



Department of Energy

Washington, DC 20585

QA: L

JUL 11 1997

L. D. Foust, Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
1180 Town Center Drive, M/S 423
Las Vegas, NV 89134

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF DEFICIENCY
REPORT (DR) YM-96-D-103 RESULTING FROM OFFICE OF QUALITY
ASSURANCE (OQA) SURVEILLANCE YMP-SR-96-027 OF THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND
OPERATING CONTRACTOR

The OQA staff has verified the corrective action to DR YM-96-D-103 and determined the results to be satisfactory. As a result, the DR is considered closed.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or John R. Doyle at (702) 794-1465.


Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-1873

Enclosure:
DR YM-96-D-103

cc w/encl:
T. A. Wood, DOE/HQ (RW-55) FORS
J. O. Thoma, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
R. A. Morgan, M&O, Las Vegas, NV

cc w/o encl:
W. L. Belke, NRC, Las Vegas, NV
J. R. Doyle, OQA/QATSS, Las Vegas, NV
D. G. Sult, OQA/QATSS, Las Vegas, NV

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**OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.**

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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document: Yucca Mountain Site Characterization Project Administrative Procedure (YAP),-13.1Q, Revision 0	2 Related Report No. YMP-SR-96-027
3 Responsible Organization: Civilian Radioactive Waste Management System Management and Operating Contractor	4 Discussed With: Steven C. Smith, Jon M. White

5 Requirement/Measurement Criteria:
YAP-13.1Q, "Borehole Security and Access," Revision 0

1. Paragraph 5.1.1b) states: "The Requestor: completes and submits a BAR to the DOE FTC or designee for approval"
 Paragraph 5.1.2b) states: "The DOE FTC: documents the authorization of the borehole key to be issued to the Requestor and the date the requestor is required to submit a Borehole Status Report (BSR)"
 Paragraph 5.2.1a) states: "The Requestor: provides status of borehole activities to the DOE FTC by completing a BSR in accordance with format criteria described in Section 6..."
 Paragraph 5.2.1b) states: "The Requestor: submits the BSR to the DOE FTC in accordance with the schedule noted on the BAR"

(See Page 3)

6 Description of Condition:
1. A review of Borehole Access Requests (BAR) reveals that contrary to above requirements, BSRs have not been submitted as per schedules provided for the following boreholes:

Borehole	Date Authorized	Duration of Access	Status Reports Due
USW H-3, USW H-3, USW H-4 and USW H-6	5/2/95	Three Years	Quarterly
USW G3	5/2/95	Three Years	Quarterly
UE-25 NGR#5	5/2/95	Three Years	Quarterly
USW UZ-6s	5/2/95	Three Years	Quarterly
UE-25b #1	5/2/95	Three Years	Quarterly
Well J 11 and J 12	5/2/95	Three Years	Quarterly

(See Page 3)

7 Initiator John R. Doyle <i>Richard L. White for</i> Date 10/4/96	9 Is condition an isolated occurrence? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown; Must be Yes if PR
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10 Recommended Actions: (Not required for PR)

- Submit required documentation in accordance with the requirements cited above.
- Conduct an evaluation to determine which Affected Organizations have obtained access to boreholes. Verify compliance to Yucca Mountain Site Characterization Project Administrative Procedure (YAP)-13.1Q. Provide a written report on the results of this evaluation including a description of corrections taken, as appropriate.

11 QA Review: QAR John R. Doyle <i>Richard L. White for</i> Date 10/4/96	12 Response Due Date 20 Working Days From Issuance
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13 Affected Organization QA manager Issuance Approval: (QAR for PR)

Printed Name *Richard E. Spence* Signature *[Signature]* Date *10/9/96*

22 Corrective Action Verified QAR <i>John R. Doyle</i> Date <i>7/2/97</i>	23 Closure Approved by: (N/A for PR) <i>[Signature]</i> Date <i>7/12/97</i>
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Block 5 Requirement/Measurement Criteria: (continued)

2. Paragraph 5.3.1 states: "Upon the completion of borehole activity, the Requestor:
- a) ensures that the cap is tightly secured on the borehole after each episode, and that the cap cannot be removed without unlocking
 - b) completes and signs a Borehole Completion Report (Exhibit YAP-13.1.Q.2)(BCR); and
 - c) returns the key and submits the BCR to the DOE FTC when access to the borehole is no longer required"

Block 6 Description of Condition: (continued)

2. A review of BARs reveals that contrary to the above requirements, no keys or BCRs have been submitted to the DOE FTC for the following boreholes:

Borehole	Date Authorized	Duration of Access
USW SD-9	1/25/95	4 Weeks
USW UZ-6	5/25/95	One Year
USW UZ-7a	8/22/95	One Month

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

1. Issue a notice to the principal manager of responsible party, directing submittal of all outstanding BSRs on or before COB of February 10, 1997. (NOTE: prior requests to USGS regarding submittal of required BSR have been issued on a number of occasions)
2. Issue notice to responsible party requesting notification of future intentions for boreholes whose access approval is expired (extension of BAR or submittal of BCR).
3. Review all open borehole access approvals, cancelled all expired access approvals, and replaced those identified as needing extended access by the appropriate responsible manager with new access approvals.
4. Archive all necessary records in accordance with procedure. See continuation page for responsibility and completion dates. See Continuation Sheet.

