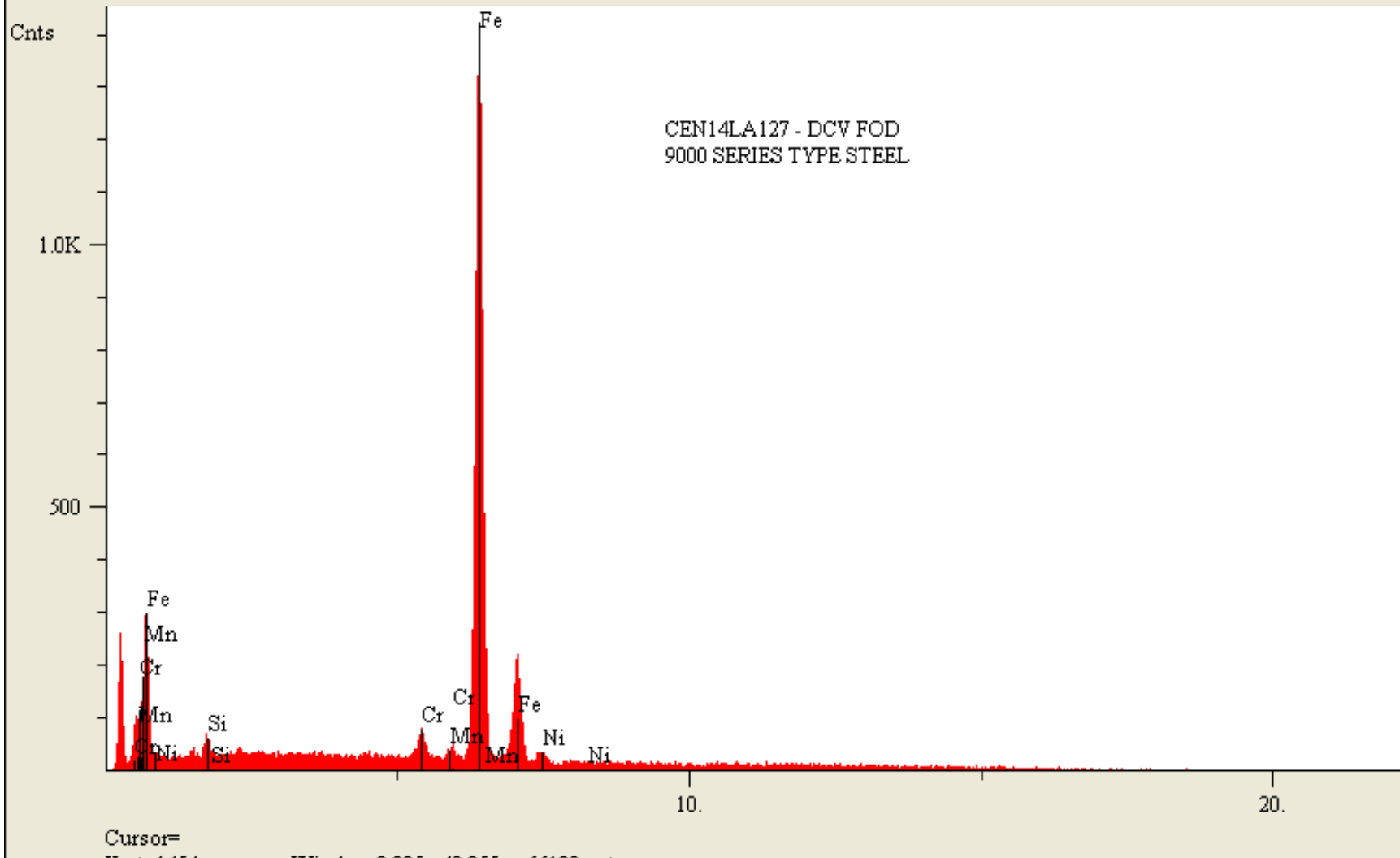


DIRECTIONAL CONTROL VALVE (Metallic Chip)



DIRECTIONAL CONTROL VALVE (Metallic Chip)

