

STATE OF COLORADO

Bill Owens, Governor
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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

September 12, 2006

Ms. Janet Schlueter
United States Nuclear Regulatory Commission
State and Tribal Programs
One White Flint North
11555 Rockville Pike
Room 3C-10
Rockville, Maryland 20852

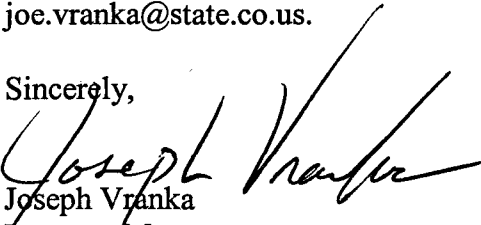
Re: Colorado Radioactive Materials License # 660-01 for the Umetco Maybell Title II Site- Response to a Letter Received August 21, 2006 Regarding NRC's Response to Our Draft CRR Submittal dated March 31, 2006

Dear Ms. Schlueter:

Enclosed is our response to your staff's comments regarding the draft CRR of the Umetco Maybell Title II Site. If your staff has any further questions regarding our response, your suggestion of a teleconference in your letter dated August 11, 2006 would be appropriate to resolve and possibly clarify any outstanding issues.

If you have any questions about the response, please call me at 303-692-3402 or e-mail me at joe.vranka@state.co.us.

Sincerely,


Joseph Vranka
Program Manager
Radiation Management Program

Enclosure: as stated

CC: File RML-317-02-3.2
Sandra Lai, NRC w/o enclosure
Rahe Junge, Umetco w/o enclosure
Philip Stoffey, CDPHE w/o enclosure

06 SEP 15 PM 12:49

STP

I Geotechnical Stability

| Comment | Section of CRR | Comment | Resolution |
|----------------|---|---|--|
| 1 | Page 20, Tables 2.1.5-3 and 2.1.5-4 | Graphical results of density test locations should be provided. | Field test locations and results are given in Attachment 1. Figures 1 through 3 show the locations of radon barrier tests on the Heap Leach Repository by lift. Figures 4 through 7 show the location of the frost barrier tests on the Heap Leach Repository by lift. Figures 8 and 9 show the locations of the radon barrier and frost barrier tests on the Ancillary Cell, respectively. Separate spreadsheets of the test results are provided to accompany each figure. |

II Surface Water Hydrology and Erosion Protection

| Comment | Section of CRR | Comment | Resolution |
|---------|---------------------------|--|---|
| 1 | Page 30, Section 2.2.2 | <p>During a site visit on July 10, 2006, the staff noted that the riprap near the upstream end of the discharge channel appeared to be placed in a manner that may not meet in-place gradation requirements. It appeared that the rock (especially near the surface) was much smaller than the specified D50 size of 22 inches. Further, the presence of the large 22-inch rock was not obvious in a relatively large area of the channel. To resolve this concern, CDPHE should provide additional information, data, and analyses that fully document the conclusions that the rock in the channel meets construction specifications. Such information could include details of CDPHE's review of: (1) records of rock placement that show that in-place gradation requirements have been met; (2) photographs taken during construction that show that adequate rock has been placed; and/or (3) records of specific inspections that were conducted that verified the adequacy of the rock layer. If such information is not available, CDPHE could request, and review the results of, several additional in-place gradation tests that confirm that the rock layer meets specifications.</p> | <p>An evaluation of the design and construction of the erosion protection in Channel 1 was conducted and is included as Attachment 2.</p> |

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| 2 | Page 30, Section 2.2.1 | <p>During a site visit on July 10, 2006, the staff noted the presence of gullies on the south side of the cell. It was also noted that: (1) some rock had been placed on the slopes to retard gully advancement; (2) there may be further potential for gullies to form on the slope, since the slope is about 500 feet long and drops 40-50 feet from the repository toe to the channel; and (3) formation of gullies and gully advancement may need to be considered in the design of the riprap for the toe of the repository. At this time, it is not immediately obvious that the riprap design for the toe of the repository is adequate to prevent long-term gully intrusion into the cell. To resolve this concern, CDPHE should provide additional documentation of its review of the repository toe design. CDPHE should provide information, data, and analyses that fully document its conclusions that the riprap toe design is adequate. Such information could include details of CDPHE's review of the potential for gullies to advance headward on the south side of the cell and the ability of the toe design to provide adequate protection for such phenomena.</p> | <p>An evaluation of the potential head cutting along the slope south of the heap leach repository was conducted in accordance with NUREG-1623 and is included as Attachment 3.</p> |
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III Radiation Cleanup and Control / Radon Emanation

| Comment | Section of CRR | Comment | Resolution |
|---------|---------------------------|---|--|
| 1 | Page 35, Section 3.1.1 | <p>In the last sentence of the last paragraph, “CDPHE, the Colorado Geological Survey and Little Snake Resource Area of the Bureau of Land Management thoroughly reviewed and commented on the <i>Soil Cleanup Plan</i> and approved its implementation.”:</p> <p>What are the bases and the results for the review? Please include a summary of the results and reference.</p> | <p>Review of the <i>Soil Cleanup Plan</i> began in September 1993 with Umetco’s submittal of the report to CDPHE. On November 10, 1993, CDPHE requested comments from the Bureau of Land Management. Initial comments from Colorado Geologic Survey and Bureau of Land Management were received on December 1, 1993. Between April 15, 1994 and March 14, 1995, three revisions to the plan were prepared and submitted to CDPHE. These revised plans incorporated reviewer comments. The final plan was approved by CDPHE on March 15, 1995.</p> <p>In general, results of the review and approval of the <i>Soil Cleanup Plan</i> evaluated past mining, milling and disposal activities, described the soil characteristics, and assessed soil and gamma surveys of the site and surrounding area. These analyses resulted in the development of the soil cleanup levels and set forth methodology for the verification survey.</p> |
| 2 | Page 35, Section 3.1.2 | <p>In the 1st sentence of the 1st paragraph, “Remediation of the process area took place over a period of several years...”:</p> <p>Please specify the year of the beginning and the year of the end of the remediation.</p> | <p>The following statement will be added to the CRR:</p> <p>“Reclamation of the process area began in 1989 and was completed in 2005 when the lined water storage ponds were removed.”</p> |

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| 3 | Page 35, Section 3.1.3 | <p>In the 2nd sentence of the 1st paragraph, “These soil verification survey data were collected..., and process area and in 2004 for the new evaporation pond area.”:</p> <p>The summary of the final status survey for the new evaporation pond area is missing in this section. CDPHE needs to determine whether the survey results in that area were found acceptable or not.</p> | <p>The following statement will be added to the CRR:</p> <p>“CDPHE conducted walking surveys of the New Evaporation Pond in 2005. Results of these surveys confirmed that the underlying soils were not impacted from impoundment seepage and were below regulatory soil cleanup standards.”</p> |
| 4 | Page 36, Section 3.1.3 | <p>In the 3rd and the 4th paragraphs, “All data collected between June 1995 ... CR-May-4.1, CR-May-4.2 and CR-May4.3 (Umetco, 2005).”:</p> <p>Please explain the difference between measurements taken at ground surface and measurements taken at one foot above the ground surface.</p> | <p>Contact measurements were obtained during the walking surveys prior to using mobile GPS survey techniques. The one-foot gamma measurements were conducted using a GPS data logger. Survey instruments were calibrated to account for the difference in elevation of the two survey methods.</p> |

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| 5 | Pages 36 and 37, Section 3.1.3 | <p>In Tables 3.1.3-1, 3.1.3-2 and 3.1.3-3:</p> <ol style="list-style-type: none"> 1. The data in these tables is not sufficient to demonstrate that each 100m² area unit is within the allowable limit (i.e. 5pCi/g excluding background radiation or 6.7 pCi/g including background radiation in land averaged over any 100m² area, 40 CFR 192). CDPHE should either provide sample data, or include language in the CRR stating that in all the licensed area, the Ra-226 reading is within the allowable standard. Please include information of whether remediation has been conducted for those areas that exceeded the limit. 2. In the notes at the bottom of Tables 3.1.3-1, 3.1.3-2 and 3.1.3-3, please include the reference of the cleanup criteria of Ra-226. <p>Suggestion: Table 3.1.3-1 may contain sample data for each 100m² area instead of the whole mined area/unmined area/process area.</p> <p>A conclusion stating that the activity for each 100m² area did not exceed the allowable limit should be included in this section.</p> | <p>The tables in the CRR will be revised to reflect the average minimum and maximum values for the 100m² areas. Text of the CRR will be revised to reflect this analysis and appropriate conclusions will be included in the report.</p> |
| 6 | Page 37, Section 3.1.3 | <p>In Table 3.1.3-3:</p> <p>Please state whether the results in this table include background radiation.</p> | <p>The following statement will be added to the CRR:</p> <p>“Background radiation was not removed from the analytical results presented in the table.”</p> |

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| 7 | Page 38, Section 3.1.4 | <p>1. What percentage of the survey units was surveyed by CDPHE?</p> <p>2. Please state the reference for the verification report that contains the survey results.</p> | <p>CDPHE conducted on-site inspections and walking surveys for each of the soil cleanup areas set forth in approved reclamation and soil cleanup plan. These surveys were compared to gamma maps prepared by Umetco in sufficient detail to verify and confirm that the gamma maps accurately depicted radiological characteristics of the cleanup areas. The results of the CDPHE inspections are presented in the Compliance Reports including: CR-MAY-4.1 for Offsite Soils Cleanup-Soil Removal (approved by CDPHE on 5-24-01); CR-MAY-4.2 for Offsite Soils Cleanup (approved by CDPHE on 5-24-01); and CR-MAY-4.3 for Plant Site Decommissioning-Soil Cleanup Verification Survey (approved by CDPHE on 3-1-02).</p> |
| 8 | Page 38, Section 3.1.5 | Please include the reference for the CDPHE survey results. | <p>The references for the survey results are as follows:.</p> <ul style="list-style-type: none"> - Umetco Minerals Corporation, 2001. <i>CR-MAY-4.1 – Offsite Soils Cleanup, Soils Removal</i>. February 18, 2001. - Umetco Minerals Corporation, 2001. <i>CR-MAY-4.2 – Offsite Soils Cleanup, Soil Mixing</i>. February 18, 2001. - Umetco Minerals Corporation, 2002. <i>CR-MAY-4.3 – Offsite Soils Cleanup, Soil Cleanup Verification Survey</i>. January 15, 2002. |
| 9 | Page 38, Section 3.1.6 | Please include the references for the gamma survey and laboratory results reported for the soil samples. | <p>Reference to the <i>Soil Cleanup Verification Report, Maybell Heap Leach Facility, Maybell Colorado</i>, dated August 30, 2001 will be added to the footnotes in Tables 3.1.3-2 and 3.1.3-3.</p> |

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| 10 | Page 39, Section 3.2 | In Tables 3.2-1 and 3.2-2, the value of the Radium activity of the random fill is significantly greater than the background reading (1.7 pCi/g). Please explain this difference and the type of fill used. | Material for the random fill was obtained from the Browns Park Formation which contains naturally occurring radioactive elements. The radium content of the random fill is within the background range of 0.5 to 3.9 pCi/g for radium-226. In addition, radium activity for the random fill is well below the cleanup criteria of 6.7 pCi/g for the unmined area and 27.3 pCi/g for the mined area. |
| 11 | Page 39, Section 3.2 | In 1 st sentence of the paragraph below Table 3.2-1, "Results of the RADON model analysis...": Please state the reference of the results of the RADON model analysis. | The reference to the results of the radon model analyses, i.e., Umetco 1995a and Umetco, 2004c, will be added to the table. |
| 12 | Page 39, Section 3.2.1 | In the 1 st sentence of the 1 st paragraph, "Umetco completed separate radon flux measurements...": Please state the reference of radon flux measurements. | The reference to the results of the radon flux measurements by Telco Environmental, i.e. Telco 1998 and Telco 2006, will be added to the CRR. Telco 1998. <i>Final Radon Flux Measurements, Heap Leach Area, Maybell Millsite, Maybell, Colorado.</i> January 1998. Telco 2006. <i>National Emission Standards for Hazardous Air Pollutants, 2005 Radon Flux Measurement Program, Winter Storage Pond, Maybell, Colorado.</i> January 2006. |

IV Groundwater Remediation

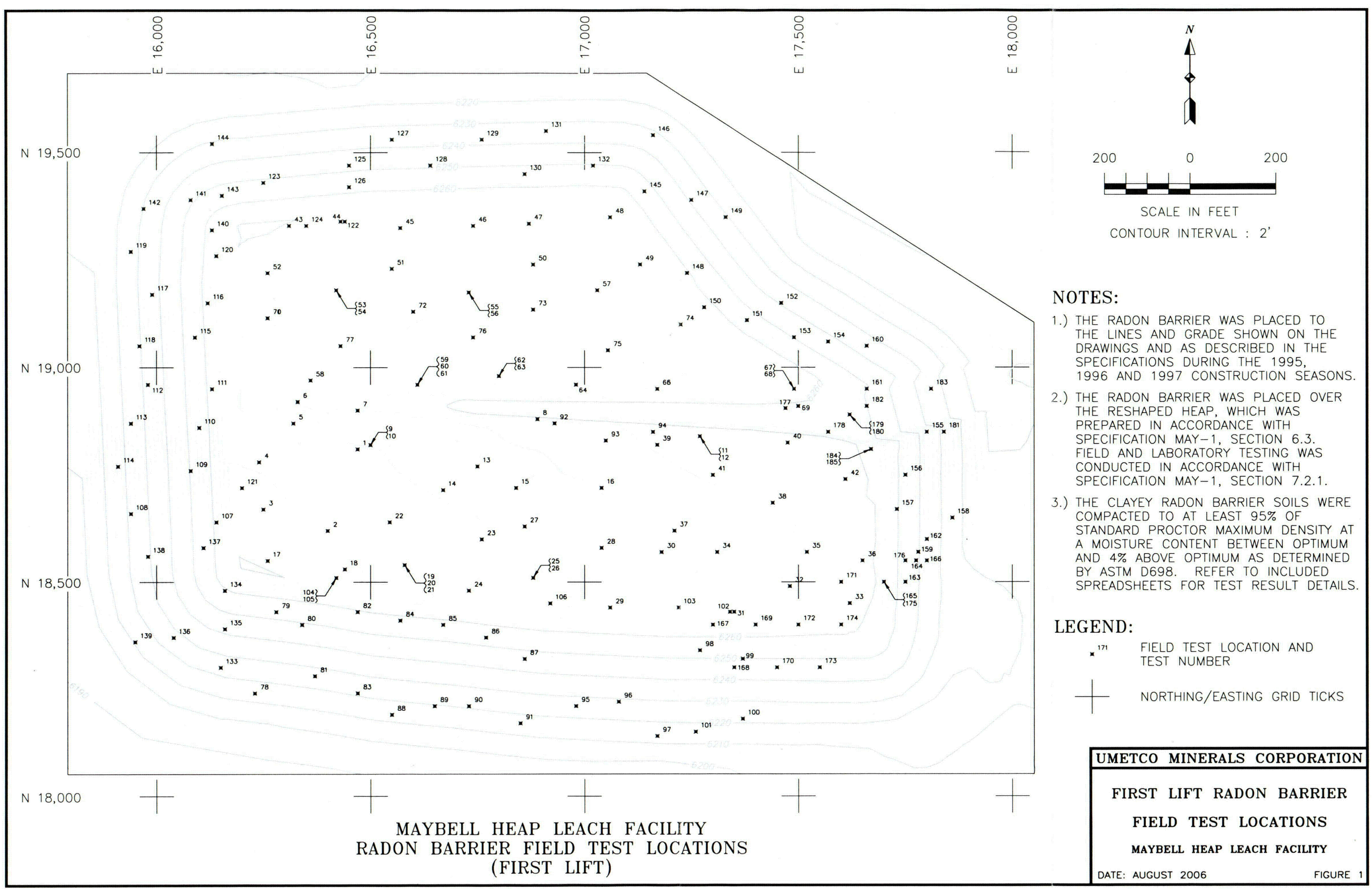
| Comment | Section of CRR | Comment | Resolution |
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| 1 | Page 8, Criterion 1 | The CRR indicates that groundwater is from 200 to 220 feet below the Heap Leach Repository. Please provide a geologic cross-section that illustrates subsurface features (e.g. clays, silts, sands, silty sandstones) within the 200+ foot vadose zone underneath the Heap Leach Repository. | The heap leach site is underlain by a homogenous, gray-white to buff, partly limonitic stained, loosely consolidated, cross-bedded, silty sandstone. This sandstone was deposited in fluvio-lacustrine and aeolian environments. The thickness of the Browns Park Formation underlying the site varies but is approximately 1,000 feet thick (see Figure 6.1 Geologic Map, Maybell, Colorado Area and Figure 6.2 Generalized Cross Section, Maybell, Colorado Area included in Attachment 4). The map and cross-section are taken from Section 6 of the <i>Site Characterization Report for Uranium Ore Heap Leach Facility near Maybell, Moffat County, Colorado</i> , dated March 1988 by Chen and Associates. No distinct or recognizable stratigraphic layers are present beneath the site. The homogeneous nature of the Browns Park sandstone is shown in the photographs in Attachment 4. These photographs show the high wall of the Rob Pit located directly east of the Heap Leach Repository. Also included in Attachment 4 are boring logs of the Mill Site Well No. 2 located southwest of the Heap Leach Repository and the Northeast Heap Monitor Well located to the northeast of the Heap Leach Repository. |

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| 2 | <p>Page 4, Heap Configuration; Page 18, Section 2.1.8, Contaminated Materials and Page 10, Criterion 5 – Ground water Protection, first paragraph and page 41, Section 4.1, third paragraph</p> | <p>It is understood that “During this 30-year monitoring period, there have been no contaminants from the heap leach operations detected in groundwater at the site.” However, given the placement of contaminated scrap and soil in the Heap Leach Repository between 1995 and 1997, the present Heap Leach Repository configuration has only been monitored for approximately eight years (1998 to 2005). Please provide the technical basis for choosing approximately eight years as a sufficiently long period to monitor the final site configuration.</p> | <p>Heap leach operations and ground water monitoring were initiated in the mid-1970s. Liquid waste was controlled by a low permeability liner below the heap leach cells. Liquids collected by the drain system overlying the liner were evaporated in lined impoundments. Extensive groundwater monitoring for 30 years at the site has confirmed that liquid waste has been effectively contained and controlled with no measurable impact to the Browns Park aquifer.</p> <p>Historically, contaminated soil and scrap were present in the process area. These materials were located in close proximity to down gradient monitor wells. No contaminants from these materials were detected during the 22 years of site monitoring prior to site reclamation. During site reclamation, dry, unsaturated soil and contaminated scrap were removed and placed in the Heap Leach Repository between 1995 and 1997. These dry materials were placed above the saturated zone in the heap leach cells, were not subjected to wetting and, thus, do not constitute a significant or measurable source of contaminants to the ground water aquifer. Subsequent construction of the cover has effectively isolated these waste materials from the ground water regime.</p> <p>Ground water monitoring for eight years after repository closure coupled with 22 years of previous monitoring has demonstrated that there have been no adverse impacts to the ground water system from the heap leach facility.</p> |
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| 3 | Page 21, Section 2.1.12, Page 26 | <p>The CRR states that “laboratory tests show that the average hydraulic conductivity of the radon barrier materials was 7.25×10^{-8}.”</p> <p>NRC guidance on evaluation for hydraulic conductivity of radon/infiltration barriers for Title I and Title II mill tailings sites states that field testing of radon barrier is warranted when reported hydraulic conductivity values are less than 10^{-7} cm/sec. Consequently, please provide field testing results to verify reported hydraulic conductivity values for the Heap Leach Repository radon barrier.</p> | <p>The average laboratory value reported in the CRR was not directly used in the analysis of repository suitability or ground water protection. All infiltration analyses were conducted using an assumed value of 10^{-7} cm/sec.</p> |
| 4 | <p>Page 41, Section 4.1.1, first paragraph</p> <p>CDPHE (2000) Decision Analysis – Proposed Amendment to Renew License for the Maybell Heap Leach site [ADAMS Ascension No. ML003694083]</p> | <p>The CRR indicates that the Heap Leach site’s detection monitoring program included two upgradient wells (NE Heap and Rob Ramp) and two down gradient wells (Millsite 1 and 2). The locations of the downgradient Millsite 1 and 2 wells imply that the flow direction of the Browns Park aquifer is to the southwest. However, CDPHE (2000), on the top of page 10, indicates that the Browns Park aquifer flows in a southeast direction.</p> <p>To resolve this inconsistency, please provide a ground water contour map for the Heap Leach Repository that shows the relationship between the detection monitoring system and the ground water flow direction in the Browns Park aquifer.</p> | <p>The 2000 CDPHE document is incorrect and groundwater flow is to the southwest. A map of the groundwater flow has been included as Attachment 5.</p> |

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| 5 | <p>Page 42, Section 4.1.1, first bullet</p> <p>Page 42, Section 4.1.3</p> <p>CDPHE (2000) Decision Analysis – Proposed Amendment to Renew License for the Maybell Heap Leach site [ADAMS Ascension No. ML003694083]</p> | <p>The CRR indicates that CDPHE compared ground water chemistry with results obtained from the upgradient DOE Title I monitoring wells and concluded that the Maybell wells were with the range of DOE determined background. In addition, the CRR indicates that "Ground water in the uppermost aquifer is not a current or potential source of drinking water in the area because it contains widespread ambient contamination caused by naturally occurring uranium mineralization...". However, in CDPHE (2000) it states that "Historically, the background Rob Ramp well, which is upgradient from the Maybell heap leach site, has shown elevated concentrations of uranium, but since 1984 there has been a marked decrease in uranium concentration. The earlier elevated levels of uranium may have been associated with the mining disturbances, and once mining ceased, the ground water quality rapidly improved." [CDPHE (2000) page 10, fifth paragraph].</p> <p>Please expand the discussion of ground water quality (including uranium concentrations) in the Heap Leach Repository detection monitoring system (up and down gradient) as it relates to the "DOE determined background" and the Browns Park aquifer as a potential potable source of drinking water.</p> | <p>Background ground water quality in the Browns Park Formation was assessed by the DOE as a part of the Maybell Title I facility closure (DOE, 1996). The DOE data show that background parameters vary widely; e.g. uranium ranged from 0.002 to 0.083 mg/L. Concentrations in the wells down gradient of the heap leach facility ranged from a high of 0.010 to less than 0.001 mg/L over the past 5 years. These values are within background ranges determined by the DOE.</p> <p>DOE (1996) indicates that constituents in ground water may be derived from both natural (mineralized zones) and other (exploration drilling and open pit mining) sources. An example of these constituent sources may be the historically elevated uranium concentrations observed in the upgradient Rob Ramp well. These elevated uranium concentrations may be influenced by the intersection of a uranium roll front deposit in the open pit with the Browns Park aquifer. Uranium concentrations in the Rob Ramp well have decreased and have ranged from 0.009 to 0.001 mg/L over the past 5 years. These concentrations are well within the DOE determined background concentrations.</p> <p>The Maybell site is in a remote location. Land use in the area is ranching with some recreational use. No agricultural activities requiring the irrigation of crops have been observed in the vicinity of the site. Because the area is used mainly for grazing and the water quality is naturally poor (i.e., background water quality is classified as a limited use ground water) crop propagation activities are not expected to occur near the Maybell site in the future (DOE 1996). Water quality in the Browns Park aquifer is poor due to high TDS and mineral concentrations. Additionally, based on current and past land-use of the area, the population growth in the surrounding areas is low and is not expected to change in the future.</p> |
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| 6 | Page 42, Section 4.1.1, third bullet | <p>The CRR states that “there are no known exposure pathways for ground water from the upper most aquifer to a receptor.” However, a review of information from the Colorado Division of Water Resources LTTOOLS web site indicates several potential “point of exposure” wells (west to south) within one mile of the Heap Leach Repository. Please identify all “downgradient” ground water usage in the Browns Park aquifer or in units hydraulically connected to the Browns Park within one mile of the site.</p> | <p>Historically, ground water from the Browns Park Formation has been used for limited livestock watering. As described by the DOE (1996), a windmill-operated well, located approximately 1 mile south of the Maybell Title I Site, was removed between 1990 and 1992. A second windmill-operated well was located over 2 miles upgradient of the site. DOE (1996) indicated that this well had not been used since about 1982. This DOE data indicates a very limited historical use of water from the Browns Park aquifer.</p> <p>A recent review of the water well data indicates that two stock watering wells are located approximately 1 mile south-southeast of the heap leach cell. These wells were originally ground water monitoring wells developed by the DOE and then given to the land owner. These wells are not down gradient of the heap leach site.</p> <p>The closest known sources of potable drinking water are four ground water wells located along the Yampa River approximately 3 miles south of the heap leach site near the town of Maybell. Three of these wells are completed in the shallow river alluvium and one of the wells may be completed in the Browns Park aquifer.</p> <p>The following statement will be added to the CRR:</p> <p>“There are six wells within a four mile radius of the Umetco heap leach site. These wells consist of two stock watering wells and four domestic water wells. Two stock watering wells are approximately 1 mile south-southwest of the heap leach site and are not directly in the path of ground water flow from beneath the heap leach cells. Four domestic water wells are approximately three miles south of the heap leach site and are located along the Yampa River. Three of these wells are completed in the shallow alluvium and one well is reportedly completed in the Browns Park aquifer. These domestic wells are not directly down gradient and have very limited potential to intercept water from beneath the heap leach cell.”</p> |
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- NOTES:**
- 1.) THE RADON BARRIER WAS PLACED TO THE LINES AND GRADE SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS DURING THE 1995, 1996 AND 1997 CONSTRUCTION SEASONS.
 - 2.) THE RADON BARRIER WAS PLACED OVER THE RESHAPED HEAP, WHICH WAS PREPARED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 6.3. FIELD AND LABORATORY TESTING WAS CONDUCTED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 7.2.1.
 - 3.) THE CLAYEY RADON BARRIER SOILS WERE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM AS DETERMINED BY ASTM D698. REFER TO INCLUDED SPREADSHEETS FOR TEST RESULT DETAILS.

