



Mission and Installation
Contracting Command



Welcome to Industry Day
for the
U.S. Army Yuma Proving Ground
Mission (Test) Support Services
W9124R-12-R-0003

13 DECEMBER 2011





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Mission and Installation Contracting Command

Points of Contact

Mission and Installation Contracting Command

Yuma Proving Ground (MICC-YPG)

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U.S. Army Contracting Command

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Mission and Installation Contracting Command



Information

Federal Business Opportunities (FedBizOps) website:

www.fbo.gov

MICC-YPG contracting website:

www.yuma.army.mil/contracting



U.S. Army Contracting Command

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Mission and Installation Contracting Command

13 December 2011 Industry Day FINAL AGENDA

Location: YPG Main Post at Palm Gardens

Time	Event	POC	SLIDE NUMBERS
0730 - 0800	Sign-In (YT Support Services)	Shari Hillsbery / Stephanie Ridout	
0800 - 0810	Introduction (Contracting Office)	Ann Sanchez / Colette Carrizales	1 - 4
0810 - 0830	YPG Overview Brief	COL Reed Young	SEPARATE BRIEF
0830 - 0900	YPG/YT Virtual Tour and YT Intro Brief	LTC Chad Harris	5 - 34
	Range Briefings:		
0900 - 0915	Ground Combat Systems Test Directorate	Larry Bracamonte	35 - 39
0915 - 0930	Munitions & Weapons Division	Claudia Anderson	40 - 46
0930 - 0945	Combat/Automotive Systems Division	Zack El Ansari	47 - 53
0945 - 1000	BREAK		
1000 - 1015	Ammo Management	Chuck Butler	54 - 61
1015 - 1030	Weapons Operations Division	Wayne Schilders	62 - 67
1030 - 1045	Electronics Division	Fernando Mezquita	68 - 84
1045 - 1100	Metrology and Simulation Division	Todd Hudson	85 - 106
1100 - 1115	Operations and Maintenance Division	Mike Stanton	107 - 115
1115 - 1230	LUNCH		
1230 - 1245	Air Combat Systems Test Directorate	Grant Ware	116 - 121
1245 - 1300	Aviation/Air Delivery Systems Division	Mike Diehl	122 - 132
1300 - 1315	Optics Division	Jeff Rogers	133 - 143
1315 - 1345	Technical Services Division	Mark Nelson	144 - 174
1345 - 1400	National Counterterrorism Counterinsurgency Integrated Test and Evaluation Center (NACCITEC)	Greg Mitchell	175 - 178
1400-1430	Test Division/Engineering Division/Test Support Division	Javier Sardina	179 - 193
1430 - 1445	BREAK		
1445 - 1515	Network Enterprise Center (NEC)	Mike Davis	194 - 204
1515 - 1530	Questions and Answers/Wrap Up	Colette Carrizales	205





ATEC



Virtual Tour of YPG/YT Points of Interest

LTC Chad Harris
Commander, Yuma Test Center

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Palm Garden

Approx 6 miles from the ROC



Range Operations Center (ROC)



2

Level Cross Country Course approx 1 mile from ROC



3



Sand Dyno Course approx 3 miles from ROC

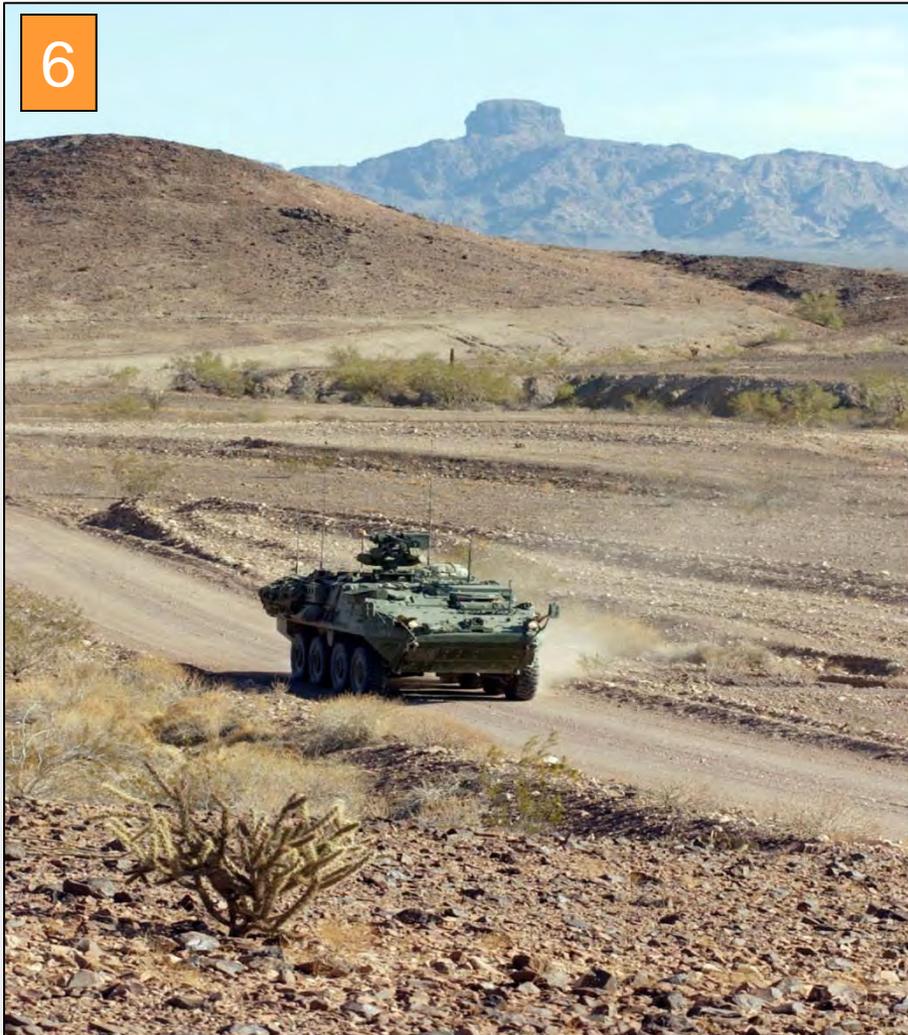
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Paved Dynamometer course approx 4 miles from ROC



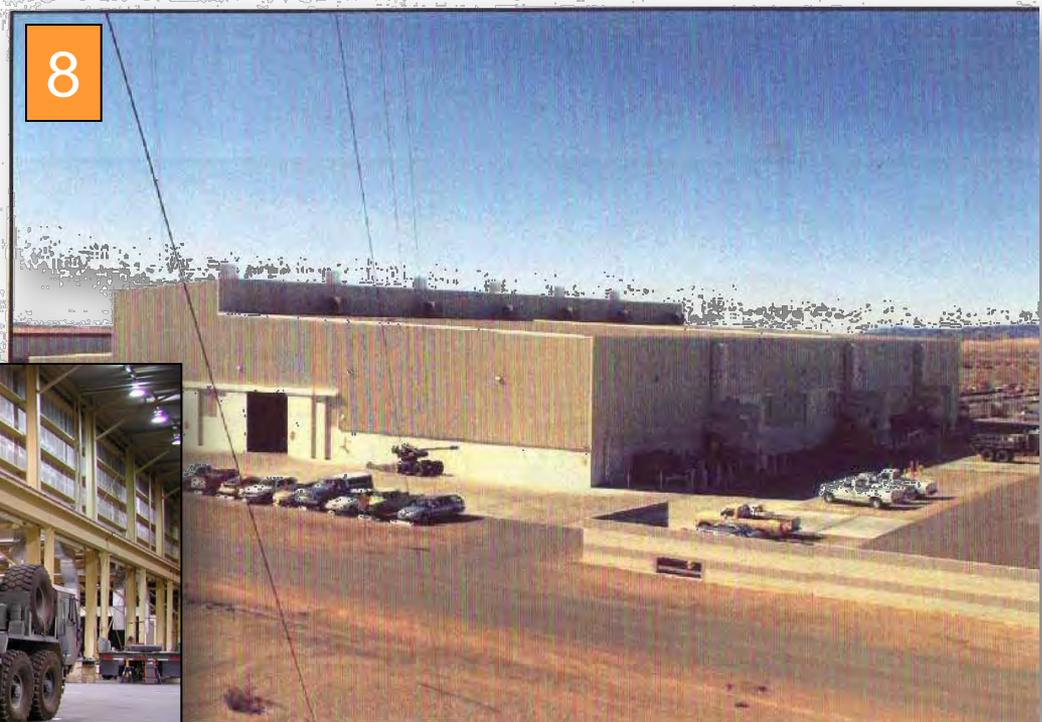
Desert March Course approx 9 miles from ROC



