Umetco Minerals Corporation

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October 2, 2002

Mr. Dan Gillen, Chief
U.S. Nuclear Regulatory Commission
Attention: Ms. Elaine Brummett
Fuel Cycle Licensing Branch, NMSS
Mail Stop T-8-A-33
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

Re: License SUA-648, Docket No. 40-0299 – Gas Hills, Wyoming
License Amendment Request

Dear Mr. Gillen:

Umetco Minerals Corporation (Umetco) is requesting amendments to Nuclear Regulatory Commission License SUA-648, Amendment Number 49.

The proposed amendments to the license conditions are detailed in Attachment A. These changes address progress in remedial activities at the site.

In addition to the proposed license condition amendments, Attachment B contains table and figure revisions to Appendix M - Groundwater Monitoring Plan, dated March 2002, of the Alternate Concentration Limits Application. These changes are as follows:

1. **Replace Table M-1 with the attached revised table.** The revision corrects a typographical error in the original submittal. Specifically, semi-annual sampling of MW1 is changed to semi-annual sampling of MW21A. This sampling requirement is correctly stated in the text of Section 2.1 of Appendix M.

2. **Replace Table 5 and Figures 4a, 4b, 7a and 7b of Attachment M-1 – Target Level Derivation and Model Validation Approach for Chloride and Sulfate with the attached revised table and figures.** The revisions to the chloride and sulfate target levels result from a groundwater modeling update using the actual location of the newly installed monitor well MW82. The target levels given in Table 5 of Attachment M-1 were based on the proposed location of MW82 at coordinates N787900 and E835400. However, MW82 was installed at a revised location N788168 and E835779, approximately 500 feet closer to the A-9 Repository. The location was adjusted to avoid potential interference with the *in situ* leach operation

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proposed by Power Resources, Inc. The revised table and figures were derived for MW82 at its actual location without changing any other modeling parameters.

If you have any questions, comments or require additional information, please contact me at 970-256-8889 or 970-260-2249.

Sincerely,

Thomas E. Gieck
Manager of Technical Services

TEG:ESH:ses

Attachments

c: C. O. Sealy
J. S. Hamrick
E. E. Ley

ATTACHMENT A

Umetco Minerals Corporation is requesting changes to Nuclear Regulatory Commission License SUA-648, Amendment Number 49, Docket Number 40-0299. The current license condition is provided in *italicized* font, the proposed language for the license condition is shown in **bold** font with the supporting rationale following.

1. License Condition 10.C. states:

   Perform a weekly documented visual inspection of the evaporation storage ponds and solution transfer system from the A-9 impoundment. A visual inspection can be postponed during periods of adverse weather conditions. These periods of adverse weather conditions will be documented on the weekly inspection form.

   Proposed Revision:

   Perform a weekly documented visual inspection of the evaporation storage pond. A visual inspection can be postponed during periods of adverse weather conditions. These periods of adverse weather conditions will be documented on the weekly inspection form.

   RATIONALE:

   The solution transfer system was removed in May 2002 in response to the approval of the Alternate Concentration Limits Application by License Amendment No. 48. Additionally, since Evaporation Pond GHP-1 was removed from service, the reference to "ponds" has been revised to "pond".

2. License Condition 59, Part B.(1) states:

   Placement of erosion protection as part of reclamation to comply with Criterion 6 of Appendix A of 10 CFR Part 40:
   For the Inactive Impoundment – December 31, 2002
   For the A-9 Impoundment – December 31, 2004
   For the Heap Leach Impoundment – complete

   Proposed Revision:

   Placement of erosion protection as part of reclamation to comply with Criterion 6 of Appendix A of 10 CFR Part 40:
   For the Inactive Impoundment – complete
   For the A-9 Impoundment – December 31, 2004
   For the Heap Leach Impoundment – complete

   RATIONALE:

   The placement of erosion protection material over the Inactive Impoundment was completed in September 2002.

3. License Condition 62 states:

The licensee is authorized to receive and dispose in the A-9 Repository, the non-11e.(2) byproduct material from the IMC site as described in submittals dated May 11 and July 12, 2001.

Proposed Revision:

Deleted by Amendment 50.

RATIONALE:

This work was completed in October 2001.