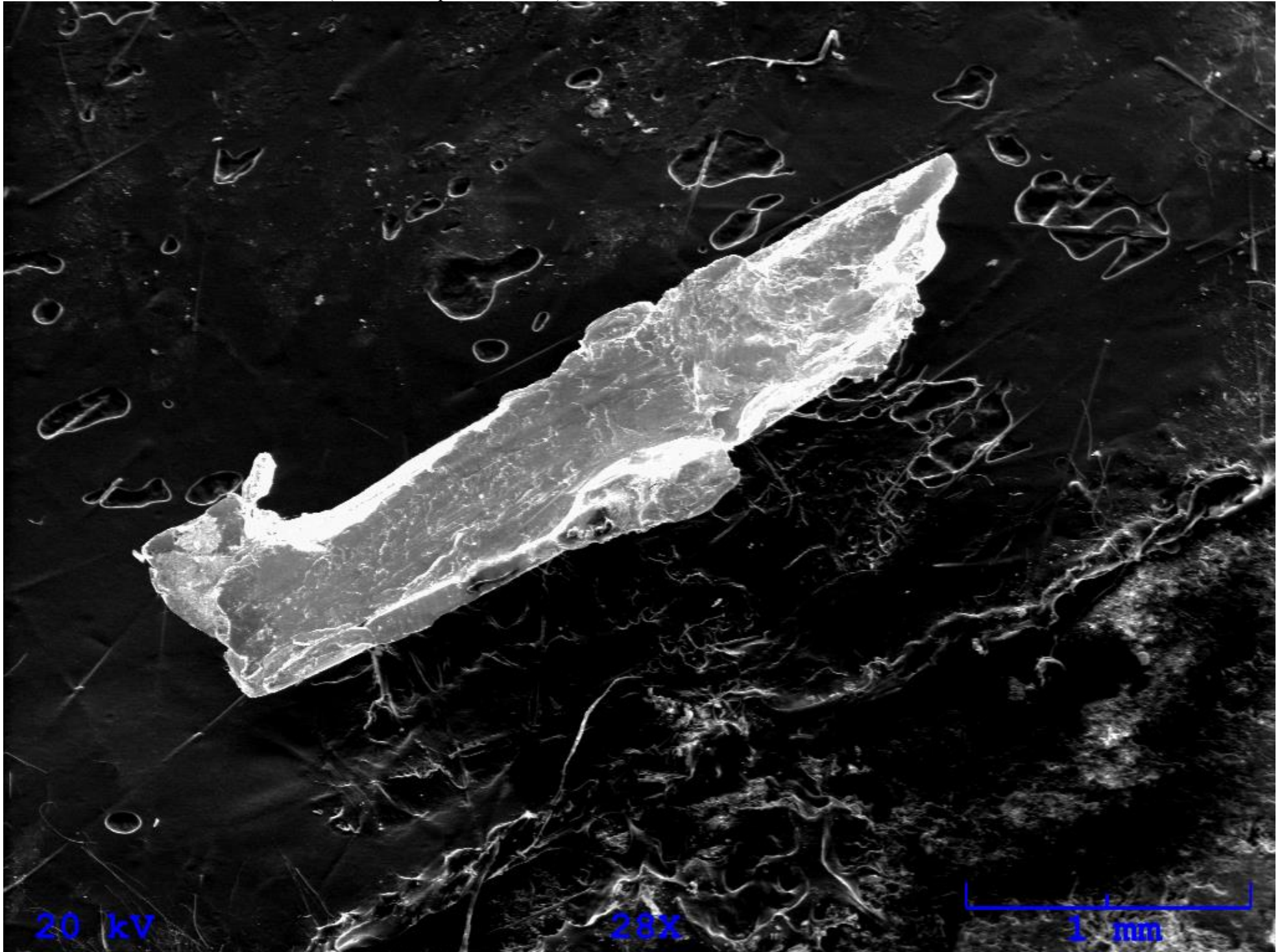
14DM-331



Elt.	Conc
Si	1.491 wt.%
Cr	1.693 wt.%
Mn	0.712 wt.%
Fe	93.466 wt.%
Ni	2.638 wt.%
	100.000 wt.%

