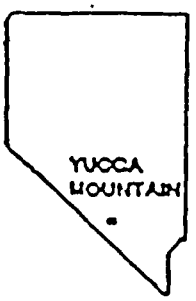
U.S. DEPARTMENT OF ENERGY

OCRWM



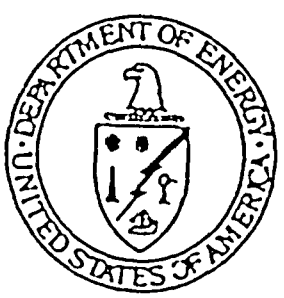
YUCCA MOUNTAIN
SITE CHARACTERIZATION
PROJECT

FRAN RIDGE PIT MAPPING

TEST PLANNING PACKAGE

92-07

REV. 0



AUGUST 1992

UNITED STATES DEPARTMENT OF ENERGY

ENCLOSURE 2

YMP-071-R0
10/30/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
TEST PLANNING PACKAGE APPROVAL AND RELEASE

Test Planning Package Title: Fran Ridge Pit Mapping

Test Planning Package Number: 92-07 Rev. 0

Responsible PE: Ron Oliver

Summary of Scope: This package covers the Geologic Mapping activities to be conducted at the Fran Ridge Test pits that support the Underground Mapping and Surface Fracture Network Studies of the Site Characterization Program Baseline (SCPB). SCP Reference 8.3.1.4.2.2.2 and 8.3.1.4.2.2.4.

Job Package Number: 92-7

WBS Number (third level): 1.2.3

Participants Affected: USGS/USBR

Concurrence of requirements by affected Technical Project Officers:

TPO: (USGS) C. H. Hawley for LRH Date: 8/13/92

TPO: _____ Date: _____

TPO: _____ Date: _____

TPO: _____ Date: _____

TPO: _____ Date: _____

Release to: RCB for job package assembly

for non-field work

YMPO Approvals:

RSED Director: Claudia M. Newbury Date: 8/13/92

Affected Division Directors:

DD: Richard E. Spence R E Spence Date: 8/14/92

DD: Wendy R. Dixon Date: 8/14/92

DD: William B. Simecka W B Simecka Date: 8/13/92

TEST PLANNING PACKAGE 92-07

FRAN RIDGE PIT MAPPING

TEST PLANNING PACKAGE 92-07

ATTACHMENTS

FRAN RIDGE PIT MAPPING

TEST PLANNING PACKAGE 92-07

1.0 LIST OF STUDY PLANS OR SCIENTIFIC INVESTIGATION PLANS USED IN SCIENTIFIC INVESTIGATION

The Study Plan 8.3.1.4.2.2 for this activity,"Characterization of Structural Features in the Site Area," is a controlled Yucca Mountain Site Characterization Project (YMP) document.

2.0 INVESTIGATIONS CONTROLS

The following investigation controls are based on: (1) Test Interference and Waste Isolation Evaluations, (2) Tracers, Fluids, and Materials (TFM) Constraints, and (3) Land Access and Environmental Conditions. Controls for the above items 1 and 2 are also summarized in Attachment 1. If any of these controls prove to be inadequate the Project Engineer will be notified and initiate the appropriate action through the Regulatory and Site Evaluation Division (RSED) Director.

2.1 Interference

2.1.1 No more than 10,000 gallons of water shall be used per day of construction, and a maximum of 80,000 gallons of water over the anticipated eight days of construction.

2.1.2 Avoid enhancing run-off drainage into Test Pit #1. Natural precipitation run-off is altered due to pavement cleaning, but fracture inflow is not significantly enhanced due to this construction.

2.1.3 No more than 75 pounds of explosives per delay sequence is to be used to avoid seismic disturbance of Test Pit #2 which is 100 feet away.

Items 2.1.1, 2.1.2, and 2.1.3 have been approved by DOE RSED as the controls for TPP 92-07 for utilization in performance of the Fran Ridge Test Pit Mapping activity. (Ref. Letter RSED:WAG:4621, Dyer to Elkins, July 29, 1991, WBS 1.2.3.1).