15 Extent of Condition: (Not required for PR)

Based on examination of the records for borehole access control, the following are non-compliant with the cited requirements:
 1. USGS for failure to submit BSRs since July 24, 1995 for the following boreholes: USW SD-9, USW UZ-6, USW UZ-7a, USW G-2, USW SD-7, USW H-1, USW H-3, USW H-4, USW H-5, USW H-6, USW G-3, UE-25 NRG#5, USW UZ-6s, UE-25 b#1, UE-25 J-11, UE-25 J-12, UE-25 J-13, UE-25 p#1, USW WT-1, USW WT-2, UE-25 WT-3, UE-25 WT-4, UE-25 WT-6, USW WT-7, USW WT-10, USW WT-11, UE-25 WT-12, UE-25 WT-13, UE-25 WT-14, UE-25 WT-15, UE-25 WT-16, UE-25 WT-17, UE-25 WT-18, USW VH-1, UE-25 JF-3, UE-29 a#1, UE-29 a#2, USW UZ-14, UE-25 UZ-16, and (see continuation sheet)

16 Root Cause Determination: (Not required for PR)

Required Yes No

17 Action to Preclude Recurrence: (Not required for PR)

Required Yes No

18 Corrective Action Completion Due Date:

01/02/97

19 Response by: Steven Smith

- Initial
 Amended

Steven Smith
Date 11/07/96 Phone 295-4234

20 Response Accepted

QAR Date

21 Response Accepted (N/A for PR):

AOQAM Date

11/2/97 *LV-GSA-SES-11/96-007*

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RADIOACTIVE WASTE MANAGEMENT
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WASHINGTON, D.C.

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Continuation of box 14, Remedial Actions:

Revise procedure YAP-13.1Q as follows:

5. Eliminate Borehole Status Report (BSR) and Borehole Closure Report (BCR) requirement. Reports do not add value to the process and only serve to consume time and budget. The same objective can be accomplished with a log.
6. Replace all forms with a simple signout log for access control and closure of access.

Improve operations as follows:

7. Increase aggressiveness in requesting issuance of Deficiency Reports against non-compliant team-mates.

Of the above items, 5 and 6 are based on direct recommendations from the Surface Based Test Coordination Office. See continuation page for responsibility and completion dates.

NOTE: Procedure YAP-13.1Q is currently in revision to accomplish, among other things, items 1 and 2 above.

Continuation of box 15, extent of conditions:

UZN boreholes 1 through 84 and 86 through 98. Currently, quarterly BSRs are required for each of the above boreholes until cancellation of access is requested or access approval expires.

2. USGS failed to renew BARs or submit BCRs for the following boreholes : U SW SD-9. USW UZ-6. USW UZ-7a. USW G-2. and USW SD-7.

NOTE: Currently, all other participants are covered under procedure NLP-2-4 for the protection and access control of YMP boreholes. Assessment of non-compliance under NLP-2-4 will be executed and steps similar to those identified in box 14 will be implemented as appropriate.

Continuation of box 18, Corrective Action Completion Due Dates:

Box 14, item 1 -due on or before 11/19/96, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 2 -due on or before 11/15/96, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 3 -due on or before 11/15/96, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 4 -due on or before 11/15/96, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 5 -due on or before 1/2/97, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 6 -due on or before 1/2/97, Assigned to Steven Smith, compliance by objective evidence.

Box 14, item 7 -due on or before 11/15/96, Assigned to Steven Smith, compliance by objective evidence.

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WASHINGTON, D.C.**

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

1. Issue a notice to the principal manager of responsible party, directing submittal of all outstanding BSRs on or before COB of February 10, 1997.
2. Issue notice to responsible party requesting notification of future intentions for boreholes whose access approval is expired (extension of BAR or submittal of BCR).
3. Review all open borehole access approvals, cancelled all expired access approvals, and replaced those identified as needing extended access by the appropriate responsible manager with new access approvals.
4. Archive all necessary records in accordance with procedure. See continuation page for responsibility and completion dates. See Continuation Sheet.