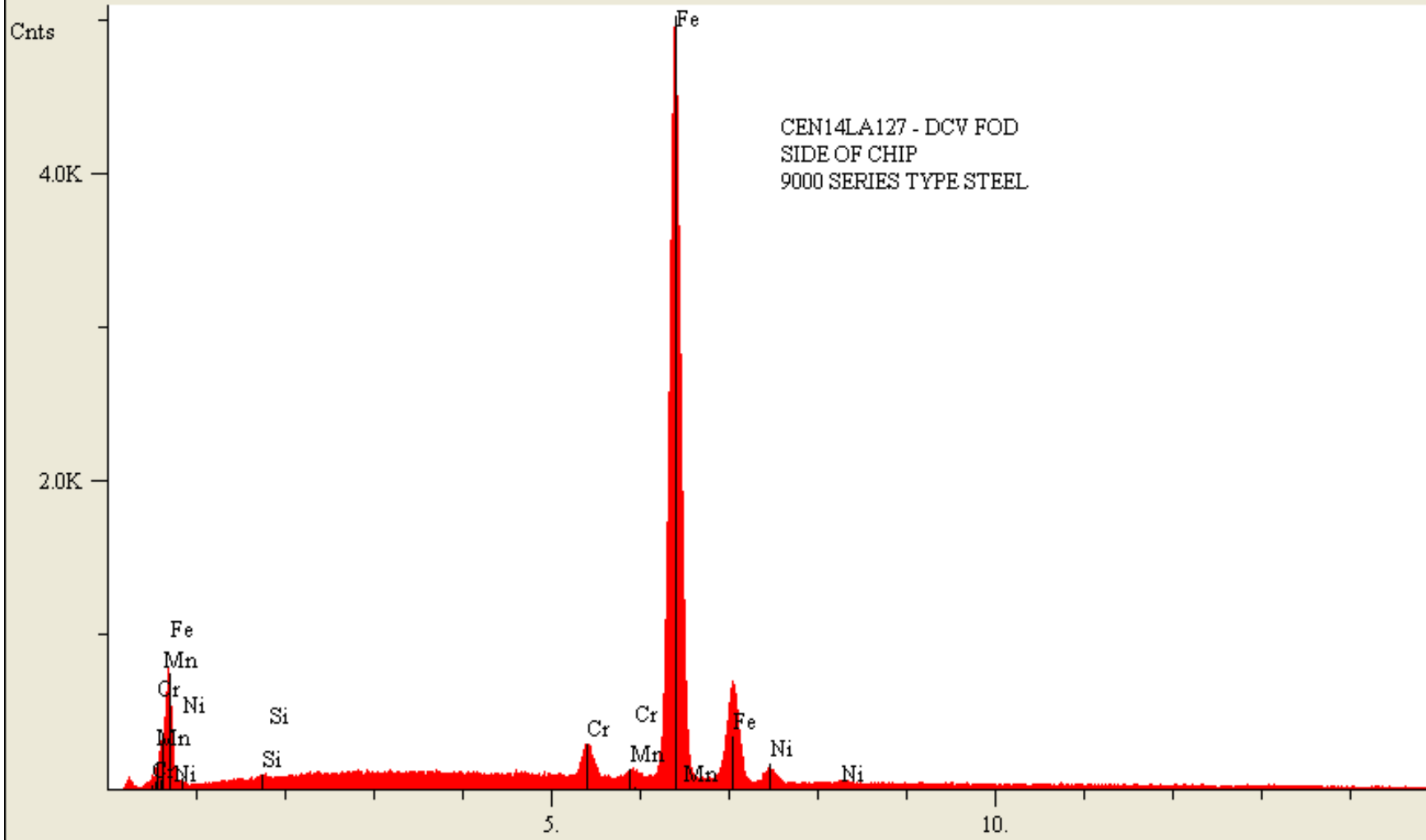
kV 20.0
Takeoff Angle 19.0
Elapsed Livetime 100.

DIRECTIONAL CONTROL VALVE (Metallic Chip – Side View)



DIRECTIONAL CONTROL VALVE (Metallic Chip – Side View)

14DM-331A



CEN14LA127 - DCV FOD
SIDE OF CHIP
9000 SERIES TYPE STEEL

Elt.	Conc
Si	0.170 wt.%
Cr	2.102 wt.%
Mn	0.366 wt.%
Fe	94.034 wt.%
Ni	3.328 wt.%
	100.000 wt.%

