



**FORENSIC
SERVICES
BALLISTICS ETCH
INVESTIGATION**

PURPOSE



To inform management about irregularities with regards to SAPS firearms used in criminal activities

To create awareness of the extent of this criminal activity taking place within SAPS

To present all information obtained during this Etch investigation to enable further action

OVERVIEW

The etch investigation was initiated when examiners noticed that firearms previously examined by the Ballistics section of the Forensic Science Laboratory Western Cape, are again being sent in for examination, but under different CAS numbers.

It is standard procedure that when an examiner receives a firearm with a removed serial number, he or she will mark the firearm on the trigger guard with a unique laboratory number.

Examiners noticed deeply removed serial numbers as well as unique laboratory numbers being removed from the trigger guard area.

Upon further investigation into the matter it became apparent that the firearm components that the Ballistics section focus on to establish individuality, were altered.

- Noticed that previously examined firearms were being sent to the Ballistics Unit, Western Cape
- The presence of deeply removed serial numbers and obliteration of the trigger guard area alerted us to this fact



Standard Operating Procedure

Examine the firearm



Mark trigger guard area with unique lab number

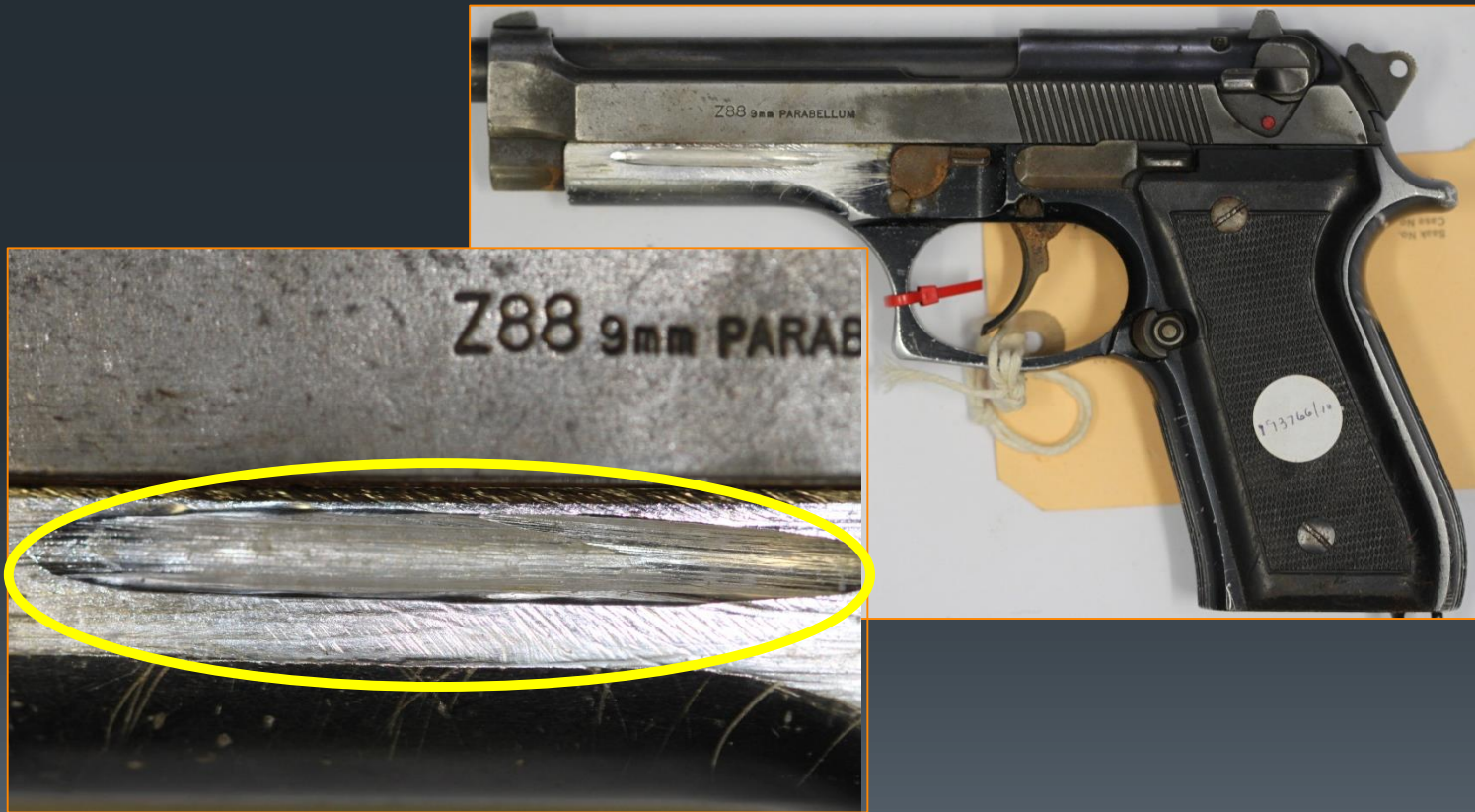


Lab number removed from trigger guard area



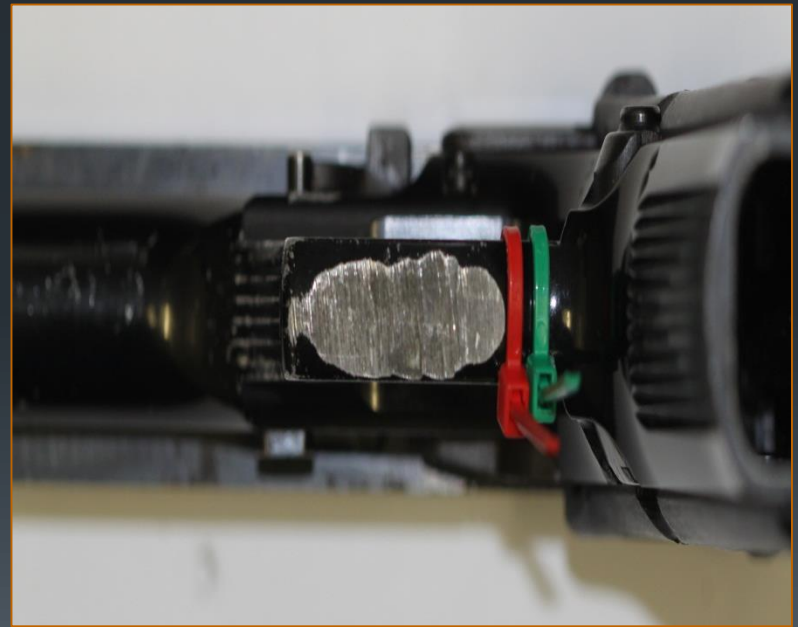
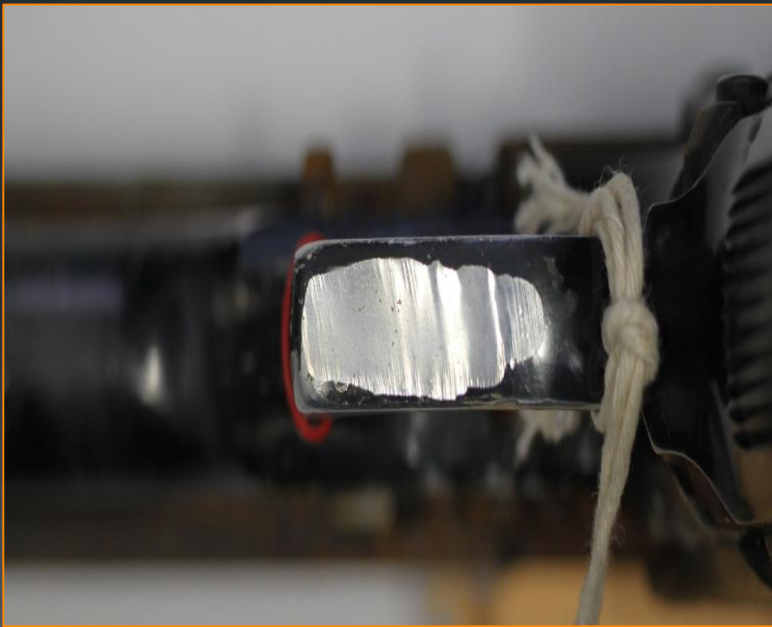
Scope of Investigation