KFR Maintenance, Support and Admin Areas approx 5 miles from ROC



Maintenance Building approx 5 miles from ROC



GP 8 – Improved Gun Position approx 7 miles from ROC

9



Cryofracture Facility approx 8 miles from ROC

10



Red Bluff Firing Range approx 18 miles from ROC

11



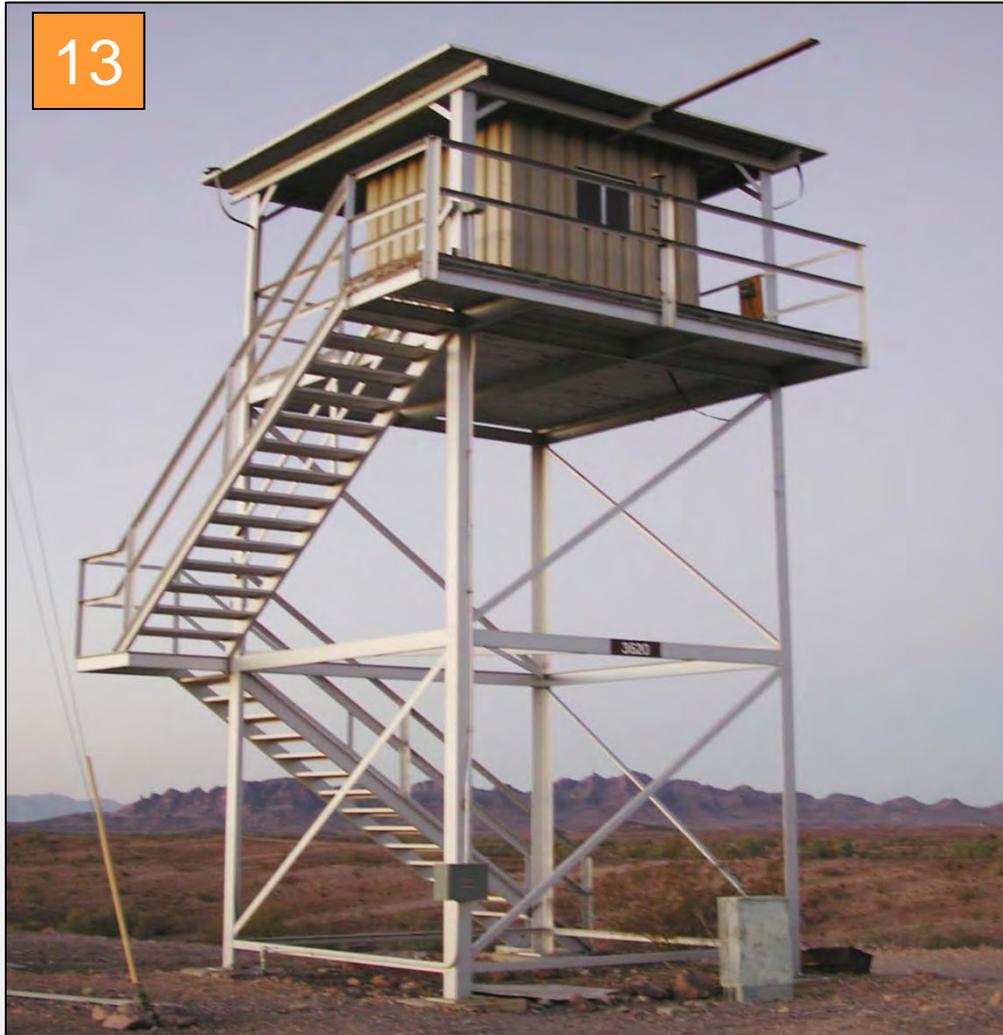
Gun Position 20 approx 9 miles from ROC



12



Observer Tower 28 approx 23 miles from ROC



Unimproved GP firing on KOFA Range

14



Robotic Operations on instrumented impact fields approx 40 miles from ROC





4221Z - Highly instrumented firing position
approx 13 miles from ROC



16



Castledome Annex approx 16 miles from ROC

17



Castledome Hangar supporting UAVs approx 14 miles from ROC

18



Air Delivery Facility approx 3 miles from ROC

19



Apache firing on Cibola Range



20



Airdrops on Cibola Range primarily into instrumented drop zones



Phillips Drop Zone approx 5 miles from ROC



22



K-9 Training Area approx 6 miles from ROC

23



NACCITEC Training Area 54 miles from ROC



N. Cibola UAV Site/Test Facility

25



Site 16 High-Altitude Airdrop Base Station

26

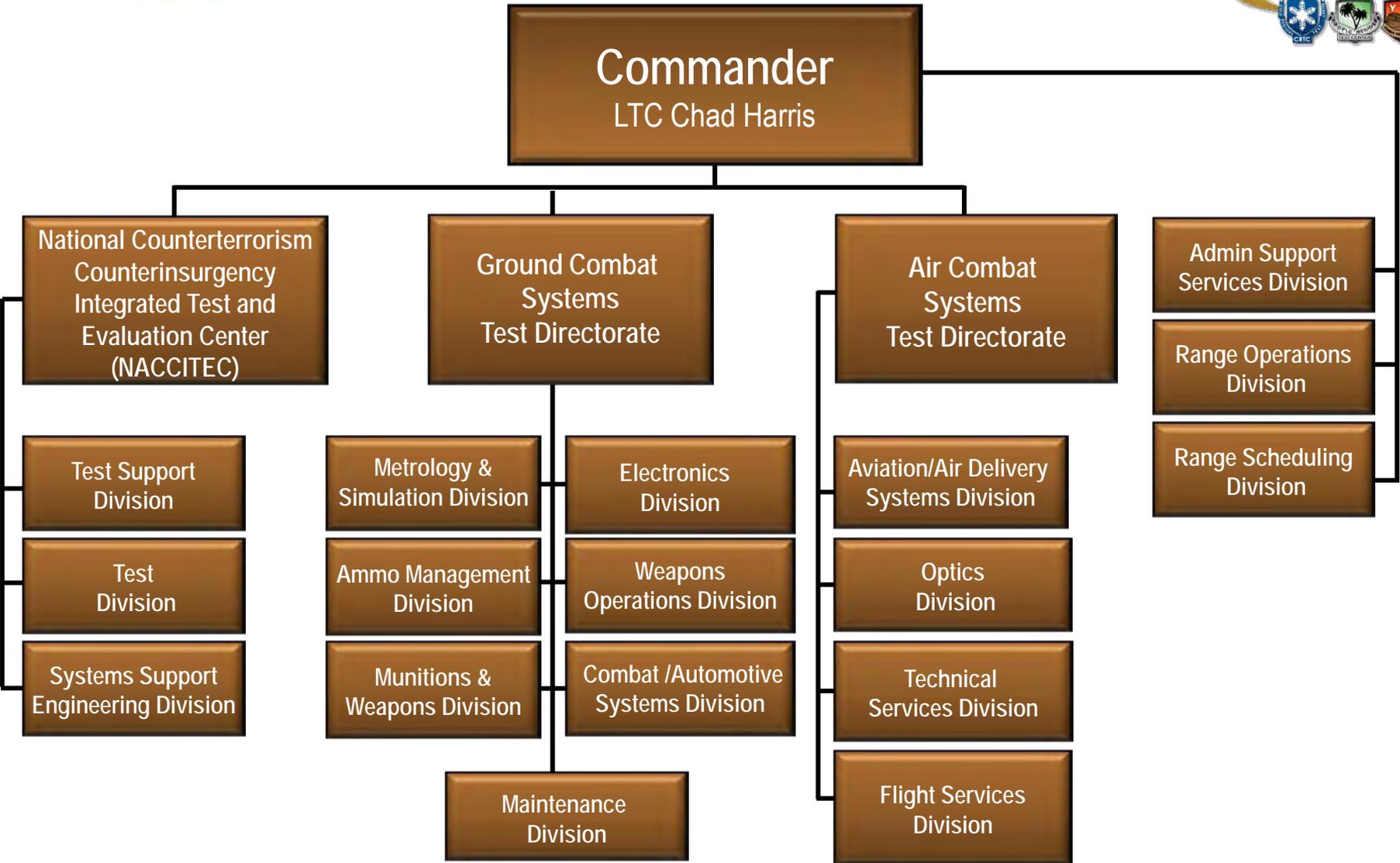


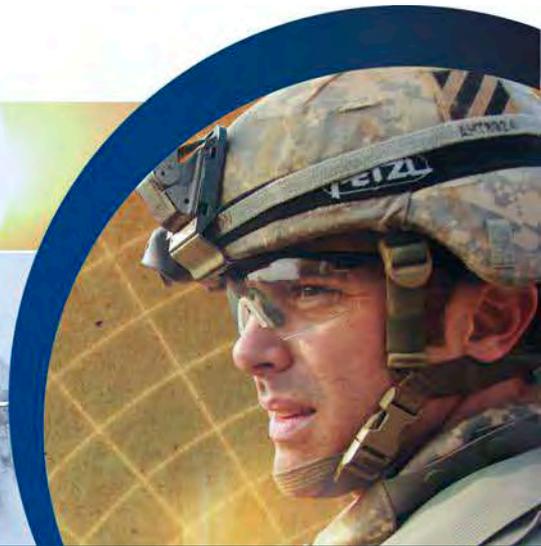
Yuma Test Center Test Missions



- Combat vehicles and automotive systems
- Air delivery systems/airdrop
- Aircraft systems - aircraft armaments and armament systems integration-rotary
- Engineering equipment (Demolition, Mine systems, Countermines, Detection systems - hand-held, vehicle mounted, airborne, and Clearing systems - explosive, mechanical)
- Direct-fire systems (non missile/rocket) - Direct-fire munitions performance/ acceptance
- Electronic countermeasures - improvised explosive device (C-IED)
- Indirect-fire systems (Mortars, Indirect-fire weapon systems, Munitions performance, Smoke/obscurants)
- Ground and Airborne sensors
- Unmanned aircraft systems (Performance and Weapons integration)
- Extreme natural environment - Desert testing