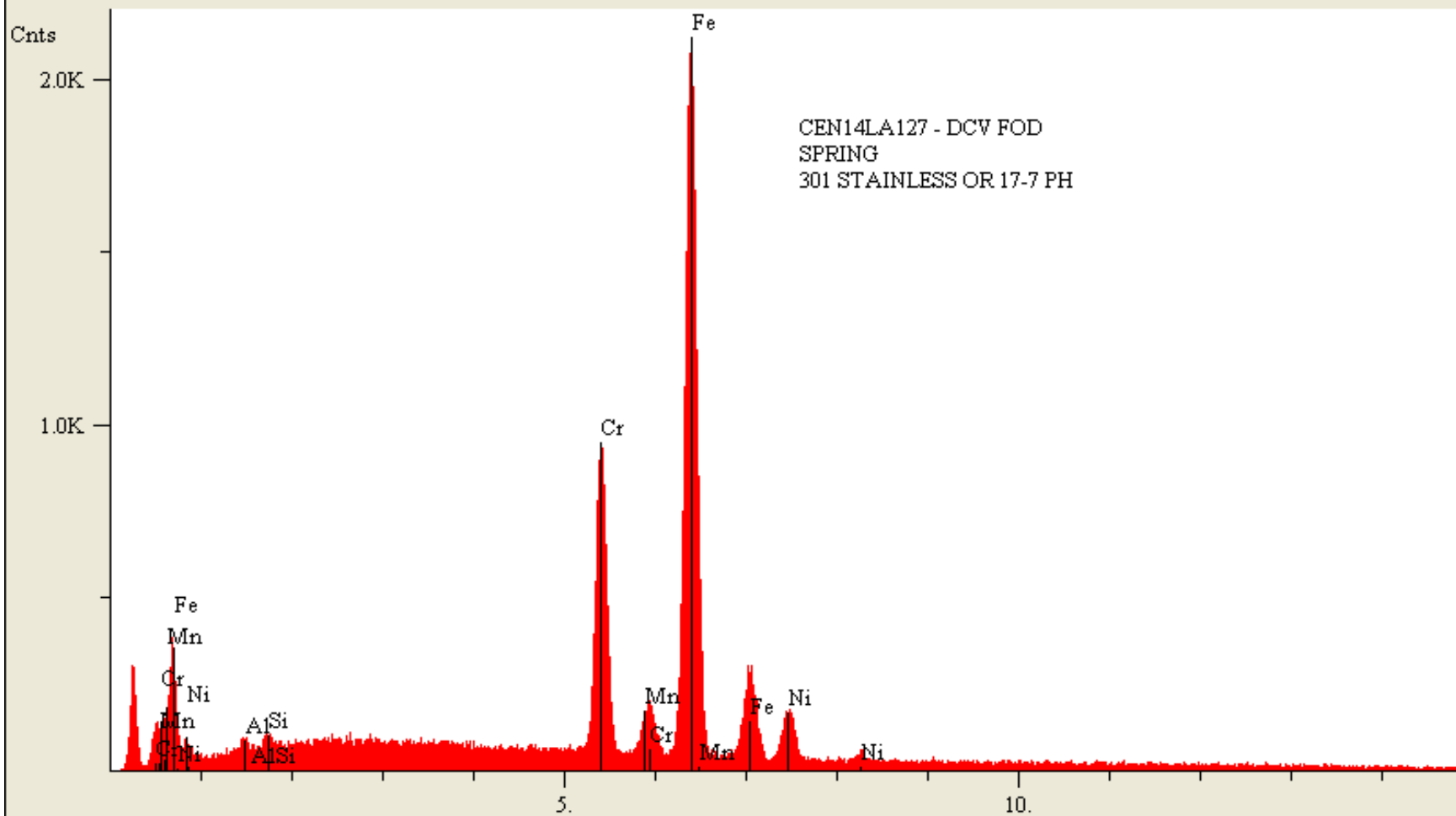
kV	20.0
Takeoff Angle	19.0
Elapsed Livetime	100.

Cursor=

5.122 6.395 10.955 12.912

DIRECTIONAL CONTROL VALVE (Solenoid Return Spring)

