

ENERCON SERVICES, INC.  
*An Employee Owned Company*

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Murrysville, PA 15668  
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June 26, 2003  
KJM03-009

Mr. Craig Gordon  
US NRC  
475 Allendale Road  
King of Prussia, PA 19406

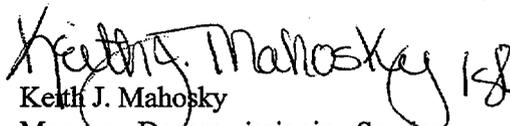
Dear Mr. Gordon:

Presented herein are the findings from the soil removal and sampling activities that occurred the week of April 14, 2003 at the Heritage Minerals Inc. Facility in Lakehurst, NJ. The effort undertaken and the results of post-remediation sampling clearly show the removal of all identified pockets of fugitive source materials in the area of the monazite pile footprint.

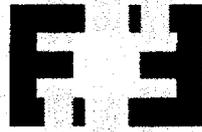
We encourage you to meet with Mr. Gerald Williams at the site to sample the locations remediated as described in this letter. His knowledge of the exact locations will speed your ability to conduct confirmatory sampling. I suggest that you directly discuss with Gerry, at our Pittsburgh office, the coordination of this activity.

Per your recent discussion with Edele Hovnanian, we understand that you will forward to us a copy of your sampling parameters prior to submission to ORISE for our review and comment. We also understand that you will forward a copy of ORISE's proposed sampling plan immediately upon your receipt thus enabling us an opportunity to review and provide you feedback prior to your approval of ORISE's plan.

Sincerely,

  
Keith J. Mahosky  
Manager, Decommissioning Services

KJM:gcl



**REMOVAL OF FUGITIVE LICENSABLE SOIL**  
**HERITAGE MINERALS, INC.**  
**LAKEHURST, NEW JERSEY**

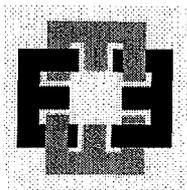
Presented to:

Mr. Craig Gordon  
US NRC  
475 Allendale Road  
King of Prussia, PA 19406

Presented By:

ENERCON Services, Inc.  
4115 William Penn Highway  
Murrysville, PA 15668

June 26, 2003



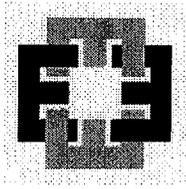
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**Removal of Fugitive Licensable Soil  
Heritage Minerals, Inc.**

ENERCON Services, Inc. (ENERCON) is please to provide this report on field activities conducted at the Heritage Mineral Inc. (HMI) facility located in Lakehurst, NJ. ENERCON was retained to manage and oversee final decommissioning and decontamination (D&D) activities at the HMI facility in accordance with the March 10, 2003 plan and schedule for final D&D activities and modifications resulting from follow-up phone conversation with NRC on April 9, 2003. The D&D plan of March 10, 2003 details two specific items: removal of fugitive licensable soils in and around the footprint of the former monazite pile and final D&D of the wet and dry process mill buildings. This report details activities concerning the first stage of D&D activities, removal of fugitive licensable material inside and around the footprint of the former monazite pile.

The former monazite pile refers to an area southeast of the dry mill where HMI initially placed 1,400 tons of monazite rich minerals, the tailings of the dry mill. This tailing product was licensed by the NRC for its high Uranium and Thorium content and removed during site activities conducted by Radiation Science Inc. (RSI) in 2001. To ensure that all source material had been removed, NRC contracted ORISE to perform confirmatory surveys of the former monazite pile, which concluded that residual pockets of fugitive licensable material, or hotspots, remained in the footprint of the pile. Additionally, ORISE determined that small pockets of licensable material were present in locations west of the former monazite pile footprint. Following this survey, RSI performed a gamma walkover survey of the former monazite pile and areas west and adjacent the pile. The RSI survey also showed areas of residual activity in the same locations identified by ORISE.

An investigation into the history of the plant determined the source of these fugitive licensable materials in areas west of the former monazite pile was the resultant of plant operations dating back to the year ASARCO operated the plant. It was determined that during interruptions of the dry mill process when the plant malfunctioned, material was diverted out the south and southeast side of the dry mill. These materials were then spread over the area between the dry mill and the



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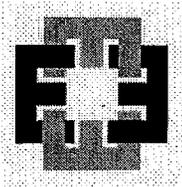
pump house located approximately 200 feet south of the dry mill. Following identification of these soils, NRC required HMI to remove and dispose these soils in and around the monazite pile which are still above licensable limits as a requirement for license termination.

### **Objective**

Following review of the D&D plan and discussions with both HMI representatives and NRC Region 1 personnel, ENERCON organized and performed field activities at the HMI site to remove the licensable soils identified by ORISE and RSI. The agreed upon definition of licensable material between HMI and NRC is any location where soil concentration exceeds 116 pCi/g total Thorium, the primary element of concern. As shown in the sample results from RSI and ORISE, there were 17 locations in and around the monazite pile that exceeded 116 pCi/g total Thorium. Figures 25 and 26 in the ORISE report dated April 10, 2002, and Figure 1 in the RSI report dated November 2002 show these locations. The elevated areas were located in a 200x200 foot square area stretching from the pump house to the dry mill and eastward to include the former monazite pile. ENERCON's objective was to delineate and remove previously identified licensable soils in this area. Each excavation was to be continued until soil sampling at the bottom of the specific area excavated resulted in total Uranium and Thorium levels each under 10 pCi/g.

### **Summary of Activities**

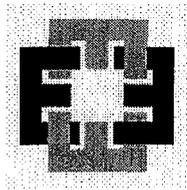
ENERCON personnel, Mr. Gerry Williams and Mr. Corey DeWitt, performed sitework at the HMI site from Monday, April 14, through Friday April 18, 2003. The first activity conducted onsite was the location of the previously identified areas that exceeded the threshold for licensable classification. This was done using a Ludlum Model 44-10 sodium iodide instrument with lead columnator. Using the area maps produced by RSI and ORISE, each of the locations were located and scanned. Some locations were previously marked with blue pin flags and stakes while others were unmarked due to erosion. Following location of the hotspots, each area was delineated with stakes and/or marker tape. In some cases, a number of previously identified locations represented a small contiguous area and were delineated accordingly. The delineation was completed applying a surface cutoff level of 300,000 counts beta from the 44-10 scan as a value to ensure that fugitive licensable source materials were removed.



After each elevated area was found and marked, an excavator and dump truck were brought onsite to excavate the soils and transport them to a polypropylene lined area south and adjacent the dry mill. The soils were temporarily stored onsite until sampling confirmed all material had been removed to NRC specifications. The effectiveness of each soil excavation was monitored by scanning the excavated areas laterally at the surface outward to ensure that only material above 300,000 counts beta was removed. Additionally, the bottom of each excavation was scanned to determine when the excavation was complete. For this purpose, a count of 40,000 counts beta was established as an effective threshold to meet the 10 pCi/g total Uranium and Thorium concentration requirement. When a scan of the bottom of the excavation was below 40,000 counts, the excavation was halted and a sample taken from the bottom of the hole. Confirmatory surface samples were also taken at locations exhibiting the highest surface count 1 meter away from each excavation to ensure that no licensable material remained around the excavation. After all confirmatory sampling was completed each excavation was back filled with clean sand due to safety concerns associated with open excavations. Figures 1 through 17 show photographs of the various work areas and the typical excavation and backfill operations completed during the removal of licensable source materials.

The final activity conducted onsite was a GPS survey of the excavations. The four points of the 200-foot square coordinate system were measured in addition to the center point of each excavated area. A map of the work area is provided as an attachment to this report. By surveying the coordinates of each excavated area and overlapping these data with the hotspots found by ORISE and RSI, it can be shown that excavations were completed in the appropriate locations.