Yuma Test Center Organization



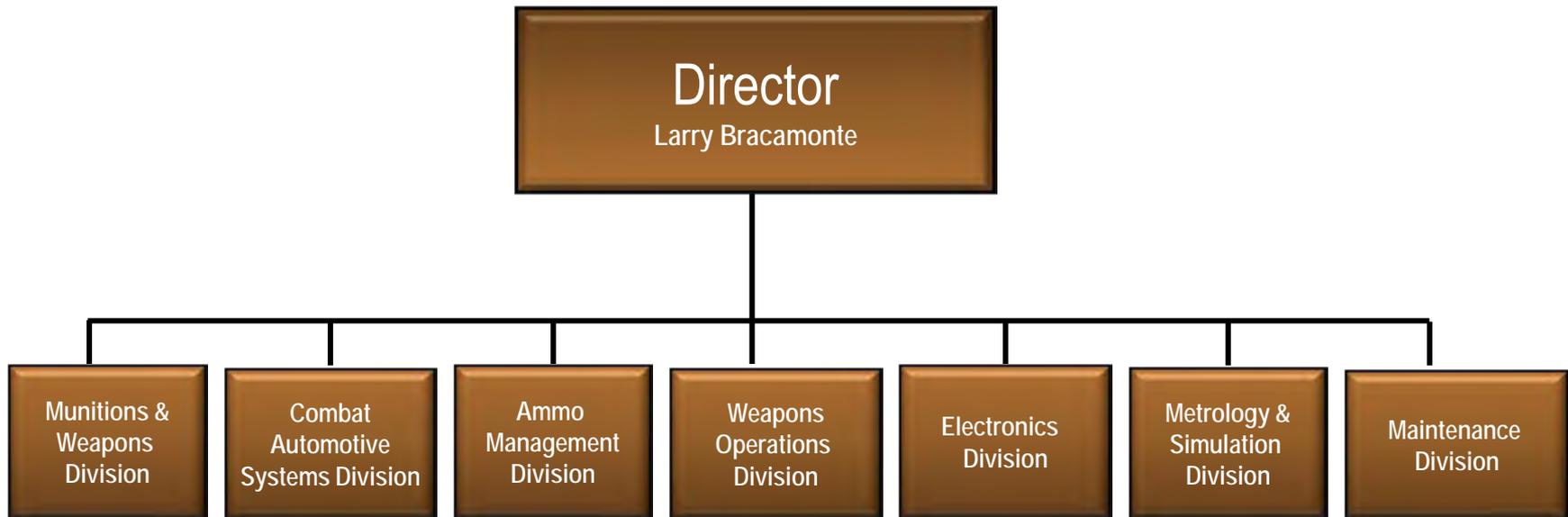


Ground Combat Systems Test Directorate

Mr. Larry F. Bracamonte, Director

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Ground Combat Systems Test Directorate





Ground Combat Systems Directorate Core Mission Activities



- Large Caliber Munitions
- Guided Munitions
- Howitzer and Munitions Production Acceptance
- Mines, Countermines, and Demolitions
- Armored and Artillery Systems
- Direct Fire Weapons and Munitions
- Automotive Systems Performance
- Heavy Equipment Transport Systems
- Desert Environment Testing
- Radar Systems

Ground Combat Systems Directorate

Major Customers



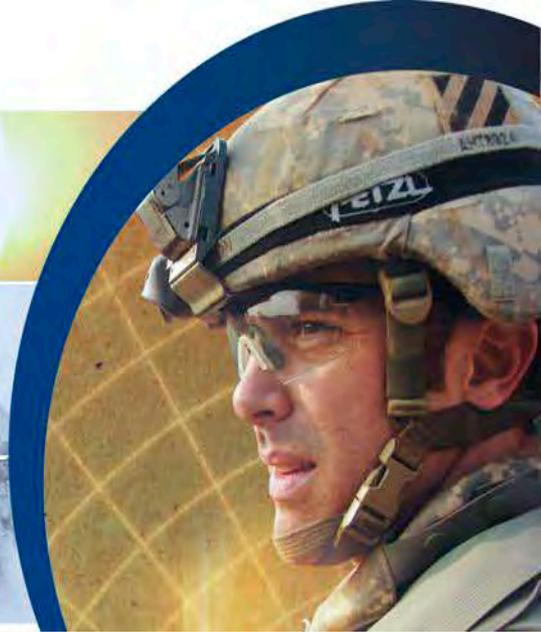
- **PEO Ammunition (Picatinny Arsenal, NJ)**
 - PM – CAS (Combat Ammunition Systems)
 - PM – CCS (Close Combat Systems)
 - PM – MAS (Maneuver Ammo Systems)
- **PEO Ground Combat Systems (Warren, MI)**
 - PM – GCV (Ground Combat Vehicle)
 - PM – HBCT (Heavy Brigade Combat Team)
 - PM – SBCT (Stryker Brigade Combat Team)
- **PEO Intelligence Electronic Warfare & Sensors (IEW&S)**
 - PM – RADARS
- **PEO Missiles and Space (Huntsville, AL)**
 - PM - CRAM



Ground Combat Systems Directorate FY11 Workload



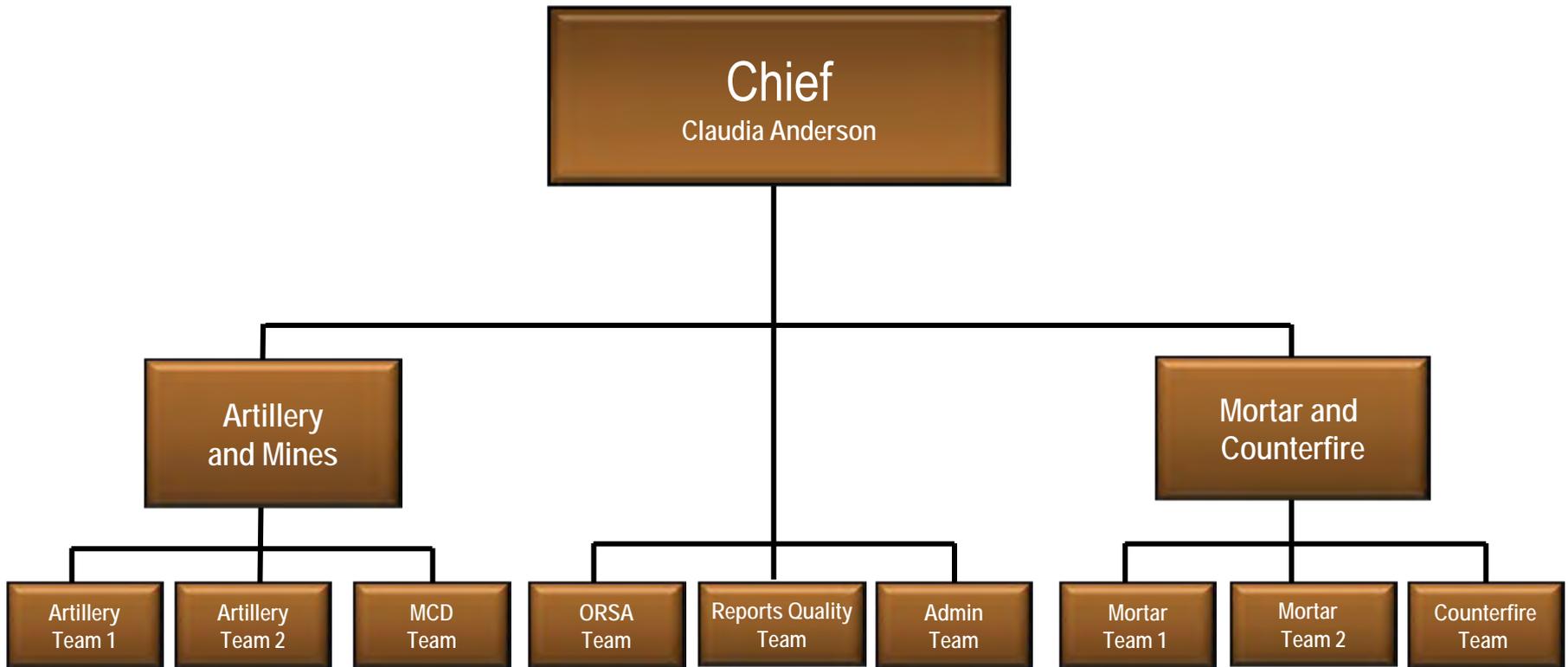
- Over 300 active GCS Test Programs
- GCS Programs generated over 1.M Direct Labor Hours (DLHs) in FY11
- a 6% increase over FY10
- GCS Programs account for approximately 60% of the total YTC DLHs
- Over 1M+ DLHs generated supporting the automotive mission
- Over 415K+ miles driven and over 307K+ projectiles fired downrange



Munitions and Weapons Division

Ms. Claudia K. Anderson, Chief

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Munitions and Weapons Division Test Mission

- Determining performance, safety, and reliability of munitions, weapons, counterfire systems, and detectors
- Developmental, operational, and life cycle testing
- R&D, acquisition-evaluated, and production acceptance programs
- Department of Defense (DoD), non-DoD, and foreign customers



Munitions and Weapons Division Core Competencies

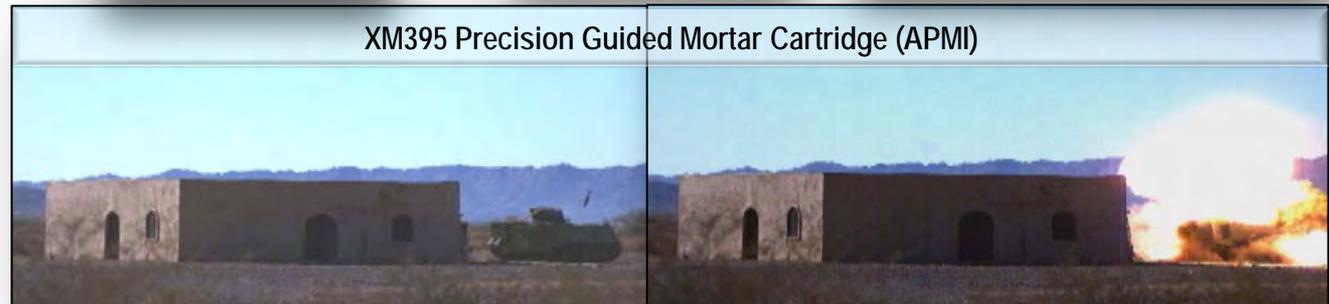


- Indirect fire weapon systems
- Large caliber munitions, including guided projectiles
- Munitions production acceptance and stockpile reliability
- Counterfire radar systems
- Mine performance, detection, and neutralization
- Smart and networked munitions
- Insensitive munitions and final hazard classification
- Weapon and munition malfunction investigations

