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Department of Energy
Yucca Mountain Site Characterization
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WBS 1.2.5.3
QA: N/A

NOV 19 1993

Robert R. Loux
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Evergreen Center, Suite 252
1802 North Carson Street
Carson City, NV 89710

**UPDATE ON REQUEST FOR DATA REPORTED IN U.S. GEOLOGICAL SURVEY
(USGS) MONTHLY REPORTS (SCP: N/A)**

- References:
1. Ltr, Loux to Gertz, dtd 8/31/93
 2. Ltr, Gertz to Loux, dtd 10/01/93

We have evaluated the State of Nevada's request for data, data sets, and preliminary interpretations mentioned in USGS monthly reports of ongoing work (reference 1). Enclosed are the data available at this time (enclosure 1); the remainder will be provided on a schedule from the USGS to the U.S. Department of Energy (DOE), as indicated in Enclosure 2.

The data denoted by N⁵ in Enclosure 2 are scheduled for submittal to the USGS Local Records Center (LRC) on November 22, 1993, and the data denoted by N⁶ are scheduled to the USGS LRC on January 31, 1994. Within 15 days of these two dates, data will be furnished to DOE and within another 15 days, DOE will release the data to the State.

If you have any questions, please contact either Ardyth M. Simmons at (702) 794-7998 or Thomas W. Bjerstedt at (702) 794-7590.

Robert M. Nelson, Jr.
Acting Project Manager

RSED:AMS-782

- Enclosures:
1. Partial transmittal of requested data
 2. Data Request (Summary)

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Robert R. Loux

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cc w/encls:

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cc w/o encls:

J. S. Stuckless, USGS, Denver, CO
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R. F. Lewis, M&O/TRW, Las Vegas, NV

Radiogenic Isotopic Requests for Preliminary Data:

Request #1 for location and alpha-spectrometry of carbonate-rich samples will be addressed by J. Paces within 30 days of submittal to the LRC on January 31, 1994.

Requests #2 and #38 for location, leach & residue, and alpha-spectrometry of Nevares Spring tufa will also be addressed by J. Paces.

Complies with requests #3 and #4 for strontium isotopic analyses of VH2, all Tertiary volcanic aquifer samples (Tv), and the strontium isotopic analyses of VH-1 time series.

