Molycorp, Inc.
A Unocal Company
300 Caldwell Avenue
Washington, Pennsylvania 15301
Telephone (412) 222-5605
Facsimile (412) 222-7336

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UNOCAL 76

MOLYCORP

January 19, 1995

Mr. LeRoy S. Person
Project Manager
United States Nuclear Regulatory Commission
Low Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and
Safeguards
Washington, D.C. 20555-0001

RE: GUARANTEE TO DEMONSTRATE
FINANCIAL RESPONSIBILITY FOR
DECOMMISSIONING ACTIVITIES
US NRC LICENSE NO. SMB-1393

Dear Mr. Person:

One set of original documents are included in this response to the US Nuclear Regulatory's review of Molycorp's Guarantee to Demonstrate Financial Responsibility for Decommissioning Activities. The second set of originals which were requested will be mailed directly to you from Unocal's headquarters in Los Angeles on Tuesday. Please accept our apologies for this delay.

Sincerely,

Barbara K. Dankmyer
Resident Manager

xc: D. Shoemaker
M. Smith

9502010178 950119

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UNOCAL 76

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January 13, 1994

Mr. LeRoy S. Person
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United States Nuclear Regulatory Commission
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Office of Nuclear Material Safety and
Safeguards
Washington, D.C. 20555-0001

RE: GUARANTEE TO DEMONSTRATE
FINANCIAL RESPONSIBILITY FOR
DECOMMISSIONING ACTIVITIES
US NRC LICENSE NO. SMB-1393

Dear Mr. Person:

This letter responds to the United States Nuclear Regulatory Commission's (Commission) review of Molycorp's Guarantee to Demonstrate Financial Responsibility for Decommissioning Activities (Guarantee) for its Washington, PA facility. Point 1 in the review requests more detailed analyses of decommissioning costs. More particularly, the Commission requested that Appendix F of Regulatory Guide 3.66 be used to detail the costs. Attached is the requested Appendix filled out for one of the decommissioning options being evaluated.

1) Submit Additional Detail on Cost Estimate (Regulatory Guide 3.66, Appendix F) - Please see attached Appendix, discussion, and map.

2) Clarify that No Credit was Taken for Salvage Value - In the original submittal of the Guarantee, no credit was taken for salvage value of slags sent to Brazil.

3) Incorporate a Contingency Factor into Decommissioning Cost Estimates - A 25% contingency factor is shown on page F-6 of the submitted cost estimates.

4) Describe the Means to be used for Adjusting Cost Estimates and Associated Funding Levels over the Life of the Facility - A revised cost estimate will be submitted with the Site Decommissioning Plan. A revision will be made again after a Decommissioning Plan has been approved by the Commission or one year after the Decommissioning Plan is submitted, whichever occurs first. A revised estimate will be submitted yearly thereafter until decommissioning activities have been completed. A proposed revision schedule will be submitted to the Commission for approval once decommissioning activities have been completed.

January 13, 1995

5) Demonstrate that a Parent-Subsidiary Relationship Exists between the Guarantor and the Licensee or Submit a Different Method of Financial Assurance - Please see attached paperwork.

6) Revise the Submitted Guarantee/Financial Test - See attached paperwork.

7) Submit Evidence that the Party Signing the Guarantee is Authorized to Represent the Guarantor - See attached paperwork.

8) Provide Additional Information Regarding the Guarantor's Bond Rating - See attached paperwork.

9) Submit Required Letter from Licensee's Chief Executive Officer - See attached paperwork.

10) Other Important General Issues and Comments - The error on the license number is noted. Please see attached paperwork for other issues raised.

Sincerely,

Barbara K. Dankmyer
Resident Manager

xc: J. Yusko- PA DER (w/o attachments)
J. Matviya - PADER (w/o attachments)
J. Kinneman - NRC Region I (w/o attachments)
G. Dewey - Molycorp (w/o attachments)
M. Smith - Unocal (w/c attachments)
D. Shoemaker - Molycorp (w/o attachments)

RESPONSE TO ITEM 5

OF NRC LETTER DATED DECEMBER 19, 1994

MOLYCORP, INC.