- LEGEND:**
- ✕ 171 FIELD TEST LOCATION AND TEST NUMBER
 - + NORTHING/EASTING GRID TICKS

UMETCO MINERALS CORPORATION

FIRST LIFT RADON BARRIER

FIELD TEST LOCATIONS

MAYBELL HEAP LEACH FACILITY

DATE: AUGUST 2006

FIGURE 1

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| 1 | RBC-1 | 7/24/1995 | 18810 | 16470 | 122.5 | 17.0 | 105.5 | 105.5 | 16.1 | 16.1 | 95.1 | 95.1 | RB-1 | 110.9 | 16.0 | P | |
| | RBC-1S | 7/24/1995 | 18810 | 16470 | 123.4 | | 106.2 | | 16.2 | | 95.8 | | RB-1 | 110.9 | 16.0 | N/A | Sand-Cone |
| 2 | RBC-2 | 7/24/1995 | 18620 | 16400 | 124.7 | 17.6 | 107.1 | 107.1 | 16.4 | 16.4 | 96.6 | 96.6 | RB-1 | 110.9 | 16.0 | P | |
| 3 | RBC-3 | 7/24/1995 | 18670 | 16250 | 122.6 | 17.3 | 105.3 | 105.3 | 16.4 | 16.4 | 95.0 | 95.0 | RB-1 | 110.9 | 16.0 | P | |
| 4 | RBC-4 | 7/24/1995 | 18780 | 16240 | 122.4 | 16.9 | 105.5 | 105.5 | 16.0 | 16.0 | 95.1 | 95.1 | RB-1 | 110.9 | 16.0 | P | |
| 5 | RBC-5 | 7/26/1995 | 18870 | 16320 | 128.1 | 20.1 | 107.9 | 108.0 | 18.7 | 18.6 | 97.3 | 97.4 | RB-1 | 110.9 | 16.0 | P | |
| 6 | RBC-6 | 7/26/1995 | 18920 | 16330 | 125.4 | 17.7 | 107.6 | 107.7 | 16.5 | 16.4 | 97.1 | 97.1 | RB-1 | 110.9 | 16.0 | P | |
| 7 | RBC-7 | 7/26/1995 | 18900 | 16470 | 128.9 | 20.6 | 108.3 | 108.3 | 19.0 | 19.0 | 97.7 | 97.7 | RB-1 | 110.9 | 16.0 | P | |
| 8 | RBC-8 | 7/26/1995 | 18880 | 16890 | 124.5 | 17.4 | 107.1 | 107.1 | 16.2 | 16.2 | 96.6 | 96.6 | RB-1 | 110.9 | 16.0 | P | |
| 9 | RBC-9 | 7/26/1995 | 18820 | 16500 | 128.0 | 14.4 | 113.5 | 113.6 | 12.7 | 12.7 | 102.4 | 102.4 | RB-1 | 110.9 | 16.0 | Fail | Fail Moisture |
| 10 | RBC-9R | 7/26/1995 | 18820 | 16500 | 123.8 | 18.1 | 105.7 | 105.7 | 17.1 | 17.1 | 95.3 | 95.3 | RB-1 | 110.9 | 16.0 | P | Retest of Test # RBC-9 |
| 11 | RBC-10 | 7/26/1995 | 18840 | 17270 | 118.7 | 18.4 | 100.2 | 100.3 | 18.4 | 18.3 | 90.4 | 90.4 | RB-1 | 110.9 | 16.0 | Fail | Fail Compaction |
| 12 | RBC-10R | 7/27/1995 | 18840 | 17270 | 123.8 | 17.6 | 106.2 | 106.2 | 16.6 | 16.6 | 95.7 | 95.8 | RB-1 | 110.9 | 16.0 | P | Retest of Test # RBC-10 |
| | RBC-10RS | 7/27/1995 | 18840 | 17270 | 124.4 | | 106.1 | | 17.3 | | 95.6 | | RB-1 | 110.9 | 16.0 | N/A | Sand-Cone, Retest |
| 13 | RBC-11 | 7/27/1995 | 18770 | 16750 | 125.3 | 19.7 | 105.6 | 105.6 | 18.6 | 18.7 | 95.2 | 95.2 | RB-1 | 110.9 | 16.0 | P | |
| 14 | RBC-12 | 7/27/1995 | 18715 | 16670 | 125.4 | 18.5 | 106.9 | 106.9 | 17.3 | 17.3 | 96.4 | 96.4 | RB-1 | 110.9 | 16.0 | P | |
| 15 | RBC-13 | 7/27/1995 | 18720 | 16840 | 125.8 | 20.4 | 105.4 | 105.4 | 19.3 | 19.4 | 95.1 | 95.0 | RB-1 | 110.9 | 16.0 | P | |
| 16 | RBC-14 | 7/27/1995 | 18720 | 17040 | 126.6 | 17.5 | 109.1 | 109.1 | 16.0 | 16.0 | 98.4 | 98.4 | RB-1 | 110.9 | 16.0 | P | |
| 17 | RBC-18 | 8/2/1995 | 18550 | 16260 | 122.2 | 18.3 | 103.9 | 103.9 | 17.6 | 17.6 | 96.3 | 96.4 | RB-2 | 107.8 | 17.6 | P | |
| 18 | RBC-19 | 8/2/1995 | 18530 | 16440 | 127.9 | 20.3 | 107.6 | 107.6 | 18.8 | 18.9 | 99.8 | 99.8 | RB-2 | 107.8 | 17.6 | P | |
| 19 | RBC-20 | 8/2/1995 | 18540 | 16580 | 119.7 | 15.5 | 104.2 | 104.2 | 14.9 | 14.9 | 96.6 | 96.7 | RB-2 | 107.8 | 17.6 | Fail | Fail Moisture |
| | | | | | | | | | | | | | | | | | Retest of Test # RBC-20 - Fail Moisture |
| 20 | RBC-20R | 8/2/1995 | 18540 | 16580 | 126.2 | 18.5 | 108.1 | 107.7 | 17.2 | 17.2 | 100.3 | 99.9 | RB-2 | 107.8 | 17.6 | Fail | Moisture |
| | RBC-20RS | 8/2/1995 | 18540 | 16580 | 122.5 | | 106.4 | | 15.1 | | 98.7 | | RB-2 | 107.8 | 17.6 | N/A | Sand-Cone, Retest, Fail Moisture |
| 21 | RBC-20R2 | 8/3/1995 | 18540 | 16580 | 126.3 | 19.5 | 106.8 | 106.8 | 18.3 | 18.3 | 99.1 | 99.1 | RB-2 | 107.8 | 17.6 | P | Retest of Test # RBC-20R |
| | RBC-20R2S | 8/3/1995 | 18540 | 16580 | 126.6 | | 106.9 | | 18.4 | | 99.2 | | RB-2 | 107.8 | 17.6 | N/A | Sand-Cone, Retest |
| 22 | RBC-21 | 8/3/1995 | 18640 | 16545 | 126.4 | 20.7 | 105.6 | 105.7 | 19.6 | 19.6 | 98.0 | 98.1 | RB-2 | 107.8 | 17.6 | P | |
| 23 | RBC-22 | 8/3/1995 | 18600 | 16760 | 125.7 | 21.9 | 103.8 | 103.8 | 21.1 | 21.1 | 96.2 | 96.3 | RB-2 | 107.8 | 17.6 | P | |
| 24 | RBC-23 | 8/3/1995 | 18480 | 16730 | 126.6 | 20.9 | 105.7 | 105.7 | 19.8 | 19.8 | 98.0 | 98.1 | RB-2 | 107.8 | 17.6 | P | |
| 25 | RBC-24 | 8/3/1995 | 18510 | 16880 | 115.3 | 20.7 | 94.6 | 94.6 | 21.9 | 21.9 | 87.7 | 87.8 | RB-2 | 107.8 | 17.6 | Fail | Fail Moisture & Compaction |
| 26 | RBC-24R | 8/3/1995 | 18510 | 16880 | 126.5 | 21.0 | 105.5 | 105.5 | 19.9 | 19.9 | 97.9 | 97.9 | RB-2 | 107.8 | 17.6 | P | Retest of Test # RBC-24 |
| 27 | RBC-25 | 8/3/1995 | 18630 | 16860 | 124.1 | 20.8 | 103.3 | 103.3 | 20.2 | 20.1 | 95.8 | 95.8 | RB-2 | 107.8 | 17.6 | P | |
| 28 | RBC-26 | 8/3/1995 | 18580 | 17040 | 126.6 | 20.6 | 106.6 | 106.0 | 19.4 | 19.4 | 98.9 | 98.3 | RB-2 | 107.8 | 17.6 | P | |
| 29 | RBC-27 | 8/3/1995 | 18440 | 17060 | 125.0 | 20.5 | 104.5 | 104.5 | 19.6 | 19.6 | 97.0 | 96.9 | RB-2 | 107.8 | 17.6 | P | |
| 30 | RBC-28 | 8/3/1995 | 18570 | 17180 | 129.2 | 21.4 | 107.8 | 107.8 | 19.9 | 19.9 | 100.0 | 100.0 | RB-2 | 107.8 | 17.6 | P | |
| 31 | RBC-29 | 8/3/1995 | 18430 | 17350 | 126.5 | 22.2 | 104.3 | 104.3 | 21.3 | 21.3 | 96.8 | 96.8 | RB-2 | 107.8 | 17.6 | P | |
| 32 | RBC-34 | 8/3/1995 | 18490 | 17480 | 125.3 | 19.7 | 105.6 | 105.6 | 18.6 | 18.7 | 97.8 | 97.8 | RB-3 | 108.0 | 17.5 | P | |
| 33 | RBC-35 | 8/4/1995 | 18450 | 17620 | 124.8 | 19.7 | 105.1 | 105.1 | 18.7 | 18.7 | 97.3 | 97.3 | RB-3 | 108.0 | 17.5 | P | |
| 34 | RBC-36 | 8/4/1995 | 18570 | 17310 | 126.5 | 21.5 | 105.0 | 105.0 | 20.5 | 20.5 | 97.2 | 97.2 | RB-3 | 108.0 | 17.5 | P | |
| 35 | RBC-37 | 8/4/1995 | 18570 | 17520 | 126.0 | 21.7 | 104.3 | 104.3 | 20.8 | 20.8 | 96.6 | 96.6 | RB-3 | 108.0 | 17.5 | P | |
| 36 | RBC-38 | 8/4/1995 | 18550 | 17650 | 126.3 | 20.7 | 105.6 | 105.6 | 19.2 | 19.6 | 97.8 | 97.8 | RB-3 | 108.0 | 17.5 | P | |
| 37 | RBC-48 | 8/9/1995 | 18620 | 17210 | 124.7 | 19.5 | 105.2 | 105.2 | 18.5 | 18.5 | 96.3 | 96.3 | RB-4 | 109.2 | 17.4 | P | |
| 38 | RBC-49 | 8/9/1995 | 18685 | 17440 | 125.3 | 19.1 | 106.2 | 106.2 | 18.0 | 18.0 | 97.2 | 97.3 | RB-4 | 109.2 | 17.4 | P | |
| 39 | RBC-73 | 8/29/1995 | 18820 | 17170 | 123.9 | 18.0 | 105.9 | 105.9 | 17.0 | 17.0 | 97.6 | 97.6 | RB-5 | 108.5 | 17.0 | P | |
| 40 | RBC-74 | 8/29/1995 | 18825 | 17475 | 124.0 | 18.7 | 105.3 | 105.3 | 17.8 | 17.8 | 97.1 | 97.1 | RB-5 | 108.5 | 17.0 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 41 | RBC-75 | 8/30/1995 | 18750 | 17300 | 122.9 | 19.7 | 103.2 | 103.2 | 19.1 | 19.1 | 96.1 | 96.1 | RB-6 | 107.4 | 17.8 | P | |
| 42 | RBC-76 | 8/30/1995 | 18740 | 17610 | 124.4 | 19.2 | 105.2 | 105.2 | 18.3 | 18.3 | 98.0 | 98.0 | RB-6 | 107.4 | 17.8 | P | |
| 43 | RBC-79 | 8/29/1995 | 19330 | 16310 | 125.4 | 20.1 | 105.3 | 105.3 | 19.1 | 19.1 | 98.0 | 98.0 | RB-6 | 107.4 | 17.8 | P | |
| 44 | RBC-80 | 8/29/1995 | 19340 | 16430 | 125.7 | 19.2 | 106.5 | 106.5 | 18.0 | 18.0 | 99.2 | 99.2 | RB-6 | 107.4 | 17.8 | P | |
| | RBC-80S | 8/29/1995 | 19340 | 16430 | 126.5 | | 106.5 | | 18.0 | | 99.2 | | RB-6 | 107.4 | 17.8 | N/A | Sand-Cone |
| 45 | RBC-81 | 8/29/1995 | 19325 | 16570 | 122.0 | 19.8 | 102.2 | 102.2 | 19.4 | 19.4 | 95.1 | 95.2 | RB-6 | 107.4 | 17.8 | P | |
| 46 | RBC-82 | 8/29/1995 | 19330 | 16740 | 121.0 | 18.3 | 102.7 | 102.7 | 17.8 | 17.8 | 95.6 | 95.6 | RB-6 | 107.4 | 17.8 | P | |
| 47 | RBC-83 | 8/29/1995 | 19335 | 16870 | 122.3 | 18.2 | 104.1 | 104.1 | 17.8 | 17.5 | 96.9 | 96.9 | RB-6 | 107.4 | 17.8 | P | Verification calculation indicates failed moisture by minus 0.3% |
| 48 | RBC-84 | 8/29/1995 | 19350 | 17060 | 121.1 | 18.6 | 102.5 | 102.5 | 18.2 | 18.1 | 95.4 | 95.4 | RB-6 | 107.4 | 17.8 | P | |
| 49 | RBC-85 | 8/29/1995 | 19240 | 17130 | 123.9 | 19.9 | 104.0 | 104.0 | 19.2 | 19.1 | 96.8 | 96.8 | RB-6 | 107.4 | 17.8 | P | |
| 50 | RBC-86 | 8/29/1995 | 19240 | 16880 | 122.8 | 19.5 | 103.3 | 103.3 | 18.9 | 18.9 | 96.2 | 96.2 | RB-6 | 107.4 | 17.8 | P | |
| 51 | RBC-87 | 8/29/1995 | 19230 | 16550 | 121.8 | 18.6 | 103.2 | 103.2 | 18.1 | 18.0 | 96.0 | 96.1 | RB-6 | 107.4 | 17.8 | P | |
| 52 | RBC-88 | 8/29/1995 | 19220 | 16260 | 124.7 | 19.0 | 105.7 | 105.7 | 18.0 | 18.0 | 98.3 | 98.4 | RB-6 | 107.4 | 17.8 | P | |
| 53 | RBC-89 | 8/29/1995 | 19180 | 16420 | 124.2 | 18.3 | 105.9 | 105.9 | 17.3 | 17.3 | 98.6 | 98.6 | RB-6 | 107.4 | 17.8 | Fail | Fail Moisture |
| 54 | RBC-89R | 9/5/1995 | 19180 | 16420 | 121.6 | 18.6 | 103.0 | 103.0 | 18.1 | 18.1 | 95.9 | 95.9 | RB-6 | 107.4 | 17.8 | P | Retest of Test # RBC-89 |
| 55 | RBC-90 | 8/29/1995 | 19175 | 16730 | 122.9 | 16.5 | 106.4 | 106.4 | 15.5 | 15.5 | 97.2 | 97.2 | RB-7 | 109.5 | 16.0 | Fail | Fail Moisture |
| 56 | RBC-90R | 9/5/1995 | 19175 | 16730 | 125.3 | 17.7 | 107.6 | 107.6 | 16.5 | 16.4 | 98.3 | 98.3 | RB-7 | 109.5 | 16.0 | P | Retest of Test # RBC-90 |
| | RBC-90RS | 9/5/1995 | 19175 | 16730 | 125.5 | | 107.7 | | 16.6 | | 98.4 | | RB-7 | 109.5 | 16.0 | N/A | Sand-Cone, Retest |
| 57 | RBC-105 | 9/5/1995 | 19180 | 17030 | 128.4 | 17.3 | 111.1 | 111.1 | 15.6 | 15.6 | 99.7 | 99.7 | RB-8 | 111.4 | 15.4 | P | |
| 58 | RBC-113 | 9/21/1995 | 18970 | 16360 | 126.3 | 17.7 | 108.5 | 108.6 | 16.3 | 16.3 | 97.4 | 97.5 | RB-8 | 111.4 | 15.4 | P | |
| 59 | RBC-114 | 9/21/1995 | 18960 | 16610 | 114.9 | 11.0 | 104.0 | 103.9 | 10.5 | 10.6 | 93.4 | 93.3 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture & Compaction |
| | | | | | | | | | | | | | | | | | Retest of Test # RBC-114 - Fail Compaction |
| 60 | RBC-114R | 9/22/1995 | 18960 | 16610 | 122.7 | 18.0 | 104.7 | 104.7 | 17.2 | 17.2 | 94.0 | 94.0 | RB-8 | 111.4 | 15.4 | Fail | Compaction |
| 61 | RBC-114R2 | 9/26/1995 | 18960 | 16610 | 125.3 | 18.5 | 106.8 | 106.8 | 17.3 | 17.3 | 95.9 | 95.9 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-114R |
| 62 | RBC-115 | 9/22/1995 | 18980 | 16800 | 123.5 | 18.6 | 104.9 | 104.9 | 17.8 | 17.7 | 94.2 | 94.2 | RB-8 | 111.4 | 15.4 | Fail | Fail Compaction |
| 63 | RBC-115R | 9/22/1995 | 18980 | 16800 | 124.8 | 18.5 | 106.3 | 106.3 | 17.4 | 17.4 | 95.4 | 95.4 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-115 |
| 64 | RBC-116 | 9/22/1995 | 18960 | 16980 | 128.9 | 18.2 | 110.8 | 110.7 | 16.4 | 16.4 | 99.5 | 99.4 | RB-8 | 111.4 | 15.4 | P | |
| 65 | RBC-117 | 9/25/1995 | 18950 | 17170 | 123.8 | 15.1 | 108.8 | 108.7 | 13.9 | 13.9 | 97.7 | 97.6 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture |
| 66 | RBC-117R | 9/26/1995 | 18950 | 17170 | 127.3 | 17.8 | 109.5 | 109.5 | 16.3 | 16.3 | 98.3 | 98.3 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-117 |
| 67 | RBC-118 | 9/25/1995 | 18950 | 17490 | 123.3 | 18.9 | 104.4 | 104.4 | 18.1 | 18.1 | 93.7 | 93.7 | RB-8 | 111.4 | 15.4 | Fail | Fail Compaction |
| 68 | RBC-118R | 9/26/1995 | 18950 | 17490 | 122.3 | 16.3 | 106.0 | 106.0 | 15.4 | 15.4 | 95.1 | 95.2 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-118 |
| 69 | RBC-121 | 9/26/1995 | 18910 | 17500 | 126.1 | 18.1 | 108.0 | 108.0 | 16.7 | 16.8 | 97.3 | 97.3 | RB-9 | 111.0 | 15.8 | P | |
| 70 | RBC-123 | 9/27/1995 | 19115 | 16260 | 125.2 | 16.6 | 108.6 | 108.6 | 15.3 | 15.3 | 97.8 | 97.8 | RB-9 | 111.0 | 15.8 | Fail | Fail Moisture |
| 71 | RBC-123R | 9/27/1995 | 19115 | 16260 | 125.0 | 17.8 | 107.2 | 107.2 | 16.6 | 16.6 | 96.5 | 96.6 | RB-9 | 111.0 | 15.8 | P | Retest of Test # RBC-123 |
| 72 | RBC-124 | 9/27/1995 | 19130 | 16600 | 125.8 | 19.8 | 105.9 | 106.0 | 18.7 | 18.7 | 95.4 | 95.5 | RB-9 | 111.0 | 15.8 | P | |
| 73 | RBC-125 | 9/27/1995 | 19135 | 16880 | 125.8 | 18.4 | 107.4 | 107.4 | 17.1 | 17.1 | 96.8 | 96.8 | RB-9 | 111.0 | 15.8 | P | |
| 74 | RBC-126 | 9/27/1995 | 19100 | 17225 | 125.5 | 18.1 | 107.4 | 107.4 | 16.9 | 16.9 | 96.8 | 96.8 | RB-9 | 111.0 | 15.8 | P | |
| 75 | RBC-127 | 9/27/1995 | 19040 | 17055 | 126.1 | 17.5 | 108.5 | 108.6 | 16.1 | 16.1 | 97.8 | 97.8 | RB-9 | 111.0 | 15.8 | P | |
| 76 | RBC-128 | 9/27/1995 | 19070 | 16740 | 127.4 | 19.1 | 108.3 | 108.3 | 17.6 | 17.6 | 97.6 | 97.6 | RB-9 | 111.0 | 15.8 | P | |
| 77 | RBC-129 | 9/27/1995 | 19050 | 16430 | 125.1 | 18.4 | 106.7 | 106.7 | 17.2 | 17.2 | 96.1 | 96.1 | RB-9 | 111.0 | 15.8 | P | |
| 78 | RBC-188 | 5/29/1996 | 18240 | 16230 | 128.0 | 19.1 | 108.9 | 108.9 | 17.5 | 17.5 | 98.0 | 97.9 | RB-15 | 111.2 | 14.9 | P | |
| | RBC-188S | 5/29/1996 | 18240 | 16230 | 126.8 | | 108.5 | | 16.9 | | 97.6 | | RB-15 | 111.2 | 14.9 | N/A | Sand-Cone |
| 79 | RBC-189 | 5/29/1996 | 18430 | 16280 | 123.5 | 17.0 | 106.5 | 106.5 | 16.0 | 16.0 | 95.8 | 95.8 | RB-15 | 111.2 | 14.9 | P | |
| 80 | RBC-190 | 5/30/1996 | 18400 | 16340 | 128.6 | 18.1 | 110.6 | 110.5 | 16.4 | 16.4 | 99.5 | 99.4 | RB-15 | 111.2 | 14.9 | P | |




Maybell Heap Leach Repository Radon Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|----------------------------|
| 81 | RBC-191 | 5/30/1996 | 18280 | 16370 | 130.9 | 18.4 | 112.5 | 112.5 | 16.3 | 16.4 | 101.2 | 101.2 | RB-15 | 111.2 | 14.9 | P | |
| 82 | RBC-192 | 5/30/1996 | 18430 | 16470 | 125.4 | 16.8 | 108.5 | 108.6 | 15.5 | 15.5 | 97.6 | 97.7 | RB-15 | 111.2 | 14.9 | P | |
| | RBC-192S | 5/30/1996 | 18430 | 16470 | 124.1 | | 107.7 | | 15.3 | | 96.9 | | RB-15 | 111.2 | 14.9 | N/A | Sand-Cone |
| 83 | RBC-193 | 5/30/1996 | 18240 | 16470 | 126.0 | 17.5 | 108.5 | 108.5 | 16.1 | 16.1 | 97.6 | 97.6 | RB-15 | 111.2 | 14.9 | P | |
| 84 | RBC-200 | 5/31/1996 | 18410 | 16570 | 127.0 | 18.2 | 108.7 | 108.8 | 16.8 | 16.7 | 98.0 | 98.0 | RB-16 | 111.0 | 15.0 | P | |
| | RBC-200S | 5/31/1996 | 18410 | 16570 | 127.3 | | 108.9 | | 16.9 | | 98.1 | | RB-16 | 111.0 | 15.0 | N/A | Sand-Cone |
| 85 | RBC-201 | 5/31/1996 | 18400 | 16670 | 123.2 | 17.6 | 105.6 | 105.6 | 16.6 | 16.7 | 95.2 | 95.1 | RB-16 | 111.0 | 15.0 | P | |
| 86 | RBC-202 | 5/31/1996 | 18370 | 16770 | 125.5 | 17.8 | 107.7 | 107.7 | 16.5 | 16.5 | 97.1 | 97.0 | RB-16 | 111.0 | 15.0 | P | |
| 87 | RBC-203 | 5/31/1996 | 18320 | 16860 | 128.6 | 18.8 | 109.7 | 109.8 | 17.2 | 17.1 | 98.9 | 98.9 | RB-16 | 111.0 | 15.0 | P | |
| 88 | RBC-204 | 5/31/1996 | 18190 | 16550 | 125.4 | 18.1 | 107.2 | 107.3 | 16.9 | 16.9 | 96.6 | 96.7 | RB-16 | 111.0 | 15.0 | P | |
| 89 | RBC-205 | 5/31/1996 | 18210 | 16650 | 129.7 | 17.9 | 111.8 | 111.8 | 16.0 | 16.0 | 100.7 | 100.7 | RB-16 | 111.0 | 15.0 | P | |
| 90 | RBC-206 | 5/31/1996 | 18210 | 16730 | 125.1 | 17.1 | 108.0 | 108.0 | 15.8 | 15.8 | 97.3 | 97.3 | RB-16 | 111.0 | 15.0 | P | |
| 91 | RBC-207 | 5/31/1996 | 18170 | 16850 | 128.1 | 17.3 | 110.8 | 110.8 | 15.6 | 15.6 | 99.8 | 99.8 | RB-16 | 111.0 | 15.0 | P | |
| 92 | RBC-230 | 6/4/1996 | 18870 | 16930 | 129.0 | 19.2 | 109.7 | 109.8 | 17.5 | 17.5 | 98.6 | 98.7 | RB-18 | 111.3 | 14.4 | P | |
| | RBC-230S | 6/4/1996 | 18870 | 16930 | 129.8 | | 110.3 | | 17.6 | | 99.1 | | RB-18 | 111.3 | 14.4 | N/A | Sand-Cone |
| 93 | RBC-231 | 6/4/1996 | 18830 | 17050 | 128.2 | 19.5 | 108.7 | 108.7 | 17.9 | 17.9 | 97.7 | 97.7 | RB-18 | 111.3 | 14.4 | P | |
| 94 | RBC-232 | 6/4/1996 | 18850 | 17160 | 124.6 | 18.1 | 106.5 | 106.5 | 17.0 | 17.0 | 95.7 | 95.7 | RB-18 | 111.3 | 14.4 | P | |
| 95 | RBC-233 | 6/4/1996 | 18210 | 16980 | 125.1 | 18.0 | 107.1 | 107.1 | 16.8 | 16.8 | 96.2 | 96.2 | RB-18 | 111.3 | 14.4 | P | |
| 96 | RBC-234 | 6/4/1996 | 18220 | 17080 | 125.4 | 17.6 | 107.8 | 107.8 | 16.3 | 16.3 | 96.9 | 96.9 | RB-18 | 111.3 | 14.4 | P | |
| 97 | RBC-235 | 6/4/1996 | 18140 | 17170 | 131.6 | 18.7 | 112.9 | 112.9 | 16.6 | 16.6 | 101.4 | 101.4 | RB-18 | 111.3 | 14.4 | P | |
| 98 | RBC-236 | 6/5/1996 | 18340 | 17270 | 128.6 | 18.3 | 110.3 | 110.3 | 16.6 | 16.6 | 99.1 | 99.1 | RB-18 | 111.3 | 14.4 | P | |
| 99 | RBC-237 | 6/5/1996 | 18320 | 17370 | 127.8 | 17.0 | 110.8 | 110.8 | 15.4 | 15.3 | 99.6 | 99.6 | RB-18 | 111.3 | 14.4 | P | |
| 100 | RBC-238 | 6/5/1996 | 18180 | 17370 | 126.7 | 18.1 | 108.6 | 108.6 | 16.7 | 16.7 | 97.6 | 97.6 | RB-18 | 111.3 | 14.4 | P | |
| 101 | RBC-239 | 6/5/1996 | 18150 | 17260 | 132.1 | 19.0 | 113.1 | 113.1 | 16.8 | 16.8 | 101.6 | 101.6 | RB-18 | 111.3 | 14.4 | P | |
| 102 | RBC-260 | 6/11/1996 | 18430 | 17340 | 130.2 | 16.8 | 113.4 | 113.4 | 14.8 | 14.8 | 97.5 | 97.5 | RB-20 | 116.3 | 13.7 | P | |
| | RBC-260S | 6/11/1996 | 18430 | 17340 | 133.5 | | 115.9 | | 15.2 | | 99.7 | | RB-20 | 116.3 | 13.7 | N/A | Sand-Cone |
| 103 | RBC-261 | 6/11/1996 | 18440 | 17220 | 127.2 | 16.6 | 110.6 | 110.6 | 15.0 | 15.0 | 95.1 | 95.1 | RB-20 | 116.3 | 13.7 | P | |
| 104 | RBC-264 | 6/18/1996 | 18510 | 16420 | 122.0 | 13.3 | 108.1 | 108.7 | 12.3 | 12.2 | 93.0 | 93.5 | RB-20 | 116.3 | 13.7 | Fail | Fail Moisture & Compaction |
| 105 | RBC-264R | 6/18/1996 | 18510 | 16420 | 129.3 | 17.8 | 111.5 | 111.5 | 16.0 | 16.0 | 95.9 | 95.9 | RB-20 | 116.3 | 13.7 | P | Retest of Test # RBC-264 |
| 106 | RBC-267 | 6/22/1996 | 18450 | 16920 | 131.8 | 17.5 | 114.3 | 114.3 | 15.3 | 15.3 | 98.2 | 98.3 | RB-20 | 116.3 | 13.7 | P | |
| 107 | RBC-272 | 7/10/1996 | 18640 | 16140 | 129.2 | 17.4 | 111.8 | 111.8 | 15.5 | 15.6 | 99.4 | 99.4 | RB-21 | 112.5 | 14.0 | P | |
| 108 | RBC-273 | 7/10/1996 | 18660 | 15940 | 128.3 | 19.2 | 109.1 | 109.1 | 17.6 | 17.6 | 97.0 | 97.0 | RB-21 | 112.5 | 14.0 | P | |
| 109 | RBC-274 | 7/11/1996 | 18760 | 16080 | 128.2 | 17.5 | 110.6 | 110.7 | 15.8 | 15.8 | 98.4 | 98.4 | RB-21 | 112.5 | 14.0 | P | |
| 110 | RBC-275 | 7/11/1996 | 18860 | 16100 | 127.4 | 17.0 | 110.4 | 110.4 | 15.4 | 15.4 | 98.1 | 98.1 | RB-21 | 112.5 | 14.0 | P | |
| 111 | RBC-276 | 7/11/1996 | 18950 | 16130 | 127.2 | 15.8 | 111.4 | 111.4 | 14.2 | 14.2 | 99.0 | 99.0 | RB-21 | 112.5 | 14.0 | P | |
| 112 | RBC-277 | 7/11/1996 | 18960 | 15980 | 128.6 | 18.0 | 110.6 | 110.6 | 16.3 | 16.3 | 98.3 | 98.3 | RB-21 | 112.5 | 14.0 | P | |
| 113 | RBC-278 | 7/11/1996 | 18870 | 15940 | 128.2 | 18.2 | 110.0 | 110.0 | 16.6 | 16.5 | 97.8 | 97.8 | RB-21 | 112.5 | 14.0 | P | |
| 114 | RBC-279 | 7/11/1996 | 18770 | 15910 | 126.4 | 18.7 | 107.7 | 107.7 | 17.4 | 17.4 | 95.8 | 95.7 | RB-21 | 112.5 | 14.0 | P | |
| 115 | RBC-294 | 7/15/1996 | 19070 | 16090 | 127.1 | 20.7 | 106.4 | 106.4 | 19.4 | 19.5 | 95.4 | 95.3 | RB-22 | 111.6 | 15.6 | P | |
| 116 | RBC-295 | 7/15/1996 | 19150 | 16120 | 128.0 | 19.1 | 108.8 | 108.9 | 17.5 | 17.5 | 97.5 | 97.6 | RB-22 | 111.6 | 15.6 | P | |
| 117 | RBC-296 | 7/15/1996 | 19170 | 15990 | 128.2 | 19.8 | 108.4 | 108.4 | 18.3 | 18.3 | 97.1 | 97.1 | RB-22 | 111.6 | 15.6 | P | |
| 118 | RBC-297 | 7/15/1996 | 19050 | 15960 | 124.7 | 17.3 | 107.4 | 107.4 | 16.1 | 16.1 | 96.2 | 96.2 | RB-22 | 111.6 | 15.6 | P | |
| 119 | RBC-298 | 7/16/1996 | 19270 | 15940 | 126.8 | 19.1 | 107.7 | 107.7 | 17.7 | 17.7 | 96.5 | 96.5 | RB-22 | 111.6 | 15.6 | P | |
| 120 | RBC-299 | 7/16/1996 | 19260 | 16140 | 131.3 | 21.1 | 110.2 | 110.2 | 19.2 | 19.1 | 98.7 | 98.7 | RB-22 | 111.6 | 15.6 | P | |
| 121 | RBC-314 | 7/18/1996 | 18720 | 16200 | 132.4 | 18.6 | 113.8 | 113.8 | 16.4 | 16.3 | 97.9 | 97.9 | RB-24 | 116.2 | 12.6 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

