



ABERDEEN TEST CENTER

# THE POINT POSITION

Celebrating 100 Years of Testing Excellence, 1917 - 2017



U.S. Army Aberdeen Test Center, APG, Maryland

Volume 2, Number 1, January 2017



*Proud Of  
Our Past*



**Focused On Our Future**





## Proud Of Our Past, Focused On Our Future

COL Morris L. Bodrick  
Commander, U.S. Army  
Aberdeen Test Center

This year we are celebrating 100 years of excellence in Army testing.

Aberdeen Test Center (ATC) has a long and accomplished history. It was founded as the Proof Department when the Army moved all testing from Sandy Hook, New Jersey, to an area of farmland on the Chesapeake Bay, which we now call Aberdeen Proving Ground. The first test shots were fired in January 1918, and since then, testing equipment, developing technology and meeting the needs of the Warfighter has been our mission. We have tested equipment used in every war since World War I, a monumental task performed by a great team of Americans.

This test center has made many advancements in technology. Beginning in 1918, the Aberdeen Chronograph was invented to accurately measure velocity of projectiles, a game changer in improving performance. Phillips Army Airfield, still active today, was established in 1923 to test and develop dive bombing tactics at a time when the use of aircraft in combat was changing how we fight.

In 1947, the world's first digital computer was developed at APG, the Electronic Numerical Integrator and Computer (ENIAC), which weighed 30 tons, required 18,000 tubes and had a 100-ft front panel. In 1952, we received the first atomic artillery piece for testing, and by the mid-1970's, ATC was testing the first variants of the Main Battle Tanks and Bradley Fighting Vehicle. A decade later,

we performed some of the first Live Fire testing and analysis on the Bradley Fighting Vehicle and M1 Abrams tank.

We continued to develop new capabilities, opening the Underwater Explosion Test Facility to allow underwater explosions in a controlled environment, as well as the Accelerated Corrosion Facility, Bridge Crossing Simulator, Roadway Simulator and Littoral Warfare Environment, all vitally important technological advances.

We're positioned to move into the future, embracing technological progress and meeting the demand to test faster, and more efficiently, ensuring that our Soldiers have equipment that is safe, suitable, survivable and effective.

As Commander of this great organization, it is my priority to honor the contributions of our past and forge a path forward, building capabilities to test the military systems of tomorrow. The foundation for tomorrow is the team we establish today. We have put a priority on building that team to meet our ever-changing requirements, as well as investing in emerging technology such as robotic/autonomous system testing, cyber security, advanced modeling and simulation, and data collection, reduction, analysis and visualization (Big Data). As my Technical Director, Mr. John Wallace, has said, "We need to focus on where we want to be 10, 20, 50 years from now."

My message is simple: Be proud of what this test center has accomplished, be hungry for where we need to go. I am proud of ATC's past, honored to be a part of its present and focused on its bright future.

*"Building Toward the Future"*



Image sequence of an Assault Amphibious Vehicle (AAV) undergoing a stabilization test in the Littoral Warfare Environment wave pond.

### From the Editor...

2017 is a very special year for Aberdeen Test Center. It is the Centennial Anniversary of the start of testing at Aberdeen Proving Ground.

Through two World Wars and numerous conflicts large and small, our dedicated workforce has served the nation by ensuring our fighting men and women have the safest, most

effective equipment possible.

This is a 100-year tradition of pride and honor.

Our first issue of The Point Position for 2017 pays tribute to that tradition through compelling imagery of the testing, workforce and activities that represent Aberdeen Test Center today.







An M48 traverses the Munson Test Area Shallow Water Fording Basin, circa WWII.



A contemporary image of a Stryker MGS negotiating the Fording Basin.



60-lb underwater shock test performed at the UNDEX Pond, a 1,070-ft-long by 150-ft-deep contained water facility.

# MAKING WAVES





# THE **POINT** POSITION



A Stryker vehicle commander operates the vehicle's Remote Weapon Station on an ATC test course. Visiting Soldiers from Fort Wainwright played a key role in a recent User Excursion for the Stryker Family of Vehicles.



A CH-47 helicopter flies a Bridge Erection Boat (BEB) as a sling load.





## PUSHING LIMITS

Testing means testing in EVERY environment - water, mud, snow, heat and cold.

ATC has the unique ability to subject vehicles and equipment to weather conditions that represent 80% of the world's climate.

Our fighting men and women work in the most challenging environments. The equipment they use must work also.