CERTIFICATION

I, Dennis P. Codon, a duly elected and acting Secretary of Molycorp, Inc. (the "Company), a Delaware corporation, do hereby certify that all shares issued and outstanding by the Company are owned by Union Oil Company of California.

I further certify that R. Gene Dewey is the duly elected and acting President of the Company.

WITNESS my hand and the seal of said Company this 17th day of January, 1995.

MOLYCORP, INC.

Dennis P. Codon
Secretary

RESPONSE TO ITEM 6

OF NRC LETTER DATED DECEMBER 19, 1994

Union Oil Company of California

Union Oil Center, Box 7600, Los Angeles, California 90051

union 76

PARENT COMPANY GUARANTEE

Guarantee made this January 18, 1995 by Union Oil Company of California, a corporation organized under the laws of the State of California, herein referred to as "guarantor," to the U.S. Nuclear Regulatory Commission (NRC), or State agency found acceptable to the NRC, obligee, on behalf of our subsidiary:

Molycorp, Inc.
Washington Plant
300 Caldwell Avenue
Washington, Pennsylvania 15301

Recitals

1. The guarantor has full authority and capacity to enter into this guarantee under its bylaws, articles of incorporation, and the laws of the State of California its State of incorporation. Guarantor has approval from its Board of Directors to enter into this guarantee.

2. This guarantee is being issued to comply with regulations issued by the NRC, an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974. NRC has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations, Part 40 which require that a holder of, or an applicant for, a materials license issued pursuant to 10 CFR Part 40 provide assurance that funds will be available when needed for required decommissioning activities.

3. The guarantee is issued to provide financial assurance for decommissioning activities for the Molycorp, Inc., Washington Plant, NRC License No. SMB 1393 as required by 10 CFR Part 40. The decommissioning costs for which are as follows: $4,769,160.00.

4. The guarantor meets or exceeds the following financial test criteria: Financial Test - Alternative II, which is denoted in paragraph (c) below, and agrees to comply with all notification requirements as specified in 10 CFR Part 40.

The guarantor shall meet one of the following two financial tests:

(a) (i) A current rating of its most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's, or Aaa, Aa, A or Baa as rated by Moody's; and

(ii) Tangible net worth is a least $10 million and at least six times the current decommissioning cost estimate or prescribed amount if certification is used); and

(iii) Assets located in the United States amounting to at least 90 percent of its total assets or at least six times the current decommissioning cost (or prescribed amount if certification is used).

or

(b) (i) Net working capital and tangible net worth each at least six times the current decommissioning cost estimates (or prescribed amount if certification is used); and

(ii) Assets located in the United States amounting to at least 90 percent of its total assets or at least sic times the amount of the current decommissioning cost estimates (or prescribed amount if certification is used); and

(iii) Meets two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities that is greater than 0.1; and a ratio of current assets to current liabilities that is greater than 1.5; and

(iv) Tangible net worth of at least $10 million.

5. The guarantor has majority control of the voting stock for the following licensee(s) covered by this guarantee. [List for each licensee: name, address, the facility(ies) owned or operated by each licensee, and the corresponding license number(s).]

Molycorp
Washington Plant
300 Caldwell Avenue
Washington, PA 13501
NRC License No. SMB-1393

6. Decommissioning activities as used below refers to the activities required by 10 CFR Part 40 for decommissioning of facility(ies) identified above.

7. For value received from licensee and pursuant to the authority conferred upon the guarantor by "the unanimous resolution of its Management Committee, a certified copy of which is attached, the guarantor guarantees to the NRC that if the licensee fails to perform the required decommissioning activities, as required by License No. SMB-1393, the guarantor shall:

(a) carry out the required activities, <u>or</u>

(b) set up a trust fund in favor of the above identified beneficiary in the amount of these current cost estimates for these activities.

8. The guarantor agrees to submit revised financial statements, financial test data, and a special auditor's report and reconciling schedule annually within 90 days of the close of the parent guarantor's fiscal year.

9. The guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, it fails to meet the financial test criteria, the licensee shall send within 90 days of the end of the fiscal year, by certified mail, notice to the NRC that the licensee intends to provide alternative financial assurance as specified in 10 CFR 40. Within 120 days after the end of the fiscal year, the guarantor shall establish such financial assurance if the licensee has not done so.