Generate reports and safety recommendations to support soldier testing and materiel release

Munitions and Weapons Division

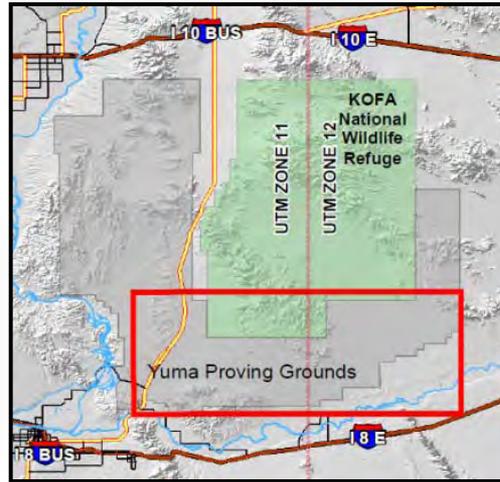
Major Test Efforts



Munitions and Weapons Division

Test Ranges and Facilities

Kofa Firing Range



- KFR has 100,000+ acres of designated impact area
- Ten permanent and hundreds of temporary gun positions
- Instrumented towers to collect impact data of high explosive, smoke, illumination, improved conventional munitions, and guided projectiles



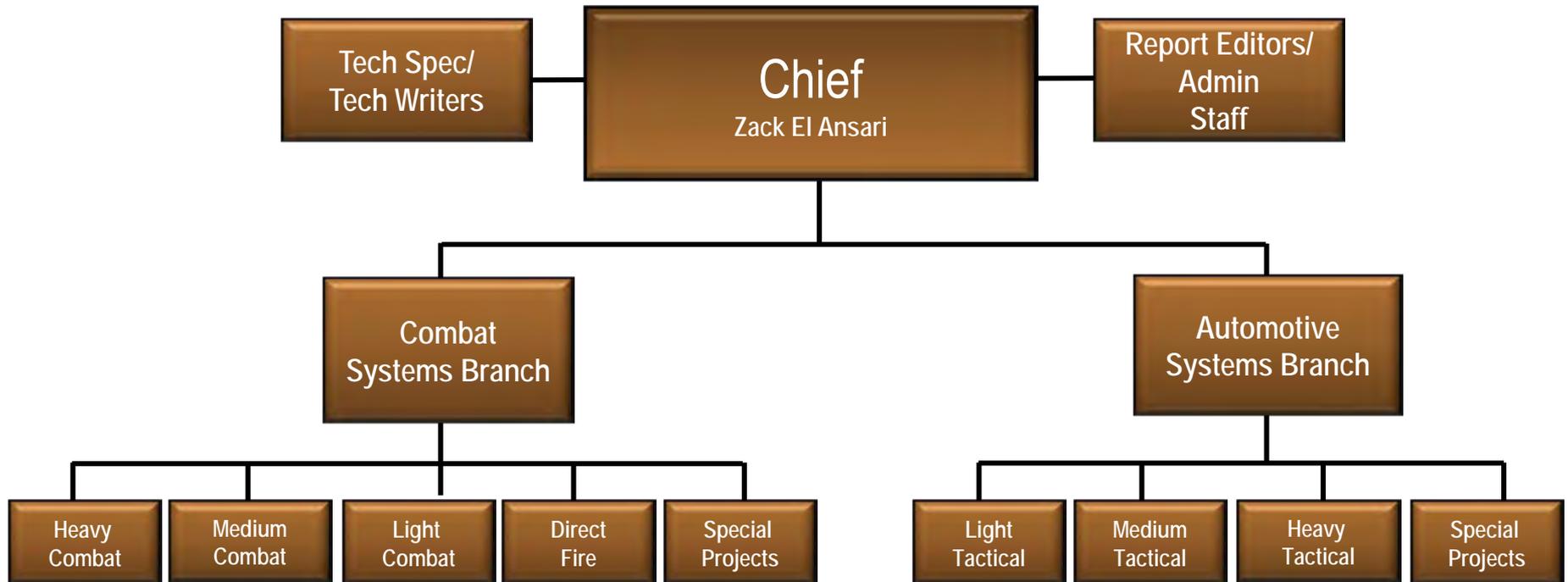
- Test officers (project engineers and technicians)
 - Test planning, execution, and reporting
 - Excellent verbal and written communication skills
- Operations research analysts
 - Data reduction, analysis, and presentation
- Test document writers/editors
 - Writing and editing plans, reports, SOPs, and other test documentation
- Administrative functions



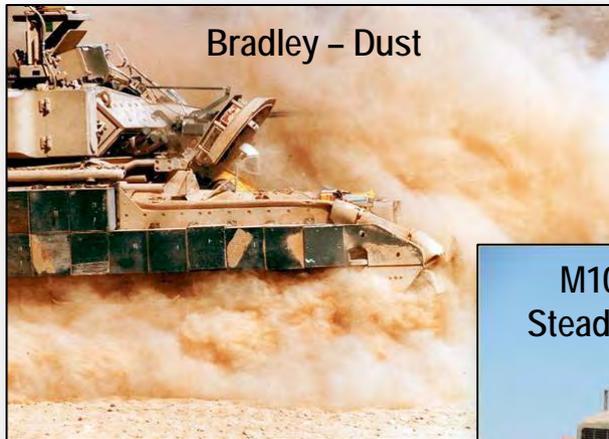
Combat Automotive Systems Division

Mr. Zack El Ansari, Chief

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- Vehicle Reliability and Maintainability
- Vehicle Systems Performance
- Desert Environmental Testing
- Direct Fire Munitions Performance and Acceptance



- Major Test Efforts

- Mine Resistant Ambush Protected Family of Vehicles
- Self Protection Adaptive Roller Kit Mine Roller
- Route Clearance Vehicles
- Modular Fuel System Pump Rack Modules
- M1070A1/M1000 Heavy Equipment Transport System
- M1120A4 Heavy Expanded Mobility Tactical Truck Load Handling System
- Family of Medium Tactical Vehicles



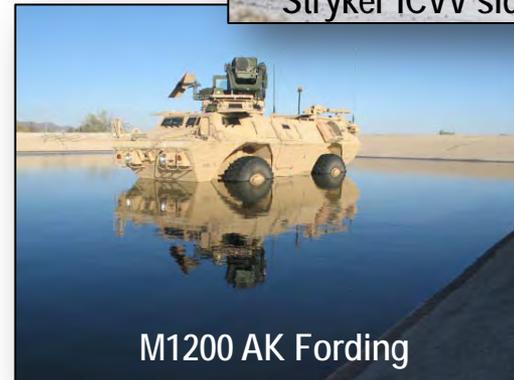
- Major Test Efforts
 - Bradley Family of Vehicles
 - Abrams Family of Vehicles
 - Stryker Family of Vehicles
 - Paladin Integrated Management
 - Husky Mounted Detection System Test of the Remote Visualization System
 - Armored Security Vehicle Family of Vehicles in Support of the Afghan National Army Quick Reaction Force
 - Light Armored Vehicle - Personnel Carrier Saudi Arabian National Guard
 - M829E4 APFSDS-T (DU) Advanced Kinetic Energy
 - 50mm Extended Area Protection System



Bradley Tow Missile Firing
1500m in front of GP-15



Stryker ICVV side slopes



M1200 AK Fording

- Test Courses

- Durability
- Unique Desert Courses –wide range of severity
- Performance Courses
- GM Desert Proving Ground

- Test Facilities

- Engine Starter Test Stand
- Hybrid Electric Facility
- Fuel Containment Facility
- Winch Facility
- Lift and Tie Down Facility
- Palletized Load System/Load Handling System Simulator
- Vehicle Payload and Physical Measurements Area
- Platform scales (300,000 lbs capacity)
- Tilt Table (300,000 lbs capacity up to 47 deg)
- Fording Basin (up to 8 feet deep)



Contract Support

- Automotive Instrumentation
- Test Vehicle Operators
- Data Acquisition
- Data Processing
- Test Vehicle Maintenance
- Logistical Support



- Weapons Firing Range Capabilities

- Lot Acceptance Tests
- Research and Development – up to 9K targets
- Firing On the Move
- Acoustic Scoring
- Free-Maneuvering Range
- High Explosive & Depleted Uranium Munitions
- Target Detection, Acquisition, Recognition, & Identification

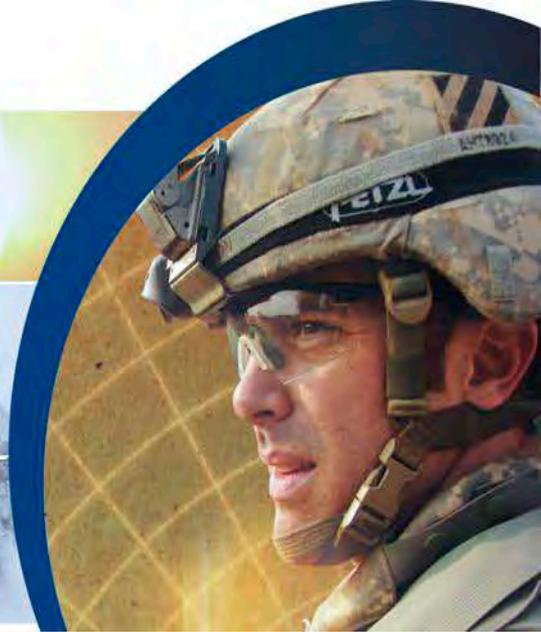
- Supporting Facilities

- Large Multi-Purpose Environmental Chamber
- Weapons Firing Environmental Chamber
- Mobile Crane with Load Cells
- Material Analysis Laboratory
- 3 Mobile Field Dynamometers
- Specialized vehicle instrumentation
- 80,000 sq ft and 27,000 sq ft maintenance shops
- Complete machine fabrication and weld shop
- Laser Course Profiling System
- X-ray facility/standalone tire X-ray machine
- Rain Chamber
- Rail Impact (Blaisdell, AZ)

