

YPG will never forget



By turns somber and passionate, Yuma Proving Ground remembered the 17th anniversary of the September 11th terrorist attacks in a Patriot Day ceremony last week. "It's important that we commemorate those who lost their lives for our great nation," said Lt. Col. Timothy Matthews, Yuma Test Center Commander. "The families of those who were lost are also important to us: they will be with us for the rest of their lives. We can't give enough thanks for the efforts of all of our nation's first responders." For more photos, please see page 5. (Photo by Mark Schauer)

YPG boasts sterling heat safety record

By Mark Schauer

It's hot out there.

American Soldiers need equipment that works exactly as it should anywhere in the world they are called upon to serve, and for over 65 years U.S. Army Yuma Proving Ground has subjected virtually every piece of equipment in the ground combat arsenal to the most punishing testing possible in an extreme desert environment.

The testers of this equipment want to subject it to realistic use in the most extreme climate conditions possible—to the point of breaking the item, if it comes to that. But no matter what, YPG wants to protect the personnel engaged in this inherently dangerous endeavor.

"We have a mission that has to be done," said Wayne Schilders, weapons operation chief. "On the hottest days, we look at ways to mitigate it, such as starting earlier in the morning, increasing breaks in the hottest parts of the day, or rotating other workers in. The weather does not stop us from doing even the most

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testing in Alaska

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Mission Impossible?



A film crew from the Discovery Channel program "Impossible Engineering" is currently developing a television segment about the M1 Abrams Main Battle Tank, the nimblest and most lethal main battle tank in the world today. The crew visited the M1 production facility in Ohio, then spent two full days at YPG in early September witnessing the rugged testing of the platform that takes place in the Southwest Arizona desert. The completed show is tentatively scheduled to air on the Discovery Science Channel next spring. (Photos by Mark Schauer)



THE OUTPOST

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Army CID announces new crime tips system

Submitted by Army Criminal Investigation Command

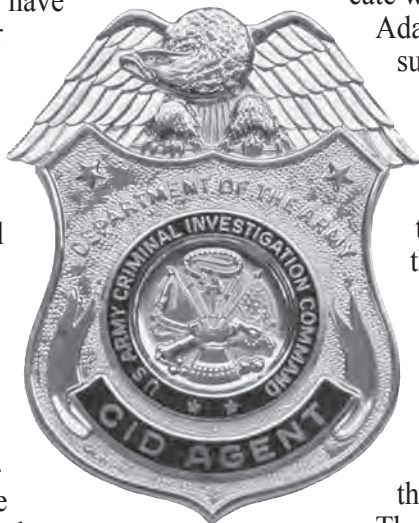
The Army community and American public now have the ability to use their computers and smartphones to submit tips about crimes, suspicious activity or threats to the U.S. Army's Criminal Investigation Command (CID) via a new digital crime tips system.

The CID crime tips system recently transitioned to a web-based and smartphone app submission method.

The public can access the system via any Internet-connected device by visiting, <http://www.cid.army.mil/>. In addition to the web interface, the app is for submission of tips and is available for free download from the Apple Store and Google Play at <http://www.p3tips.com/app.aspx?ID=325>.

According to CID's implementation project manager, Special Agent Christopher L. Adams, the new system provides users a safe, secure and anonymous method to report criminal activity and security threats without concerns of retaliation or fear. He explained that whenever a person submits a tip online, the completed form is securely transferred directly to Army CID through a Secure Sockets Layer connection, which means that the tips are encrypted, entirely confidential and completely anonymous. Users can also attach images, videos and documents with their tips.

"This new system is the ideal solution for 'tipsters' to report criminal activities or suspicious activity anonymously. Tips received will be seamlessly assigned to various units



for further investigation. Additionally, persons providing anonymous tips will have the ability to communicate with the CID Agents,"

Adams said. "After submitting a tip, a tip reference/ID number is created that allows the tipster to create a password to check the status of the submitted tip or check on the status of a reward – if applicable. So do not misplace your ID number, as it will be needed to check on the status of your tip."

There is also the multi-language feature for global use that allows tips to be auto-converted into English on the backend regardless of what language they were submitted. Tips will be responded to in English and auto-translated back to their source language during the two-way dialog process.

According to Christopher Grey, CID's spokesman, the previous methods of reporting a crime to CID will remain in effect until the new Crime Tips System is fully implemented.