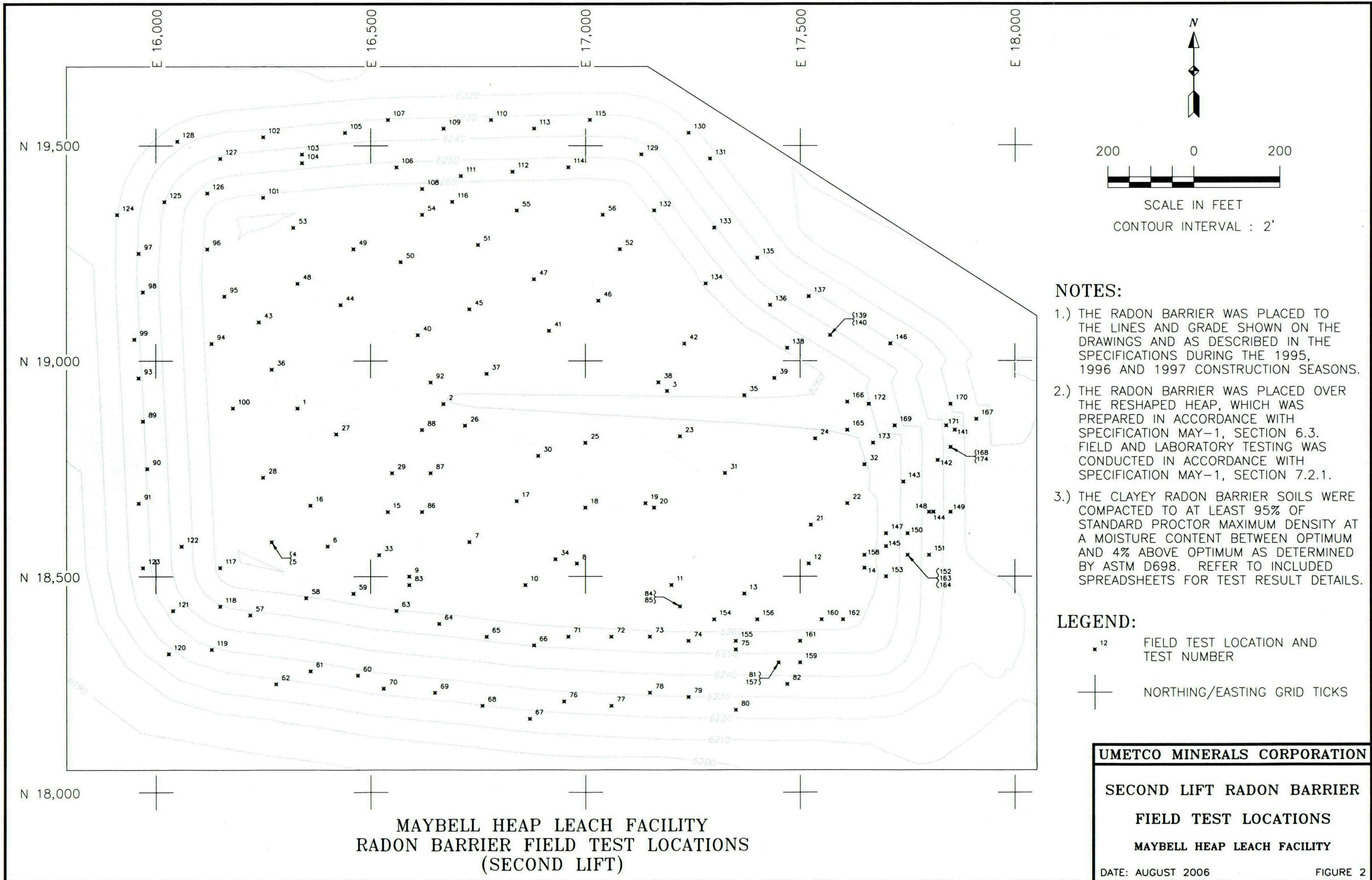
| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| 122 | RBC-317 | 7/25/1996 | 19340 | 16440 | 127.0 | 19.4 | 107.6 | 107.6 | 18.0 | 18.0 | 96.2 | 96.2 | RB-25 | 111.9 | 14.8 | P | |
| 123 | RBC-318 | 7/26/1996 | 19430 | 16250 | 129.5 | 18.0 | 111.5 | 111.5 | 16.2 | 16.1 | 99.6 | 99.6 | RB-25 | 111.9 | 14.8 | P | |
| 124 | RBC-321 | 7/26/1996 | 19330 | 16350 | 122.8 | 16.0 | 106.8 | 106.8 | 15.0 | 15.0 | 95.5 | 95.4 | RB-25 | 111.9 | 14.8 | P | |
| 125 | RBC-327 | 7/29/1996 | 19470 | 16450 | 124.1 | 16.1 | 108.0 | 108.0 | 14.9 | 14.9 | 96.5 | 96.5 | RB-25 | 111.9 | 14.8 | P | |
| 126 | RBC-328 | 7/29/1996 | 19420 | 16450 | 125.8 | 17.8 | 107.9 | 108.0 | 16.5 | 16.5 | 96.5 | 96.5 | RB-25 | 111.9 | 14.8 | P | |
| 127 | RBC-330 | 7/30/1996 | 19530 | 16550 | 131.9 | 19.1 | 112.8 | 112.8 | 17.0 | 16.9 | 97.6 | 97.7 | RB-26 | 115.5 | 13.3 | P | |
| | RBC-330S | 7/30/1996 | 19530 | 16550 | 130.3 | | 113.4 | | 14.9 | | 98.1 | | RB-26 | 115.5 | 13.3 | N/A | |
| 128 | RBC-336 | 7/30/1996 | 19470 | 16640 | 128.4 | 18.4 | 109.9 | 110.0 | 16.8 | 16.7 | 95.1 | 95.2 | RB-26 | 115.5 | 13.3 | P | |
| 129 | RBC-341 | 8/2/1996 | 19530 | 16760 | 126.6 | 15.5 | 111.1 | 111.1 | 14.0 | 14.0 | 96.2 | 96.2 | RB-26 | 115.5 | 13.3 | P | |
| 130 | RBC-344 | 8/2/1996 | 19450 | 16860 | 125.9 | 15.1 | 110.8 | 110.8 | 13.7 | 13.6 | 95.8 | 95.9 | RB-26 | 115.5 | 13.3 | P | |
| 131 | RBC-347 | 8/2/1996 | 19550 | 16910 | 130.0 | 17.5 | 112.5 | 112.5 | 15.5 | 15.6 | 99.7 | 99.6 | RB-27 | 112.9 | 14.9 | P | |
| 132 | RBC-348 | 8/2/1996 | 19470 | 17020 | 127.8 | 17.8 | 110.0 | 110.0 | 16.2 | 16.2 | 97.5 | 97.4 | RB-27 | 112.9 | 14.9 | P | |
| 133 | RBC-360 | 8/27/1996 | 18300 | 16150 | 127.2 | 16.5 | 110.7 | 110.7 | 14.9 | 14.9 | 96.2 | 96.3 | RB-28 | 115.0 | 13.0 | P | |
| | RBC-360S | 8/27/1996 | 18300 | 16150 | 127.3 | | 110.0 | 127.3 | 15.8 | 0.0 | 95.6 | | RB-28 | 115.0 | 13.0 | N/A | |
| 134 | RBC-361 | 8/27/1996 | 18480 | 16160 | 128.4 | 18.2 | 110.2 | 110.2 | 16.5 | 16.5 | 95.8 | 95.8 | RB-28 | 115.0 | 13.0 | P | |
| 135 | RBC-362 | 8/27/1996 | 18390 | 16160 | 133.8 | 19.5 | 114.4 | 114.3 | 17.0 | 17.1 | 99.4 | 99.4 | RB-28 | 115.0 | 13.0 | P | Verification calculation indicates failed moisture by plus 0.1% |
| 136 | RBC-363 | 8/27/1996 | 18370 | 16040 | 129.2 | 18.8 | 110.4 | 110.4 | 17.0 | 17.0 | 96.0 | 96.0 | RB-28 | 115.0 | 13.0 | P | |
| 137 | RBC-364 | 8/27/1996 | 18580 | 16110 | 126.5 | 17.1 | 109.4 | 109.4 | 15.6 | 15.6 | 95.1 | 95.1 | RB-28 | 115.0 | 13.0 | P | |
| 138 | RBC-365 | 8/27/1996 | 18560 | 15980 | 130.0 | 18.3 | 111.7 | 111.7 | 16.4 | 16.4 | 97.1 | 97.1 | RB-28 | 115.0 | 13.0 | P | |
| 139 | RBC-366 | 8/27/1996 | 18360 | 15950 | 126.9 | 17.3 | 109.6 | 109.6 | 15.8 | 15.8 | 95.3 | 95.3 | RB-28 | 115.0 | 13.0 | P | |
| 140 | RBC-381 | 9/3/1996 | 19320 | 16130 | 129.6 | 16.7 | 112.9 | 112.9 | 14.8 | 14.8 | 97.8 | 97.7 | RB-29 | 115.5 | 13.1 | P | |
| 141 | RBC-382 | 9/3/1996 | 19390 | 16080 | 129.2 | 16.0 | 113.2 | 113.2 | 14.1 | 14.1 | 98.0 | 98.0 | RB-29 | 115.5 | 13.1 | P | |
| 142 | RBC-383 | 9/3/1996 | 19370 | 15970 | 130.1 | 16.1 | 114.0 | 114.0 | 14.1 | 14.1 | 98.7 | 98.7 | RB-29 | 115.5 | 13.1 | P | |
| 143 | RBC-384 | 9/3/1996 | 19400 | 16153 | 131.6 | 18.8 | 112.9 | 112.8 | 16.6 | 16.7 | 97.7 | 97.7 | RB-29 | 115.5 | 13.1 | P | |
| 144 | RBC-385 | 9/3/1996 | 19520 | 16130 | 128.7 | 18.4 | 110.3 | 110.3 | 16.7 | 16.7 | 95.4 | 95.5 | RB-29 | 115.5 | 13.1 | P | |
| 145 | RBC-396 | 9/23/1996 | 19410 | 17140 | 126.7 | 17.1 | 109.6 | 109.6 | 15.6 | 15.6 | 95.6 | 95.6 | RB-30 | 114.7 | 14.9 | P | |
| 146 | RBC-397 | 9/23/1996 | 19540 | 17160 | 127.7 | 17.0 | 110.7 | 110.7 | 15.4 | 15.4 | 96.4 | 96.5 | RB-30 | 114.7 | 14.9 | P | |
| 147 | RBC-398 | 9/23/1996 | 19390 | 17250 | 125.2 | 16.2 | 109.0 | 109.0 | 14.9 | 14.9 | 95.0 | 95.0 | RB-30 | 114.7 | 14.9 | P | |
| 148 | RBC-399 | 9/23/1996 | 19220 | 17240 | 128.9 | 19.1 | 109.8 | 109.8 | 17.4 | 17.4 | 95.7 | 95.7 | RB-30 | 114.7 | 14.9 | P | |
| 149 | RBC-400 | 9/23/1996 | 19350 | 17330 | 128.0 | 18.5 | 109.5 | 109.5 | 16.9 | 16.9 | 95.4 | 95.5 | RB-30 | 114.7 | 14.9 | P | |
| | RBC-400S | 9/23/1996 | 19350 | 17330 | 129.2 | | 109.9 | | 17.6 | | 95.8 | | RB-30 | 114.7 | 14.9 | N/A | |
| 150 | RBC-411 | 10/1/1996 | 19140 | 17280 | 129.2 | 18.6 | 110.6 | 110.6 | 16.8 | 16.8 | 96.3 | 96.3 | RB-31 | 114.8 | 13.0 | P | |
| 151 | RBC-412 | 10/1/1996 | 19110 | 17380 | 129.8 | 18.5 | 111.3 | 111.3 | 16.6 | 16.6 | 96.9 | 97.0 | RB-31 | 114.8 | 13.0 | P | |
| 152 | RBC-413 | 10/1/1996 | 19150 | 17460 | 128.6 | 18.4 | 110.2 | 110.2 | 16.7 | 16.7 | 95.9 | 96.0 | RB-31 | 114.8 | 13.0 | P | |
| 153 | RBC-414 | 10/1/1996 | 19070 | 17490 | 128.9 | 18.1 | 110.8 | 110.8 | 16.3 | 16.3 | 96.5 | 96.5 | RB-31 | 114.8 | 13.0 | P | |
| 154 | RBC-415 | 10/1/1996 | 19060 | 17570 | 127.9 | 17.7 | 110.2 | 110.2 | 16.1 | 16.1 | 96.0 | 96.0 | RB-31 | 114.8 | 13.0 | P | |
| 155 | RBC-422 | 10/4/1996 | 18850 | 17800 | 131.4 | 16.4 | 115.0 | 115.0 | 14.3 | 14.3 | 100.2 | 100.3 | RB-32 | 114.7 | 13.5 | P | |
| 156 | RBC-423 | 10/4/1996 | 18750 | 17750 | 131.1 | 15.8 | 115.3 | 115.3 | 13.9 | 13.7 | 100.5 | 100.5 | RB-32 | 114.7 | 13.5 | P | |
| 157 | RBC-424 | 10/4/1996 | 18670 | 17730 | 127.5 | 16.0 | 111.5 | 111.5 | 14.4 | 14.3 | 97.2 | 97.2 | RB-32 | 114.7 | 13.5 | P | |
| 158 | RBC-425 | 10/4/1996 | 18650 | 17860 | 125.2 | 14.9 | 110.4 | 110.3 | 13.5 | 13.5 | 96.2 | 96.2 | RB-32 | 114.7 | 13.5 | P | |
| 159 | RBC-426 | 10/4/1996 | 18570 | 17780 | 129.8 | 15.7 | 114.0 | 114.1 | 13.8 | 13.8 | 99.4 | 99.5 | RB-32 | 114.7 | 13.5 | P | |
| 160 | RBC-442 | 10/15/1996 | 19050 | 17660 | 127.9 | 15.2 | 112.7 | 112.7 | 13.5 | 13.5 | 95.8 | 95.8 | RB-33 | 117.6 | 12.5 | P | |
| 161 | RBC-443 | 10/15/1996 | 18950 | 17660 | 129.3 | 17.5 | 111.8 | 111.8 | 15.7 | 15.7 | 95.1 | 95.1 | RB-33 | 117.6 | 12.5 | P | |
| 162 | RBC-457 | 5/28/1997 | 18600 | 17800 | 130.0 | 19.8 | 110.3 | 110.3 | 17.9 | 17.9 | 95.2 | 95.2 | RB-37 | 115.8 | 14.9 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|----------------------------|
| 163 | RBC-458 | 5/28/1997 | 18500 | 17750 | 128.0 | 17.5 | 110.5 | 110.5 | 15.8 | 15.8 | 95.4 | 95.4 | RB-37 | 115.8 | 14.9 | P | |
| 164 | RBC-459 | 5/28/1997 | 18550 | 17775 | 129.0 | 17.0 | 112.0 | 112.0 | 15.1 | 15.2 | 96.7 | 96.7 | RB-37 | 115.8 | 14.9 | P | |
| 165 | RBC-460 | 5/28/1997 | 18500 | 17700 | 129.3 | 17.3 | 112.0 | 112.0 | 15.4 | 15.4 | 96.7 | 96.7 | RB-37 | 115.8 | 14.9 | P | |
| 166 | RBC-461 | 5/28/1997 | 18550 | 17800 | 129.5 | 17.5 | 112.0 | 112.0 | 15.6 | 15.6 | 96.7 | 96.7 | RB-37 | 115.8 | 14.9 | P | |
| 167 | RBC-462 | 5/28/1997 | 18400 | 17300 | 128.0 | 17.5 | 110.5 | 110.5 | 15.8 | 15.8 | 95.4 | 95.4 | RB-37 | 115.8 | 14.9 | P | |
| 168 | RBC-463 | 5/28/1997 | 18300 | 17350 | 128.5 | 17.0 | 111.5 | 111.5 | 15.2 | 15.2 | 96.3 | 96.3 | RB-37 | 115.8 | 14.9 | P | |
| 169 | RBC-464 | 5/28/1997 | 18400 | 17400 | 129.5 | 17.5 | 112.0 | 112.0 | 15.6 | 15.6 | 96.7 | 96.7 | RB-37 | 115.8 | 14.9 | P | |
| 170 | RBC-465 | 5/28/1997 | 18300 | 17450 | 128.8 | 18.5 | 110.3 | 110.3 | 16.7 | 16.8 | 95.2 | 95.2 | RB-37 | 115.8 | 14.9 | P | |
| 171 | RBC-479 | 6/4/1997 | 18500 | 17600 | 128.5 | 16.0 | 112.5 | 112.5 | 14.2 | 14.2 | 95.7 | 95.7 | RB-39 | 117.5 | 14.2 | P | |
| 172 | RBC-482 | 6/10/1997 | 18400 | 17500 | 130.0 | 16.3 | 113.8 | 113.8 | 14.3 | 14.3 | 96.8 | 96.8 | RB-39 | 117.5 | 14.2 | P | |
| 173 | RBC-483 | 6/10/1997 | 18300 | 17550 | 132.0 | 17.0 | 115.0 | 115.0 | 14.8 | 14.8 | 97.8 | 97.9 | RB-39 | 117.5 | 14.2 | P | |
| 174 | RBC-484 | 6/11/1997 | 18400 | 17600 | 131.0 | 16.5 | 114.5 | 114.5 | 14.4 | 14.4 | 97.4 | 97.4 | RB-39 | 117.5 | 14.2 | P | |
| 175 | RBC-485 | 6/11/1997 | 18500 | 17700 | 130.5 | 16.5 | 114.0 | 114.0 | 14.5 | 14.5 | 97.0 | 97.0 | RB-39 | 117.5 | 14.2 | P | |
| 176 | RBC-486 | 6/11/1997 | 18550 | 17750 | 130.0 | 18.3 | 111.8 | 111.8 | 16.3 | 16.3 | 95.1 | 95.1 | RB-39 | 117.5 | 14.2 | P | |
| | RBC-486S | 6/11/1997 | 18550 | 17750 | 130.2 | 18.1 | 112.1 | 112.1 | 16.2 | 16.2 | 95.4 | 95.4 | RB-39 | 117.5 | 14.2 | N/A | Sand-Cone |
| 177 | RBC-512 | 8/28/1997 | 18905 | 17470 | 130.9 | 18.0 | 112.8 | 112.9 | 16.0 | 15.9 | 95.4 | 95.5 | RB-42 | 118.2 | 13.9 | P | |
| 178 | RBC-514 | 9/3/1997 | 18850 | 17570 | 130.9 | 18.1 | 112.7 | 112.8 | 16.1 | 16.0 | 95.4 | 95.4 | RB-42 | 118.2 | 13.9 | P | Reverification of 1st Lift |
| 179 | RBC-520 | 9/4/1997 | 18890 | 17620 | 126.1 | 18.9 | 107.1 | 107.2 | 17.7 | 17.6 | 91.8 | 91.9 | RB-43 | 116.6 | 14.1 | Fail | Fail Compaction |
| 180 | RBC-521 | 9/4/1997 | 18890 | 17620 | 128.4 | 17.6 | 110.8 | 110.8 | 15.8 | 15.9 | 95.0 | 95.0 | RB-43 | 116.6 | 14.1 | P | Retest of Test # RBC-520 |
| 181 | RBC-523 | 9/4/1997 | 18850 | 17840 | 131.4 | 17.5 | 113.9 | 113.9 | 15.4 | 15.4 | 97.6 | 97.7 | RB-43 | 116.6 | 14.1 | P | |
| 182 | RBC-524 | 9/5/1997 | 18910 | 17660 | 129.4 | 17.9 | 111.5 | 111.5 | 16.1 | 16.1 | 95.5 | 95.6 | RB-43 | 116.6 | 14.1 | P | |
| 183 | RBC-525 | 9/5/1997 | 18950 | 17810 | 130.5 | 17.0 | 113.4 | 113.5 | 15.0 | 15.0 | 97.3 | 97.3 | RB-43 | 116.6 | 14.1 | P | |
| 184 | RBC-528 | 9/9/1997 | 18810 | 17670 | 128.1 | 18.2 | 109.9 | 109.9 | 16.5 | 16.6 | 93.7 | 93.7 | RB-44 | 117.3 | 14.2 | Fail | Fail Compaction |
| 185 | RBC-529 | 9/9/1997 | 18810 | 17670 | 128.9 | 16.9 | 112.0 | 112.0 | 15.1 | 15.1 | 95.4 | 95.5 | RB-44 | 117.3 | 14.2 | P | Retest of Test # RBC-528 |



NOTES:

- 1.) THE RADON BARRIER WAS PLACED TO THE LINES AND GRADE SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS DURING THE 1995, 1996 AND 1997 CONSTRUCTION SEASONS.
- 2.) THE RADON BARRIER WAS PLACED OVER THE RESHAPED HEAP, WHICH WAS PREPARED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 6.3. FIELD AND LABORATORY TESTING WAS CONDUCTED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 7.2.1.
- 3.) THE CLAYEY RADON BARRIER SOILS WERE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM AS DETERMINED BY ASTM D698. REFER TO INCLUDED SPREADSHEETS FOR TEST RESULT DETAILS.

LEGEND:

- 12 FIELD TEST LOCATION AND TEST NUMBER
- NORTHING/EASTING GRID TICKS

UMETCO MINERALS CORPORATION

SECOND LIFT RADON BARRIER

FIELD TEST LOCATIONS

MAYBELL HEAP LEACH FACILITY

DATE: AUGUST 2006

FIGURE 2

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 2

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|-------------------------|
| 1 | RBC-15 | 7/28/1995 | 18890 | 16330 | 126.9 | 20.7 | 106.2 | 106.2 | 19.5 | 19.5 | 98.5 | 98.5 | RB-2 | 107.8 | 17.6 | P | |
| 2 | RBC-16 | 7/28/1995 | 18900 | 16670 | 126.2 | 21.0 | 105.2 | 105.2 | 20.0 | 20.0 | 97.6 | 97.6 | RB-2 | 107.8 | 17.6 | P | |
| 3 | RBC-17 | 7/28/1995 | 18930 | 17190 | 127.3 | 19.6 | 107.7 | 107.7 | 18.2 | 18.2 | 99.9 | 99.9 | RB-2 | 107.8 | 17.6 | P | |
| 4 | RBC-30 | 8/3/1995 | 18580 | 16270 | 129.3 | 16.6 | 112.6 | 112.7 | 14.8 | 14.7 | 104.3 | 104.4 | RB-3 | 108.0 | 17.5 | Fail | Fail Moisture |
| 5 | RBC-30R | 8/3/1995 | 18580 | 16270 | 129.2 | 22.1 | 107.1 | 107.1 | 20.7 | 20.6 | 99.2 | 99.2 | RB-3 | 108.0 | 17.5 | P | Retest of Test # RBC-30 |
| | RBC-30RS | 8/3/1995 | 18580 | 16270 | 128.4 | | 106.6 | | 20.5 | | 98.7 | | RB-3 | 108.0 | 17.5 | N/A | Sand-Cone, Retest |
| 6 | RBC-31 | 8/3/1995 | 18570 | 16400 | 126.2 | 21.3 | 104.9 | 104.9 | 20.3 | 20.3 | 97.1 | 97.1 | RB-3 | 108.0 | 17.5 | P | |
| 7 | RBC-32 | 8/3/1995 | 18580 | 16730 | 125.0 | 20.6 | 104.3 | 104.4 | 19.8 | 19.7 | 96.6 | 96.7 | RB-3 | 108.0 | 17.5 | P | |
| 8 | RBC-33 | 8/3/1995 | 18530 | 16980 | 127.3 | 21.5 | 105.8 | 105.8 | 20.4 | 20.3 | 98.0 | 98.0 | RB-3 | 108.0 | 17.5 | P | |
| 9 | RBC-39 | 8/4/1995 | 18500 | 16590 | 126.7 | 19.9 | 106.8 | 106.8 | 18.7 | 18.6 | 98.9 | 98.9 | RB-3 | 108.0 | 17.5 | P | |
| 10 | RBC-40 | 8/4/1995 | 18480 | 16860 | 126.2 | 21.8 | 104.4 | 104.4 | 20.9 | 20.9 | 96.7 | 96.7 | RB-3 | 108.0 | 17.5 | P | |
| | RBC-40S | 8/4/1995 | 18480 | 16860 | 125.8 | | 104.2 | | 20.7 | | 96.5 | | RB-3 | 108.0 | 17.5 | N/A | Sand-Cone |
| 11 | RBC-41 | 8/4/1995 | 18480 | 17200 | 127.0 | 19.4 | 107.6 | 107.6 | 18.0 | 18.0 | 99.6 | 99.6 | RB-3 | 108.0 | 17.5 | P | |
| 12 | RBC-42 | 8/4/1995 | 18530 | 17520 | 124.5 | 20.8 | 103.6 | 103.7 | 20.1 | 20.1 | 95.9 | 96.0 | RB-3 | 108.0 | 17.5 | P | |
| 13 | RBC-43 | 8/4/1995 | 18460 | 17370 | 125.6 | 20.3 | 105.3 | 105.3 | 19.3 | 19.3 | 97.5 | 97.5 | RB-3 | 108.0 | 17.5 | P | |
| 14 | RBC-44 | 8/4/1995 | 18520 | 17650 | 124.7 | 20.7 | 104.0 | 104.0 | 19.8 | 19.9 | 96.3 | 96.3 | RB-3 | 108.0 | 17.5 | P | |
| 15 | RBC-45 | 8/9/1995 | 18650 | 16540 | 126.4 | 19.6 | 106.8 | 106.8 | 18.3 | 18.4 | 97.8 | 97.8 | RB-4 | 109.2 | 17.4 | P | |
| 16 | RBC-46 | 8/9/1995 | 18665 | 16360 | 124.5 | 18.5 | 106.0 | 106.0 | 17.4 | 17.5 | 97.1 | 97.1 | RB-4 | 109.2 | 17.4 | P | |
| 17 | RBC-47 | 8/9/1995 | 18675 | 16840 | 124.3 | 20.0 | 104.3 | 104.3 | 19.1 | 19.2 | 95.5 | 95.5 | RB-4 | 109.2 | 17.4 | P | |
| 18 | RBC-50 | 8/9/1995 | 18660 | 17000 | 124.6 | 20.6 | 104.1 | 104.0 | 19.7 | 19.8 | 95.3 | 95.2 | RB-4 | 109.2 | 17.4 | P | |
| | RBC-50S | 8/9/1995 | 18660 | 17000 | 124.6 | | 104.0 | | 19.8 | | 95.2 | | RB-4 | 109.2 | 17.4 | N/A | Sand-Cone |
| 19 | RBC-51 | 8/9/1995 | 18670 | 17140 | 125.6 | 18.9 | 106.7 | 106.7 | 17.7 | 17.7 | 97.7 | 97.7 | RB-4 | 109.2 | 17.4 | P | |
| 20 | RBC-52 | 8/9/1995 | 18660 | 17160 | 125.6 | 18.6 | 107.0 | 107.0 | 17.4 | 17.4 | 98.0 | 98.0 | RB-4 | 109.2 | 17.4 | P | |
| 21 | RBC-53 | 8/9/1995 | 18620 | 17525 | 127.1 | 19.7 | 107.4 | 107.4 | 18.3 | 18.3 | 98.4 | 98.4 | RB-4 | 109.2 | 17.4 | P | |
| 22 | RBC-54 | 8/9/1995 | 18670 | 17610 | 123.9 | 19.8 | 104.1 | 104.1 | 19.0 | 19.0 | 95.3 | 95.3 | RB-4 | 109.2 | 17.4 | P | |
| 23 | RBC-77 | 8/29/1995 | 18825 | 17220 | 125.7 | 19.5 | 106.2 | 106.2 | 18.4 | 18.4 | 98.9 | 98.9 | RB-6 | 107.4 | 17.8 | P | |
| 24 | RBC-78 | 8/29/1995 | 18820 | 17535 | 124.4 | 20.1 | 104.3 | 104.3 | 19.3 | 19.3 | 97.1 | 97.1 | RB-6 | 107.4 | 17.8 | P | |
| 25 | RBC-91 | 8/30/1995 | 18810 | 17000 | 128.2 | 19.9 | 108.3 | 108.3 | 18.4 | 18.4 | 98.9 | 98.9 | RB-7 | 109.5 | 16.0 | P | |
| 26 | RBC-92 | 8/30/1995 | 18850 | 16720 | 123.7 | 19.5 | 104.2 | 104.2 | 18.7 | 18.7 | 95.2 | 95.2 | RB-7 | 109.5 | 16.0 | P | |
| 27 | RBC-93 | 8/30/1995 | 18830 | 16420 | 124.3 | 17.7 | 106.6 | 106.6 | 16.6 | 16.6 | 97.3 | 97.4 | RB-7 | 109.5 | 16.0 | P | |
| 28 | RBC-97 | 8/30/1995 | 18730 | 16250 | 123.1 | 19.1 | 104.1 | 104.0 | 18.3 | 18.4 | 95.0 | 95.0 | RB-7 | 109.5 | 16.0 | P | |
| 29 | RBC-98 | 8/30/1995 | 18740 | 16550 | 124.0 | 18.5 | 105.5 | 105.5 | 17.6 | 17.5 | 96.3 | 96.3 | RB-7 | 109.5 | 16.0 | P | |
| 30 | RBC-99 | 8/30/1995 | 18780 | 16890 | 123.5 | 18.1 | 105.4 | 105.4 | 17.2 | 17.2 | 96.3 | 96.3 | RB-7 | 109.5 | 16.0 | P | |
| 31 | RBC-103 | 8/31/1995 | 18740 | 17325 | 128.6 | 18.2 | 110.4 | 110.4 | 16.5 | 16.5 | 100.9 | 100.8 | RB-7 | 109.5 | 16.0 | P | |
| 32 | RBC-104 | 8/31/1995 | 18760 | 17650 | 122.3 | 16.9 | 105.4 | 105.4 | 16.0 | 16.0 | 96.3 | 96.3 | RB-7 | 109.5 | 16.0 | P | |
| 33 | RBC-119 | 9/26/1995 | 18550 | 16520 | 124.0 | 16.7 | 107.3 | 107.3 | 15.5 | 15.6 | 96.4 | 96.3 | RB-8 | 111.4 | 15.4 | P | |
| 34 | RBC-120 | 9/26/1995 | 18540 | 16930 | 125.4 | 19.6 | 105.8 | 105.8 | 18.5 | 18.5 | 95.3 | 95.3 | RB-9 | 111.0 | 15.8 | P | |
| | RBC-120S | 9/26/1995 | 18540 | 16930 | 125.9 | | 106.3 | | 18.5 | | 95.7 | | RB-9 | 111.0 | 15.8 | N/A | Sand-Cone |
| 35 | RBC-122 | 9/27/1995 | 18920 | 17370 | 127.5 | 18.2 | 109.3 | 109.3 | 16.7 | 16.7 | 98.5 | 98.5 | RB-9 | 111.0 | 15.8 | P | |
| 36 | RBC-139 | 10/2/1995 | 18980 | 16270 | 126.9 | 19.4 | 107.6 | 107.5 | 18.0 | 18.0 | 97.0 | 96.9 | RB-10 | 110.9 | 15.4 | P | |
| 37 | RBC-140 | 10/2/1995 | 18970 | 16770 | 126.1 | 20.0 | 106.1 | 106.1 | 18.8 | 18.9 | 95.7 | 95.7 | RB-10 | 110.9 | 15.4 | P | |
| | RBC-140S | 10/2/1995 | 18970 | 16770 | 127.0 | | 107.3 | | 18.4 | | 96.8 | | RB-10 | 110.9 | 15.4 | N/A | Sand-Cone |
| 38 | RBC-141 | 10/2/1995 | 18950 | 17170 | 126.9 | 18.5 | 108.4 | 108.4 | 17.1 | 17.1 | 97.8 | 97.7 | RB-10 | 110.9 | 15.4 | P | |
| 39 | RBC-142 | 10/2/1995 | 18960 | 17440 | 125.6 | 19.5 | 106.0 | 106.1 | 18.4 | 18.4 | 95.6 | 95.7 | RB-10 | 110.9 | 15.4 | P | |
| 40 | RBC-147 | 10/3/1995 | 19060 | 16610 | 127.8 | 17.1 | 110.7 | 110.7 | 15.4 | 15.4 | 99.8 | 99.8 | RB-10 | 110.9 | 15.4 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 2

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 41 | RBC-148 | 10/3/1995 | 19070 | 16915 | 123.4 | 17.3 | 106.1 | 106.1 | 16.3 | 16.3 | 95.7 | 95.7 | RB-10 | 110.9 | 15.4 | P | |
| 42 | RBC-149 | 10/3/1995 | 19040 | 17230 | 126.5 | 16.9 | 110.0 | 109.6 | 15.4 | 15.4 | 99.2 | 98.8 | RB-10 | 110.9 | 15.4 | P | |
| 43 | RBC-150 | 10/3/1995 | 19090 | 16240 | 125.1 | 17.6 | 107.4 | 107.5 | 16.4 | 16.4 | 97.4 | 97.5 | RB-11 | 110.3 | 16.2 | P | |
| | RBC-150S | 10/3/1995 | 19090 | 16240 | 126.7 | | 108.5 | | 16.8 | | 98.4 | | RB-11 | 110.3 | 16.2 | N/A | Sand-Cone |
| 44 | RBC-151 | 10/3/1995 | 19130 | 16430 | 124.3 | 17.4 | 106.9 | 106.9 | 16.3 | 16.3 | 96.9 | 96.9 | RB-11 | 110.3 | 16.2 | P | |
| 45 | RBC-152 | 10/3/1995 | 19120 | 16730 | 127.5 | 18.1 | 109.4 | 109.4 | 16.5 | 16.5 | 99.2 | 99.2 | RB-11 | 110.3 | 16.2 | P | |
| 46 | RBC-153 | 10/3/1995 | 19140 | 17030 | 127.7 | 17.9 | 109.8 | 109.8 | 16.3 | 16.3 | 99.6 | 99.5 | RB-11 | 110.3 | 16.2 | P | |
| 47 | RBC-156 | 10/10/1995 | 19190 | 16880 | 124.2 | 18.9 | 105.3 | 105.3 | 18.0 | 17.9 | 95.5 | 95.5 | RB-11 | 110.3 | 16.2 | P | |
| 48 | RBC-157 | 10/10/1995 | 19180 | 16330 | 126.3 | 18.5 | 107.8 | 107.8 | 17.2 | 17.2 | 97.7 | 97.7 | RB-11 | 110.3 | 16.2 | P | |
| 49 | RBC-170 | 10/18/1995 | 19260 | 16460 | 129.4 | 16.6 | 112.8 | 112.8 | 14.7 | 14.7 | 97.7 | 97.7 | RB-13 | 115.4 | 14.2 | P | |
| | RBC-170S | 10/18/1995 | 19260 | 16460 | 129.5 | | 112.8 | | 14.8 | | 97.8 | | RB-13 | 115.4 | 14.2 | N/A | Sand-Cone |
| 50 | RBC-171 | 10/18/1995 | 19230 | 16570 | 130.2 | 18.8 | 111.4 | 111.4 | 16.8 | 16.9 | 96.5 | 96.5 | RB-13 | 115.4 | 14.2 | P | |
| 51 | RBC-172 | 10/18/1995 | 19270 | 16750 | 129.3 | 18.3 | 111.0 | 111.0 | 16.5 | 16.5 | 96.1 | 96.2 | RB-13 | 115.4 | 14.2 | P | |
| 52 | RBC-173 | 10/18/1995 | 19260 | 17080 | 128.6 | 15.9 | 112.7 | 112.7 | 14.1 | 14.1 | 97.6 | 97.7 | RB-13 | 115.4 | 14.2 | P | Verification calculation indicates failed moisture by minus 0.1% |
| 53 | RBC-174 | 10/19/1995 | 19310 | 16320 | 129.4 | 17.2 | 112.2 | 112.2 | 15.3 | 15.3 | 97.2 | 97.2 | RB-13 | 115.4 | 14.2 | P | |
| 54 | RBC-175 | 10/19/1995 | 19340 | 16620 | 128.7 | 17.4 | 111.3 | 111.3 | 15.6 | 15.6 | 96.5 | 96.4 | RB-13 | 115.4 | 14.2 | P | |
| 55 | RBC-176 | 10/19/1995 | 19350 | 16840 | 128.5 | 17.1 | 111.4 | 111.4 | 15.4 | 15.4 | 96.5 | 96.5 | RB-13 | 115.4 | 14.2 | P | |
| 56 | RBC-177 | 10/19/1995 | 19340 | 17040 | 129.0 | 17.0 | 112.0 | 112.0 | 15.2 | 15.2 | 97.1 | 97.1 | RB-13 | 115.4 | 14.2 | P | |
| 57 | RBC-194 | 5/31/1996 | 18410 | 16220 | 129.0 | 20.5 | 108.5 | 108.5 | 18.9 | 18.9 | 97.6 | 97.6 | RB-15 | 111.2 | 14.9 | P | |
| 58 | RBC-195 | 5/31/1996 | 18450 | 16350 | 130.0 | 18.0 | 112.0 | 112.0 | 16.0 | 16.1 | 100.7 | 100.7 | RB-15 | 111.2 | 14.9 | P | |
| 59 | RBC-196 | 5/31/1996 | 18460 | 16460 | 128.7 | 16.7 | 112.1 | 112.0 | 14.9 | 14.9 | 100.8 | 100.7 | RB-15 | 111.2 | 14.9 | P | |
| 60 | RBC-197 | 5/31/1996 | 18270 | 16470 | 125.3 | 18.7 | 106.5 | 106.6 | 17.6 | 17.5 | 95.8 | 95.9 | RB-15 | 111.2 | 14.9 | P | |
| 61 | RBC-198 | 5/31/1996 | 18280 | 16360 | 124.5 | 16.6 | 107.9 | 107.9 | 15.4 | 15.4 | 97.1 | 97.0 | RB-15 | 111.2 | 14.9 | P | |
| 62 | RBC-199 | 5/31/1996 | 18250 | 16280 | 128.4 | 17.9 | 110.5 | 110.5 | 16.2 | 16.2 | 99.4 | 99.4 | RB-15 | 111.2 | 14.9 | P | |
| 63 | RBC-208 | 6/3/1996 | 18420 | 16560 | 129.5 | 18.5 | 111.0 | 111.0 | 16.7 | 16.7 | 100.0 | 100.0 | RB-16 | 111.0 | 15.0 | P | |
| 64 | RBC-209 | 6/3/1996 | 18390 | 16660 | 129.2 | 17.0 | 112.2 | 112.2 | 15.2 | 15.2 | 101.1 | 101.1 | RB-16 | 111.0 | 15.0 | P | |
| 65 | RBC-210 | 6/3/1996 | 18360 | 16770 | 128.6 | 16.9 | 111.7 | 111.7 | 15.1 | 15.1 | 100.6 | 100.6 | RB-16 | 111.0 | 15.0 | P | |
| | RBC-210S | 6/3/1996 | 18360 | 16770 | 129.4 | | 112.2 | | 15.4 | | 101.1 | | RB-16 | 111.0 | 15.0 | N/A | Sand-Cone |
| 66 | RBC-211 | 6/3/1996 | 18340 | 16880 | 126.6 | 16.9 | 109.6 | 109.7 | 15.5 | 15.4 | 98.7 | 98.8 | RB-16 | 111.0 | 15.0 | P | |
| 67 | RBC-212 | 6/3/1996 | 18170 | 16870 | 128.2 | 17.6 | 110.6 | 110.6 | 15.9 | 15.9 | 99.6 | 99.6 | RB-16 | 111.0 | 15.0 | P | |
| 68 | RBC-213 | 6/3/1996 | 18200 | 16760 | 129.0 | 17.8 | 111.2 | 111.2 | 16.0 | 16.0 | 100.2 | 100.2 | RB-16 | 111.0 | 15.0 | P | |
| 69 | RBC-214 | 6/3/1996 | 18230 | 16650 | 128.1 | 17.3 | 110.8 | 110.8 | 15.6 | 15.6 | 99.8 | 99.8 | RB-16 | 111.0 | 15.0 | P | |
| 70 | RBC-215 | 6/3/1996 | 18240 | 16530 | 128.5 | 17.6 | 110.9 | 110.9 | 15.9 | 15.9 | 99.9 | 99.9 | RB-17 | 111.0 | 15.1 | P | |
| 71 | RBC-240 | 6/5/1996 | 18360 | 16960 | 130.8 | 17.2 | 113.6 | 113.6 | 15.2 | 15.1 | 102.1 | 102.1 | RB-18 | 111.3 | 14.4 | P | |
| | RBC-240S | 6/5/1996 | 18360 | 16960 | 128.0 | | 111.5 | | 14.8 | | 100.2 | | RB-18 | 111.3 | 14.4 | N/A | Sand-Cone |
| 72 | RBC-241 | 6/5/1996 | 18360 | 17060 | 130.9 | 17.6 | 113.3 | 113.3 | 15.5 | 15.5 | 101.8 | 101.8 | RB-18 | 111.3 | 14.4 | P | |
| 73 | RBC-242 | 6/5/1996 | 18360 | 17150 | 132.7 | 17.8 | 114.9 | 114.9 | 15.5 | 15.5 | 103.2 | 103.2 | RB-18 | 111.3 | 14.4 | P | |
| 74 | RBC-243 | 6/5/1996 | 18350 | 17240 | 129.6 | 17.9 | 111.7 | 111.7 | 16.0 | 16.0 | 100.4 | 100.4 | RB-18 | 111.3 | 14.4 | P | |
| 75 | RBC-244 | 6/5/1996 | 18330 | 17350 | 130.7 | 17.6 | 113.1 | 113.1 | 15.6 | 15.6 | 101.6 | 101.6 | RB-18 | 111.3 | 14.4 | P | |
| 76 | RBC-245 | 6/5/1996 | 18210 | 19950 | 128.8 | 18.0 | 110.8 | 110.8 | 16.2 | 16.2 | 98.8 | 98.8 | RB-19 | 112.2 | 14.9 | P | |
| 77 | RBC-246 | 6/5/1996 | 18200 | 17060 | 130.3 | 19.6 | 110.7 | 110.7 | 17.7 | 17.7 | 98.7 | 98.7 | RB-19 | 112.2 | 14.9 | P | |
| 78 | RBC-247 | 6/5/1996 | 18230 | 17150 | 131.0 | 19.8 | 111.2 | 111.2 | 17.8 | 17.8 | 99.1 | 99.1 | RB-19 | 112.2 | 14.9 | P | |
| 79 | RBC-248 | 6/5/1996 | 18220 | 17240 | 126.7 | 17.5 | 109.2 | 109.2 | 16.0 | 16.0 | 97.3 | 97.3 | RB-19 | 112.2 | 14.9 | P | |
| 80 | RBC-249 | 6/5/1996 | 18190 | 17350 | 125.2 | 16.5 | 108.7 | 108.7 | 15.2 | 15.2 | 96.9 | 96.9 | RB-19 | 112.2 | 14.9 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 2