15 Extent of Condition: (Not required for PR)

Based on examination of the records for borehole access control, the following are non-compliant with the cited requirements:

1. USGS for failure to submit BSRs since July 24, 1995 for the following boreholes: USW SD-9, USW UZ-6, USW UZ-7a, USW G-2, USW SD-7, USW H-1, USW H-3, USW H-4, USW H-5, USW H-6, USW G-3, UE-25 NRG#5, USW UZ-6s, UE-25 b#1, UE-25 J-11, UE-25 J-12, UE-25 J-13, UE-25 p#1, USW WT-1, USW WT-2, UE-25 WT-3, UE-25 WT-4, UE-25 WT-6, USW WT-7, USW WT-10, USW WT-11, UE-25 WT-12, UE-25 WT-13, UE-25 WT-14, UE-25 WT-15, UE-25 WT-16, UE-25 WT-17, UE-25 WT-18, USW VH-1, UE-25 JF-3, UE-29 a#1, UE-29 a#2, USW UZ-14, UE-25 UZ-16, and (see continuation sheet)

16 Root Cause Determination: (Not required for PR)

Required Yes No

17 Action to Preclude Recurrence: (Not required for PR)

Required Yes No

18 Corrective Action Completion Due Date:

02/10/97

19 Response by: Steven Smith

- Initial
 Amended

Steven Smith

Date 12/10/96

Phone 295-4234

20 Response Accepted

QAR

John R. Doyle

Date

12/17/96

21 Response Accepted (N/A for PR):

AOQAM

James Blaylock

Date

12/20/96

OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

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Continuation of box 14, Remedial Actions:

Revise procedure YAP-13.1Q as follows:

5. Eliminate Borehole Status Report (BSR) and Borehole Closure Report (BCR) requirement. Reports do not add value to the process and only serve to consume time and budget. The same objective can be accomplished with a log.
6. Replace all forms with a simple signout log for access control and closure of access.

Improve operations as follows:

7. Increase aggressiveness in requesting issuance of Deficiency Reports for non-compliant conditions identified during regular checks.

Of the above items, 5 and 6 are based on direct recommendations from the Surface Based Test Coordination Office. See continuation page for responsibility and completion dates.

NOTE: Procedure YAP-13.1Q is currently in revision to accomplish, among other things, items 1 and 2 above.

Continuation of box 15, extent of conditions:

UZN boreholes 1 through 84 and 86 through 98. Currently, quarterly BSRs are required for each of the above boreholes until cancellation of access is requested or access approval expires.

2. USGS failed to renew BARs or submit BCRs for the following boreholes : U SW SD-9, USW UZ-6, USW UZ-7a, USW G-2, and USW SD-7.

NOTE: Currently, all other participants are covered under procedure NLP-2-4 for the protection and access control of YMP boreholes. Assessment of non-compliance under NLP-2-4 will be performed and steps similar to those identified in box 14 will be implemented as appropriate.

Continuation of box 18, Corrective Action Completion Due Dates:

Box 14, item 1 - issuance of notice due on or before 12/16/96. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 2 - issuance of notice due on or before 12/16/96. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 3 - correction of access approvals due on or before 12/16/96. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 4 - records archiving due on or before 12/16/96. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 5 - due on or before 1/2/97. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 6 - due on or before 1/2/97. Assigned to Steven Smith. compliance by objective evidence.

Box 14, item 7 - evidence of increased vigilance due on or before 12/16/96, Assigned to Steven Smith. compliance by objective evidence.

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PR/DR CONTINUATION PAGE

Verification of Corrective Action to Deficiency Report YM-97-D-103

Block 14 Remedial Actions:

1. Verified letter LVYM.SOMM.SCS.12/96-219 S. C. Smith to R. W. Craig dtd. 12/18/96 calling out the submitting of Borehole Status Reports. Verified USGS Borehole Status Reports (see Attachment 1: letters D. L. Edwards to D. Coleman dtd. 2/6/97, 2/4/97, 3/1/97, 7/1/97) for the boreholes delinquent in block 6 item 1.
2. Verified notices to responsible parties requesting notification of future intentions for boreholes whose access has expired. (See attachment 2).
3. Verified reviews of open access approvals (see Attachment 3) and verified BARs for USW G-2 and USW UZ-7A on file in the Superintendent of Surface Based Testing Operations fireproof safe in the Field Operations Center at Area 25. Note: USW-NRG-6 and 7A do not require an BAR since they are currently covered by existing Job Packages for continuous pneumatic monitoring.
4. Verified Transmittal/Receipt Acknowledgment for records package Accession Number DRC.1997008.0001-.0014 dtd. 1/8/97 submitting Borehole Access Requests and Completion Reports identified for Item 1 sent to the Records Center.
5. Verified by review of Yucca Mountain Administrative Procedure (YAP) YAP-13.1Q, Rev. 1, effective 5/27/97, that the requirement for BSRs and BCRs have been eliminated and that this information is captured on a Borehole Access and Completion Log.
6. All forms have been replaced by log as noted in Item 5.
7. Verified Deficiency Report YM-DR-97-003 resulting from borehole security field checks.

Block 15 Extent of Condition:

NLP-2-4 has been cancelled 5/27/97 as a result of revision to YAP 13.1Q Rev. 1.

Block 16 Root Cause Determination:

None Required

Block 17 Action to Preclude Recurrence:

None Required

The above Committed Corrective Actions have been Satisfactorily Verified.