Contract Support

- | | |
|----------------------|---------------------------|
| • TV Instrumentation | • Radar |
| • Photo Optics | • Kinetic Tracking Mount |
| • Targets | • Ammunition Handling |
| • Target Maintenance | • Ammunition Conditioning |
| • Acoustic Scoring | • Ammunition Recovery |
| • Generators | • Logistical Support |

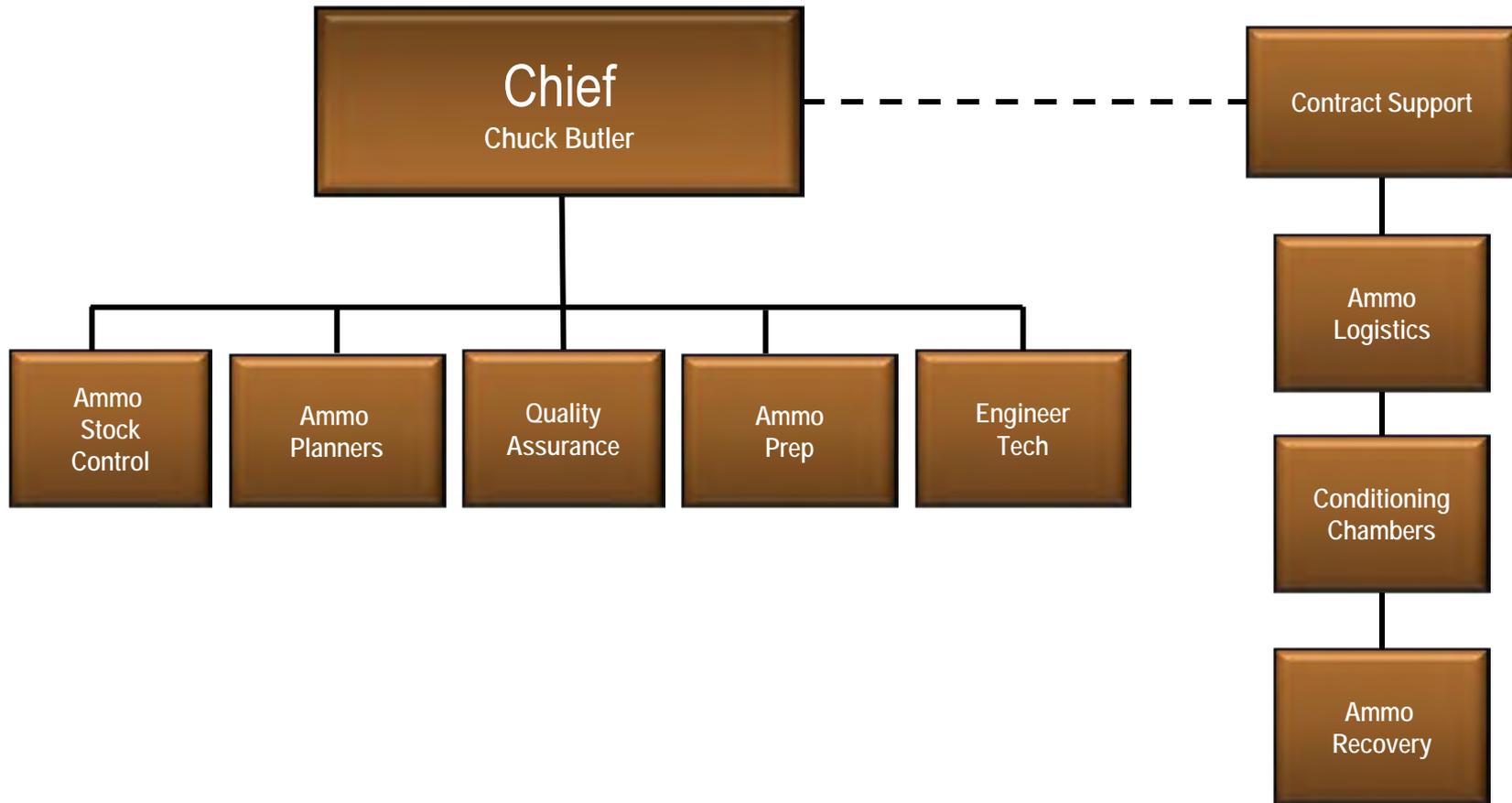




Ammunition Management Division

Mr. Chuck Butler, Chief

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- Maintains and controls ammunition, components, missiles and radioactive material, providing storage, inventory, issue, delivery, and disposition services to the YTC test mission
- Unique within the Army in its ability to fire the full range of munitions used by the Army. This includes aviation munitions, which are tested using both aircraft and special ground mounted weapons.
- Licensed to fire depleted uranium (DU) projectiles
- Performs production acceptance and surveillance testing of the majority of the ammunition items in the Army Stockpile
- Fires test unique, experimental, prototype, and foreign munitions in support of munitions and weapons testing

- Overall management and control of YPG logistics ammunition and explosive operations
- Maintenance of ammunition accountability, shipping and receiving, storage and transportation to meet test requirements, and off post reviews
- Review & approval of ammo request, hazard analysis, SOP's, and waivers



- Operates three ammunition assembly plants
 - Two high explosive and one inert

- Perform all assembly/preparation operations IAW test requirements to meet the mission
 - Modification, live & inert, weights and measurements
 - Labeling & marking, Unpacking & repacking
 - Performing issue, turn-in & storage operations

- Inert Wax Loading Operations –
 - Wax poured into metal parts & weighed to required weight
 - Wax Pots, two 300 lb Melting Pots and two 150 lb Mixing Pots
 - Wax pots steam heated to 270 degrees Fahrenheit



- Performs ammunition shipping, receiving and storage operations IAW DOD & DOT rules and regulations
- Maintains inventory accountability, warehousing, and housekeeping of storage facilities
- Maintains inert salvage yard for used packing material, targets, and range residue



- Transports ammunition and explosives to and from the range
- Maintain & control temperature conditioning chambers for environmental conditioning of test munitions
- Supports handling transport ammunition and explosives between the conditioning chamber and firing positions as directed by the Test Director
- Provides handling of munition until fired and consumed, or returned to Ammo Prep



Ammunition Recovery



- Performs ammunition recovery and explosive ordnance disposal operations to meet the test mission
- Cleans and prepares impact fields for test programs using armored or remotely operated vehicles, tractors, excavators, and robots
- Performs failure analysis evaluations on fired and recovered munitions, mines & other test material
- Supports special requirements for munitions testing (i.e. deliberate activation of ordnance or modification) where required for special tests
- Maintains and operates a high explosive disassembly facility with water jet cutter and other remotely operated equipment
- Maintains and operates a test Cryofracture Facility developing the future Army demil technology
- Maintains and operates the YPG OBOD facility complying with the state license and regulations
- Recovers hazardous materials from YPG test ranges (i.e. munitions and depleted uranium for identification and disposal) IAW DOD and State rules and regulations

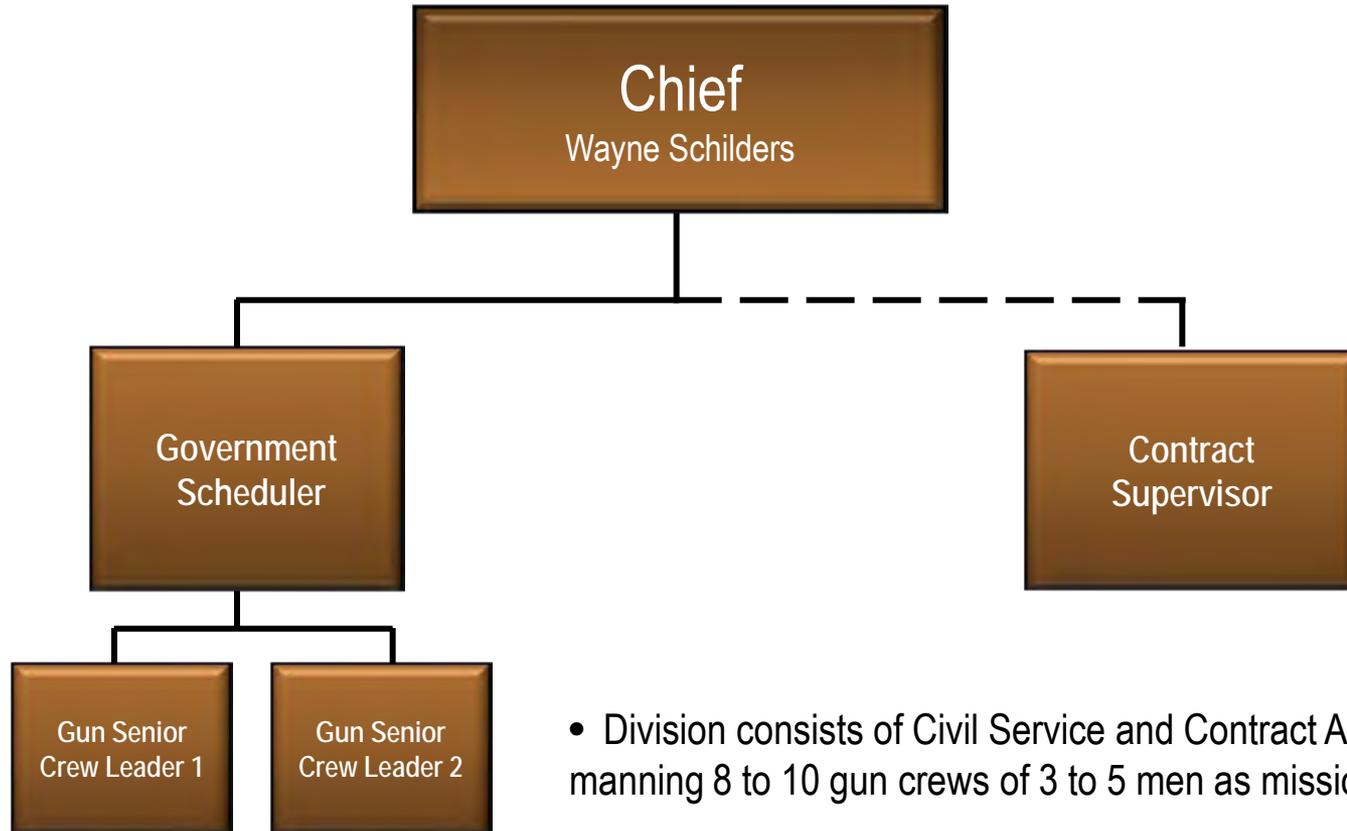




Weapons Operations Division

Mr. Wayne Schilders, Chief

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- Division consists of Civil Service and Contract Artillery Testers manning 8 to 10 gun crews of 3 to 5 men as mission directs
- Staff includes Chief, Scheduler, Supply Tech, Admin Assistant, and Contract Supervisor

- Providing trained artillery/mortar crews to support Munitions and Weapons Division Test Schedule
 - Manned Firing
 - Remote Firing
- Fielded U.S., Foreign, or Developmental Systems
 - Provide Related Training or Subject Matter Experts(SME)
- Operator Level Weapon Maintenance
 - PMCS Checks
 - Preparation of Cannons for Physical Inspections
- Maintain Cannon Tube Inventory
 - Artillery 424 tubes
 - Mortar 110 tubes
- Gun Position Setup
 - Lot Acceptance Tests
 - Research and Development Tests
- Static Displays/Cannon Salute



- Artillery
 - M109A5/A6 155mm
 - M198 155mm
 - M110A2 8 Inch
 - M777 155mm
 - M119A2 105mm
- Mortar
 - M121 120mm
 - M252 81mm
 - M224 60mm



- Office
- Maintenance
- Storage



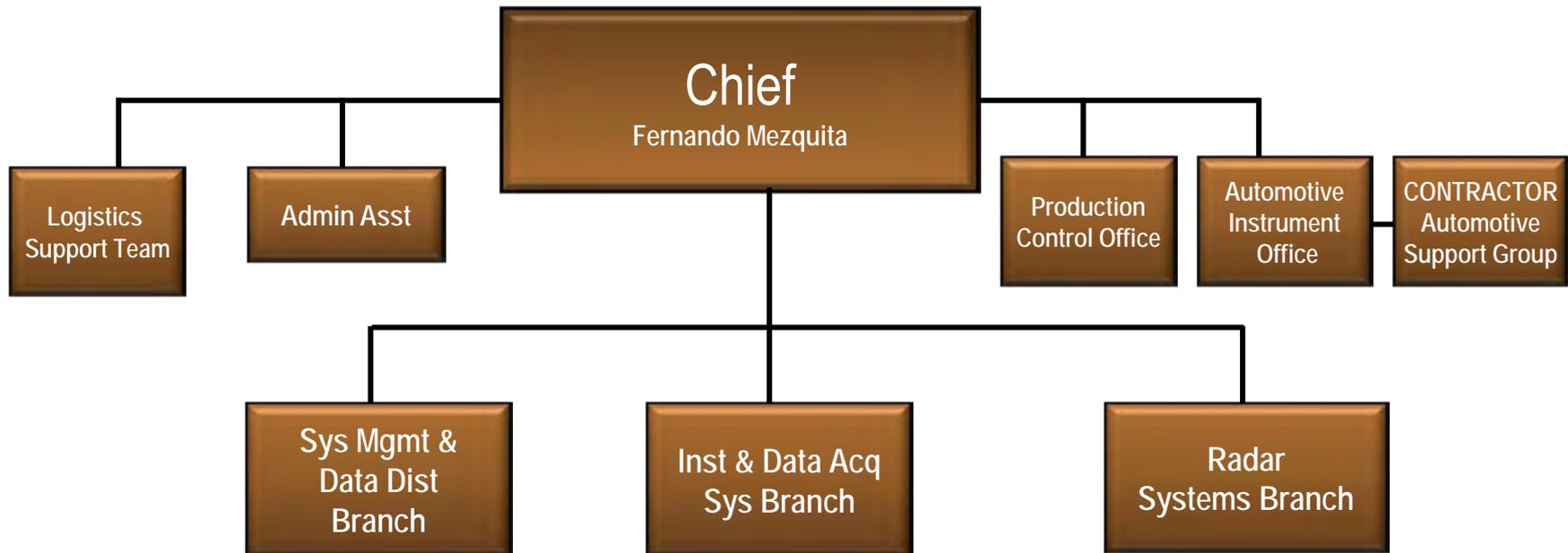
- **Artillery Testers** -providing operator level maintenance of all assigned weapon systems
 - Gun position setup and recovery
 - Firing operations of all assigned systems supporting
 - Lot acceptance tests
 - Research and development tests
 - Static Displays/Cannon Salutes
- **Artillery Tester Leaders** - providing oversight and training of the testers
- **Administrative Assistant** - timekeeping, reporting, customer relations, record keeping
- **Artillery Section Supervisor** - Supervises day to day administrative functions of contract employees, directly interacts with government Division Chief



Electronics Division

Mr. Fernando Mezquita, Chief

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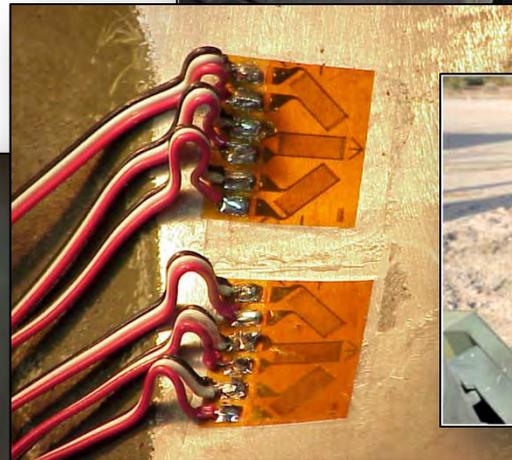
Electronics Division Core Competencies



- Munitions and Weapon System Testing Support
- Automotive Systems Test and Evaluation Support
- Tracking Radar Systems
- Range Time Support
- Special Projects - Electronics and Data Acquisition Systems

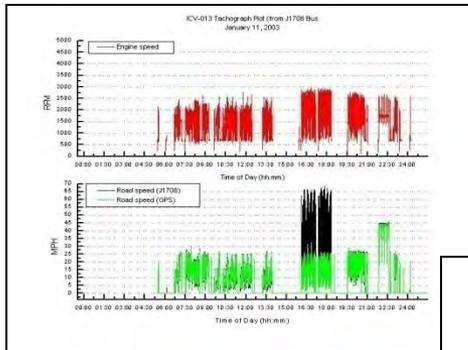
Munitions and Weapon Systems Testing Support

- Pressure Measurements
- Velocity Measurements
- Blast Overpressure /Strains/ Weapon Motion Measurements
- Ignition Delay & Propulsion Action Time Measurements
- Air Burst/Impact/Event Counting and Location Scoring
- Fuze Time Measurements



The primary role of Automotive Instrumentation is to support the Automotive mission at YTC through the installation of sensors and data recorders to monitor and record both static and dynamic testing performed in any environment and across any terrain - without changing the integrity of the test item and without influencing the results.

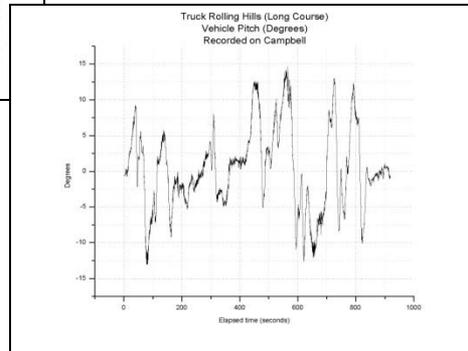
Additional duties include: Program data acquisition units to monitor and record bus data and installed sensors. Reduce data through converting outputs into a functional usable engineering unit after entering calibration information and modifying the program. Record data both to internal memory and provide real-time data transmitted through wireless Ethernet radios. Provide quality, timely, and cost efficient data.