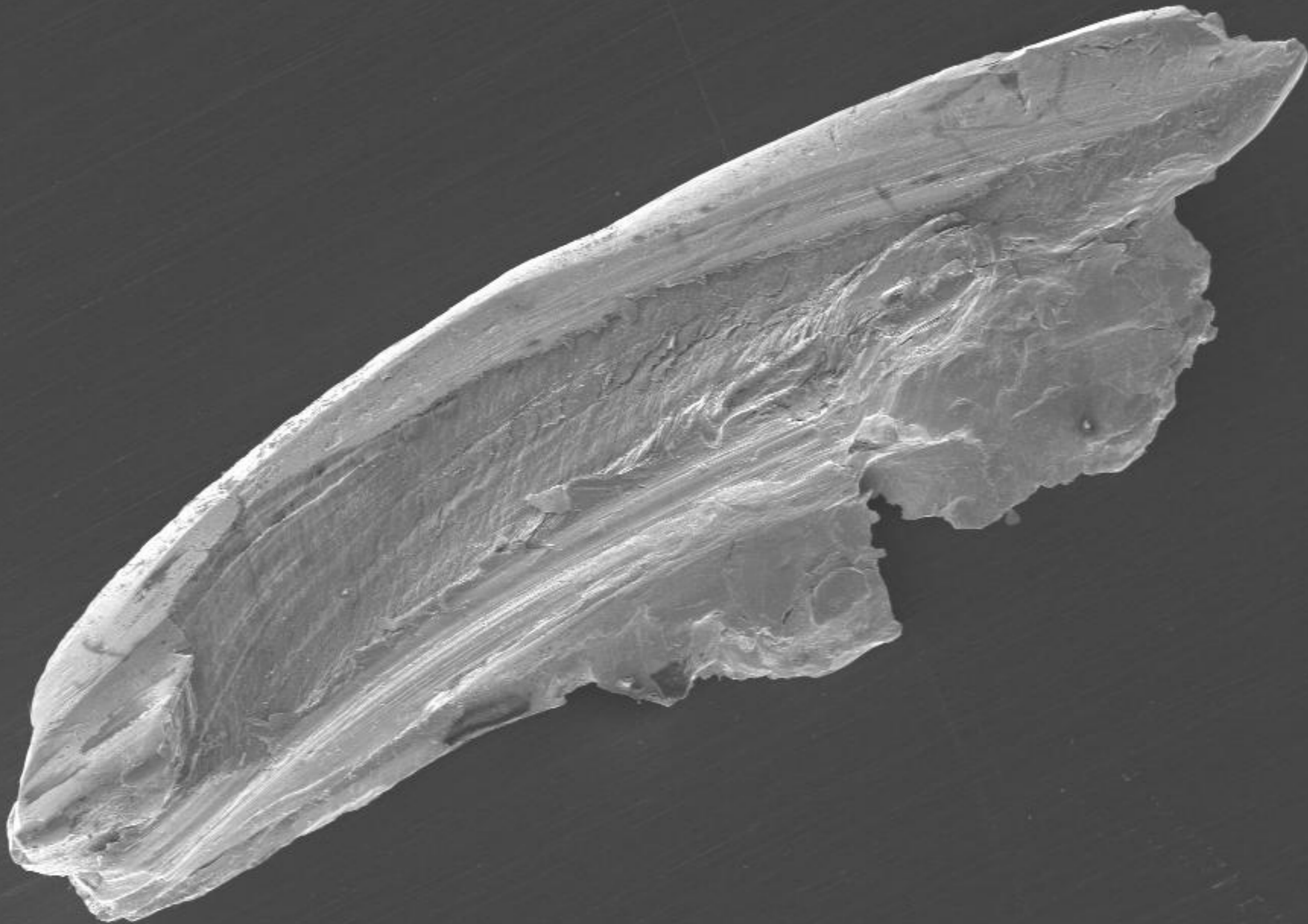
14DM-331 SPRING



Elt.	Conc
Al	0.621 wt.%
Si	0.540 wt.%
Cr	18.343 wt.%
Mn	0.961 wt.%
Fe	71.202 wt.%
Ni	8.334 wt.%
	100.000 wt.%