This Deficiency Report is considered closed.

QAR

John R. Doyle

Date

7/2/97



United States Department of the Interior



U.S. GEOLOGICAL SURVEY
Yucca Mountain Project
101 Convention Center Drive, Suite 270
Las Vegas, Nevada 89109
(702) 794-7473
FAX (702) 794-7099

QA: Information Only
February 6, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy
FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator
SUBJECT: USGS BOREHOLE STATUS REPORT FOR OCTOBER 1 TO DECEMBER 31 1996

1. At borehole USW G-2 recovery in the borehole was monitored. The transducer was removed on December 17 thereby completing continuous recovery monitoring. The water level was measured on December 1, and water level measurements will continue to be made on a monthly basis.

2. Water level measurements were made at boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

3. At borehole USW UZ-14 water level was measured in December.

4. At the C-Hole complex the USGS was preparing for tracer injection tests. Field measurements were made on the plumbing to UE-25 c#1.

5. Pneumatic monitoring was conducted in boreholes USW UZ-7a, USW SD-12, UE-25 UZ#4, UE-25 UZ#5, and USW NRG-7a.

6. At UE-25 NRG#5 pneumatic pressure monitoring continued through the Seamist borehole liner.

7. At USW SD-7 pneumatic pressure monitoring continued.

8. At USW UZ-6 pneumatic pressure monitoring was terminated.

ATTACHMENT I TO DR ^{96 PS 7/1/97} MA-97-D-103 P2 of 12

9. No Unsaturated Zone Neutron (UZN) boreholes were logged.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC



96 DE 7/1/97
ATTACHMENT 1 TO DR YM-97-0-103 P 3 of 2

United States Department of the Interior



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101 Convention Center Drive, Suite 270
Las Vegas, Nevada 89109
(702) 794-7473
FAX (702) 794-7099

QA: Information Only
January 31, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy

FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator

SUBJECT: USGS BOREHOLE STATUS REPORT FOR JULY 1 TO SEPTEMBER 30 1996

1. At borehole USW G-2 recovery monitoring associated with the hydraulic testing in April continued into FY97.

2. Water level measurements were made at boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

3. At the C-Hole complex the USGS continued to monitor discharge rate and pressures in boreholes UE-25 c#1 and UE-25 c#2.

4. Pneumatic monitoring was conducted in boreholes USW UZ-7a, USW SD-12, UE-25 UZ#4, UE-25 UZ#5, USW NRG-6, and USW NRG-7a. Monitoring was discontinued at borehole USW NRG-6 on September 3, 1996, but continued at the other boreholes into FY97.

5. At UE-25 NRG#5 pneumatic pressure monitoring continued through the Seamist borehole liner. Gas samples were collected in August for gas geochemistry studies.

6. At USW SD-7 pneumatic pressure monitoring continued. Gas samples were collected in August for gas geochemistry studies.

7. In June and July, 1996, gas samples were collected in borehole USW SD-12 in support of Unsaturated Zone Hydrochemistry studies.

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96 DS 7/1/97

8. No Unsaturated Zone Neutron (UZN) boreholes were logged.

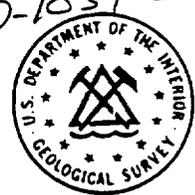
Cc

Robert Craig, USGS
Steven Smith, M&O/SAIC



ATTACHMENT 1 TO DR YM-97-D-103 P50E12
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United States Department of the Interior



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Yucca Mountain Project
101 Convention Center Drive, Suite 270
Las Vegas, Nevada 89109
(702) 794-7473
FAX (702) 794-7099

QA: Information Only
February 4, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy
FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator
SUBJECT: USGS BOREHOLE STATUS REPORT FOR APRIL 1 TO JUNE 30 1996

1. The USGS continued monitoring recovery in borehole USW G-1 throughout the quarter.
2. Water level measurements were made at boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

3. At the C-Hole complex the pump was restarted on May 8, and Los Alamos injected pentafluorobenzoic acid into borehole UE-25 C#2 on May 13. The USGS monitored discharge rate and pressure in observation boreholes UE-25 C#1 and UE-25 C#2.
4. Pneumatic monitoring was conducted in boreholes USW SD-12, USW UZ-7a, UE-25 UZ#4, UE-25 UZ#5, USW NRG-6, and USW NRG-7a.
5. In borehole USW SD-7 the USGS continued monitoring pressure from zones above and below the PTn throughout the quarter.
6. In May and June gas samples were collected in borehole USW SD-12 in support of Unsaturated Zone Hydrochemistry studies.
7. At UE-25 NRG#5 a Seamist borehole liner is being used to continually monitor downhole pneumatic pressures.