| Sample # | Locality | Type | Date Analyzed | $^{87}\text{Sr}/^{86}\text{Sr}$ | TDIF # |
|------------------------|-----------------------|-----------------|---------------|---------------------------------|--------------------|
| Desert Range #1 | | water (well) | 5/13/90 | 0.71133 | GS910508315215.005 |
| U3M1 | | water (well) | 6/20/90 | 0.71386 | GS910508315215.005 |
| Well #3 | | water (well) | 10/30/90 | 0.71547 | GS910508315215.005 |
| NV-10 | Burro-Hot-Springs | water (spring) | 12/4/90 | 0.71168 | GS910508315215.005 |
| HD-442 | Cane-Spring | water (spring) | 4/23/91 | 0.70972 | GS910508315215.005 |
| 10S/48E-1dd | E of Coffers Ranch | water (well) | 9/17/90 | 0.70924 | GS910508315215.005 |
| WL90041801 | Indian Spring | water (spring) | 10/17/90 | 0.71097 | GS910508315215.005 |
| J-12 0:10 | J-12 | water (well) | 5/7/91 | 0.71197 | GS910508315215.005 |
| J-13 (3) | J-13 | water (well) | 5/8/91 | 0.71147 | GS910508315215.005 |
| HD-482 (2) | Stateline-Saloon | water (well) | 4/11/91 | 0.71676 | GS910508315215.005 |
| HD-482 | Stateline-Saloon | water (well) | 3/11/91 | 0.71674 | GS910508315215.005 |
| VH-2 | USW-VH-2 | water (well) | 5/7/91 | 0.71301 | GS910508315215.005 |
| Waterpipe Butte Spring | Water Pipe Butte-Spr. | water (spring) | 4/22/91 | 0.71146 | GS910508315215.005 |
| Burro Hot Springs (2) | Burro-Hot-Springs | water (spring) | 11/19/91 | 0.71168 | GS920208315215.008 |
| NV-18 | Captain-Jack-Spring | water (spring) | 2/28/92 | 0.70957 | GS920208315215.008 |
| NV-7 | Coffers-Ranch | water (surface) | 9/10/91 | 0.71099 | GS920208315215.008 |
| NV-8 | Colson Pond | water (spring) | 11/18/91 | 0.70945 | GS920208315215.008 |
| NV-16 (2) | Indian Spring | water (spring) | 10/9/91 | 0.71015 | GS920208315215.008 |
| NV-16 | Indian Spring | water (spring) | 10/7/91 | 0.71016 | GS920208315215.008 |
| J-12 15:00 | J-12 | water (well) | 1/21/92 | 0.71157 | GS920208315215.008 |
| J-12 15:40 (2) | J-12 | water (well) | 1/16/92 | 0.71155 | GS920208315215.008 |
| J-12 15:20 | J-12 | water (well) | 1/15/92 | 0.71152 | GS920208315215.008 |
| J-12 15:40 | J-12 | water (well) | 1/1/92 | 0.71156 | GS920208315215.008 |
| J-13 11:27 (2) | J-13 | water (well) | 1/7/92 | 0.71150 | GS920208315215.008 |
| J-13 11:47 | J-13 | water (well) | 1/10/92 | 0.71154 | GS920208315215.008 |
| J-13 12:07 (2) | J-13 | water (well) | 1/10/92 | 0.71146 | GS920208315215.008 |
| J-13 12:07 | J-13 | water (well) | 1/9/92 | 0.71151 | GS920208315215.008 |
| J-13 11:27 | J-13 | water (well) | 12/31/91 | 0.71147 | GS920208315215.008 |
| UE-25p #1 (LANL) | UE-25p-#1 | water (well) | 2/27/92 | 0.71174 | GS920208315215.008 |
| Water Well 20 | Water-Well-20 | water (well) | 6/4/91 | 0.71132 | GS920208315215.008 |