BUS Data



Vehicle Pitch and Roll Data



Future Improvements:

- Develop automated, wireless data retrieval and storage system to operate during non-test hours
- Establish routine data processing and verification process for all collected data
- Improve processing and analysis capabilities

- Close-in Radar Systems (CW Trackers)
 - Muzzle exit to 50km
 - Track from sub-munitions to 5mm to large missile systems

- Fly-Out High Power (Pulse Trackers)
 - Precision Time-Space-Position-Information (TSPI) data (up to 400 miles)
 - Supports
 - High-Dynamic Testing
 - Payload deployments
 - Munitions testing
 - UAS testing



HAWK Velocimeter



400 Watt CW systems

Weibel Non Ranging Radar



60 Watt CW systems



240 Watt CW system



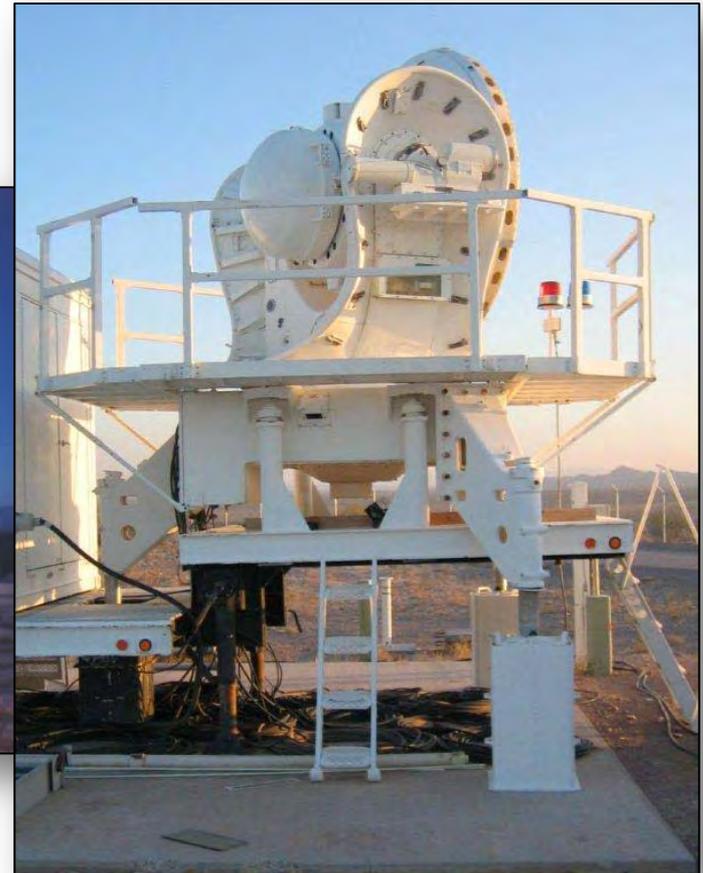
120 Watt CW system

AN/MPS-25 Tracking Radar



1 Megawatt pulse system

- Uses will mirror MPS-25
- Fixed location planned for North Cibola coverage
- 250 Kilowatt pulse system



Mortar Tracking System (MTS) / Ammunition Tracking System (ATS)

- MTS/ATS capabilities mirror Weibel radar
- Capable of providing TSPI data
 - 105mm to 155mm caliber projectiles
 - Mortar projectiles up to 120mm
- PM Mortar requires MTS/ATS support on all 120mm Lot Acceptance Tests (LAT)



50 Watt Pulse system

Radar Matrix

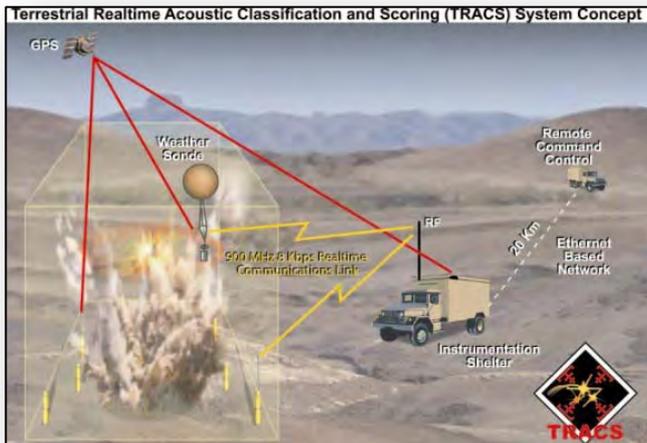
Nomenclature	Type	Qty	Power Output (Watts)	Uses										Data Products										
				Artillery	Small Arms	Air	Ground	Threat	Pointing	Missiles	Airdrops	Aircraft vectoring	Beacon Tracking	Skin Tracking	TSPI via North End	Metal Parts Separation	Spin via North End	Trajectory (Velocity, drag, acceleration)	Master/Slave	Rocket on/off	Airburst Fuze Function Timing	Target Motion Resolution (TMR)		
Hawk Velocimeter	CW	5	400	X			O	O								O	O	O	O		O	O	O	
Weibel	CW	5	60	X	X	O	X	O	O	O						X	X	X	X	X	X	X	X	X
Weibel	CW	3	120	X	X	O	X	O	O	O						X	X	X	X	X	X	X	X	X
Weibel	CW	1	240	X	X	O	X	O	O	O						X	X	X	X	X	X	X	X	X
AN/MPS-25	Pulse	6	1 M	X				X		O	X	X	X	X	X	X	X	X	X	X	X	O	X	
AN/TPQ-39	Pulse	6	250 K	X				X		O	X	X	X	X	X	X	X	X	X	X	X	O	X	
MTS / ATS	Pulse	3	50	X	X	O	X	O	O	O						X	X		X					

- Maintain a RFI stock of rack mountable GPS receivers to support test events
- Validate GPS receivers used at YTC
- Provide a single receiver source of time to all units at a single location, gun position
- Assist other organizations within YTC by researching GPS equipment to meet their special requirements

Special Projects

Electronics and Data Acquisition Systems

- Mine, Countermine, and Demolition Facility (MCD)
 - Mine Arming, Function Event, and Status Monitoring
- Terrestrial Realtime Acoustic Classification and Scoring System (TRACS)
 - Ordnance real-time impact scoring system
 - Post-mission advanced data processing



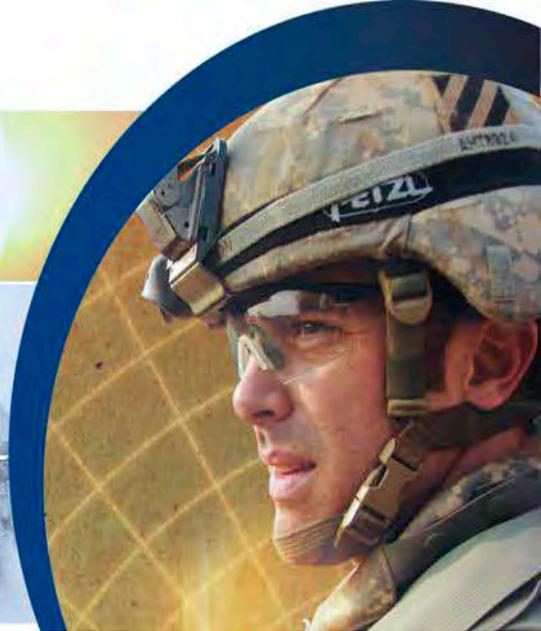


Electronics Division Contract Support



- Instrumentation Tracking Radar Systems Function
- Ballistics Measurement Instrumentation Systems Function
- Automotive Instrumentation Systems Function
- Range Timing Systems Function
- Data Collection, Validation, and Reduction
- Administrative Support

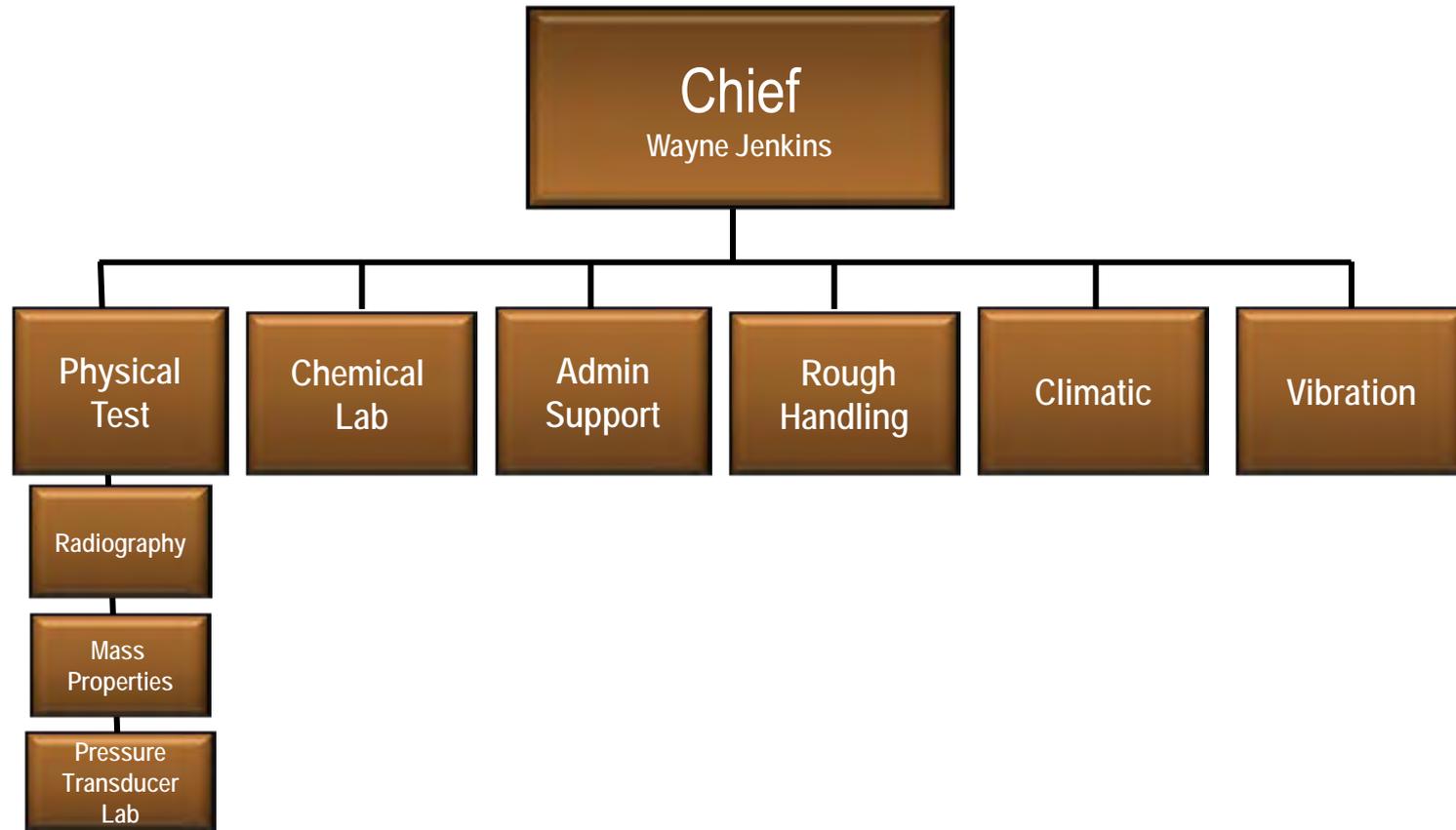
- Do more with less
- Better integrate our mission support services into every function of YTC's M&W and automotive testing to deliver new testing capabilities to our customers
- Innovative Data Collection Strategies and validation techniques and technologies
- Utilization of innovative approaches in instrumentation technology, techniques, and methodologies to increase data acquisition performance



Metrology and Simulation Division

Mr. Todd Hudson

Army Proven
Battle Ready



Purpose

To help determine the characteristics of and to evaluate the effects of “real world” environmental conditions on the safety, integrity, and performance of military materiel.

Capabilities

- Climatic
- Weapons Firing Chamber
- Large Multi-Purpose Environmental Chamber
- Rain
- Dust
- Radiography
- Vibration
- Solar Radiation
- Blown Air, Dust, and Sand
- Shock
- Drop
- Rough Handling
- Deflagration
- Physical Test (Metrology)

Environmental Simulation (Climatic) Testing

Purpose

To help evaluate the effects of temperature and humidity on the safety, integrity, and performance of military equipment

Equipment

- Fixed and mobile chambers
- Weapons Firing Chamber
- Wind/Rain/Dust conditioning chambers and equipment
- Natural Environment Storage
- Extensive instrumentation and monitoring capabilities to record the test item's performance throughout the full range of operation



Environmental Simulation (Climatic) Testing

Capabilities

- Temperature/Humidity: -65 to +145 °F and 5 to 95% RH
- Solar Radiation
- Altitude: up to 100,000 feet (-65 °F)
- Salt Fog
- Mud
- Icing
- Water Immersion (leak testing)
- Thermal Shock/Stability
- Natural Desert Storage

Data Acquisition & Reduction

- Temperature, humidity, pressure, concentration, etc.
- Computer system network supporting local and remote site climatic data acquisition



Purpose

To help evaluate the effects of temperature and humidity on the safety, integrity, and performance of military equipment to include live-fire of large caliber direct- and indirect-fire weapons

Chamber Features

- Access door opening - 17' wide X 12.5' high
- Chamber height at center - 14' 6"
- Dirt floor area - 23' wide X 45' long
- Firing Port - 4' (1.22 m) wide
- Extensive instrumentation and monitoring capabilities to record the test item's performance throughout the full range of operation



Support full sized vehicles and equipment

- Combat & tactical vehicles
- Direct fire systems
- Indirect fire systems
- Helicopters
- Remote piloted vehicles



Controlled Simulated Environments

- Hot/dry to 160 °F with less than 5% RH
- Hot/humid to 160 °F with up to 95% RH
- Extreme cold to -65 °F



Large Multi-Purpose Environmental Chamber (LMPEC)

Purpose

To help evaluate the effects of temperature and humidity on the safety, integrity, and performance of military equipment to include live-fire of small caliber direct fire weapons

Chamber Features

Chassis Dynamometer:

- Accommodates wheel bases up to 27.5 ft axle-to-axle
- Vehicles may be tested at speeds up to 65 mph under controlled environmental conditions with a power absorption capability of 500 hp



Large Multi-Purpose Environmental Chamber (LMPEC)

Data Acquisition & Reduction

- Temperature, humidity, toxic fume analyzers
- Digital, programmable, and record management capable control system



Controlled Simulated Environments

- Hot/dry to 160 °F with less than 5% RH
- Hot/humid to 160 °F with up to 95% RH
- Extreme cold to -65 °F



Purpose

To help evaluate the ability of military materiel to resist the effects of rain and dust that may penetrate into protective covers, cases, and seals and to evaluate performance requirements of the materiel following exposure to water/dust

Data Acquisition & Reduction

- Temperature, dust concentration, rainfall, wind speed
- Digital photography of testing
- Rain/Dust testing in accordance with MIL-STD 810G



Rain Chamber

- 580 adjustable nozzles to simulate rain from top and all sides
- Pressure up to 40 PSI
- Wind-driven rain up to 50 MPH
- 10,400 cubic feet of test area (40'x20'x13')



Dust Chamber

- Temperature conditioning from 73°F to 145°F
- Wind velocity up to 20 MPH
- Dust concentrations to 80%
- 160 cubic feet of test area (4'x5'x8')



Purpose

Provide radiographic support to inspect military materiel, including munitions, in an effort to detect misassembled, missing or failed components.

Capabilities

- Static X-ray: Non-mobile capability to inspect military hardware and munitions; includes a real-time capability
- Flash X-ray: Mobile capability to capture imagery of a dynamic event that occurs at a very high speed
- Tire X-ray: Static capability to obtain real-time X-ray images of various sizes of vehicle tires



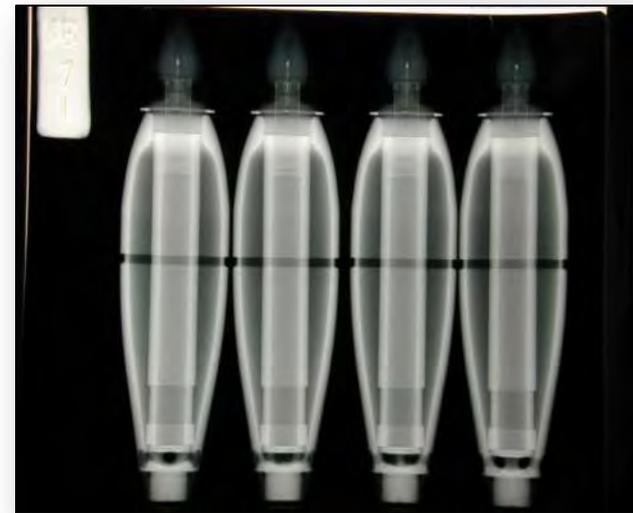
Equipment

- Varian Linatron M6
- Philips 160kV
- Philips 450kV
- Flash x-ray pulsers, control consoles, electronic equipment, film processors and digitizing equipment
- Tire x-ray LumenX 1027B Inspection System



Data Acquisition & Reduction

- Digital imaging panel and a high-resolution video cameras setup for improved image detail in real-time operations
- Data generated ranges from digitized x-rays for immediate review via e-mail, real-time video or the standard radiographic x-ray film
- Delivered via film, CD, or DVD



Purpose

To help evaluate/verify that materiel will function in and withstand the vibration exposures of its designated life span



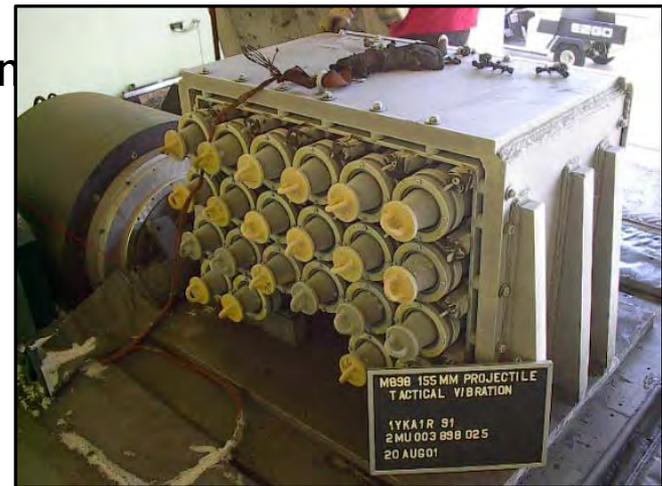
Capabilities

- Electrodynamic Vibration Tables
(5 - 2,000 Hz and 20,000 -50,000 lbf)
- Temperature: -65 to +160 °F
- Vibration may be imparted in the Vertical, Horizontal, or Transverse axis
- 64 data channels



Data Acquisition & Reduction

- Digital Shock data analysis
- Time histories of acceleration
- Shock Response Spectrum (SRS)
- Energy Spectral Density (ESD)
- Power Spectral Density (PSD) and other analytical reports standard
- Peak analysis
- Special parameters on request
- Data may be acquired under controlled climatic conditions
- Vibration schedule development
- Real time vibration measurements
- Statistical data provided for critical test parameters



Purpose

To help evaluate the effects of temperature and random, repetitive shock upon the safety, integrity, and performance of military materiel. Tests are typically performed on items to simulate unsecured cargo within military vehicles.

Capabilities

- Two (2 ea.) 6,000 lbs capacity testers with 8' x 12' ft steel-covered test surface
- Temperature: -65 to +160 °F
- Circular motion w/1-in displacement, accelerations up to 1.5 g's at 5 Hz
- Jumble Test Equipment
- Jolt Test Equipment designed to test fuzes (4 arms designed to test 3 fuzes ea)
- Remote operation capability for hazardous items



Purpose

To help evaluate the effects of dropping an item (bare and packaged) upon its structural and functional integrity

Capabilities

Site 3 - 30 ft (9 m) Drop Test Facility

- Drop capacity: 1,000 lbs
- Three Impact Surfaces:
 - 3 in of steel on 24 in of concrete
 - 3 in of steel on compacted earth
 - Concrete/steel mixture

60 ft (18 m) Drop Test Facility (focus is on verifying item safety)

- Drop capacity: 4,000 lbs
- One Impact Surface: 5 in of steel on 24 in of concrete



Purpose

To help evaluate if the item under test meets the performance specifications after exposure to the designated shock level; includes verification of explosive safety for transport by naval ship

Capabilities

- Total weight installed on anvil plate may not exceed 550 lbs which limits test item and associated shipping and packaging hardware to a total of 250 to 300 lbs (depends upon the fixture required)
- Three impacts with respect to each major axis (vertical, longitudinal, transverse)
- Hoist Assembly - manual or electric
- Remote operations may be conducted to test hazardous items