If any additional test interference concerns, based on technical review and Yucca Mountain Site Characterization Project Office (YMPO) division director approval, are identified they will be implemented by field change to the work program under Raytheon Services Nevada (RSN) Procedure RSN PP-01-02.

Section Reference: Letter RSED:WAG-4899, "Fran Ridge Test Pit Mapping Activity; Test Interference Evaluation," Girdley to Dyer, August 12, 1992, WBS 1.2.3.

2.2 Impacts to Waste Isolation

The waste isolation evaluation did not identify any impact on the ability of the site to isolate waste from the conduct of this test, therefore, no additional constraints are presented. If any additional waste isolation concerns, based on technical review and YMPO division director approval, are identified they will be implemented by field change to the work program under RSN Procedure RSN PP-01-02.

Section Reference: "Performance Assessment Evaluation of Impacts of Test Pit Expansion on Waste Isolation for Fran Ridge Test Pit #1," Costin to Dyer, July 17, 1992, Sandia National Laboratories, WBS 1.2.1.4.7

2.3 Environmental Impacts

The environmental preactivity compliance surveys and subsequent land access permit approval letter identified several conditions that are not in the Appendix D, "Environmental Requirements" section of YMP/CM-0007, "Technical Requirements for the Yucca Mountain Site Characterization Project Surface-Based Testing." These conditions are provided as Attachment 2. Any additional concerns identified in the future that are based on technical review and YMPO division director approval, which affect this activity, will be implemented by field change to the work program under RSN Procedure RSN PP-01-02.

Section Reference: "Approval for Land Access and Environmental Compliance for Fran Ridge Test Pit Excavation and Mapping," POCD:MER-4267, Dixon to Dyer, July 2, 1992, WBS 1.2.5.3.

2.4 Tracers, Fluids, and Materials Controls

An exemption to the use of tracers as required under "Technical Requirements for the Yucca Mountain Site Characterization Project Surface-Based Testing," YMP/CM-0007, Rev 6, Section 1.2.3.1.3, "Drilling & Drill Pads,"

Performance Criteria 2c. has been approved by DOE/RSED, Letter RSED:WAG-4722, Dyer to Elkins, July 31, 1992, WBS 1.2.3.1.

Two of the test interference evaluation constraints pertain to fluids, they are listed in Section 2.1 as 2.1.1 and 2.1.2. No other constraints for this activity were identified based on investigations of TFM considerations (Ref. "Tracers, Fluids, Materials Management Plan," YMP/91-23).

If any additional TFM concerns, based on technical review and YMPO division director approval, are identified they will be implemented by field change to the work program under RSN Procedure RSN PP-01-02.

Section Reference: Letter RSED:WAG-4899, "Fran Ridge Test Pit Mapping Activity; Test Interference Evaluation," Girdley to Dyer, August 12, 1992, WBS 1.2.3.

3.0 OTHER INSTRUCTIONS

This activity will be conducted at the site of the existing Fran Ridge Test pits (Attachment 3), which is a scientific testing site, and construction activities at the site will not provide long-term value to the YMP or potential repository site as facilities. The work will consist of construction, inspection, and scientific test activities as specified by the work program. The site will be under scientific control after construction improvements are complete and during joint construction/scientific activities. After scientific testing activities are conducted, area control will be returned to the DOE at the time the work order is closed.

3.1 Order for Performing Multiple Investigations

N/A

3.2 Hold Points (AP-5.20)

Project-level hold points have not been identified for this activity. This activity will be completed upon work order termination.

3.3 Interfaces (AP-5.19Q)

No applicable Level C or D interfaces within the scope of AP-5.19Q exist. Interactions are identified and controlled by Attachment 1, "Supplemental Functional Requirements" and Attachment 4, "Planning and Control System."

3.4 Data Submittals (AP-5.10)

Scientific records will be maintained under the U. S. Geological Survey (USGS) Scientific Notebook Procedure USBR-QMP-5.05, as this work will be done to develop technical procedures for underground mapping by the USGS staff and principal investigators (PIs). Detailed fracture mapping in the pit and the pavement will be done according to USGS-GP-01, "Geologic Mapping," and USGS-GP-12, "Mapping Fractures on Pavement Outcrops and Along Traverses," procedures as appropriate.