"It is critical for people to say something when they see something and it literally can mean the difference between someone receiving the justice they deserve or victimizing another innocent person," Grey said. "Although we prefer people with information to use the new digital Crime Tips system, they can still report a crime through our current methods until these methods are phased out within the next 60 days: contact your local CID office, contact 1-844-ARMY-CID (844-276-9243) or email CID at Army.CID.Crime.Tips@mail.mil."

Commander describes Highway 95 traffic dangers



At a community forum that recently took place in Yuma to discuss local media matters, Col. Ross Poppenberger, YPG commander, took the opportunity to discuss traffic problems on Highway 95 and encourage increased coverage by the media of dangers that exist on the route, particularly during commute hours. Community officials are currently working with the Arizona Department of Transportation (ADOT) to increase the number of lanes on the highway from two to four to improve safety. (US Army photo by Mark Schauer)

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Observance of National Suicide Prevention Month

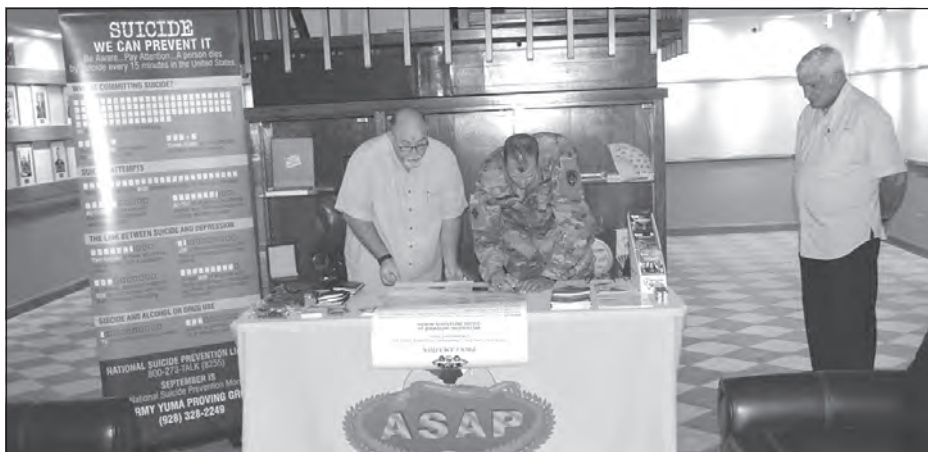
By Christopher Lee

September is National Suicide Prevention Month. This is an important aspect of the Army's focus on preparing a Ready and Resilient total force. The Department of Defense and the Army continue to carry forward the theme: #BeThere: Your Action Could Save a Life."

In observance of Suicide Prevention Awareness, the YPG Suicide Prevention Program is pleased to announce a guest speaker, Julie Mack, Suicide Prevention Specialist with Arizona Complete Health.

Mack has an extensive background in community-based prevention, tobacco control and mental health training. She was a member of a School-Based Tobacco Education Program in Tucson, which was recognized by the CDC as one of the top five programs in the nation. For five years, Ms. Mack conducted background research, content writing, editing, and instructional delivery methods for a National Cancer Institute Grant for the UA College of Medicine. Currently, Julie creates curricula, conducts trainings, and works with community groups on suicide prevention efforts for CIC, the integrated care oversight agency for eight counties in Arizona.

Mack will be presenting the QPR institute's "Question, Persuade, Refer" training for intervention and



YPG Commander Col. Ross Poppenberger (center) signs a Suicide Prevention Month proclamation as Garrison Manager Gordon Rogers (right) and Army Substance Abuse Program Manager Christopher Lee (left) look on. Poppenberger encouraged members of the YPG workforce to attend a presentation on suicide prevention that guest speaker Julie Mack, Suicide Prevention Specialist with Arizona Complete Health, will give at Palm Garden Conference Center the afternoon of September 20th. (Photo by Teri Womack)

prevention. The QPR Mission is "To save lives and reduce suicidal behaviors by providing innovative, practical and proven suicide prevention training. Quality education empowers all people, regardless of their background, to make a positive difference in the life of someone they know."

The training objectives include:

- Understand suicide as a national and local public health problem
- Recognize someone at risk of suicide
- Identify common myths and facts surrounding suicidal behavior
- Learn how to Question, Persuade and Refer someone who may be suicidal

- Demonstrate increased knowledge of intervention skills
- Describe knowledge of referral sources and how to refer someone to help

The QPR workshop will be presented on September 20th, 2018, in the Palm Garden Conference Center from 1330 – 1530.