| | | | | | |
|--------------------|------------------------|----------------|----------|---------|--------------------|
| NV-11 | Whiterock Spring | water (spring) | 11/19/91 | 0.71131 | GS920208315215.008 |
| NV-17 | Whiterock Spring | water (spring) | 11/19/91 | 0.70893 | GS920208315215.008 |
| Bond Gold+1ml HNO3 | Beatty | water (spring) | 11/9/88 | 0.71054 | GS920208315215.012 |
| J-13 (2) | J-13 | water (well) | 12/17/88 | 0.71138 | GS920208315215.012 |
| UE-25 WT #4 | UE-25-WT-#4 | water (well) | 7/28/88 | 0.70999 | GS920208315215.012 |
| 89NV25 | | water (spring) | 12/27/89 | 0.71165 | GS920208315215.012 |
| Bond Gold+2ml HNO3 | Beatty | water (well) | 1/4/89 | 0.71132 | GS920208315215.012 |
| JD-9-589 | Daylight Pass Spring | water (spring) | 6/23/89 | 0.71226 | GS920208315215.012 |
| J-13 | J-13 | water (well) | 6/22/89 | 0.71128 | GS920208315215.012 |
| UE5c | UE5c | water (well) | 2/8/90 | 0.71071 | GS920208315215.012 |
| NDOT well | Amargosa/Lathrop Wells | water (well) | 6/9/92 | 0.71082 | GS930908315215.027 |
| EG032392-01 | Amargosa/Lathrop Wells | water (well) | 6/8/92 | 0.71179 | GS930908315215.027 |
| Cowboy Joe's (2) | Amargosa/Lathrop Wells | water (well) | 5/26/92 | 0.71177 | GS930908315215.027 |
| NDOT Well (2) | Amargosa/Lathrop Wells | water (well) | 11/18/92 | 0.71078 | GS930908315215.027 |
| EG032692-01 | Carson Slough | water (well) | 6/4/92 | 0.71285 | GS930908315215.027 |
| EG032592-05 | Carson Slough | water (well) | 6/10/92 | 0.71348 | GS930908315215.027 |
| EG032592-04 | Carson Slough | water (well) | 6/8/92 | 0.71353 | GS930908315215.027 |
| HD-1345 | Fran's Ranch | water (well) | 8/17/93 | 0.70927 | GS930908315215.027 |
| EG032692-04 | Funeral-Mtn.-Well | water (well) | 5/22/92 | 0.71471 | GS930908315215.027 |
| JF-3 1800 | JF3 | water (well) | 4/30/92 | 0.71129 | GS930908315215.027 |
| JF-3 0520 | JF3 | water (well) | 4/2/92 | 0.71128 | GS930908315215.027 |
| JF-3 1735 | JF3 | water (well) | 3/20/92 | 0.71137 | GS930908315215.027 |
| JF-3 1736 | JF3 | water (well) | 4/8/92 | 0.71136 | GS930908315215.027 |
| 091692-ZP-1 | Lathrop-Wells-Cone | water (well) | 10/1/92 | 0.71213 | GS930908315215.027 |
| Stateline Pipeline | Stateline-Pipeline | water (well) | 5/15/92 | 0.71616 | GS930908315215.027 |
| UE-25P#1 (LANL-2) | UE-25p-#1 | water (well) | 6/3/92 | 0.71179 | GS930908315215.027 |
| VH-1 11:41:04 | USW-VH-1 | water (well) | 8/14/92 | 0.71084 | GS930908315215.027 |
| VH-1 11:54:51 | USW-VH-1 | water (well) | 9/2/92 | 0.71098 | GS930908315215.027 |
| VH-1 12:08:46 | USW-VH-1 | water (well) | 8/18/92 | 0.71100 | GS930908315215.027 |
| VH-1 16:54:19 | USW-VH-1 | water (well) | 9/8/92 | 0.71105 | GS930908315215.027 |
| VH-1 16:03:50 | USW-VH-1 | water (well) | 9/17/92 | 0.71094 | GS930908315215.027 |
| VH-1 12:13:22 | USW-VH-1 | water (well) | 9/17/92 | 0.71097 | GS930908315215.027 |
| VH-1 11:50:15 | USW-VH-1 | water (well) | 9/17/92 | 0.71097 | GS930908315215.027 |
| VH-1 11:59:25 | USW-VH-1 | water (well) | 9/18/92 | 0.71096 | GS930908315215.027 |
| VH-1 12:04:07 | USW-VH-1 | water (well) | 9/29/92 | 0.71100 | GS930908315215.027 |
| VH-1 11:45:50 | USW-VH-1 | water (well) | 9/29/92 | 0.71094 | GS930908315215.027 |
| VH-2 Pond-2 | USW-VH-2 | water (well) | 6/5/92 | 0.71300 | GS930908315215.027 |
| VH-2 Pipe (2) | USW-VH-2 | water (well) | 6/5/92 | 0.71299 | GS930908315215.027 |

Complies with request #5 for strontium isotopic analyses of Franklin Lake Playa water.

