly Item Depth		0.0		—	0.0	—	—	—	—	0.05 m	
9) Inspect Assembly Item Depth		0.05 m		—	0.0	—	—	—	—	0.05 m	
10) Verify Connector Area		—		—	—	—	—	—	—	—	
11) Verify 10.000 to 100.000 contacts		0.00		—	0.0	—	—	—	—	0.00	
12) Check for tight engagement of contacts		—		—	—	—	—	—	—	—	
13) Check wire insulation		C		C	—	C	—	—	C	C	
14) Check wire gauge ends		—		—	—	—	—	—	—	—	
15) Cut wire insulation to check for insulation		—		—	—	—	—	—	—	—	
16) Inspect Switch to Construction Drawing		—		—	—	—	—	—	—	—	
17) Solder Equivalent to Manufacturing Standard Requirements		0.1	0.1	—	0.3	—	1.5	0.4	0.1	0.1	
18) Soldering Temperature in Aligned Reference		0.0	0.0	—	0.0	—	0.15 m	0.0	0.0	0.0	
19) Inspect Terminal in Aligned Reference		0.0	0.0	—	0.0	—	0.15 m	0.0	0.0	0.0	
20) Press in Plunger Dimensions		0.0	1.0 ± 0.1	—	0.45 m	—	0.4	0.3	0.0	0.0	
21) Switch Opening Pressure		1.33	1.51	—	1.36	—	1.64	1.36	1.35	—	
22) Switch Closing Pressure		6.3	8.1	—	6.6	—	6.1	10.8	7.9	—	
23) Visual Test for Leakage		NO LEAK	NO LEAK	—	NO LEAK	—	NO LEAK	NO LEAK	NO LEAK	—	
24) Inspect Objects at Strength 20 at 100 cycles		—	—	—	—	—	—	—	—	—	
25) Inspect objects at strength 100 at 100 cycles		—	—	—	—	—	—	—	—	—	
26) Inspect objects at strength 1000 at 100 cycles		—	—	—	—	—	—	—	—	—	
27) Inspect Objects at Strength 20 at 1000 cycles		—	—	—	—	—	—	—	—	—	
28) Inspect objects at strength 100 at 1000 cycles		—	—	—	—	—	—	—	—	—	
29) Inspect objects at strength 1000 at 1000 cycles		—	—	—	—	—	—	—	—	—	
30) Inspect objects at strength 10000 at 1000 cycles		—	—	—	—	—	—	—	—	—	
31) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
32) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
33) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
34) Check for evidence of corrosion or staining		—	—	—	—	—	—	—	—	—	
35) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
36) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
37) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
38) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
39) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
40) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
41) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
42) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
43) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
44) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
45) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
46) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
47) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
48) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
49) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
50) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
51) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
52) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
53) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
54) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
55) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
56) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
57) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
58) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
59) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
60) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
61) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
62) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
63) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
64) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
65) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
66) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
67) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
68) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
69) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
70) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
71) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
72) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
73) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
74) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
75) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
76) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
77) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
78) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
79) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
80) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
81) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
82) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
83) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
84) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
85) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
86) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
87) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
88) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
89) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
90) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
91) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
92) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
93) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
94) Microscopic analysis of contacts		—	—	—	—	—	—	—	—	—	
95) Visual inspection of contact surfaces		—	—	—	—	—	—	—	—	—	
96) Visual inspection of lead wires, insulation, terminals, etc.		—	—	—	—	—	—	—	—	—	
97											

(1) Brake Switch Test Checklist

	12	13		
	PY	PY	PY	PY
1. Initial setup	C	C		
2. Pre-emptive actions	C	C		
3. Selected key system-related event observations	C	C		
4. Check for Connector engagement	C	C		
5. Key D/E sequencing	OK	—		
Switches +	6. Power 10.0VDC@10mA 200mA@10V Resistance	0.3	0.3	
Connectors	7. Power 10.0VDC to Host+4 Resistors	2.0-23.1V	—	
Auxiliary	7. Power 20.0VDC@10mA 100mA@10V Resistance	21.43.1V	—	
	8. Ground Hopping from Switch			
Connectors	9. Verify Connector Seal			
Only	10. More 10.0VDC to other 200mA@10V resistors	0.0-	0.0-	
	12. Check for full engagement of connectors			
	13. Check New Resistors	C	C	
	14. Check wire gauge width			
	15. Cut wire insulation to align the connection			
Switches	16. Power 10VDC to Connection Board			
Electrical	17. Power Terminal to Battery Terminal Resistance	0.7-	0.7-	>7.0KΩ, >130KΩ
Diodes + isolated	18. Power Terminal to chassis Resistance	34.1V	0-	>150KΩ, >175KΩ
	19. Battery Terminal to Ground resistance	35m	0-	>350KΩ, >345KΩ
	20. Bias in Ground Resistor	63.4K	7.3m	0-
Switches	24. Check Opening Pressure	14.2	1.50	1.52
Estimated	25. Check Closing Pressure	61	7.0	1.2
Non-electrical	26. Power Test for Leaking	NO LEAK	NO LEAK	NO LEAK
	27. Impact Tests at Strength 20 or 400gms			
		0.1	0.1	>1.0KΩ, >170KΩ
		0.2	0.2	>6.0KΩ, >140KΩ
		0.3	0.3	>3.0KΩ, >15KΩ
		0.4	0.4	0-
Switches	28. Measure insulation using megger			
	29. Measure insulation resistance, FlukeMegger			
	30. Measure gap			
	31. Insulated/reinsulated surfaces, Painting etc.			
Techniques	32. Visual check of ESD levels, surfaces, materials			
	33. Visual check of TGA resp., weight, surface area, etc.			
	34. Micrography, analysis of contacts			
	35. Look for evidence of corrosion or ageing			

כט

CONTACTS NO CONTACT
IND. NOT. INTRUSING
PAG 6 SOUND
(>130K.n.) (>170K.n.)

