

UNCLASSIFIED

CHEMICAL CORPS RESEARCH AND ENGINEERING COMMAND
Proving Ground Division

CMLRE-G

1 April 1953

MEMORANDUM FOR: Executive Officer, Cml C Research and Engineering Command

SUBJECT: Historical Record

1. The following report for the period 1 January 1953 to 31 March 1953 representing activities of this Division of an historical nature, is submitted in accordance with Chemical Corps Circular No. 17, dated 15 May 1952.

a. Changes of policy affecting operations.

None

b. Operations.

- 2 January - Letter to the CO, Dugway Proving Ground advising that in the event the CA spray tank test includes runs with returnable tanks filled with hot agents, arrangements should be made to determine adequate protective measures to allow landing of the test aircraft with the used tanks in place without undue hazard to the pilot or ground personnel.
- 5 January - Letter to Director, Chemical Corps Biological Laboratories advising that the problem of future field testing of various biological agents at Dugway Proving Ground was forwarded to the Office of Chief Chemical Officer for comment.
- 5 January - Letter to CO, Cml C Medical Laboratories advising that it is understood that the Cml C Medical Laboratories will not be in a position to accomplish the spray tests at Dugway Proving Ground for several months due to personnel shortages. It is requested that this Office be advised as soon as the personnel problems are clarified.
- 5 January - The Chief Chemical Officer was informed through this Office that the organizational meeting of the panel on Envalal has been postponed to 8 January 1953 and that the Chemical Corps will be represented by a member to be designated by the President of the Chemical Corps Board. Additional representation from this headquarters is not considered necessary.

GROUP 4
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Edgewood Arsenal, Maryland
CBDCOM Historical Office
Higher Command Room
File Cabinet # 6 Drawer # 1
File Name: Historical Reports
R+E Command

Jan-Jun 1953

CMLRE-G

1 April 1953

Subject: Historical Report

- 8 January - Commanding Officer, Gml C Training Command was advised that this Command had an urgent requirement for approximately 20 rounds of shell, 155 MM Howitzer T75 filled GB. These are required for the cold weather test program in progress at Suffield Experimental Station, Alberta, Canada.
- 8 January - The Chief, Proving Ground Division, by Memorandum, was advised that the present assignment of the Technical Escort Detachment would be satisfactory if it could deal directly rather than through Gml C Materiel Command. It would be reasonable to supply Gml C Materiel Command a yearly anticipated workload, and information copies of requests, and that transportation should be within the mission of Technical Escort Detachment where it is deemed inadvisable to use commercial or other government transportation.
- 8 January - In a telephone communication, Dugway Proving Ground was advised that a letter from the Office of the Chief Signal Officer indicates willingness to conduct a feasibility survey on micromet. telemeteoring net for Dugway Proving Ground. Survey must include a meteorological phase to establish criteria for realistic instrumental requirements.
- 9 January - This office advised the Chief, P & E Office that the currently planned environmental test program has been established in accordance with the directives and guidance received. New facilities have been requested to further this program, and these requests have generally received favorable action. It is believed that current and tentatively planned test programs and facilities will enable the Chemical Corps to meet environmental test requirements. However, it is agreed that an overall review of pertinent items would be worthwhile. Logically, the suggested review and clarification of pertinent items should precede any detailed examination of the program.
- 16 January - The CO, Dugway Proving Ground was advised that realignment of the low temperature test program will necessitate certain changes in the agent munition requirements and it is requested that these supplies be obtained by direct correspondence between Dugway Proving Ground and Camp Detrick as appropriate.
- 21 January - The CO, Dugway Proving Ground was advised that arrangements should be made immediately to send several men with samplers and other necessary equipment to Big Delta, Alaska for testing.