| Sample # | Locality | Type | Date Analyzed | 87Sr/86Sr | TDIF # |
|-------------|-------------------|--------------|---------------|-----------|--------------------|
| GS-4 | GS-wells | water (well) | 8/13/92 | 0.71337 | GS930908315215.027 |
| GS-5 | GS-wells | water (well) | 8/13/92 | 0.71327 | GS930908315215.027 |
| GS-6 | GS-wells | water (well) | 8/19/92 | 0.71290 | GS930908315215.027 |
| GS-8-1 | GS-wells | water (well) | 9/29/92 | 0.71328 | GS930908315215.027 |
| GS-8-2 | GS-wells | water (well) | 8/13/92 | 0.71328 | GS930908315215.027 |
| GS-10 | GS-wells | water (well) | 8/14/92 | 0.71309 | GS930908315215.027 |
| GS-12 | GS-wells | water (well) | 8/13/92 | 0.71312 | GS930908315215.027 |
| GS-15 | GS-wells | water (well) | 8/13/92 | 0.71293 | GS930908315215.027 |
| GS-18 | GS-wells | water (well) | 8/18/92 | 0.71285 | GS930908315215.027 |
| GS-15 (2) | GS-wells | water (well) | 8/18/92 | 0.71292 | GS930908315215.027 |
| EG032692-03 | NFL-FL wells | water (well) | 6/2/92 | 0.71101 | GS930908315215.027 |
| NFL-1 | NFL-FL wells | water (well) | 8/14/92 | 0.71314 | GS930908315215.027 |
| NFL-1-1 | NFL-FL wells | water (well) | 8/19/92 | 0.71300 | GS930908315215.027 |
| Well FL | NFL-FL wells | water (well) | 8/18/92 | 0.71298 | GS930908315215.027 |
| Obelisk | NFL-FL wells | water (well) | 9/29/92 | 0.71324 | GS930908315215.027 |
| FMC | NFL-FL wells | water (well) | 9/29/92 | 0.71537 | GS930908315215.027 |
| NFL-1-FA | NFL-FL wells | water (well) | 11/18/92 | 0.71330 | GS930908315215.027 |
| NFL-1-FU | NFL-FL wells | water (well) | 11/18/92 | 0.71332 | GS930908315215.027 |
| Well 5 | Well # (Franklin) | water (well) | 8/19/92 | 0.71320 | GS930908315215.027 |
| Well 13 | Well # (Franklin) | water (well) | 8/18/92 | 0.71322 | GS930908315215.027 |
| Well 14 | Well # (Franklin) | water (well) | 8/18/92 | 0.71306 | GS930908315215.027 |

Complies with requests #6 and #8 for strontium isotopic analyses and concentrations of Nevares Spring tufa and water samples.

| Sample # | Locality | Type | Date Analyzed | 87Sr/86Sr | TDIF # |
|--------------------|----------------|----------------|---------------|-----------|--------------------|
| HD-492 | Nevares Spring | water (spring) | 4/22/91 | 0.71903 | GS910508315215.005 |
| HD-500 HCl-L | Nevares Spring | spring-deposit | 8/11/92 | 0.72017 | GS930908315215.027 |
| HD-499 HCl-L | Nevares Spring | spring-deposit | 8/11/92 | 0.72048 | GS930908315215.027 |
| HD-502 HCl-L | Nevares Spring | spring-deposit | 8/11/92 | 0.71909 | GS930908315215.027 |
| HD-498 HCl-L | Nevares Spring | spring-deposit | 8/10/92 | 0.71958 | GS930908315215.027 |
| HD-497 HCl-L | Nevares Spring | spring-deposit | 8/10/92 | 0.71961 | GS930908315215.027 |
| HD-496 HCl-L | Nevares Spring | spring-deposit | 8/10/92 | 0.71967 | GS930908315215.027 |
| HD-495 HCl-L | Nevares Spring | spring-deposit | 8/10/92 | 0.71979 | GS930908315215.027 |
| Nevares Spring (2) | Nevares Spring | water (spring) | 9/11/92 | 0.71909 | GS930908315215.027 |

Complies with duplicate requests #7 and #14 for strontium isotopic analyses of six high-silica rhyolites from UE25a#1.

| Sample # | Locality | Type | Date Analyzed | 87Sr/86Sr | TDIF # |
|----------------------|-----------|------|---------------|-----------|--------------------|
| UE25a#1 510.4 | UE-25a-#1 | tuff | 6/11/90 | 0.71678 | GS910508315215.005 |
| UE25a#1 510.4 (2) | UE-25a-#1 | tuff | 8/20/90 | 0.71666 | GS910508315215.005 |
| UE25a#1 609.6 | UE-25a-#1 | tuff | 6/12/90 | 0.71629 | GS910508315215.005 |
| UE25a#1 609.6 (2) | UE-25a-#1 | tuff | 8/21/90 | 0.71642 | GS910508315215.005 |
| UE25a#1 669.5 | UE-25a-#1 | tuff | 6/12/90 | 0.71536 | GS910508315215.005 |
| UE25a#1 669.5 (2) | UE-25a-#1 | tuff | 8/22/90 | 0.71542 | GS910508315215.005 |
| UE25a#1 990.6 | UE-25a-#1 | tuff | 6/13/90 | 0.71450 | GS910508315215.005 |
| UE25a#1 990.6 (2) | UE-25a-#1 | tuff | 8/17/90 | 0.71455 | GS910508315215.005 |
| UE25a#1 1093.0 | UE-25a-#1 | tuff | 6/15/90 | 0.71401 | GS910508315215.005 |
| UE25a#1 1170.0 | UE-25a-#1 | tuff | 6/15/90 | 0.71534 | GS910508315215.005 |
| UE25a#1 510.4 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71952 | GS930908315215.027 |
| UE25a#1 609.6 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71885 | GS930908315215.027 |
| UE25a#1 669.5 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71839 | GS930908315215.027 |
| UE25a#1 990.6 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71534 | GS930908315215.027 |
| UE25a#1 1093.0 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71445 | GS930908315215.027 |
| UE25a#1 1170.0 HCl-R | UE-25a-#1 | tuff | 10/22/92 | 0.71754 | GS930908315215.027 |

