Missile Ranger

Volume 72, No. 7 www.wsmr.army.mil/Ranger July 2019

Nuclear effects test looks to validate radiation computer model

By Drew Hamilton
WSMR Public Affairs

U.S. ARMY PHOTO BY JOSE SALAZAR

Maj. William Bosely, front, from the US Army Nuclear and Counter Weapons of Mass Destruction Agency, along with 2nd Lt. Jorge Munoz, right, and Spc. Ason Figueroa, back, from the 1st Stryker Division, run checks on a Stryker Nuclear Biological Chemical Reconnaissance Vehicle at White Sands Missile Range.

A test conducted in late February at White Sands Missile Range is looking at providing new radiation protection evaluation methods for Army vehicles.

The US Army Nuclear and Counter Weapons of Mass Destruction Agency conducted a series of tests at the Survivability, Vulnerability Assessment Directorate's fast burst reactor facility, bombarding an M1135 Stryker Nuclear, Biological, Chemical, Reconnaissance Vehicle with varying levels of ionizing radiation.

The purpose of the study was twofold. First to evaluate the vehicles capabilities for protecting the crew.

"We're looking at how much the vehicle protects the occupants from a radiological environment," said Maj. William Bosley, Nuclear Effects Analyst, US Army Nuclear and Counter Weapons of Mass Destruction Agency.

Secondly, and the real purpose of the test, is to evaluate a new methodology for calculating how well a vehicle will protect the crew from radiation using computer models.

"The primary purpose of this test was to validate the computer model so we can use it in the future if we can't do a test at the reactor or with another radiological source," Bosley said.

The associated computational modeling project, led by the Defense Threat Reduction Agency's Research and Development Directorate, uses design data from the vehicle manufacturer to simulate how those design characteristics would hold up in a radiological environment. By using a computer model in place of lower priority tests the Army and the Department of Defense would be able to save time and money, while still collecting data needed for decision makers.

"So instead of doing a test at the reactor on a regular basis on any different type of variant of every vehicle, we can model that (in the computer)," Bosley said.

SEE NUCLEAR ON PAGE 4

Movies and Community Calendar

Back Page

Follow us on social media:

wsmissilerange
wsmissilerange
whitesandsmissilerange
WSMR
WhiteSandsMissile RangePAO
wsmissilerange
white sands missile range

Organization Day

Pages 6

Announcements

Community Event

Community Event

EDITORIAL POLICY

"This newspaper is an authorized publication for members of the U.S. Army. Contents of the Missile Ranger are not necessarily the official views of or endorsed by, the U.S. Government, Department of Defense, Department of Army, or White Sands Missile Range. It is published monthly in digital format and posted Online.

"All Editorial Content of the Missile Ranger is prepared, edited, provided and approved by the Public Affairs Office of White Sands Missile Range.

ADVERTISING POLICY

"The appearance of advertising in this publication, including inserts or supplements, does not constitute endorsement by the Department of Army.

WHITE SANDS MISSILE RANGE N.M.

Missile Ranger

WSMR Commander ..... Brig. Gen. Greg Brady
Chief of Public Affairs ..... Scott Stearns
Editor ..... Miriam U. Rodriguez
Staff Writer ..... Charles Roberts
Photographer ..... Jose Salazar

E-mail us - usarmy.wsmr.atec.list.ranger@mail.mil

Second Front

T-4 finds new home at WSMR after 71 years on Mule Peak

WSMR Public Affairs

White Sands Missile Range recently gained a significant piece of history.

After 71 years in the Lincoln National Forest at Mule Peak Instrumentation Site, an extremely unusual tracking telescope has found a new home.

In August 1947, the U.S. Forest Service granted a special-use-permit to White Sands Providing Ground. The permit authorized the Army to use Mule Peak at Lincoln National Forest for installing experimental instruments, as well as installing shelters and constructing an access road in support of obtaining ballistic measurements on guided missile testing.

U.S. ARMY PHOTO

Vernon Norvell operates Telescope IV at Mule Peak in the early 1960s.

In 1948, Telescope IV, commonly referred to as T-4, was shipped from the Ballistic Research Laboratory at Aberdeen Proving Grounds, Md., to Mule Peak located at about 7,000 feet and not too far from Alamogordo. T-4 was one of five newly developed tracking telescopes belonging to astronomer Clyde Tombaugh's Optical Measurements Branch at WSMR.

The T-4 was used to track most missile tests fired from WSMR, beginning with the V-2 rocket. The T-1 through T-4 telescopes were built upon air defense anti-aircraft gun mounts. The T-4 telescope uses a 90mm M2 gun mount, with the barrel of the gun still present, although capped. Only one of its kind was ever built.

The T-4 telescope has not been used since the 1960s, although the crew shelter and other structures were utilized into the 1980s. Bill Godby, archaeologist with the Garrison Cultural Resources Program, spearheaded efforts to have the telescope removed and brought back to the White Sands Missile Range

Museum as an outdoor display to be created recognizing Clyde Tombaugh and his efforts.

Tombaugh worked at WSMR from 1946 to 1955, and also taught astronomy at New Mexico State University from 1955 until his retirement in 1973. He discovered Pluto in 1930, the first object to be discovered in what would later be identified as the Kuiper belt. In 1980 he was inducted into the International Space Hall of Fame.

"Removing the T-4 and getting it back to the WSMR Museum has been on the top of my wish list for more than five years, after I learned of its historical importance," said Godby.

The Mule Peak Instrumentation Site was identified as a National Register of Historic Places eligible Historic District in 2015. The removal of the telescope for preservation is part of an agreement between the U.S. Army Garrison at WSMR and the New Mexico Historic Preservation Division to offset the upcoming demolition of the remaining structures at Mule Peak.

The project had serious challenges to bring it to fruition, including an extremely rough access road and having to use a large crane and a flatbed with adequate ground clearance.

U.S. ARMY PHOTO

Employees use a 75-ton crane to extract Telescope IV from its resting place since 1948. The building roof has been rolled back to expose it, as it is on rails.

"Initially we thought our biggest problem in getting the telescope would be road access, but we found out that wasn't the case," said Godby.

An in-house effort to remove the T-4 in August 2018 proved unsuccessful when it was discovered that the telescope weighed 10,000 pounds more than anticipated, requiring a larger crane and specialized rigging.

Greene Crane and Rigging from Alamogordo was contracted for the job, and John Greene and his experienced crew successfully extracted the T-4 on June 7, 2019, with a 75-ton crane. The T-4 was delivered to WSMR six days later.

Fortunately, WSMR Museum Archives volunteers were on-site, including Joe Marlin who recalled working at Mule Peak back in the 1950s. He had not seen T-4 since those days, and the pleasant reunion brought a big smile to his face.

The future home of the T-4 will be the WSMR Museum Missile Park where it will reside as a permanent display. Godby will be coordinating a refurbishment of the T-4 to include minor surface repairs, repainting, and designing interpretive signage to include historic photos and descriptions of Tombaugh's efforts in developing tracking telescopes. Godby estimates a completion date of about one year.

The effort will be one of several that have involved cooperation between the WSMR Museum and the Environmental Division's Cultural Resources Branch.

Nuclear

CONTINUED FROM FRONT PAGE

The Stryker NBCRV was chosen for this test series because it's a vehicle that's most likely to see use during a nuclear event. Equipped with an array of sensors to evaluate nuclear, biological, and chemical threats, and equipped with a pressurized cabin to prevent the intrusion of dust, gas and other outside material, it is equipped specifically to handle hazardous environments.

"When we were looking at different vehicles and determining which was the highest priority, this was the highest because the Stryker NBCRV is designed for doing mounted reconnaissance in any kind of nuclear, biological or chemical environment," Bosley said.

The fast burst reactor is an often unmentioned asset of the Army Test and Evaluation Command at White Sands Missile Range. A scientific tool, the reactor can generate bursts of radiation to replicate the conditions of a nuclear explosion or other radiological event. Alongside other assets at WSMR a vehicle or system can be tested for the full gamut of nuclear effects, including radiation, blast, heat, and even electromagnetic pulse.

"White Sands Test Center delivers the most comprehensive assortment of nuclear effects test capabilities within the DoD," said Frank Sage, FBR facility Director. "This includes but is not limited to neutron, beta, gamma, lightning, high intensity thermal, electromagnetic pulse, high power microwave, and large blast environments."

The Stryker test was somewhat different than normal testing, which sees smaller items tested inside the reactor's cell. "This test is different from typical testing in two ways. First, most testing is done at the system and component level to determine how well parts maintain their functionality. This test was performed to measure vehicle protection factors and support computer modeling to determine the protection factor of other vehicles. Second, this test was performed with the item under test external to the reactor exposure cell," Sage said. During the Cold War, the testing of various Army vehicles and systems for resistance to radiation and other nuclear threats was very common, but as the Cold War ended so too did the nuclear threat attached to it. For various reasons related to the reduced nuclear threat on the Army, testing of systems for nuclear effects became a lower priority.