Family members are welcome and strongly encouraged to attend.

To ensure sufficient training materials are available please call the Suicide Prevention Program Manager at 328-2249 or email at christopher.a.lee24.civ@mail.mil to sign up.

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YPG marks 17 years since 9/11

YPG remembered the 17th anniversary of the 9/11 tragedy with a 5K walk/run/bike event that honored first responders that was organized by Lt. William Session of the YPG Fire Department. The run, which attracted about 75 participants, was followed by a solemn flag-raising ceremony afterward. "It seems like just yesterday that it happened," said Col. Ross Poppenberger, YPG Commander. "This is an appropriate activity to honor and remember those who gave their lives on 9/11." That day is vividly remembered by an untold number of YPG employees who take their work supporting the national defense of America very seriously. (Photos by Mark Schauer)



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SAFETY

FROM PAGE 1

strenuous missions.”

Planning to mitigate extreme heat is a routine event at YPG—last year, Yuma had more than 100 days in which the temperature exceeded 100 degrees Fahrenheit, and 175 in which the temperature was at least 90 degrees Fahrenheit. YPG personnel pay particular attention to the heat index and the wet bulb globe temperature (WBGT), which estimates the effect of the combination of temperature, humidity, wind speed, and solar radiation on humans. With every increase of the WBGT above 78 degrees, mitigations that impose a strict work-rest cycle go into effect and are strictly adhered to.

“Every time the heat index goes up, they take more breaks: either in the shade or into an air conditioned vehicle, out of the direct sunlight,” said Mike Demcko, safety director.

Demcko notes that following the work-rest cycles are vital to protecting the workforce, in the short and long term.

“Once you have severe heat exhaustion or heat stroke, your body



Planning to mitigate extreme heat is a routine event at YPG—last year, Yuma had more than 100 days in which the temperature exceeded 100 degrees Fahrenheit, and 175 in which the temperature was at least 90 degrees Fahrenheit. “We have a mission that has to be done,” said Wayne Schilders, weapons operation chief. “The weather does not stop us from doing even the most strenuous missions.”

becomes a lot more susceptible to it in the future,” said Demcko.

The proof of the success of YPG’s heat safety program, Demcko said,

is in the fact that the proving ground has not had a reportable heat injury since 2012. The year prior to this, the busiest in proving ground history in terms of direct labor hours, the installation had 21 reportable heat casualties, including two who were hospitalized.

The people most susceptible to heat injury are those who are not accustomed to the extremes of Yuma’s summers. Demcko said that proper acclimation to a desert environment takes two weeks on average. Further, the desert Southwest’s dry heat can be insidious to people from other parts of the country and globe who equate overheating with excessive sweating.

“We have to make extra effort to watch out for our visitors,” said Schilders. “Most of our higher headquarters personnel and representatives from program management offices are from the East Coast and are not acclimated to

the extreme heat. Proper acclimation is key to avoiding heat injuries.”

The keys to successfully coping with the heat tend to be relatively simple. Water and ice are precious and vital commodities for testers on YPG’s ranges, as are portable pop-up tents.

“They are one of the best things we have gotten our hands on,” said Schilders. “Years ago we didn’t have these—we had to use wooden shades we moved with a wrecker.”

The work conditions are extreme, but the personnel who do it month after month, year after year, take it in stride.

“It’s rough in the summer, but you learn to cope with it,” said Steven Allen, gun crew leader. “That’s the nature of being a hot weather test facility: when it’s hot, the customers pile on.”

For many range workers, however, the conditions of their job mean that the temperatures they are routinely



YPG’s summer work conditions are extreme, but the personnel who do it month after month, year after year, take it in stride. “It’s rough in the summer, but you learn to cope with it,” said Steven Allen, gun crew leader. “That’s the nature of being a hot weather test facility: when it’s hot, the customers pile on.” (Photos by Mark Schauer)



YPG's sterling safety record in an extreme environment while engaged in inherently dangerous work is primarily a result of a deeply-ingrained safety ethos in all areas and all levels at the proving ground. "You have to make sure you have a safety culture, and the way you do that is with leadership and worker buy-in," said Jaysen Lockett, safety manager for Trax Test Services. "If we don't keep our employees safe all the time, then we're not successful and the Warfighter is negatively impacted."

exposed to are dramatically higher than the ambient temperature. This is particularly true for folks who test ground combat vehicles.