The Isotope and Geochemistry Group is unable to reply to the request for data from Pyramid Lake, NV. This joint study with Larry Benson (USGS, WRD, Boulder) was funded from an SIR account and not from a DOE account. (Request #9)

Complies with requests #10 and #12 for strontium isotopic analyses of precipitation from: October, August, March and February 1992.

| Sample # | Locality | Type | Date Analyzed | 87Sr/86Sr | TDIF # |
|---------------|----------|--------------|---------------|-----------|--------------------|
| 2/14/92 | HRF | water (rain) | 5/23/92 | 0.70835 | GS930908315215.027 |
| 3/2-3/92 | HRF | water (rain) | 5/27/92 | 0.71103 | GS930908315215.027 |
| 3/7-8/92 | HRF | water (rain) | 5/27/92 | 0.72612 | GS930908315215.027 |
| 3/20-23/92 | HRF | water (rain) | 5/22/92 | 0.71077 | GS930908315215.027 |
| 3/30-4/1/92-1 | HRF | water (rain) | 5/27/92 | 0.71091 | GS930908315215.027 |
| 3/30-4/1/92-2 | HRF | water (rain) | 5/26/92 | 0.71553 | GS930908315215.027 |
| 3/30-4/1/92-3 | HRF | water (rain) | 6/1/92 | 0.71094 | GS930908315215.027 |
| 3/30-4/1/92-4 | HRF | water (rain) | 5/26/92 | 0.70914 | GS930908315215.027 |
| 3/30-4/1/92-5 | HRF | water (rain) | 6/4/92 | 0.71123 | GS930908315215.027 |
| 3/30-4/1/92-6 | HRF | water (rain) | 5/26/92 | 0.71097 | GS930908315215.027 |
| 3/30-4/1/92-7 | HRF | water (rain) | 6/4/92 | 0.71021 | GS930908315215.027 |

Complies with request #11 for strontium isotopic analyses from USW G-4 rhyolites.

| Sample # | Type | Date Analyzed | 87Rb/86Sr | 87Sr/86Sr | TDIF # |
|------------------|------|---------------|-----------|-----------|--------------------|
| G-4 592.5 HCl-R | tuff | 07/13/92 | 32.259 | 0.71875 | GS930908315215.027 |
| G-4 835.1 HCl-R | tuff | 07/13/92 | 30.649 | 0.71849 | GS930908315215.027 |
| G-4 943.0 HCl-R | tuff | 07/13/92 | 24.159 | 0.71732 | GS930908315215.027 |
| G-4 1106.6 HCl-R | tuff | 07/08/92 | 28.252 | 0.71819 | GS930908315215.027 |
| G-4 1218.7 HCl-R | tuff | 07/08/92 | 25.876 | 0.71774 | GS930908315215.027 |
| G-4 1263.0 HCl-R | tuff | 07/08/92 | 23.295 | 0.71719 | GS930908315215.027 |

Complies with requests #13 and #37 for location and strontium isotopic analyses from the Raven Canyon Section and JF-3.