Today however with increased tensions and nuclear proliferation to more unpredictable nations, the Army has a renewed interest in providing better nuclear effects protection to the Soldier.

The data collected in the Stryker test isn't just about the Stryker crew, but also the larger army, as commanders and other leaders will need know what their forces are capable of to lead them effectively in a hostile environment.

"We need that information, as planners and people that make decisions in operations in order to figure out where our people should and shouldn't be when something goes off," Bosley said, "and so we're taking a look at that again because part of what the Army and military is doing is looking at reinvigorating some of our nuclear operations policy based on the nuclear posture review and the national defense strategy."

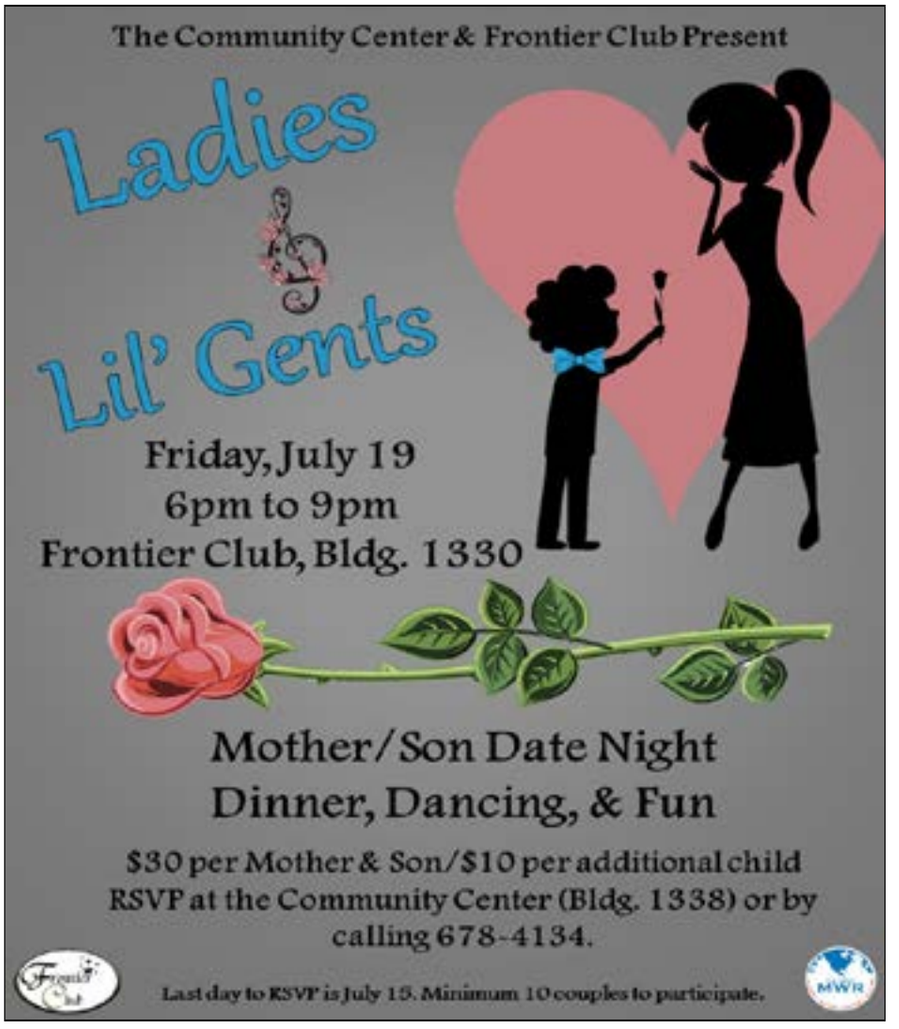
While nuclear combat events are of primary concern to the Army, in the modern era a nuclear event could come from other sources too, making testing like this important not only for defense, but also for other emergency response options.