kV 20.0
Takeoff Angle 19.0
Elapsed Livetime 97.1

Cursor=



100 μ m

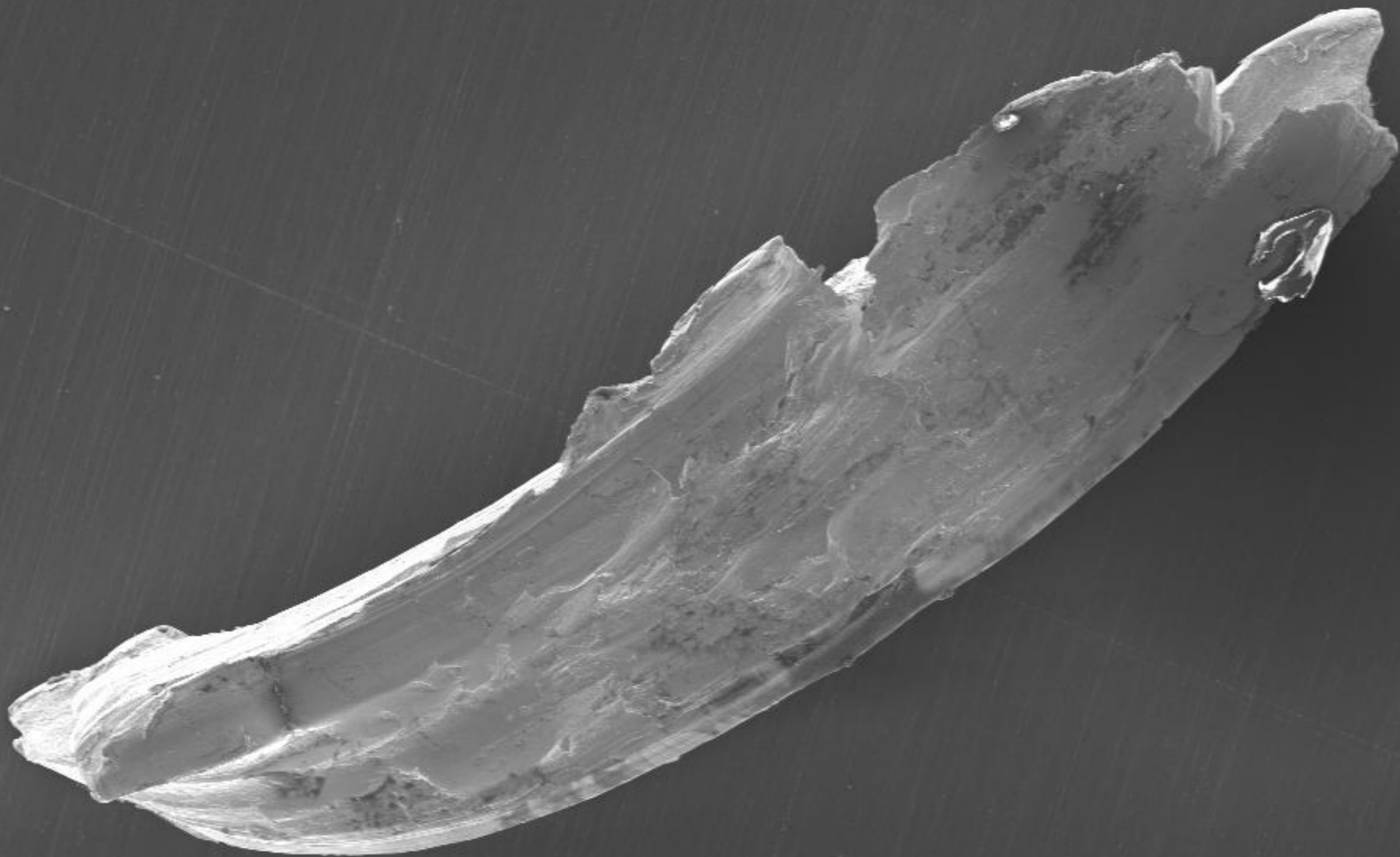


EHT = 10.00 kV Mag = 100 X
WD = 19.1 mm Ref. Std. = Out Dev.

Det. = SEI Mode = SEM
Aperture = 30.00 μ m

Ref. No. = 706

NTSB Materials Laboratory



100 μm



EHT = 10.00 kV Mag = 100 X
WD = 18.9 mm Ref. Std. = Out Dev.

Det. = SEI

Mode = SEM

Ref. No. = 703

Aperture = 60.00 μm

NTSB Materials Laboratory

--- Metallic Chip (top) @ 20kV 500X ---

Wed Apr 16 10:28:40 2014

Filter Fit Chi-squared value: 30.571

Correction Method: ZAF

Acc.Voltage: 20.0 kV Take Off Angle: 43.3 deg

Element	Element
Line	Wt.%
Cr K	1.27
Mn K	0.91
Fe K	94.49
Ni K	3.33

Total	100.00

--- Metallic Chip (bottom) @ 20kV 500X ---

Wed Apr 16 10:37:43 2014

Filter Fit Chi-squared value: 25.330

Correction Method: ZAF

Acc.Voltage: 20.0 kV Take Off Angle: 37.5 deg

Element	Element
Line	Wt.%
Si K	0.27
Cr K	2.57
Mn K	0.70
Fe K	93.33
Ni K	3.13

Total	100.00