- Deeply removed serial numbers



Scope of Investigation

- Signs of obliteration around trigger guard area.



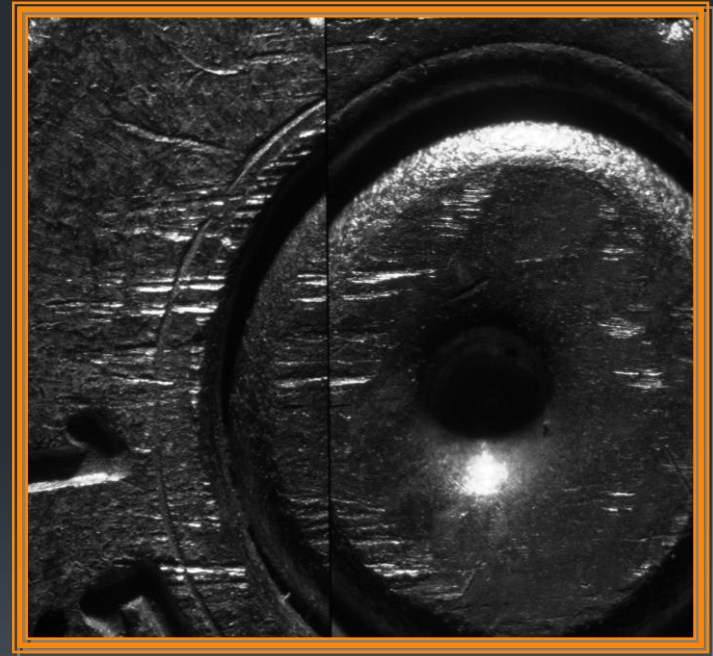
- 
- Tried to utilise IBIS to find possible matches on these firearms coming in and those previously examined and put on IBIS
 - Became apparent that the firing pins, ejectors, extractors and the chamber of the barrels were also being modified
 - These are the components of a firearm that ballistics examiners rely on for identification