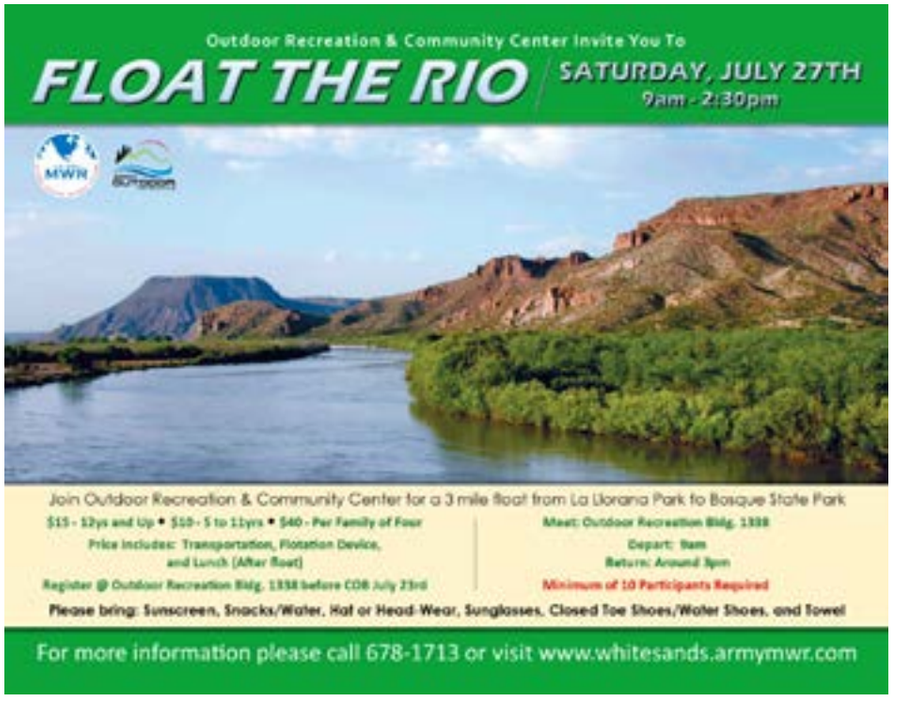
"When you look at the full spectrum of hazards in the environment, a nuclear weapon is a very unlikely event," Bosley said.

"However, things like Fukashima, Chernobyl, or Three Mile Island, while we hope they never happen, vehicles like this could be used in those types of scenarios and in support of civil agencies if activated."

This test was one of many that takes place regularly at WSMR, as the range can support customers of all stripes." Our main customers are the DoD, the Department of Energy, and the National Nuclear Security Agency," Sage said.

"We also support NATO allies, other Agencies associated with intelligence community, and private industry."





Legacy continues with changes at McAfee U.S. Army Health Clinic

By Chuck Roberts
Staff Writer

Some things may cause Col. Erik Rude, Commander of William Beaumont Army Medical Center, to wake up in the middle of the night, but one thing he said he never worried about was clinic leadership at White Sands Missile Range and its broad and diverse healthcare mission encompassing 3,200 square miles.

That's because Lt. Col. Kirsten Swanson was in charge of McAfee U.S. Army Health Clinic, which falls under William Beaumont Army Medical Center, and served as the Emergency Response Team for Nuclear Accident/Incident Response Assistance.

"She takes care of that every day," said Rude.

Rude made his remarks during a June 27 change of command ceremony honoring Swanson as she departs after two years of command, and welcoming Lt. Col. Aaron Braxton II with full confidence of continuing to lead with the same level of excellence.

Rude cited Swanson for her commitment to Army values, particularly the values of loyalty and trust displayed in putting the needs of her patients and Soldiers before herself. Which was verified, he noted, with McAfee recently being awarded for leading the Army in overall patient satisfaction scores of 100 percent for five of the past six months.

PHOTO BY STAFF SGT. JEFFREY WADFORD

Col. Erik Rude, left, Commander of William Beaumont Army Medical Center, passes the unit flag to Lt. Col. Aaron Braxton II, signifying him as new commander for McAfee U.S. Army Health Clinic.

Swanson has also led the charge in McAfee meeting the new Army standard for installations, ensuring that 90 percent of their Soldiers are medically ready to deploy to meet their wartime mission.

Swanson likened the effort of her clinic team to succeed to the 1962 speech by President John F. Kennedy to persuade the American people to support the effort to put a man on the moon:

"We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard; because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win, and the others, too."

His words still resonate today, said Swanson. "Thank you Team McAfee, Team WSMR and all of our partners for choosing to go to the moon, every day in healthcare, assessing, educating and supporting, and doing so many things, not because this is easy, but because this is hard, because that challenge is one we are willing together to accept … because they were hard and right for our military and mission."