CMLRE-G

1 April 1953

Subject: Historical Report

- 23 January - General Bullene directed that cold weather tests of a suitable eutectic mixture of HD and L be conducted at a high priority at Dugway Proving Ground and that additional tests be conducted in Canada. Negotiations through liaison channels culminated in agreement for the cold weather tests at Suffield Experimental Station.
- 23 January - A report of conference, 15 January 1953, in Building 1, Army Chemical Center, Md., attended by representatives from Research and Engineering Command, Office, Senior Scientific Advisor, Dugway Proving Ground, and Cml C Biological Laboratories indicates that Dugway Proving Ground proposed testing the Bomb, Biological 80 lb. E77 at that installation. Representatives of the contractor and Camp Detrick have discussed at Dugway Proving Ground the advisability of conducting this operation. This test is required to support the contractual work being performed by General Mills under contract of Camp Detrick. The evaluation of the E95 anticrop munition utilizing actual crop plots at various agricultural experimental stations with live agents will be undertaken this year. Coordination will be accomplished with Camp Detrick to determine the advisability of proceeding at the present time. It was also indicated that further testing of the bomb biological 750 lb. E73R1 filled TXI is desired at the present time to determine the effective reduction in yield of wheat. It was indicated that participation with the Air Force in conducting anticrop chemical trials at Eglin Field, or such other installation as may be deemed feasible with the insecticide spray tanks X2a and X2b, are considered desirable. The purpose of these trials will be to determine what reduction in crops will be afforded by the use of anticrop chemicals when disseminated in the form of spray. It was considered desirable that primary cognizance for this cooperative effort with the Air Force be retained by the Cml C Biological Laboratories and that Dugway Proving Ground participate to the extent possible.
- 27 January - A Conference was held in the Environmental Division, Edgewood Proving Ground, 19 January 1953, attended by representatives of Research and Engineering Command, Edgewood Proving Ground, and Dugway Proving Ground, for the purpose of reviewing action and plans relative to operations at Big Delta by Edgewood Proving Ground

CMLRE-G

1 April 1953

Subject: Historical Report

and Dugway Proving Ground with the purpose of formulating further plans and clarifying areas of responsibility. It was agreed that Edgewood Proving Ground would provide the logistical support required by the Dugway Proving Ground Test Team and that all administrative relations with the post would be handled through the Edgewood Proving Ground Team Commander regardless of rank of the two respective team chiefs. It was generally felt that dynamic functioning was essential although no artillery tower has been planned. The possibility of firing the toxic filled munitions into the test areas by artillery and mortars from operational ranges will be investigated.

- 27 January - In a telephone communication with Mr. Hood, Office of the Chief Chemical Officer, he was advised that the Chemical Corps would not be required to submit detailed support requirements each year to the CC, Yuma Test Station. Since the Chemical Corps Program is a continuing one, only new requirements will be placed with a general statement of continuing requirements.
- 27 January - In a telephone communication, 27 January 1953, Col. Stone, Dugway Proving Ground, advised that that installation will not be able to send personnel to Big Delta with a Dugway Proving Ground sampler but maximum testing is being done in both the Chamber and the Field at Dugway. It is not planned to use the Dugway Proving Ground samplers at Big Delta because of the problems of handling a large number of batteries in extreme cold. Two other plans are being investigated which include a power line net to Gast pumps and also plastic vacuum line net, the most feasible of which will be selected within several weeks and pursued to completion.
- 28 January - In a conference, 16 January 1953, held in Building 1, Army Chemical Center, Md., attended by representatives of Dugway Proving Ground, Research and Engineering Command, Office, Senior Scientific Advisor, Cml C Engineering Agency, and Office of the Chief Chemical Officer, the discussion was concerned with certain expenditures of Department of Defense emergency funds which were requested in FY 52 and are still under consideration. Funds for FY 54 MCA for construction of 36 miles of roadway, and the utilization of certain FY 54 MCA Funds for the development of a large test area between Camel Back and Granite Peak, capable of supporting operational size Air Force tests and simultaneously function trials of similar or dissimilar agent munitions combinations.

CMALRE-G

Subject: Historical Report

1 April 1953

- 29 January - The Chief Chemical Officer was advised that Dugway Proving Ground is currently completing autoclaving tests on explosive components of the M33 cluster. Results to date indicate that autoclaving can be safely performed but the cluster must be permitted to cool prior to handling due to the sensitivity of the explosive components at elevated temperatures.
- 29 January - Letter to the Chief Chemical Officer advising that the Chemical Corps had definite requirements for evaluating certain biological agents and development items in extreme low temperature and that data should be obtained in test chambers before taking the problems to Ft. Churchill and Big Delta, Alaska. Advice is therefore requested as to the possibility of or limitation to the use of toxic materials in the Climatic Test Hangar, Eglin Air Force Base.
- 30 January - The Chief Chemical Officer advised this Command that during his recent trip to the European theater it was brought to his attention very forcibly that the Chemical Corps must have a persistent vesicant agent ready in bulk form which will be effective in weather with temperatures probably as low as $+15^{\circ}\text{F}$. Careful review and study of meteorological conditions in the corridors in which chemical agents might be used in conformity with existing plans of operations is now being made in that theater and will be forwarded as soon as it is completed. A non-persistent agent effective in the same temperature range suitable for fillings in present standard and projected non-persistent gas munitions is also required. This requirement is so urgent that long range research projects to discover new agents cannot be relied upon. Immediate use must be made of those agents we now have on hand, or agents we can procure from industry.
- 30 January - In reply to a request by the Chief Chemical Officer, this Command advised of the required number of trials to be made with the E10 and E28R2 spray tanks, GA filled, and copies of trial reports have been furnished directly to Commanders, CW-BW Orientation Team for concurrent evaluation.