After all site work was completed, all soil samples were sent to American Radiation Services for Thorium and Uranium analysis. All preliminary sample data from the excavation process meets the required criteria in the Final Status Survey Plan for License Termination. All samples taken from the bottoms of the excavations are under the BTP-81 limits of 10 pCi/g Uranium and 10 pCi/g Thorium. Table 1 presents these data. All samples taken from surface areas around each excavation had analytical results under 116 pCi/g total Thorium, or under source material levels. Table 2 presents these data.



Removal of Fugitive Licensable Soil  
Heritage Minerals, Inc.

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After the sample results confirmed the appropriate soils were removed, the soils were trucked offsite to International Uranium Corporation located in White Mesa, Utah. These soils were accepted for processing to remove licensable material under an NRC approved license amendment for the IUC facility. The quantity removed from the site and shipped to the facility totaled 313.35 tons.

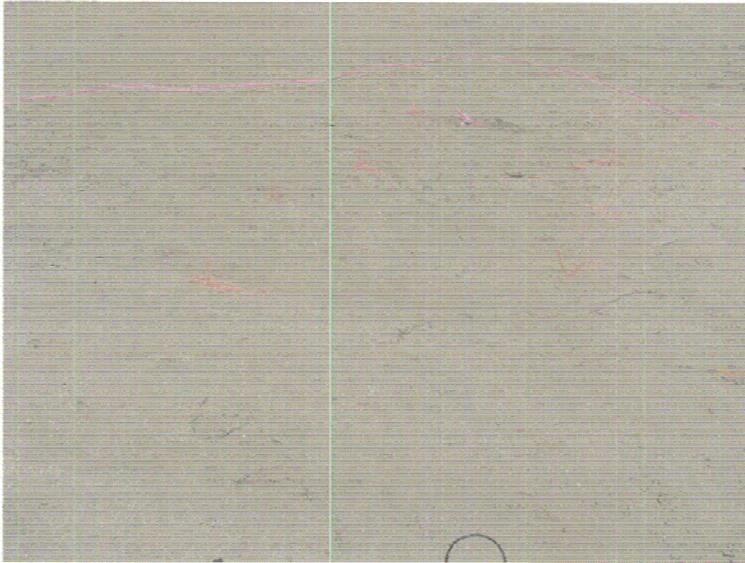


Figure 1  
Location of Samples 16-01, 16-02, and 17-02 to 17-04 (North Excavation Area)  
At the Excavation to Remove Fugitive Source Materials Outside the Monazite Pile Footprint

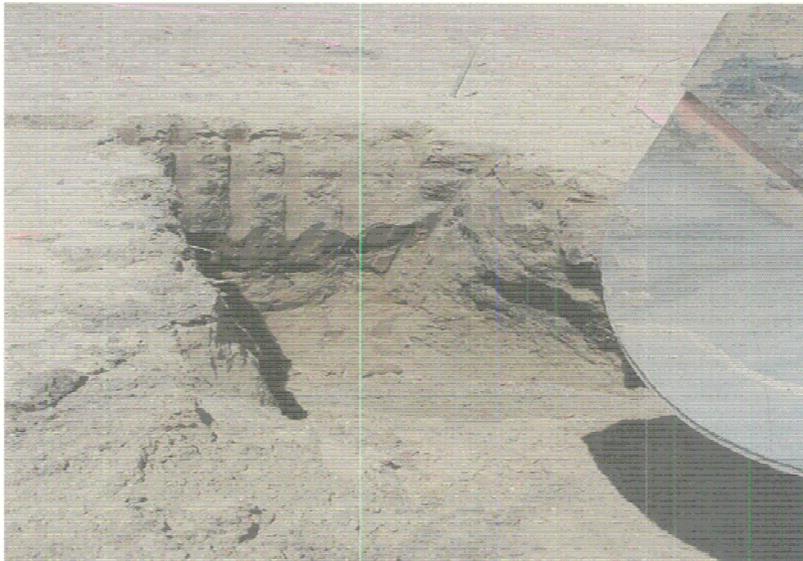


Figure 2  
Location of Samples 16-01, 16-02, and 17-02 to 17-04 (North Excavation Area) at the Start  
of Excavation to Remove Fugitive Source Materials Outside the Monazite Pile Footprint



Figure 3  
Location of Samples 16-01, 16-02, and 17-02 to 17-04 (North Excavation Area)  
at the Excavation to Remove Fugitive Source Materials Outside the Monazite Pile Footprint  
(Note: Abandoned PVC Drainline Encountered and Removed)



Figure 4  
View of North Excavation Area and Trench After Excavation, Sampling and Backfilling  
(View from North)



Figure 5  
Location of Sample 17-01 – Approximately 30 feet North Of Pumphouse Concrete Pad  
Prior to Removal of Fugitive Source Material Outside The Monazite Pile Footprint



Figure 6  
Location of Samples 17-05 to 17-08 Prior to Excavation of the Trench Outside of the  
Monazite Pile Footprint (View from South)



Figure 7  
View of the Trench and North Excavation Area During Work



Figure 8  
Location of Samples 17-05 to 17-08 After Complete Excavation of the Trench East of  
The Monazite Pile Footprint (View from North End of Trench)

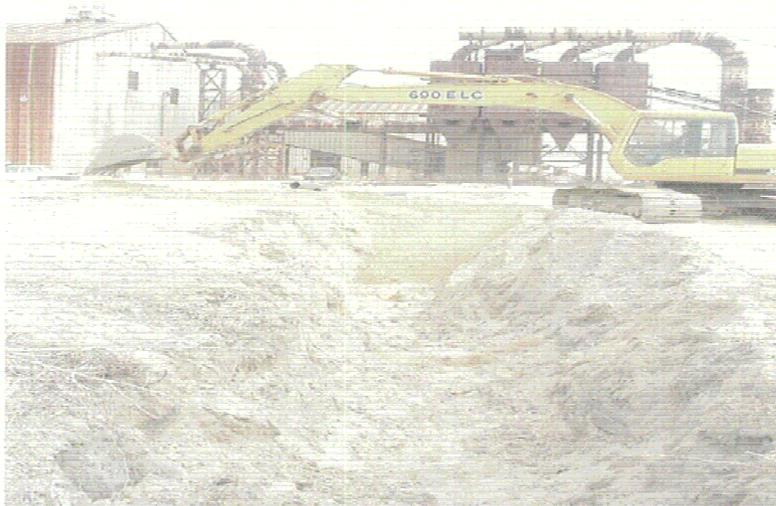


Figure 9  
Location of Samples 17-05 to 17-08 During Backfilling of Trench After Collection of  
Samples 17-05 to 17-08 (View From South)



Figure 10  
Location of Sample 17-09 Prior to Excavation of Fugitive Source Material  
Outside of the Monazite Pile Footprint



**Figure 11**  
Location of Sample 17-09 After Excavation of Fugitive Source Material Outside of the Monazite Pile Footprint