PHOTO BY STAFF SGT. JEFFREY WADFORD

Lt. Col. Kirsten Swanson, center, relinquishes command of the McAfee U.S. Army Health Clinic by passing the unit flag to Col. Erik Rude, Commander of William Beaumont Army Medical Center which the McAfee Clinic falls under.

And Swanson said she is confident of the way forward for the clinic under the leadership of her successor. "Brax, you will take us to the next level."

In his first remarks as the new commander, Braxton said he intends to carry on the McAfee legacy.

"It is a great honor to join the ranks of those that have served in the historic McAfee U.S. Army Health Clinic. I see this command as a tremendous responsibility, but more importantly, as a privilege and opportunity to serve … for there is no better place to serve, to lead, to train, to focus, and to ensure readiness of the force than here as part of the McAfee U.S. Army Health Clinic."

Braxton assured Swanson her good work would continue on.

"Your legacy will carry on," said Braxton, a Mississippi native who enlisted in the Army in 1996 as a transportation specialist before receiving a direct commission while attending Mississippi State University in the U.S. Army Medical Service Corps in 2000. "I will do all I can to live up to all your expectations."

Organization Day 2019

PHOTO BY JOSE SALAZAR

Team members pull during a tug of war competition at White Sands Missile Range's Organization Day June 13.

PHOTO BY JOSE SALAZAR

A young boy climbs a rock wall during Organization Day June 13 at White Sands Missile Range.

PHOTO BY JOSE SALAZAR

Team members poses with their trophy after taking first place at White Sands Missile Range's Organization Day June 13.

PHOTO BY JOSE SALAZAR

A woman hits the target and makes sure Garrison Command Sgt. Maj. Robert Parker gets a dunk during White Sands Missile Range's Organization Day June 13.

Monk replaces Holmes to lead vital Navy testing at WSMR

By Chuck Roberts
Staff Writer

A Change of Charge Ceremony marked the departure of Commander Anthony Holmes and the arrival of Commander Colin Monk as the new leader at the helm for Naval Surface Warfare Center, Port Hueneme Division, White Sands Missile Range Detachment June 20.

In both instances, the Navy chose the right man for the job, said Capt. Rafael "Ray" Acevedo, Commanding Officer for Naval Surface Warfare Center, Port Hueneme Division, during an outdoor ceremony in front the Navy headquarters at WSMR.

Acevedo said Holmes has continued the tradition of leadership excellence at WSMR in achieving impressive results.

"Throughout his tenure, Commander Holmes skillfully guided the WSMR team through a turbulent fiscal environment, civilian hiring freeze, and financial carryover constraints while advancing a diverse portfolio of programs during critical periods of land-based construction, research, development and test and evaluation of combat weapons systems and capabilities."

"Commander, on behalf of everyone at Port Hueneme Division, we thank you for your outstanding leadership," said Acevedo. "And while we are sorry to say goodbye, we also have the opportunity to welcome Commander Monk."

U.S. ARMY PHOTO BY LUIS ROSALES

A handshake confirms the change of charge as outgoing Commander Anthony Holmes, left, shakes hands with his replacement, Commander Colin Monk, right, during a June 20 change of charge ceremony at White Sands Missile Range. Looking on is guest speaker Captain Rafael "Ray" Acevedo, Commanding Officer, Naval Surface Warfare Center, Port Hueneme Division.

"We are extremely pleased to have him join our team and look forward to having his vast knowledge and education available here at the detachment. Commander Monk, welcome aboard," Acevedo said of Monk, who was commissioned in 2003 through the Naval ROTC program at Tulane University, where he received a Bachelor of Science degree in mechanical engineering.

His most recent assignment was with PMS-312, the In-Service Aircraft Carrier Program Office, where he was the Deputy Assistant Program Manager for Cybersecurity.

In his parting remarks, Holmes focused on the tremendous support he enjoyed from fellow servicemembers and community members in achieving the Navy's vital mission at WSMR.

"It didn't get done overnight," said Holmes. "It took folks like everyone here doing what you do every day. Everyone here today, everything you do makes a difference … I hope I made a difference in your life, because you make a difference in mine."

In his first remarks as the new commander, Monk turned to praise his predecessor who he said "has poured his heart and soul into the detachment - and it shows."