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| 81 | RBC-262 | 6/11/1996 | 18300 | 17450 | 127.7 | 16.6 | 111.1 | 111.1 | 15.0 | 14.9 | 95.5 | 95.5 | RB-20 | 116.3 | 13.7 | P | |
| 82 | RBC-263 | 6/11/1996 | 18250 | 17470 | 131.3 | 17.8 | 113.5 | 113.5 | 15.7 | 15.7 | 97.6 | 97.6 | RB-20 | 116.3 | 13.7 | P | |
| 83 | RBC-265 | 6/18/1996 | 18480 | 16590 | 128.1 | 16.7 | 111.4 | 111.4 | 15.0 | 15.0 | 95.8 | 95.8 | RB-20 | 116.3 | 13.7 | P | |
| 84 | RBC-268 | 6/22/1996 | 18430 | 17220 | 126.6 | 18.8 | 107.9 | 107.8 | 17.4 | 17.4 | 92.8 | 92.7 | RB-20 | 116.3 | 13.7 | Fail | Fail Compaction |
| 85 | RBC-268R | 6/22/1996 | 18430 | 17220 | 130.8 | 19.8 | 111.0 | 111.0 | 17.8 | 17.8 | 95.4 | 95.4 | RB-20 | 116.3 | 13.7 | P | Retest of Test # RBC-268, verification indicates failed moisture by plus 0.1% |
| 86 | RBC-280 | 7/11/1996 | 18650 | 16620 | 127.2 | 18.8 | 108.3 | 108.4 | 17.3 | 17.3 | 96.3 | 96.4 | RB-21 | 112.5 | 14.0 | P | |
| | RBC-280S | 7/11/1996 | 18650 | 16620 | 134.1 | | 117.3 | | 14.3 | | 104.3 | | RB-21 | 112.5 | 14.0 | N/A | Sand-Cone, Fail on Sand-Cone Correlation, See Retest RBC-286 |
| 87 | RBC-281 | 7/11/1996 | 18740 | 16640 | 126.0 | 17.3 | 108.7 | 108.7 | 15.9 | 15.9 | 96.6 | 96.6 | RB-21 | 112.5 | 14.0 | P | |
| 88 | RBC-282 | 7/11/1996 | 18840 | 16620 | 127.1 | 19.1 | 108.0 | 108.0 | 17.7 | 17.7 | 96.1 | 96.0 | RB-21 | 112.5 | 14.0 | P | |
| 89 | RBC-283 | 7/11/1996 | 18860 | 15970 | 126.0 | 18.4 | 107.6 | 107.6 | 17.1 | 17.1 | 95.7 | 95.6 | RB-21 | 112.5 | 14.0 | P | |
| 90 | RBC-284 | 7/11/1996 | 18750 | 15980 | 126.8 | 19.2 | 107.6 | 107.6 | 17.8 | 17.8 | 95.6 | 95.6 | RB-21 | 112.5 | 14.0 | P | |
| 91 | RBC-285 | 7/11/1996 | 18670 | 15960 | 127.9 | 18.1 | 109.8 | 109.8 | 16.5 | 16.5 | 98.4 | 98.4 | RB-22 | 111.6 | 15.6 | P | |
| 92 | RBC-286 | 7/12/1996 | 18950 | 16640 | 127.8 | 18.9 | 108.9 | 108.9 | 17.3 | 17.4 | 97.6 | 97.6 | RB-22 | 111.6 | 15.6 | P | Retest of Sand-cone Correlation for Test # RBC-280 |
| | RBC-286S | 7/12/1996 | 18950 | 16640 | 128.3 | | 109.3 | | 17.4 | | 97.9 | | RB-22 | 111.6 | 15.6 | N/A | Sand-Cone |
| 93 | RBC-287 | 7/12/1996 | 18960 | 15960 | 127.8 | 18.1 | 109.7 | 109.7 | 16.5 | 16.5 | 98.3 | 98.3 | RB-22 | 111.6 | 15.6 | P | |
| 94 | RBC-300 | 7/17/1996 | 19040 | 16130 | 130.7 | 18.3 | 112.4 | 112.4 | 16.3 | 16.3 | 99.3 | 99.2 | RB-23 | 113.3 | 14.5 | P | |
| | RBC-300S | 7/17/1996 | 19040 | 16130 | 130.5 | | 111.5 | | 17.1 | | 98.4 | | RB-23 | 113.3 | 14.5 | N/A | Sand-Cone |
| 95 | RBC-301 | 7/17/1996 | 19150 | 16160 | 129.3 | 19.7 | 109.6 | 109.6 | 18.0 | 18.0 | 96.7 | 96.7 | RB-23 | 113.3 | 14.5 | P | |
| 96 | RBC-302 | 7/17/1996 | 19260 | 16120 | 129.1 | 18.0 | 111.1 | 111.1 | 16.2 | 16.2 | 98.1 | 98.1 | RB-23 | 113.3 | 14.5 | P | |
| 97 | RBC-303 | 7/17/1996 | 19250 | 15960 | 128.1 | 19.2 | 108.9 | 108.9 | 17.6 | 17.6 | 96.2 | 96.1 | RB-23 | 113.3 | 14.5 | P | |
| 98 | RBC-304 | 7/17/1996 | 19160 | 15970 | 128.5 | 16.7 | 111.8 | 111.8 | 15.0 | 14.9 | 98.7 | 98.7 | RB-23 | 113.3 | 14.5 | P | |
| 99 | RBC-305 | 7/17/1996 | 19050 | 15950 | 131.4 | 18.9 | 112.5 | 112.5 | 16.8 | 16.8 | 99.3 | 99.3 | RB-23 | 113.3 | 14.5 | P | |
| 100 | RBC-315 | 7/18/1996 | 18890 | 16180 | 125.7 | 15.1 | 110.6 | 110.6 | 13.7 | 13.7 | 95.2 | 95.2 | RB-24 | 116.2 | 12.6 | P | |
| 101 | RBC-319 | 7/26/1996 | 19380 | 16250 | 128.9 | 19.1 | 109.8 | 109.8 | 17.4 | 17.4 | 98.1 | 98.1 | RB-25 | 111.9 | 14.8 | P | |
| 102 | RBC-320 | 7/26/1996 | 19520 | 16250 | 127.4 | 18.3 | 109.1 | 109.1 | 16.8 | 16.8 | 97.5 | 97.5 | RB-25 | 111.9 | 14.8 | P | |
| | RBC-320S | 7/26/1996 | 19520 | 16250 | 130.7 | | 113.9 | | 14.8 | | 101.7 | | RB-25 | 111.9 | 14.8 | N/A | |
| 103 | RBC-322 | 7/26/1996 | 19480 | 16340 | 126.5 | 17.7 | 108.8 | 108.8 | 16.2 | 16.3 | 97.3 | 97.2 | RB-25 | 111.9 | 14.8 | P | |
| 104 | RBC-323 | 7/26/1996 | 19460 | 16340 | 123.9 | 16.0 | 107.9 | 107.9 | 14.8 | 14.8 | 96.4 | 96.4 | RB-25 | 111.9 | 14.8 | P | |
| 105 | RBC-329 | 7/29/1996 | 19530 | 16440 | 128.4 | 18.0 | 110.3 | 110.4 | 16.4 | 16.3 | 98.6 | 98.7 | RB-25 | 111.9 | 14.8 | P | |
| 106 | RBC-331 | 7/30/1996 | 19450 | 16560 | 128.9 | 17.7 | 111.2 | 111.2 | 16.0 | 15.9 | 96.2 | 96.3 | RB-26 | 115.5 | 13.3 | P | |
| 107 | RBC-332 | 7/30/1996 | 19560 | 16540 | 127.2 | 17.3 | 109.9 | 109.9 | 15.7 | 15.7 | 95.1 | 95.2 | RB-26 | 115.5 | 13.3 | P | |
| 108 | RBC-337 | 7/30/1996 | 19400 | 16620 | 129.3 | 17.6 | 111.7 | 111.7 | 15.8 | 15.8 | 96.6 | 96.7 | RB-26 | 115.5 | 13.3 | P | |
| 109 | RBC-338 | 7/30/1996 | 19450 | 16670 | 128.7 | 15.9 | 112.8 | 112.8 | 14.1 | 14.1 | 97.6 | 97.7 | RB-26 | 115.5 | 13.3 | P | |
| 110 | RBC-342 | 8/2/1996 | 19560 | 16780 | 125.4 | 15.4 | 109.9 | 110.0 | 14.0 | 14.0 | 95.1 | 95.2 | RB-26 | 115.5 | 13.3 | P | |
| 111 | RBC-343 | 8/2/1996 | 19430 | 16710 | 127.3 | 17.2 | 110.1 | 110.1 | 15.6 | 15.6 | 95.3 | 95.3 | RB-26 | 115.5 | 13.3 | P | |
| 112 | RBC-345 | 8/2/1996 | 19440 | 16830 | 131.0 | 18.3 | 112.7 | 112.7 | 16.2 | 16.2 | 99.8 | 99.8 | RB-27 | 112.9 | 14.9 | P | |
| 113 | RBC-346 | 8/2/1996 | 19540 | 16880 | 128.6 | 19.7 | 108.9 | 108.9 | 18.1 | 18.1 | 96.4 | 96.5 | RB-27 | 112.9 | 14.9 | P | |
| 114 | RBC-349 | 8/2/1996 | 19450 | 16960 | 130.5 | 18.2 | 112.3 | 112.3 | 16.2 | 16.2 | 99.5 | 99.5 | RB-27 | 112.9 | 14.9 | P | |
| 115 | RBC-350 | 8/2/1996 | 19560 | 17010 | 130.1 | 20.2 | 109.9 | 109.9 | 18.4 | 18.4 | 97.3 | 97.3 | RB-27 | 112.9 | 14.9 | P | |
| | RBC-350S | 8/2/1996 | 19560 | 17010 | 132.7 | | 112.9 | | 17.5 | | 100.0 | | RB-27 | 112.9 | 14.9 | N/A | |
| 116 | RBC-351 | 8/2/1996 | 19370 | 16690 | 130.2 | 17.4 | 112.8 | 112.8 | 15.4 | 15.4 | 100.0 | 99.9 | RB-27 | 112.9 | 14.9 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 2

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

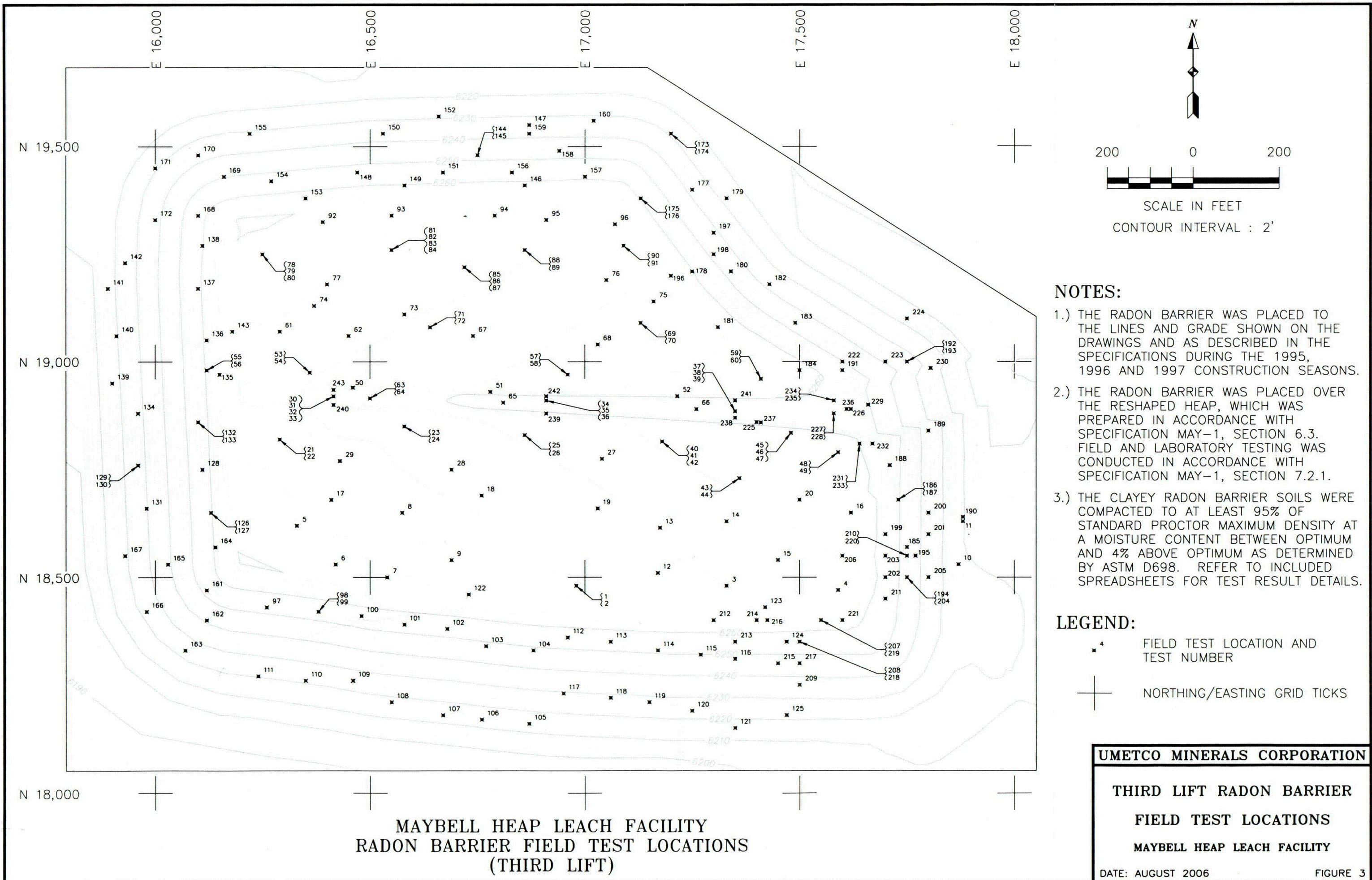
| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| 117 | RBC-367 | 8/28/1996 | 18520 | 16150 | 129.5 | 15.9 | 113.5 | 113.6 | 14.0 | 14.0 | 98.7 | 98.8 | RB-28 | 115.0 | 13.0 | P | |
| 118 | RBC-368 | 8/28/1996 | 18430 | 16150 | 128.1 | 17.5 | 110.6 | 110.6 | 15.8 | 15.8 | 96.2 | 96.2 | RB-28 | 115.0 | 13.0 | P | |
| 119 | RBC-369 | 8/28/1996 | 18330 | 16130 | 126.8 | 17.3 | 109.5 | 109.5 | 15.8 | 15.8 | 95.2 | 95.2 | RB-28 | 115.0 | 13.0 | P | |
| 120 | RBC-370 | 8/28/1996 | 18320 | 16030 | 128.6 | 18.5 | 110.1 | 110.1 | 16.8 | 16.8 | 95.7 | 95.7 | RB-28 | 115.0 | 13.0 | P | |
| | RBC-370S | 8/28/1996 | 18320 | 16030 | 131.5 | | 112.3 | | 17.1 | | 97.7 | | RB-28 | 115.0 | 13.0 | N/A | Fail Moisture on Sand-Cone Correlation |
| 121 | RBC-371 | 8/28/1996 | 18420 | 16040 | 130.6 | 19.1 | 111.5 | 111.5 | 17.1 | 17.1 | 97.0 | 97.0 | RB-28 | 115.0 | 13.0 | P | Verification indicates failed moisture by plus 0.1% |
| 122 | RBC-372 | 8/28/1996 | 18570 | 16060 | 130.2 | 18.9 | 111.3 | 111.3 | 17.0 | 17.0 | 96.8 | 96.8 | RB-28 | 115.0 | 13.0 | P | |
| 123 | RBC-373 | 8/28/1996 | 18520 | 15970 | 128.6 | 17.9 | 110.7 | 110.7 | 16.2 | 16.2 | 96.3 | 96.3 | RB-28 | 115.0 | 13.0 | P | |
| 124 | RBC-386 | 9/4/1996 | 19340 | 15910 | 129.5 | 16.8 | 112.7 | 112.7 | 14.9 | 14.9 | 97.5 | 97.6 | RB-29 | 115.5 | 13.1 | P | |
| 125 | RBC-387 | 9/4/1996 | 19370 | 16020 | 128.9 | 18.2 | 110.7 | 110.7 | 16.4 | 16.4 | 95.8 | 95.8 | RB-29 | 115.5 | 13.1 | P | |
| 126 | RBC-388 | 9/4/1996 | 19390 | 16120 | 129.4 | 17.2 | 112.2 | 112.2 | 15.3 | 15.3 | 97.1 | 97.1 | RB-29 | 115.5 | 13.1 | P | |
| 127 | RBC-389 | 9/4/1996 | 19470 | 16150 | 127.6 | 16.5 | 111.1 | 111.1 | 14.9 | 14.9 | 96.2 | 96.2 | RB-29 | 115.5 | 13.1 | P | |
| 128 | RBC-390 | 9/4/1996 | 19510 | 16050 | 129.3 | 19.4 | 110.0 | 109.9 | 17.6 | 17.7 | 95.9 | 95.8 | RB-30 | 114.7 | 14.9 | P | |
| | RBC-390S | 9/4/1996 | 19510 | 16050 | 130.2 | | 110.7 | | 17.6 | | 96.5 | | RB-30 | 114.7 | 14.9 | N/A | |
| 129 | RBC-401 | 9/23/1996 | 19480 | 17130 | 127.6 | 18.5 | 109.1 | 109.1 | 17.0 | 17.0 | 95.0 | 95.1 | RB-30 | 114.7 | 14.9 | P | |
| 130 | RBC-402 | 9/23/1996 | 19530 | 17240 | 127.4 | 16.6 | 110.8 | 110.8 | 15.0 | 15.0 | 96.6 | 96.6 | RB-30 | 114.7 | 14.9 | P | |
| 131 | RBC-403 | 9/23/1996 | 19470 | 17290 | 127.9 | 18.5 | 109.4 | 109.4 | 16.9 | 16.9 | 95.3 | 95.4 | RB-30 | 114.7 | 14.9 | P | |
| 132 | RBC-404 | 9/23/1996 | 19350 | 17160 | 128.9 | 18.1 | 110.8 | 110.8 | 16.3 | 16.3 | 96.6 | 96.6 | RB-30 | 114.7 | 14.9 | P | |
| 133 | RBC-405 | 9/24/1996 | 19310 | 17300 | 128.4 | 18.5 | 109.9 | 109.9 | 16.8 | 16.8 | 95.7 | 95.7 | RB-31 | 114.8 | 13.0 | P | |
| 134 | RBC-416 | 10/2/1996 | 19180 | 17280 | 129.9 | 19.0 | 111.0 | 110.9 | 17.1 | 17.1 | 96.6 | 96.6 | RB-31 | 114.8 | 13.0 | P | Verification indicates failed moisture by plus 0.1% |
| 135 | RBC-417 | 10/2/1996 | 19240 | 17400 | 127.2 | 16.6 | 110.6 | 110.6 | 15.0 | 15.0 | 96.3 | 96.3 | RB-31 | 114.8 | 13.0 | P | |
| 136 | RBC-418 | 10/2/1996 | 19130 | 17430 | 128.4 | 17.4 | 111.0 | 111.0 | 15.7 | 15.7 | 96.7 | 96.7 | RB-31 | 114.8 | 13.0 | P | |
| 137 | RBC-419 | 10/2/1996 | 19150 | 17520 | 126.0 | 14.5 | 111.6 | 111.5 | 13.0 | 13.0 | 97.1 | 97.1 | RB-31 | 114.8 | 13.0 | P | |
| 138 | RBC-420 | 10/2/1996 | 19030 | 17470 | 127.3 | 16.8 | 110.4 | 110.5 | 15.2 | 15.2 | 96.3 | 96.3 | RB-32 | 114.7 | 13.5 | P | |
| | RBC-420S | 10/2/1996 | 19030 | 17470 | 126.9 | | 109.5 | | 15.9 | | 95.5 | | RB-32 | 114.7 | 13.5 | N/A | Sand-Cone |
| 139 | RBC-421 | 10/2/1996 | 19060 | 17570 | 123.8 | 16.3 | 107.4 | 107.5 | 15.2 | 15.2 | 93.5 | 93.7 | RB-32 | 114.7 | 13.5 | Fail | Fail Compaction |
| 140 | RBC-421R | 10/2/1996 | 19060 | 17570 | 127.9 | 17.8 | 110.1 | 110.1 | 16.2 | 16.2 | 95.9 | 96.0 | RB-32 | 114.7 | 13.5 | P | Retest of Test # RBC-421 |
| 141 | RBC-427 | 10/4/1996 | 18840 | 17860 | 130.1 | 15.7 | 114.3 | 114.4 | 13.8 | 13.7 | 99.6 | 99.7 | RB-32 | 114.7 | 13.5 | P | |
| 142 | RBC-428 | 10/4/1996 | 18770 | 17820 | 130.9 | 16.8 | 114.1 | 114.1 | 14.8 | 14.7 | 99.4 | 99.5 | RB-32 | 114.7 | 13.5 | P | |
| 143 | RBC-429 | 10/4/1996 | 18720 | 17740 | 127.0 | 16.9 | 110.0 | 110.1 | 15.4 | 15.3 | 95.9 | 96.0 | RB-32 | 114.7 | 13.5 | P | |
| 144 | RBC-430 | 10/4/1996 | 18650 | 17810 | 129.8 | 16.1 | 113.6 | 113.7 | 14.2 | 14.2 | 99.0 | 99.1 | RB-32 | 114.7 | 13.5 | P | |
| | RBC-430S | 10/4/1996 | 18650 | 17810 | 128.5 | | 112.6 | | 14.1 | | 98.2 | | RB-32 | 114.7 | 13.5 | N/A | Sand-Cone |
| 145 | RBC-431 | 10/4/1996 | 18570 | 17700 | 129.2 | 16.9 | 112.2 | 112.3 | 15.1 | 15.0 | 97.8 | 97.9 | RB-32 | 114.7 | 13.5 | P | |
| 146 | RBC-444 | 10/15/1996 | 19040 | 17710 | 128.1 | 15.1 | 113.0 | 113.0 | 13.4 | 13.4 | 96.0 | 96.1 | RB-33 | 117.6 | 12.5 | P | |
| 147 | RBC-447 | 5/19/1997 | 18600 | 17700 | 133.0 | 16.3 | 116.8 | 116.8 | 13.9 | 13.9 | 99.4 | 99.4 | RB-36 | 117.4 | 13.8 | P | Reverification 2nd Lift |
| 148 | RBC-448 | 5/19/1997 | 18650 | 17800 | 129.5 | 16.3 | 113.3 | 113.3 | 14.3 | 14.3 | 96.4 | 96.5 | RB-36 | 117.4 | 13.8 | P | Reverification 2nd Lift |
| 149 | RBC-449 | 5/19/1997 | 18650 | 17850 | 129.0 | 16.8 | 112.3 | 112.3 | 14.9 | 14.9 | 95.6 | 95.6 | RB-36 | 117.4 | 13.8 | P | Reverification 2nd Lift |
| 150 | RBC-466 | 5/28/1997 | 18600 | 17750 | 130.3 | 19.3 | 111.0 | 111.0 | 17.3 | 17.3 | 95.8 | 95.9 | RB-37 | 115.8 | 14.9 | P | |
| | RBC-466S | 5/28/1997 | 18600 | 17750 | 130.1 | 17.5 | 112.6 | 112.6 | 15.5 | 15.5 | 97.2 | 97.2 | RB-37 | 115.8 | 14.9 | N/A | Sand-Cone |
| 151 | RBC-467 | 5/28/1997 | 18550 | 17800 | 128.3 | 17.8 | 110.5 | 110.5 | 16.1 | 16.1 | 97.1 | 97.1 | RB-38 | 113.8 | 15.2 | P | |
| 152 | RBC-468 | 5/28/1997 | 18550 | 17750 | 126.5 | 18.3 | 108.3 | 108.3 | 16.9 | 16.9 | 95.1 | 95.1 | RB-38 | 113.8 | 15.2 | P | |
| 153 | RBC-469 | 5/28/1997 | 18500 | 17700 | 130.5 | 18.3 | 112.3 | 112.3 | 16.3 | 16.3 | 98.6 | 98.6 | RB-38 | 113.8 | 15.2 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 2

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 154 | RBC-475 | 5/28/1997 | 18400 | 17300 | 129.3 | 17.0 | 112.3 | 112.3 | 15.2 | 15.1 | 98.6 | 98.6 | RB-38 | 113.8 | 15.2 | P | Verification calculation indicates failed moisture by minus 0.1% |
| 155 | RBC-476 | 5/28/1997 | 18350 | 17350 | 128.0 | 19.5 | 108.5 | 108.5 | 17.9 | 18.0 | 95.3 | 95.3 | RB-38 | 113.8 | 15.2 | P | |
| | RBC-476S | 5/28/1997 | 18350 | 17350 | 127.3 | 18.2 | 109.1 | 109.1 | 16.6 | 16.7 | 95.9 | 95.9 | RB-38 | 113.8 | 15.2 | N/A | Sand-Cone |
| 156 | RBC-477 | 5/28/1997 | 18400 | 17400 | 129.3 | 17.3 | 112.0 | 112.0 | 15.4 | 15.4 | 95.3 | 95.3 | RB-39 | 117.5 | 14.2 | P | |
| 157 | RBC-478 | 5/28/1997 | 18300 | 17450 | 129.5 | 16.5 | 113.0 | 113.0 | 14.6 | 14.6 | 96.2 | 96.2 | RB-39 | 117.5 | 14.2 | P | |
| 158 | RBC-480 | 6/4/1997 | 18550 | 17650 | 128.5 | 16.5 | 112.0 | 112.0 | 14.7 | 14.7 | 95.3 | 95.3 | RB-39 | 117.5 | 14.2 | P | |
| 159 | RBC-487 | 6/12/1997 | 18300 | 17500 | 130.0 | 18.3 | 111.8 | 111.8 | 16.3 | 16.3 | 96.0 | 96.0 | RB-40 | 116.4 | 15.2 | P | |
| 160 | RBC-488 | 6/12/1997 | 18400 | 17550 | 128.0 | 17.3 | 110.8 | 110.8 | 15.6 | 15.6 | 95.1 | 95.1 | RB-40 | 116.4 | 15.2 | P | |
| 161 | RBC-489 | 6/12/1997 | 18350 | 17500 | 131.0 | 17.8 | 113.3 | 113.3 | 15.7 | 15.7 | 97.3 | 97.3 | RB-40 | 116.4 | 15.2 | P | |
| 162 | RBC-490 | 6/12/1997 | 18400 | 17600 | 132.0 | 18.3 | 113.8 | 113.8 | 16.0 | 16.0 | 97.7 | 97.7 | RB-40 | 116.4 | 15.2 | P | |
| 163 | RBC-491 | 6/12/1997 | 18550 | 17750 | 126.0 | 16.3 | 109.8 | 109.8 | 14.8 | 14.8 | 94.3 | 94.3 | RB-40 | 116.4 | 15.2 | Fail | Fail Moisture & Compaction |
| 164 | RBC-492 | 6/12/1997 | 18550 | 17750 | 129.5 | 17.8 | 111.8 | 111.8 | 15.8 | 15.9 | 96.0 | 96.0 | RB-40 | 116.4 | 15.2 | P | Retest of Test # RBC-491 |
| 165 | RBC-515 | 9/3/1997 | 18840 | 17610 | 134.5 | 17.3 | 117.1 | 117.2 | 14.8 | 14.8 | 99.1 | 99.2 | RB-42 | 118.2 | 13.9 | P | |
| 166 | RBC-516 | 9/3/1997 | 18905 | 17610 | 131.6 | 17.8 | 113.8 | 113.8 | 15.7 | 15.6 | 96.2 | 96.3 | RB-42 | 118.2 | 13.9 | P | |
| 167 | RBC-526 | 9/6/1997 | 18865 | 17910 | 131.8 | 16.9 | 114.9 | 114.9 | 14.7 | 14.7 | 98.5 | 98.5 | RB-43 | 116.6 | 14.1 | P | |
| 168 | RBC-530 | 9/9/1997 | 18800 | 17850 | 130.2 | 17.5 | 112.7 | 112.7 | 15.6 | 15.5 | 96.0 | 96.1 | RB-44 | 117.3 | 14.2 | P | |
| 169 | RBC-531 | 9/9/1997 | 18850 | 17720 | 129.7 | 17.1 | 112.5 | 112.6 | 15.2 | 15.2 | 95.9 | 96.0 | RB-44 | 117.3 | 14.2 | P | |
| 170 | RBC-532 | 9/9/1997 | 18900 | 17850 | 130.3 | 16.7 | 113.5 | 113.6 | 14.7 | 14.7 | 96.7 | 96.8 | RB-44 | 117.3 | 14.2 | P | |
| 171 | RBC-533 | 9/10/1997 | 18850 | 17840 | 131.2 | 17.0 | 114.2 | 114.2 | 14.9 | 14.9 | 97.3 | 97.4 | RB-44 | 117.3 | 14.2 | P | |
| 172 | RBC-534 | 9/10/1997 | 18900 | 17660 | 130.2 | 17.0 | 113.2 | 113.2 | 15.0 | 15.0 | 96.5 | 96.5 | RB-44 | 117.3 | 14.2 | P | |
| 173 | RBC-535 | 9/10/1997 | 18810 | 17670 | 129.4 | 17.2 | 112.2 | 112.2 | 15.3 | 15.3 | 95.6 | 95.7 | RB-44 | 117.3 | 14.2 | P | |
| 174 | RBC-536 | 9/10/1997 | 18800 | 17850 | 131.9 | 16.8 | 115.1 | 115.1 | 14.6 | 14.6 | 98.1 | 98.1 | RB-44 | 117.3 | 14.2 | P | |



NOTES:

- 1.) THE RADON BARRIER WAS PLACED TO THE LINES AND GRADE SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS DURING THE 1995, 1996 AND 1997 CONSTRUCTION SEASONS.
- 2.) THE RADON BARRIER WAS PLACED OVER THE RESHAPED HEAP, WHICH WAS PREPARED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 6.3. FIELD AND LABORATORY TESTING WAS CONDUCTED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 7.2.1.
- 3.) THE CLAYEY RADON BARRIER SOILS WERE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM AND 4% ABOVE OPTIMUM AS DETERMINED BY ASTM D698. REFER TO INCLUDED SPREADSHEETS FOR TEST RESULT DETAILS.

LEGEND:

- ✱ FIELD TEST LOCATION AND TEST NUMBER
- ✚ NORTHING/EASTING GRID TICKS

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 1 | RBC-55 | 8/11/1995 | 18480 | 16980 | 125.2 | 17.9 | 107.3 | 107.3 | 16.7 | 16.7 | 98.3 | 98.3 | RB-4 | 109.2 | 17.4 | Fail | Fail Moisture |
| 2 | RBC-55R | 8/11/1995 | 18480 | 16980 | 127.1 | 20.4 | 106.7 | 106.7 | 19.1 | 19.1 | 97.7 | 97.7 | RB-4 | 109.2 | 17.4 | P | Retest of Test # RBC-55 |
| 3 | RBC-56 | 8/11/1995 | 18480 | 17330 | 125.7 | 18.8 | 106.9 | 106.9 | 17.5 | 17.6 | 97.9 | 97.9 | RB-4 | 109.2 | 17.4 | P | |
| 4 | RBC-57 | 8/11/1995 | 18470 | 17590 | 123.0 | 19.3 | 103.7 | 103.7 | 18.6 | 18.6 | 95.0 | 95.0 | RB-4 | 109.2 | 17.4 | P | |
| 5 | RBC-57D | 8/16/1995 | 18620 | 16330 | 126.9 | 19.5 | 107.4 | 107.4 | 18.2 | 18.2 | 98.3 | 98.4 | RB-4 | 109.2 | 17.4 | P | Test number was Duplicated |
| 6 | RBC-58 | 8/16/1995 | 18530 | 16420 | 124.9 | 19.5 | 105.4 | 105.4 | 18.5 | 18.5 | 96.5 | 96.5 | RB-4 | 109.2 | 17.4 | P | |
| 7 | RBC-59 | 8/16/1995 | 18500 | 16540 | 125.0 | 20.2 | 104.8 | 104.8 | 19.2 | 19.3 | 96.0 | 96.0 | RB-4 | 109.2 | 17.4 | P | |
| 8 | RBC-60 | 8/16/1995 | 18650 | 16575 | 127.6 | 19.6 | 108.0 | 108.0 | 18.2 | 18.1 | 99.5 | 99.5 | RB-5 | 108.5 | 17.0 | P | |
| | RBC-60S | 8/16/1995 | 18650 | 16575 | 126.4 | | 107.0 | | 18.1 | | 98.7 | | RB-5 | 108.5 | 17.0 | N/A | Sand-Cone |
| 9 | RBC-61 | 8/16/1995 | 18540 | 16690 | 127.1 | 19.5 | 107.6 | 107.6 | 18.1 | 18.1 | 99.2 | 99.2 | RB-5 | 108.5 | 17.0 | P | |
| 10 | RBC-62 | 8/16/1995 | 18530 | 17870 | 124.8 | 20.0 | 104.8 | 104.8 | 19.0 | 19.1 | 96.6 | 96.6 | RB-5 | 108.5 | 17.0 | P | |
| 11 | RBC-63 | 8/16/1995 | 18630 | 17880 | 125.3 | 20.7 | 104.6 | 104.6 | 19.8 | 19.8 | 96.4 | 96.4 | RB-5 | 108.5 | 17.0 | P | |
| 12 | RBC-64 | 8/16/1995 | 18510 | 17170 | 126.7 | 19.4 | 107.3 | 107.3 | 18.1 | 18.1 | 98.9 | 98.9 | RB-5 | 108.5 | 17.0 | P | |
| 13 | RBC-65 | 8/16/1995 | 18615 | 17175 | 125.3 | 19.7 | 105.6 | 105.6 | 18.7 | 18.7 | 97.3 | 97.3 | RB-5 | 108.5 | 17.0 | P | |
| 14 | RBC-66 | 8/16/1995 | 18630 | 17330 | 125.6 | 20.0 | 105.7 | 105.6 | 18.9 | 18.9 | 97.4 | 97.3 | RB-5 | 108.5 | 17.0 | P | |
| 15 | RBC-67 | 8/16/1995 | 18540 | 17450 | 126.2 | 20.4 | 105.8 | 105.8 | 19.3 | 19.3 | 97.5 | 97.5 | RB-5 | 108.5 | 17.0 | P | |
| 16 | RBC-68 | 8/16/1995 | 18650 | 17620 | 125.5 | 19.8 | 105.7 | 105.7 | 18.7 | 18.7 | 97.4 | 97.4 | RB-5 | 108.5 | 17.0 | P | |
| 17 | RBC-69 | 8/22/1995 | 18680 | 16410 | 122.3 | 18.0 | 104.3 | 104.3 | 17.2 | 17.3 | 96.1 | 96.1 | RB-5 | 108.5 | 17.0 | P | |
| 18 | RBC-70 | 8/22/1995 | 18690 | 16760 | 126.4 | 18.4 | 108.0 | 108.0 | 17.0 | 17.0 | 99.5 | 99.5 | RB-5 | 108.5 | 17.0 | P | |
| | RBC-70S | 8/22/1995 | 18690 | 16760 | 126.8 | | 108.3 | | 17.0 | | 99.8 | | RB-5 | 108.5 | 17.0 | N/A | Sand-Cone |
| 19 | RBC-71 | 8/22/1995 | 18660 | 17030 | 125.6 | 19.8 | 105.8 | 105.8 | 18.7 | 18.7 | 97.5 | 97.5 | RB-5 | 108.5 | 17.0 | P | |
| 20 | RBC-72 | 8/22/1995 | 18680 | 17500 | 126.6 | 18.5 | 108.1 | 108.1 | 17.1 | 17.1 | 99.6 | 99.6 | RB-5 | 108.5 | 17.0 | P | |
| 21 | RBC-94 | 8/30/1995 | 18820 | 16290 | 124.2 | 18.0 | 106.2 | 106.2 | 17.0 | 16.9 | 97.0 | 97.0 | RB-7 | 109.5 | 16.0 | P | |
| 22 | RBC-94X | 9/22/1995 | 18820 | 16290 | 129.4 | 19.6 | 109.8 | 109.8 | 17.9 | 17.9 | 100.3 | 100.3 | RB-7 | 109.5 | 16.0 | P | Reverification 3rd Lift |
| 23 | RBC-95 | 8/30/1995 | 18850 | 16580 | 126.6 | 18.5 | 108.1 | 108.1 | 17.1 | 17.1 | 98.7 | 98.7 | RB-7 | 109.5 | 16.0 | P | |
| 24 | RBC-95X | 9/22/1995 | 18850 | 16580 | 125.5 | 18.4 | 107.1 | 107.1 | 17.2 | 17.2 | 97.8 | 97.8 | RB-7 | 109.5 | 16.0 | P | Reverification 3rd Lift |
| 25 | RBC-96 | 8/30/1995 | 18830 | 16860 | 122.5 | 17.7 | 104.8 | 104.8 | 16.9 | 16.9 | 95.7 | 95.7 | RB-7 | 109.5 | 16.0 | P | |
| 26 | RBC-96X | 9/22/1995 | 18830 | 16860 | 127.0 | 17.7 | 109.3 | 109.3 | 16.2 | 16.2 | 99.8 | 99.8 | RB-7 | 109.5 | 16.0 | P | Reverification 3rd Lift |
| 27 | RBC-100 | 8/30/1995 | 18775 | 17040 | 125.1 | 17.4 | 107.7 | 107.7 | 16.2 | 16.2 | 98.4 | 98.4 | RB-7 | 109.5 | 16.0 | P | |
| | RBC-100S | 8/30/1995 | 18775 | 17040 | 124.3 | | 106.1 | | 17.1 | | 96.9 | | RB-7 | 109.5 | 16.0 | N/A | Sand-Cone |
| 28 | RBC-101 | 8/30/1995 | 18750 | 16690 | 124.5 | 18.9 | 105.6 | 105.6 | 17.9 | 17.9 | 96.4 | 96.4 | RB-7 | 109.5 | 16.0 | P | |
| 29 | RBC-102 | 8/30/1995 | 18770 | 16430 | 124.7 | 20.3 | 104.4 | 104.4 | 19.4 | 19.4 | 95.3 | 95.3 | RB-7 | 109.5 | 16.0 | P | |
| 30 | RBC-106 | 9/15/1995 | 18920 | 16415 | 121.7 | 8.6 | 113.1 | 113.1 | 7.6 | 7.6 | 101.5 | 101.5 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture |
| 31 | RBC-106R | 9/15/1995 | 18920 | 16415 | 115.3 | 7.9 | 107.4 | 107.4 | 7.3 | 7.4 | 96.4 | 96.4 | RB-8 | 111.4 | 15.4 | Fail | Retest of Test # RBC-106 - Fail Moisture |
| 32 | RBC-106R2 | 9/28/1995 | 18920 | 16415 | 126.3 | 19.6 | 106.7 | 106.7 | 18.4 | 18.4 | 95.8 | 95.8 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-106R |
| 33 | RBC-106X | 10/3/1995 | 18920 | 16415 | 129.4 | 17.5 | 111.8 | 111.9 | 15.7 | 15.6 | 100.4 | 100.4 | RB-8 | 111.4 | 15.4 | P | Reverification 3rd Lift |
| 34 | RBC-107 | 9/15/1995 | 18910 | 16910 | 123.6 | 13.1 | 110.6 | 110.5 | 11.8 | 11.9 | 99.3 | 99.2 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture |
| 35 | RBC-107R | 9/28/1995 | 18910 | 16910 | 127.3 | 18.6 | 108.7 | 108.7 | 17.1 | 17.1 | 97.6 | 97.6 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-107 |
| 36 | RBC-107X | 10/3/1995 | 18910 | 16910 | 128.3 | 17.5 | 110.8 | 110.8 | 15.8 | 15.8 | 99.5 | 99.5 | RB-8 | 111.4 | 15.4 | P | Reverification 3rd Lift |
| 37 | RBC-108 | 9/15/1995 | 18885 | 17350 | 125.7 | 10.0 | 115.8 | 115.7 | 8.6 | 8.6 | 104.0 | 103.9 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture |
| 38 | RBC-108R | 9/28/1995 | 18885 | 17350 | 125.1 | 17.3 | 107.8 | 107.8 | 16.1 | 16.0 | 96.8 | 96.8 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-108 |
| 39 | RBC-108X | 10/3/1995 | 18885 | 17350 | 129.6 | 18.8 | 110.8 | 110.8 | 17.0 | 17.0 | 99.5 | 99.5 | RB-8 | 111.4 | 15.4 | P | Reverification 3rd Lift |
| 40 | RBC-109 | 9/15/1995 | 18815 | 17180 | 119.8 | 10.3 | 109.5 | 109.5 | 9.4 | 9.4 | 98.3 | 98.3 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture |
| 41 | RBC-109R | 9/18/1995 | 18815 | 17180 | 124.1 | 18.3 | 105.8 | 105.8 | 17.3 | 17.3 | 95.0 | 95.0 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-109 |
| 42 | RBC-109X | 9/22/1995 | 18815 | 17180 | 127.4 | 17.1 | 110.3 | 110.3 | 15.5 | 15.5 | 99.0 | 99.0 | RB-8 | 111.4 | 15.4 | P | Reverification 3rd Lift |
| 43 | RBC-110 | 9/15/1995 | 18730 | 17360 | 107.3 | 5.2 | 102.1 | 102.1 | 5.1 | 5.1 | 91.7 | 91.7 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture & Compaction |
| 44 | RBC-110R | 9/18/1995 | 18730 | 17360 | 127.0 | 20.0 | 107.0 | 107.0 | 18.9 | 18.7 | 96.0 | 96.1 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-110 |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| | RBC-110RS | 9/18/1995 | 18730 | 17360 | 127.1 | | 106.9 | | 18.9 | | 96.0 | | RB-8 | 111.4 | 15.4 | N/A | Sand-Cone, Retest |
| 45 | RBC-111 | 9/15/1995 | 18835 | 17480 | 108.4 | 5.0 | 103.5 | 103.4 | 4.8 | 4.8 | 92.9 | 92.8 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture & Compaction |
| 46 | RBC-111R | 9/18/1995 | 18835 | 17480 | 128.9 | 18.9 | 110.0 | 110.0 | 17.2 | 17.2 | 98.7 | 98.7 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-111 |
| 47 | RBC-111X | 9/22/1995 | 18835 | 17480 | 124.3 | 16.6 | 107.7 | 107.7 | 15.4 | 15.4 | 96.7 | 96.7 | RB-8 | 111.4 | 15.4 | P | Reverification 3rd Lift |
| 48 | RBC-112 | 9/15/1995 | 18790 | 17590 | 112.0 | 7.4 | 104.6 | 104.6 | 7.0 | 7.1 | 93.9 | 93.9 | RB-8 | 111.4 | 15.4 | Fail | Fail Moisture & Compaction |
| 49 | RBC-112R | 9/18/1995 | 18790 | 17590 | 125.7 | 19.2 | 106.5 | 106.5 | 18.0 | 18.0 | 95.6 | 95.6 | RB-8 | 111.4 | 15.4 | P | Retest of Test # RBC-112 |
| 50 | RBC-130 | 9/27/1995 | 18940 | 16460 | 126.9 | 17.5 | 109.4 | 109.4 | 16.0 | 16.0 | 98.6 | 98.6 | RB-9 | 111.0 | 15.8 | P | |
| | RBC-130S | 9/27/1995 | 18940 | 16460 | 126.8 | | 109.4 | | 15.9 | | 98.6 | | RB-9 | 111.0 | 15.8 | N/A | Sand-Cone |
| 51 | RBC-131 | 9/27/1995 | 18930 | 16780 | 125.3 | 17.5 | 107.8 | 107.8 | 16.2 | 16.2 | 97.1 | 97.1 | RB-9 | 111.0 | 15.8 | P | |
| 52 | RBC-132 | 9/27/1995 | 18920 | 17215 | 129.3 | 18.4 | 110.9 | 110.9 | 16.6 | 16.6 | 99.9 | 99.9 | RB-9 | 111.0 | 15.8 | P | |
| 53 | RBC-143 | 10/2/1995 | 18975 | 16360 | 126.2 | 18.9 | 107.3 | 107.3 | 17.6 | 17.6 | 96.8 | 96.8 | RB-10 | 110.9 | 15.4 | P | |
| 54 | RBC-143X | 10/6/1995 | 18975 | 16360 | 129.7 | 17.9 | 111.8 | 111.8 | 16.0 | 16.0 | 100.8 | 100.8 | RB-10 | 110.9 | 15.4 | P | Reverification 3rd Lift |
| 55 | RBC-144 | 10/2/1995 | 18980 | 16120 | 127.5 | 19.6 | 107.9 | 107.9 | 18.2 | 18.2 | 97.3 | 97.3 | RB-10 | 110.9 | 15.4 | P | |
| 56 | RBC-144X | 10/6/1995 | 18980 | 16120 | 127.1 | 17.4 | 109.7 | 109.7 | 15.8 | 15.9 | 98.9 | 98.9 | RB-10 | 110.9 | 15.4 | P | Reverification 3rd Lift |
| 57 | RBC-145 | 10/2/1995 | 18970 | 16960 | 128.4 | 20.0 | 108.4 | 108.4 | 18.4 | 18.5 | 97.8 | 97.7 | RB-10 | 110.9 | 15.4 | P | |
| 58 | RBC-145X | 10/6/1995 | 18970 | 16960 | 123.7 | 17.7 | 106.1 | 106.0 | 16.6 | 16.7 | 95.7 | 95.6 | RB-10 | 110.9 | 15.4 | P | Reverification 3rd Lift |
| 59 | RBC-146 | 10/3/1995 | 18960 | 17410 | 127.9 | 19.4 | 108.5 | 108.5 | 17.9 | 17.9 | 97.8 | 97.8 | RB-10 | 110.9 | 15.4 | P | |
| 60 | RBC-146X | 10/6/1995 | 18960 | 17410 | 125.8 | 18.9 | 107.0 | 106.9 | 17.6 | 17.7 | 96.5 | 96.4 | RB-10 | 110.9 | 15.4 | P | Reverification 3rd Lift |
| 61 | RBC-154 | 10/10/1995 | 19070 | 16290 | 126.4 | 18.2 | 108.2 | 108.2 | 16.8 | 16.8 | 98.1 | 98.1 | RB-11 | 110.3 | 16.2 | P | |
| 62 | RBC-155 | 10/10/1995 | 19060 | 16450 | 127.2 | 18.2 | 109.0 | 109.0 | 16.7 | 16.7 | 98.8 | 98.8 | RB-11 | 110.3 | 16.2 | P | |
| 63 | RBC-158 | 10/11/1995 | 18915 | 16500 | 123.4 | 15.5 | 107.9 | 107.9 | 14.4 | 14.4 | 93.7 | 93.7 | RB-12 | 115.2 | 14.0 | Fail | Fail Compaction |
| 64 | RBC-158R | 10/11/1995 | 18915 | 16500 | 132.3 | 17.2 | 115.1 | 115.1 | 14.9 | 14.9 | 99.8 | 99.9 | RB-12 | 115.2 | 14.0 | P | Retest Test # RBC-158 - Clay in Channel 1 Replaced |
| 65 | RBC-159 | 10/11/1995 | 18905 | 16810 | 129.4 | 16.8 | 112.5 | 112.6 | 15.0 | 14.9 | 97.7 | 97.7 | RB-12 | 115.2 | 14.0 | P | Clay in Channel 1 Replaced |
| 66 | RBC-160 | 10/11/1995 | 18890 | 17260 | 132.9 | 17.3 | 115.5 | 115.6 | 15.0 | 15.0 | 100.2 | 100.3 | RB-12 | 115.2 | 14.0 | P | Clay in Channel 1 Replaced |
| | RBC-160S | 10/11/1995 | 18890 | 17260 | 133.3 | | 115.5 | | 15.5 | | 100.2 | | RB-12 | 115.2 | 14.0 | N/A | Sand-Cone |
| 67 | RBC-161 | 10/11/1995 | 19060 | 16740 | 128.9 | 16.5 | 112.4 | 112.4 | 14.7 | 14.7 | 97.4 | 97.4 | RB-13 | 115.4 | 14.2 | P | |
| 68 | RBC-162 | 10/11/1995 | 19040 | 17030 | 127.4 | 17.5 | 109.9 | 109.9 | 15.9 | 15.9 | 95.2 | 95.2 | RB-13 | 115.4 | 14.2 | P | |
| 69 | RBC-163 | 10/13/1995 | 19090 | 17130 | 126.7 | 17.7 | 109.0 | 109.0 | 16.2 | 16.2 | 94.5 | 94.5 | RB-13 | 115.4 | 14.2 | Fail | Fail Compaction |
| 70 | RBC-163R | 10/13/1995 | 19090 | 17130 | 129.1 | 17.0 | 112.1 | 112.1 | 15.2 | 15.2 | 97.1 | 97.1 | RB-13 | 115.4 | 14.2 | P | Retest of Test # RBC-163 |
| 71 | RBC-164 | 10/13/1995 | 19080 | 16640 | 127.4 | 18.2 | 109.2 | 109.2 | 16.7 | 16.7 | 94.6 | 94.6 | RB-13 | 115.4 | 14.2 | Fail | Fail Compaction |
| 72 | RBC-164R | 10/13/1995 | 19080 | 16640 | 128.9 | 17.5 | 111.4 | 111.4 | 15.7 | 15.7 | 96.5 | 96.5 | RB-13 | 115.4 | 14.2 | P | Retest of Test # RBC-164 |
| 73 | RBC-165 | 10/17/1995 | 19110 | 16580 | 130.0 | 19.2 | 110.8 | 110.8 | 17.3 | 17.3 | 96.0 | 96.0 | RB-13 | 115.4 | 14.2 | P | |
| 74 | RBC-166 | 10/17/1995 | 19130 | 16370 | 127.0 | 17.4 | 109.6 | 109.6 | 15.9 | 15.9 | 95.0 | 95.0 | RB-13 | 115.4 | 14.2 | P | |
| 75 | RBC-167 | 10/17/1995 | 19140 | 17160 | 128.9 | 16.8 | 112.1 | 112.1 | 15.0 | 15.0 | 97.1 | 97.1 | RB-13 | 115.4 | 14.2 | P | |
| 76 | RBC-168 | 10/17/1995 | 19190 | 17050 | 128.3 | 17.0 | 111.2 | 111.3 | 15.3 | 15.3 | 96.5 | 96.6 | RB-12 | 115.2 | 14.0 | P | |
| 77 | RBC-169 | 10/17/1995 | 19180 | 16400 | 129.8 | 19.8 | 109.9 | 110.0 | 18.0 | 18.0 | 95.4 | 95.5 | RB-12 | 115.2 | 14.0 | P | |
| 78 | RBC-178 | 10/20/1995 | 19250 | 16250 | 124.8 | 12.4 | 112.4 | 112.4 | 11.0 | 11.0 | 98.3 | 98.3 | RB-14 | 114.4 | 15.2 | Fail | Fail Moisture |
| 79 | RBC-178R | 10/21/1995 | 19250 | 16250 | 127.5 | 17.5 | 110.0 | 110.0 | 15.9 | 15.9 | 96.1 | 96.2 | RB-14 | 114.4 | 15.2 | P | Retest of Test # RBC-178 |
| 80 | RBC-178X | 10/25/1995 | 19250 | 16250 | 129.0 | 18.9 | 110.1 | 110.1 | 17.2 | 17.2 | 96.2 | 96.2 | RB-14 | 114.4 | 15.2 | P | Reverification 3rd Lift |
| 81 | RBC-179 | 10/21/1995 | 19260 | 16550 | 128.0 | 16.0 | 112.0 | 112.0 | 14.3 | 14.3 | 97.8 | 97.9 | RB-14 | 114.4 | 15.2 | Fail | Fail Moisture |
| 82 | RBC-179R | 10/21/1995 | 19260 | 16550 | 125.5 | 16.1 | 109.4 | 109.4 | 14.8 | 14.7 | 95.5 | 95.6 | RB-14 | 114.4 | 15.2 | Fail | Retest of Test # RBC-179 - Fail Moisture |
| 83 | RBC-179R2 | 10/21/1995 | 19260 | 16550 | 129.4 | 18.4 | 111.1 | 111.0 | 16.5 | 16.6 | 97.0 | 97.0 | RB-14 | 114.4 | 15.2 | P | Retest of Test # RBC-179R |
| 84 | RBC-179X | 10/25/1995 | 19260 | 16550 | 129.1 | 18.2 | 110.9 | 110.9 | 16.4 | 16.4 | 96.9 | 96.9 | RB-14 | 114.4 | 15.2 | P | Reverification 3rd Lift |
| 85 | RBC-180 | 10/21/1995 | 19220 | 16720 | 128.4 | 17.2 | 111.2 | 111.2 | 15.4 | 15.5 | 97.2 | 97.2 | RB-14 | 114.4 | 15.2 | P | |
| 86 | RBC-180R | 10/21/1995 | 19220 | 16720 | 130.6 | 17.8 | 112.7 | 112.8 | 15.8 | 15.8 | 98.5 | 98.6 | RB-14 | 114.4 | 15.2 | P | Retest taken but not needed |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| | RBC-180RS | 10/21/1995 | 19220 | 16720 | 129.4 | | 112.4 | | 15.1 | | 98.3 | | RB-14 | 114.4 | 15.2 | N/A | Sand-Cone, Retest, Fail Moisture on Sand-Cone Correlation |
| 87 | RBC-180X | 10/25/1995 | 19220 | 16720 | 129.5 | 18.8 | 110.6 | 110.7 | 17.0 | 17.0 | 96.6 | 96.8 | RB-14 | 114.4 | 15.2 | P | Reverification 3rd Lift |
| | RBC-180R2S | 10/25/1995 | 19220 | 16720 | 131.5 | | 112.4 | | 17.0 | | 98.3 | | RB-14 | 114.4 | 15.2 | N/A | Sand-Cone, Retest |
| 88 | RBC-181 | 10/21/1995 | 19260 | 16860 | 128.8 | 19.7 | 109.2 | 109.1 | 18.0 | 18.1 | 95.4 | 95.4 | RB-14 | 114.4 | 15.2 | P | |
| 89 | RBC-181X | 10/25/1995 | 19260 | 16860 | 129.3 | 19.6 | 109.7 | 109.7 | 17.9 | 17.9 | 95.8 | 95.9 | RB-14 | 114.4 | 15.2 | P | Reverification 3rd Lift |
| 90 | RBC-182 | 10/21/1995 | 19270 | 17090 | 127.9 | 17.7 | 110.2 | 110.2 | 16.0 | 16.1 | 96.3 | 96.3 | RB-14 | 114.4 | 15.2 | P | |
| 91 | RBC-182X | 10/25/1995 | 19270 | 17090 | 129.9 | 18.2 | 111.6 | 111.7 | 16.3 | 16.3 | 97.5 | 97.6 | RB-14 | 114.4 | 15.2 | P | Reverification 3rd Lift |
| 92 | RBC-183 | 10/26/1995 | 19325 | 16390 | 127.3 | 17.8 | 109.5 | 109.5 | 16.3 | 16.3 | 95.7 | 95.7 | RB-14 | 114.4 | 15.2 | P | |
| 93 | RBC-184 | 10/26/1995 | 19340 | 16550 | 129.2 | 17.5 | 111.8 | 111.7 | 15.6 | 15.7 | 97.7 | 97.6 | RB-14 | 114.4 | 15.2 | P | |
| 94 | RBC-185 | 10/26/1995 | 19340 | 16790 | 127.6 | 17.6 | 110.1 | 110.0 | 16.0 | 16.0 | 96.2 | 96.2 | RB-14 | 114.4 | 15.2 | P | |
| 95 | RBC-186 | 10/26/1995 | 19330 | 16910 | 128.0 | 17.8 | 110.1 | 110.2 | 16.2 | 16.2 | 96.2 | 96.3 | RB-14 | 114.4 | 15.2 | P | |
| 96 | RBC-187 | 10/26/1995 | 19320 | 17070 | 127.9 | 18.3 | 109.6 | 109.6 | 16.6 | 16.7 | 95.8 | 95.8 | RB-14 | 114.4 | 15.2 | P | |
| 97 | RBC-216 | 6/4/1996 | 18430 | 16260 | 131.9 | 17.7 | 114.2 | 114.2 | 15.5 | 15.5 | 102.9 | 102.9 | RB-17 | 111.0 | 15.1 | P | |
| 98 | RBC-217 | 6/4/1996 | 18420 | 16380 | 126.3 | 15.8 | 110.5 | 110.5 | 14.3 | 14.3 | 99.5 | 99.5 | RB-17 | 111.0 | 15.1 | Fail | Fail Moisture |
| 99 | RBC-217R | 6/4/1996 | 18420 | 16380 | 127.2 | 17.8 | 109.4 | 109.4 | 16.3 | 16.3 | 98.6 | 98.6 | RB-17 | 111.0 | 15.1 | P | Retest of Test # RBC-217 |
| 100 | RBC-218 | 6/4/1996 | 18410 | 16480 | 132.6 | 17.9 | 114.7 | 114.7 | 15.6 | 15.6 | 103.4 | 103.3 | RB-17 | 111.0 | 15.1 | P | |
| 101 | RBC-219 | 6/4/1996 | 18390 | 16580 | 131.5 | 19.3 | 112.2 | 112.2 | 17.2 | 17.2 | 101.1 | 101.1 | RB-17 | 111.0 | 15.1 | P | |
| 102 | RBC-220 | 6/4/1996 | 18380 | 16680 | 130.4 | 18.7 | 111.7 | 111.7 | 16.7 | 16.7 | 100.6 | 100.6 | RB-17 | 111.0 | 15.1 | P | |
| | RBC-220S | 6/4/1996 | 18380 | 16680 | 127.2 | | 110.8 | | 14.8 | | 99.8 | | RB-17 | 111.0 | 15.1 | N/A | Sand-Cone, Fail Moisture on Sand-Cone Correlation |
| 103 | RBC-221 | 6/4/1996 | 18340 | 16770 | 133.0 | 18.3 | 114.7 | 114.7 | 16.0 | 16.0 | 103.4 | 103.3 | RB-17 | 111.0 | 15.1 | P | |
| 104 | RBC-222 | 6/4/1996 | 18330 | 16880 | 131.2 | 18.2 | 113.0 | 113.0 | 16.1 | 16.1 | 101.8 | 101.8 | RB-17 | 111.0 | 15.1 | P | |
| 105 | RBC-223 | 6/4/1996 | 18160 | 16870 | 131.5 | 17.6 | 113.9 | 113.9 | 15.5 | 15.5 | 102.6 | 102.6 | RB-17 | 111.0 | 15.1 | P | |
| 106 | RBC-224 | 6/4/1996 | 18170 | 16760 | 129.9 | 19.4 | 110.5 | 110.5 | 17.5 | 17.6 | 99.6 | 99.5 | RB-17 | 111.0 | 15.1 | P | |
| 107 | RBC-225 | 6/4/1996 | 18180 | 16670 | 132.6 | 17.9 | 114.7 | 114.7 | 15.6 | 15.6 | 103.4 | 103.3 | RB-17 | 111.0 | 15.1 | P | |
| 108 | RBC-226 | 6/4/1996 | 18210 | 16550 | 124.5 | 18.8 | 105.7 | 105.7 | 17.8 | 17.8 | 95.2 | 95.2 | RB-17 | 111.0 | 15.1 | P | |
| 109 | RBC-227 | 6/4/1996 | 18260 | 16460 | 128.5 | 17.0 | 111.5 | 111.5 | 15.2 | 15.2 | 100.5 | 100.5 | RB-17 | 111.0 | 15.1 | P | |
| 110 | RBC-228 | 6/4/1996 | 18260 | 16350 | 132.9 | 17.6 | 115.3 | 115.3 | 15.3 | 15.3 | 103.8 | 103.9 | RB-17 | 111.0 | 15.1 | P | |
| 111 | RBC-229 | 6/4/1996 | 18270 | 16240 | 128.4 | 18.1 | 110.2 | 110.3 | 16.4 | 16.4 | 99.3 | 99.4 | RB-17 | 111.0 | 15.1 | P | |
| 112 | RBC-250 | 6/6/1996 | 18360 | 16960 | 127.6 | 17.0 | 110.6 | 110.6 | 15.3 | 15.4 | 98.6 | 98.6 | RB-19 | 112.2 | 14.9 | P | |
| | RBC-250S | 6/6/1996 | 18360 | 16960 | 128.1 | | 110.3 | | 16.1 | | 98.3 | | RB-19 | 112.2 | 14.9 | N/A | Sand-Cone |
| 113 | RBC-251 | 6/6/1996 | 18350 | 17060 | 126.8 | 16.8 | 110.0 | 110.0 | 15.3 | 15.3 | 98.0 | 98.0 | RB-19 | 112.2 | 14.9 | P | |
| 114 | RBC-252 | 6/6/1996 | 18330 | 17170 | 127.2 | 17.1 | 110.1 | 110.1 | 15.5 | 15.5 | 98.2 | 98.1 | RB-19 | 112.2 | 14.9 | P | |
| 115 | RBC-253 | 6/6/1996 | 18320 | 17270 | 127.1 | 16.6 | 110.5 | 110.5 | 15.0 | 15.0 | 98.5 | 98.5 | RB-19 | 112.2 | 14.9 | P | |
| 116 | RBC-254 | 6/6/1996 | 18310 | 17350 | 127.4 | 16.8 | 110.6 | 110.6 | 15.2 | 15.2 | 98.6 | 98.6 | RB-19 | 112.2 | 14.9 | P | |
| 117 | RBC-255 | 6/6/1996 | 18230 | 16950 | 126.6 | 19.3 | 107.3 | 107.3 | 17.9 | 18.0 | 95.6 | 95.6 | RB-19 | 112.2 | 14.9 | P | |
| 118 | RBC-256 | 6/6/1996 | 18220 | 17060 | 128.0 | 19.8 | 108.2 | 108.2 | 18.3 | 18.3 | 96.4 | 96.4 | RB-19 | 112.2 | 14.9 | P | |
| 119 | RBC-257 | 6/6/1996 | 18210 | 17150 | 126.8 | 17.0 | 109.8 | 109.8 | 15.5 | 15.5 | 97.9 | 97.9 | RB-19 | 112.2 | 14.9 | P | |
| 120 | RBC-258 | 6/6/1996 | 18190 | 17250 | 126.8 | 16.8 | 110.0 | 110.0 | 15.3 | 15.3 | 98.0 | 98.0 | RB-19 | 112.2 | 14.9 | P | |
| 121 | RBC-259 | 6/6/1996 | 18150 | 17350 | 125.8 | 17.5 | 108.3 | 108.3 | 16.1 | 16.2 | 96.5 | 96.5 | RB-19 | 112.2 | 14.9 | P | |
| 122 | RBC-266 | 6/18/1996 | 18460 | 16730 | 130.8 | 16.9 | 113.9 | 113.9 | 14.8 | 14.8 | 97.9 | 97.9 | RB-20 | 116.3 | 13.7 | P | |
| 123 | RBC-269 | 6/22/1996 | 18430 | 17420 | 126.4 | 15.9 | 110.5 | 110.5 | 14.4 | 14.4 | 95.0 | 95.0 | RB-20 | 116.3 | 13.7 | P | |
| 124 | RBC-270 | 6/26/1996 | 18350 | 17470 | 127.0 | 15.8 | 111.2 | 111.2 | 14.2 | 14.2 | 95.6 | 95.6 | RB-20 | 116.3 | 13.7 | P | |
| | RBC-270S | 6/26/1996 | 18350 | 17470 | 128.5 | | 112.3 | | 14.5 | | 96.5 | | RB-20 | 116.3 | 13.7 | N/A | Sand-Cone |
| 125 | RBC-271 | 6/26/1996 | 18180 | 17470 | 127.8 | 16.1 | 111.7 | 111.7 | 14.4 | 14.4 | 96.0 | 96.0 | RB-20 | 116.3 | 13.7 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|---|
| 126 | RBC-288 | 7/12/1996 | 18650 | 16130 | 123.2 | 17.6 | 105.6 | 105.6 | 16.6 | 16.7 | 94.6 | 94.6 | RB-22 | 111.6 | 15.6 | Fail | Fail Compaction |
| 127 | RBC-288R | 7/12/1996 | 18650 | 16130 | 124.2 | 17.8 | 106.4 | 106.4 | 16.7 | 16.7 | 95.4 | 95.3 | RB-22 | 111.6 | 15.6 | P | Retest of Test # RBC-288 |
| 128 | RBC-289 | 7/12/1996 | 18750 | 16110 | 129.8 | 17.9 | 111.9 | 111.9 | 16.0 | 16.0 | 100.3 | 100.3 | RB-22 | 111.6 | 15.6 | P | |
| 129 | RBC-290 | 7/12/1996 | 18760 | 15960 | 130.2 | 18.8 | 111.4 | 111.4 | 16.8 | 16.9 | 99.8 | 99.8 | RB-22 | 111.6 | 15.6 | P | |
| | RBC-290S | 7/12/1996 | 18760 | 15960 | 129.4 | | 112.6 | | 14.9 | | 100.9 | | RB-22 | 111.6 | 15.6 | N/A | Sand-Cone, Fail Moisture on Sand-Cone Correlation |
| 130 | RBC-290R | 7/15/1996 | 18760 | 15960 | 130.7 | 18.2 | 112.5 | 112.5 | 16.2 | 16.2 | 100.8 | 100.8 | RB-22 | 111.6 | 15.6 | N/A | Retest of Test # RBC-290 due to failing sand-cone |
| | RBC-290RS | 7/15/1996 | 18760 | 15960 | 129.4 | | 111.7 | | 15.8 | | 100.1 | | RB-22 | 111.6 | 15.6 | N/A | Sand-Cone, Retest of Test #RBC-290 due to failing sand-cone |
| 131 | RBC-291 | 7/12/1996 | 18660 | 15980 | 127.8 | 18.9 | 109.0 | 108.9 | 17.3 | 17.4 | 97.6 | 97.6 | RB-22 | 111.6 | 15.6 | P | |
| 132 | RBC-292 | 7/12/1996 | 18860 | 16100 | 123.4 | 18.8 | 104.6 | 104.6 | 17.9 | 18.0 | 93.8 | 93.7 | RB-22 | 111.6 | 15.6 | Fail | Fail Compaction |
| 133 | RBC-292R | 7/15/1996 | 18860 | 16100 | 125.6 | 18.8 | 106.8 | 106.8 | 17.6 | 17.6 | 95.7 | 95.7 | RB-22 | 111.6 | 15.6 | P | Retest of Test # RBC-292 |
| 134 | RBC-293 | 7/15/1996 | 18880 | 15960 | 125.4 | 19.3 | 106.1 | 106.1 | 18.2 | 18.2 | 95.0 | 95.1 | RB-22 | 111.6 | 15.6 | P | |
| 135 | RBC-306 | 7/18/1996 | 18970 | 16150 | 130.4 | 16.7 | 113.7 | 113.7 | 14.7 | 14.7 | 100.4 | 100.4 | RB-23 | 113.3 | 14.5 | P | |
| 136 | RBC-307 | 7/18/1996 | 19050 | 16120 | 133.5 | 17.5 | 115.9 | 116.0 | 15.1 | 15.1 | 102.3 | 102.4 | RB-23 | 113.3 | 14.5 | P | |
| 137 | RBC-308 | 7/18/1996 | 19170 | 16100 | 129.8 | 19.4 | 110.4 | 110.4 | 17.6 | 17.6 | 97.4 | 97.4 | RB-23 | 113.3 | 14.5 | P | |
| 138 | RBC-309 | 7/18/1996 | 19270 | 16110 | 129.6 | 18.1 | 111.5 | 111.5 | 16.3 | 16.2 | 98.4 | 98.4 | RB-23 | 113.3 | 14.5 | P | |
| 139 | RBC-310 | 7/18/1996 | 18950 | 15900 | 130.1 | 18.6 | 111.4 | 111.5 | 16.7 | 16.7 | 98.4 | 98.4 | RB-23 | 113.3 | 14.5 | P | |
| | RBC-310S | 7/18/1996 | 18950 | 15900 | 132.3 | | 114.1 | | 15.9 | | 100.7 | | RB-23 | 113.3 | 14.5 | N/A | Sand-Cone |
| 140 | RBC-311 | 7/18/1996 | 19060 | 15910 | 129.8 | 16.9 | 112.9 | 112.9 | 15.0 | 15.0 | 99.7 | 99.6 | RB-23 | 113.3 | 14.5 | P | |
| 141 | RBC-312 | 7/18/1996 | 19170 | 15890 | 127.5 | 19.9 | 107.6 | 107.6 | 18.5 | 18.5 | 95.0 | 95.0 | RB-23 | 113.3 | 14.5 | P | |
| 142 | RBC-313 | 7/18/1996 | 19230 | 15930 | 128.6 | 17.7 | 110.9 | 110.9 | 16.0 | 16.0 | 97.9 | 97.9 | RB-23 | 113.3 | 14.5 | P | |
| 143 | RBC-316 | 7/18/1996 | 19070 | 16180 | 129.2 | 18.0 | 111.2 | 111.2 | 16.2 | 16.2 | 95.7 | 95.7 | RB-24 | 116.2 | 12.6 | P | |
| 144 | RBC-324 | 7/29/1996 | 19480 | 16750 | 128.2 | 16.1 | 112.1 | 112.1 | 14.4 | 14.4 | 100.2 | 100.2 | RB-25 | 111.9 | 14.8 | Fail | Fail Moisture |
| 145 | RBC-324R | 7/29/1996 | 19480 | 16750 | 127.6 | 16.8 | 110.8 | 110.8 | 15.2 | 15.2 | 99.0 | 99.0 | RB-25 | 111.9 | 14.8 | P | Retest of Test # RBC-324 |
| 146 | RBC-325 | 7/29/1996 | 19410 | 16860 | 124.9 | 17.8 | 107.2 | 107.1 | 16.6 | 16.6 | 95.8 | 95.7 | RB-25 | 111.9 | 14.8 | P | |
| 147 | RBC-326 | 7/29/1996 | 19550 | 16870 | 129.6 | 17.0 | 112.7 | 112.6 | 15.1 | 15.1 | 100.7 | 100.6 | RB-25 | 111.9 | 14.8 | P | |
| 148 | RBC-333 | 7/30/1996 | 19440 | 16470 | 128.6 | 17.2 | 111.5 | 111.4 | 15.4 | 15.4 | 96.4 | 96.5 | RB-26 | 115.5 | 13.3 | P | |
| 149 | RBC-334 | 7/30/1996 | 19410 | 16580 | 128.6 | 17.1 | 111.5 | 111.5 | 15.3 | 15.3 | 96.5 | 96.5 | RB-26 | 115.5 | 13.3 | P | |
| 150 | RBC-335 | 7/30/1996 | 19530 | 16530 | 127.9 | 17.7 | 110.1 | 110.2 | 16.1 | 16.1 | 95.3 | 95.4 | RB-26 | 115.5 | 13.3 | P | |
| 151 | RBC-339 | 8/1/1996 | 19440 | 16670 | 129.0 | 18.5 | 110.5 | 110.5 | 16.7 | 16.7 | 95.6 | 95.7 | RB-26 | 115.5 | 13.3 | P | |
| 152 | RBC-340 | 8/1/1996 | 19570 | 16660 | 128.2 | 17.7 | 110.5 | 110.5 | 16.0 | 16.0 | 95.6 | 95.7 | RB-26 | 115.5 | 13.3 | P | |
| | RBC-340S | 8/1/1996 | 19570 | 16660 | 129.2 | | 110.9 | | 16.5 | | 96.0 | | RB-26 | 115.5 | 13.3 | N/A | |
| 153 | RBC-352 | 8/5/1996 | 19380 | 16350 | 128.5 | 17.0 | 111.5 | 111.5 | 15.2 | 15.2 | 98.8 | 98.8 | RB-27 | 112.9 | 14.9 | P | |
| 154 | RBC-353 | 8/5/1996 | 19420 | 16270 | 133.6 | 18.4 | 115.2 | 115.2 | 16.0 | 16.0 | 102.1 | 102.0 | RB-27 | 112.9 | 14.9 | P | |
| 155 | RBC-354 | 8/5/1996 | 19530 | 16220 | 125.3 | 17.0 | 108.3 | 108.3 | 15.7 | 15.7 | 95.9 | 95.9 | RB-27 | 112.9 | 14.9 | P | |
| 156 | RBC-355 | 8/6/1996 | 19440 | 16830 | 130.1 | 19.2 | 110.9 | 110.9 | 17.3 | 17.3 | 98.3 | 98.2 | RB-27 | 112.9 | 14.9 | P | |
| 157 | RBC-356 | 8/6/1996 | 19430 | 17000 | 131.0 | 18.3 | 112.7 | 112.7 | 16.2 | 16.2 | 99.8 | 99.8 | RB-27 | 112.9 | 14.9 | P | |
| 158 | RBC-357 | 8/6/1996 | 19490 | 16940 | 130.0 | 19.9 | 110.2 | 110.1 | 18.0 | 18.1 | 97.6 | 97.5 | RB-27 | 112.9 | 14.9 | P | |
| 159 | RBC-358 | 8/6/1996 | 19530 | 16870 | 129.7 | 17.4 | 112.3 | 112.3 | 15.5 | 15.5 | 99.4 | 99.5 | RB-27 | 112.9 | 14.9 | P | |
| 160 | RBC-359 | 8/6/1996 | 19560 | 17020 | 127.6 | 17.0 | 110.6 | 110.6 | 15.4 | 15.4 | 97.9 | 98.0 | RB-27 | 112.9 | 14.9 | P | |
| 161 | RBC-374 | 8/29/1996 | 18470 | 16120 | 127.6 | 17.5 | 110.1 | 110.1 | 15.9 | 15.9 | 95.7 | 95.7 | RB-28 | 115.0 | 13.0 | P | |
| 162 | RBC-375 | 8/29/1996 | 18400 | 16120 | 127.7 | 17.2 | 110.5 | 110.5 | 15.6 | 15.6 | 95.6 | 95.7 | RB-29 | 115.5 | 13.1 | P | |
| 163 | RBC-376 | 8/29/1996 | 18330 | 16070 | 129.3 | 18.2 | 111.1 | 111.1 | 16.4 | 16.4 | 96.2 | 96.2 | RB-29 | 115.5 | 13.1 | P | |
| 164 | RBC-377 | 8/29/1996 | 18570 | 16140 | 129.8 | 18.8 | 111.0 | 111.0 | 16.9 | 16.9 | 96.1 | 96.1 | RB-29 | 115.5 | 13.1 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