**Figure 12**  
Location of Sample 17-10 Prior to Excavation Area Inside of the Monazite Pile Footprint

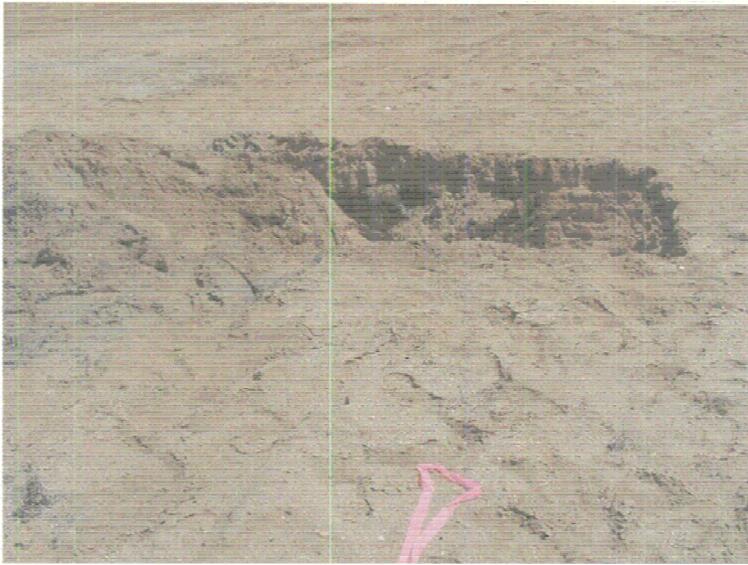


Figure 13  
Location of Sample 17-10 After Excavation of Fugitive Source Material Inside of  
the Monazite Pile Footprint



Figure 14  
Location of Sample 17-11 Prior to Excavation



Figure 15  
Location of Sample 17-11 After Excavation of Fugitive Source Material  
Inside Monazite Pile Footprint



Figure 16  
Location of Sample 17-12 At Pumphouse Prior to Excavation



Figure 17  
Backfilling of Excavation After Collection of Sample 17-12

Data from ORISE and RSI sample collection and testing activities that identified the approximate location of fugitive source materials are shown with green triangles. ENERCON GPS data shown in blue diamond markers document the locations of soil excavation, sampling, and backfilling to address these areas. The approximate footprint of the original monazite pile is shown in red.

GPS data collected by Enercon is in New Jersey State plane coordinate system northing and easting. X-Y values are coordinate northing and easting. All points were verified by referencing the data to monitoring well 22D. This well has known coordinates that are referenced to the site benchmark.

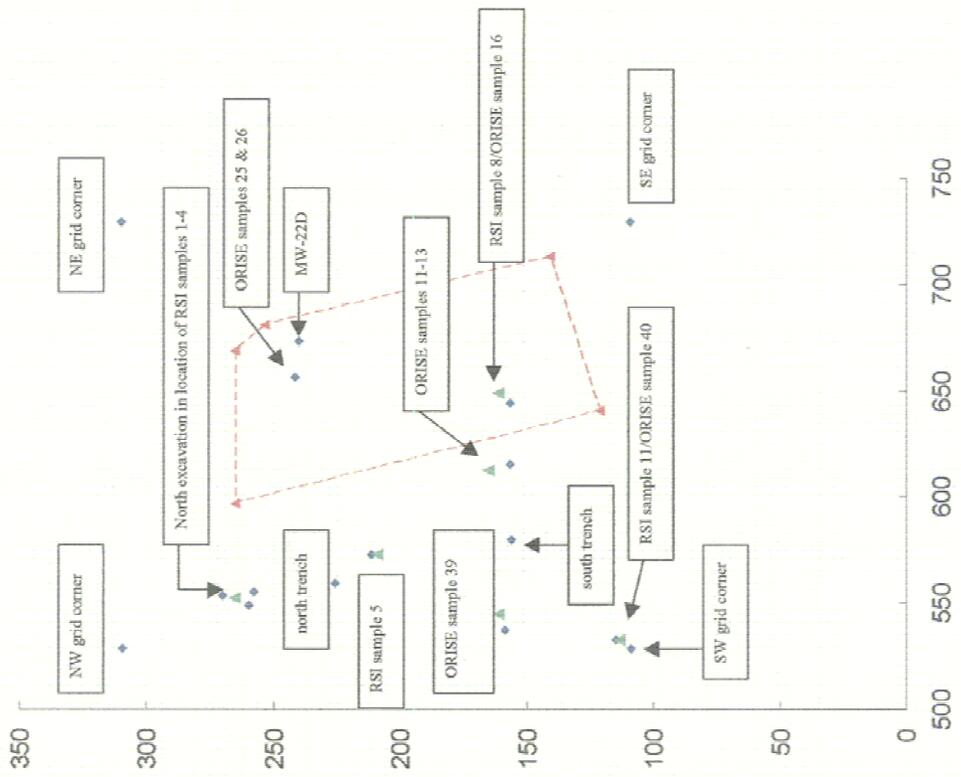


Table 1  
Total Thorium and Total Uranium Analysis to Confirm Removal of Fugitive Licensable Source Materials

| Sample Number | Total thorium (1)(2) | Total uranium (2)(3) | Bottom of Excavation Sampling to Verify Removal of Fugitive Source Material within 200 foot Grid Area South/Southeast of Dry Mill | NRC Approved release criteria (4)  |
|---------------|----------------------|----------------------|---|------------------------------------|
| 16-01         | 9.49                 | 8.30                 | Bottom of excavation, northwest of monazite pile at RSI samples 1, 2, & 4   | 10 pCi/g thorium, 10 pCi/g uranium |
| 16-02         | 2.66                 | 7.10                 | Bottom of excavation, northwest of monazite pile at RSA samples 1,2,&4  | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-01         | 1.05                 | 3.95                 | Bottom of excavation, ~30 feet north of pump house near ORISE sample 39   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-02         | ND (5)               | 2.69                 | Bottom of excavation, northwest of monazite pile at RSI samples 1, 2, & 4   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-03         | 0.19                 | 1.78                 | Bottom of excavation, northwest of monazite pile at RSI samples 1, 2, & 4   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-04         | ND (5)               | 4.55                 | Bottom of excavation, northwest of monazite pile at RSI samples 1, 2, & 4   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-05         | 0.26                 | 3.11                 | Bottom of trench excavation, approximately 5 feet from south end  | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-06         | ND (5)               | 2.41                 | Bottom of trench excavation, approximately 19.5 feet from south end   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-07         | 0.12                 | 3.67                 | Bottom of trench excavation, approximately 33.5 feet from south end   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-08         | 0.27                 | 1.78                 | Bottom of trench excavation, approximately 42 feet from south end   | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-09         | 0.27                 | 2.69                 | Bottom of excavation, center/southwest monazite pile boundary near ORISE samples 11, 12 & 13                                      | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-10         | 5.57                 | 7.50                 | Bottom of excavation, center/southwest monazite pile boundary at ORISE samples 9,14,16  | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-11         | 1.73                 | 3.25                 | Bottom of excavation, northwest corner of monazite pile footprint near monitoring well 22-D                                       | 10 pCi/g thorium, 10 pCi/g uranium |
| 17-12         | 0.21                 | 4.56                 | Bottom of excavation, adjacent to pump house pad at RSI sample 11, ORISE sample 40  | 10 pCi/g thorium, 10 pCi/g uranium |

Notes

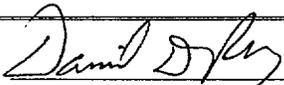
1. Total thorium quantified by assuming secular equilibrium of Thorium-228 with Ra-228 daughter, Thorium-232 with Pb-212 daughter then calculating total thorium.
2. Reported values above the established site background of 0.48 pCi/g total thorium and 0.62 pCi/g total uranium.
3. Total uranium quantified by assuming secular equilibrium of Uranium-238 with U-238 daughter then calculating total uranium.
4. NRC approved release criteria as stated in Final Status Survey Plan for License Termination
5. ND values represent no detected radionuclides above the established site background values listed in Note 2.



ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 16-1 ARS Sample I.D.: ARS030728-2951  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 4.462           | 1.796                        | 0.779           | pCi/gm        | EPA 901.1M           | 4/30/03 1852         | DR                  |
| Total Uranium        | 8.924           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1852         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

Notes: American Radiation Services, Inc assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



|                               |                 |                                 |                |
|-------------------------------|-----------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728       | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 16-1 | <b>ARS Sample I.D.:</b>         | ARS030728-2951 |
| <b>Date Sampled:</b>          | 4/17/03         | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA              | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid           | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558          | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 4.535           | 0.500                        | 0.184           | pCi/gm        | EPA 901.1M           | 4/30/03 1852         | DR                  |
| Th-228               | 5.439           | 0.337                        | 0.090           | pCi/gm        | EPA 901.1M           | 4/30/03 1852         | DR                  |
| Total Thorium        | 9.974           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1852         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*Daniel D. King*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 16-2 ARS Sample I.D.: ARS030728-2944  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 3.862           | 1.304                        | 0.514           | pCi/gm        | EPA 901.1M           | 5/1/03 0827          | DR                  |
| Total Uranium        | 7.724           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 0827          | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Py*  
 Quality Assurance Review

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|                        |                 |                          |                |
|------------------------|-----------------|--------------------------|----------------|
| ARS Tracking Number:   | ARS030728       | P.O. Number:             | RL-101 TASK 1  |
| Client I.D.:           | HMI Sample 16-2 | ARS Sample I.D.:         | ARS030728-2944 |
| Date Sampled:          | 4/17/03         | Date Received:           | 4/22/03        |
| Time Sample:           | NA              | Time Received:           | 1141           |
| Type of Sample:        | Solid           | Date of Report:          | 5/12/03        |
| NELAP Certification #: | E87558          | L. A. Agency Interest #: | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.495           | 0.343                        | 0.158           | pCi/gm        | EPA 901.1M           | 5/1/03 0827          | DR                  |
| Th-228               | 1.645           | 0.210                        | 0.057           | pCi/gm        | EPA 901.1M           | 5/1/03 0827          | DR                  |
| Total Thorium        | 3.140           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 0827          | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
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|                               |                 |                                 |                |
|-------------------------------|-----------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728       | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-1 | <b>ARS Sample I.D.:</b>         | ARS030728-2964 |
| <b>Date Sampled:</b>          | 4/17/03         | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA              | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid           | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558          | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2 \sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|-------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.285           | 1.247                         | 0.487           | pCi/gm        | EPA 901.1M           | 4/30/03 1639         | KP                  |
| Total Uranium        | 4.570           | NA                            | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1639         | KP                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Fry*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-1 ARS Sample I.D.: ARS030728-2964  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.721           | 0.267                        | 0.137           | pCi/gm        | EPA 901.1M           | 4/30/03 1639         | KP                  |
| Th-228               | 0.806           | 0.167                        | 0.075           | pCi/gm        | EPA 901.1M           | 4/30/03 1639         | KP                  |
| Total Thorium        | 1.527           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1639         | KP                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. King*  
 Quality Assurance Review

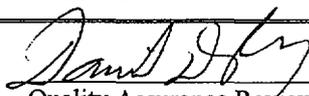
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-2 ARS Sample I.D.: ARS030728-2939  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.656           | 0.473                        | 0.340           | pCi/gm        | EPA 901.1M           | 4/30/03 1526         | DR                  |
| Total Uranium        | 3.312           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1526         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

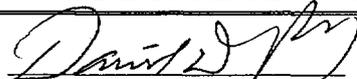
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|                               |                 |                                 |                |
|-------------------------------|-----------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728       | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-2 | <b>ARS Sample I.D.:</b>         | ARS030728-2939 |
| <b>Date Sampled:</b>          | 4/17/03         | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA              | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid           | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558          | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.216           | 0.221                        | 0.118           | pCi/gm        | EPA 901.1M           | 4/30/03 1526         | DR                  |
| Th-228               | 0.235           | 0.100                        | 0.052           | pCi/gm        | EPA 901.1M           | 4/30/03 1526         | DR                  |
| Total Thorium        | 0.451           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1526         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

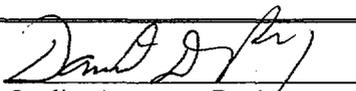
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-3 ARS Sample I.D.: ARS030728-2950  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.201           | 0.792                        | 0.409           | pCi/gm        | EPA 901.1M           | 5/1/03 1008          | DR                  |
| Total Uranium        | 2.402           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1008          | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

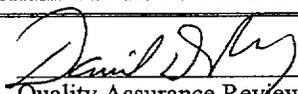
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|                               |                 |                                 |                |
|-------------------------------|-----------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728       | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-3 | <b>ARS Sample I.D.:</b>         | ARS030728-2950 |
| <b>Date Sampled:</b>          | 4/17/03         | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA              | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid           | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558          | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.314           | 0.256                        | 0.132           | pCi/gm        | EPA 901.1M           | 5/1/03 1008          | DR                  |
| Th-228               | 0.358           | 0.121                        | 0.050           | pCi/gm        | EPA 901.1M           | 5/1/03 1008          | DR                  |
| Total Thorium        | 0.672           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1008          | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-4 ARS Sample I.D.: ARS030728-2955  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.583           | 0.789                        | 0.270           | pCi/gm        | EPA 901.1M           | 4/30/03 1703         | KP                  |
| Total Uranium        | 5.166           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1703         | KP                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. [Signature]*  
 Quality Assurance Review

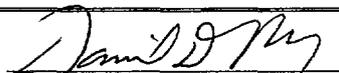
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-4 ARS Sample I.D.: ARS030728-2955  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.122           | 0.119                        | 0.143           | pCi/gm        | EPA 901.1M           | 4/30/03 1703         | KP                  |
| Th-228               | 0.229           | 0.105                        | 0.040           | pCi/gm        | EPA 901.1M           | 4/30/03 1703         | KP                  |
| Total Thorium        | 0.351           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1703         | KP                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-5 ARS Sample I.D.: ARS030728-2956  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.865           | 0.799                        | 0.294           | pCi/gm        | EPA 901.1M           | 5/1/03 0819          | DR                  |
| Total Uranium        | 3.730           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 0819          | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Flynn*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-5 ARS Sample I.D.: ARS030728-2956  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.347           | 0.226                        | 0.150           | pCi/gm        | EPA 901.1M           | 5/1/03 0819          | DR                  |
| Th-228               | 0.389           | 0.130                        | 0.050           | pCi/gm        | EPA 901.1M           | 5/1/03 0819          | DR                  |
| Total Thorium        | 0.736           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 0819          | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-6 ARS Sample I.D.: ARS030728-2953  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2 \sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|-------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.514           | 0.548                         | 0.351           | pCi/gm        | EPA 901.1M           | 4/29/03 0958         | DR                  |
| Total Uranium        | 3.028           | NA                            | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0958         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Fry*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-6 ARS Sample I.D.: ARS030728-2953  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.163           | 0.218                        | 0.120           | pCi/gm        | EPA 901.1M           | 4/29/03 0958         | DR                  |
| Th-228               | 0.036           | 0.100                        | 0.062           | pCi/gm        | EPA 901.1M           | 4/29/03 0958         | DR                  |
| Total Thorium        | 0.199           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0958         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. My*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-7 ARS Sample I.D.: ARS030728-2936  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.145           | 0.986                        | 0.355           | pCi/gm        | EPA 901.1M           | 4/30/03 2026         | DR                  |
| Total Uranium        | 4.290           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2026         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. My*  
 Quality Assurance Review