10. The guarantor also agrees to notify the beneficiary promptly if the ownership of the licensee or the parent firm is transferred and to maintain this guarantee until the new parent firm or the licensee provides alternative financial assurance acceptable to the beneficiary.

11. The guarantor agrees that within 30 days after it determines that it no longer meets the financial test criteria or it is disallowed from continuing as a guarantor for the facility under License No. SMB-1393, it shall establish an alternative financial assurance as specified in 10 CFR Part 40, in the name of Molycorp unless Molycorp has done so.

12. The guarantor as well as its successors and assigns agree to remain bound jointly and severally under this guarantee notwithstanding any or all of the following: amendment or modification of license or NRC-approved decommissioning funding plan for that facility, the extension or reduction of the time of performance of required activities, or any other modification or alteration of an obligation of the licensee pursuant to 10 CFR Part 40.

13. The guarantor agrees to remain bound under this guarantee for as long as Molycorp must comply with the applicable financial assurance requirements of 10 CFR Part 40, for the

previously listed facility(ies), except that the guarantor may cancel this guarantee by sending notice by certified mail to the NRC and to Molycorp, such cancellation to become effective no earlier than 120 days after receipt of such notice by both the NRC and Molycorp as evidenced by the return receipts.

15. The guarantor agrees that if Molycorp fails to provide alternative financial assurance as specified in 10 CFR Part 40, as applicable, and obtain written approval of such assurance from the NRC within 90 days after a notice of cancellation by the guarantor is received by both the NRC and Molycorp from the guarantor, the guarantor shall provide such alternative financial assurance in the name of Molycorp or make payment under the guarantee.

16. The guarantor expressly waives notice of acceptance of this guarantee by the NRC or by Molycorp. The guarantor also expressly waives notice of amendments or modification of the decommissioning requirements and of amendments or modifications of the licensee.

17. If the guarantor files financial reports with the U.S. Securities and Exchange Commission, then it shall promptly submit them to the NRC during each year in which this guarantee is in effect.

I hereby certify that this guarantee is true and correct to the best of my knowledge.

Effective date: JANUARY 18, 1995

UNION OIL COMPANY OF CALIFORNIA

Authorized Signature for Guarantor

NEAL E. SCHMALE
Name

Chief Financial Officer
Title

1/18/95

Signature of Witness or Notary

RESPONSE TO ITEM 7

OF NRC LETTER DATED DECEMBER 19, 1994

UNION OIL COMPANY OF CALIFORNIA

CERTIFICATION

I, Jane A. Neal, a duly elected and acting Assistant Secretary of Union Oil Company of California (the "Company"), a California corporation, do hereby certify that the following is a true and correct copy of a resolution adopted at a meeting of the Management Committee of the Board of Directors of the Company, duly noticed, called and held on January 17, 1995, at which a quorum was present and acting throughout and that said resolution is now in full force and effect:

> "RESOLVED, That Union Oil Company of California (the "Company") hereby authorizes Neal E. Schmale, its duly elected and acting Chief Financial Officer, to represent the Company and to execute the guarantee between the Company and the U.S. Nuclear Regulatory Commission, concerning the financial test/corporate guarantee for decommissioning costs associated with that facility known as the Washington Plant, which is owned and operated by Molycorp, Inc., a wholly-owned subsidiary of the Company. The Washington Plant is located at 300 Caldwell Avenue, Washington,Pennsylvania 15301."

WITNESS my hand and the seal of said Company this 17th day of January, 1995.

UNION OIL COMPANY OF CALIFORNIA

Jane A. Neal

Jane A. Neal
Assistant Secretary

RESPONSE TO ITEM 8

OF NRC LETTER DATED DECEMBER 19, 1994

CC Sleeman
Sproule
McDowell
Orig DDC

pcc: DAF
BGH

:- 931
:. : UCL1
HEADLINE: S&P Affirms Union Oil Co. of California BBB Sr Debt, A-2 CP

NY -- S&P CreditWire 7/9/92 -- S&P affirms Union Oil Co. of California's triple-'B' senior debt and 'A-2' commercial paper ratings, guaranteed by parent Unocal Corp.