| Sample # | Locality | Type | Date Analyzed | 87Sr/86Sr | TDIF # |
|------------------|-------------------|------|---------------|-----------|--------------------|
| DH-3 HCl-R | Paintbrush Canyon | tuff | 09/21/92 | 0.71686 | GS930908315215.027 |
| DH-4 HCl-R | Paintbrush Canyon | tuff | 02/24/92 | 0.71689 | GS920208315215.008 |
| DH-5 HCl-R | Paintbrush Canyon | tuff | 09/21/92 | 0.71493 | GS930908315215.027 |
| DH-8 HCl-R | Paintbrush Canyon | tuff | 09/21/92 | 0.71782 | GS930908315215.027 |
| DH-9 HCl-R | Paintbrush Canyon | tuff | 02/24/92 | 0.71764 | GS920208315215.008 |
| H95-10+6 HCl-R | Raven Canyon | tuff | 09/25/92 | 0.70994 | GS930908315215.027 |
| H95-16+5 HCl-R | Raven Canyon | tuff | 02/24/92 | 0.71013 | GS920208315215.008 |
| H95-18+0 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.71070 | GS930908315215.027 |
| H95-5+7 HCl-R | Raven Canyon | tuff | 02/24/92 | 0.71025 | GS920208315215.008 |
| H95B-0C+0 HCl-R | Raven Canyon | tuff | 02/25/92 | 0.70933 | GS920208315215.008 |
| H95B-11+5 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.70872 | GS930908315215.027 |
| H95B-14+35 HCl-R | Raven Canyon | tuff | 06/16/92 | 0.70909 | GS930908315215.027 |
| H95B-18+0 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.70920 | GS930908315215.027 |
| H95B-24+0 HCl-R | Raven Canyon | tuff | 02/25/92 | 0.70924 | GS920208315215.008 |
| H95B-4+26 HCl-R | Raven Canyon | tuff | 02/25/92 | 0.70828 | GS920208315215.008 |
| H95C-0+1 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.71134 | GS930908315215.027 |
| H95C-0+10 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.71208 | GS930908315215.027 |
| H95C-1+0 HCl-R | Raven Canyon | tuff | 02/25/92 | 0.71116 | GS920208315215.008 |
| H95C-10+16 HCl-R | Raven Canyon | tuff | 09/21/92 | 0.71207 | GS930908315215.027 |
| H95C-14+6 HCl-R | Raven Canyon | tuff | 02/26/92 | 0.71199 | GS920208315215.008 |
| H95C-18+7 HCl-R | Raven Canyon | tuff | 02/26/92 | 0.71649 | GS920208315215.008 |
| H95C-22+0 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.70942 | GS930908315215.027 |
| H95C-4+4 HCl-R | Raven Canyon | tuff | 09/22/92 | 0.71214 | GS930908315215.027 |
| H95C-7+10 HCl-R | Raven Canyon | tuff | 02/25/92 | 0.71218 | GS920208315215.008 |
| JF-3 610 HCl-R | Fortymile Wash | tuff | 09/24/92 | 0.71202 | GS930908315215.027 |
| JF-3 770 HCl-R | Fortymile Wash | tuff | 09/25/92 | 0.71787 | GS930908315215.027 |

Request #35 for neodymium isotopic analyses from USW G-2, G-3 and G-4 cannot be met. These samples were originally obtained from LANL, and had been irradiated for neutron activation analyses. The neodymium isotopic compositions had been effected by the irradiation, and the isotopic analyses were determined to be useless.

Request #36 for results of XRF trace-element analyses cannot be met because we are unable to specifically identify the actual data wanted.

Complies with request #39 for strontium isotopic results from VH-2 fracture fillings. "Chemistry" was requested, but we assume that the isotopic results were intended.