ATTACHMENT B

Enclosed are the following revised tables and figures to be inserted into Appendix M - Groundwater Monitoring Plan and Attachment M-1 – Target Level Derivation and Model Validation Approach for Chloride and Sulfate, dated March 2002, of the Alternate Concentration Limits Application:

1. Table M-1 – Gas Hills Site Groundwater Compliance Monitoring Wells
2. Table 5 – Target Values Derived for Southwestern Flow Regime Well MW82
3. Figures 4a – Simulated Chloride Trends at MW82 (10 Years) – Southwestern Flow Regime
4. Figures 4b – Simulated Chloride Trends at MW82 (50 Years) – Southwestern Flow Regime
5. Figures 7a – Simulated Sulfate Trends at MW82 (10 Years) – Southwestern Flow Regime
6. Figures 7b – Simulated Sulfate Trends at MW82 (50 Years) – Southwestern Flow Regime

Table M-1 Gas Hills Site Groundwater Compliance Monitoring Wells

Well Type	Western Flow Regime Wells †	Southwestern Flow Regime Wells ‡	Monitoring Approach§
Point of Compliance (POC) Wells	MW1 **MW21A***	**GW7*** GW8	Wells to be sampled annually for ACL constituents. Sampling to be conducted every June until license termination, with results to be submitted to the NRC by September 30 of the same year. ——— *Asterisked wells—MW21A and GW7—to be sampled semi-annually for natural uranium (U-nat), sulfate, and chloride.
Non-POC Wells	MWI64 MW70A MW25 **MW71B**** **MW28**** MW77 Iron Spring	PW4 **MW72**** **MW82**** Note: MW82 is proposed new well, to be installed in Spring 2002.	Sampling of these non-POC wells will be conducted semi-annually with analyses for sulfate, chloride, and U-nat. Except for chloride and sulfate monitoring at the four model validation wells (explained below), *this sampling will be conducted for information and tracking purposes only*—i.e., results will not be assessed for exceedances. ——— **Results for asterisked wells—MW71B, MW28, MW72, and MW82—will be used to verify model results (see below).
Model Validation Wells (*subset of above non-POC wells*)	MW71B MW28	MW72 MW82	Semi-annual sampling for chloride and sulfate as described above. Results will be compared with the target levels derived for the applicable timeframe. See Section 3.0 and **Attachment M-1 Tables 2 through 5.**

† Alternate Concentration Limits (ACLs) established for the Western Flow Regime POC wells MW1 and MW21A are as follows· Arsenic = 1 8 mg/l, Beryllium = 1.64 mg/l, Lead-210 = 35 4 pCi/l, Nickel = 13 0 mg/l; combined Radium-226 and -228 = 250 pCi/l, Selenium = 0 161 mg/l, Thorium-230 = 57 4 pCi/l, and Uranium-natural (U-Nat) = 11 9 mg/l Action levels for chloride and sulfate are listed in Table M-3

‡ ACLs established for the Southwestern Flow Regime POC wells GW7 and GW8 are Arsenic = 1 36 mg/l, Beryllium = 1.70 mg/l; Lead-210 = 46 7 pCi/l; Nickel = 9.34 mg/l, combined Radium-226 and -228 = 353 pCi/l, Selenium = 0 53 mg/l, Thorium-230 = 44 8 pCi/l, and Uranium-natural = 34 1 mg/l. Action levels for chloride and sulfate are listed in Table M-3

§ Results of monitoring will be provided in the Groundwater Monitoring Review as required by License SUA-648

Table 5. Target Values Derived for Southwestern Flow Regime Well MW82

Year	Chloride (mg/l)		Sulfate (mg/l)	
	Annual Target Range	June Target	Annual Target Range	June Target
2000	39.0 – 59.7	--	887 – 908	--
2001	59.7 – 77.2	--	908 – 972	--
2002	77.2 – 90.9	84	972 – 1055	1014
2003	90.9 – 98.7	95	1055 – 1130	1093
2004	98.7 – 100.8	100	1130 – 1186	1158
2005	100.8 – 99.5	100	1186 – 1223	1205
2006	99.5 – 97.4	99	1223 – 1252	1239
2007	97.4 – 96.4	97	1252 – 1284	1268
2008	96.4 – 97.2	97	1284 – 1323	1304
2009	97.2 – 99.3	98	1323 – 1367	1345
2010	99.3	99	1367	1367

MW82 installed in Spring 2002, see notes following Table 2. **These estimates are based on model predictions, and assume no impacts from surrounding PRI activities and/or naturally occurring mineralization.**

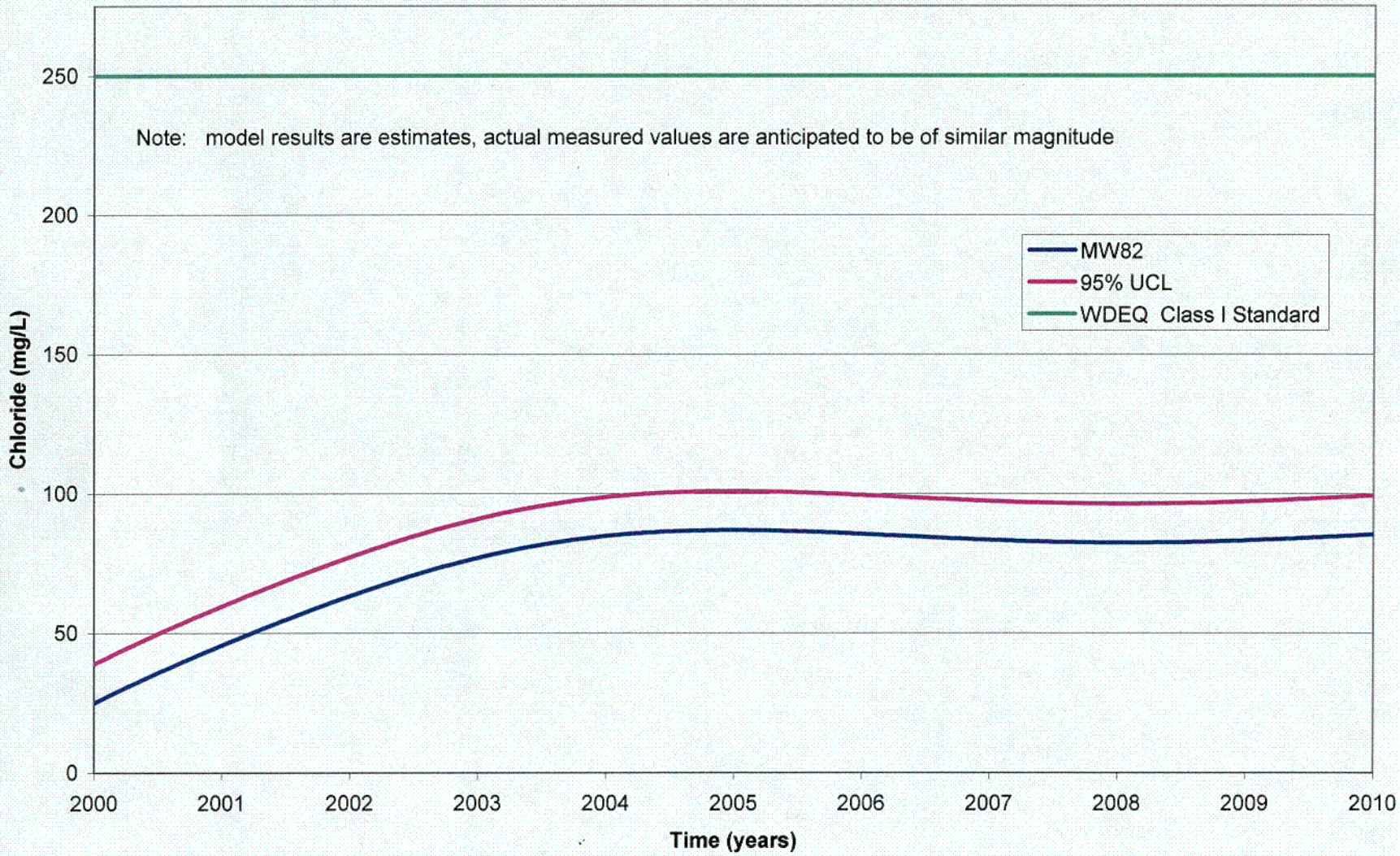
MW82, Predicted Chloride Trends:

Sharply increasing until approximately 2005 (with assumed baseline at 25 mg/l), then gradually increasing to a maximum of 130 mg/l by 2033 followed by a steady decline. All predicted values are well below the WDEQ Class I groundwater standard of 250 mg/l.