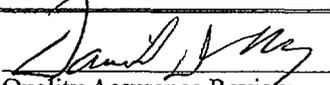
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|                               |                 |                                 |                |
|-------------------------------|-----------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728       | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-7 | <b>ARS Sample I.D.:</b>         | ARS030728-2936 |
| <b>Date Sampled:</b>          | 4/17/03         | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA              | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid           | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558          | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.198           | 0.246                        | 0.134           | pCi/gm        | EPA 901.1M           | 4/30/03 2026         | DR                  |
| Th-228               | 0.399           | 0.167                        | 0.069           | pCi/gm        | EPA 901.1M           | 4/30/03 2026         | DR                  |
| Total Thorium        | 0.597           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2026         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

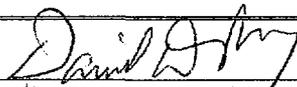
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-8 ARS Sample I.D.: ARS030728-2946  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.198           | 0.676                        | 0.295           | pCi/gm        | EPA 901.1M           | 4/29/03 0927         | DR                  |
| Total Uranium        | 2.396           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0927         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-8 ARS Sample I.D.: ARS030728-2946  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.355           | 0.210                        | 0.134           | pCi/gm        | EPA 901.1M           | 4/29/03 0927         | DR                  |
| Th-228               | 0.390           | 0.131                        | 0.066           | pCi/gm        | EPA 901.1M           | 4/29/03 0927         | DR                  |
| Total Thorium        | 0.745           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0927         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. Kelly*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9 ARS Sample I.D.: ARS030728-2949  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.657           | 0.729                        | 0.503           | pCi/gm        | EPA 901.1M           | 4/30/03 1922         | DR                  |
| Total Uranium        | 3.314           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1922         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Ky*  
 Quality Assurance Review

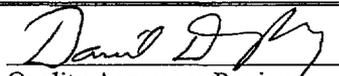
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9 ARS Sample I.D.: ARS030728-2949  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.345           | 0.240                        | 0.122           | pCi/gm        | EPA 901.1M           | 4/30/03 1922         | DR                  |
| Th-228               | 0.400           | 0.146                        | 0.059           | pCi/gm        | EPA 901.1M           | 4/30/03 1922         | DR                  |
| Total Thorium        | 0.745           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1922         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

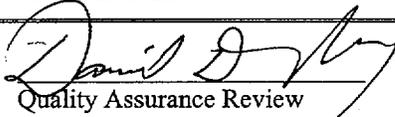
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|                               |                  |                                 |                |
|-------------------------------|------------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728        | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-10 | <b>ARS Sample I.D.:</b>         | ARS030728-2933 |
| <b>Date Sampled:</b>          | 4/17/03          | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA               | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid            | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558           | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 4.059           | 1.485                        | 0.634           | pCi/gm        | EPA 901.1M           | 4/29/03 0923         | DR                  |
| Total Uranium        | 8.118           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0923         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

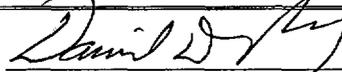
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10 ARS Sample I.D.: ARS030728-2933  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 2.546           | 0.450                        | 0.189           | pCi/gm        | EPA 901.1M           | 4/29/03 0923         | SM                  |
| Th-228               | 3.500           | 0.269                        | 0.059           | pCi/gm        | EPA 901.1M           | 4/29/03 0923         | SM                  |
| Total Thorium        | 6.046           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0923         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

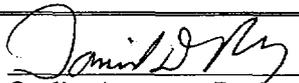
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11 ARS Sample I.D.: ARS030728-2942  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.935           | 1.212                        | 0.502           | pCi/gm        | EPA 901.1M           | 4/29/03 1423         | SM                  |
| Total Uranium        | 3.870           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1423         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11 ARS Sample I.D.: ARS030728-2942  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.059           | 0.279                        | 0.133           | pCi/gm        | EPA 901.1M           | 4/29/03 1423         | SM                  |
| Th-228               | 1.155           | 0.186                        | 0.063           | pCi/gm        | EPA 901.1M           | 4/29/03 1423         | SM                  |
| Total Thorium        | 2.214           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1423         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David J. Kelly*  
 Quality Assurance Review

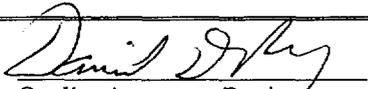
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-12 ARS Sample I.D.: ARS030728-2937  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.591           | 1.069                        | 0.416           | pCi/gm        | EPA 901.1M           | 4/28/03 1736         | SM                  |
| Total Uranium        | 5.182           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1736         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-12 ARS Sample I.D.: ARS030728-2937  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.180           | 0.163                        | 0.163           | pCi/gm        | EPA 901.1M           | 4/28/03 1736         | SM                  |
| Th-228               | 0.508           | 0.128                        | 0.042           | pCi/gm        | EPA 901.1M           | 4/28/03 1736         | SM                  |
| Total Thorium        | 0.688           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1736         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. [Signature]*  
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**Table 2**  
**Total Thorium and Total Uranium Analysis to Confirm Removal of Fugitive Licensable Source Materials**

| Sample Number                   | Total thorium (1)(2) | Total uranium (2)(3) | Sampling adjacent to Excavations to Verify Removal of Fugitive Source Material within 200 foot Grid Area South/Southeast of Dry Mill | NRC Approved release criteria (4)                       |
|---------------------------------|----------------------|----------------------|--|---|
| North excavation northeast side | 6.10                 | 11.42                | Surface sample northeast of the monazite pile footprint northeast of excavations located at RSI samples 1,2, & 4                     | Below source material levels of 116 pCi/g total thorium |
| North excavation east side      | 12.36                | 17.90                | Surface sample northeast of the monazite pile footprint east of excavations located at RSI samples 1,2, & 4                          | Below source material levels of 116 pCi/g total thorium |
| North excavation south side     | 19.65                | 21.04                | Surface sample northeast of the monazite pile footprint south of excavations located at RSI samples 1,2, & 4                         | Below source material levels of 116 pCi/g total thorium |
| North excavation southwest side | 5.32                 | 10.62                | Surface sample northeast of the monazite pile footprint southwest of excavations located at RSI samples 1,2, & 4                     | Below source material levels of 116 pCi/g total thorium |
| North excavation northwest side | 6.77                 | 9.96                 | Surface sample northeast of the monazite pile footprint northwest of excavations located at RSI samples 1,2, & 4                     | Below source material levels of 116 pCi/g total thorium |
| Trench north                    | 2.87                 | 8.13                 | Surface sample north of the northern end of the trench   | Below source material levels of 116 pCi/g total thorium |
| Trench south                    | 21.41                | 15.35                | Surface sample south of the southern end of the trench   | Below source material levels of 116 pCi/g total thorium |
| Trench east                     | 3.86                 | 9.14                 | Surface sample east of trench approximately 2 feet from south end of trench  | Below source material levels of 116 pCi/g total thorium |
| Trench east                     | 5.09                 | 4.63                 | Surface sample east of trench approximately 25 feet from south end of trench   | Below source material levels of 116 pCi/g total thorium |
| 17-09N                          | 0.47                 | 3.05                 | Surface samples around excavation at center/southwest monazite pile boundary near ORISE samples 11, 12 & 13                          | Below source material levels of 116 pCi/g total thorium |
| 17-09E                          | 3.81                 | 9.65                 | Surface samples around excavation at center/southwest monazite pile boundary near ORISE samples 11, 12 & 13                          | Below source material levels of 116 pCi/g total thorium |