| Sample # | Locality | Type | Date Analyzed | $^{87}\text{Sr}/^{86}\text{Sr}$ | TDIF # |
|---------------|----------|------------------|---------------|---------------------------------|--------------------|
| HD-730c HCl-L | USW VH-2 | fracture filling | 10/23/92 | 0.71106 | GS930908315215.027 |
| HD-731d HCl-H | USW VH-2 | fracture filling | 10/23/92 | 0.71132 | GS930908315215.027 |
| HD-732e HCl-L | USW VH-2 | fracture filling | 10/23/92 | 0.71102 | GS930908315215.027 |
| HD-734d HCl-L | USW VH-2 | fracture filling | 10/23/92 | 0.71136 | GS930908315215.027 |
| HD-735b HCl-L | USW VH-2 | fracture filling | 10/23/92 | 0.71111 | GS930908315215.027 |
| HD-736c HCl-L | USW VH-2 | fracture filling | 10/27/92 | 0.71157 | GS930908315215.027 |
| HD-742c HCl-L | USW VH-2 | fracture filling | 10/26/92 | 0.70909 | GS930908315215.027 |
| HD-750e HCl-L | USW VH-2 | fracture filling | 10/26/92 | 0.71034 | GS930908315215.027 |
| HD-759c HCl-L | USW VH-2 | fracture filling | 10/26/92 | 0.71128 | GS930908315215.027 |
| HD-760c HCl-L | USW VH-2 | fracture filling | 10/26/92 | 0.71043 | GS930908315215.027 |
| HD-761c HCl-L | USW VH-2 | fracture filling | 10/27/92 | 0.71102 | GS930908315215.027 |

KEY:

HCl-L= denotes the leach of an HCl dissolution
HCl-R= denotes the residue of an HCl dissolution

DATA REQUEST

(Summary)

Agency for Nuclear Projects, Nuclear Waste Project Office

Request Dated: August 31, 1993

Request Received: September 9, 1993

| Item Number | Requested Data | Source | Data Included (Y/N) |
|------------------|---|---------------------------------|---------------------|
| Strontium | | | |
| 1 | Location and analysis of carbonate-rich samples | ^a 01/93, p. 64 | N ⁶ |
| 2 | Locations and alpha-spectrometry results from Nevares Spring tufa mound | ^a 10-11/93, p. 64 | N ⁶ |
| 3 | Sr isotope data for VH-2 and elsewhere in Tertiary aquifer | ^a 08/92, p. 94 | Y |
| 4 | XRF mass spec. analyses and SR/Sr ratios of VH-1 | ^a 08/92, p. 94 | Y |
| 5 | Sr/Sr ratios from Franklin Lake Playa | ^a 08/92, p. 94 | Y |
| 6 | Sr concentrations for Nevares Spring tufa | ^a 08/92, p. 95 | Y |
| 7 | Sr content and isotopic comp. of high-Si rhyolite samples from UE25A#1 | ^a 09-92, p. 13 | Y |
| 8 | Sr composition from Nevares Spring | ^a 09/92, p. 8 | Y |
| 9 | Sr composition from Pyramid Lake | ^a 09/92, p. 89 | N ¹ |
| 10 | Sr isotopes for precip. sample from Yucca Crest | ^a 01/93, P. 63 | Y |
| 11 | Sr/Sr and Rb/Sr ratios of rhyolite in G-4 | ^a 10-11/93(?), p. 16 | Y |
| 12 | Sr/Sr ratios of precip. samples for 08/11/92, 03/92, and 02/92 | ^a 10-11/93(?), p. 90 | Y |

| Item Number | Requested Data | Source | Data Included (Y/N) |
|--------------------------|---|----------------------------------|---------------------|
| 13 | Sr isotopic anal. of outcrop samples, Southern Yucca Mtn. | ^b 04/15/92 | Y |
| 14 | Sr content and isotopic comp. from high-Si rhyolite from UE25a#1 | ^b 10/16/92 | Y |
| Fluid Inclusion | | | |
| 15 | Results from fluid inclusion studies for USW - G-1 and G-2 | ^a 01/93, p. 87 | N [✓] |
| 16 | Results of fluid inclusion studies of calcite from USW G-2, GU-3, G-4, UE25UZ-16, A-4, A-5, A-7 | ^a 01/93, p. 70 | N [✓] |
| Carbon and Oxygen | | | |
| 17 | ¹³ C and ¹⁸ O values of calcite from site 106 | ^a 07/92, p. 105 | N [✓] |
| 18 | ¹³ C and ¹⁸ O values from Site 199 | ^a 07/92, p. 106 | N [✓] |
| 19 | ¹³ C and ¹⁸ O values from trenches CFS-E, CF-1, 2, and 8 | ^a 07/92, p. 106 | N [✓] |
| 20 | ¹³ C and ¹⁸ O values from Tonopah RR in Ash Meadows | ^a 07/92, p. 106 | N [✓] |
| 21 | ¹³ C and ¹⁸ O values from Trench 14 calcites and calcrete | ^a 07/92, p. 106 | N [✓] |
| 22 | ¹³ C and ¹⁸ O values from Nevares Spring | ^a 07/92, p. 107 | N [✓] |
| 23 | ¹⁸ O results from Trench-14 | ^a 08/92, p. 100 | N [✓] |
| 24 | ¹⁸ O values of opal/chalcedony from drill core | ^a 08/92, p. 100 | N [✓] |
| 25 | ¹⁴ C ages of calcites from USW G-1 and other drill holes. | ^a 01/93, p. 71 | N [✓] |
| 26 | ¹³ C and ¹⁸ O values from Site 106 and Wahmonie | ^a 10-11/93 (?), p. 92 | N [✓] |