MW82, Predicted Sulfate Trends:

Steadily increasing until 2023, reaching a maximum value of 1850 mg/l (with assumed baseline of 500 mg/l), then gradually decreasing. All predicted values are well below the WDEQ Class III groundwater standard of 3000 mg/l.

Figure 4a(r). Simulated Chloride Trends at MW82 (10 Years)-Southwestern Flow Regime Gas Hills Wyoming, Umetco Minerals Corporation



Revised October 2002

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Figure 4b(r). Simulated Chloride Trends at MW82 (50 Years)-Southwestern Flow Regime Gas Hills Wyoming, Umetco Minerals Corporation

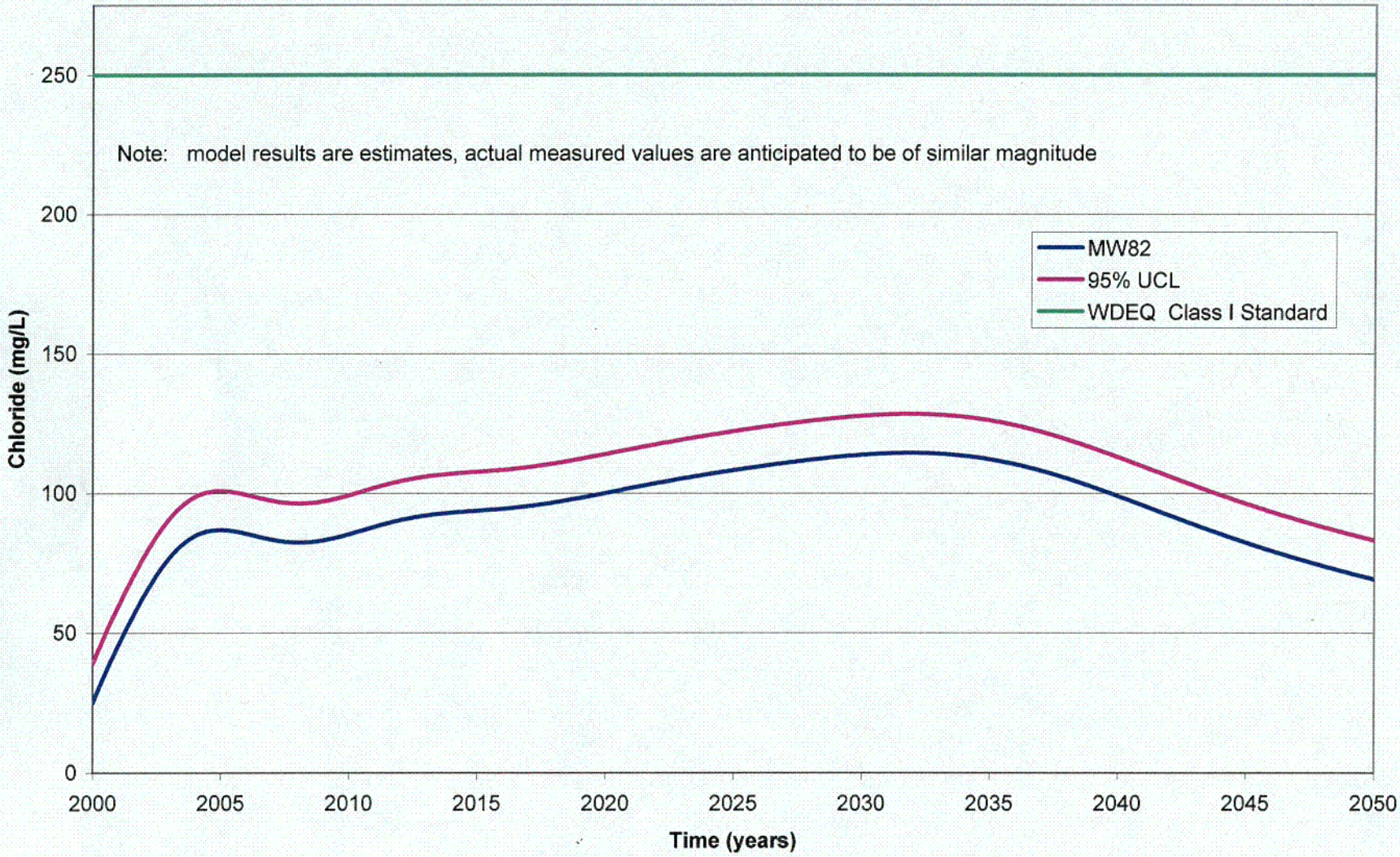

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Figure 7a(r). Simulated Sulfate Trends at MW82 (10 Years)-Southwestern Flow Regime
Gas Hills Wyoming, Umetco Minerals Corporation