"It's generally 140 degrees plus inside of a turret when we're on our missions," said Tom Counts, lead engineering technician. "When you open the hatches while running missions, you get a lot of dirt. If you close the hatches, you get less dirt but more heat."

"It's a lot like being in a tin shed if you're in the back of the vehicle," added Chris Ades, engineering technician. "The metal retains the heat. Even after the sun goes down, it will be hot to the touch for a few hours."

Even more miserable are the times when the testers must wear the same body armor, face masks, or other gear that Soldiers don when using

the vehicle in theater.

"They're not made to be comfortable," said Counts. "They're made to keep you awake and on guard to do what you have to do."

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"You have to make sure you have a safety culture, and the way you do that is with leadership and worker buy-in," said Jaysen Lockett, safety manager for Trax Test Services.

"What we do here is very important to the Warfighter. If we don't keep our employees safe all the time, then we're not successful and the Warfighter is negatively impacted."

"We are all thinking about the long-term viability of the workforce," added Schilders. "You don't want to lose employees with years or decades of specialized experience and skills. It is incumbent upon us to ensure everyone's well-being in a hostile natural environment."



For many range workers, the temperatures they are routinely exposed to are dramatically higher than the ambient temperature. This is particularly true for folks who test ground combat vehicles. "It's generally 140 degrees plus inside of a turret when we're on our missions," said Tom Counts, lead engineering technician.

Environmental management a YPG priority

By Chuck Wullenjohn

The primary business of U.S. Army Yuma Proving Ground is testing weapon systems and munitions, work that takes place in the great outdoors.

Some might presume, incorrectly, that the interior of the proving ground is a pulverized waste land, permanently contaminated with unexploded artillery projectiles and the noxious residue of gunpowder. This is far from the truth.

Though firing takes place each workday, it is carefully controlled and restricted. Artillery pieces, mortars, tank guns, and every other weapon system fires into defined impact areas using designated lines of fire. Electronic data gathering equipment tracks the flight of each shell, as do human observers. Many missiles and other projectiles are recovered after impact, for developers need them to fully analyze test results.

As the Army's extreme environment test expert, it is useful to think of the proving ground's landscape as a natural laboratory. YPG's people have a vested interest in preserving the desert and all of its flora and fauna. In fact, some of the best pre-

served areas of Southwest Arizona's precious Sonoran Desert are located within the proving ground's boundaries.

The people within YPG's Environmental Sciences Division work closely with testers to sustain the integrity of the proving ground's ranges into the future. The desert is fragile, with little rainfall and sparse vegetation. For example, when a vehicle drives off-road and breaks through a thin crust of desert pavement, called malpais, tire tracks remain almost forever. Even worse, inches of now-exposed fine grain soil that lie beneath the crust can easily be blown by the wind or eroded during wind and rain storms.

"In the desert, vehicle tracks attract additional traffic and, before you know it, you have an ad hoc road," said Daniel Steward, wildlife biologist. "Off road travel can be very damaging to the environment and dangerous on an active military installation. There are plenty of areas throughout the desert southwest where you still see obvious evidence of training from World War II. Maintaining a small footprint is the most

effective strategy for minimizing impacts to natural and cultural resources." He goes on to say that being responsible saves the government money and sustains YPG's testing capability.

Steward's area of expertise is managing wildlife, which he says must be performed from an eco-system perspective. This means developing plans that encompass all parts of the environment – nutrients deriving from the soil, energy coming from the sun, plant life producing the foods animals consume, as well as the entire food chain. A huge amount of interaction occurs among these elements – things that eat other things, things that control things from eating other things – truly a complicated web.

"When mankind disrupts one part, unintended consequences can result somewhere along the chain," he said.

The non-native salt cedar trees common in the Yuma area provide an excellent example of the fruits of "unintended consequences." The trees were brought here in the late 1800s. Salt cedars obviously liked the area, for they grew and prospered. Unfortunately, these trees drink copious amounts of water and deposit salts in the soil, displacing native species and often damaging the landscape. Along the Colorado River, prolific salt cedar and other invasive growth have created impenetrable barriers that prevent native animals from reaching life giving water and altering the soil chemistry such that native plants cannot thrive.

Steward is quick to note that the



Hundreds of wild burros call YPG and the nearby area home. Yuma Proving Ground officials work closely with the Bureau of Land Management and the Arizona Fish and Game folks to manage the herds.

workers at YPG are often fascinated by the environment and knowledgeable about it.