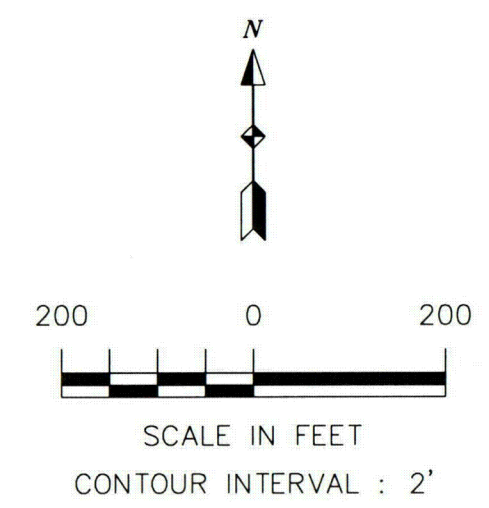
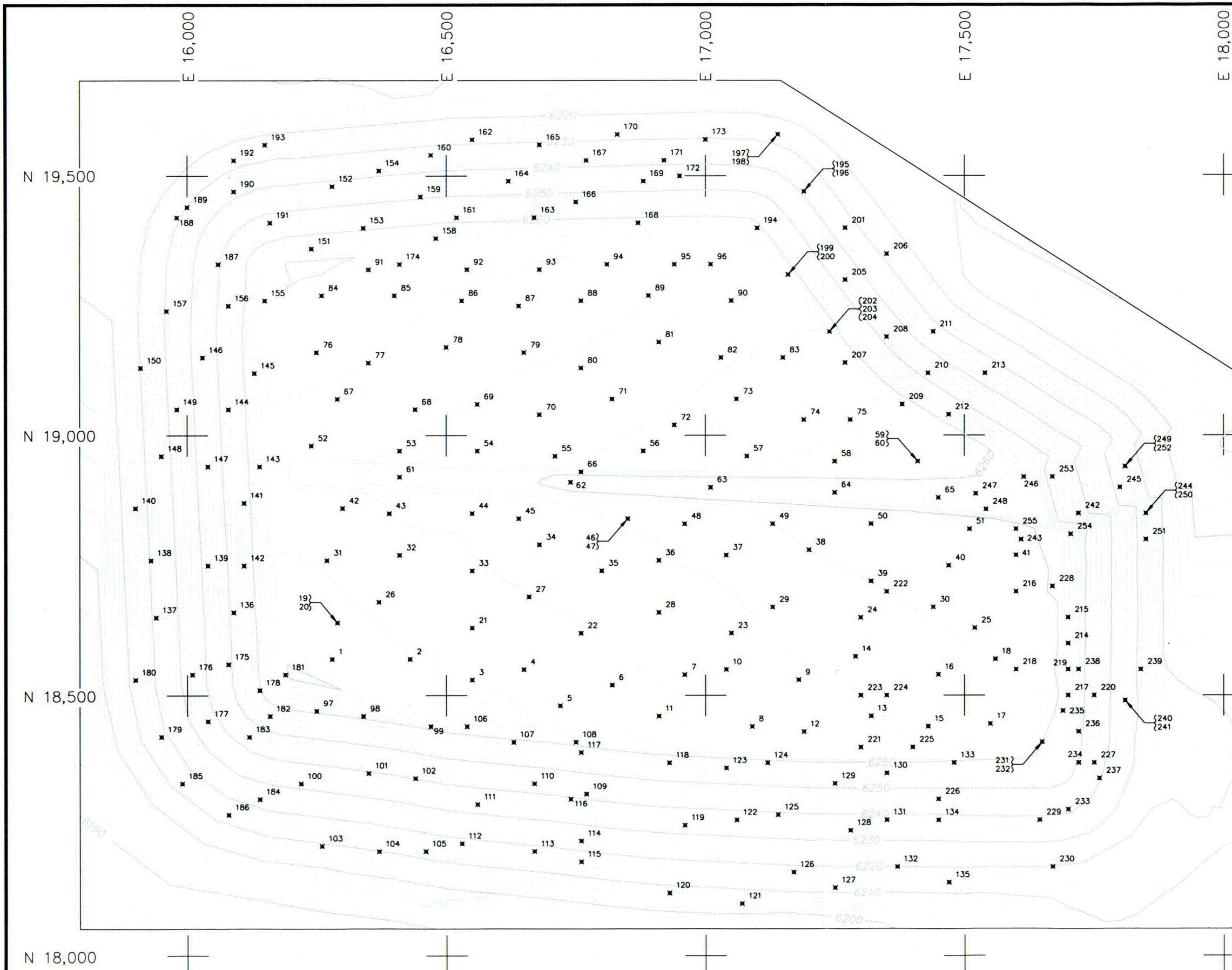
| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 165 | RBC-378 | 8/29/1996 | 18530 | 16030 | 128.5 | 17.6 | 110.9 | 110.9 | 15.9 | 15.9 | 95.9 | 96.0 | RB-29 | 115.5 | 13.1 | P | |
| 166 | RBC-379 | 8/29/1996 | 18420 | 15980 | 127.6 | 17.3 | 110.3 | 110.3 | 15.7 | 15.7 | 95.5 | 95.5 | RB-29 | 115.5 | 13.1 | P | |
| 167 | RBC-380 | 8/29/1996 | 18550 | 15930 | 131.3 | 16.6 | 114.7 | 114.7 | 14.5 | 14.5 | 99.2 | 99.3 | RB-29 | 115.5 | 13.1 | P | |
| | RBC-380S | 8/29/1996 | 18550 | 15930 | 129.6 | | 112.5 | | 15.2 | | 97.4 | | RB-29 | 115.5 | 13.1 | N/A | |
| 168 | RBC-391 | 9/10/1996 | 19340 | 16100 | 130.2 | 16.9 | 113.3 | 113.3 | 14.9 | 14.9 | 98.7 | 98.8 | RB-30 | 114.7 | 14.9 | P | |
| 169 | RBC-392 | 9/10/1996 | 19430 | 16160 | 128.6 | 18.5 | 110.1 | 110.1 | 16.8 | 16.8 | 95.9 | 96.0 | RB-30 | 114.7 | 14.9 | P | |
| 170 | RBC-393 | 9/10/1996 | 19480 | 16100 | 128.8 | 19.3 | 109.5 | 109.5 | 17.6 | 17.6 | 95.4 | 95.5 | RB-30 | 114.7 | 14.9 | P | |
| 171 | RBC-394 | 9/10/1996 | 19450 | 16000 | 130.8 | 18.2 | 112.6 | 112.6 | 16.2 | 16.2 | 98.1 | 98.2 | RB-30 | 114.7 | 14.9 | P | |
| 172 | RBC-395 | 9/10/1996 | 19330 | 16000 | 130.5 | 19.7 | 110.8 | 110.8 | 17.8 | 17.8 | 96.5 | 96.6 | RB-30 | 114.7 | 14.9 | P | |
| 173 | RBC-406 | 9/25/1996 | 19530 | 17200 | 129.0 | 18.5 | 110.5 | 110.5 | 16.7 | 16.7 | 96.2 | 96.3 | RB-31 | 114.8 | 13.0 | P | |
| 174 | RBC-406X | 10/1/1996 | 19530 | 17200 | 127.6 | 17.4 | 110.2 | 110.2 | 15.8 | 15.8 | 95.9 | 96.0 | RB-31 | 114.8 | 13.0 | P | Reverification of Lift after Regrading |
| 175 | RBC-407 | 9/25/1996 | 19380 | 17130 | 128.6 | 17.7 | 110.9 | 110.9 | 16.0 | 16.0 | 96.5 | 96.6 | RB-31 | 114.8 | 13.0 | P | |
| 176 | RBC-407X | 10/1/1996 | 19380 | 17130 | 126.4 | 17.0 | 109.4 | 109.4 | 15.6 | 15.5 | 95.2 | 95.3 | RB-31 | 114.8 | 13.0 | P | Reverification of Lift after Regrading |
| 177 | RBC-408 | 9/25/1996 | 19400 | 17250 | 127.3 | 16.2 | 111.0 | 111.1 | 14.6 | 14.6 | 96.7 | 96.8 | RB-31 | 114.8 | 13.0 | P | |
| 178 | RBC-409 | 9/25/1996 | 19210 | 17250 | 128.4 | 18.3 | 110.1 | 110.1 | 16.6 | 16.6 | 95.9 | 95.9 | RB-31 | 114.8 | 13.0 | P | |
| 179 | RBC-410 | 9/25/1996 | 19380 | 17330 | 130.4 | 18.9 | 111.5 | 111.5 | 17.0 | 17.0 | 97.1 | 97.1 | RB-31 | 114.8 | 13.0 | P | |
| | RBC-410S | 9/25/1996 | 19380 | 17330 | 129.3 | | 110.2 | | 17.4 | | 96.0 | | RB-31 | 114.8 | 13.0 | N/A | Fail Moisture on Sand-Cone Correlation |
| 180 | RBC-432 | 10/7/1996 | 19210 | 17340 | 129.2 | 16.2 | 112.9 | 113.0 | 14.4 | 14.3 | 98.4 | 98.5 | RB-32 | 114.7 | 13.5 | P | |
| 181 | RBC-433 | 10/7/1996 | 19080 | 17310 | 128.5 | 17.3 | 111.2 | 111.2 | 15.6 | 15.6 | 96.9 | 96.9 | RB-32 | 114.7 | 13.5 | P | |
| 182 | RBC-434 | 10/7/1996 | 19180 | 17430 | 125.1 | 15.6 | 109.5 | 109.5 | 14.2 | 14.2 | 95.4 | 95.5 | RB-32 | 114.7 | 13.5 | P | |
| 183 | RBC-435 | 10/7/1996 | 19090 | 17490 | 129.6 | 16.4 | 113.1 | 113.2 | 14.5 | 14.5 | 96.2 | 96.3 | RB-33 | 117.6 | 12.5 | P | |
| 184 | RBC-436 | 10/7/1996 | 18980 | 17500 | 128.3 | 16.0 | 112.3 | 112.3 | 14.3 | 14.2 | 95.5 | 95.5 | RB-33 | 117.6 | 12.5 | P | |
| 185 | RBC-437 | 10/7/1996 | 18570 | 17750 | 129.1 | 16.0 | 113.0 | 113.1 | 14.2 | 14.1 | 96.1 | 96.2 | RB-33 | 117.6 | 12.5 | P | |
| 186 | RBC-438 | 10/7/1996 | 18680 | 17730 | 129.2 | 18.1 | 111.0 | 111.1 | 16.3 | 16.3 | 94.4 | 94.5 | RB-33 | 117.6 | 12.5 | Fail | Fail Compaction |
| 187 | RBC-438R | 10/7/1996 | 18680 | 17730 | 130.4 | 18.1 | 112.3 | 112.3 | 16.1 | 16.1 | 95.4 | 95.5 | RB-33 | 117.6 | 12.5 | P | Retest of Test # RBC-438 |
| 188 | RBC-439 | 10/7/1996 | 18760 | 17710 | 130.2 | 16.9 | 113.3 | 113.3 | 14.9 | 14.9 | 96.3 | 96.3 | RB-33 | 117.6 | 12.5 | P | |
| 189 | RBC-440 | 10/7/1996 | 18840 | 17800 | 131.0 | 18.5 | 112.5 | 112.5 | 16.4 | 16.4 | 95.6 | 95.7 | RB-33 | 117.6 | 12.5 | P | |
| | RBC-440S | 10/7/1996 | 18840 | 17800 | 129.7 | | 111.9 | | 15.9 | | 95.1 | | RB-33 | 117.6 | 12.5 | N/A | Sand-Cone |
| 190 | RBC-441 | 10/7/1996 | 18640 | 17880 | 129.5 | 17.2 | 112.3 | 112.3 | 15.3 | 15.3 | 95.5 | 95.5 | RB-33 | 117.6 | 12.5 | P | |
| 191 | RBC-445 | 10/15/1996 | 18980 | 17600 | 127.1 | 15.0 | 112.1 | 112.1 | 13.4 | 13.4 | 95.3 | 95.3 | RB-33 | 117.6 | 12.5 | P | |
| 192 | RBC-446 | 10/15/1996 | 19000 | 17750 | 129.2 | 18.0 | 111.2 | 111.2 | 16.1 | 16.2 | 94.6 | 94.6 | RB-33 | 117.6 | 12.5 | Fail | Fail Compaction |
| 193 | RBC-446R | 10/15/1996 | 19000 | 17750 | 129.5 | 17.5 | 112.1 | 112.0 | 15.6 | 15.6 | 95.3 | 95.2 | RB-33 | 117.6 | 12.5 | P | Retest of Test # RBC-446 |
| 194 | RBC-450 | 5/19/1997 | 18500 | 17750 | 128.8 | 16.8 | 112.0 | 112.1 | 14.9 | 14.9 | 95.4 | 95.4 | RB-36 | 117.4 | 13.8 | P | Reverification 3rd Lift |
| 195 | RBC-451 | 5/19/1997 | 18550 | 17770 | 130.0 | 16.3 | 113.8 | 113.8 | 14.2 | 14.3 | 96.8 | 96.9 | RB-36 | 117.4 | 13.8 | P | Reverification 3rd Lift |
| 196 | RBC-452 | 5/19/1997 | 19200 | 17200 | 136.0 | 16.5 | 119.5 | 119.5 | 13.8 | 13.8 | 101.8 | 101.8 | RB-36 | 117.4 | 13.8 | P | Reverification of Lift |
| 197 | RBC-453 | 5/19/1997 | 19300 | 17300 | 131.0 | 17.3 | 113.8 | 113.8 | 15.1 | 15.2 | 96.8 | 96.9 | RB-36 | 117.4 | 13.8 | P | Reverification of Lift |
| 198 | RBC-454 | 5/19/1997 | 19250 | 17300 | 133.0 | 17.0 | 116.0 | 116.0 | 14.6 | 14.7 | 98.8 | 98.8 | RB-36 | 117.4 | 13.8 | P | Reverification of Lift |
| 199 | RBC-455 | 5/20/1997 | 18600 | 17700 | 128.5 | 15.8 | 112.8 | 112.8 | 13.9 | 14.0 | 96.0 | 96.0 | RB-36 | 117.4 | 13.8 | P | |
| 200 | RBC-456 | 5/20/1997 | 18650 | 17800 | 130.0 | 16.0 | 114.0 | 114.0 | 14.0 | 14.0 | 97.1 | 97.1 | RB-36 | 117.4 | 13.8 | P | |
| | RBC-456S | 5/20/1997 | 18650 | 17800 | 127.7 | 15.9 | 111.8 | 111.8 | 14.2 | 14.2 | 95.2 | 95.2 | RB-36 | 117.4 | 13.8 | N/A | Sand-Cone |
| 201 | RBC-470 | 5/28/1997 | 18600 | 17800 | 126.8 | 18.3 | 108.5 | 108.5 | 16.8 | 16.8 | 95.3 | 95.3 | RB-38 | 113.8 | 15.2 | P | |
| 202 | RBC-471 | 5/28/1997 | 18500 | 17700 | 127.0 | 16.8 | 110.3 | 110.3 | 15.2 | 15.2 | 96.8 | 96.9 | RB-38 | 113.8 | 15.2 | P | |
| 203 | RBC-472 | 5/28/1997 | 18550 | 17700 | 127.5 | 17.5 | 110.0 | 110.0 | 15.9 | 15.9 | 96.6 | 96.7 | RB-38 | 113.8 | 15.2 | P | |
| 204 | RBC-473 | 5/28/1997 | 18500 | 17750 | 129.3 | 17.3 | 112.0 | 112.0 | 15.4 | 15.4 | 98.4 | 98.4 | RB-38 | 113.8 | 15.2 | P | |
| 205 | RBC-474 | 5/28/1997 | 18500 | 17800 | 128.5 | 18.3 | 110.3 | 110.3 | 16.5 | 16.6 | 96.8 | 96.9 | RB-38 | 113.8 | 15.2 | P | |
| 206 | RBC-481 | 6/4/1997 | 18550 | 17600 | 129.5 | 17.0 | 112.5 | 112.5 | 15.1 | 15.1 | 95.7 | 95.7 | RB-39 | 117.5 | 14.2 | P | |

Maybell Heap Leach Repository Radon Barrier Test Results
Lift 3

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Radon Barrier passing requirements: compaction - above 95%; moisture - optimum to plus 4%

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Pass/Fail | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|----------------|-------------------------|------------------|-----------|--|
| 207 | RBC-493 | 6/17/1997 | 18400 | 17550 | 132.4 | 17.5 | 114.9 | 114.9 | 15.2 | 15.2 | 98.7 | 98.7 | RB-40 | 116.4 | 15.2 | P | |
| 208 | RBC-494 | 6/17/1997 | 18350 | 17500 | 130.2 | 17.9 | 112.3 | 112.3 | 15.9 | 15.9 | 96.4 | 96.5 | RB-40 | 116.4 | 15.2 | P | |
| 209 | RBC-495 | 6/17/1997 | 18250 | 17500 | 131.7 | 18.7 | 113.0 | 113.0 | 16.5 | 16.5 | 97.1 | 97.1 | RB-40 | 116.4 | 15.2 | P | |
| 210 | RBC-496 | 6/17/1997 | 18550 | 17750 | 129.0 | 17.2 | 111.8 | 111.8 | 15.4 | 15.4 | 96.0 | 96.0 | RB-40 | 116.4 | 15.2 | P | |
| | RBC-496S | 6/17/1997 | 18550 | 17750 | 129.3 | 18.5 | 110.8 | 110.8 | 16.5 | 16.7 | 95.3 | 95.2 | RB-40 | 116.4 | 15.2 | N/A | Sand-Cone |
| 211 | RBC-497 | 6/17/1997 | 18450 | 17700 | 129.5 | 16.8 | 112.7 | 112.7 | 14.9 | 14.9 | 95.3 | 95.3 | RB-41 | 118.3 | 13.1 | P | |
| 212 | RBC-498 | 6/24/1997 | 18400 | 17300 | 130.5 | 17.5 | 113.0 | 113.0 | 15.5 | 15.5 | 95.5 | 95.5 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 213 | RBC-499 | 6/24/1997 | 18350 | 17350 | 130.1 | 17.7 | 112.4 | 112.4 | 15.8 | 15.7 | 95.0 | 95.0 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 214 | RBC-500 | 6/24/1997 | 18400 | 17400 | 130.0 | 17.6 | 112.4 | 112.4 | 15.6 | 15.7 | 95.0 | 95.0 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 215 | RBC-501 | 6/24/1997 | 18300 | 17450 | 130.3 | 17.5 | 112.8 | 112.8 | 15.5 | 15.5 | 95.4 | 95.4 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 216 | RBC-502 | 6/24/1997 | 18400 | 17425 | 130.2 | 17.7 | 112.5 | 112.5 | 15.7 | 15.7 | 95.1 | 95.1 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 217 | RBC-503 | 6/26/1997 | 18300 | 17500 | 133.7 | 17.8 | 115.8 | 115.9 | 15.4 | 15.4 | 97.9 | 98.0 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 218 | RBC-504 | 6/26/1997 | 18350 | 17500 | 132.3 | 18.0 | 114.3 | 114.3 | 15.8 | 15.7 | 96.6 | 96.6 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 219 | RBC-505 | 6/27/1997 | 18400 | 17550 | 130.1 | 15.5 | 114.5 | 114.6 | 13.6 | 13.5 | 96.8 | 96.9 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 220 | RBC-506 | 6/30/1997 | 18550 | 17750 | 130.6 | 17.6 | 113.0 | 113.0 | 15.6 | 15.6 | 95.5 | 95.5 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| 221 | RBC-507 | 6/30/1997 | 18400 | 17600 | 131.1 | 15.8 | 115.3 | 115.3 | 13.7 | 13.7 | 97.4 | 97.5 | RB-41 | 118.3 | 13.1 | P | Reverification 3rd Lift |
| | RBC-507S | 6/30/1997 | 18400 | 17600 | 129.8 | 16.9 | 112.9 | 112.9 | 14.9 | 15.0 | 95.5 | 95.4 | RB-41 | 118.3 | 13.1 | N/A | Sand-Cone |
| 222 | RBC-508 | 7/1/1997 | 19000 | 17600 | 130.6 | 17.2 | 113.4 | 113.4 | 15.1 | 15.2 | 95.9 | 95.9 | RB-42 | 118.2 | 13.9 | P | Reverification 3rd Lift |
| 223 | RBC-509 | 7/2/1997 | 19000 | 17700 | 131.1 | 16.7 | 114.5 | 114.4 | 14.6 | 14.6 | 96.8 | 96.8 | RB-42 | 118.2 | 13.9 | P | Reverification 3rd Lift |
| 224 | RBC-510 | 7/2/1997 | 19100 | 17750 | 130.6 | 16.7 | 113.9 | 113.9 | 14.6 | 14.7 | 96.3 | 96.4 | RB-42 | 118.2 | 13.9 | P | Reverification 3rd Lift |
| 225 | RBC-511 | 8/28/1997 | 18860 | 17400 | 131.2 | 17.2 | 113.9 | 114.0 | 15.1 | 15.1 | 96.4 | 96.4 | RB-42 | 118.2 | 13.9 | P | |
| 226 | RBC-517 | 9/3/1997 | 18890 | 17620 | 129.5 | 17.7 | 111.7 | 111.8 | 15.9 | 15.8 | 95.8 | 95.9 | RB-43 | 116.6 | 14.1 | P | |
| | RBC-517S | 9/3/1997 | 18890 | 17620 | 133.6 | 18.6 | 115.0 | 115.0 | 16.2 | 16.2 | 98.6 | 98.6 | RB-43 | 116.6 | 14.1 | N/A | Sand-Cone |
| 227 | RBC-518 | 9/3/1997 | 18880 | 17580 | 132.2 | 17.9 | 114.3 | 114.3 | 15.6 | 15.7 | 98.0 | 98.0 | RB-43 | 116.6 | 14.1 | P | |
| 228 | RBC-519 | 9/3/1997 | 18880 | 17580 | 132.8 | 18.7 | 114.1 | 114.1 | 16.4 | 16.4 | 97.8 | 97.9 | RB-43 | 116.6 | 14.1 | P | |
| 229 | RBC-522 | 9/4/1997 | 18900 | 17660 | 131.1 | 17.4 | 113.7 | 113.7 | 15.3 | 15.3 | 97.5 | 97.5 | RB-43 | 116.6 | 14.1 | P | |
| 230 | RBC-527 | 9/6/1997 | 18985 | 17805 | 130.6 | 18.0 | 112.5 | 112.6 | 16.0 | 16.0 | 95.9 | 96.0 | RB-44 | 117.3 | 14.2 | P | |
| | RBC-527S | 9/6/1997 | 18885 | 18005 | 132.3 | 18.5 | 113.8 | 113.8 | 16.3 | 16.3 | 97.0 | 97.0 | RB-44 | 117.3 | 14.2 | N/A | Sand-Cone |
| 231 | RBC-537 | 9/11/1997 | 18810 | 17640 | 132.2 | 17.5 | 114.6 | 114.7 | 15.3 | 15.3 | 96.9 | 97.0 | RB-45 | 118.3 | 13.5 | P | |
| | RBC-537S | 9/11/1997 | 18810 | 17640 | 133.7 | 17.1 | 116.6 | 116.6 | 14.7 | 14.7 | 98.5 | 98.6 | RB-45 | 118.3 | 13.5 | N/A | Sand-Cone |
| 232 | RBC-538 | 9/11/1997 | 18810 | 17670 | 130.4 | 16.5 | 113.9 | 113.9 | 14.5 | 14.5 | 96.2 | 96.3 | RB-45 | 118.3 | 13.5 | P | |
| 233 | RBC-539 | 9/11/1997 | 18810 | 17640 | 127.8 | 15.4 | 112.4 | 112.4 | 13.7 | 13.7 | 95.0 | 95.0 | RB-45 | 118.3 | 13.5 | P | |
| 234 | RBC-540 | 9/12/1997 | 18910 | 17580 | 128.4 | 15.8 | 112.6 | 112.6 | 14.0 | 14.0 | 95.1 | 95.2 | RB-45 | 118.3 | 13.5 | P | |
| 235 | RBC-541 | 9/12/1997 | 18910 | 17580 | 132.4 | 16.9 | 115.5 | 115.5 | 14.6 | 14.6 | 97.6 | 97.6 | RB-45 | 118.3 | 13.5 | P | |
| 236 | RBC-542 | 9/16/1997 | 18890 | 17610 | 128.3 | 15.3 | 113.0 | 113.0 | 13.5 | 13.5 | 95.5 | 95.5 | RB-45 | 118.3 | 13.5 | P | |
| 237 | RBC-513 | 8/28/1997 | 18859 | 17410 | 131.2 | 17.7 | 113.4 | 113.5 | 15.6 | 15.6 | 95.9 | 96.0 | RB-42 | 118.2 | 13.9 | P | Test sheet indicates this is fourth lift |
| 238 | RBC-133 | 9/28/1995 | 18870 | 17350 | 130.6 | 17.9 | 112.7 | 112.7 | 15.9 | 15.9 | 101.5 | 101.5 | RB-9 | 111.0 | 15.8 | P | Test on South Side Slope of Channel 1 |
| 239 | RBC-134 | 9/28/1995 | 18880 | 16910 | 131.3 | 18.3 | 112.9 | 113.0 | 16.2 | 16.2 | 101.7 | 101.8 | RB-9 | 111.0 | 15.8 | P | Test on South Side Slope of Channel 1 |
| 240 | RBC-135 | 9/28/1995 | 18900 | 16415 | 131.1 | 18.5 | 112.6 | 112.6 | 16.5 | 16.4 | 101.5 | 101.5 | RB-10 | 110.9 | 15.4 | P | Test on South Side Slope of Channel 1 |
| 241 | RBC-136 | 9/28/1995 | 18910 | 17350 | 126.9 | 17.5 | 109.4 | 109.4 | 16.0 | 16.0 | 98.7 | 98.6 | RB-10 | 110.9 | 15.4 | P | Test on North Side Slope of Channel 1 |
| 242 | RBC-137 | 9/28/1995 | 18920 | 16910 | 124.4 | 17.1 | 107.3 | 107.3 | 15.9 | 15.9 | 96.8 | 96.8 | RB-10 | 110.9 | 15.4 | P | Test on North Side Slope of Channel 1 |
| 243 | RBC-138 | 9/28/1995 | 18935 | 16415 | 132.1 | 19.8 | 112.3 | 112.3 | 17.6 | 17.6 | 101.3 | 101.3 | RB-10 | 110.9 | 15.4 | P | Test on North Side Slope of Channel 1 |



- NOTES:**
- 1.) THE FROST BARRIER WAS PLACED TO THE LINES AND GRADE SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS DURING THE 1995, 1996 AND 1997 CONSTRUCTION SEASONS.
 - 2.) THE FROST BARRIER WAS PLACED OVER THE APPROVED RADON BARRIER LAYER. FIELD AND LABORATORY TESTING WAS CONDUCTED IN ACCORDANCE WITH SPECIFICATION MAY-1, SECTION 7.3.
 - 3.) THE FROST BARRIER SOILS WERE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT BETWEEN PLUS OR MINUS 2% OF OPTIMUM AS DETERMINED BY ASTM D698. REFER TO INCLUDED SPREADSHEETS FOR TEST RESULT DETAILS.