Firearm Generated Markings

Cartridge Case Markings



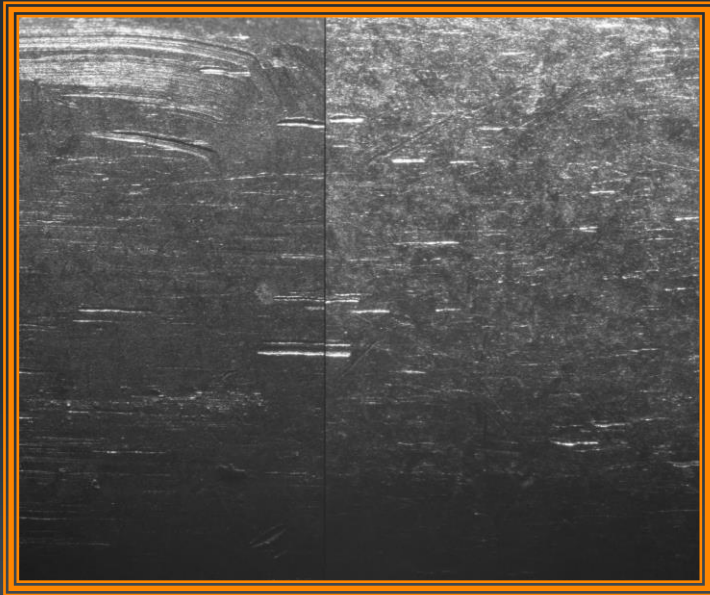
Extractor



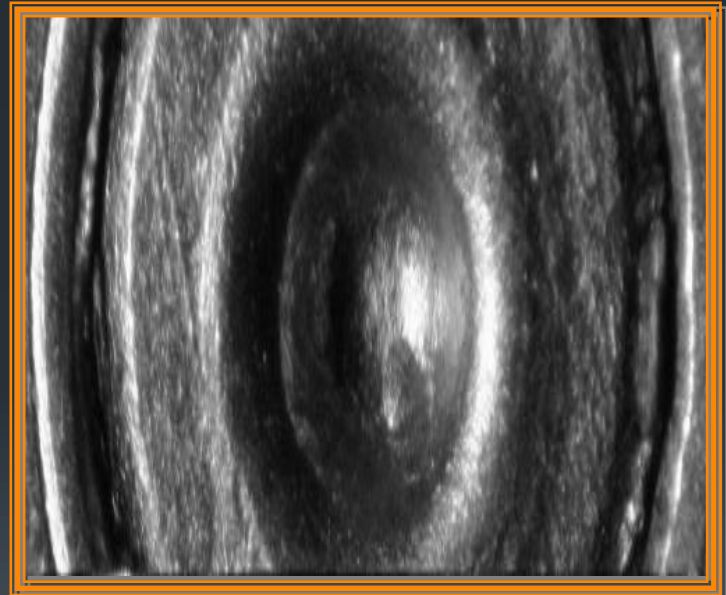
Breechface

Firearm Generated Markings

Cartridge Case Markings

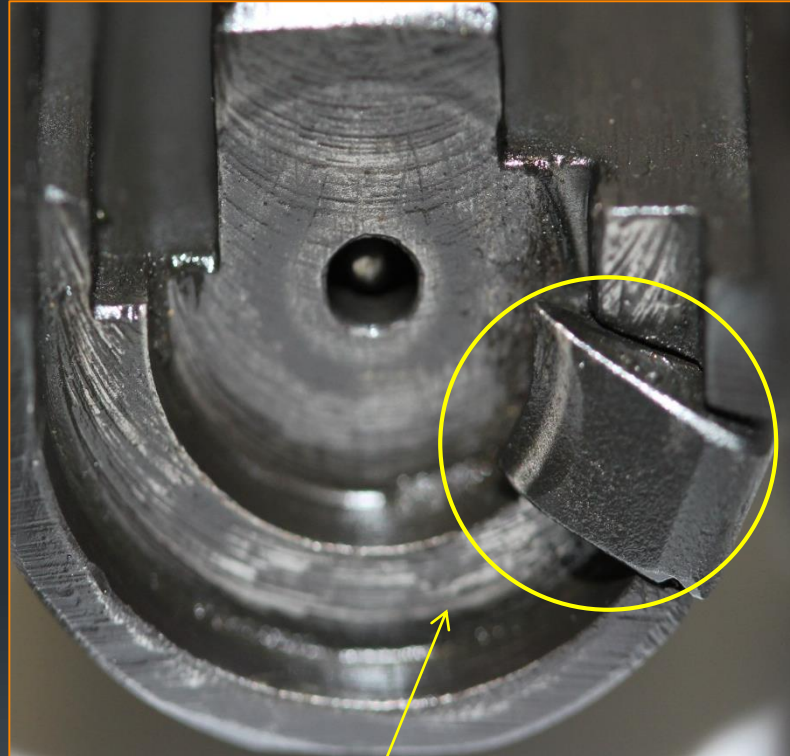


Chamber marks

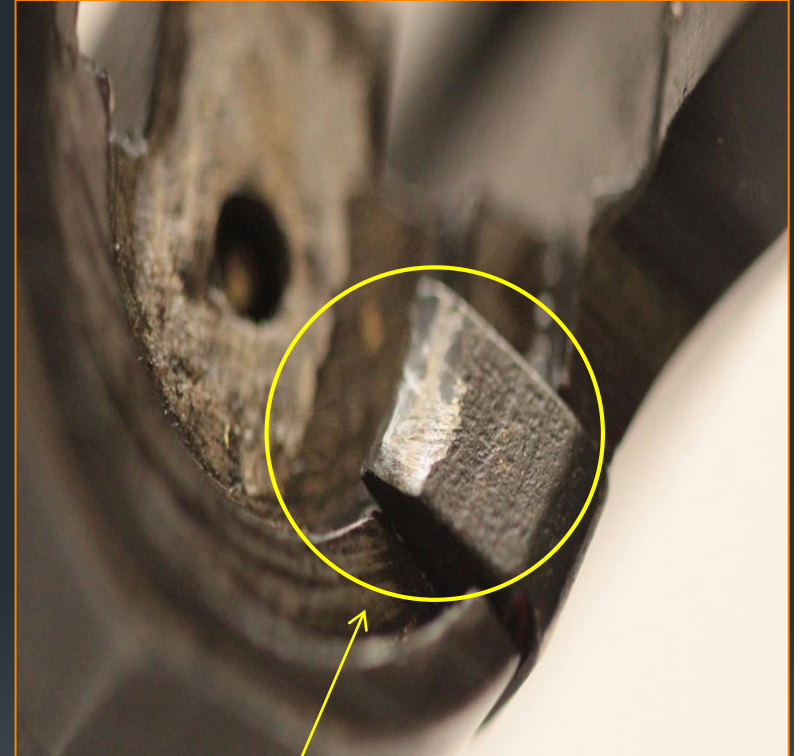


Firing pin

Firearm components



Normal Extractor



Modified Extractor

Firearm components

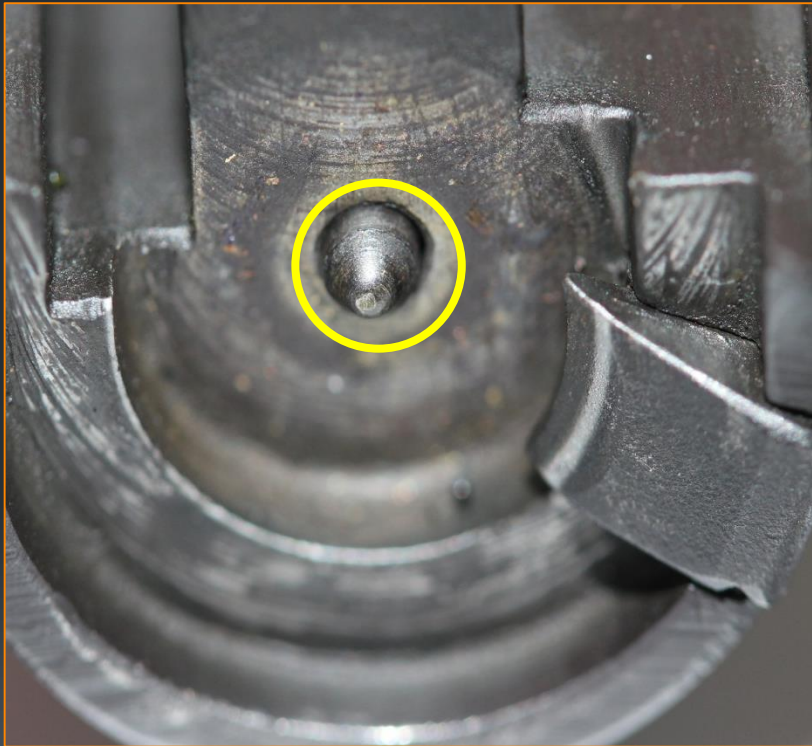


Normal Breechface



Modified Breechface

Firearm Components



Normal Firing Pin



Modified Firing Pin

Firearm components



Typical appearance



After modification