Request for Central Laboratory Service

Receipt - Copy

Last Request Number: 00000000
Date of Request: 02/22/1998 08:17:31 AM
Print Date: 02/22/1998 09:31:41 AM

Request Description: SPEED CONTROL CUTOFF SWITCH

Requester Information:

Primary Contact:
Secondary Contact: LA POINTE, NORM - 10075 Phone: (313) 584-2686 PROPS ID: NLAPPOINT Fax: (313) 337-8256

Send Report to:
Bill to:
MD 3006/2G056, AVT MATERIALS, BLDG. #8
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 SH EET	P2VY-SP224-A	N/A	00-00-00	TEXAS INST RUMEN TS

Investigation Information:

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

Additional Sample Information/Testng 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: 04/01/1998

Date customer must have report: 04/01/1998

Report Format(s):

Log-in Information:

Initial Routing: Metallurgy
Accepted for Central Laboratory by: LaRouche, Steve

Phone: 84-54878

Program Name: KALISLab Engg Module
Program Version: Version: 2.0.5

View your lab status at: <HTTP://bd4wsls.ps7.ford.com/folder>

ALEX
Fluoro scope

3713 3092

PRODUCED BY FORD

2002-025-A 9881

Project No. 332050-3
Book No. 2572

TITLE Spec. Control S-17 Switch

From Page No. Object: Fluoroscopic; analyze the switch contact and connector assemblies.

Received: Three aged (crucis) control cutoff switches were received on February 22, 1997 and were identified as:

PX [REDACTED] PX [REDACTED] and NY [REDACTED]

Part# F2 YV29E924-A

Specification is not stated

Supplier: Texas Instruments

Test Data: Fluoroscopic Generation

Sample PX [REDACTED] switch shows a mis-adjusted internal horizontal locking gasket seal. This mis-adjustment would allow leakage past the dovetail seal.

The remaining two samples (switches) show the internal horizontal seals made with less than optimum compression.

All three switches are similar in appearance. Age of the side connection loops (locking dog) is mis-shaped. Instead of being square, it has been cut diagonally at approximately 30° angle. This allows one side of the connector to unlock. This permits the sealing gasket from being properly compressed and would allow leakage past the seal.

In addition the switch knife edge that goes across the connector sealing gasket is mis-shaped and would potentially allow leakage.

The fluoroscopic image shows the connector sealing gasket containing liquid glass! There can be pressure between connectors! This suggests that the gasket is an open cell foam. To prevent leakage, the connector the gasket should be closed and fused. Investigation of this gasket is HIGHLY recommended.

Attachment 6 pages of photographs

To Page No.

Witnessed & Understood by me,

Date

Invented by

Date
23 Feb 97

3713 3093

PRODUCED BY FORD

E982-025-A E982

Vin PY [REDACTED]

- 5) 2.2
- 6) 6.01 M.2
- 7) 6.08 M.2
- 10) open C.R.
- 11) waiting

- 17) 1.5 .2
- 18) 6.25 M.2
- 19) 6.36 M.2
- 20) 0.4 .2
- 21) waiting

Vin

PX [REDACTED]

- 5) 0.4 .2
- 6) ∞ .2
- 7) ∞ .2
- 10) ∞ .2
- 11) ∞ .2
- 12) waiting
- 17) ∞ ~~at~~ 0.4 .2
- 18) ∞ .2
- 19) ∞ .2
- 20) 6.5 .2

(stationary closest to Fex to

PX [REDACTED]

- 5) 0.4 .2
- 6) ∞ .2
- 7) ∞ .2
- 10)
- 11)

PY [REDACTED]

- 5) ∞ .2
- 6) ∞ .2
- 7) ∞ .2
- 10) ∞ .2
- 11)
- 17) 0.3 .2
- 18) ∞ .2
- 19) ∞ .2
- 20) 0.463 M.2

3713 3101

PRODUCED BY FORD

0982-025-A 9883

V_{IN} PY [REDACTED]

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

↓ V_{IN} PY [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

V_{IN} RX [REDACTED]

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

PY [REDACTED]

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

3713 310

PRODUCED BY

ER02-025-A 5964

Vin PY [REDACTED]

- [7] 2.2 Ω
- [8] ∞ Ω
- [9] ∞ Ω
- [10] 1.437 MΩ

Vin Px [REDACTED]

- [7] 0.2 Ω
- [8] ∞ Ω
- [9] ∞ Ω
- [10] 7.5 MΩ

Vin PY [REDACTED]

- [7] 0.3 Ω
- [8] ∞ Ω
- [9] ∞ Ω
- [10] 1.6 MΩ

3713 3104

PRODUCED BY FORD

ER02-025-A 9888