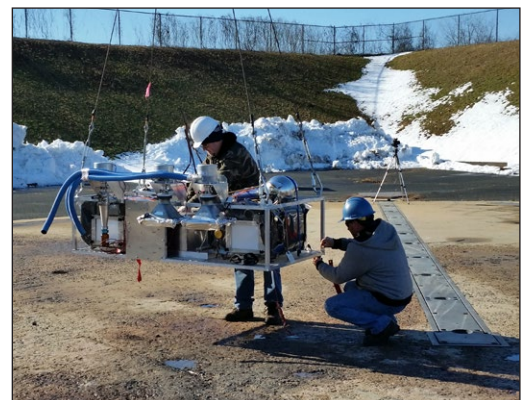
## DEDICATED WORKFORCE

Expertise, experience and cultural background - Aberdeen Test Center has one of the most diverse, dedicated workforces in the Army.



At the height of operations during World War I, testing on Aberdeen Proving Ground was performed around the clock by about 7,500 employees, most of them Soldiers.

During World War II, APG's Proof





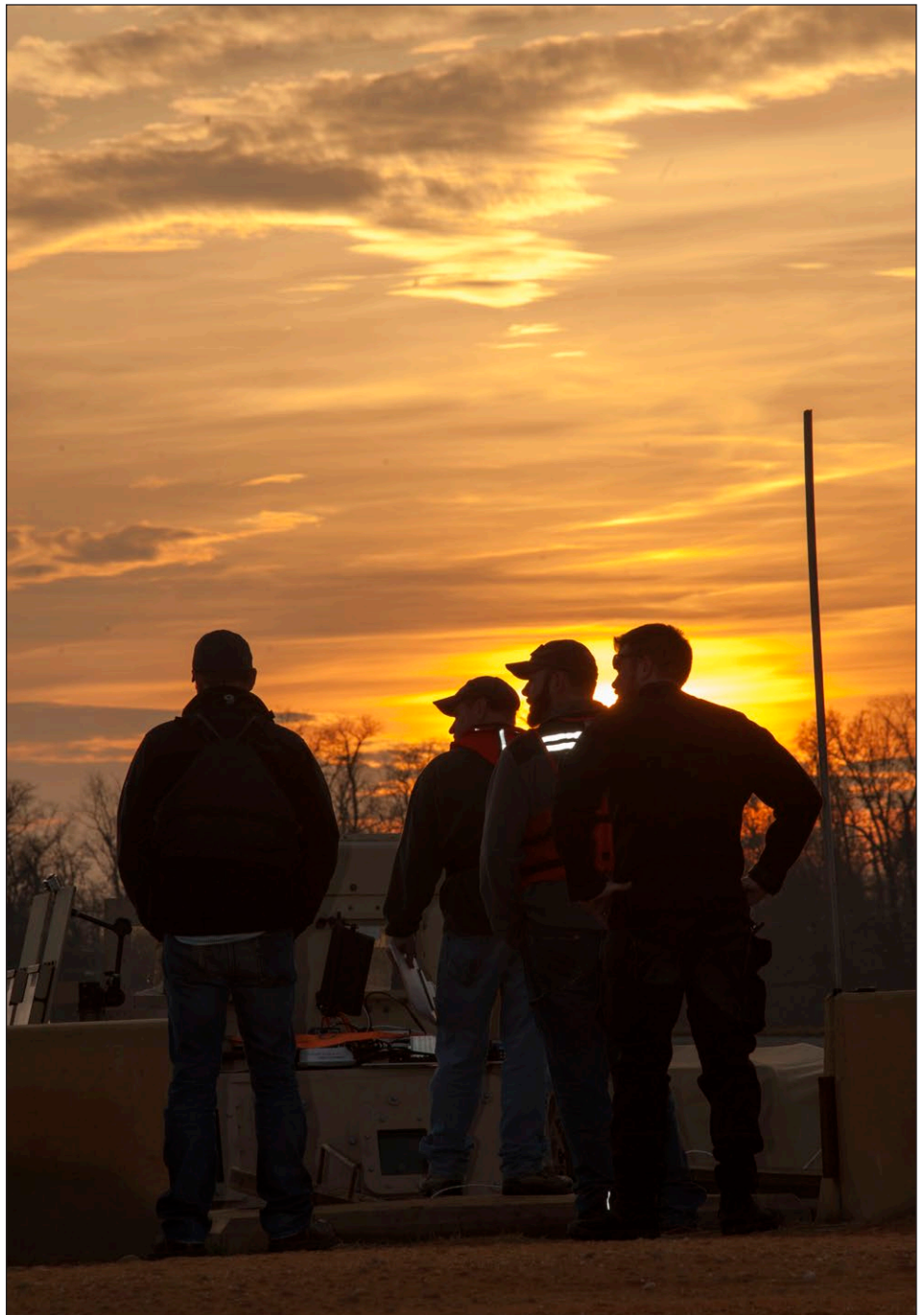
Department earned its reputation as a “get it done” organization. These accomplishments were recognized when the Post received the Army-Navy “E”



award for excellence in achievement in the production of war equipment. APG was the first Army-operated plant to do so.

Today, more than 1,500 dedicated men and women work to ensure that every item the Soldier touches operates as it should.

At ATC, a cohesive team of Army civilians, contractors and Soldiers work side-by-side using leading edge technology, science and decades of experience to ensure the men and women who protect us all are safe and effective.





**ready...aim...**



***FIRE!!!***









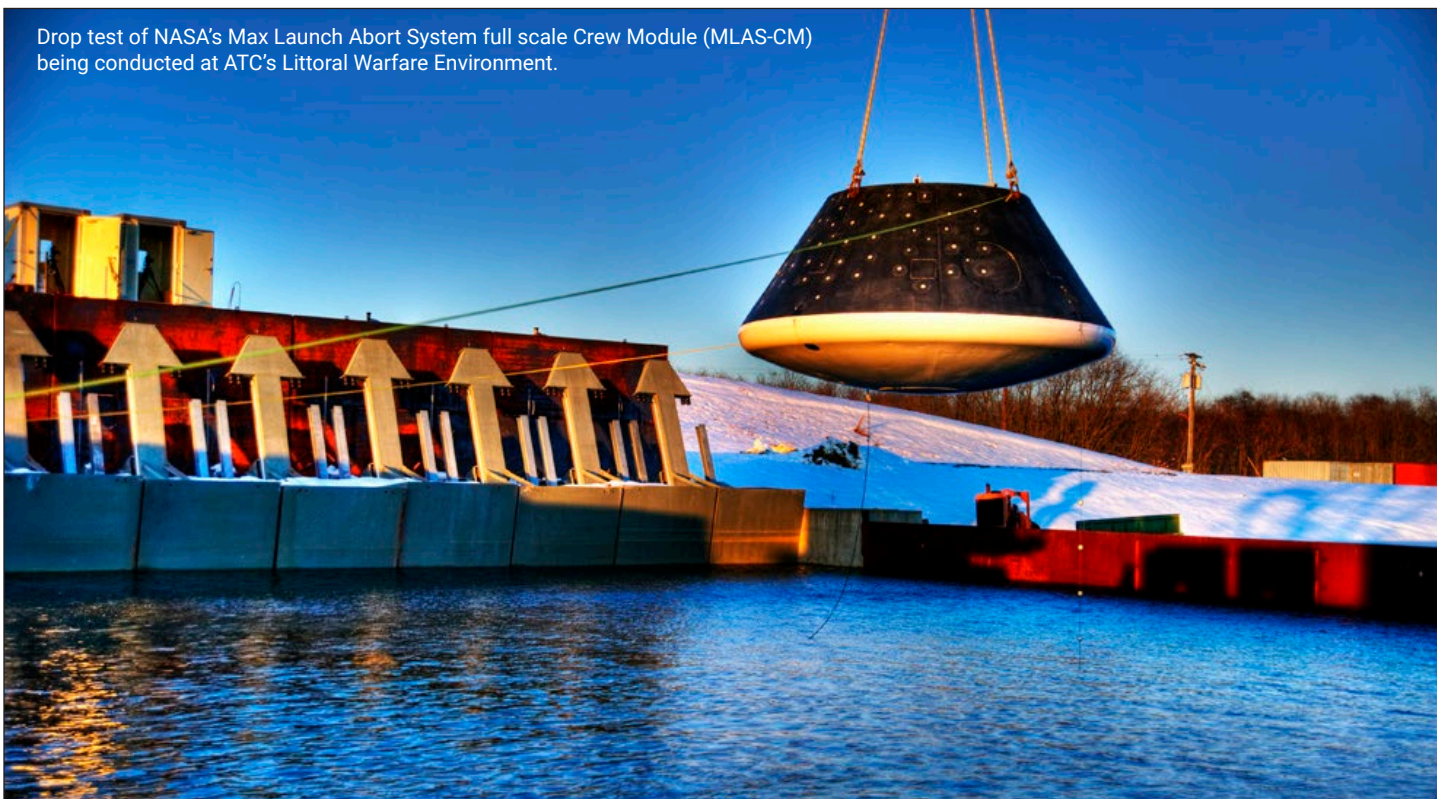
# THE **POINT** POSITION



A DC-10 jet airliner undergoing vulnerability testing at ATC's Phillips Army Airfield.



Drop test of NASA's Max Launch Abort System full scale Crew Module (MLAS-CM) being conducted at ATC's Littoral Warfare Environment.





## Touring the Center of Excellence

Touring takes on a completely different spin at the U.S. Aberdeen Test Center (ATC).



In 2016 ATC hosted 125 tours for over 1,500 visitors with an average of 3 tours per week.