Total debt outstanding approximates $4.7 billion.

Unocal's ratings anticipate ongoing progress in strengthening its financial profile over the next several years by balancing debt reduction and expected higher cash flows with increased capital outlays. A restructuring is underway to prop up sluggish earnings and cash flow coverages and lower debt by $1.5 billion over the next five years. After-tax cash flow is forecast to rise $200 million starting in 1993 and noncore assets sales could generate net proceeds of around $700 million over two years.

However, Unocal's dependance on the weak U.S. natural gas market could temper its ability to materially improve returns for at least next two years. Consequently, to complement its program and accelerate debt reduction to strengthen its leveraged capital structure, Unocal may privately place around $500 million in securities convertible into common stock. This step represents a shift in financial policy that could, over time, lead to improved credit quality. It would permit the expansion of a plan to develop a large inventory of undeveloped U.S. low cost gas reserves, with the concomitant output rise benefiting earnings and cash flow. Yet gas market weakness will temper project returns.

Strong operating results have maintained reserves despite reduced spending due to past debt-reduction efforts. Refining and marketing has lagged competitors in Unocal's key California market in recent years. Actions taken i' he last year should begin to improve its cost position, but further r. nery investments are necessary to meet regulations for reformulated fuels.

An improving balance sheet, plus success in lowering its cost structure and the potential for higher gas volumes, should compensate for weak U.S. natural gas prices and raise earnings and cash flow measures to more adequate levels over the next few years, S&P said. ---CreditWire

Contact: Robert Weiss (212) 208-1672.

B. G. HILL
JUL 14 1992

Post-it™ brand fax transmittal memo 7671	# of pages ▸
To Darryl Chessum	From Robert Weiss
Co. Union Oil Co.	Co. S & P
Dept. —	Phone # 212-208-1672
Fax # 277-7454	Fax # 212-[illegible]

Moody's Investors Service
Global Credit Research

Unocal Corporation

December 1994

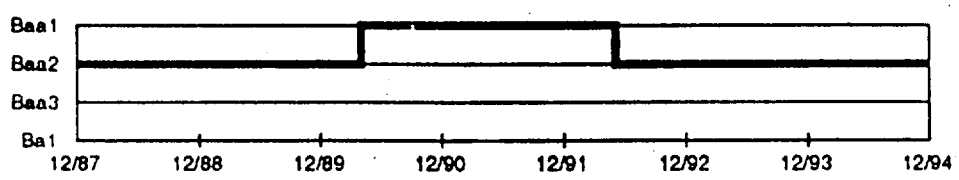
Ratings

Category	Moody's Rating
Unocal Corporation	
Convertible Preferred	"ba1"
Union Oil Co. of California	
Sr Unsecured	Baa2
Shelf Registration	(P)Baa2/(P)Baa3
Commercial Paper	P-2

Contacts

Analyst	Phone
Tom Coleman/New York	(212) 553-1653
F. Joseph Messina/New York	

Rating History: Union Oil Co. of California



Operating Statistics

Unocal Corporation (Statistics in bold type)
Peer Group Median (Statistics in light type)

	[1]1994	[1]1993	1993		1992		1991		1990		[2]5-Yr.Avg.	
Int. cov (X)	2.0	3.1	2.7	2.5	2.5	1.6	2.8	1.3	4.1	2.0	3.1	1.9
RCF % TD	32.8	35.2	32.2	34.2	26.1	25.4	28.0	20.0	42.4	25.5	33.1	26.4
Op. margin (%)	7.6	10.0	6.1	8.9	4.7	6.3	5.7	4.7	7.4	5.9	6.3	6.5
ROS (%)	3.2	3.0	3.3	2.9	1.7	2.5	3.4	0.8	4.8	3.8	3.5	2.5
ROC (pretax) (%)	9.4	13.8	10.7	12.0	9.5	9.2	11.2	7.6	16.4	11.6	12.2	10.6

[1] For the 9 months ended September 30. [2] 5-year average 1993 - 1989.