- LEGEND:**
- 17 FIELD TEST LOCATION AND TEST NUMBER
 - + NORTHING/EASTING GRID TICKS

**MAYBELL HEAP LEACH FACILITY
FROST BARRIER FIELD TEST LOCATIONS
(FIRST LIFT)**

UMETCO MINERALS CORPORATION

**FIRST LIFT FROST BARRIER
FIELD TEST LOCATIONS
MAYBELL HEAP LEACH FACILITY**

DATE: AUGUST 2006 FIGURE 4

Maybell Heap Leach Repository Frost Barrier Test Results

Lift 1

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|------------------------------|
| 1 | RFC-1 | 9/8/1995 | 18570 | 16280 | 127.2 | 16.4 | 110.8 | 110.8 | 14.8 | 14.8 | 96.5 | 96.6 | P | RF-1 | 114.7 | 13.5 | |
| | RFC-1S | 9/8/1995 | 18570 | 16280 | 128.4 | | 111.6 | | 15.1 | | 97.3 | | N/A | RF-1 | 114.7 | 13.5 | Sand-Cone |
| 2 | RFC-2 | 9/8/1995 | 18570 | 16430 | 125.0 | 15.1 | 109.8 | 109.9 | 13.7 | 13.7 | 95.7 | 95.8 | P | RF-1 | 114.7 | 13.5 | |
| 3 | RFC-3 | 9/8/1995 | 18530 | 16550 | 124.7 | 14.3 | 110.4 | 110.4 | 12.9 | 13.0 | 96.2 | 96.3 | P | RF-1 | 114.7 | 13.5 | |
| 4 | RFC-4 | 9/8/1995 | 18550 | 16650 | 125.5 | 15.3 | 110.2 | 110.2 | 13.9 | 13.9 | 96.1 | 96.1 | P | RF-1 | 114.7 | 13.5 | |
| 5 | RFC-5 | 9/8/1995 | 18480 | 16720 | 126.5 | 15.5 | 111.0 | 111.0 | 14.0 | 14.0 | 96.7 | 96.8 | P | RF-1 | 114.7 | 13.5 | |
| 6 | RFC-6 | 9/11/1995 | 18520 | 16820 | 128.1 | 16.5 | 111.5 | 111.6 | 14.8 | 14.8 | 97.2 | 97.3 | P | RF-1 | 114.7 | 13.5 | |
| 7 | RFC-7 | 9/11/1995 | 18540 | 16960 | 123.2 | 13.5 | 109.9 | 109.7 | 12.7 | 12.3 | 95.7 | 95.6 | P | RF-1 | 114.7 | 13.5 | |
| 8 | RFC-8 | 9/11/1995 | 18440 | 17090 | 125.3 | 13.9 | 111.4 | 111.4 | 12.5 | 12.5 | 97.1 | 97.1 | P | RF-1 | 114.7 | 13.5 | |
| 9 | RFC-9 | 9/11/1995 | 18530 | 17180 | 125.9 | 14.9 | 109.5 | 111.0 | 14.9 | 13.4 | 95.4 | 96.8 | P | RF-1 | 114.7 | 13.5 | |
| 10 | RFC-10 | 9/11/1995 | 18550 | 17040 | 124.9 | 14.7 | 110.2 | 110.2 | 13.3 | 13.3 | 96.1 | 96.1 | P | RF-1 | 114.7 | 13.5 | |
| | RFC-10S | 9/11/1995 | 18550 | 17040 | 124.6 | | 109.9 | | 13.4 | | 95.8 | | N/A | RF-1 | 114.7 | 13.5 | Sand-Cone |
| 11 | RFC-11 | 9/11/1995 | 18460 | 16910 | 124.8 | 14.6 | 110.2 | 110.2 | 13.2 | 13.2 | 96.0 | 96.1 | P | RF-1 | 114.7 | 13.5 | |
| 12 | RFC-12 | 9/11/1995 | 18430 | 17190 | 127.0 | 16.3 | 110.8 | 110.7 | 14.7 | 14.7 | 96.5 | 96.5 | P | RF-1 | 114.7 | 13.5 | |
| 13 | RFC-13 | 9/12/1995 | 18460 | 17320 | 125.2 | 14.2 | 111.0 | 111.0 | 12.8 | 12.8 | 96.7 | 96.8 | P | RF-1 | 114.7 | 13.5 | |
| 14 | RFC-14 | 9/12/1995 | 18575 | 17290 | 126.5 | 14.3 | 112.1 | 112.2 | 12.8 | 12.7 | 97.7 | 97.8 | P | RF-1 | 114.7 | 13.5 | |
| 15 | RFC-15 | 9/12/1995 | 18440 | 17430 | 124.9 | 14.1 | 110.8 | 110.8 | 12.7 | 12.7 | 97.0 | 97.0 | P | RF-2 | 114.2 | 13.6 | |
| 16 | RFC-16 | 9/12/1995 | 18540 | 17450 | 127.0 | 15.6 | 111.4 | 111.4 | 14.0 | 14.0 | 97.6 | 97.5 | P | RF-2 | 114.2 | 13.6 | |
| 17 | RFC-17 | 9/12/1995 | 18445 | 17550 | 126.3 | 14.4 | 111.8 | 111.9 | 12.9 | 12.9 | 97.9 | 98.0 | P | RF-2 | 114.2 | 13.6 | |
| 18 | RFC-18 | 9/12/1995 | 18570 | 17560 | 125.0 | 14.3 | 110.7 | 110.7 | 12.9 | 12.9 | 96.9 | 96.9 | P | RF-2 | 114.2 | 13.6 | |
| 19 | RFC-37 | 9/18/1995 | 18640 | 16290 | 125.0 | 16.6 | 108.4 | 108.4 | 15.3 | 15.3 | 94.6 | 94.6 | Fail | RF-3 | 114.6 | 13.8 | Fail Compaction |
| 20 | RFC-37R | 9/18/1995 | 18640 | 16290 | 127.3 | 16.4 | 110.9 | 110.9 | 14.8 | 14.8 | 96.7 | 96.8 | P | RF-3 | 114.6 | 13.8 | Retest of Test Number RFC-37 |
| 21 | RFC-38 | 9/18/1995 | 18630 | 16550 | 127.1 | 16.9 | 110.2 | 110.2 | 15.3 | 15.3 | 96.2 | 96.2 | P | RF-3 | 114.6 | 13.8 | |
| 22 | RFC-39 | 9/18/1995 | 18620 | 16760 | 129.2 | 17.0 | 112.1 | 112.2 | 15.2 | 15.2 | 97.8 | 97.9 | P | RF-3 | 114.6 | 13.8 | |
| 23 | RFC-40 | 9/18/1995 | 18620 | 17050 | 125.2 | 16.2 | 109.0 | 109.0 | 14.9 | 14.9 | 95.1 | 95.1 | P | RF-3 | 114.6 | 13.8 | |
| | RFC-40S | 9/18/1995 | 18620 | 17050 | 125.5 | | 109.0 | | 15.1 | | 95.1 | | N/A | RF-3 | 114.6 | 13.8 | Sand-Cone |
| 24 | RFC-41 | 9/18/1995 | 18650 | 17300 | 126.9 | 17.3 | 109.6 | 109.6 | 15.8 | 15.8 | 95.6 | 95.6 | P | RF-3 | 114.6 | 13.8 | |
| 25 | RFC-42 | 9/18/1995 | 18630 | 17520 | 125.7 | 15.8 | 109.9 | 109.9 | 14.4 | 14.4 | 95.9 | 95.9 | P | RF-3 | 114.6 | 13.8 | |
| 26 | RFC-43 | 9/19/1995 | 18680 | 16370 | 125.2 | 14.6 | 110.6 | 110.6 | 13.2 | 13.2 | 96.5 | 96.5 | P | RF-3 | 114.6 | 13.8 | |
| 27 | RFC-44 | 9/19/1995 | 18690 | 16660 | 127.6 | 15.6 | 112.0 | 112.0 | 13.9 | 13.9 | 97.7 | 97.7 | P | RF-3 | 114.6 | 13.8 | |
| 28 | RFC-45 | 9/19/1995 | 18660 | 16910 | 124.1 | 14.6 | 109.5 | 109.5 | 13.3 | 13.3 | 95.2 | 95.2 | P | RF-4 | 115.0 | 14.1 | |
| 29 | RFC-46 | 9/19/1995 | 18670 | 17130 | 125.6 | 15.4 | 110.2 | 110.2 | 14.0 | 14.0 | 95.8 | 95.8 | P | RF-4 | 115.0 | 14.1 | |
| 30 | RFC-47 | 9/19/1995 | 18670 | 17440 | 125.1 | 15.5 | 109.6 | 109.6 | 14.1 | 14.1 | 95.3 | 95.3 | P | RF-4 | 115.0 | 14.1 | |
| 31 | RFC-76 | 9/20/1995 | 18760 | 16270 | 126.8 | 15.9 | 110.9 | 110.9 | 14.3 | 14.3 | 96.8 | 96.8 | P | RF-6 | 114.6 | 13.8 | |
| 32 | RFC-77 | 9/20/1995 | 18770 | 16410 | 127.7 | 16.1 | 111.6 | 111.6 | 14.4 | 14.4 | 97.4 | 97.4 | P | RF-6 | 114.6 | 13.8 | |
| 33 | RFC-78 | 9/20/1995 | 18740 | 16550 | 125.1 | 13.7 | 111.4 | 111.4 | 12.3 | 12.3 | 97.2 | 97.2 | P | RF-6 | 114.6 | 13.8 | |
| 34 | RFC-79 | 9/20/1995 | 18790 | 16680 | 124.3 | 13.7 | 110.6 | 110.6 | 12.3 | 12.4 | 96.5 | 96.5 | P | RF-6 | 114.6 | 13.8 | |
| 35 | RFC-80 | 9/20/1995 | 18740 | 16800 | 125.5 | 14.4 | 111.1 | 111.1 | 13.0 | 13.0 | 96.9 | 96.9 | P | RF-6 | 114.6 | 13.8 | |
| | RFC-80S | 9/20/1995 | 18740 | 16800 | 125.1 | | 110.5 | | 13.1 | | 96.4 | | N/A | RF-6 | 114.6 | 13.8 | Sand-Cone |
| 36 | RFC-81 | 9/20/1995 | 18760 | 16910 | 126.3 | 13.9 | 112.4 | 112.4 | 12.4 | 12.4 | 98.1 | 98.1 | P | RF-6 | 114.6 | 13.8 | |
| 37 | RFC-82 | 9/20/1995 | 18770 | 17040 | 125.5 | 16.2 | 109.3 | 109.3 | 14.8 | 14.8 | 95.4 | 95.4 | P | RF-6 | 114.6 | 13.8 | |
| 38 | RFC-83 | 9/20/1995 | 18780 | 17200 | 127.5 | 16.8 | 110.7 | 110.7 | 15.2 | 15.2 | 96.6 | 96.6 | P | RF-6 | 114.6 | 13.8 | |
| 39 | RFC-84 | 9/20/1995 | 18720 | 17320 | 126.5 | 14.3 | 112.2 | 112.2 | 12.8 | 12.7 | 97.9 | 97.9 | P | RF-6 | 114.6 | 13.8 | |
| 40 | RFC-85 | 9/20/1995 | 18750 | 17470 | 125.5 | 15.4 | 110.1 | 110.1 | 14.0 | 14.0 | 96.1 | 96.1 | P | RF-6 | 114.6 | 13.8 | |
| 41 | RFC-86 | 9/20/1995 | 18770 | 17600 | 124.8 | 13.2 | 111.6 | 111.6 | 11.8 | 11.8 | 97.4 | 97.4 | P | RF-6 | 114.6 | 13.8 | |
| 42 | RFC-120 | 9/27/1995 | 18860 | 16300 | 125.0 | 14.1 | 110.9 | 110.9 | 12.7 | 12.7 | 96.9 | 96.9 | P | RF-9 | 114.5 | 13.5 | |
| | RFC-120S | 9/27/1995 | 18860 | 16300 | 125.5 | | 111.3 | | 12.7 | | 97.2 | | N/A | RF-9 | 114.5 | 13.5 | Sand-Cone |

Maybell Heap Leach Repository Frost Barrier Test Results
Lift 1

Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|-----------------------------------|
| 43 | RFC-121 | 9/27/1995 | 18850 | 16390 | 127.1 | 14.5 | 112.6 | 112.6 | 12.9 | 12.9 | 98.3 | 98.3 | P | RF-9 | 114.5 | 13.5 | |
| 44 | RFC-122 | 9/27/1995 | 18850 | 16550 | 125.7 | 14.4 | 111.3 | 111.3 | 13.0 | 12.9 | 97.2 | 97.2 | P | RF-9 | 114.5 | 13.5 | |
| 45 | RFC-123 | 9/27/1995 | 18840 | 16640 | 125.0 | 14.9 | 110.0 | 110.1 | 13.6 | 13.5 | 96.1 | 96.2 | P | RF-9 | 114.5 | 13.5 | |
| 46 | RFC-124 | 9/27/1995 | 18840 | 16850 | 117.6 | 13.2 | 104.3 | 104.4 | 12.7 | 12.6 | 91.1 | 91.2 | Fail | RF-9 | 114.5 | 13.5 | Fail Compaction |
| 47 | RFC-124R | 9/27/1995 | 18840 | 16850 | 125.6 | 13.4 | 112.2 | 112.2 | 11.9 | 11.9 | 98.0 | 98.0 | P | RF-9 | 114.5 | 13.5 | Retest of Test Number RFC-124 |
| 48 | RFC-125 | 9/27/1995 | 18830 | 16960 | 124.5 | 14.3 | 110.2 | 110.2 | 12.9 | 13.0 | 96.2 | 96.2 | P | RF-9 | 114.5 | 13.5 | |
| 49 | RFC-126 | 9/27/1995 | 18830 | 17130 | 124.9 | 14.1 | 110.8 | 110.8 | 12.7 | 12.7 | 96.8 | 96.8 | P | RF-9 | 114.5 | 13.5 | |
| 50 | RFC-127 | 9/27/1995 | 18830 | 17320 | 124.0 | 13.5 | 110.5 | 110.5 | 12.2 | 12.2 | 96.5 | 96.5 | P | RF-9 | 114.5 | 13.5 | |
| 51 | RFC-128 | 9/27/1995 | 18820 | 17510 | 124.6 | 13.2 | 111.4 | 111.4 | 11.9 | 11.8 | 97.3 | 97.3 | P | RF-9 | 114.5 | 13.5 | |
| 52 | RFC-147 | 10/12/1995 | 18980 | 16240 | 130.0 | 16.5 | 113.5 | 113.5 | 14.6 | 14.5 | 99.5 | 99.5 | P | RF-10 | 114.1 | 14.0 | |
| 53 | RFC-148 | 10/12/1995 | 18970 | 16410 | 131.3 | 16.4 | 114.8 | 114.9 | 14.3 | 14.3 | 100.7 | 100.7 | P | RF-10 | 114.1 | 14.0 | |
| 54 | RFC-149 | 10/12/1995 | 18970 | 16560 | 127.2 | 15.9 | 111.3 | 111.3 | 14.2 | 14.3 | 97.6 | 97.5 | P | RF-10 | 114.1 | 14.0 | |
| 55 | RFC-150 | 10/12/1995 | 18960 | 16710 | 126.3 | 15.5 | 110.8 | 110.8 | 14.0 | 14.0 | 96.6 | 96.7 | P | RF-11 | 114.6 | 14.0 | |
| | RFC-150S | 10/12/1995 | 18960 | 16710 | 126.5 | | 111.4 | | 13.6 | | 97.2 | | N/A | RF-11 | 114.6 | 14.0 | Sand-Cone |
| 56 | RFC-151 | 10/12/1995 | 18970 | 16880 | 126.6 | 16.5 | 110.1 | 110.1 | 15.0 | 15.0 | 96.1 | 96.1 | P | RF-11 | 114.6 | 14.0 | |
| 57 | RFC-152 | 10/12/1995 | 18960 | 17080 | 127.3 | 15.7 | 111.6 | 111.6 | 14.0 | 14.1 | 97.4 | 97.4 | P | RF-11 | 114.6 | 14.0 | |
| 58 | RFC-153 | 10/12/1995 | 18950 | 17250 | 124.9 | 15.1 | 109.8 | 109.8 | 13.7 | 13.8 | 95.8 | 95.8 | P | RF-11 | 114.6 | 14.0 | |
| 59 | RFC-154 | 10/12/1995 | 18950 | 17410 | 124.4 | 15.8 | 108.6 | 108.6 | 14.6 | 14.5 | 94.8 | 94.8 | Fail | RF-11 | 114.6 | 14.0 | Fail Compaction |
| 60 | RFC-154R | 10/12/1995 | 18950 | 17410 | 123.5 | 14.4 | 109.1 | 109.1 | 13.2 | 13.2 | 95.2 | 95.2 | P | RF-11 | 114.6 | 14.0 | Retest of Test Number RFC-154 |
| 61 | RFC-155 | 10/12/1995 | 18920 | 16410 | 125.5 | 14.6 | 110.9 | 110.9 | 13.2 | 13.2 | 96.8 | 96.8 | P | RF-11 | 114.6 | 14.0 | Channel 1 |
| 62 | RFC-156 | 10/12/1995 | 18910 | 16740 | 125.2 | 15.1 | 110.1 | 110.1 | 13.7 | 13.7 | 96.1 | 96.1 | P | RF-11 | 114.6 | 14.0 | Channel 1 |
| 63 | RFC-157 | 10/12/1995 | 18900 | 17010 | 124.0 | 14.3 | 109.7 | 109.7 | 13.0 | 13.0 | 95.7 | 95.7 | P | RF-11 | 114.6 | 14.0 | Channel 1 |
| 64 | RFC-158 | 10/12/1995 | 18890 | 17250 | 126.4 | 14.9 | 111.5 | 111.5 | 13.4 | 13.4 | 97.3 | 97.3 | P | RF-11 | 114.6 | 14.0 | Channel 1 |
| 65 | RFC-159 | 10/12/1995 | 18880 | 17450 | 127.6 | 15.2 | 112.4 | 112.4 | 13.5 | 13.5 | 98.1 | 98.1 | P | RF-11 | 114.6 | 14.0 | Channel 1 |
| 66 | RFC-189 | 10/17/1995 | 18930 | 16760 | 123.8 | 13.6 | 110.2 | 110.2 | 12.2 | 12.3 | 96.2 | 96.2 | P | RF-13 | 114.5 | 14.3 | North Side 3:1 Slope of Channel 1 |
| 67 | RFC-190 | 10/18/1995 | 19070 | 16290 | 127.8 | 15.3 | 112.5 | 112.5 | 13.6 | 13.6 | 98.3 | 98.3 | P | RF-13 | 114.5 | 14.3 | |
| | RFC-190S | 10/18/1995 | 19070 | 16290 | 127.6 | | 112.4 | | 13.6 | | 98.1 | | N/A | RF-13 | 114.5 | 14.3 | Sand-Cone |
| 68 | RFC-191 | 10/18/1995 | 19050 | 16440 | 127.4 | 15.3 | 112.1 | 112.1 | 13.7 | 13.6 | 97.9 | 97.9 | P | RF-13 | 114.5 | 14.3 | |
| 69 | RFC-192 | 10/18/1995 | 19060 | 16560 | 126.8 | 15.0 | 111.8 | 111.8 | 13.4 | 13.4 | 97.6 | 97.6 | P | RF-13 | 114.5 | 14.3 | |
| 70 | RFC-193 | 10/19/1995 | 19040 | 16680 | 124.8 | 13.7 | 111.1 | 111.1 | 12.3 | 12.3 | 97.0 | 97.0 | P | RF-13 | 114.5 | 14.3 | |
| 71 | RFC-194 | 10/19/1995 | 19070 | 16820 | 124.3 | 14.2 | 110.1 | 110.1 | 12.9 | 12.9 | 96.2 | 96.2 | P | RF-13 | 114.5 | 14.3 | |
| 72 | RFC-195 | 10/19/1995 | 19020 | 16940 | 129.2 | 18.5 | 110.7 | 110.7 | 16.7 | 16.7 | 97.1 | 97.1 | P | RF-14 | 114.0 | 14.9 | |
| 73 | RFC-196 | 10/19/1995 | 19070 | 17060 | 123.7 | 14.2 | 109.5 | 109.5 | 13.0 | 13.0 | 96.1 | 96.1 | P | RF-14 | 114.0 | 14.9 | |
| 74 | RFC-197 | 10/19/1995 | 19030 | 17190 | 127.9 | 17.9 | 110.0 | 110.0 | 16.3 | 16.3 | 96.5 | 96.5 | P | RF-14 | 114.0 | 14.9 | |
| 75 | RFC-198 | 10/19/1995 | 19030 | 17280 | 126.3 | 16.9 | 109.5 | 109.4 | 15.4 | 15.4 | 96.1 | 96.0 | P | RF-14 | 114.0 | 14.9 | |
| 76 | RFC-208 | 10/20/1995 | 19160 | 16250 | 126.2 | 14.4 | 111.8 | 111.8 | 12.9 | 12.9 | 98.1 | 98.1 | P | RF-14 | 114.0 | 14.9 | |
| 77 | RFC-209 | 10/20/1995 | 19140 | 16350 | 126.3 | 14.8 | 111.5 | 111.5 | 13.3 | 13.3 | 97.8 | 97.8 | P | RF-14 | 114.0 | 14.9 | |
| 78 | RFC-210 | 10/20/1995 | 19170 | 16500 | 125.3 | 14.5 | 110.2 | 110.8 | 13.2 | 13.1 | 95.8 | 96.3 | P | RF-15 | 115.0 | 14.3 | |
| | RFC-210S | 10/20/1995 | 19170 | 16500 | 125.9 | | 111.1 | | 13.3 | | 96.7 | | N/A | RF-15 | 115.0 | 14.3 | Sand-Cone |
| 79 | RFC-211 | 10/20/1995 | 19160 | 16650 | 123.8 | 14.5 | 109.4 | 109.3 | 13.2 | 13.3 | 95.1 | 95.0 | P | RF-15 | 115.0 | 14.3 | |
| 80 | RFC-212 | 10/20/1995 | 19130 | 16760 | 126.3 | 14.8 | 111.5 | 111.5 | 13.3 | 13.3 | 97.0 | 97.0 | P | RF-15 | 115.0 | 14.3 | |
| 81 | RFC-213 | 10/20/1995 | 19180 | 16910 | 125.3 | 15.2 | 110.1 | 110.1 | 13.8 | 13.8 | 95.7 | 95.7 | P | RF-15 | 115.0 | 14.3 | |
| 82 | RFC-214 | 10/20/1995 | 19150 | 17030 | 124.4 | 14.8 | 109.6 | 109.6 | 13.5 | 13.5 | 95.3 | 95.3 | P | RF-15 | 115.0 | 14.3 | |
| 83 | RFC-215 | 10/20/1995 | 19150 | 17150 | 125.1 | 15.0 | 110.1 | 110.1 | 13.6 | 13.6 | 95.7 | 95.7 | P | RF-15 | 115.0 | 14.3 | |
| 84 | RFC-265 | 10/26/1995 | 19270 | 16260 | 129.0 | 15.8 | 113.1 | 113.2 | 14.1 | 14.0 | 99.0 | 99.1 | P | RF-18 | 114.2 | 13.6 | |
| 85 | RFC-266 | 10/26/1995 | 19270 | 16400 | 127.7 | 16.5 | 111.2 | 111.2 | 14.8 | 14.8 | 97.4 | 97.4 | P | RF-18 | 114.2 | 13.6 | |

Maybell Heap Leach Repository Frost Barrier Test Results
Lift 1

Sand-Cone Correlation
Verification Calculation
Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|---|
| 86 | RFC-267 | 10/26/1995 | 19260 | 16530 | 128.0 | 16.2 | 111.8 | 111.8 | 14.5 | 14.5 | 97.9 | 97.9 | P | RF-18 | 114.2 | 13.6 | |
| 87 | RFC-268 | 10/26/1995 | 19250 | 16640 | 125.8 | 15.4 | 110.4 | 110.4 | 14.0 | 13.9 | 96.7 | 96.7 | P | RF-18 | 114.2 | 13.6 | |
| 88 | RFC-269 | 10/26/1995 | 19260 | 16760 | 125.0 | 16.0 | 109.0 | 109.0 | 14.7 | 14.7 | 95.5 | 95.4 | P | RF-18 | 114.2 | 13.6 | |
| 89 | RFC-270 | 10/26/1995 | 19270 | 16890 | 125.0 | 15.8 | 109.1 | 109.2 | 14.5 | 14.5 | 96.1 | 96.2 | P | RF-19 | 113.5 | 14.2 | |
| | RFC-270S | 10/26/1995 | 19270 | 16890 | 124.7 | | 109.5 | | 13.9 | | 96.5 | | N/A | RF-19 | 113.5 | 14.2 | Sand-Cone |
| 90 | RFC-271 | 10/26/1995 | 19260 | 17050 | 125.8 | 15.6 | 110.1 | 110.2 | 14.2 | 14.2 | 97.0 | 97.1 | P | RF-19 | 113.5 | 14.2 | |
| 91 | RFC-272 | 10/27/1995 | 19320 | 16350 | 127.1 | 14.7 | 112.4 | 112.4 | 13.1 | 13.1 | 99.0 | 99.0 | P | RF-19 | 113.5 | 14.2 | |
| 92 | RFC-273 | 10/27/1995 | 19320 | 16540 | 124.9 | 15.4 | 109.5 | 109.5 | 14.0 | 14.1 | 96.5 | 96.5 | P | RF-19 | 113.5 | 14.2 | |
| 93 | RFC-274 | 10/27/1995 | 19320 | 16680 | 127.5 | 16.1 | 111.4 | 111.4 | 14.4 | 14.5 | 98.2 | 98.1 | P | RF-19 | 113.5 | 14.2 | |
| 94 | RFC-275 | 10/27/1995 | 19330 | 16810 | 124.6 | 14.9 | 109.7 | 109.7 | 13.6 | 13.6 | 96.7 | 96.7 | P | RF-19 | 113.5 | 14.2 | |
| 95 | RFC-276 | 10/27/1995 | 19330 | 16940 | 127.0 | 15.3 | 111.7 | 111.7 | 13.7 | 13.7 | 98.4 | 98.4 | P | RF-19 | 113.5 | 14.2 | |
| 96 | RFC-277 | 10/27/1995 | 19330 | 17010 | 126.0 | 15.5 | 110.5 | 110.5 | 14.1 | 14.0 | 97.4 | 97.4 | P | RF-19 | 113.5 | 14.2 | |
| 97 | RFC-372 | 6/20/1996 | 18470 | 16250 | 128.5 | 15.3 | 113.2 | 113.2 | 13.5 | 13.5 | 98.9 | 99.0 | P | RF-27 | 114.4 | 13.1 | |
| | RFC-372S | 6/20/1996 | 18470 | 16250 | 129.3 | | 113.7 | | 13.8 | | 99.4 | | N/A | RF-27 | 114.4 | 13.1 | Sand-Cone |
| 98 | RFC-373 | 6/20/1996 | 18460 | 16340 | 123.0 | 14.3 | 108.7 | 108.7 | 13.1 | 13.2 | 95.0 | 95.0 | P | RF-27 | 114.4 | 13.1 | |
| 99 | RFC-374 | 6/20/1996 | 18440 | 16470 | 128.2 | 16.6 | 111.6 | 111.6 | 14.9 | 14.9 | 97.5 | 97.6 | P | RF-27 | 114.4 | 13.1 | |
| 100 | RFC-375 | 6/20/1996 | 18330 | 16220 | 123.8 | 13.6 | 110.2 | 110.2 | 12.3 | 12.3 | 96.3 | 96.3 | P | RF-27 | 114.4 | 13.1 | |
| 101 | RFC-376 | 6/20/1996 | 18350 | 16350 | 124.2 | 15.5 | 108.7 | 108.7 | 14.2 | 14.3 | 95.0 | 95.0 | P | RF-27 | 114.4 | 13.1 | |
| 102 | RFC-377 | 6/20/1996 | 18340 | 16440 | 127.8 | 17.4 | 110.4 | 110.4 | 15.8 | 15.8 | 96.4 | 96.5 | P | RF-27 | 114.4 | 13.1 | Verification calculation indicates failed moisture by plus 0.7% |
| 103 | RFC-378 | 6/20/1996 | 18210 | 16260 | 124.4 | 13.9 | 110.5 | 110.5 | 12.6 | 12.6 | 96.6 | 96.6 | P | RF-27 | 114.4 | 13.1 | |
| 104 | RFC-379 | 6/20/1996 | 18200 | 16370 | 123.0 | 13.1 | 109.9 | 109.9 | 11.9 | 11.9 | 96.0 | 96.1 | P | RF-27 | 114.4 | 13.1 | |
| 105 | RFC-380 | 6/20/1996 | 18200 | 16460 | 126.6 | 16.0 | 110.6 | 110.6 | 14.4 | 14.5 | 96.2 | 96.2 | P | RF-28 | 115.0 | 14.9 | |
| | RFC-380S | 6/20/1996 | 18200 | 16460 | 126.0 | | 110.0 | | 14.6 | | 95.7 | | N/A | RF-28 | 115.0 | 14.9 | Sand-Cone |
| 106 | RFC-390 | 6/24/1996 | 18440 | 16540 | 124.2 | 15.5 | 108.7 | 108.7 | 14.3 | 14.3 | 95.0 | 95.0 | P | RF-29 | 114.4 | 14.1 | |
| | RFC-390S | 6/24/1996 | 18440 | 16540 | 124.4 | | 109.5 | | 13.6 | | 95.7 | | N/A | RF-29 | 114.4 | 14.1 | Sand-Cone |
| 107 | RFC-391 | 6/24/1996 | 18410 | 16630 | 124.3 | 13.4 | 110.9 | 110.9 | 12.1 | 12.1 | 96.8 | 96.9 | P | RF-29 | 114.4 | 14.1 | |
| 108 | RFC-392 | 6/24/1996 | 18410 | 16750 | 125.5 | 16.7 | 108.8 | 108.8 | 15.3 | 15.3 | 95.1 | 95.1 | P | RF-29 | 114.4 | 14.1 | |
| 109 | RFC-393 | 6/24/1996 | 18310 | 16770 | 126.4 | 15.8 | 110.6 | 110.6 | 14.3 | 14.3 | 96.6 | 96.7 | P | RF-29 | 114.4 | 14.1 | |
| 110 | RFC-394 | 6/24/1996 | 18330 | 16670 | 124.9 | 15.6 | 108.8 | 109.3 | 14.3 | 14.3 | 95.1 | 95.5 | P | RF-29 | 114.4 | 14.1 | |
| 111 | RFC-395 | 6/24/1996 | 18290 | 16560 | 129.2 | 15.7 | 113.5 | 113.5 | 13.8 | 13.8 | 99.1 | 99.2 | P | RF-29 | 114.4 | 14.1 | |
| 112 | RFC-396 | 6/24/1996 | 18215 | 16530 | 125.9 | 14.0 | 111.8 | 111.9 | 12.5 | 12.5 | 97.7 | 97.8 | P | RF-29 | 114.4 | 14.1 | |
| 113 | RFC-397 | 6/24/1996 | 18200 | 16670 | 128.6 | 15.2 | 113.4 | 113.4 | 13.4 | 13.4 | 99.1 | 99.1 | P | RF-29 | 114.4 | 14.1 | |
| 114 | RFC-398 | 6/24/1996 | 18220 | 16760 | 127.4 | 17.5 | 109.9 | 109.9 | 15.9 | 15.9 | 96.1 | 96.1 | P | RF-29 | 114.4 | 14.1 | |
| 115 | RFC-399 | 6/24/1996 | 18180 | 16760 | 126.5 | 15.7 | 110.8 | 110.8 | 14.2 | 14.2 | 96.9 | 96.9 | P | RF-29 | 114.4 | 14.1 | |
| 116 | RFC-400 | 6/24/1996 | 18300 | 16740 | 126.2 | 16.4 | 109.8 | 109.8 | 14.9 | 14.9 | 95.9 | 96.0 | P | RF-29 | 114.4 | 14.1 | |
| | RFC-400S | 6/24/1996 | 18300 | 16740 | 125.8 | | 109.7 | | 14.7 | | 95.9 | | N/A | RF-29 | 114.4 | 14.1 | Sand-Cone |
| 117 | RFC-401 | 6/24/1996 | 18390 | 16760 | 127.3 | 17.5 | 109.8 | 109.8 | 15.9 | 15.9 | 95.9 | 96.0 | P | RF-29 | 114.4 | 14.1 | |
| 118 | RFC-435 | 6/28/1996 | 18370 | 16930 | 125.0 | 15.4 | 109.6 | 109.6 | 14.1 | 14.1 | 95.2 | 95.2 | P | RF-32 | 115.1 | 13.7 | |
| 119 | RFC-436 | 6/28/1996 | 18250 | 16960 | 124.7 | 15.2 | 109.5 | 109.5 | 13.9 | 13.9 | 95.1 | 95.1 | P | RF-32 | 115.1 | 13.7 | |
| 120 | RFC-437 | 6/28/1996 | 18120 | 16930 | 126.8 | 16.2 | 110.6 | 110.6 | 14.6 | 14.6 | 96.0 | 96.1 | P | RF-32 | 115.1 | 13.7 | |
| 121 | RFC-438 | 6/28/1996 | 18100 | 17070 | 126.5 | 15.0 | 111.4 | 111.5 | 13.5 | 13.5 | 96.8 | 96.9 | P | RF-32 | 115.1 | 13.7 | |
| 122 | RFC-439 | 6/28/1996 | 18260 | 17060 | 127.5 | 17.7 | 109.9 | 109.8 | 16.1 | 16.1 | 95.4 | 95.4 | P | RF-32 | 115.1 | 13.7 | Verification calculation indicates failed moisture by plus 0.4% |
| 123 | RFC-440 | 6/28/1996 | 18360 | 17040 | 127.3 | 15.0 | 112.3 | 112.3 | 13.4 | 13.4 | 97.5 | 97.6 | P | RF-32 | 115.1 | 13.7 | |
| | RFC-440S | 6/28/1996 | 18360 | 17040 | 128.2 | | 112.7 | | 13.7 | | 98.0 | | N/A | RF-32 | 115.1 | 13.7 | Sand-Cone |