CMLRE-C

1 April 1953

Subject: Historical Report

- 3 February - The Chief Chemical Officer advised of the desirability of the Chemical Corps having a capability of thermally disseminating toxic agents, particularly for use under cold weather conditions
- 4 February - The Chief Chemical Officer advised that the primary mission of the 390th Chemical Laboratory, insofar as compatibility with training requirements is concerned, will be the testing and evaluation of items of intelligence value as directed by the Intelligence Branch, Plans Training and Intelligence Division. This mission will take priority over but will not necessarily eliminate current activities of this unit in support of Chemical Corps agencies located at Army Chemical Center.
- 6 February - Edgewood Proving Ground was advised by this Headquarters that the responsibility for design and development of a disseminator for thermal generation of toxic aerosols has been assigned the responsibility of Chemical Corps Chemical and Radiological Laboratories, and that it was necessary that that organization have a capability of evaluating the toxic cloud thus produced.
- 9 February - Vaughn F. Bossow, 2nd Lt., USAF reported on a trip to Dugway Proving Ground, 23 thru 27 January 1953, for the purpose of meeting with representatives of WADC and TD&B and BW Division of Technical Operations, Dugway Proving Ground, to finalize the test plan for the Dugway Proving Ground portion of the Air Force vulnerability assessment. In a conference of the above group, it was indicated that the general approach was to assemble to draft a plan which would be satisfactory to all whose approval might be required so that materiel, procurement, and program implementation might proceed without the delay formal approval would entail.
- 10 February - Letter to Chairman, Defense Research Board, Ottawa, Canada, General Creasy advised that the information suggested in the letter on Winter Trials with HD/L Mixtures had been given considerable study by his staff and it is the feeling that it represents a practical and highly desirable approach to the problem involved. However, our present policy severely restricts our test operations where human volunteers are subjected to concentrations which are known to produce more than threshold effects.

CMLRE-G

1 April 1953

Subject: Historical Report

- 10 February - The CO, Cml C Chemical and Radiological Laboratories was requested to supply information as to the impact a program of operating rocket sites from Maxwell Point Area to H Field would have upon our present and proposed related programs.
- 11 February - This Command advised the CO, Cml C Chemical and Radiological Laboratories of the suggested procedures for accomplishment of developmental field tests at Dugway Proving Ground.
- 11 February - This Headquarters recommended to the President, Chemical Corps Board that the objective providing for the human testing of combat boots against the penetration of toxics be eliminated in view of the difficulty of obtaining a sufficient number of volunteers.
- 13 February - In a telephone communication with Lt. Col. William Stone, Dugway Proving Ground, 13 February 1953, he advised that Dugway Proving Ground is convinced that the orifices in the spray tanks used for testing the F80 aircraft are not working correctly in spite of every possible precaution to insure proper wiring and assembling. They proposed to terminate the CW 1-53 test at this point and requested concurrence in this action. In a conference with the Development people at Research and Engineering Command, it was agreed that the tests with these spray tanks should be discontinued.
- 17 February - The Chief, Plans and Evaluation Office was advised that the projects recommended by Edgewood Proving Ground do not include a project for development and improvement of field test techniques in fields other than smoke and flame evaluation. A project of this type has been essential at Dugway Proving Ground, Cml C Chemical and Radiological Laboratories, and Cml C Biological Laboratories. It would appear that such a project would also be applicable to Edgewood Proving Ground.
- 18 February - The Chief Chemical Officer was forwarded a copy of the report on Sight Evaluation and Planning for establishment of a tropical test station in the Panama Canal Zone, and informed that the Chemical Corps is well in the forefront in implementation of AR 705-15 especially with the respect to accomplishment of necessary tests under tropical and environmental conditions, and that continued emphasis and aggressive

CIVILRE-C

1 April 1953

Subject: Historical Report

18 February - action is indicated.

18 February - The Chief Chemical Officer was advised that new facilities required for the conduct of Chemical Corps Arctic agent tests are scheduled for construction at Big Delta, Alaska, this summer and that necessary funds have been included in the FY 1953 USARAL construction project and designed criteria have been provided as requested. It was emphasized that if we are to be able to make a realistic determination of the effectiveness of toxic chemical warfare agents under Arctic conditions next winter we must have the use of the new test areas and construction at Big Delta. It is therefore requested that follow-up action be taken by his office to insure timely consummation of the land withdrawal action.

19 February - The Commanding Officers of interested agencies were advised that requests for the use of all aircraft including Army aircraft for a test for a support mission will be submitted through the air support officer, Cml C Research and Engineering Command, on the standard request form. If a definite requirement is established for a use of Army aircraft this support will be obtained either from Edgewood Proving Ground or Transportation Corps, Second Army.

20 February - General Bullene indicated that he is concerned about the Chemical Corps' capability of providing adequate CW non-persistent agent for use in the defensive theaters at temperatures which would be encountered in that area during the poor weather periods. Laboratory data indicates that there exists an AC-CK eutectic mixture which might profitably be utilized under these conditions. It is his desire that field assessment of this eutectic mixture in a standard munition be accomplished at Dugway Proving Ground. Since the 500 lb. M78 massive bomb is available, is an acceptable munition and there is a possibility that data exists for AC and CK fill under cold weather conditions against which an evaluation may be affected, this munition has been chosen as the test disseminator.

20 February - A letter from Edgewood Proving Ground suggests that this office request the Director of Research & Development, Bureau of Yards and Docks, Navy Dept., to furnish six universal all steel buildings, complete, to be made available to the CmlC without reimbursement for the user tests. Buildings so obtained will be used at Ft. Sherman, Canal Zone, by the CmlC Tropic and Test Team for tropical storage of Cml Corps Test Equipment and supplies. This user test is to be conducted over a period of at least four years.

CMLRE-G
Subject: Historical Report

1 April 1953

- 27 February - The Assistant Chief of Staff, G-4 was advised that the Chemical Corps Program of Environmental Surveillance and Tests to be conducted at Yuma Test Station over a period of four years was coordinated with his office. This program remains substantially unchanged and no material change is anticipated during the summer of 1953. Administrative and logistic requirements for continuing year round Chemical Corps test operations at Yuma Test Station were submitted. These requirements are being prosecuted satisfactorily by the Commanding Officer, Yuma Test Station and they are still valid on a continuing basis. G-4 was also advised that a summary presentation of the four way Chemical Corps Environmental Surveillance Test Program is being prepared for transmission at an early date. This summary will serve to clarify the manner of integration of the Environmental Surveillance Tests being initiated at Yuma Test Station, in the Panama Canal zone and at Big Delta, Alaska, with temperate zone control data from depot stocks.
- 2 March - Details of the trials and assesment of the effects of contamination and evaluation of an HD-L utectic mixture as a persistent winter CW Agent was forwarded to the Chief Chemical Officer for consideration.
- 2 March - A letter to the Chief Chemical Officer indicated that this Command would strongly oppose a transfer of the four snowmobiles to the first Arctic detachment or any other organization since they were purchased out of Research and Development Funds, are difficult to obtain and are critical items to the successful operation of the Big Delta Arctic site in subsequent winter seasons.
- 3 March - In a telephone communication with Lt. Col. William Stone, Dugway Proving Ground, 26 February 1953, it was stated that information from Chief of Ordnance indicates inability to supply two rocket launchers with sighting equipment in accordance with Dugway Proving Ground's requisition of 25 February. Even with the LA supply priority, further justification would be required since current scheduled production is well into the future. It was agreed to provide a realistic date when delivery is required for tests at Dugway and to submit further justification.

CMLRE-G
Subject: Historical Report

1 April 1953

- 9 March - In a Conference with Colonel Ponder, 9 March, regarding a meeting to be held 11 March 1953, for review of the BW aerosol generator program, he stated that the real purpose of the meeting was to select two of the approximately 11 aerosol generator devices for development as a munition and that commitments with respect to testing, programming and funding for tests would not be considered even though they were included in the agenda.
- 10 March - The Chief Chemical Officer was advised by this Command that the procedure for obtaining Air Force aircraft for use in Research and Development of Chemical Corps munitions is established through the 6570th Chemical and Ordnance Test Group at Phillips Field, Aberdeen, Maryland. If this organization does not have a suitable aircraft available to perform a mission, they will have to make the proper arrangements to procure an aircraft from the Air Force Armament Center, or forward the requirements through Air Force Channels to Headquarters, USAF.
- 10 March - In a letter to the Special Assistant for BW, he was advised that in the past, Dugway Proving Ground has been receiving varying amounts of information on simulant and pathogenic agents. Frequently this information has been incomplete. Recent meetings between Camp Detrick and Dugway Proving Ground personnel focus considerable attention on this shortcoming and concluded with an understanding that the Chemical Corps Biological Laboratories are to make a concerted effort to supply all available laboratory and chamber data. More important was acknowledgment of the unavailability of certain basic data for some agents and agreement to make more complete studies of agent characteristics so that an orderly continuing acquisition of data will eventually enable prediction of agent behavior under field conditions.
- 13 March - A conference has been called for 14 April 1953, extending over a 3 day period at Ft. Monroe, Virginia, to plan, coordinate, and expedite arctic tests scheduled for the winter of 1953-54, and to discuss results and deficiencies of tests accomplished at Big Delta preceding the test season.

CMRE-G

1 April 1953

Subject: Historical Report

- 19 March - The CO, Dugway Proving Ground was advised that a conference to plan, coordinate, and expedite Arctic tests scheduled for Big Delta during the winter of 1953-54 would be held, 14 April 1953 for a three day period, at Ft. Monroe, Virginia.
- 19 March - A joint Research and Engineering Command Workshop on Field Evaluation Problems was held 16-19 February 1953 at Army Chemical Center, Maryland. This Workshop was organized by Proving Ground Division, Research and Engineering Command, primarily, to afford opportunity to those directly responsible for technical adequacy of field test operations and reports to discuss current problems on an unofficial give-and-take basis. The need for such discussions was previously emphasized by personnel of representative groups, with the proviso that it be done without participation by higher staff and command levels. This series of meetings was arranged to provide just such an opportunity for analysis of technical problems arising in connection with the conduct of Chemical Corps field tests, and to encourage initiative on the part of the people responsible for the technical adequacy of this program.
- 25 March - The Chief of Engineers was advised by this Command that arrangements will be made for the receipt and limited service test of two (2) heaters, van type, 60,000 BTU as indicated by previous informal coordination. As presently conceived, this will be accomplished by a test detachment from the Edgewood Proving Ground at Big Delta, Alaska, during the winter 1953-54. To permit consolidation with other shipments to Big Delta, Alaska, it is requested that the test items with operating instructions and any necessary spare parts be delivered by 1 August 1953.
- 30 March - The Chief of Staff advised this Command through the Chief Chemical Officer that a current reevaluation be made of all research and development projects. A need for periodic reevaluation arises from such factors as technical progress in a parallel approach or a lack of technical progress in a specific project changes in budgetary conditions and changes in basic requirements for a given project as competing new developments become finished items. It is felt that the proposed review appears to be to select projects which can be eliminated to effect savings in the program as well as eliminate low priority items in favor of higher priority development efforts.

CMLRE-G
Subject: Historical Report

1 April 1953

1 January - 31 March - Nineteen (19) test directives and six (6) amendments to test directives were prepared. Nine (9) plans of test two (2) with amendments were approved. Eight (8) Draft Reports were approved for publication.

c. Personnel Action

- (1) Major W. L. Scaff was assigned as Chief, Planning Branch.
- (2) Major R. R. Belongia was assigned as Chief of the Operations Branch.
- (3) Lt. F. E. Lamb, Chief, Planning Branch, was transferred to CG Test Team, Edgewood Proving Ground, with station at Ft. Andrews, Panama Canal Zone.
- (4) Mrs. Jean Eckhardt resigned as Clerk-Typist.
- (5) Miss Mary C. Scheurman was transferred to this office as Clerk-Typist from Special Projects Office.

ZIM E LAWHON
Lt Colonel, Col C
Chief, Prov Gr Div