|        |       |       |   |   |
|--------|-------|-------|---|---|
| 17-09S | 6.78  | 6.99  | Surface samples around excavation at center/southwest monazite pile boundary near ORISE samples 11, 12 & 13 | Below source material levels of 116 pCi/g total thorium |
| 17-09W | 9.60  | 10.03 | Surface samples around excavation at center/southwest monazite pile boundary near ORISE samples 11, 12 & 13 | Below source material levels of 116 pCi/g total thorium |
| 17-10N | 1.64  | 4.38  | Surface samples around excavation at center/south monazite pile footprint near ORISE samples 9, 14 & 16     | Below source material levels of 116 pCi/g total thorium |
| 17-10E | 10.55 | 5.36  | Surface samples around excavation at center/south monazite pile footprint near ORISE samples 9, 14 & 16     | Below source material levels of 116 pCi/g total thorium |
| 17-10S | 0.39  | 3.10  | Surface samples around excavation at center/south monazite pile footprint near ORISE samples 9, 14 & 16     | Below source material levels of 116 pCi/g total thorium |
| 17-10W | 3.24  | 9.54  | Surface samples around excavation at center/south monazite pile footprint at ORISE samples 9,14,16          | Below source material levels of 116 pCi/g total thorium |
| 17-11N | 4.09  | 7.28  | Surface samples around excavation at northwest corner of monazite pile footprint near monitoring well 22-D  | Below source material levels of 116 pCi/g total thorium |
| 17-11E | 3.60  | 5.57  | Surface samples around excavation at northwest corner of monazite pile footprint near monitoring well 22-D  | Below source material levels of 116 pCi/g total thorium |
| 17-11S | 5.37  | 9.61  | Surface samples around excavation at northwest corner of monazite pile footprint near monitoring well 22-D  | Below source material levels of 116 pCi/g total thorium |
| 17-11W | 4.07  | 6.76  | Surface samples around excavation at northwest corner of monazite pile footprint near monitoring well 22-D  | Below source material levels of 116 pCi/g total thorium |
| 17-13N | 2.020 | 4.98  | Surface sample~34 feet north of pump house near ORISE sample 39   | Below source material levels of 116 pCi/g total thorium |

Notes

1. Total thorium quantified by assuming secular equilibrium of Thorium-228 with Ra-228 daughter, Thorium-232 with Pb-212 daughter then calculating total thorium.
2. Reported values above the established site background of 0.48 pCi/g total thorium and 0.62 pCi/g total uranium.
3. Total uranium quantified by assuming secular equilibrium of Uranium-238 with U-238 daughter then calculating total uranium.
4. NRC approved release criteria



ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI North Excavation ARS Sample I.D.: ARS030728-2943  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 6.018           | 1.797                        | 0.690           | pCi/gm        | EPA 901.1M           | 4/29/03 0955         | DR                  |
| Total Uranium        | 12.036          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0955         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. Fry*  
 Quality Assurance Review

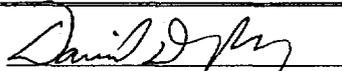
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI North Excavation ARS Sample I.D.: ARS030728-2943  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 3.041           | 0.441                        | 0.204           | pCi/gm        | EPA 901.1M           | 4/29/03 0955         | DR                  |
| Th-228               | 3.534           | 0.293                        | 0.073           | pCi/gm        | EPA 901.1M           | 4/29/03 0955         | DR                  |
| Total Thorium        | 6.575           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 0955         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI North Excavation ARS Sample I.D.: ARS030728-2967  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 9.258           | 2.452                        | 0.976           | pCi/gm        | EPA 901.1M           | 4/28/03 1922         | SM                  |
| Total Uranium        | 18.516          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1922         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. King*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI North Excavation ARS Sample I.D.: ARS030728-2967  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 5.520           | 0.626                        | 0.229           | pCi/gm        | EPA 901.1M           | 4/28/03 1922         | SM                  |
| Th-228               | 7.316           | 0.452                        | 0.097           | pCi/gm        | EPA 901.1M           | 4/28/03 1922         | SM                  |
| Total Thorium        | 12.836          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1922         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*Daniel J. King*  
 Quality Assurance Review

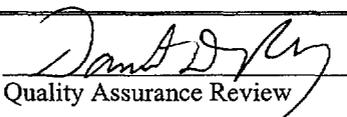
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2941  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 10.830          | 3.026                        | 1.228           | pCi/gm        | EPA 901.1M           | 4/28/03 1956         | SM                  |
| Total Uranium        | 21.660          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1956         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2941  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 9.421           | 0.696                        | 0.214           | pCi/gm        | EPA 901.1M           | 4/28/03 1956         | SM                  |
| Th-228               | 10.704          | 0.453                        | 0.090           | pCi/gm        | EPA 901.1M           | 4/28/03 1956         | SM                  |
| Total Thorium        | 20.125          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1956         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2958  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.621           | 1.786                        | 0.699           | pCi/gm        | EPA 901.1M           | 4/30/03 1517         | DR                  |
| Total Uranium        | 11.242          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1517         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

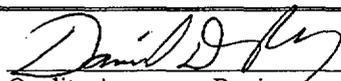
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2958  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 2.763           | 0.365                        | 0.109           | pCi/gm        | EPA 901.1M           | 4/30/03 1517         | DR                  |
| Th-228               | 3.041           | 0.270                        | 0.063           | pCi/gm        | EPA 901.1M           | 4/30/03 1517         | DR                  |
| Total Thorium        | 5.804           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1517         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

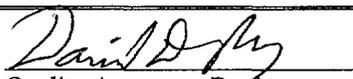
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2965  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.291           | 1.781                        | 0.763           | pCi/gm        | EPA 901.1M           | 4/29/03 1419         | SM                  |
| Total Uranium        | 10.582          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1419         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample North Excavation ARS Sample I.D.: ARS030728-2965  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 3.361           | 0.654                        | 0.199           | pCi/gm        | EPA 901.1M           | 4/29/03 1419         | SM                  |
| Th-228               | 3.886           | 0.287                        | 0.056           | pCi/gm        | EPA 901.1M           | 4/29/03 1419         | SM                  |
| Total Thorium        | 7.247           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1419         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. King*  
 Quality Assurance Review

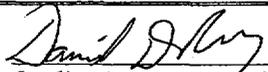
Notes: American Radiation Services, Inc assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



**ARS Tracking Number:** ARS030728      **P.O. Number:** RL-101 TASK 1  
**Client I.D.:** HMI Sample Trench North      **ARS Sample I.D.:** ARS030728-2948  
**Date Sampled:** 4/17/03      **Date Received:** 4/22/03  
**Time Sample:** NA      **Time Received:** 1141  
**Type of Sample:** Solid      **Date of Report:** 5/12/03  
**NELAP Certification #:** E87558      **L. A. Agency Interest #:** 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 4.377           | 1.642                        | 0.663           | pCi/gm        | EPA 901.1M           | 5/1/03 1002          | DR                  |
| Total Uranium        | 8.754           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1002          | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample Trench North ARS Sample I.D.: ARS030728-2948  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2 \sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|-------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.432           | 0.356                         | 0.189           | pCi/gm        | EPA 901.1M           | 5/1/03 1002          | DR                  |
| Th-228               | 1.917           | 0.239                         | 0.067           | pCi/gm        | EPA 901.1M           | 5/1/03 1002          | DR                  |
| Total Thorium        | 3.349           | NA                            | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1002          | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*Daniel D. Fry*  
 Quality Assurance Review

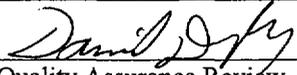
Notes: American Radiation Services, Inc assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Trench South ARS Sample I.D.: ARS030728-2968  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 7.984           | 2.245                        | 1.005           | pCi/gm        | EPA 901.1M           | 4/30/03 1204         | DR                  |
| Total Uranium        | 15.968          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1204         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