| Item Number | Requested Data | Source | Data Included (Y/N) |
|-------------------|--|---------------------------------|---------------------|
| 27 | ^{13}C and ^{18}O values from Travertine, Nevares, and Grapevine springs | ^a 10-11/93(?), p. 92 | N [✓] |
| 28 | ^{13}C and ^{18}O values from Busted Butte, Eleanna Trench, Trenches 1 and 16, Yucca Crest | ^a 10-11/93(?), p. 92 | N [✓] |
| 29 | ^{13}C and ^{18}O values from Site 106 and Wahmonie | ^a 12/93, p. 68 | N [✓] |
| 30 | ^{13}C and ^{18}O values from Nevares and Grapevine springs | ^a 12/93, p. 68 | N [✓] |
| 31 | ^{13}C and ^{18}O values from UE25-RF-9 | ^a 12/93, p. 68 | N [✓] |
| 32 | ^{13}C and ^{18}O values from Yucca Crest | ^a 12/93, p. 68 | N [✓] |
| 33 | ^{13}C and ^{18}O values from Sites 106 and 199, Trenches CFS-E, CF-1, 2, and 8, Tonopah RR, Trench 14, and Nevares Spring | ^b 08/11/92 | N [✓] |
| 34 | ^{13}C and ^{18}O values from USW G-1 and 2, UE-25 A-5, RF-3, and USW GU-3 | ^b 03/10/93 | N [✓] |
| Other Data | | | |
| 35 | Nd/Nd values of calcite fracture-fillings from USW G-2, 3, and 4 | ^a 01/92, p. 83 | N [✓] |
| 36 | Results of XRF trace-element analyses | ^a 10-11/93, p. 15 | N [✓] |
| 37 | Location and results of isotope analysis on samples from Raven Canyon and results from JF-3 | ^a 10-11/93, p. 15 | Y |
| 38 | Results from tufa mound samples at Nevares Spring | ^a 0-11/93, p. 89 | N [✓] |
| 39 | Chemistry results from VH-2 | ^a 10-11/93, p. 94 | Y |
| 40 | Vapor-phase inclusion results from USW G-1 | ^a 10-11/93, p. 93 | N [✓] |
| 41 | Analyses of faunal samples from Modern Springs | ^b 03/11/92, p. 6 | N [✓] |

| Item Number | Requested Data | Source | Data Included (Y/N) |
|-------------|---|-----------------------|---------------------|
| 42 | Isotopic composition of carbonate from Site 106, Wahmonie, Nevares, and Grapevine springs, UE25 RF-9, UEA-6, Yucca Crest, and USW G-4 | ^b 01/13/93 | N [∞] |

^a USGS, YMP, Monthly Highlights and Status Report

^b Letters to Carl Gertz from U.S. Department of Interior

- ∞ Unable to respond to this request. This study by Larry Benson (USGS-WRD, Boulder, CO) was funded from a Geologic Division account.
- ∞ No data available. Samples were originally obtained from LANL and had been irradiated for neutron activation analysis. The neodymium isotopic compositions had been affected by the irradiation, and the analyses were determined to be invalid.
- ∞ Request cannot be met - unable to specifically identify the data wanted from the wording in the request.
- ∞ Ostracodes were observed in the samples as described on page 11 of the data request, however no identification of species was made.
- ∞ Available November 22, 1993
- ∞ Available January 31, 1994