Monk said he is excited to be at WSMR to help lead the acceleration of technology to counter the growing threats to the nation, and knows that the 25 Sailors and 73 civilian employees he leads are up to the task.

"The team out here has a long track record for solving problems. We deliver game-changing technology to the force. It is a distinct honor and privilege for me to be a part of this team."

The Navy has been a part of the WSMR test community since June 14, 1946, when a naval detachment was established to participate in research and testing of captured German V-2 rockets.

Today, the mission of Naval Surface Warfare Center, Port Hueneme Division, White Sands Detachment includes land-based live fire-testing of naval weapon systems, missiles, guided munitions and lasers, missile and rocket assembly, research rocket launch operations and assemblies, and launch of ballistic missile target vehicles.

Railgun shakedown

By J.W. Marcum
NSWC PHD

Engineers and technicians at Naval Surface Warfare Center, Port Hueneme Division's White Sands Missile Range Detachment began testing an electromagnetic railgun, May 15.

The test was the first firing series of the newly installed weapon at the site. Subsequent tests will be scheduled, post performance-data analysis, to advance the weapon's commissioning.

"The installation of the railgun began earlier this year and required a large effort for the mount, gun, power controls, displays and functional ties into the range," said Site Manager John Winstead. "The object of the test was essentially a shakedown of the newly-installed mount with accompanying power containers, controls and a fully functional execution team."

A total of four rounds were fired with full diagnostics and verification. Initial estimated test dates were reduced from three to two days due to the success of the firings.

"The tests were very successful and alleviated the need to have further installation and check-out testing required for verification," said Winstead.

The electromagnetic railgun is viewed as an innovative warfighting capability fulfilling the Navy's requirement for a long-range, multi-mission weapon. The gun was moved to WSMR to conduct more advanced testing at an optimal range capacity.

Collateral achievements during initial research, development and testing of the weapon system have resulted in the hyper-velocity, precision-guided projectile designed for the railgun to be operationally viable in other weapons, such as the Navy 5-inch, 155mm, and other guns.

NAVSEA scientists helped to establish the Navy Railgun Program.

Missile Ranger Submission Policy

Submissions to the Missile Ranger are accepted anytime for publication in the following issue, space permitting.

All submissions will be edited for style, content and propriety. Submissions must include a point of contact identified by first and last name and a telephone number for that point of contact.

Submissions can be made by e-mail to the following usarmy.wsmr.atec.list.ranger@mail.mil; also in person at the Public Affairs Office, Building 1782; or call (575) 678-2716.

Community Calendar

Community Calendar submissions are compiled by the Public Affairs Office. Any WSMR organization wishing to publicize an event on this calendar should submit information to usarmy.wsmr.atec.list.ranger@mail.mil.

Frontier Club Lunch Specials

Monday, July 15
Frontier Club - Smothered burrito

Tuesday, July 16
Frontier Club - Carne adovada

Wednesday, July 17
Frontier Club - Chicken vodka penne

Thursday, July 18
Frontier Club - Green chile meatloaf

Friday, July 19
Frontier Club - Specials from the grill

Monday, July 22
Frontier Club - Lechon asado

Tuesday, July 23
Frontier Club - Taco Tuesday

Wednesday, July 24
Frontier Club - Green chile chicken alfredo

Thursday, July 25
Frontier Club - Barbeque brisket

Friday, July 26
Frontier Club - Specials from the grill

Monday, July 29
Frontier Club - Ancient grains bowl

Tuesday, July 30
Frontier Club - Green chile chicken enchiladas

Wednesday, July 31
Frontier Club - Chicago pizza

Thursday, August 1
Frontier Club - TBD

Friday, August 2
Frontier Club - TBD

Closed Saturday and Sunday

July

- July 17 - WSMR Change of Command
- Sept. 19 - Rancher's Day

Frequently Called Numbers

Aquatic Center
678-1068

Army Community Service
678-6767

Arts and Crafts Center
678-5321

Auto Crafts Center
678-5800

Bell Gym 678-3374

Bowling Center 678-3465

CDS 678-2059

Community Center
678-4134

Commissary 678-2313

Frontier Club 678-2055

Library 678-5820

McAfee Army Health Clinic
674-3500

Museum 678-2250

Post Chapel 678-2615

Post Office 541-7429

Outdoor Recreation
678-1713

White Sands Schools
674-1241

Youth Services/SAS
678-4140

IHG Army Hotel, WSMR
678-1838/4559