Maybell Heap Leach Repository Frost Barrier Test Results

Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|-----------|
| 124 | RFC-441 | 7/1/1996 | 18370 | 17120 | 125.3 | 16.0 | 109.3 | 109.3 | 14.6 | 14.6 | 95.0 | 95.0 | P | RF-32 | 115.1 | 13.7 | |
| 125 | RFC-442 | 7/1/1996 | 18270 | 17140 | 124.4 | 14.8 | 109.6 | 109.6 | 13.5 | 13.5 | 95.2 | 95.2 | P | RF-32 | 115.1 | 13.7 | |
| 126 | RFC-443 | 7/1/1996 | 18160 | 17170 | 127.0 | 16.9 | 110.1 | 110.1 | 15.4 | 15.3 | 95.7 | 95.7 | P | RF-32 | 115.1 | 13.7 | |
| 127 | RFC-444 | 7/1/1996 | 18130 | 17250 | 126.2 | 16.6 | 109.6 | 109.6 | 15.2 | 15.1 | 95.2 | 95.2 | P | RF-32 | 115.1 | 13.7 | |
| 128 | RFC-445 | 7/1/1996 | 18240 | 17280 | 125.2 | 14.3 | 110.9 | 110.9 | 12.9 | 12.9 | 96.4 | 96.4 | P | RF-32 | 115.1 | 13.7 | |
| 129 | RFC-446 | 7/1/1996 | 18330 | 17250 | 125.8 | 15.9 | 109.9 | 109.9 | 14.5 | 14.5 | 95.5 | 95.5 | P | RF-32 | 115.1 | 13.7 | |
| 130 | RFC-447 | 7/1/1996 | 18350 | 17350 | 125.5 | 15.9 | 109.6 | 109.6 | 14.5 | 14.5 | 95.2 | 95.2 | P | RF-32 | 115.1 | 13.7 | |
| 131 | RFC-448 | 7/1/1996 | 18260 | 17350 | 123.8 | 13.7 | 110.0 | 110.1 | 12.5 | 12.4 | 95.6 | 95.7 | P | RF-32 | 115.1 | 13.7 | |
| 132 | RFC-449 | 7/1/1996 | 18170 | 17370 | 128.9 | 15.7 | 113.2 | 113.2 | 13.9 | 13.9 | 98.4 | 98.3 | P | RF-32 | 115.1 | 13.7 | |
| 133 | RFC-450 | 7/1/1996 | 18370 | 17480 | 127.2 | 16.1 | 111.1 | 111.1 | 14.5 | 14.5 | 96.4 | 96.4 | P | RF-33 | 115.3 | 13.9 | |
| | RFC-450S | 7/1/1996 | 18370 | 17480 | 126.6 | | 110.6 | | 14.5 | | 95.9 | | N/A | RF-33 | 115.3 | 13.9 | Sand-Cone |
| 134 | RFC-451 | 7/1/1996 | 18260 | 17450 | 127.5 | 15.5 | 112.0 | 112.0 | 13.9 | 13.8 | 97.1 | 97.1 | P | RF-33 | 115.3 | 13.9 | |
| 135 | RFC-452 | 7/1/1996 | 18140 | 17470 | 126.4 | 16.2 | 110.2 | 110.2 | 14.7 | 14.7 | 95.6 | 95.6 | P | RF-33 | 115.3 | 13.9 | |
| 136 | RFC-508 | 7/19/1996 | 18660 | 16090 | 133.1 | 18.1 | 115.0 | 115.0 | 15.7 | 15.7 | 99.0 | 99.1 | P | RF-36 | 116.1 | 14.0 | |
| 137 | RFC-509 | 7/19/1996 | 18650 | 15940 | 126.0 | 15.6 | 110.4 | 110.4 | 14.1 | 14.1 | 95.0 | 95.1 | P | RF-36 | 116.1 | 14.0 | |
| 138 | RFC-510 | 7/19/1996 | 18760 | 15930 | 128.5 | 16.8 | 111.7 | 111.7 | 15.1 | 15.0 | 96.5 | 96.6 | P | RF-37 | 115.6 | 13.4 | |
| | RFC-510S | 7/19/1996 | 18760 | 15930 | 127.3 | | 111.9 | | 13.8 | | 96.8 | | N/A | RF-37 | 115.6 | 13.4 | Sand-Cone |
| 139 | RFC-511 | 7/19/1996 | 18750 | 16040 | 128.1 | 16.6 | 111.5 | 111.5 | 14.9 | 14.9 | 96.4 | 96.5 | P | RF-37 | 115.6 | 13.4 | |
| 140 | RFC-512 | 7/19/1996 | 18860 | 15900 | 127.0 | 16.0 | 111.0 | 111.0 | 14.4 | 14.4 | 96.0 | 96.0 | P | RF-37 | 115.6 | 13.4 | |
| 141 | RFC-513 | 7/19/1996 | 18070 | 16110 | 125.5 | 15.7 | 109.8 | 109.8 | 14.3 | 14.3 | 95.0 | 95.0 | P | RF-37 | 115.6 | 13.4 | |
| 142 | RFC-514 | 7/19/1996 | 18750 | 16110 | 127.5 | 17.0 | 110.5 | 110.5 | 15.4 | 15.4 | 95.5 | 95.6 | P | RF-37 | 115.6 | 13.4 | |
| 143 | RFC-515 | 7/22/1996 | 18940 | 16140 | 128.3 | 16.1 | 112.1 | 112.2 | 14.4 | 14.3 | 97.0 | 97.1 | P | RF-37 | 115.6 | 13.4 | |
| 144 | RFC-516 | 7/22/1996 | 19050 | 16080 | 128.5 | 15.0 | 113.5 | 113.5 | 13.3 | 13.2 | 98.1 | 98.2 | P | RF-37 | 115.6 | 13.4 | |
| 145 | RFC-517 | 7/22/1996 | 19120 | 16130 | 128.5 | 16.7 | 111.8 | 111.8 | 14.9 | 14.9 | 96.7 | 96.7 | P | RF-37 | 115.6 | 13.4 | |
| 146 | RFC-518 | 7/22/1996 | 19150 | 16030 | 125.5 | 14.7 | 110.7 | 110.8 | 13.3 | 13.3 | 95.7 | 95.8 | P | RF-37 | 115.6 | 13.4 | |
| 147 | RFC-519 | 7/22/1996 | 18940 | 16040 | 129.1 | 13.8 | 115.3 | 115.3 | 11.9 | 12.0 | 99.7 | 99.7 | P | RF-37 | 115.6 | 13.4 | |
| 148 | RFC-520 | 7/22/1996 | 18960 | 15950 | 127.8 | 15.9 | 111.9 | 111.9 | 14.2 | 14.2 | 96.8 | 96.8 | P | RF-37 | 115.6 | 13.4 | |
| | RFC-520S | 7/22/1996 | 18960 | 15950 | 127.7 | | 113.3 | | 12.6 | | 98.0 | | N/A | RF-37 | 115.6 | 13.4 | Sand-Cone |
| 149 | RFC-521 | 7/22/1996 | 19050 | 15980 | 123.1 | 12.8 | 110.3 | 110.3 | 11.6 | 11.6 | 95.4 | 95.4 | P | RF-37 | 115.6 | 13.4 | |
| 150 | RFC-522 | 7/22/1996 | 19130 | 15910 | 124.1 | 13.9 | 110.2 | 110.2 | 12.6 | 12.6 | 95.3 | 95.3 | P | RF-37 | 115.6 | 13.4 | |
| 151 | RFC-566 | 8/7/1996 | 19360 | 16240 | 123.8 | 13.6 | 110.2 | 110.2 | 12.4 | 12.3 | 96.7 | 96.7 | P | RF-40 | 114.0 | 14.1 | |
| 152 | RFC-567 | 8/7/1996 | 19480 | 16280 | 124.7 | 14.6 | 110.1 | 110.1 | 13.3 | 13.3 | 96.6 | 96.6 | P | RF-40 | 114.0 | 14.1 | |
| 153 | RFC-568 | 8/7/1996 | 19400 | 16340 | 123.7 | 13.7 | 110.0 | 110.0 | 12.5 | 12.5 | 96.5 | 96.5 | P | RF-40 | 114.0 | 14.1 | |
| 154 | RFC-569 | 8/7/1996 | 19510 | 16370 | 122.5 | 13.2 | 109.3 | 109.3 | 12.1 | 12.1 | 95.9 | 95.9 | P | RF-40 | 114.0 | 14.1 | |
| 155 | RFC-570 | 8/7/1996 | 19260 | 16150 | 126.7 | 16.7 | 110.0 | 110.0 | 15.1 | 15.2 | 95.6 | 95.7 | P | RF-41 | 115.0 | 14.2 | |
| | RFC-570S | 8/7/1996 | 19260 | 16150 | 129.3 | | 114.4 | | 13.0 | | 99.5 | | N/A | RF-41 | 115.0 | 14.2 | Sand-Cone |
| 156 | RFC-571 | 8/7/1996 | 19250 | 16080 | 124.5 | 14.7 | 109.8 | 109.8 | 13.4 | 13.4 | 95.5 | 95.5 | P | RF-41 | 115.0 | 14.2 | |
| 157 | RFC-572 | 8/7/1996 | 19240 | 15960 | 123.6 | 13.9 | 109.7 | 109.7 | 12.7 | 12.7 | 95.3 | 95.4 | P | RF-41 | 115.0 | 14.2 | |
| 158 | RFC-577 | 8/8/1996 | 19380 | 16480 | 123.8 | 13.6 | 110.2 | 110.2 | 12.3 | 12.3 | 95.8 | 95.8 | P | RF-41 | 115.0 | 14.2 | |
| 159 | RFC-578 | 8/8/1996 | 19460 | 16450 | 127.1 | 16.7 | 110.4 | 110.4 | 15.1 | 15.1 | 96.0 | 96.0 | P | RF-41 | 115.0 | 14.2 | |
| 160 | RFC-579 | 8/8/1996 | 19540 | 16470 | 127.4 | 16.4 | 111.1 | 111.0 | 14.7 | 14.8 | 96.5 | 96.5 | P | RF-41 | 115.0 | 14.2 | |
| 161 | RFC-599 | 8/13/1996 | 19420 | 16520 | 128.3 | 14.1 | 114.7 | 114.2 | 12.4 | 12.3 | 98.7 | 98.8 | P | RF-42 | 115.6 | 13.3 | |
| 162 | RFC-600 | 8/13/1996 | 19570 | 16550 | 127.2 | 14.8 | 112.4 | 112.4 | 13.2 | 13.2 | 98.4 | 98.4 | P | RF-43 | 114.2 | 12.7 | |
| | RFC-600S | 8/13/1996 | 19570 | 16550 | 128.1 | | 114.1 | | 12.3 | | 99.8 | | N/A | RF-43 | 114.2 | 12.7 | Sand-Cone |
| 163 | RFC-601 | 8/13/1996 | 19420 | 16670 | 124.9 | 13.7 | 111.2 | 111.2 | 12.4 | 12.3 | 97.4 | 97.4 | P | RF-43 | 114.2 | 12.7 | |
| 164 | RFC-602 | 8/13/1996 | 19490 | 16620 | 124.6 | 15.9 | 108.7 | 108.7 | 14.6 | 14.6 | 95.2 | 95.2 | P | RF-43 | 114.2 | 12.7 | |

Maybell Heap Leach Repository Frost Barrier Test Results

Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction
 Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|---|
| 165 | RFC-603 | 8/13/1996 | 19560 | 16680 | 124.8 | 15.3 | 109.5 | 109.5 | 14.0 | 14.0 | 95.9 | 95.9 | P | RF-43 | 114.2 | 12.7 | |
| 166 | RFC-604 | 8/13/1996 | 19450 | 16750 | 123.6 | 13.6 | 110.0 | 110.0 | 12.4 | 12.4 | 96.3 | 96.3 | P | RF-43 | 114.2 | 12.7 | |
| 167 | RFC-605 | 8/13/1996 | 19530 | 16770 | 124.7 | 15.2 | 109.4 | 109.5 | 13.9 | 13.9 | 95.9 | 95.9 | P | RF-43 | 114.2 | 12.7 | |
| 168 | RFC-606 | 8/13/1996 | 19410 | 16870 | 127.0 | 15.5 | 111.5 | 111.5 | 13.9 | 13.9 | 97.7 | 97.6 | P | RF-43 | 114.2 | 12.7 | |
| 169 | RFC-607 | 8/13/1996 | 19490 | 16880 | 121.1 | 11.9 | 109.2 | 109.2 | 10.9 | 10.9 | 95.7 | 95.6 | P | RF-43 | 114.2 | 12.7 | |
| 170 | RFC-608 | 8/13/1996 | 19580 | 16830 | 125.0 | 15.4 | 109.6 | 109.6 | 14.1 | 14.1 | 96.0 | 96.0 | P | RF-43 | 114.2 | 12.7 | |
| 171 | RFC-609 | 8/13/1996 | 19530 | 16920 | 123.3 | 13.8 | 109.4 | 109.5 | 12.6 | 12.6 | 95.9 | 95.9 | P | RF-43 | 114.2 | 12.7 | |
| 172 | RFC-610 | 8/13/1996 | 19500 | 16950 | 121.6 | 12.5 | 109.1 | 109.1 | 11.4 | 11.5 | 95.6 | 95.5 | P | RF-43 | 114.2 | 12.7 | |
| | RFC-610S | 8/13/1996 | 19500 | 16950 | 123.9 | | 112.0 | | 10.6 | | 98.1 | | N/A | RF-43 | 114.2 | 12.7 | Sand-Cone, Fail Moisture on Sand-Cone Correlation |
| 173 | RFC-611 | 8/13/1996 | 19570 | 17000 | 122.8 | 11.9 | 110.9 | 110.9 | 10.7 | 10.7 | 97.1 | 97.1 | P | RF-43 | 114.2 | 12.7 | |
| 174 | RFC-619 | 8/15/1996 | 19330 | 16410 | 130.1 | 15.6 | 114.5 | 114.5 | 13.6 | 13.6 | 99.3 | 99.4 | P | RF-44 | 115.2 | 13.0 | |
| 175 | RFC-659 | 9/12/1996 | 18560 | 16080 | 127.9 | 16.7 | 111.3 | 111.2 | 15.0 | 15.0 | 96.0 | 96.0 | P | RF-46 | 115.8 | 13.4 | |
| 176 | RFC-660 | 9/12/1996 | 18540 | 16010 | 127.6 | 16.5 | 111.1 | 111.1 | 14.8 | 14.9 | 96.6 | 96.7 | P | RF-47 | 114.9 | 13.9 | |
| | RFC-660S | 9/12/1996 | 18540 | 16010 | 126.7 | | 109.8 | | 15.4 | | 95.5 | | N/A | RF-47 | 114.9 | 13.9 | Sand-Cone |
| 177 | RFC-661 | 9/12/1996 | 18450 | 16040 | 125.8 | 13.7 | 112.0 | 112.1 | 12.3 | 12.2 | 97.5 | 97.6 | P | RF-47 | 114.9 | 13.9 | |
| 178 | RFC-662 | 9/12/1996 | 18510 | 16140 | 128.7 | 17.8 | 110.7 | 110.9 | 16.0 | 16.1 | 96.5 | 96.5 | P | RF-47 | 114.9 | 13.9 | Verification calculation indicates failed moisture by plus 0.2% |
| 179 | RFC-663 | 9/12/1996 | 18420 | 15950 | 127.8 | 15.1 | 112.7 | 112.7 | 13.4 | 13.4 | 98.0 | 98.1 | P | RF-47 | 114.9 | 13.9 | |
| 180 | RFC-664 | 9/12/1996 | 18530 | 15900 | 127.2 | 15.8 | 111.4 | 111.4 | 14.2 | 14.2 | 96.9 | 97.0 | P | RF-47 | 114.9 | 13.9 | |
| 181 | RFC-665 | 9/12/1996 | 18540 | 16190 | 128.4 | 18.0 | 110.4 | 110.4 | 16.3 | 16.3 | 96.1 | 96.1 | P | RF-47 | 114.9 | 13.9 | Verification calculation indicates failed moisture by plus 0.4% |
| 182 | RFC-666 | 9/12/1996 | 18460 | 16160 | 129.9 | 17.6 | 112.3 | 112.3 | 15.6 | 15.7 | 97.7 | 97.7 | P | RF-47 | 114.9 | 13.9 | |
| 183 | RFC-667 | 9/12/1996 | 18420 | 16120 | 128.6 | 17.8 | 110.7 | 110.8 | 16.1 | 16.1 | 96.3 | 96.4 | P | RF-47 | 114.9 | 13.9 | Verification calculation indicates failed moisture by plus 0.2% |
| 184 | RFC-668 | 9/12/1996 | 18300 | 16140 | 126.5 | 17.3 | 109.2 | 109.2 | 15.8 | 15.8 | 95.0 | 95.0 | P | RF-47 | 114.9 | 13.9 | |
| 185 | RFC-669 | 9/12/1996 | 18330 | 15990 | 127.7 | 17.8 | 109.9 | 109.9 | 16.2 | 16.2 | 95.6 | 95.6 | P | RF-47 | 114.9 | 13.9 | Verification calculation indicates failed moisture by plus 0.3% |
| 186 | RFC-670 | 9/12/1996 | 18270 | 16080 | 126.7 | 15.4 | 111.3 | 111.3 | 13.8 | 13.8 | 96.8 | 96.9 | P | RF-47 | 114.9 | 13.9 | |
| | RFC-670S | 9/12/1996 | 18270 | 16080 | 128.0 | | 111.4 | | 14.9 | | 96.9 | | N/A | RF-47 | 114.9 | 13.9 | Sand-Cone |
| 187 | RFC-703 | 9/18/1996 | 19330 | 16060 | 128.5 | 16.8 | 111.6 | 111.7 | 15.1 | 15.0 | 96.7 | 96.8 | P | RF-49 | 115.4 | 13.7 | |
| 188 | RFC-704 | 9/18/1996 | 19420 | 15980 | 128.4 | 17.0 | 111.4 | 111.4 | 15.3 | 15.3 | 96.5 | 96.5 | P | RF-49 | 115.4 | 13.7 | |
| 189 | RFC-705 | 9/18/1996 | 19440 | 16000 | 125.3 | 15.4 | 109.9 | 109.9 | 14.1 | 14.0 | 95.9 | 96.0 | P | RF-50 | 114.5 | 13.5 | |
| 190 | RFC-706 | 9/18/1996 | 19470 | 16090 | 127.9 | 17.0 | 110.9 | 110.9 | 15.3 | 15.3 | 96.8 | 96.9 | P | RF-50 | 114.5 | 13.5 | |
| 191 | RFC-707 | 9/18/1996 | 19410 | 16160 | 126.6 | 16.7 | 109.9 | 109.9 | 15.2 | 15.2 | 96.0 | 96.0 | P | RF-50 | 114.5 | 13.5 | |
| 192 | RFC-708 | 9/18/1996 | 19530 | 16090 | 128.2 | 16.9 | 111.3 | 111.3 | 15.2 | 15.2 | 97.2 | 97.2 | P | RF-50 | 114.5 | 13.5 | |
| 193 | RFC-709 | 9/18/1996 | 19560 | 16150 | 126.3 | 15.9 | 110.3 | 110.4 | 14.4 | 14.4 | 96.3 | 96.4 | P | RF-50 | 114.5 | 13.5 | |
| 194 | RFC-730 | 10/9/1996 | 19400 | 17100 | 127.0 | 16.9 | 110.1 | 110.1 | 15.4 | 15.3 | 95.6 | 95.7 | P | RF-51 | 115.1 | 13.8 | |
| | RFC-730S | 10/9/1996 | 19400 | 17100 | 125.4 | 15.1 | 110.4 | | 13.6 | | 95.9 | | N/A | RF-51 | 115.1 | 13.8 | Sand-Cone |
| 195 | RFC-731 | 10/9/1996 | 19470 | 17190 | 123.7 | 19.6 | 104.2 | 104.1 | 18.8 | 18.8 | 90.4 | 90.4 | Fail | RF-51 | 115.1 | 13.8 | Fail Moisture & Compaction |
| 196 | RFC-731R | 10/10/1996 | 19470 | 17190 | 126.7 | 17.2 | 109.5 | 109.5 | 15.7 | 15.7 | 95.1 | 95.1 | P | RF-51 | 115.1 | 13.8 | Retest of Test Number RFC-731 |
| 197 | RFC-732 | 10/9/1996 | 19580 | 17140 | 122.9 | 18.9 | 104.0 | 104.0 | 18.2 | 18.2 | 90.3 | 90.4 | Fail | RF-51 | 115.1 | 13.8 | Fail Moisture & Compaction |
| 198 | RFC-732R | 10/10/1996 | 19580 | 17140 | 125.6 | 16.2 | 109.4 | 109.4 | 14.8 | 14.8 | 95.1 | 95.0 | P | RF-51 | 115.1 | 13.8 | Retest of Test Number RFC-732 |
| 199 | RFC-733 | 10/10/1996 | 19310 | 17160 | 125.3 | 18.5 | 106.7 | 106.8 | 17.4 | 17.3 | 92.7 | 92.8 | Fail | RF-51 | 115.1 | 13.8 | Fail Moisture & Compaction |
| 200 | RFC-733R | 10/10/1996 | 19310 | 17160 | 127.9 | 17.1 | 110.8 | 110.8 | 15.4 | 15.4 | 96.2 | 96.3 | P | RF-51 | 115.1 | 13.8 | Retest of Test Number RFC-733 |
| 201 | RFC-734 | 10/10/1996 | 19400 | 17270 | 126.9 | 16.4 | 110.5 | 110.5 | 14.8 | 14.8 | 96.0 | 96.0 | P | RF-51 | 115.1 | 13.8 | |

Maybell Heap Leach Repository Frost Barrier Test Results

Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|------------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|--|
| 202 | RFC-735 | 10/10/1996 | 19200 | 17240 | 123.5 | 16.2 | 107.3 | 107.3 | 15.1 | 15.1 | 92.8 | 92.9 | Fail | RF-52 | 115.5 | 12.7 | Fail Moisture & Compaction |
| 203 | RFC-735R | 10/10/1996 | 19200 | 17240 | 123.0 | 11.4 | 111.6 | 111.6 | 10.2 | 10.2 | 96.6 | 96.6 | Fail | RF-52 | 115.5 | 12.7 | Retest of Test Number RFC-735, Fail Moisture |
| 204 | RFC-735R2 | 10/10/1996 | 19200 | 17240 | 124.6 | 13.4 | 111.2 | 111.2 | 12.0 | 12.1 | 96.3 | 96.3 | P | RF-52 | 115.5 | 12.7 | Retest of Test Number RFC-735R |
| 205 | RFC-736 | 10/10/1996 | 19300 | 17270 | 122.9 | 12.7 | 110.2 | 110.2 | 11.5 | 11.5 | 95.4 | 95.4 | P | RF-52 | 115.5 | 12.7 | |
| 206 | RFC-737 | 10/10/1996 | 19350 | 17350 | 123.9 | 13.0 | 110.9 | 110.9 | 11.7 | 11.7 | 96.0 | 96.0 | P | RF-52 | 115.5 | 12.7 | |
| 207 | RFC-763 | 10/18/1996 | 19140 | 17270 | 123.7 | 14.0 | 109.7 | 109.7 | 12.8 | 12.8 | 95.6 | 95.6 | P | RF-53 | 114.8 | 14.0 | |
| 208 | RFC-764 | 10/18/1996 | 19190 | 17350 | 123.4 | 13.7 | 109.6 | 109.7 | 12.5 | 12.5 | 95.5 | 95.6 | P | RF-53 | 114.8 | 14.0 | |
| 209 | RFC-765 | 10/18/1996 | 19060 | 17380 | 123.5 | 12.8 | 110.7 | 110.7 | 11.6 | 11.6 | 95.2 | 95.3 | P | RF-54 | 116.2 | 13.0 | |
| 210 | RFC-766 | 10/18/1996 | 19120 | 17430 | 124.2 | 13.7 | 110.5 | 110.5 | 12.4 | 12.4 | 95.1 | 95.1 | P | RF-54 | 116.2 | 13.0 | |
| 211 | RFC-767 | 10/18/1996 | 19200 | 17440 | 125.2 | 14.1 | 111.1 | 111.1 | 12.7 | 12.7 | 95.5 | 95.6 | P | RF-54 | 116.2 | 13.0 | |
| 212 | RFC-768 | 10/18/1996 | 19040 | 17470 | 129.2 | 16.1 | 113.1 | 113.1 | 14.2 | 14.2 | 97.3 | 97.3 | P | RF-54 | 116.2 | 13.0 | |
| 213 | RFC-769 | 10/18/1996 | 19120 | 17540 | 124.1 | 13.4 | 110.7 | 110.7 | 12.1 | 12.1 | 95.3 | 95.3 | P | RF-54 | 116.2 | 13.0 | |
| 214 | RFC-793 | 5/20/1997 | 18600 | 17700 | 127.5 | 13.8 | 113.8 | 113.8 | 12.1 | 12.1 | 96.4 | 96.5 | P | RF-58 | 117.9 | 13.1 | |
| 215 | RFC-794 | 5/20/1997 | 18650 | 17700 | 125.8 | 12.5 | 113.3 | 113.3 | 11.1 | 11.0 | 96.1 | 96.1 | P | RF-58 | 117.9 | 13.1 | Verification calculation indicates failed moisture by minus 0.1% |
| 216 | RFC-795 | 5/20/1997 | 18700 | 17600 | 130.3 | 16.0 | 114.3 | 114.3 | 14.0 | 14.0 | 96.9 | 96.9 | P | RF-58 | 117.9 | 13.1 | |
| 217 | RFC-796 | 5/20/1997 | 18500 | 17700 | 129.0 | 14.0 | 115.0 | 115.0 | 12.1 | 12.2 | 97.5 | 97.5 | P | RF-58 | 117.9 | 13.1 | |
| 218 | RFC-797 | 5/20/1997 | 18550 | 17600 | 130.0 | 15.3 | 114.8 | 114.8 | 13.2 | 13.3 | 97.3 | 97.3 | P | RF-58 | 117.9 | 13.1 | |
| 219 | RFC-798 | 5/21/1997 | 18550 | 17700 | 130.5 | 17.0 | 113.5 | 113.5 | 14.9 | 15.0 | 96.3 | 96.3 | P | RF-58 | 117.9 | 13.1 | |
| 220 | RFC-799 | 5/21/1997 | 18500 | 17750 | 129.5 | 17.0 | 112.5 | 112.5 | 15.1 | 15.1 | 95.4 | 95.4 | P | RF-58 | 117.9 | 13.1 | |
| 221 | RFC-830 | 7/2/1997 | 18400 | 17300 | 128.9 | 16.1 | 112.8 | 112.8 | 14.2 | 14.3 | 96.0 | 96.0 | P | RF-61 | 117.5 | 12.8 | SE corner |
| 222 | RFC-831 | 7/2/1997 | 18700 | 17350 | 127.7 | 13.0 | 114.8 | 114.7 | 11.3 | 11.3 | 97.6 | 97.6 | P | RF-61 | 117.5 | 12.8 | SE corner |
| 223 | RFC-831S | 7/2/1997 | 18700 | 17350 | 124.9 | 12.7 | 112.3 | 112.2 | 11.2 | 11.3 | 95.5 | 95.5 | N/A | RF-61 | 117.5 | 12.8 | Sand-Cone, SE corner |
| 224 | RFC-832 | 7/2/1997 | 18500 | 17300 | 128.5 | 16.4 | 112.1 | 112.1 | 14.6 | 14.6 | 95.6 | 95.6 | P | RF-62 | 117.2 | 13.3 | SE corner |
| 225 | RFC-833 | 7/2/1997 | 18500 | 17350 | 128.2 | 15.8 | 112.5 | 112.4 | 14.0 | 14.1 | 95.9 | 95.9 | P | RF-62 | 117.2 | 13.3 | SE corner |
| 226 | RFC-837 | 7/2/1997 | 18400 | 17400 | 128.5 | 16.3 | 112.2 | 112.2 | 14.5 | 14.5 | 95.7 | 95.7 | P | RF-62 | 117.2 | 13.3 | SE corner |
| 227 | RFC-838 | 7/2/1997 | 18300 | 17450 | 128.0 | 14.8 | 113.2 | 113.2 | 13.0 | 13.1 | 96.6 | 96.6 | P | RF-62 | 117.2 | 13.3 | SE corner |
| 228 | RFC-905 | 8/7/1997 | 18370 | 17750 | 134.6 | 15.9 | 118.7 | 118.7 | 13.4 | 13.4 | 102.0 | 102.1 | P | RF-69 | 116.3 | 13.5 | Reverification |
| 229 | RFC-917 | 8/13/1997 | 18710 | 17670 | 128.8 | 15.1 | 113.7 | 113.7 | 13.3 | 13.3 | 97.8 | 97.8 | P | RF-70 | 116.2 | 13.6 | Reverification |
| 230 | RFC-918 | 8/13/1997 | 18260 | 17645 | 128.0 | 15.1 | 112.9 | 112.9 | 13.4 | 13.4 | 97.1 | 97.2 | P | RF-70 | 116.2 | 13.6 | Reverification |
| 231 | RFC-919 | 8/13/1997 | 18170 | 17670 | 125.7 | 13.4 | 112.3 | 112.3 | 12.0 | 11.9 | 96.6 | 96.6 | P | RF-70 | 116.2 | 13.6 | Reverification |
| 232 | RFC-926 | 8/15/1997 | 18410 | 17650 | 126.4 | 18.2 | 108.1 | 108.2 | 16.9 | 16.8 | 94.2 | 94.3 | Fail | RF-71 | 114.8 | 13.9 | Fail Moisture & Compaction, Reverification SE corner |
| 233 | RFC-927 | 8/15/1997 | 18410 | 17650 | 125.6 | 16.4 | 109.2 | 109.2 | 15.1 | 15.0 | 95.0 | 95.1 | P | RF-71 | 114.8 | 13.9 | Retest of Test Number RFC-926, Reverification SE corner |
| 234 | RFC-928 | 8/15/1997 | 18280 | 17700 | 130.2 | 17.8 | 112.4 | 112.4 | 15.9 | 15.8 | 97.8 | 97.9 | P | RF-71 | 114.8 | 13.9 | Reverification SE corner |
| 235 | RFC-932 | 8/15/1997 | 18370 | 17720 | 128.7 | 17.4 | 111.4 | 111.3 | 15.6 | 15.6 | 96.6 | 96.6 | P | RF-72 | 115.2 | 13.7 | SE corner |
| 236 | RFC-937 | 8/16/1997 | 18470 | 17690 | 128.2 | 16.6 | 111.6 | 111.6 | 14.8 | 14.9 | 96.9 | 96.9 | P | RF-72 | 115.2 | 13.7 | SE corner |
| 237 | RFC-938 | 8/16/1997 | 18430 | 17720 | 127.7 | 16.9 | 110.8 | 110.8 | 15.2 | 15.3 | 96.2 | 96.2 | P | RF-72 | 115.2 | 13.7 | SE corner |
| 238 | RFC-939 | 8/16/1997 | 18340 | 17760 | 127.8 | 14.6 | 113.2 | 113.2 | 12.9 | 12.9 | 98.2 | 98.3 | P | RF-72 | 115.2 | 13.7 | SE corner |
| 239 | RFC-951 | 8/18/1997 | 18550 | 17720 | 129.9 | 16.4 | 113.5 | 113.5 | 14.5 | 14.4 | 97.2 | 97.3 | P | RF-74 | 116.7 | 13.8 | East slope |
| 240 | RFC-951S | 8/18/1997 | 18550 | 17720 | 131.4 | 15.9 | 115.5 | 115.5 | 13.8 | 13.8 | 98.9 | 99.0 | N/A | RF-74 | 116.7 | 13.8 | Sand-Cone |
| 241 | RFC-952 | 8/18/1997 | 18550 | 17840 | 128.1 | 15.2 | 112.9 | 112.9 | 13.5 | 13.5 | 96.7 | 96.7 | P | RF-74 | 116.7 | 13.8 | East slope |
| 242 | RFC-953 | 8/18/1997 | 18490 | 17810 | 122.4 | 13.4 | 108.9 | 109.0 | 12.3 | 12.3 | 93.3 | 93.4 | Fail | RF-74 | 116.7 | 13.8 | Fail Compaction, East slope |

Maybell Heap Leach Repository Frost Barrier Test Results
Lift 1

 Sand-Cone Correlation
 Verification Calculation
 Calculation Error and Correction

Frost Protection passing requirements: compaction - above 95%; moisture - minus 2% of optimum to plus 2% of optimum

| Point Number | Test Number | Date | Northing | Easting | Wet Density pcf | Moisture pcf | Reported Dry Density pcf | Calculated Dry Density pcf | Reported Percent Moisture | Calculated Percent Moisture | Reported Percent Compaction | Calculated Percent Compaction | Pass/Fail | Proctor Number | Maximum Dry Density pcf | Optimum Moisture | Remarks |
|--------------|-------------|-----------|----------|---------|-----------------|--------------|--------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------|-----------|----------------|-------------------------|------------------|---|
| 241 | RFC-954 | 8/18/1997 | 18490 | 17810 | 126.5 | 14.1 | 112.4 | 112.4 | 12.6 | 12.5 | 96.3 | 96.3 | P | RF-74 | 116.7 | 13.8 | Retest of Test Number RFC-953, East slope |
| 242 | RFC-1081 | 9/15/1997 | 18850 | 17720 | 127.7 | 14.6 | 113.1 | 113.1 | 12.9 | 12.9 | 97.3 | 97.3 | P | RF-87 | 116.2 | 14.2 | Channel 1 |
| | RFC-1081S | 9/15/1997 | 18850 | 17720 | 130.4 | 14.3 | 116.1 | 116.1 | 12.3 | 12.3 | 99.9 | 99.9 | N/A | RF-87 | 116.2 | 14.2 | Sand-Cone, Channel 1 |
| 243 | RFC-1082 | 9/15/1997 | 18800 | 17610 | 129.4 | 15.3 | 114.1 | 114.1 | 13.4 | 13.4 | 98.2 | 98.2 | P | RF-87 | 116.2 | 14.2 | Channel 1 |
| 244 | RFC-1092 | 9/16/1997 | 18850 | 17850 | 129.4 | 16.1 | 113.3 | 113.3 | 14.2 | 14.2 | 98.5 | 98.5 | P | RF-88 | 115.0 | 15.3 | Channel 1 |
| 245 | RFC-1093 | 9/16/1997 | 18900 | 17800 | 131.1 | 17.2 | 113.9 | 113.9 | 15.1 | 15.1 | 99.0 | 99.0 | P | RF-88 | 115.0 | 15.3 | Channel 1 |
| 246 | RFC-1098 | 9/17/1997 | 18920 | 17615 | 125.2 | 15.6 | 109.7 | 109.6 | 14.2 | 14.2 | 95.3 | 95.3 | P | RF-88 | 115.0 | 15.3 | North of Channel 1 between channel and NE slope |
| 247 | RFC-1120 | 9/18/1997 | 18888 | 17522 | 128.6 | 14.6 | 114.0 | 114.0 | 12.8 | 12.8 | 97.9 | 97.9 | P | RF-90 | 116.4 | 14.2 | Channel 1 bottom |
| 248 | RFC-1122 | 9/18/1997 | 18858 | 17542 | 127.8 | 15.1 | 112.6 | 112.7 | 13.4 | 13.4 | 96.1 | 96.2 | P | RF-91 | 117.2 | 14.2 | South 3:1 slope |
| 249 | RFC-1123 | 9/24/1997 | 18940 | 17810 | 129.4 | 18.0 | 111.5 | 111.4 | 16.1 | 16.2 | 95.1 | 95.1 | P | RF-91 | 117.2 | 14.2 | Channel 1 North bench |
| 250 | RFC-1124 | 9/24/1997 | 18850 | 17850 | 130.9 | 17.0 | 113.3 | 113.9 | 15.0 | 14.9 | 96.6 | 97.2 | P | RF-91 | 117.2 | 14.2 | Reverification Channel 1 rill |
| 251 | RFC-1127 | 9/25/1997 | 18800 | 17850 | 130.7 | 17.6 | 113.1 | 113.1 | 15.5 | 15.6 | 96.5 | 96.5 | P | RF-91 | 117.2 | 14.2 | |
| 252 | RFC-1130 | 9/29/1997 | 18940 | 17810 | 128.7 | 16.7 | 111.9 | 112.0 | 15.0 | 14.9 | 95.6 | 95.6 | P | RF-91 | 117.2 | 14.2 | |
| 253 | RFC-1131 | 9/29/1997 | 18920 | 17670 | 125.4 | 14.6 | 110.7 | 110.8 | 13.2 | 13.2 | 96.2 | 96.3 | P | RF-92 | 115.0 | 14.0 | |
| | RFC-1131S | 9/29/1997 | 18920 | 17670 | 126.3 | 14.8 | 111.5 | 111.5 | 13.3 | 13.3 | 96.9 | 97.0 | N/A | RF-92 | 115.0 | 14.0 | Sand-Cone |
| 254 | RFC-1142 | 9/30/1997 | 18810 | 17705 | 127.7 | 17.1 | 110.6 | 110.6 | 15.5 | 15.5 | 95.5 | 95.5 | P | RF-93 | 115.8 | 13.9 | |
| 255 | RFC-1143 | 9/30/1997 | 18820 | 17600 | 129.7 | 16.6 | 113.1 | 113.1 | 14.7 | 14.7 | 97.6 | 97.7 | P | RF-93 | 115.8 | 13.9 | |