Construction activity records will be maintained by the constructor under Reynolds Electrical and Engineering Company, Inc. (REECo) procedure CND-SOP-001, "Water Accountability on the YMP," and YMP-FOI-4702 "Job Package Field Management Reporting," for administrative use only.

Engineering and Survey records will be maintained by the responsible engineering contractor. The work program is controlled by RSN PP-01-02, "Work Initiation." The Work Program Verification is controlled by RSN under AP-5.16, "Field Technical Compliance." Survey records are controlled under RSN-PP-01-03, "Survey Department Work Functions," and RSN-PP-01-04, "Survey Department Document Control and Distribution." General daily engineering records and field reports are controlled under RSN-PP-10-03, "Construction Management Reporting," and are for administrative use only.

4.0 REFERENCE TO SCP COMMENTS THAT HAVE BEEN CONSIDERED RELATIVE TO INVESTIGATION(S) (AP-1.14Q)

No open comments on the Site Characterization Plan (SCP) have been identified for this activity.

Section Reference: Letter RSED:WAG-4899, "Fran Ridge Test Pit Mapping Activity; Test Interference Evaluation," Girdley to Dyer, August 12, 1992, WBS 1.2.3.

5.0 REFERENCES TO DESIGN REQUIREMENTS

The controlled basis for design functional requirements that pertain to this activity is contained specifically in Section 1.2.6.3.2, "Test Support Facilities," YMP/CM-0019, "Exploratory Studies Facility Design Requirements" and Section 1.2.3.1.1, "Trenches" YMP/CM-0007, "Technical Requirements for the Yucca Mountain Site Characterization Project Surface-Based Testing." This Test Planning Package (TPP) and its supporting

Job Packages (JPs) provide the basis for the work program and work order. Supplemental functional requirements for this TPP are provided as Attachment 1.

Section References: (1) Criteria Letter No. 8.3.1.4.2.2.4-01-C1, R0 "Geologic Mapping of the ES and Drift, Surface Fracture Network Studies," Hayes to Gertz, July 16, 1992, WBS 1.2.3.2.2.1.2; and

(2) "Record Package for the Technical Review of Required Test Information and Criteria for Excavation and Mapping at Fran Ridge Test Pit Site," Oliver to Los Alamos RPC, TWS-EES-13-LV-07-92-04, July 8, 1992, WBS 1.2.3.1.

6.0 COST AND SCHEDULE DATA (Including WBS, P&S Account Ref., Project Networks)

The field work to be conducted under this activity will be funded under WBS 1.2.3.2.2.1.2. This includes all engineering and construction support necessary to complete the site upgrade and scientific activity. The Planning and Control System schedule for this activity is provided in Attachment 4. The schedule identifies P&S or summary activities as appropriate for both planning and field deployment of this package.

Section Reference: "Transmittal of Completed Technical Request for Networking Support and Baseline Information for the Fran Ridge Pit Mapping and Excavation Activity to Support the Exploratory Studies Facility (ESF) Testing," Voegele to Gertz, MDV:MM:sma:L92-6757, July 1, 1992, WBS 1.2.9.2.

7.0 QA PREPARATION (Creation of Grading Package or Verification that One is in Place, refer 5.28Q)

7.1 Closure of QA Concerns

N/A

7.2 Grading Packages

This activity is covered under the following USGS Grading Report; QAGR - G1232212.

General guidance for application of quality assurance to site characterization activities is provided by the USGS, RSN, and REECo in conjunction with the Project Office YMP/90-55 Q-List, YMP/90-56 Quality Activities List (QAL) and YMP/90-57 Project Requirements List (PRL). The quality affecting elements for this activity are limited to data collected in support of Study Plan 8.3.1.4.2.2,

Section 2.1.2.1. No other quality affecting activities have been established under this TPP, therefore, only administrative documentation of the engineering support and construction activities is required. Quality assurance and grading information for activities provided by the support contractors (RSN and REECo) is included in Job Package 92-7.