Why initial search on IBIS failed



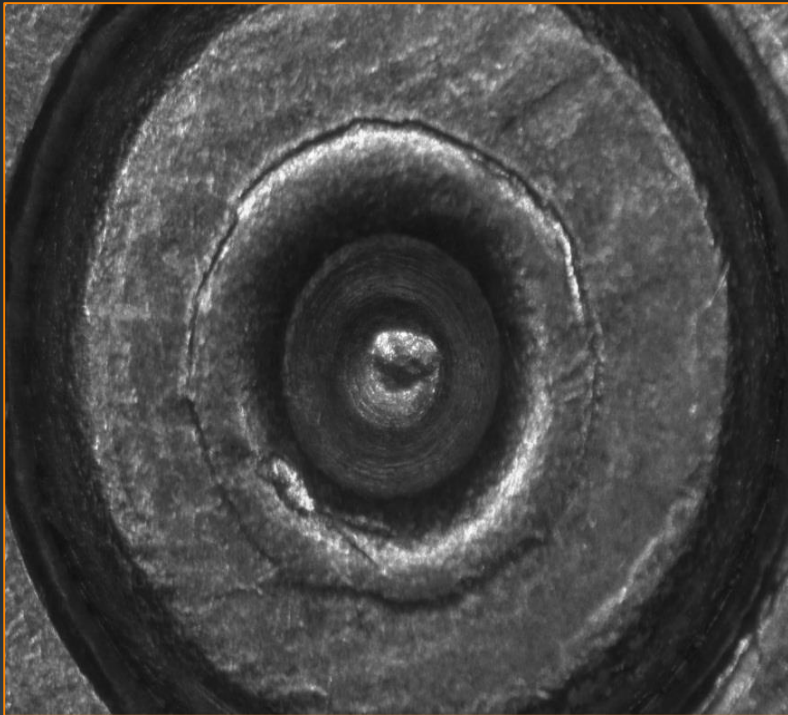
IBIS generates exhibits that are likely to have been fired by the same firearm based on similarities in class and individual characteristics.

When modifications are done to the firearms involved it changes the class and individual characteristics of the firearm

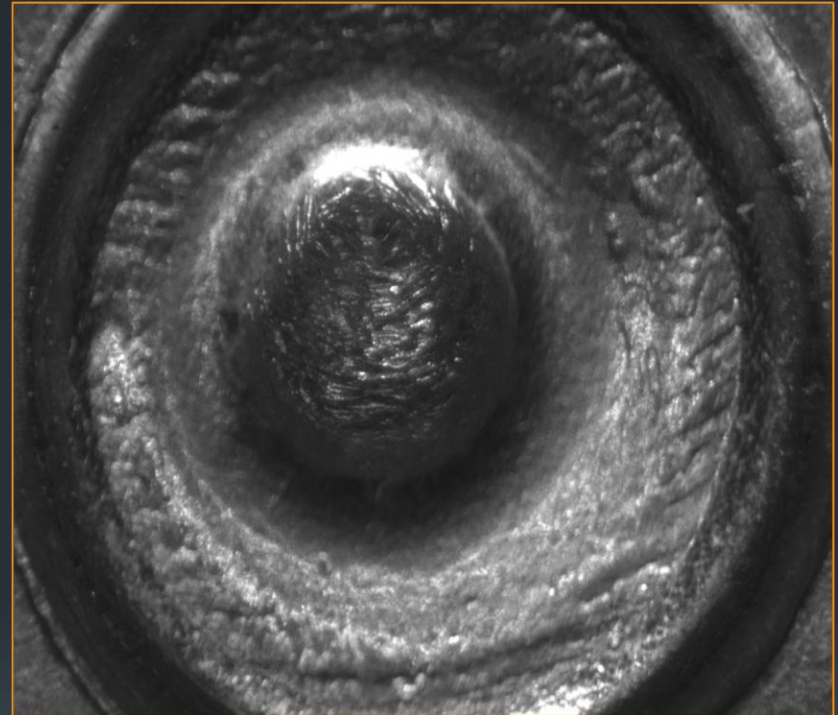
MP+ then excludes good possibilities based on the difference in class and individual characteristics.

Due to the differences caused by the modifications we were unable to establish a link between these modified firearms and previously examined firearms

Breechface and firing pin impression under comparison microscope

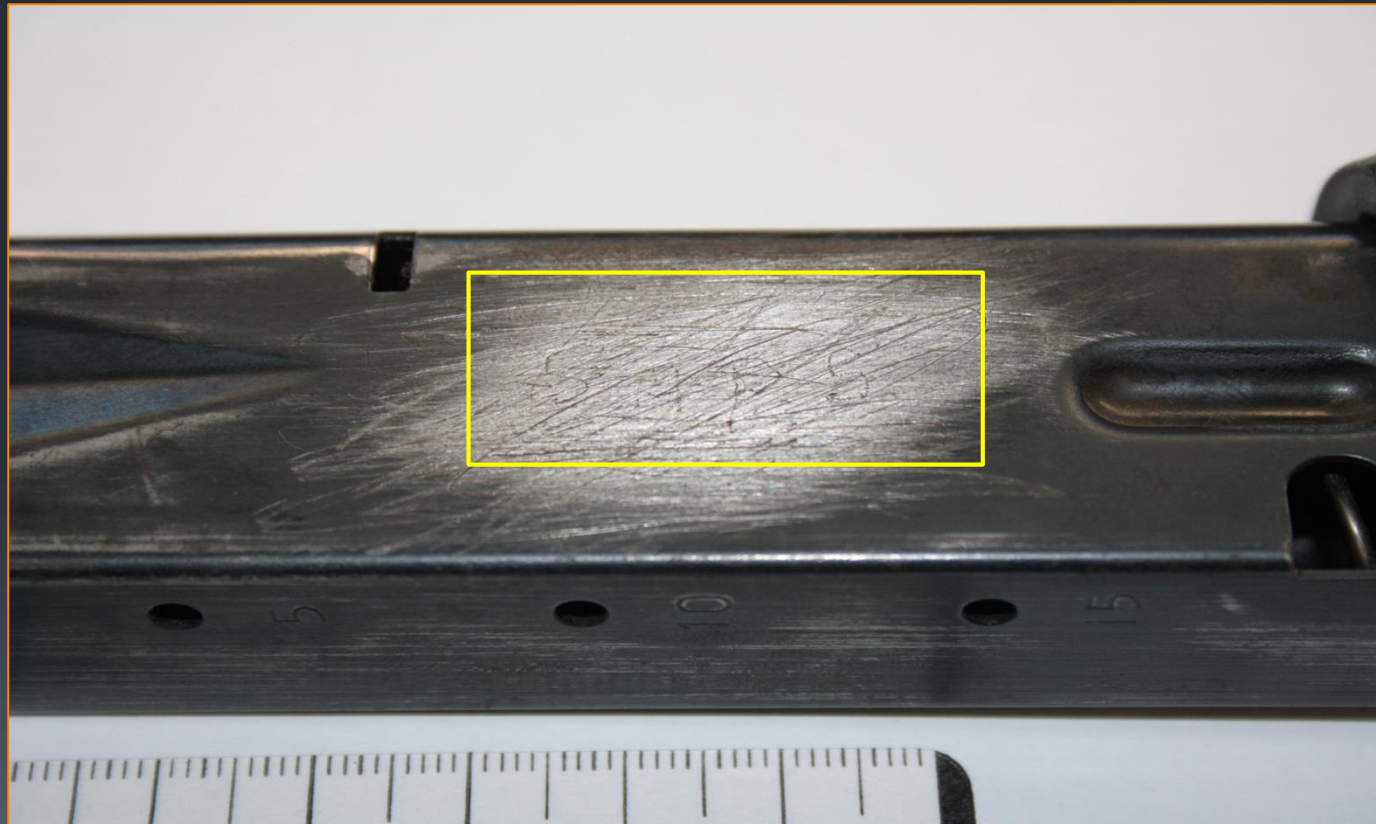


Typical breechface and firing pin impression of a LEW/Vektor Z88



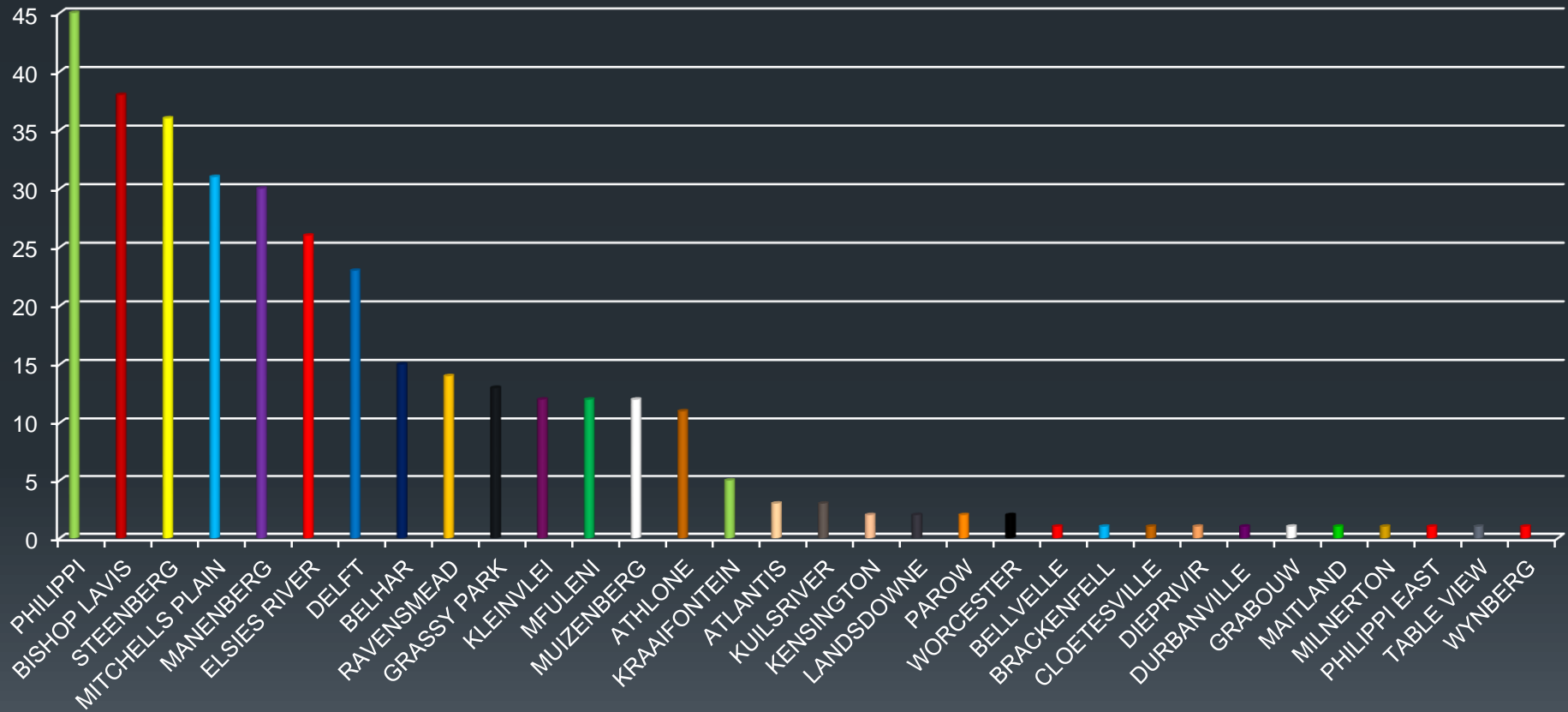
Breechface and firing pin impression after modification