Balance Sheet Statistics

Unocal Corporation (Statistics in bold type)
Peer Group Average (Statistics in light type)

	[1]1994	[1]1993	1993		1992		1991		1990		[2]5-Yr.Avg.	
TD % cap	46.8	46.6	36.2	46.8	37.6	47.7	37.1	58.4	35.7	53.4	36.4	51.8
DIT & min. int. (%)	10.7	10.6	14.4	11.6	14.4	11.9	14.2	11.1	15.4	14.2	15.0	13.2
Pfd. stk. (%)	6.9	7.0	1.7	6.8	1.4	6.6	0.8	0.0	0.9	0.0	1.1	2.7
Common (%)	35.6	35.7	47.6	34.8	46.6	33.8	47.9	30.5	48.1	32.4	47.5	32.3
Tot. cap. (US$ bil.)	7.5	7.3	21.1	7.5	21.6	7.7	22.7	8.1	22.3	7.9	[3]0.1	[3]-1.6
TD % mkt. cap	29.9	29.7	25.7	30.3	29.0	32.8	28.9	42.5	27.4	36.6	27.6	35.0

[1] As of September 30. [2] 5-year average 1993 - 1989. [3] 5-year compound annual growth rate.

Opinion

Rating Rationale

Moody's rates the long-term debt of Union Oil Company of California Baa2, based on the company's elevated financial leverage and difficult pricing and margin environment that will continue to hamper its financial performance. (Union Oil is the guaranteed wholly owned operating subsidiary of Unocal Corporation.) We believe weak oil and natural gas prices, in tandem with competitive downstream conditions and high capital requirements will continue to affect the company's operating returns, cash flow protection measures, and balance sheet improvements.

However, Unocal has undertaken a restructuring program to reduce operating and overhead costs and to improve its core asset focus and profitability profile. Its strategy is based on development of low risk U.S. natural gas reserves, and increasing its investment in higher growth international upstream projects. Concurrently, it has restructured and streamlined the downstream operations and is investing to meet environmental mandates and improve its marketing focus and profitability.

Rating Outlook

Despite the effect of weak oil and gas prices and high capital reinvestment requirements, Unocal's rating outlook is stable. This is based on its rising production profile, its improved cost focus, and intent to manage capital in line with cash flow. Longer term, the company's challenge will be to successfully shift its upstream capital to the international arena

RESPONSE TO ITEM 9

OF NRC LETTER DATED DECEMBER 19, 1994

Molycorp, Inc.
A Unocal Company
1201 West 5th Street P.O. Box 54945
Los Angeles, California 90054
Telephone (213) 977-6847

UNOCAL 76

MOLYCORP

R. Gene Dewey
President

January 18, 1995

United States
Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear NRC:

I am the President of Molycorp, Inc., a wholly-owned subsidiary of Union Oil Company of California. This letter serves to document that Molycorp, Inc., is a going concern with a positive tangible net worth of $132,000,000.00. Molycorp, Inc., is not required to file a form 10K with the U.S. Securities and Exchange Commission. December 31 is the date on which the Molycorp, Inc., fiscal year ends.

R Gene Dewey
Signature

R. Gene Dewey
Name

President
Title

1/18/95
Date

Union Oil Center, Box 7600, Los Angeles, California 90051

union 76

JANUARY 18, 1995

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DEAR NRC:

I am the chief financial officer of Union Oil Company of California, 1201 West 5th Street, P. O. Box 7600, Los Angeles, CA 90051, a corporation. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in 10 CFR Part 40.

I hereby certify that Union Oil Company of California is currently a going concern, and that it possesses positive tangible net worth in the amount of $3,114 million, as of December 31, 1993.

This firm is not required to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year. The fiscal year of this firm ends on December 31.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Signature

NEAL E. SCHMALE
Name

Chief Financial Officer
Title

JANUARY 18, 1995
Date

2.	Current bond rating of most recent issuance of this firm and name of rating service. BBB	Standard & Poor's $
3.	Date of issuance of bond	02/08/94
4.	Date of maturity of bond	02/01/2004
*5.	Tangible net worth** (If any portion of estimates for decommissioning is included in total liabilities on your firm's financial statements, add the amount of that portion to this line.)	$3,114
*6.	Total assets in United States required only if less than 90 percent of firm's assets are located in the United States)	$7,726
7.	Is line 5 at least $10 million?	Yes
8.	Is line 5 at least 6 times line 1?	Yes
*9.	Are at least 90 percent of firm's assets located in the United States? If not, complete line 10.	No
10.	Is line 6 at least 6 times line 1?	Yes

* Denotes figures derived from financial statements.
**Tangible net worth is defined as net worth minus goodwill, patents, trademarks, and copyrights.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Signature

NEAL E. SCHMALE
Name

Chief Financial Officer
Title

JANUARY 18, 1995
Date

APPENDIX F

COST ESTIMATING TABLES

1. Planning and Preparation

Table 1

Task	Work Days Supervisor	Foreman	H.P.	Clerical	Total	Total Cost
1. Preparation of Documentation for Regulatory Agencies	60			75	135	$19,507
2. Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(c)(2), 40.42(c)(2), or 70.38(c)(2)*	Decommissioning Plan Environmental Assessment Risk Assessment			$75,000 $350,000 $52,260		
	30			30	60	$486,579
3. Development of Work Plans	Consultant 5			$20,000 	5	$21,263
4. Procuring of Special Equipment	7	14		2	23	$4,577
5. Staff Training	Completed					
6. Characterization of Radiological Condition of the Facility (Including soil and tailings analysis or groundwater analysis, if applicable)	Site Characterization has been completed. Site Characterizat report due USNRC on 1/20/95. Expenses have been paid.					
7. Other	8	16		23	47	$6,432
8. Total	110	30		100	240	$538,358

* For assistance in preparation of cost estimate for 10 CFR Part 72, consult NRC Office of Nuclear Material Safety and Safeguards.

APPENDIX F (Continued)
COST ESTIMATING TABLES

Table 2

Position	Unit Cost for Workers: Basic Salaries ($/yr)	Overhead Rate (%)	Worker Cost/year
Supervisor	$52,800.00	24.4	$ 65,683.00
Foreman	$40,200.00	24.4	$ 50,009.00
Craftsman	$41,600.00	25	$ 52,000.00
Technician	$30,000.00	280	$ 84,000.00
Health Physicist	$60,000.00	280	$168,000.00
Laborer	$24,960.00	10	$ 27,456.00
Clerical	$ 9,880.00	52.6	$ 15,077.00
Other -Equipment Operator	$41,600.00	25	$ 52,000.00

2. Decontamination and Dismantling of Radioactive Facility Components*

	No.	Dimensions		No.	Dimensions
Glove Boxes	0	(m^3)	Amount of Floor Space	0	(m^2)
Fume Hood	0	(m^3)	Ventilation Ductwork	0	(m)
Hot Cells	0	(m^3)	Amount of Wall Space	0	(m^2)
Lab Benches	0	(m)	Other		
Sink and Drain	0	(m)			

Table 3

Work Days

Task	Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total	Total Cost
1. Decon/Dismantle Major Components and/or Processing and Storage Tanks	None							
2. Decon/Dismantle Laboratories, Fume Hoods, Glove Boxes, Benches, etc.	None							

*Indicate whether component is to be decontaminated to unrestricted release levels or packaged and disposed of at a low-level waste site.

Table 3 (continued)

Task	Work Days: Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total	Total Cost
3. Decon/Dismantle Waste Areas	None							
- Radwaste Areas								
- Scrap Recovery Areas								
- Other								
4. Decon/Dismantle Service Facilities	5	22	22	22		56	127	$32,732
- Maintenance Shop								
- Decontamination Areas								
- Ventilation Systems								
- Other								
5. Decon/Dismantle Waste Treatment Facilities and Storage Areas on the Site (Including exhume and package contaminated soil and tailings, if any)	Outside Laboratory Analysis							$75,000
	350	700	700		2400	1400	5550	$1,077,055
- Fluoride Lagoons								
- Nitrate Lagoons								
- CaF2 Waste Recovery								
- Ground Water Restoration								
- Other								

Table 3 (continued)

Work Days

Task	Supervisor	Foreman	Technicians	H.P.	Craftsmen	Laborer	Total	Total Cost
6. Monitor for compliance, reclean and remonitor, if necessary	Outside Laboratory Fees							$25,000
	200		1400	200		1400	3200	$804,908
7. Other (e.g., contractor fees)	Consultant Oversight							$100,000

