September 24, 1990

TO: Hal Munson
FROM: Jim Ronkainen JR

SUBJECT: September Monthly Report

My first day back at Remington was Friday, August 17, 1990.

TITANIUM M/700

My first assignment was to investigate the possible use of titanium for weight savings and corrosion resistance in the M/700 and report my findings to the product team on September 12.

My investigation showed:

- titanium has the equivalent strength of steel
- 40% weight savings for an equivalent strength design
- 20% weight savings for an equivalent stiffness design
- material cost is 40X our current steel ($16/lb vs. $.40/lb)
- alloyed titanium shows stress corrosion cracking (SCC) in the presence of some solvents and possibly powder gases
- titanium has extremely poor lubricity, requiring special coating of the bore and the bolt head
- titanium is extremely difficult to form and machine
- incremental cost for changing the barrel, barrel bracket, and receiver from steel to titanium was in excess of $300 per gun excluding any tooling

Based on these results, the product team decided to drop titanium and instead quickly pursue a stainless steel version of the M/700.

STAINLESS STEEL M/700

Based on the feedback of the product team, Fred Martin and I are putting together sample M/700's built up from 416 stainless steel barrels and receivers on hand. We plan to have sample guns ready for the next product team meeting. R&D, Process, and Production have been involved in preliminary discussions about product definition, processes, and materials.