46 2211147
ATTACHMENT 1 TO DR Y4-97-103 p 6 of 12

8. No Unsaturated Zone Neutron (UZN) boreholes were logged.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC



965 'a1
ATTACHMENT 1 TO DR YU-97-D-103 P 7 OF 12

United States Department of the Interior



U.S. GEOLOGICAL SURVEY
Yucca Mountain Project
101 Convention Center Drive, Suite 270
Las Vegas, Nevada 89109
(702) 794-7473
FAX (702) 794-7099

QA: Information Only
January 31, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy
FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator
SUBJECT: USGS BOREHOLE STATUS REPORT FOR JANUARY 1 TO MARCH 31, 1996

1. Hydraulic testing was conducted in borehole USW G-2. A "3-day" pump test was conducted in February 1996. Recovery in the borehole was monitored following the hydraulic testing and continued for the remainder of the quarter.

2. Water level measurements were made at periodic water level network boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

3. At the C-Hole complex, began pumping borehole UE-25 c#3 on February 8 and conducted a hydraulic test in the Bullfrog-Tram until February 13. On February 13, 1996, sodium iodide pilot tracer was released in borehole UE-25 c#2. Hydraulic pumping of borehole UE-25 c#3 was conducted during this phase of tracer testing, and pumping continued until March 29, 1996.

4. In January, 1996, hydraulic pumping tests were conducted cleaning and rehabilitation of borehole USW WT-10

5. Pneumatic monitoring for temperature, pressure and water potential was conducted in boreholes UE-25 UZ#4, UE-25 UZ#5, USW NRG-6, USW NRG-7a, USW UZ-7a and USW SD-12.

6. At borehole UE-25 NRG#5 a Seamist borehole liner is being used to continually monitor downhole pneumatic pressures.

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ATTACHMENT 1 TO DR YU-97-D 3 P8 OF 12

7. At USW SD-7 pneumatic pressure monitoring continued. Gas samples were taken from open borehole. Installed Seamist borehole liner and pneumatic pressure monitoring through the liner was begun.
8. At USW UZ-6s the USGS attempted to install the Seamist borehole liner but difficulty was encountered. The Seamist wellhead was installed with the liner partially deployed.
9. At USW UZ-6 began monitoring pneumatic pressure.
10. No Unsaturated Zone Neutron (UZN) boreholes were logged.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC

ATTACHMENT 1 TO DR YM-95-03 P 9 OF 12
46 D 7/7/97



United States Department of the Interior



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Yucca Mountain Project
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(702) 794-7473
FAX (702) 794-7099

QA: Information Only
February 6, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy
FROM: Debra L. Edwards, ESF and Surface-Based Testing Coordinator
SUBJECT: USGS BOREHOLE STATUS REPORT FOR OCTOBER 1 TO DECEMBER 31 1995

1. Water level measurements were made at periodic water level network boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

2. At borehole USW H-5 water level measurements were made and the barometer was replaced in October.
3. At USW G-2 in October the water level was measured and a transducer was installed in the borehole in preparation for aquifer testing.
4. In September and October hydraulic pump tests were conducted in borehole UE-25 c#3.
5. Borehole USW UZ-7a was instrumented with the pneumatic instrumentation package to monitor temperature, pressure, and water potential. Stemming and instrumentation of borehole USW UZ-7a was completed by October 20.
6. An air-flow survey was conducted in borehole USW SD-12. Borehole USW SD-12 was instrumented with the pneumatic instrumentation package to monitor temperature, pressure, and water potential. Stemming and instrumentation of borehole USW SD-12 was completed on December 1.
7. Pneumatic monitoring was also conducted in boreholes UE-25 UZ#4, UE-25 UZ#5, USW NRG-6, and USW NRG-7a.

46 D-1/1/1
ATTACHMENT I TO DR-44-97-D 03 P10 OF 12

8. In borehole UE-25 NRG#5, a Seamist borehole liner is being used to continually monitor down hole pneumatic pressures.
10. At USW SD-7 the USGS began monitoring pneumatic pressure through casing.
11. At USW SD-9 pneumatic pressure continued to be monitored.
12. No Unsaturated Zone Neutron (UZN) boreholes were logged.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC



ATTACHMENT 1 TO DR YU-9T-0-103 P 110 F12
96 2/7/97

United States Department of the Interior



U.S. GEOLOGICAL SURVEY
Yucca Mountain Project
101 Convention Center Drive, Suite 270
Las Vegas, Nevada 89109
(702) 794-7473
FAX (702) 794-7099

QA: Information Only
February 6, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy
FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator
SUBJECT: USGS BOREHOLE STATUS REPORT FOR JULY 1 TO SEPTEMBER 30, 1995

1. Water level measurements were made at the periodic water level network boreholes:

UE-25 WT#3	USW WT-2	UE-25 p#1	USW G-2
UE-25 WT#13	USW WT-1	USW H-1	UE-25 b#1
UE-25 WT#4	USW WT-7	USW H-3	USW VH-1
UE-25 WT#14	USW WT-10	USW H-4	J-11
UE-25 WT#6	USW WT-11	USW H-5	J-12
UE-25 WT#16	UE-25 WT#15	USW H-6	J-13