ATTEMPTS MADE TO REMOVE “SAPS” FROM THE MAGAZINE



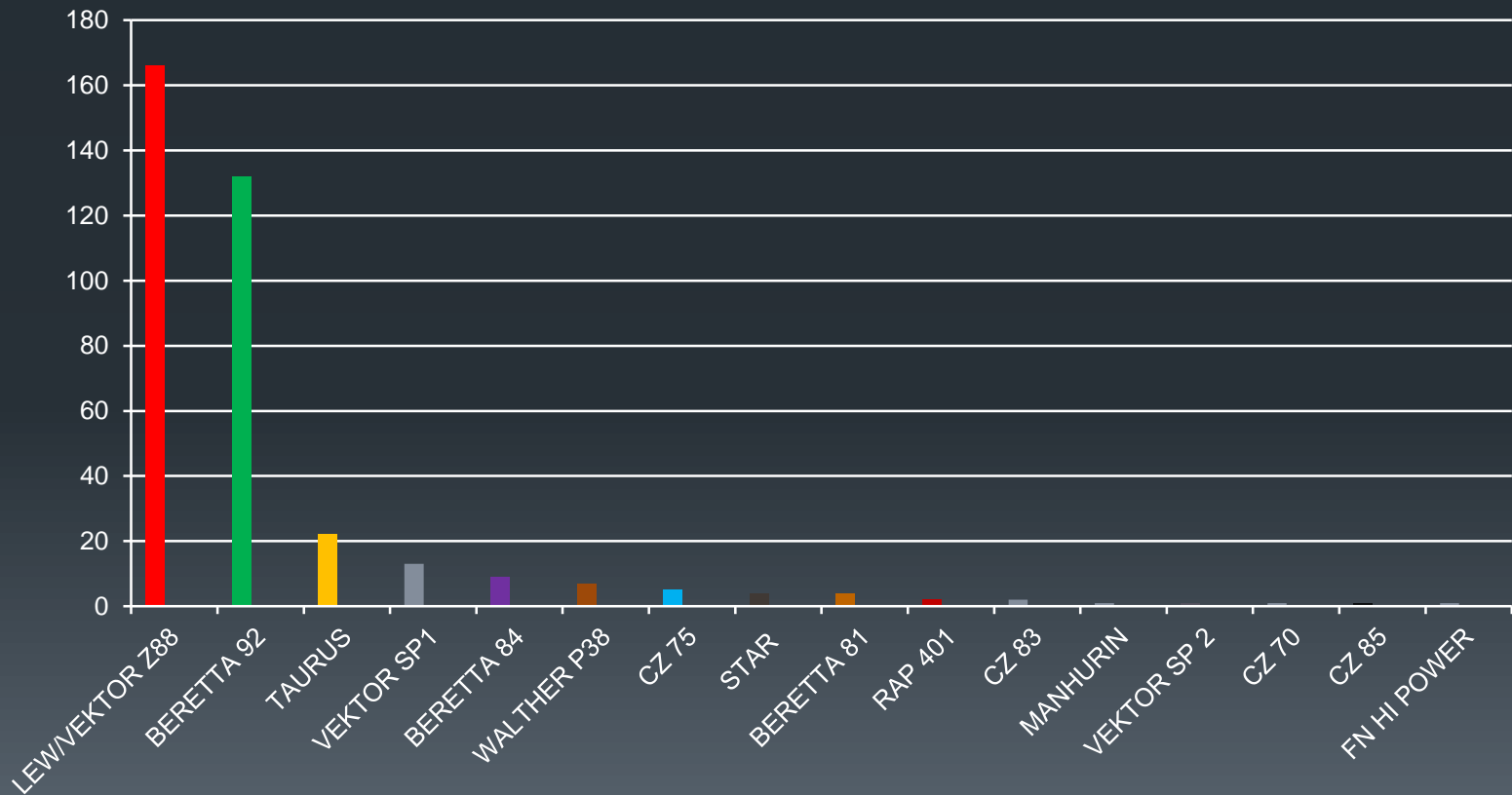
Areas Identified

- Illustration of areas where these types of firearms are in circulation

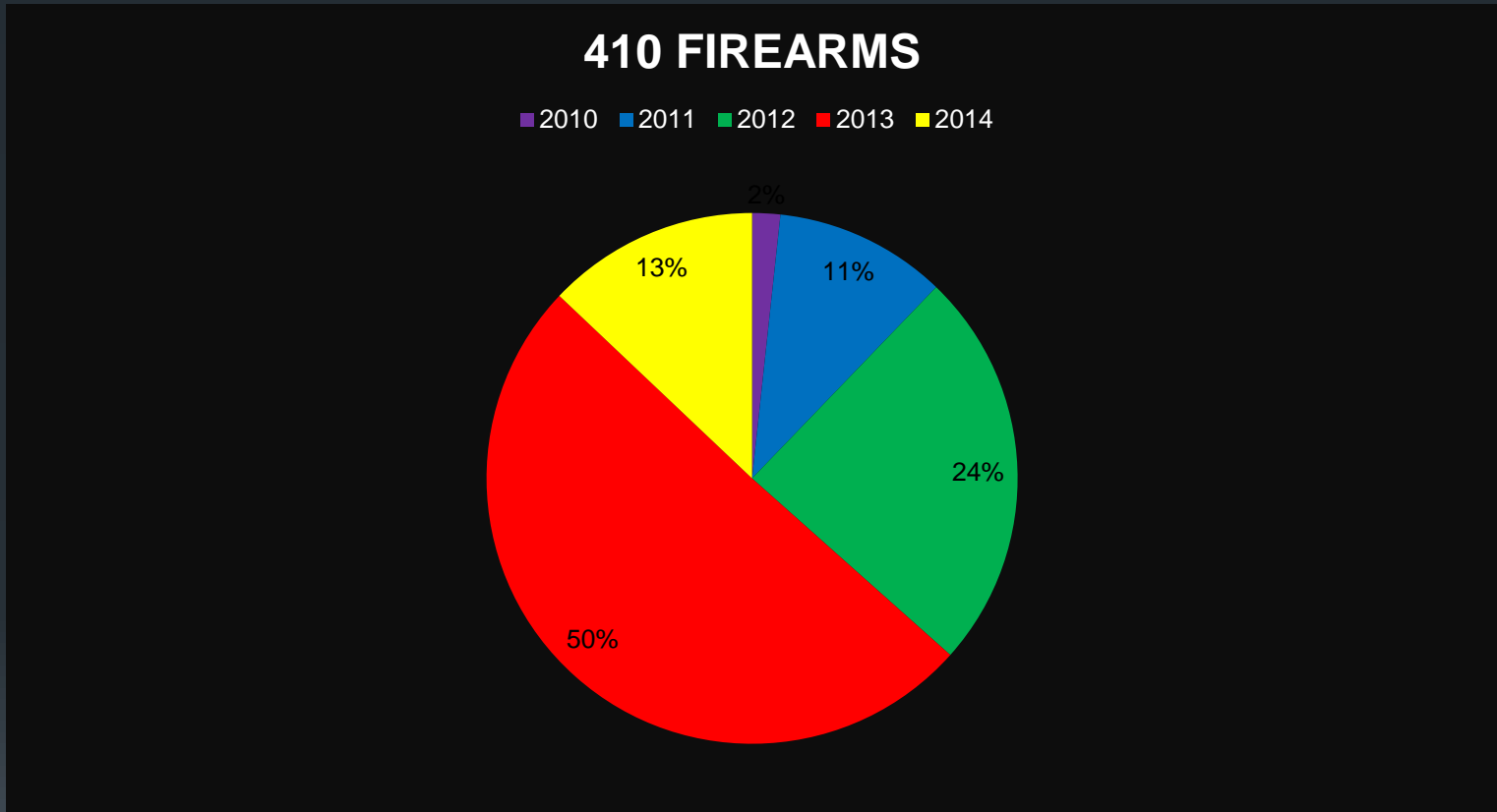


Types of Firearms Involved

- Four hundred eleven (410) firearms, all of which are semi-automatic pistols, are involved.



Number of firearms per year



2010	2011	2012	2013	2014 (JAN)
7	43	100	207	53

Athlone Shooting



Police on the scene at Spes Bona High School in Athlone where a Gr. 12 learner was shot in the head.

Firearm used had been modified and the serial number had been deeply removed.

Athlone Shooting

Examiner however found the serial number on the slide of the firearm.

After an enquiry into the status of this firearm on the Firearms Registry System we found that the firearm was classed as Government Department 10 (Handed in for destruction).

Follow up investigation on IBIS



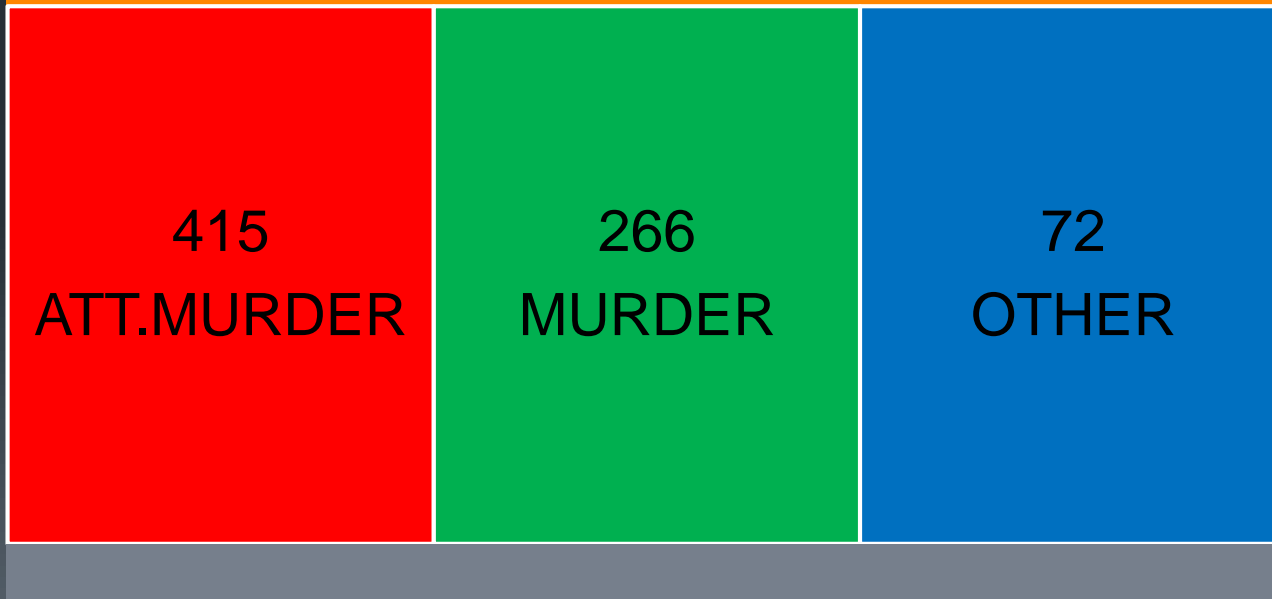
Using the stations involved as references all the fired cartridge cases from those stations were viewed on IBIS MP+ to find the fired cartridge cases which were modified.

Once the exhibits from these cases were identified the exhibits linked with the 370 firearms mentioned above were eliminated.

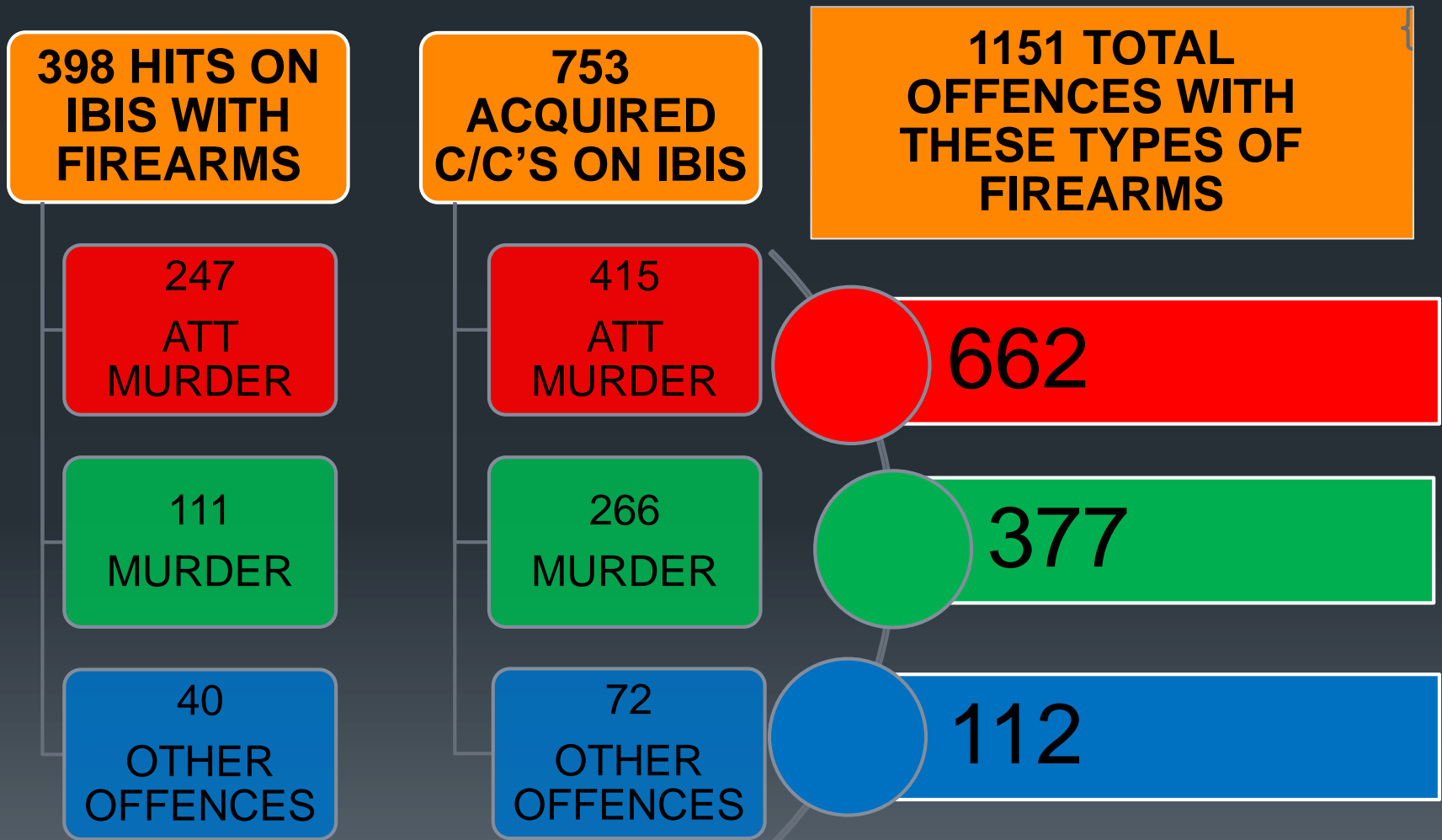
This led to the following conclusion:

Offences committed with these types of firearms

753 EXHIBITS ON IBIS



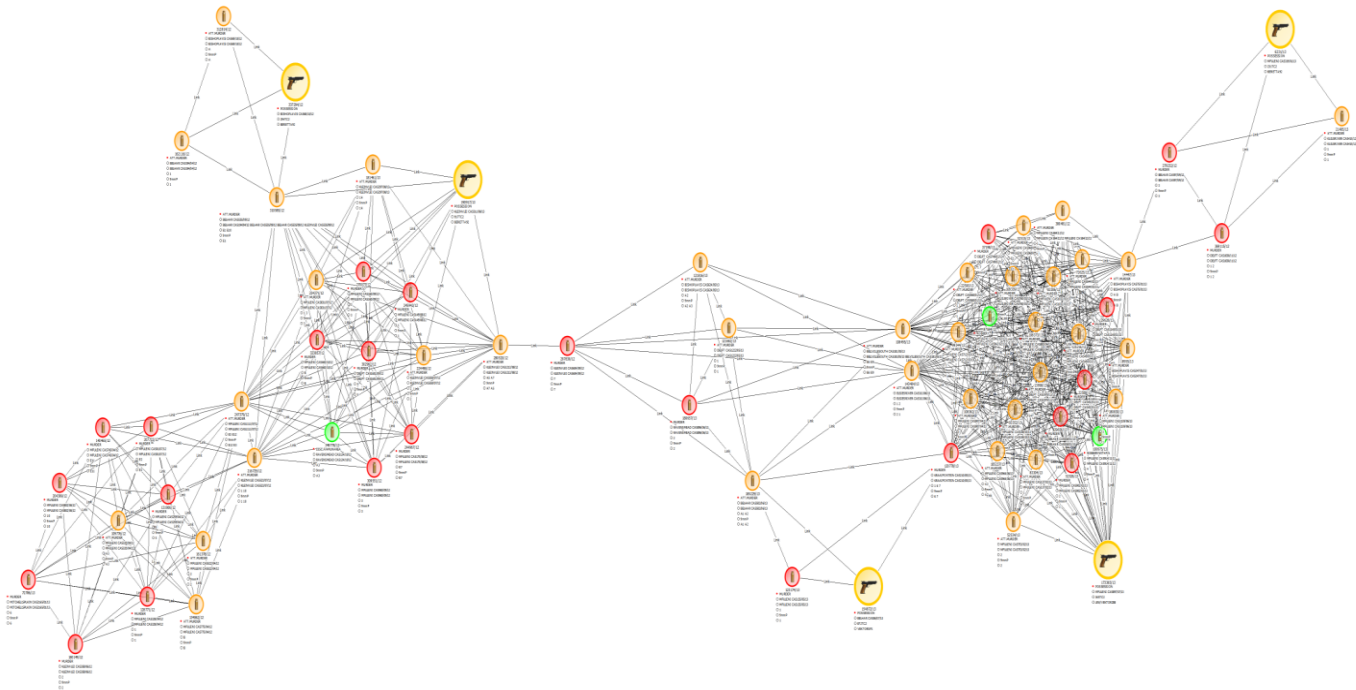
In Summary




Combined we looking at the following:

- Three hundred and seventy (370) firearms were involved.
- So far these firearms have been linked with three-hundred-and-ninety eight (398) offences on IBIS
- An estimated five hundred (500) offences have been committed with these types of firearms which are potentially still out there

Mfuleni Hits






The following cases supports the concern that these previously examined firearms are coming back into circulation.

LAB 122580/13

STEENBERG CAS 192/05/13

A LAB Number was found on the barrel of this firearm, namely: 32622/95

This was found to have been examined in Pretoria in 1995 under GARSFONTEIN CAS 260/08/95



LAB 155833/13
MICHELLS PLAIN CAS 76/03/13

A LAB Number was found on the barrel of this firearm, namely: 21162/01

This was found to be a case examined in Pretoria in 2001 under CLEVELAND CAS 159/02/01



LAB 135186/13
ELSIES RIVER CAS 65/12/12

A LAB Number was found on the barrel of this firearm, namely: 139221/04

This was found to be a case examined in Pretoria in 2004 under MOROKA CAS 1395/09/04



LAB 16662/13
CLOETESVILLE CAS 198/01/13

A LAB Number was found on the barrel of this firearm, namely: 142454/08

This was found to be a case examined in Pretoria in 2008 under TEMBISA CAS 793/10/08

Further cases identified

LAB 38624/92 ATTERIDGEVILLE CAS 234/10/92

➤ LAB 137163/06 PIENAARSRIVIER CAS 06/09/06

➤ LAB 44081/01

MONDEOR CAS 01/05/01

➤ LAB 115180/05

REIGERPARK CAS 104/07/05

➤ LAB 29162/02

MTHATHA CAS 726/10/99

➤ LAB 108251/01

HILLBROW CAS 2341/11/01

➤ LAB 93200/04

MAHWELERENG CAS 205/06/04

Concern

Firearms that are potentially police firearms or firearms in police possession that should be destroyed are somehow coming back into circulation

These firearms have been involved in at least three-hundred-and-ninety eight (398) other offences

These person(s) also know which components the Ballistics sections look at for identification purposes

Concern

Person(s) involved in these crimes are knowledgeable in the details of etching processes

Also, that a serial number restored by the etching process can be traced

Also, that the Ballistics section places a LAB number on the trigger guard which is traceable

Concern

Also, how to change the marks on the firearm components we rely on for identification so that the Ballistics section cannot trace it

Also, that the Ballistics section, with the help of IBIS can trace above mentioned marks

Also, has knowledge and insight in SAPS operating procedures and how to dispose of a firearm without being traced

Implication of the Von Benecke Judgement

- In light of the recent judgement in Minister of Defence v Von Benecke (115/12) [2012] ZASCA this could hold serious implications for SAPS
- The SCA decided that the SANDF must be held vicariously liable for the injuries and harm to Von Benecke arising from the use of the firearm that had been stolen from the SANDF
- “If the Minister were, for example, to have satisfied me that the defence force had taken all reasonable steps to prevent the theft of weapons by its responsible employees, appropriate to its Constitutional responsibilities, I might have been persuaded that such was not a proper case for the extension of the remedy despite the closeness of the connection.”

Conclusions

Someone is stealing SAPS firearms or firearms destined to be destroyed by SAPS

These person(s) are extremely knowledgeable about Ballistics examinations and how tracing of firearms in SAPS works, as well as the LAB numbers on exhibits

These firearms are being distributed to criminals who has committed over 1000 serious offences

Conclusions

At least 377 murders were committed with these types of firearms (662 attempted murders)

We can determine on facts that these firearms were in SAPS possession before and on at least one occasion was destined for destruction



Acknowledgements

W/O Q. Bothman

W/O Z. Meiring

W/O P.G. Engelbrecht

Ballistics Section Western Cape

THANK YOU