"Folks are proud of where they work and take pride in working in a beautiful desert," he said. "Test personnel often tell me about amazing wildlife sightings and interactions downrange that you would expect to see televised on the Discovery Channel."

The goal of YPG's Environmental Sciences Division is to actively support the proving ground's test mission by aiding in the planning of test projects while complying with federal, state and local environmental regulations. YPG must be responsive to often unique test requirements, and environmental personnel help identify solutions that minimize the footprint on the environment and are cost effective at the same time.

"Some test programs are unbelievably complex with lots of moving parts," said Steward. "But I have found that we can always put our heads together with test officers to develop a solution to any problem that comes up."



YPG carefully monitors and preserves areas of cultural significance. The particular area shown in this photo is replete with Native American artifacts and rock carvings, showing that it was a route used by thousands of travelers over many centuries.

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Rain and dust on demand at Yuma Proving Ground

By Mark Schauer

Soldiers are accustomed to facing insidious enemies, but rely on YPG testers to keep them safe from one that can't be dispatched with weaponry: the ravages of extreme conditions on equipment.

Yuma Proving Ground specializes in extreme environmental testing of military equipment, with jurisdiction over test centers in the arctic, tropics, and desert. Among testing activities performed by the Metrology and Simulation Division at YPG's Yuma Test Center is one that can create rain and sand storms on demand, any time of the year.

The rain facility can accommodate virtually any piece of equipment normally tested at YPG, including ammunition, at which time testers bring in portable bombproof shields to stand behind. If necessary, testers can bring in a large fan to simulate wind-driven rains of up to 50 miles per hour and can vary the speeds to mimic gusts of winds of different velocities and intensities.

"We can rain on anything, but the rain facility is primarily used for vehicles," said Frank Aguilar, engineering technician.

Comprised of over 500 adjustable nozzles on two portable walls, the rain chamber can deliver highly pressurized water to simulate a fierce monsoon or a slow, steady, misting rain. Testers can simulate either over the entire item, or concentrate the

spray on one part of it.

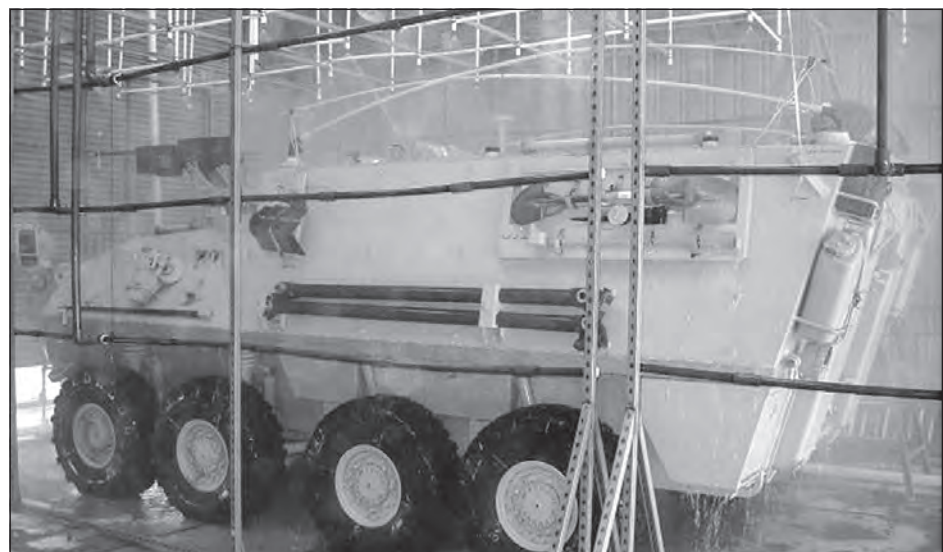
"We can close off walls and hit the test item from any angle the customer wants," said Aguilar. "One program wanted only their vehicle's turret hit at a 45 degree angle, so we adapted the nozzles to do that."

Two pumps push the pressurized water from a 10,000 gallon tank outside the facility's test bay through nozzles inside. The rate of spray hitting the item is entered onto a control panel, and is confirmed by a rain gauge inside. Drains in the test bay floor send the water to two sump pits. When the test is completed, the collected water, which could possibly contain oil or grease residue, is transferred to tanker trucks, which transport it for disposal in an environmentally friendly way.

Exterior cameras monitor the test item's experience inside the facility, and occasionally video is taken from inside a vehicle during the mock storms. A wet vehicle compartment caused by inadequate seals would be more than just uncomfortable for Soldiers in theater: it could be potentially life-threatening if the water shorts out important electrical equipment inside, a threat that YPG testers keep close watch for during evaluations.

"If there is substantial leakage, we'll measure by weight the amount of water that intruded into the vehicle," explained Aguilar.

Rain is a potential menace for equipment in a desert environment,



Comprised of over 500 adjustable nozzles on two portable walls, YPG's rain chamber can deliver highly pressurized water to simulate a fierce monsoon or a slow, steady, misting rain. Testers can simulate either over the entire item, or concentrate the spray on one part of it. (US Army photo)

but the ravages of sand and dust are daily realities that must be planned for in places where American Soldiers are currently deployed. Though YPG has both in abundance, test items are subjected to controlled and sustained exposure in a separate steel chamber that is part of the same complex as the rain facility. The items inside endure potent concentrations of blowing silica powder or sand for six hours at a stretch, and are often put through their paces on the test range as soon

as the punishing sand and dust blasting is completed.

The Metrology and Simulation Division has a wide range of facilities, including hot and cold climatic chambers, vibration tables to test the effects of intense shaking on munitions, and a lightweight shock testing machine that evaluates a piece of equipment's ability to withstand sudden shock such as that caused by underwater explosions encountered in naval combat.

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YPG manages Army extreme cold weather testing in Alaska

By Chuck Wullenjohn

The history of armed conflict is littered with the debris of military equipment that worked just fine in fair weather, but failed when the going got rough. One of the most deadly environmental extremes for the unprepared is the cold weather environment, which can bring military operations to a halt within minutes.

Segments of the arctic environment, such as extreme cold, have been artificially created in environmental chambers at numerous test locations over the years. These chambers, however, cannot duplicate the synergistic effects of temperature, wind and snow in a large enough arena to truly represent the challenge of winter warfare in its devastating totality. That means testing in the natural environment remains as meaningful today as in the past.

Alaska's Cold Regions Test Center (CRTC), managed by U.S. Army Yuma Proving Ground, today offers a full range of test capabilities and the professional expertise for all cold weather test operations. The test center operates over 670,000 acres of range, amid one of the best cold weather testing environments in the world.

Situated in the heart of Alaska's rugged interior, about two hours from Fairbanks, CRTC is located in the only area in the western hemisphere cold enough to have an average winter temperature lower than 5 degrees Fahrenheit. The winter climate is characterized by periods lasting from several days to several weeks of below zero temperatures,



A variety of military hardware undergoes challenging testing amid frigid winter conditions at the YPG-managed Cold Regions Test Center, Alaska, ranging from armored vehicles and helicopter weaponry to small arms and artillery pieces. Military operations can come to a standstill when temperatures plunge if equipment has not been properly prepared. (Photo by Sebastian Saarloos)

with lows plunging to minus 50 degrees Fahrenheit.

Test experience has shown that successful cold weather testing, which includes test setup, the actual test and an evaluation period, requires at least a six hour block of time in which the ambient temperature remains within test guidelines. CRTC has ten times more of these periods than winter test sites in the lower 48 states.

CRTC test professionals have tested an astonishing variety of items in the cold weather environment. These include combat and tactical vehicles, infantry and special operations weapons, ammunition, missiles, clothing, power generation and decontamination equipment, and much more. Once fielded, many items incorporate technical changes or additions that improve cold weather performance.

One of the unique aspects of

CRTC that makes it invaluable is the test center's long experience in combining developmental and operational testing, which has tradi-

tionally been performed separately at many other locations. CRTC has always had a need for Soldiers from tactical units to operate equipment or wear specially designed cold weather clothing during tests, so it was a natural marriage.

Just as Soldiers need to "be all they can be," so must military equipment. And to ensure quality, reliability and confidence, there simply is no substitute for natural environment testing.

As the Department of the Army's extreme natural environment test expert, Yuma Proving Ground manages hot weather testing in Arizona, tropic testing in Panama and other tropic locations, and in Alaska. It's testing like this that ensures American military equipment and munitions function properly and reliably, wherever deployed around the world.

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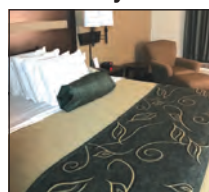
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