- At borehole UE-25 c#3 the borrowed pump was removed and the USGS pump and packer string was installed in July. In September the pump in borehole UE-25 c#3 was tested.
- At USW UZ-7a pneumatic pressure monitoring was initiated by drilling small holes through the casing and instrumenting the borehole with a transducer.
- At USW SD-9 pneumatic pressure monitoring continued. Gas samples were collected for gas geochemistry studies.
- At UE-25 NRG#5 the Seamist borhole liner was installed and pneumatic pressure monitoring began.
- At borehole USW NRG-7 pneumatic monitoring for temperature, pressure and water potential continued. Gas samples were taken from successfully from one zone.
- Pneumatic monitoring was also conducted in boreholes UE-25 UZ#4, UE-25 UZ#5, and USW NRG-6.
- At borehole UE-25 NRG#2b pneumatic pressure monitoring was discontinued on July 13. Borehole was secured on that date.

96 P511197
ATTACHMENT I TO DR. YU-97-B-103 P 12 OF 12

9. At borehole USW UZ-6 a continuous carbon dioxide monitoring test was conducted and abandoned due to instrument problems resulting from battery voltage fluctuations.
10. All Unsaturated Zone Neutron (UZN) boreholes for which borehole access exists were logged.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC



ATTACHMENT 1 to DR } 46 v 7/7/97
p 12 a } ST-D-103

United States Department of the Interior



U.S. GEOLOGICAL SURVEY
Yucca Mountain Project
1180 Town Center Drive
Las Vegas, Nevada 89134
(702) 295-5745
FAX (702) 295-6604

QA: Information Only
July 1, 1997

MEMORANDUM

TO: Drew Coleman, US Department of Energy

FROM: Debra L. Edwards, USGS ESF and Surface-Based Testing Coordinator

SUBJECT: MODIFICATIONS TO USGS BOREHOLE STATUS REPORTS

The modifications below apply to all quarterly Borehole Status Reports covering the time periods from July 1, 1995, to March 31, 1997.

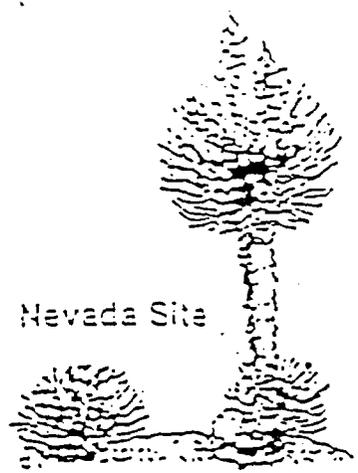
1. Water level measurements were made each quarter at boreholes:
JF-3 UE-29 a#1 UE-29 a#2 UE-29 UZN #91
2. The following boreholes have not been accessed:
UE-25 WT#17 and UE-25 WT#18.

cc

Robert Craig, USGS
Steven Smith, M&O/SAIC
John Doyle, M&O/SAIC

P. 20 of 28

FACSIMILE MESSAGE



From: Steven Smith

Phone: 5-4234

Fax #: (702) 295-5351
⁵⁹⁹

TO: Debbie Edwards

FAX: 5-5989
~~4-7090~~

Date: 9-4-96

Number of Pages including this Page: 6

Message:

The attached BAR/CR copies are for access to boreholes that have expired. Please indicate for each, your future intentions and amount of time extension, if required.

Steve

ATTACH. NTZ p 2 of 8

Janell

10-209-R0

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT BOREHOLE ACCESS REQUEST

4/94

Borehole ID: USW SD-9	Date of First Access: 1-30-95	Duration of Access: 4 weeks
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Requestor: Gary Patterson	Organization: USGS
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Address: P. O. Box 327, MS-721, Mercury, Nevada 89023	Telephone: 295-5970 or 303-236-5179	FAX Number: 295-5989
--	--	-------------------------

Signature of Requestor: <i>Daniel J. Soeder</i> (for Gary Patterson)	Date: 1-24-95
--	------------------

Activity Description and Objectives:

Collection of gas, vapor and condensation samples using a peristaltic pump and a length of plastic tubing inserted into the hole.

Comments/Instructions/Limitations:

All equipment will be removed from borehole upon completion of testing.