Over the years our visitors have included international dignitaries, members of Congress and their staffs, the media, career colleges, STEM students and other special guests. We've even hosted U.S. Presidents Franklin Roosevelt, Harry Truman and Bill Clinton.

ATC is the U.S. Army Test and Evaluation Command's (ATEC) testing showcase.



Secretary of the Army Eric Fanning



Mr. John E. Markline (ATC Employee, 1941 - 1982)



MD Lieutenant Governor Boyd Rutherford



Lieutenant General Michael Williamson



MD Congressman Charles "Dutch" Ruppersberger



Texas Senator John Cornyn



Mr. Vernon Foster (WWII Sherman Tank Commander)

## Neighbors and Friends

Look around, you'll see ATC everywhere. We're a proud part of the community. From the Havre de Grace and Bel Air parades to Lego League/STEM events and breast cancer awareness, Aberdeen Test Center celebrates our workforce and our neighbors.





## 100 Years of Excellence: The ATC Story, Part 4



*Excerpted from an article by Lauren Nelson*

During World War II every type of weapon, from a pistol to a 16-inch gun, and numerous variants of tank, tractor and jeep, were tested, fired and driven at APG. The hours were grueling as personnel labored on tests at all hours, day and night. Between 200 and 350 test projects usually occurred at once, and from five to a dozen directives for new projects were received weekly. There were two basic types of testing: experimental and acceptance. Experimental testing was applied to newly designed weapons to test all competencies. Acceptance testing was conducted on standard weapons to ensure they operated properly. Noteworthy results include the standardization of many rocket items, bazooka (the only completely



Power train efficiency test being performed on an M43 medium tank, September 1943.

original all-American weapon of WWII), M3 submachine gun, M8 armored car, M12 tank destroyer and M15 half track. Others include the recoilless rifle and VT fuze,

also called a proximity fuze or "the fuze that thinks." This fuze contained a small radio which could detonate a shell, bomb or rocket when it was in the perfect position to cause the most damage to its target. Each of these items certified that the military overseas had the best weapons technology possible in Europe, Africa and the Pacific.

During these days, APG's Proof Department earned its colossal reputation. It had become known as a "get it done" organization. All of these accomplishments were recognized when the Post received the Army-Navy "E" award for excellence in achievement in the production of war equipment on September 28, 1942. APG was the first Army-operated plant to earn the award, and the ceremony was witnessed by over 30,000 military and civilian personnel who had made it possible.

The beginning of the end of WWII was announced with V-E, or Victory in Europe, Day on May 8, 1945. This triumph spurred the Ordnance Research and Development Center, as the proof center was called at the time, into a final push which ended on August 14, 1945, with V-J, or Victory in Japan, Day.

Activity at APG slowed significantly after the war was over, though personnel never lost their dedication to the mission. The force was reduced, and the number of projects taken on by the Ordnance Research and Development Center (ORDC) dwindled. Facing a new period of peace, the organization threw itself into the task of redefining its purpose and mission.

The ORDC reorganized in 1946 into three tenants: Development and Proof Services (D&PS), Ballistic Research Laboratory (BRL) and the Aberdeen Ordnance Depot. D&PS became the central hub of testing for the Army, carrying on the Proof Department's mission. The BRL separately pursued scientific development

and research. D&PS covered the testing of all types of materiel and combined the vehicular, weapons, munitions and fire control missions to ensure the offensive and defensive potentials of every item were thoroughly investigated.

In October 1946, a 100-ton T28 super-heavy tank armed with a 105-mm gun was unveiled to the public, as well as a fully automated Garand rifle, a 75-mm recoilless rifle fired from the shoulder, and a 75-mm and 105-mm recoilless



A 25-ton 6 x 6 truck tractor undergoes a field dynamometer test, November 1947.

rifles fired from lightweight tripods. A mobile dynamometer, a 60-ton, 40-ft vehicle designed to analyze the power characteristics of Army tanks and other heavy vehicles, began testing in 1947. This new technology saved time and effort on the part of testers who previously had to gather that data manually.

The world's first digital computer, developed at APG, was completed in 1947. The Electronic Numerical Integrator and Computer (ENIAC), weighed 30 tons, required 18,000 electronic tubes, had a 100-foot front panel, and was purportedly tended to by women in roller skates. In 1948, construction on the Supersonic Wind Tunnel (SWT) was completed; at the time, this was the largest SWT capable of producing an airstream that could exceed Mach 4, or four times the speed of sound.

*Continued next issue*



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*Views and opinions expressed herein are not necessarily those of the Department of the Army. Photographs in The Point Position are U.S. Army photos unless otherwise credited.*

*Thank you to everyone who contributed to this edition of The Point Position.*