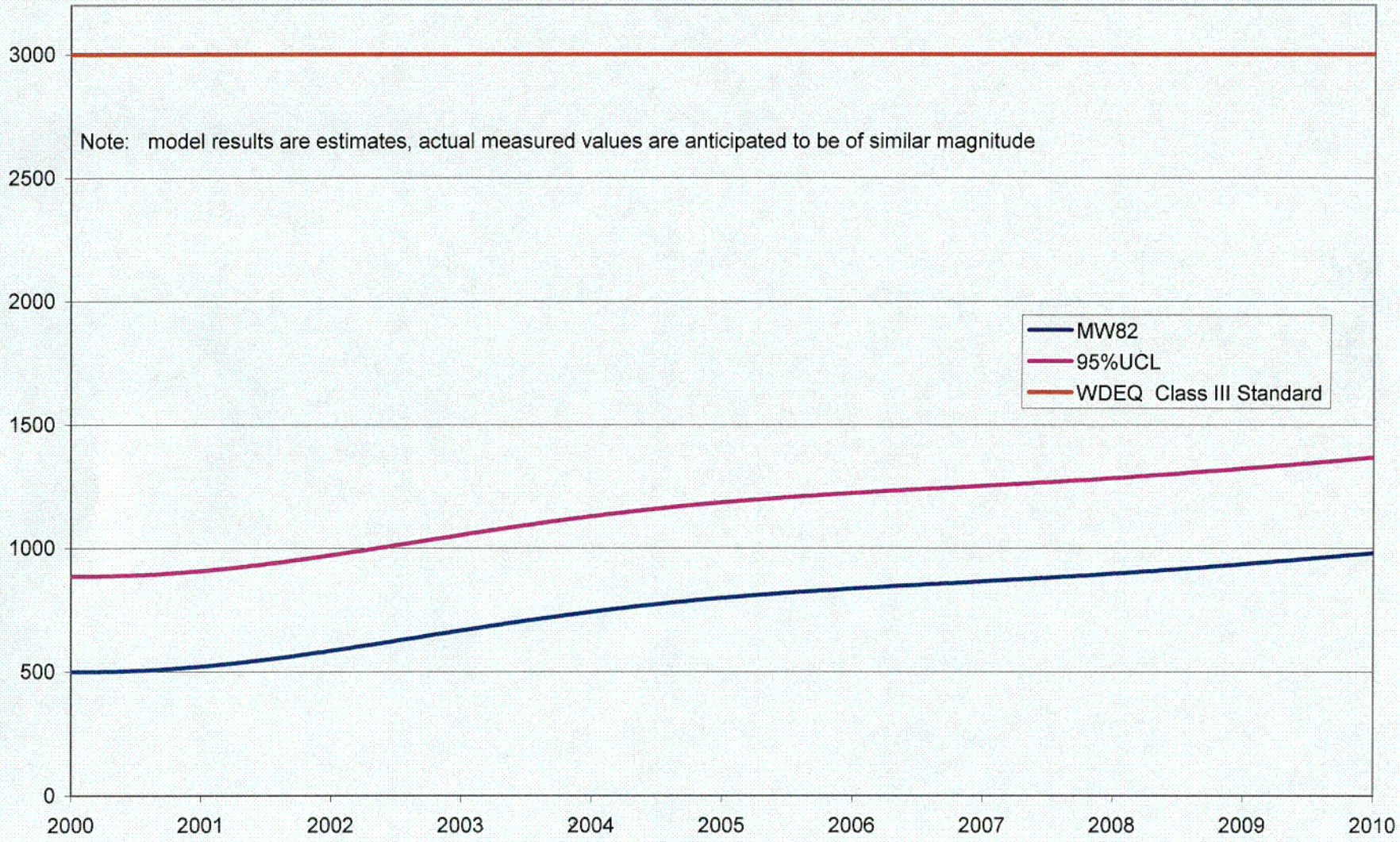

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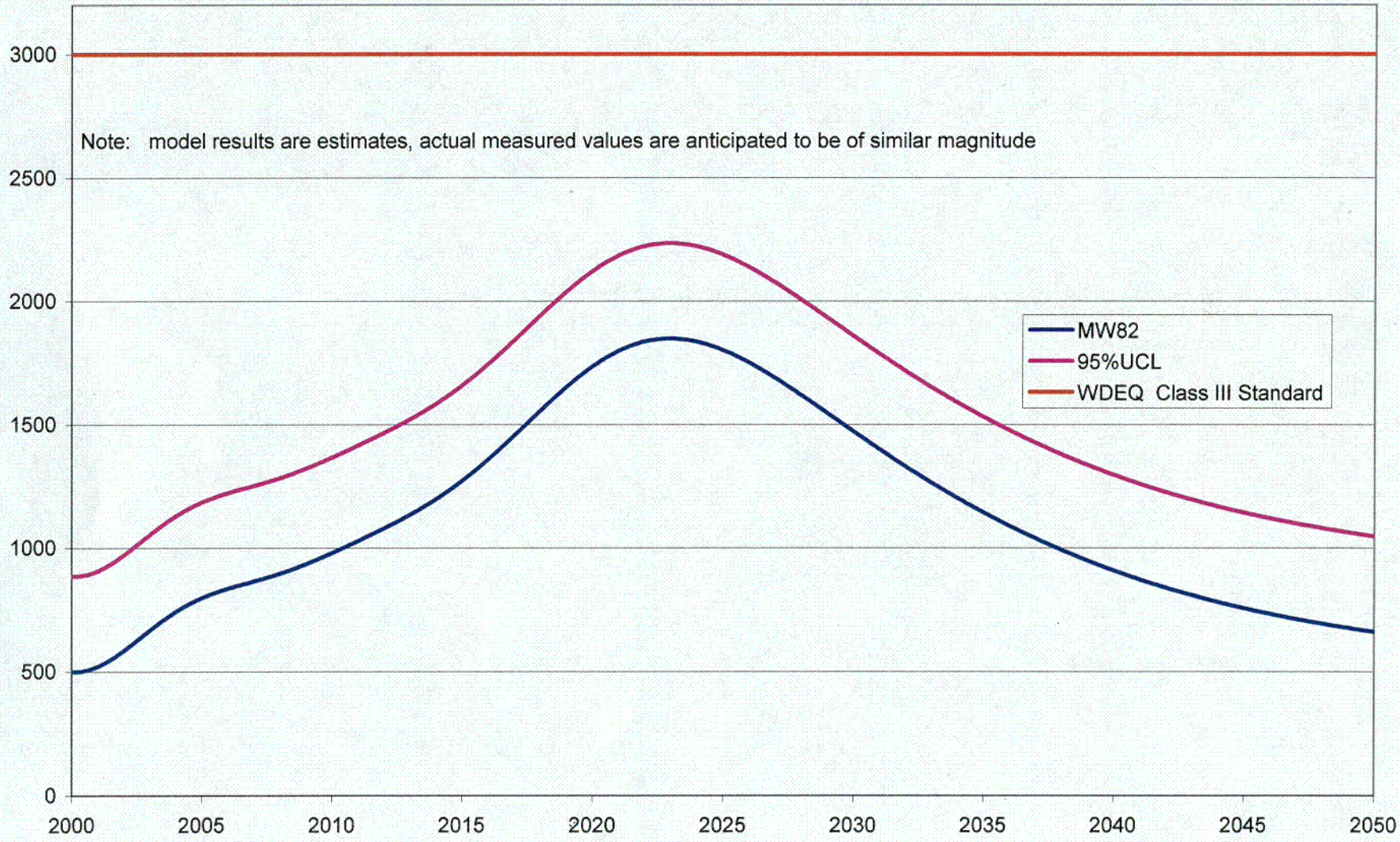
Figure 7b(r). Simulated Sulfate Trends at MW82 (50 Years)-Southwestern Flow Regime Gas Hills Wyoming, Umetco Minerals Corporation



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