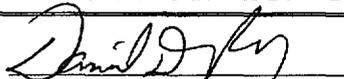
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**ARS Tracking Number:** ARS030728      **P.O. Number:** RL-101 TASK 1  
**Client I.D.:** HMI Trench South      **ARS Sample I.D.:** ARS030728-2968  
**Date Sampled:** 4/17/03      **Date Received:** 4/22/03  
**Time Sample:** NA      **Time Received:** 1141  
**Type of Sample:** Solid      **Date of Report:** 5/12/03  
**NELAP Certification #:** E87558      **L. A. Agency Interest #:** 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 10.588          | 0.758                        | 0.107           | pCi/gm        | EPA 901.1M           | 4/30/03 1204         | DR                  |
| Th-228               | 11.306          | 0.476                        | 0.085           | pCi/gm        | EPA 901.1M           | 4/30/03 1204         | DR                  |
| Total Thorium        | 21.894          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1204         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample Trench East ARS Sample I.D.: ARS030728-2963  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 4.881           | 1.969                        | 0.739           | pCi/gm        | EPA 901.1M           | 4/28/03 1735         | SM                  |
| Total Uranium        | 9.762           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1735         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. King*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample Trench East ARS Sample I.D.: ARS030728-2963  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.982           | 0.374                        | 0.153           | pCi/gm        | EPA 901.1M           | 4/28/03 1735         | SM                  |
| Th-228               | 2.362           | 0.301                        | 0.094           | pCi/gm        | EPA 901.1M           | 4/28/03 1735         | SM                  |
| Total Thorium        | 4.344           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1735         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. King*  
 Quality Assurance Review

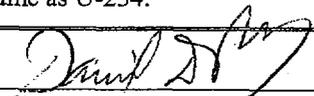
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample Trench East ARS Sample I.D.: ARS030728-2935  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.623           | 1.529                        | 0.647           | pCi/gm        | EPA 901.1M           | 4/30/03 1605         | KP                  |
| Total Uranium        | 5.246           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1605         | KP                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

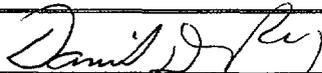
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample Trench East ARS Sample I.D.: ARS030728-2935  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error ±2σ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|--------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 2.551           | 0.346              | 0.124           | pCi/gm        | EPA 901.1M           | 4/30/03 1605         | KP                  |
| Th-228               | 3.017           | 0.256              | 0.070           | pCi/gm        | EPA 901.1M           | 4/30/03 1605         | KP                  |
| Total Thorium        | 5.568           | NA                 | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1605         | KP                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

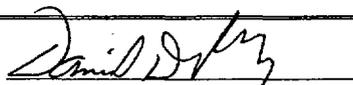
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9N ARS Sample I.D.: ARS030728-2966  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.835           | 0.944                        | 0.537           | pCi/gm        | EPA 901.1M           | 4/30/03 1210         | DR                  |
| Total Uranium        | 3.670           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1210         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9N ARS Sample I.D.: ARS030728-2966  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.429           | 0.356                        | 0.184           | pCi/gm        | EPA 901.1M           | 4/30/03 1210         | DR                  |
| Th-228               | 0.516           | 0.162                        | 0.080           | pCi/gm        | EPA 901.1M           | 4/30/03 1210         | DR                  |
| Total Thorium        | 0.945           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 1210         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. Flynn*  
 Quality Assurance Review

Notes: American Radiation Services, Inc assumes no liability for the use or interpretation of any analytical results provided other than the cost of the performed analysis itself. Reproduction of this report in less than full requires the written consent of the client.



ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9E ARS Sample I.D.: ARS030728-2959  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.135           | 1.301                        | 0.495           | pCi/gm        | EPA 901.1M           | 4/30/03 2150         | DR                  |
| Total Uranium        | 10.270          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2150         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

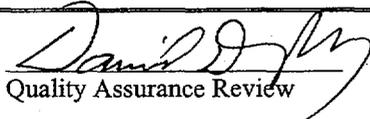
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9E ARS Sample I.D.: ARS030728-2959  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.895           | 0.357                        | 0.151           | pCi/gm        | EPA 901.1M           | 4/30/03 2150         | DR                  |
| Th-228               | 2.393           | 0.214                        | 0.049           | pCi/gm        | EPA 901.1M           | 4/30/03 2150         | DR                  |
| Total Thorium        | 4.288           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2150         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

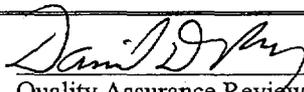
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9S ARS Sample I.D.: ARS030728-2952  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 3.807           | 1.632                        | 0.707           | pCi/gm        | EPA 901.1M           | 4/30/03 2119         | DR                  |
| Total Uranium        | 7.614           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2119         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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|                               |                  |                                 |                |
|-------------------------------|------------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728        | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-9S | <b>ARS Sample I.D.:</b>         | ARS030728-2952 |
| <b>Date Sampled:</b>          | 4/17/03          | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA               | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid            | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558           | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2 \sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|-------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 3.114           | 0.410                         | 0.185           | pCi/gm        | EPA 901.1M           | 4/30/03 2119         | DR                  |
| Th-228               | 4.141           | 0.298                         | 0.071           | pCi/gm        | EPA 901.1M           | 4/30/03 2119         | DR                  |
| Total Thorium        | 7.255           | NA                            | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2119         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David J. King*  
 Quality Assurance Review

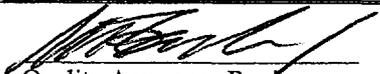
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9W ARS Sample I.D.: ARS030728-2961  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error ±2σ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|--------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 5.326           | 1.934              | 0.776           | pCi/gm        | EPA 901.1M           | 4/28/03 1705         | SM                  |
| Th-228               | 4.750           | 0.314              | 0.067           | pCi/gm        | EPA 901.1M           | 4/28/03 1705         | SM                  |
| Total Thorium        | 10.076          | NA                 | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1705         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-9W ARS Sample I.D.: ARS030728-2961  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.326           | 1.934                        | 0.776           | pCi/gm        | EPA 901.1M           | 4/28/03 1705         | SM                  |
| Total Uranium        | 10.652          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1705         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. [Signature]*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10N ARS Sample I.D.: ARS030728-2957  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.499           | 1.197                        | 0.497           | pCi/gm        | EPA 901.1M           | 4/28/03 1807         | SM                  |
| Total Uranium        | 4.998           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1807         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10N ARS Sample I.D.: ARS030728-2957  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.929           | 0.317                        | 0.192           | pCi/gm        | EPA 901.1M           | 4/28/03 1807         | SM                  |
| Th-228               | 1.191           | 0.208                        | 0.064           | pCi/gm        | EPA 901.1M           | 4/28/03 1807         | SM                  |
| Total Thorium        | 2.120           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1807         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. King*  
 Quality Assurance Review

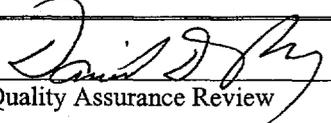
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10E ARS Sample I.D.: ARS030728-2934  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.998           | 1.887                        | 0.787           | pCi/gm        | EPA 901.1M           | 4/28/03 2013         | SM                  |
| Total Uranium        | 5.976           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 2013         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10E ARS Sample I.D.: ARS030728-2934  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 5.264           | 0.523                        | 0.139           | pCi/gm        | EPA 901.1M           | 4/28/03 2013         | SM                  |
| Th-228               | 5.769           | 0.334                        | 0.077           | pCi/gm        | EPA 901.1M           | 4/28/03 2013         | SM                  |
| Total Thorium        | 11.033          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 2013         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10S ARS Sample I.D.: ARS030728-2938  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 1.862           | 0.915                        | 0.622           | pCi/gm        | EPA 901.1M           | 4/28/03 1912         | SM                  |
| Total Uranium        | 3.724           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1912         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