Table 4

Equipment/Supply	Quantity	Cost
Excavator	1	$ 60,000
Trucks	2	$ 60,000
Earthmover	1	$ 50,000
Sieve/Grid System	1	$120,000

3. Packaging, Shipping, and Disposal of Radioactive Wastes

Table 5

Waste Type	Volume (m^3)	No. of Containers	Type of Containers	Unit Cost of Container	Cost of Container
On Site Closure					
Total					

Table 6

Distance Shipped	_____	(miles)
Unit cost for shipment	_____	($/mile/truckload)
Additional charges		
Overweight	_____	($/mile)
Surcharges	_____	($/mile)

Waste Type	No. of Shipments	Unit Cost for Shipping	Distance Shipped	Surcharge	Transportation Cost
On Site Closure					
Total					

Table 7

Burial Charges	_____	($/m^3)
Surcharges		
Per container	_____	($)
Disposal	_____	($/m^3)

Waste Type	Burial Volume	Unit Cost of Burial	Surcharge	Burial Cost
On Site Closure				
Total				

4. Restoration of Contaminated Areas on Facility Ground

Table 8

Task	Supervisor	Work Days Foreman	~~H.P.~~ Craftsman	~~Clerical~~ Laborer	Total	Total Cost
Backfill and Restore Site	53	88	350	700	1191	$207,275
Soil & Seed						$90,000

5. Final Radiation Survey

Table 9

Task	Supervisor	Work Days Foreman	H.P.	Clerical	Total	Total Cost
Consultant/Contractor Bid						$100,000
Total (F-2 through F-5)						$2,701,970

6. Site Stabilization, Long-Term Surveillance (if applicable)

Table 10

Task	Work Days Supervisor	Foreman	H.P.	Clerical	Total	Total Cost
Surveillance, Security, etc.						$125,000
Leachate System						$150,000
Clayliner & Excavation						$175,000
Soil, Fill, Rock, etc.						$125,000
					Total (F-6)	$575,000

Subtotal	$3,815,328
Contingency @ 25%	$ 953,832
Total	$4,769,160

Attachment to Appendix F

We have chosen the on-site closure option for detailing decommissioning costs at this time. This does not imply that we have chosen this option for decommissioning or that we will not continue to investigate other options.

Data are presently being assembled from the site characterization study which will allow volumes of clean up to be better defined. The total volume of thorium containing slag used for this estimated was 14,150 cubic meters, the same volume used in the estimate submitted to Mr. John Austin, US NRC on August 31, 1994.

We are submitting a map of the site showing the location of the thorium pile. A map of the site delineating contamination will not be available until submittal of the Site Characterization Report.

We have listed lump sums in several areas where consultants will be used. These figures have been obtained from conversations with consultants to determine typical costs.

Site Characterization and Initial Survey - We have completed the site characterization. The site characterization report is in process and will be completed by January 20, 1995.

Labor Rates and Personnel - The listed labor rates and overhead percentages for in-house personnel are currently in effect at the Washington plant. Rates for the health physicist and technician were gathered from consultants. Craftsman rates for equipment operation, etc. were quoted by local contractors. The supervisor assigned to the project will have other duties not connected with the project. The foreman assigned to the project will be full time during excavation and packaging. The foreman will not be with the work crew(s) full time during backfill and restoration.