Section Reference: Criteria Letter No. 8.3.1.4.2.2.4-01-C1, R0, "Geologic Mapping of the ES and Drift, Surface Fracture Network Studies," Hayes to Gertz, July 16, 1992, WBS 1.2.3.2.2.1.2

8.0 READINESS REVIEW

N/A

Section Reference: Letter, "Test Planning Package (TPP) 92-07: Fran Ridge Test Pit Mapping", RSED:WAG-4612, Dyer to Elkins, July 28, 1992, WBS 1.2.3.1

Attachment 1
2 Pages

FRAN RIDGE TEST PITS

SUPPLEMENTAL FUNCTIONAL REQUIREMENTS

Functional Requirements

1. Provide the work order, construction, and operational flexibility to perform the Fran Ridge Pit mapping demonstration activity.

Performance Criteria

1.a Deepen the existing Test Pit #1 (north) to allow deployment of the shaft mapping platform.

1.b Allow access for mapping of fractures and other geologic features in the pit and surrounding previously scraped surfaces.

1.c Allow location of all required features in accordance with Project coordinate survey controls.

1.d Must maintain the existing pit nominal diameter, yet provide a safe work area.

Interface Control Requirements

1. The engineering support contractor and constructor shall interface with the PI and Project Engineer to meet scientific needs.

2. The activity must be integrated with other scientific investigations and repository designers to assure that the ability to characterize the site or isolate nuclear waste at Yucca Mountain is not compromised.

Constraints

A. All construction activities must be performed during daylight hours.

B. Wire mesh previously installed over the areas to be mapped will be removed prior to start of mapping operations and will be replaced after mapping operations are complete. Additional wire mesh and fencing may be installed following the mapping activity.

C. No more than 10,000 gallons of water shall be used per day of construction, and a maximum of 80,000 gallons of water over the anticipated eight days of construction.

D. Avoid enhancing run-off drainage into Test Pit #1. Natural precipitation run-off is altered due to pavement mapping cleaning, but fracture inflow is not significantly enhanced due to this construction.

E. No more than 75 pounds of explosive per delay sequence is to be used to avoid seismic disturbance of Test Pit #2 which is 100 feet away.

Assumptions

1. Final cleaning of the pit walls and surface area around the pits can be adequately accomplished using an air/water blow pipe system.

2. No sample collection support is required.

Attachment 2
4 pages

Originated by: Pysto, SAIC

JUL 0 2 1992

WBS 1.2.5.3
QA: N/A

J. Russell Dyer, Director, Regulatory & Site Evaluation Division, YMP, NV

APPROVAL FOR LAND ACCESS AND ENVIRONMENTAL COMPLIANCE FOR FRAN RIDGE TEST PIT EXCAVATIONS AND MAPPING

Your submittal for land access and environmental compliance approval for the excavation of Fran Ridge Test Pits to support the Exploratory Studies Facility has been processed. Approval is granted for excavating and mapping of the existing pits.

The following is provided regarding this activity:

1. The location of the activity encompasses portions of the Nevada Test Site (NTS). For access to the NTS, only U.S. Department of Energy (DOE) access requirements apply.

2. The activity complies with applicable environmental regulatory requirements, as defined by the Environmental Regulatory Compliance Plan and does not conflict with Environmental Monitoring and Mitigation Plan commitments. However, the following conditions are applicable.

   a. Identification of any important resources, such as desert tortoises or Native American artifacts, by field personnel should be reported to the Operations Control Branch (OCB).

   b. The transporter is responsible for obtaining the necessary permits for transporting explosives. The users of the explosives are responsible for storing and using the explosives in accordance with Health and Safety Act requirements.

3. Biological conditions include:

   The Yucca Mountain Site Characterization Project Office (YMPO) should provide EG&G/Energy Measurements, Inc. (EG&G/EM), with an activity schedule at least ten days before work begins so a resurvey and monitoring can be planned.

   a. An EG&G/EM biologist shall resurvey the drill pad and excavation pits within five days before construction begins.

   b. Tortoise burrows (marked with blue and orange-and-white striped flagging) shall be avoided (enclosure 1).

CONCURRENCE
RTG. SYMBOL YMP
INITIALS
DATE 7/1/92
RTG. SYMBOL YMP
INITIALS
DATE 7/1/92
RTG. SYMBOL YMP
INITIALS Dixon
DATE 7/2/92
RTG. SYMBOL YMP
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c. The YMPO, through the Field Operations Center, shall be contacted if a tortoise is observed. An EG&G/EM biologist also shall be contacted on Net 14, radio call sign "204," if a tortoise is seen in the construction area. The biologist will assess whether the tortoise must be moved to ensure the animal's safety and allow construction activities to continue.

d. All Yucca Mountain Site Characterization Project (YMP) work shall be suspended if a tortoise moves into the area until the tortoise moves out of harm's way or an EG&G/EM biologist moves the tortoise.

e. All activities shall be restricted to previously disturbed areas.

f. Vehicle use shall be restricted to approved access road and drill pad (see map of approved roads, enclosure 2).

g. No topsoil salvaging is required for excavation activities; therefore, no reclamation stipulations are required for this activity.

h. All field personnel shall receive General Employee Training before commencing activities.

Radiological conditions include:

a. The first constraint is applicable to items (equipment and material) that have been in use on the NTS. Any item to be used by a YMP contractor(s) and/or participant shall be surveyed to identify potential radiological contamination and shall not be used if the survey results indicate the presence of contamination greater than levels established by Reynolds Electrical & Engineering Co., Inc., for release of material for unrestricted use. A report of the survey results shall be sent within 10 working days to Wendy R. Dixon, Director, Project & Operations Control Division, U.S. Department of Energy, Yucca Mountain Site Characterization Office, Attention Vicki S. Best (794-7906), with a copy to the Manager of the Technical and Management Support Services/Radiological Field Programs Division (T&MSS/RFPD). All surveys shall be completed prior to moving an item to the "RANCH," and indication of clearance is to accompany each item.

b. Secondly, any use of radioactive material, including sealed sources, shall be reported to the T&MSS/RFPD Manager. Notification, if not previously provided, shall be made prior to use of radioactive materials and shall include specifications of the source(s), a brief description of how the source(s) will be used, a schedule of planned use, and a periodic log/status of source use. A status report consistent with the requirements of the NV Radiological Safety Manual, Contractor/Use Source Utilization Log, would be sufficient if provided on a periodic basis. If long-term/routine use of radioactive material will occur, copies of the utilization log should be provided monthly.

Access and environmental compliance approval is hereby granted for the excavation of Fran Ridge Test Pits, subject to the conditions specified above.

Notify OCB in writing within five days when your activity has been completed so that a postactivity survey can be performed.

If you have any questions regarding this activity, please contact Mayo E. Ryder at 794-7573.

ORIGINAL SIGNED BY:
GARTH PHILLIPS

Wendy R. Dixon, Director
Project & Operations Control Division

POCD:MER-4267

Enclosures:
1. Map of Tortoise Burrow
2. Map of Approved Roads

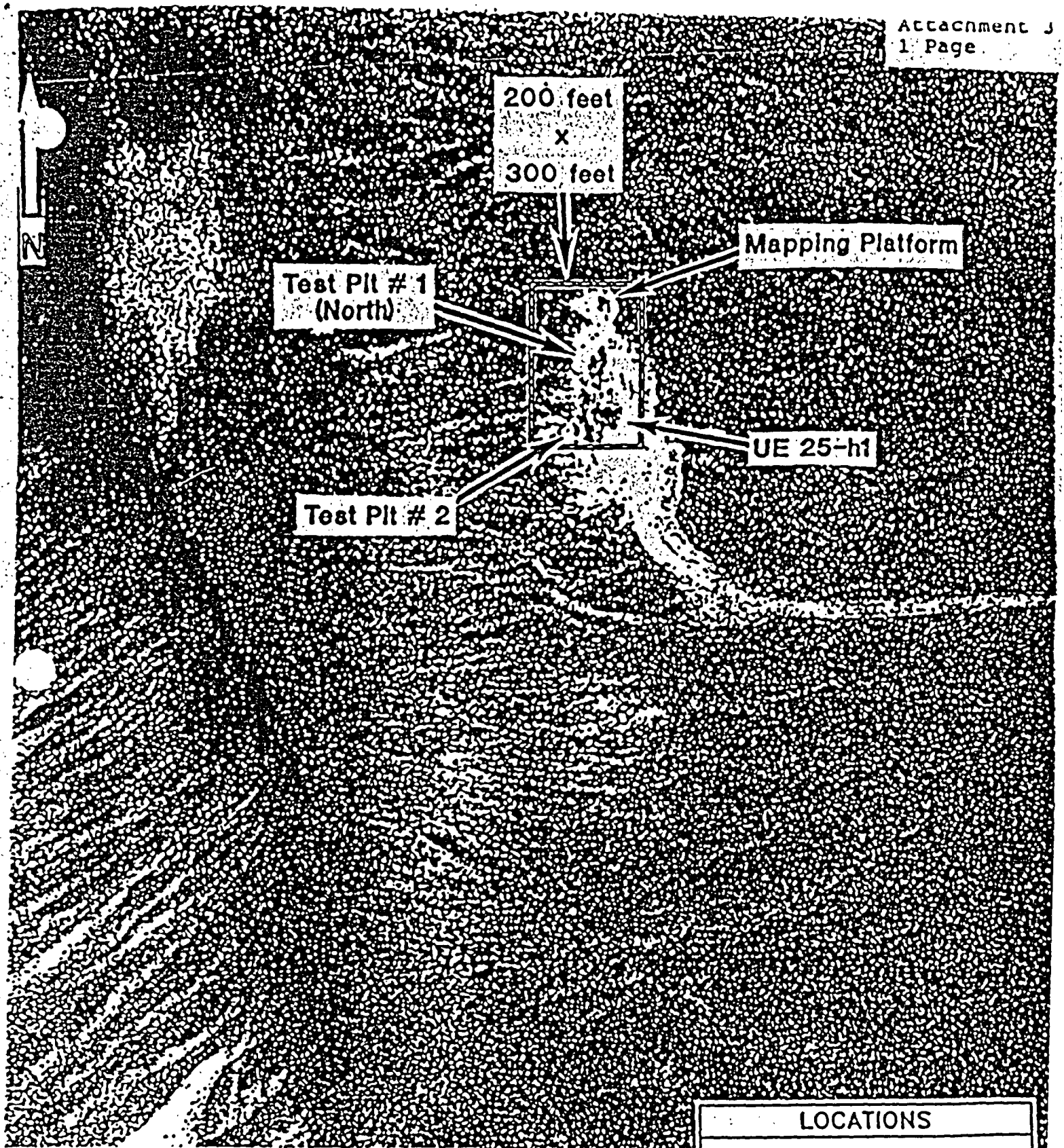
JUL 0 2 1992

J. Russell Dyer

-4-

JUL 7 10 02 AM '92

bcc w/o encls:
E. W. McCann, SAIC, Las Vegas, NV
G. A. Fasano, SAIC, Las Vegas, NV
T. H. Pysto, SAIC, Las Vegas, NV
W. R. Jacobs, SAIC, Las Vegas, NV
Paul Buck, DRI, Las Vegas, NV
David Rhode, DRI, Reno, NV
R. D. Oliver, LANL, Las Vegas, NV
U. S. Clanton, YMP, NV
W. R. Dixon, YMP, NV
K. F. Grassmeier, YMP, NV
W. A. Wilson, YMP, Mercury, NV, M/S 717



FRAN RIDGE TEST PIT

DO NOT SCALE–FOR REFERENCE ONLY

LOCATIONS	
TEST PIT #1:	E574,405 N748,472
TEST PIT #2:	E574,379 N748,341
UE25-h1:	E574,461 N748,353

DATA TRANSCRIBED FROM THE SITE ATLAS VOL 1 1982

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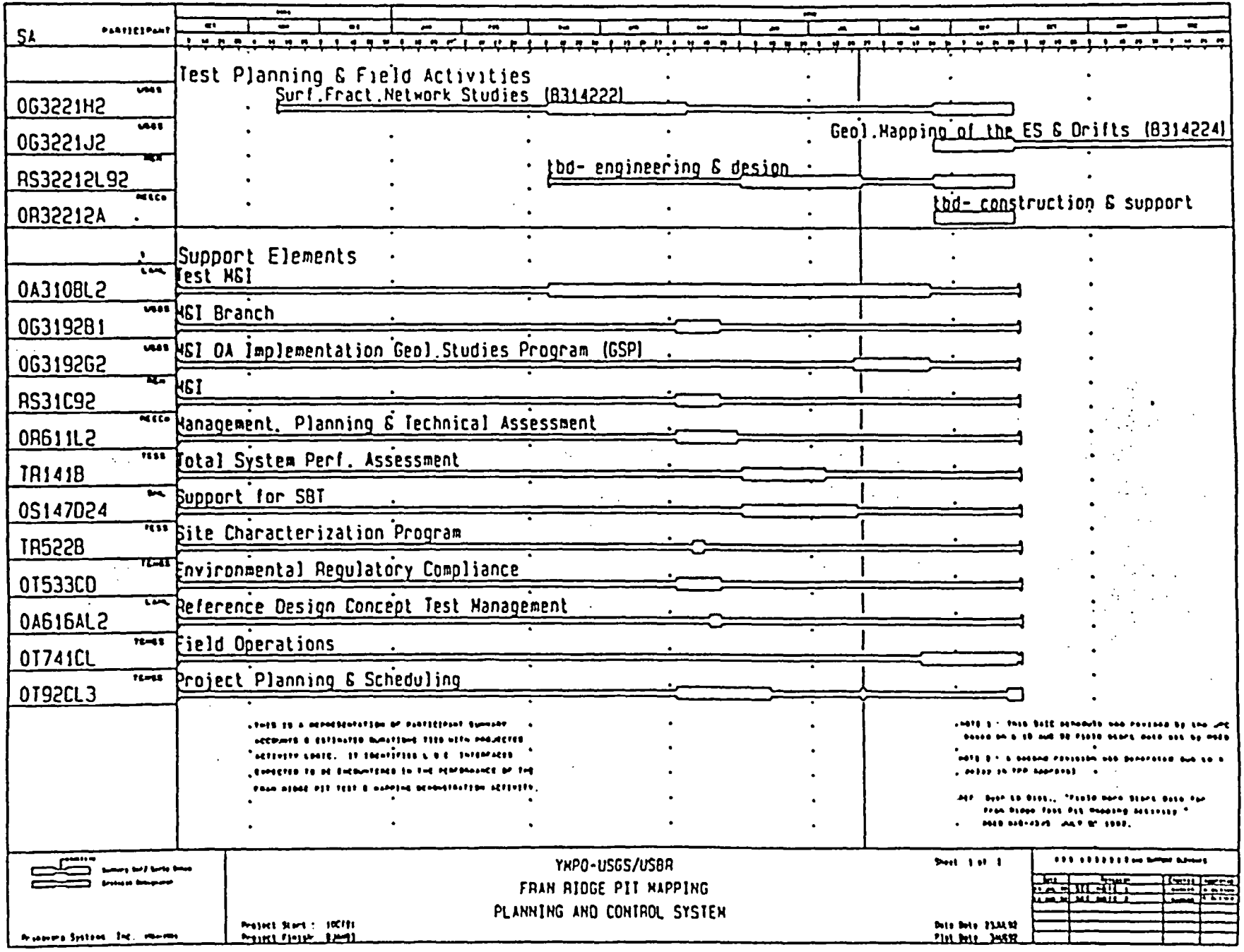
SA
Test Planning & Field Activities
OG3221H2
Surf.Fract.Network Studies (B314222)
OG3221J2
Geol.Mapping of the ES & Drifts (B314224)
RS32212L92
tbd- engineering & design
OR32212A
tbd- construction & support
Support Elements
OA310BL2
Test MGI
OG3192B1
MGI Branch
OG3192G2
MGI OA Implementation Geol.Studies Program (GSP)
RS31C92
MGI
OR611L2
Management, Planning & Technical Assessment
TR141B
Total System Perf. Assessment
OS147D24
Support for SBT
TR522B
Site Characterization Program
OT533C0
Environmental Regulatory Compliance
OA616AL2
Reference Design Concept Test Management
OT741CL
Field Operations
OT92CL3
Project Planning & Scheduling
YMPO-USGS/USBR
FRAN RIDGE PIT MAPPING
PLANNING AND CONTROL SYSTEM