*David D. King*  
 Quality Assurance Review

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|                               |                   |                                 |                |
|-------------------------------|-------------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728         | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-10S | <b>ARS Sample I.D.:</b>         | ARS030728-2938 |
| <b>Date Sampled:</b>          | 4/17/03           | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA                | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid             | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558            | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.403           | 0.244                        | 0.153           | pCi/gm        | EPA 901.1M           | 4/28/03 1912         | SM                  |
| Th-228               | 0.463           | 0.156                        | 0.065           | pCi/gm        | EPA 901.1M           | 4/28/03 1912         | SM                  |
| Total Thorium        | 0.866           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1912         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

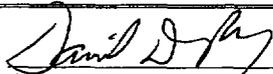
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10W ARS Sample I.D.: ARS030728-2954  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.081           | 1.617                        | 0.599           | pCi/gm        | EPA 901.1M           | 4/29/03 1029         | DR                  |
| Total Uranium        | 10.162          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1029         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

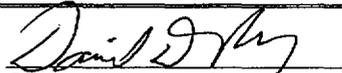
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-10W ARS Sample I.D.: ARS030728-2954  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.483           | 0.388                        | 0.184           | pCi/gm        | EPA 901.1M           | 4/29/03 1029         | DR                  |
| Th-228               | 2.240           | 0.256                        | 0.068           | pCi/gm        | EPA 901.1M           | 4/29/03 1029         | DR                  |
| Total Thorium        | 3.723           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/29/03 1029         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

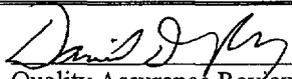
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|                               |                   |                                 |                |
|-------------------------------|-------------------|---------------------------------|----------------|
| <b>ARS Tracking Number:</b>   | ARS030728         | <b>P.O. Number:</b>             | RL-101 TASK 1  |
| <b>Client I.D.:</b>           | HMI Sample 17-11N | <b>ARS Sample I.D.:</b>         | ARS030728-2962 |
| <b>Date Sampled:</b>          | 4/17/03           | <b>Date Received:</b>           | 4/22/03        |
| <b>Time Sample:</b>           | NA                | <b>Time Received:</b>           | 1141           |
| <b>Type of Sample:</b>        | Solid             | <b>Date of Report:</b>          | 5/12/03        |
| <b>NELAP Certification #:</b> | E87558            | <b>L. A. Agency Interest #:</b> | 30658          |

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 3.948           | 1.671                        | 0.668           | pCi/gm        | EPA 901.1M           | 4/28/03 1942         | SM                  |
| Total Uranium        | 7.896           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1942         | SM                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11N ARS Sample I.D.: ARS030728-2962  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.905           | 0.368                        | 0.148           | pCi/gm        | EPA 901.1M           | 4/28/03 1942         | SM                  |
| Th-228               | 2.660           | 0.257                        | 0.072           | pCi/gm        | EPA 901.1M           | 4/28/03 1942         | SM                  |
| Total Thorium        | 4.565           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/28/03 1942         | SM                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. Flynn*  
 Quality Assurance Review

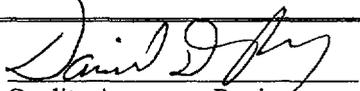
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**ARS Tracking Number:** ARS030728      **P.O. Number:** RL-101 TASK 1  
**Client I.D.:** HMI Sample 17-11E      **ARS Sample I.D.:** ARS030728-2945  
**Date Sampled:** 4/17/03      **Date Received:** 4/22/03  
**Time Sample:** NA      **Time Received:** 1141  
**Type of Sample:** Solid      **Date of Report:** 5/12/03  
**NELAP Certification #:** E87558      **L. A. Agency Interest #:** 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 3.094           | 1.226                        | 0.523           | pCi/gm        | EPA 901.1M           | 4/30/03 2120         | DR                  |
| Total Uranium        | 6.188           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2120         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11E ARS Sample I.D.: ARS030728-2945  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.514           | 0.349                        | 0.150           | pCi/gm        | EPA 901.1M           | 4/30/03 2120         | DR                  |
| Th-228               | 2.566           | 0.256                        | 0.074           | pCi/gm        | EPA 901.1M           | 4/30/03 2120         | DR                  |
| Total Thorium        | 4.080           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2120         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*Dave D. [Signature]*  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11S ARS Sample I.D.: ARS030728-2947  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 5.111           | 1.556                        | 0.617           | pCi/gm        | EPA 901.1M           | 4/30/03 2047         | DR                  |
| Total Uranium        | 10.222          | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2047         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11S ARS Sample I.D.: ARS030728-2947  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 3.020           | 0.370                        | 0.076           | pCi/gm        | EPA 901.1M           | 4/30/03 2047         | DR                  |
| Th-228               | 2.833           | 0.232                        | 0.045           | pCi/gm        | EPA 901.1M           | 4/30/03 2047         | DR                  |
| Total Thorium        | 5.853           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2047         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*Sam D. My*  
 Quality Assurance Review

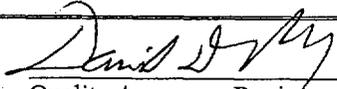
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11W ARS Sample I.D.: ARS030728-2940  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 3.692           | 1.520                        | 0.614           | pCi/gm        | EPA 901.1M           | 5/1/03 1055          | DR                  |
| Total Uranium        | 7.384           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1055          | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

  
 Quality Assurance Review

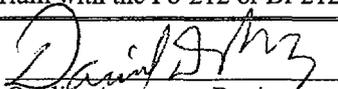
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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-11W ARS Sample I.D.: ARS030728-2940  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 1.723           | 0.432                        | 0.176           | pCi/gm        | EPA 901.1M           | 5/1/03 1055          | DR                  |
| Th-228               | 2.822           | 0.245                        | 0.068           | pCi/gm        | EPA 901.1M           | 5/1/03 1055          | DR                  |
| Total Thorium        | 4.545           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 5/1/03 1055          | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

  
 Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-13N ARS Sample I.D.: ARS030728-2960  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| U-238                | 2.798           | 1.016                        | 0.727           | pCi/gm        | EPA 901.1M           | 4/30/03 2151         | DR                  |
| Total Uranium        | 5.596           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2151         | DR                  |

Notes: U-238 quantified assuming secular equilibrium with the Th-234 daughter, and U-238 can be assumed to be the same as U-234.

Quality Assurance Review

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ARS Tracking Number: ARS030728 P.O. Number: RL-101 TASK 1  
 Client I.D.: HMI Sample 17-13N ARS Sample I.D.: ARS030728-2960  
 Date Sampled: 4/17/03 Date Received: 4/22/03  
 Time Sample: NA Time Received: 1141  
 Type of Sample: Solid Date of Report: 5/12/03  
 NELAP Certification #: E87558 L. A. Agency Interest #: 30658

| Analysis Description | Analysis Result | Analysis Error $\pm 2\sigma$ | Detection Limit | Analysis Unit | Analysis Test Method | Analysis Date & Time | Analysis Technician |
|----------------------|-----------------|------------------------------|-----------------|---------------|----------------------|----------------------|---------------------|
| Th-232               | 0.990           | 0.219                        | 0.115           | pCi/gm        | EPA 901.1M           | 4/30/03 2151         | DR                  |
| Th-228               | 1.506           | 0.203                        | 0.062           | pCi/gm        | EPA 901.1M           | 4/30/03 2151         | DR                  |
| Total Thorium        | 2.496           | NA                           | NA              | pCi/gm        | EPA 901.1M           | 4/30/03 2151         | DR                  |

Notes: Th-232 quantified assuming secular equilibrium with the Ra-228 daughter, and Th-228 quantified assuming secular equilibrium with the Pb-212 or Bi-212 daughter.

*David D. King*  
 Quality Assurance Review

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