DOE FTC Authorization: <i>[Signature]</i>	Date: 1/25/95
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Primary Principal Investigator has been notified and concurs with access requested. (YES: C. Rautman is P.I.)	DOE FTC Initials: <i>[Signature]</i>	Date: 1-30-95
---	---	------------------

Job Package Number: N/A	Test Planning Package: N/A	Study Plan Number: 8.3.1.2.2.6.1
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Study Plan Title:
Unsaturated Zone Gaseous-Phase Circulation Study

Other:	Status Reports Due: Upon completion of this phase of testing Quarterly 1/4/95
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Distribution and Return of Borehole Keys

Key Number and Type:
USW SD-9 # 125

Issued by: <i>K. Scott</i>	Date Key Issued: 1/26/95
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Date of Key (DOE FTC Confirmation):	Date Key Returned:
-------------------------------------	--------------------

DOE FTC Comments:

YM 209-R0
1 /94

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
BOREHOLE ACCESS REQUEST**

Borehole ID: USW UZ-7a	Date of First Access: 18 August 1995	Duration of Access: One month
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Requestor: Pete Striffler for Gary Patterson	Organization: U.S.G.S.
---	---------------------------

Address: P.O. Box 25046, MS-421, Denver, CO 80225	Telephone: (303)236-6258	FAX Number: (303)236-5046
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Signature of Requestor: <i>P. Striffler</i> (for Pete Striffler)	Date: 18 August 1995
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Activity Description and Objectives:

Perform gas sampling and shut-in pressure testing.

Insert plastic tubing through holes in borehole ap and connect instruments for measuring. All equipment is surface based.

Comments/Instructions/Limitations:

Tubing removed at end of test phase.

DOE FTC Authorization: <i>Steven Smith</i>	Date: <i>8-22-95</i>
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Primary Principal Investigator has been notified and concurs with access requested. (YES: Gary Pattersonis PI).	DOE FTC Initials: <i>JS</i>	Date: <i>8-22-95</i>
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Job Package Number: <i>None</i>	Test Planning Package: <i>None</i>	Study Plan Number: 8.3.1.2.2.6.1
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Study Plan Title: Gaseous Phase Circulation
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Other: <i>None</i>	Status Reports Due: Quarterly
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Distribution and Return of Borehole Keys

Key Number and Type: <i>26330</i>

Issued by: <i>Steven Smith</i>	Date Key Issued: <i>8-8-95</i>
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Return of Key (DOE FTC Confirmation):	Date Key Returned:
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FTC Comments:
Prior BAR expired.

ATTACHMENT 2 ^{3 OF 8} ^{2010 6/3/97} ^{Continued}

CR.WMS/M&O

Ca Mountain Site Characterization Project
Borehole Access Request/Completion Report

QA:

Page:

Of:

Complete only applicable items.

Section I: Access Request

1. Borehole ID: USW G-2	2. First Access Date: 09/11/95	3. Access Duration: 1 month
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4. Requestor/Organization: John Czarnecki
--

5. Address: P.O. Box 327, MS-743, Mercury, NV 89023	6. Telephone/Fax Number: (303)236-5176
--	---

7. Requestor Signature: <i>J. Czarnecki for John Czarnecki</i>	8. Date: 09/11/95
---	----------------------

9. Activity Description and Objectives: Point water sampling for C14/13
--

10. SBTF Operations Comments/Instructions/Limitations: Any equipment used in the procedure will be removed on completion of testing. <i>Key in USGS possession from prior approved request. JJ</i>
--

11. JP Number: 95-23	12. TPP Number: NA	13. SP Number: 8.3.1.2.1.3	14. Other: NA	Status Report Due Quarterly
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15. Primary Principal Investigator has been notified and concurs with access request. (SBTF Operations Manager Initials)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

16. SBTF Operations Manager Authorization: <i>Steven Smith</i>	17. Date: 9-12-95
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18. Key Issued By: <i>See box 10</i>	19. Key Number(s): 3659	20. Date: <i>See box 10</i>
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Section II: Completion Report

21. List of Activities & Dates Performed:

22. Borehole Conditions or Other Comments:
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23. Borehole Protective Assembly Secure: <input type="checkbox"/> Yes <input type="checkbox"/> No	24. Key Return Confirmation:	25. Date Returned:
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26. SBTF Operations Manager Acceptance:	27. Date:
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28. Comments:

YMA-209-R0

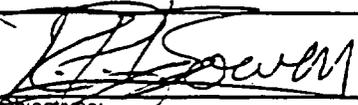
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT BOREHOLE ACCESS REQUEST

4/94

Borehole ID: USW UZ-6	Date of First Access: 25 May 1995	Duration of Access: One Year
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Requestor: Tom Oliver	Organization: U.S.G.S.
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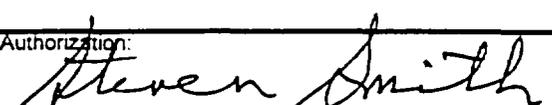
Address: P.O. Box 327, MS-743, Mercury, NV 89023	Telephone: 295-6010 or 303-326-1913	FAX Number: 303-236-5047
---	--	-----------------------------

Signature of Requestor:  (for Tom Oliver)	Date: 25 May 1995
---	----------------------

Activity Description and Objectives:

Measurements of natural air flow in borehole.