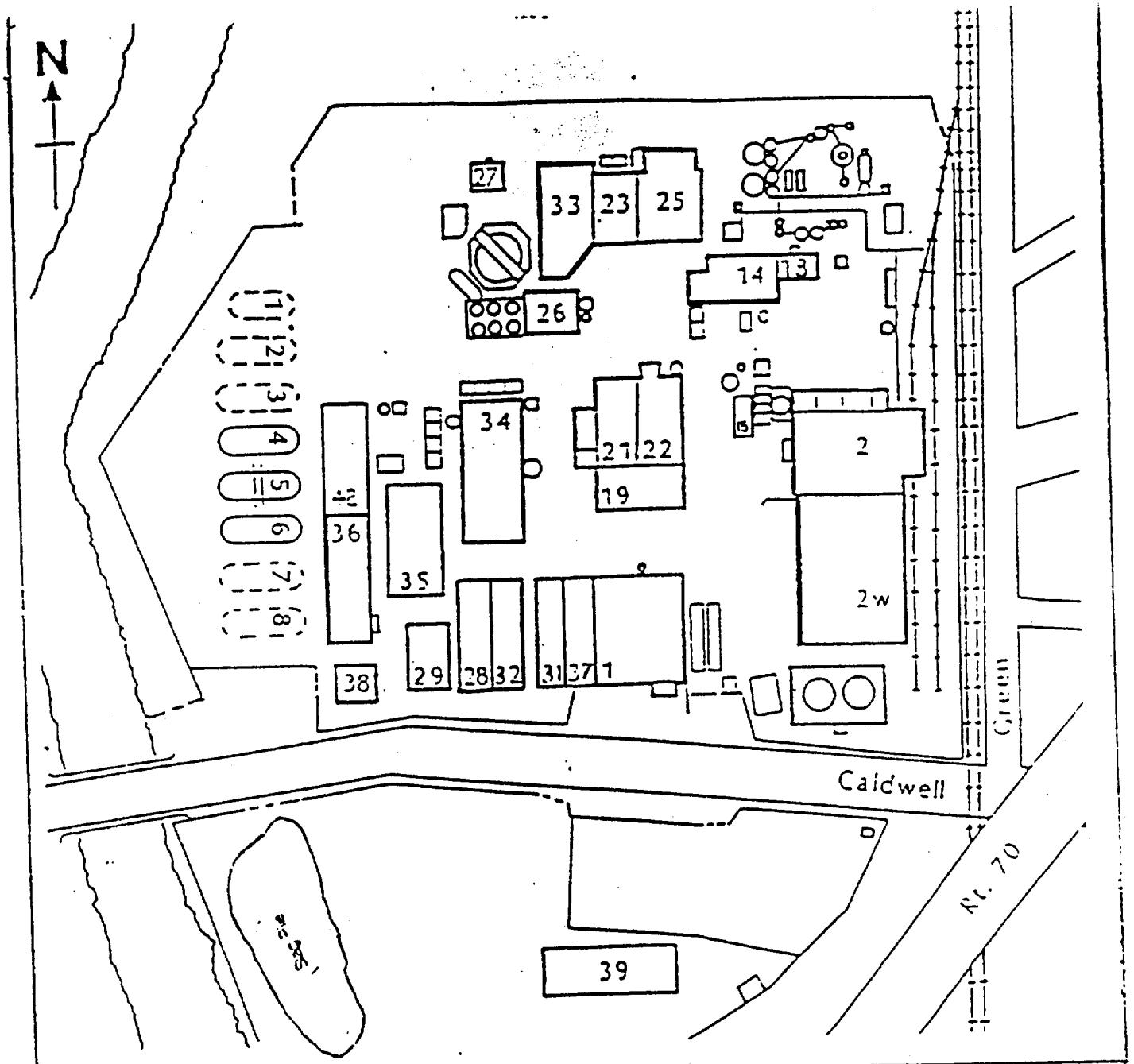
A work crew for excavation and packaging consists of a health physicist technician, three craftsman, and two laborers. A foreman could supervise up to three crews operating on site. Another crew for monitoring compliance (including on-site gamma spectroscopy) consists of a health physicist technician and a laborer. This crew is monitored by the supervisor of the project and a health physicist. The crew for backfilling and restoration includes two craftsmen and a laborer. This crew is monitored by a supervisor and a foreman. This crew will also be used to fill the on-site storage area.

Equipment and Materials - Equipment for excavation and restoration will be purchased used. The facility has a dump truck and a piece of excavation

equipment on site now. The facility has also purchased a computer based gamma spectrometry system for on-site soil analysis.

Final Radiation Survey - A site survey will be performed by contractor bid and will include surface surveys and soil sampling. The facility's gamma spectrometer will be used for the majority of the soil samples.

Surveillance, etc. - The on-site closure will be an underground clay lined structure capped with clay, fill, mulch, etc. This will include a leachate collection system and security measures such as lighting and fencing.



OVERALL SITE PLAN **NOT TO SCALE**

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MOLYCORP
Washington, Pennsylvania