Comments/Instructions/Limitations:

DOE FTC Authorization: 	Date: 5-30-95
---	------------------

Primary Principal Investigator has been notified and concurs with access requested. (YES: Gary Patterson is PI).	DOE FTC Initials: 	Date: 5-30-95
--	--	------------------

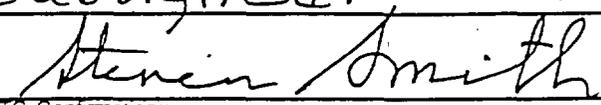
Job Package Number: N/A	Test Planning Package: N/A	Study Plan Number: 8.3.1.2.2.6.1
----------------------------	-------------------------------	-------------------------------------

Study Plan Title:
Unsaturated Zone Gaseous-Phase Circulation Study.

Other: None	Status Reports Due: Quarterly
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Distribution and Return of Borehole Keys

Key Number and Type:
Borehole continuously active
key to be assigned. A425

Issued By: NA 	Date Key Issued: NA
--	------------------------

Form of Key (DOE FTC Confirmation):	Date Key Returned:
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DOE FTC Comments:

A. NUMBER 3960F8 *Continued*
Yucca Mountain Site Characterization Project
Borehole Access Request/Completion Report

QA:

Page:

Of:

Complete only applicable items.

Section I: Access Request

1. Borehole ID: USW SD-7	2. First Access Date: 04/02/96	3. Access Duration: 3 Months
4. Requestor/Organization: Gary Paterson, USGS		
5. Address: HRF, Area 25		6. Telephone/Fax Number: 303/236-5050
7. Requestor Signature: <i>Gary Paterson</i>		8. Date: 4/2/96
9. Activity Description and Objectives: Pneumatic monitoring with Seamist monitoring system		
10. SBTF Operations Comments/Instructions/Limitations: None		

Status Report

SS
Quarterly
9/4/96
Section II Below

11. JP Number: <i>NA 4/4/96</i>	12. TPP Number: <i>NA FWP 96-01</i>	13. SP Number: <i>8.3.1.2.2.6.1</i>	14. Other: <i>NA</i>
15. Primary Principal Investigator has been notified and concurs with access request. (SBTF Operations Manager Initials) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
16. SBTF Operations Manager Authorization: <i>Steven Smith</i>			17. Date: <i>4-2-96</i>
18. Key Issued By: <i>S. Smith</i>	19. Key Number(s): <i>26347 08A</i>	20. Date: <i>4-2-96</i>	

Section II: Completion Report

21. List of Activities & Dates Performed:		
22. Borehole Conditions or Other Comments:		
23. Borehole Protective Assembly Secure: <input type="checkbox"/> Yes <input type="checkbox"/> No	24. Key Return Confirmation:	25. Date Returned:
26. SBTF Operations Manager Acceptance:		27. Date:
28. Comments:		

M&O/SAIC
UNCLASSIFIED FACSIMILE TRANSMITTAL

Engineering Maintenance & Logistics Department
Field Operations Office/Nevada Test Site
FAX NO. (702) 295-5999

TO:	ORGANIZATION:	FAX NUMBER:
<i>Eddie Wright</i>	<i>M+O</i>	<i>4-573-1943</i>

COMMENTS:

The attached BAR/CR copy is for access to a borehole that has expired. Please indicate your future intentions and amount of time extension, if required.

RECEIVED

DEC 10 1996

STEVEN C. SMITH

FROM:	PHONE NO.	NUMBER OF PAGES (Excl. Cover):	DATE:
<i>Steve Smith</i>	<i>5-4234</i>	<i>1</i>	<i>10/17</i>

Yucca Mountain Site Characterization Project
Borehole Access Request/Completion Report

GRWMS/M&O

QA: L

Page: 1 Of: 1

Complete only applicable items.

Section I: Access Request

1. Borehole ID: USW G-2	2. First Access Date: 10/12/95	3. Access Duration: 210 Days
4. Requestor/Organization: Richard Wright, Drilling Engineering		
5. Address: MS 717		6. Telephone/Fax Number: 295-4787 / 295-6533
7. Requestor Signature: <i>Richard Wright</i>		8. Date: 02/22/96
9. Activity Description and Objectives: Cleanout of borehole & pumping tests		
10. SBTF Operations Comments/Instructions/Limitations: Extension of expired prior access approval.		

Status Report **Section II CR only**

11. JP Number: 95-23	12. TPP Number: NA	13. SP Number: 8.3.1.2.1.3	14. Other: NA
15. Primary Principal Investigator has been notified and concurs with access request. (SBTF Operations Manager Initials) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
16. SBTF Operations Manager Authorization: <i>Steven Smith</i>			17. Date: 02/22/96
18. Key issued By: S. Smith	19. Key Number(s): 3897	20. Date: 09/12/95	

Section II: Completion Report

21. List of Activities & Dates Performed:		
22. Borehole Conditions or Other Comments:		
23. Borehole Protective Assembly Secure: <input type="checkbox"/> Yes <input type="checkbox"/> No	24. Key Return Confirmation:	25. Date Returned:
26. SBTF Operations Manager Acceptance:		27. Date:

28. Comments: