

Molycorp, Inc.  
A Unocal Company  
Questa Division  
P.O. Box 469  
Questa, New Mexico 87556  
Telephone: (505) 586-0212



**RECEIVED**

**SEP 30 1998**

**GROUND WATER BUREAU**

**DELIVERED BY HAND**

September 30, 1998

Ms. Marcy Leavitt, Bureau Chief  
Ground Water Protection & Remediation Bureau  
State of New Mexico Environment Department  
Harold Runnels Building  
1190 St. Francis Drive  
Santa Fe, NM 87502

**RE: Discharge Plan 933. Quarterly Monitoring Report  
Third Quarter, 1998**

Dear Ms. Leavitt:

In compliance with the requirements and conditions set out in Discharge Plan 933, Molycorp hereby submits one copy of the quarterly monitoring report covering the third quarter of 1998.

The report consists of the following components:

**Attachment A**

Tabulation of ground water gauging and sampling results. Water samples from all active monitoring and extraction wells were analyzed for field parameters, general chemistry and metals. The Quality Control Summary Report is kept on file by Molycorp. Static water levels in all monitoring and extraction wells were measured monthly.

**Attachment B**

Analytical results on water samples taken from springs along the lower reaches of the Red River. Samples were analyzed for field parameters and general chemistry. Analysis for metals have not yet been completed, due to administrative delays caused by the acquisition of CDS Laboratories by another company (letter of explanation enclosed). Analysis report for metals will be submitted as soon as it becomes available.

**Attachment C**

Tabulation of piezometer readings taken in and around the tailings impoundment. A plan showing the location and water levels indicated by the piezometers, as well as the location and static water levels of the monitoring wells, is also attached.

**Attachment D**

Tabulation of tailings and water volumes discharged to the tailings impoundment. Discharge summaries for the entire second quarter and the third quarter, with the exception of the last three days of September, are enclosed.

Discharged waters are identified by their source on a percentage basis.

**Attachment E**

Tabulation of analytical results on a tailings water sample.

**Attachment F**

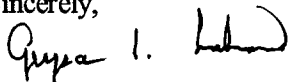
Chemical characterization of the solid fraction of tailings. The composite sample was analyzed for total metals and paste pH, and static and acid/base accounting tests were conducted as part of the sampling protocol.

**Attachment G**

Tabulation of pH of discharged waters, as measured at the mill site on a continual basis. Discharge water pH readings for the second and third quarters, with the exception of the last three days of September, are included.

Should you have any questions regarding this report, please contact me at (505) 586-7626.

Sincerely,



Geyza I. Lorinczi  
Environmental Manager

**Attachments**

xc: D. R. Shoemaker  
K. A. Potts, Streich Lang

**ATTACHMENT A**  
**GROUND WATER MONITORING WELLS**

**Molycorp, Inc**  
**Discharge Plan 933**  
**Quarterly Report, 3rd QTR. 1998**

**NM GROUNDWATER STANDARDS**

1000.00

600

250

1.6

SAMPLE NO.	SITE DESC.	COLLAR ELEV	DATE OF		PH	TDS	CONDUCT	SULFATE	C TEMP	CARBONATE	BI-		TOTAL	CHLORIDE	FLUORIDE
			PH	DATE							CARBONATE	HYDROXIDE	ALK		
1	EW-1		8/5/98		8	1070	1300	530	13	<2	157	<2	157	19	0.4
2	EW-2		8/6/98		7.7	230	360	50	12	<2	113	<2	113	5	0.5
3	EW-3		8/8/98		7.34	1200	1598	670	13.7	<2	137	<2	137	17	0.2
4	EW-4		8/6/98		7.56	1030	1300	530	13.1	<2	166	<2	166	18	0.3
5	MW-1		8/4/98		7.29	780	1020	390	12.3	<2	146	<2	146	11	0.4
6	MW-2		8/6/98		7.99	940	1944	590	13.3	<2	19	<2	19	15	0.7
7	MW-3		8/11/98		8.41	1480	1700	810	13.1	<2	180	<2	180	18	0.5
8	MW-4		8/11/98		7.9	520	300	220	13.1	<2	166	<2	166	4	0.7
9	MW-6		8/4/98		7.86	350	689	30	12.9	<2	279	<2	279		1
10	MW-7A		8/5/98		7.1	1540	862	890	12.8	<2	119	<2	119	15	0.2
11	MW-9A		8/11/98		PUMPED DRY										
12	MW-10		8/13/98		7.73	140	154	40	14.2	<2	71	<2	71	2	0.4
13	MW-11		8/4/98		8.06	390	798	180	18.7	<2	77	<2	77	11	1.1
14	MW-12		8/6/98		8	190	152.6	40	15.2	<2	114	<2	114	4	0.5
15	MW-A		8/5/98		7.14	1380	1193	760	13	<2	167	<2	167	15	0.4
16	MW-C		8/5/98		6.93	1920	646	1110	13.1	<2	194	<2	194	17	0.5
17	MW-7B		8/5/98		DRY										
18	MW-14		8/11/98		7.72	690	1020	320	14.9	<2	118	<2	118	26	0.4
19	MW-13		8/4/98		9.82	310	458	140	18.6	55	<2	2	58	12	0.9
20	EW-A		8/5/98		8	1710	1900	1010	12.2	<2	184	<2	184	16	1.5
21	EW-B		8/5/98		8	1520	1750	870	12.6	<2	197	<2	197	13	1.5
22	EW-C		8/5/98		8	1600	1800	940	12	<2	132	<2	132	17	0.2
23	EW-D		8/5/98		7.34	2070	2900	1200	13.2	<2	125	<2	125	17	0.2





ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19868-01**  
 Client Sample ID: **EW-1**  
 Client Project ID:  
 ACZ Report ID: **RG75732**

Molycorp. Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/17/98 00:00**  
 Date Received: **8/18/98**  
 Date Reported: **8/31/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/26/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/25/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/27/98	jb
Barium, dissolved	M200.7 ICP	0.026		mg/L	0.003	0.01	8/26/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/26/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/27/98	jb
Calcium, dissolved	M200.7 ICP	187		mg/L	0.2	1	8/26/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Copper, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/26/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Lead, dissolved	M239.2 GFAA	0.012		mg/L	0.001	0.005	8/21/98	jb
Magnesium, dissolved	M200.7 ICP	39.8		mg/L	0.2	1	8/26/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/26/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/31/98	bg
Molybdenum, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/26/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Potassium, dissolved	M200.7 ICP	3.6		mg/L	0.3	1	8/26/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride	0.001	B	mg/L	0.001	0.005	8/28/98	bg
Silicon, dissolved	Calculation based on SiO2	13.9		mg/L	0.1	0.5	8/26/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	42.3		mg/L	0.3	1	8/26/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/28/98	bg
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/26/98	kr
Zinc, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/26/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		157		mg/L	2	10	8/22/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/22/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/22/98	sts
Total Alkalinity		157		mg/L	2	10	8/22/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.7		%			8/31/98	calc
Sum of Anions		14.8		meq/L	0.1	0.5	8/31/98	calc
Sum of Cations		14.6		meq/L	0.1	0.5	8/31/98	calc

### Inorganic Qualifiers (based on EPA CLP 3:90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Lab Sample ID: **L19868-01**  
 Client Sample ID: **EW-1**  
 Client Project ID:  
 ACZ Report ID: **RG75732**

Date Sampled: **8/17/98 00:00**  
 Date Received: **8/18/98**  
 Date Reported: **8/31/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	19		mg/L	1	5	8/27/98	jl
Fluoride	M340.2 - ISE	0.4	B	mg/L	0.1	0.5	8/24/98	ct
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1070		mg/L	10	20	8/21/98	ct/cd
Sulfate	M375.3 - Gravimetric	530		mg/L	10	20	8/21/98	mh
TDS (calculated)	Calculation	916		mg/L	10	50	8/31/98	calc
TDS (ratio - measured/calculated)	Calculation	1.17					8/31/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19868-02**  
 Client Sample ID: **EW-2**  
 Client Project ID:  
 ACZ Report ID: **RG75733**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/17/98 00:00**  
 Date Received: **8/18/98**  
 Date Reported: **8/31/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/26/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/25/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/27/98	jb
Barium, dissolved	M200.7 ICP	0.072		mg/L	0.003	0.01	8/26/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/26/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/27/98	jb
Calcium, dissolved	M200.7 ICP	41.7		mg/L	0.2	1	8/26/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Copper, dissolved	M200.7 ICP	0.11		mg/L	0.01	0.05	8/26/98	kr
Iron, dissolved	M200.7 ICP	0.35		mg/L	0.01	0.05	8/26/98	kr
Lead, dissolved	M239.2 GFAA	0.067		mg/L	0.004	0.02	8/21/98	jb
Magnesium, dissolved	M200.7 ICP	7.3		mg/L	0.2	1	8/26/98	kr
Manganese, dissolved	M200.7 ICP	0.006	B	mg/L	0.005	0.03	8/26/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/31/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Potassium, dissolved	M200.7 ICP	3.3		mg/L	0.3	1	8/26/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/28/98	bg
Silicon, dissolved	Calculation based on SiO2	16.4		mg/L	0.1	0.5	8/26/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	12.1		mg/L	0.3	1	8/26/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/28/98	bg
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/26/98	kr
Zinc, dissolved	M200.7 ICP	4.24		mg/L	0.01	0.05	8/26/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		113		mg/L	2	10	8/22/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/22/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/22/98	sts
Total Alkalinity		113		mg/L	2	10	8/22/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		0.0		%			8/31/98	calc
Sum of Anions		3.4		meq/L	0.1	0.5	8/31/98	calc
Sum of Cations		3.4		meq/L	0.1	0.5	8/31/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19868-02*  
 Client Sample ID: *EW-2*  
 Client Project ID:  
 ACZ Report ID: *RG75733*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/17/98 00:00*  
 Date Received: *8/18/98*  
 Date Reported: *8/31/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	5	mg/L	1	5	8/27/98	jl
Fluoride	M340.2 - ISE	0.5	mg/L	0.1	0.5	8/24/98	ct
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	230	mg/L	10	20	8/21/98	ct/cd
Sulfate	M375.3 - Gravimetric	50	mg/L	10	20	8/21/98	mh
TDS (calculated)	Calculation	192	mg/L	10	50	8/31/98	calc
TDS (ratio - measured/calculated)	Calculation	1.20				8/31/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

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B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RVP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19868-03**  
 Client Sample ID: **EW-D**  
 Client Project ID:  
 ACZ Report ID: **RG75734**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/17/98 00:00**  
 Date Received: **8/18/98**  
 Date Reported: **8/31/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	0.43		mg/L	0.06	0.3	8/26/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/31/98	bg
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/27/98	jb
Barium, dissolved	M200.7 ICP	0.021		mg/L	0.006	0.02	8/26/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.004	0.02	8/26/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/27/98	jb
Calcium, dissolved	M200.7 ICP	356		mg/L	0.4	2	8/26/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.02	0.1	8/26/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.02	0.1	8/26/98	kr
Copper, dissolved	M200.7 ICP	0.03	B	mg/L	0.02	0.1	8/26/98	kr
Iron, dissolved	M200.7 ICP	0.51		mg/L	0.02	0.1	8/26/98	kr
Lead, dissolved	M239.2 GFAA	0.006		mg/L	0.001	0.005	8/21/98	jb
Magnesium, dissolved	M200.7 ICP	70.8		mg/L	0.4	2	8/26/98	kr
Manganese, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/26/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/31/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.02	0.1	8/26/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.02	0.1	8/26/98	kr
Potassium, dissolved	M200.7 ICP	2.9		mg/L	0.6	2	8/26/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/28/98	bg
Silicon, dissolved	Calculation based on SiO2	12.4		mg/L	0.2	1	8/26/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	94.1		mg/L	0.6	2	8/26/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.01	0.05	8/29/98	bg
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/26/98	kr
Zinc, dissolved	M200.7 ICP	0.07	B	mg/L	0.02	0.1	8/26/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		125		mg/L	2	10	8/22/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/22/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/22/98	sts
Total Alkalinity		125		mg/L	2	10	8/22/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.5		%			8/31/98	calc
Sum of Anions		28.2		meq/L	0.1	0.5	8/31/98	calc
Sum of Cations		27.9		meq/L	0.1	0.5	8/31/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19868-03**  
 Client Sample ID: **EW-D**  
 Client Project ID:  
 ACZ Report ID: **RG75734**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/17/98 00:00**  
 Date Received: **8/18/98**  
 Date Reported: **8/31/98**

Sample Matrix: **Ground Water**

Chloride	M325.2 - Colorimetric (RFA)	17	mg/L	1	5	8/27/98	jl
Fluoride	M340.2 - ISE	0.2	B mg/L	0.1	0.5	8/24/98	ct
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2070	mg/L	10	20	8/21/98	ct/cd
Sulfate	M375.3 - Gravimetric	1200	mg/L	10	20	8/21/98	mh
TDS (calculated)	Calculation	1820	mg/L	10	50	8/31/98	calc
TDS (ratio - measured/calculated)	Calculation	1.14				8/31/98	calc

**Note: The Thallium analysis was performed using method of standard additions.**

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

*RWP*  
 Vice President of Operations: Ralph Poulsen



**Analytical Results**

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19921-01**  
 Client Sample ID: **MW-10**  
 Client Project ID:  
 ACZ Report ID: **RG76027**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/19/98 00:00**  
 Date Received: **8/20/98**  
 Date Reported: **9/9/98**

Sample Matrix: **Ground Water**

**Metals Analysis**

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/28/98	EG
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	9/2/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	9/2/98	jb
Barium, dissolved	M200.7 ICP	0.032		mg/L	0.003	0.01	8/28/98	EG
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/28/98	EG
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	9/3/98	jb
Calcium, dissolved	M200.7 ICP	26.2		mg/L	0.2	1	8/28/98	EG
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/28/98	bg
Magnesium, dissolved	M200.7 ICP	4.1		mg/L	0.2	1	8/28/98	EG
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/28/98	EG
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	9/2/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG
Potassium, dissolved	M200.7 ICP	0.9	B	mg/L	0.3	1	8/28/98	EG
Selenium, dissolved	SM 3500-Sc C, AA-Hydride		U	mg/L	0.001	0.005	8/31/98	bg
Silicon, dissolved	Calculation based on SiO2	11.5		mg/L	0.1	0.5	8/28/98	EG
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	9/3/98	jb
Sodium, dissolved	M200.7 ICP	13.9		mg/L	0.3	1	8/28/98	EG
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	9/2/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/28/98	EG
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/28/98	EG

**Wet Chemistry**

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B	71		mg/L	2	10	8/27/98	sts
Bicarbonate as CaCO3			U	mg/L	2	10	8/27/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/27/98	sts
Hydroxide as CaCO3				mg/L	2	10	8/27/98	sts
Total Alkalinity		71		mg/L	2	10	8/27/98	sts
Cation-Anion Balance	Calculation	-2.2		%			9/9/98	calc
Cation-Anion Balance		2.3		meq/L	0.1	0.5	9/9/98	calc
Sum of Anions		2.2		meq/L	0.1	0.5	9/9/98	calc
Sum of Cations								

**Inorganic Qualifiers (based on EPA CLP 3'90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

*S. Hagemehl for*  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19921-01**  
 Client Sample ID: **MW-10**  
 Client Project ID:  
 ACZ Report ID: **RG76027**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/19/98 00:00**  
 Date Received: **8/20/98**  
 Date Reported: **9/9/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	2	B	mg/L	1	5	9/5/98	ss
Fluoride	M340.2 - ISE	0.4	B	mg/L	0.1	0.5	8/26/98	cd
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	140		mg/L	10	20	8/24/98	cd
Sulfate	M375.3 - Gravimetric	40		mg/L	10	20	9/4/98	mh
TDS (calculated)	Calculation	130		mg/L	10	50	9/9/98	calc
TDS (ratio - measured/calculated)	Calculation	1.08					9/9/98	calc

Inorganic Qualifiers (based on EPA CIP 3.901)  
 U = Analyte was analyzed for but not detected at the indicated MDL  
 H = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

*S.H.*  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19727-01**  
 Client Sample ID: **EW-3**  
 Client Project ID:  
 ACZ Report ID: **RG74705**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/6/98 00:00**  
 Date Received: **8/7/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/14/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.038		mg/L	0.003	0.01	8/14/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/14/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	209		mg/L	0.2	1	8/14/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Copper, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/14/98	kr
Iron, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/14/98	kr
Lead, dissolved	M239.2 GFAA	0.006		mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	40.0		mg/L	0.2	1	8/14/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/14/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.14		mg/L	0.01	0.05	8/14/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Potassium, dissolved	M200.7 ICP	2.7		mg/L	0.3	1	8/14/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride	0.001	B	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	11.7		mg/L	0.1	0.5	8/14/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	46.0		mg/L	0.3	1	8/14/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/14/98	kr
Zinc, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/14/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		137		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		137		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-4.5		%			8/21/98	calc
Sum of Anions		17.3		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		15.8		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19727-01*  
 Client Sample ID: *EW-3*  
 Client Project ID:  
 ACZ Report ID: *RG74705*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/6/98 00:00*  
 Date Received: *8/7/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	17		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.2	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @ 180C	M160.1 - Gravimetric	1200		mg/L	10	20	8/10/98	cd/ss
Sulfate	M375.3 - Gravimetric	670		mg/L	10	20	8/10/98	cd
TDS (calculated)	Calculation	1070		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.12					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RVP*

Vice President of Operations: Ralph Poulsen



ACZ Laboratories, Inc.  
30400 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: **L19727-02**  
Client Sample ID: **EW-4**  
Client Project ID:  
ACZ Report ID: **RG74706**

Molycorp, Inc.  
P.O. Box 469 Hwy. 38  
Questa, NM 87556  
Fred Martinez

Date Sampled: **8/6/98 00:00**  
Date Received: **8/7/98**  
Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	0.07	B	mg/L	0.03	0.2	8/14/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.068		mg/L	0.003	0.01	8/14/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/14/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	177		mg/L	0.2	1	8/14/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Copper, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/14/98	kr
Iron, dissolved	M200.7 ICP	0.14		mg/L	0.01	0.05	8/14/98	kr
Lead, dissolved	M239.2 GFAA	0.016		mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	34.1		mg/L	0.2	1	8/14/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/14/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.60		mg/L	0.01	0.05	8/14/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/14/98	kr
Potassium, dissolved	M200.7 ICP	2.2		mg/L	0.3	1	8/14/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	11.8		mg/L	0.1	0.5	8/14/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	49.6		mg/L	0.3	1	8/14/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/14/98	kr
Zinc, dissolved	M200.7 ICP	0.04	B	mg/L	0.01	0.05	8/14/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		166		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		166		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-3.8		%			8/21/98	calc
Sum of Anions		15.0		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		13.9		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19727-02*  
 Client Sample ID: *EW-4*  
 Client Project ID:  
 ACZ Report ID: *RG74706*

Molycorp. Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/6/98 00:00*  
 Date Received: *8/7/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	18		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.3	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1030		mg/L	10	20	8/10/98	cd/mh
Sulfate	M375.3 - Gravimetric	530		mg/L	10	20	8/10/98	cd
TDS (calculated)	Calculation	911		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.13					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RVP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19727-03**  
 Client Sample ID: **MW-2**  
 Client Project ID:  
 ACZ Report ID: **RG74707**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/6/98 00:00**  
 Date Received: **8/7/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/17/98	gg
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.027		mg/L	0.003	0.01	8/17/98	gg
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/17/98	gg
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	146		mg/L	0.2	1	8/17/98	gg
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Iron, dissolved	M200.7 ICP	0.67		mg/L	0.01	0.05	8/17/98	gg
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	37.6		mg/L	0.2	1	8/17/98	gg
Manganese, dissolved	M200.7 ICP	0.375		mg/L	0.005	0.03	8/17/98	gg
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.17		mg/L	0.01	0.05	8/18/98	gg
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Potassium, dissolved	M200.7 ICP	2.9		mg/L	0.3	1	8/17/98	gg
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	0.2	B	mg/L	0.1	0.5	8/17/98	gg
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	80.8		mg/L	0.3	1	8/17/98	gg
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/17/98	gg
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		19		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		19		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		3.3		%			8/21/98	calc
Sum of Anions		13.2		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		14.1		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19727-03*  
 Client Sample ID: *MW-2*  
 Client Project ID:  
 ACZ Report ID: *RG74707*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/6/98 00:00*  
 Date Received: *8/7/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	15	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.7	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	940	mg/L	10	20	8/10/98	cd/mh
Sulfate	M375.3 - Gravimetric	590	mg/L	10	20	8/10/98	cd
TDS (calculated)	Calculation	885	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.06				8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
30400 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: L19727-04  
Client Sample ID: MW-12  
Client Project ID:  
ACZ Report ID: RG74708

Molycorp, Inc.  
P.O. Box 469 Hwy. 38  
Questa, NM 87556  
Fred Martinez

Date Sampled: 8/6/98 00:00  
Date Received: 8/7/98  
Date Reported: 8/21/98

Sample Matrix: Ground Water

## Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/17/98	gg
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.069		mg/L	0.003	0.01	8/17/98	gg
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/17/98	gg
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	39.6		mg/L	0.2	1	8/17/98	gg
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Iron, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/17/98	gg
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	7.2		mg/L	0.2	1	8/17/98	gg
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/17/98	gg
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/18/98	gg
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg
Potassium, dissolved	M200.7 ICP	2.2		mg/L	0.3	1	8/17/98	gg
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	15.1		mg/L	0.1	0.5	8/17/98	gg
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	14.9		mg/L	0.3	1	8/17/98	gg
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/17/98	gg
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/17/98	gg

## Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		114		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		114		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		0.0		%			8/21/98	calc
Sum of Anions		3.2		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		3.2		meq/L	0.1	0.5	8/21/98	calc

## Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19727-04*  
 Client Sample ID: *MW-12*  
 Client Project ID:  
 ACZ Report ID: *RG74708*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/6/98 00:00*  
 Date Received: *8/7/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	4	B	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.5		mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	190		mg/L	10	20	8/10/98	cd/mh
Sulfate	M375.3 - Gravimetric	40		mg/L	10	20	8/10/98	cd
TDS (calculated)	Calculation	177		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.07					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19800-01**  
 Client Sample ID: **MW-3**  
 Client Project ID:  
 ACZ Report ID: **RG75552**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/11/98 00:00**  
 Date Received: **8/13/98**  
 Date Reported: **8/27/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/24/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/25/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/26/98	jb
Barium, dissolved	M200.7 ICP	0.029		mg/L	0.003	0.01	8/24/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/24/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/15/98	jb
Calcium, dissolved	M200.7 ICP	253		mg/L	0.2	1	8/24/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Iron, dissolved	M200.7 ICP	0.11		mg/L	0.01	0.05	8/24/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/15/98	jb
Magnesium, dissolved	M200.7 ICP	49.6		mg/L	0.2	1	8/24/98	kr
Manganese, dissolved	M200.7 ICP	0.020	B	mg/L	0.005	0.03	8/24/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/18/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Potassium, dissolved	M200.7 ICP	1.5		mg/L	0.3	1	8/24/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	10.7		mg/L	0.1	0.5	8/24/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	76.9		mg/L	0.3	1	8/24/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/24/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		180		mg/L	2	10	8/15/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/15/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/15/98	sts
Total Alkalinity		180		mg/L	2	10	8/15/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-2.4		%			8/27/98	calc
Sum of Anions		21.1		meq/L	0.1	0.5	8/27/98	calc
Sum of Cations		20.1		meq/L	0.1	0.5	8/27/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19800-01**  
 Client Sample ID: **MW-3**  
 Client Project ID:  
 ACZ Report ID: **RG75552**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/11/98 00:00**  
 Date Received: **8/13/98**  
 Date Reported: **8/27/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	18	mg/L	1	5	8/14/98	jl
Fluoride	M340.2 - ISE	0.5	mg/L	0.1	0.5	8/19/98	cd
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1480	mg/L	10	20	8/15/98	ss/cd
Sulfate	M375.3 - Gravimetric	810	mg/L	10	20	8/17/98	mh/ct
TDS (calculated)	Calculation	1320	mg/L	10	50	8/27/98	calc
TDS (ratio - measured/calculated)	Calculation	1.12				8/27/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen



ACZ Laboratories, Inc.  
30400 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: **L19800-03**  
Client Sample ID: **MW-4**  
Client Project ID:  
ACZ Report ID: **RG75554**

Molycorp, Inc.  
P.O. Box 469 Hwy. 38  
Questa, NM 87556  
Fred Martinez

Date Sampled: **8/11/98 00:00**  
Date Received: **8/13/98**  
Date Reported: **8/27/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/24/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/25/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/26/98	jb
Barium, dissolved	M200.7 ICP	0.039		mg/L	0.003	0.01	8/24/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/24/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Calcium, dissolved	M200.7 ICP	88.7		mg/L	0.2	1	8/24/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/21/98	jb
Magnesium, dissolved	M200.7 ICP	18.8		mg/L	0.2	1	8/24/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/24/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/18/98	bg
Molybdenum, dissolved	M200.7 ICP	0.35		mg/L	0.01	0.05	8/24/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Potassium, dissolved	M200.7 ICP	1.0		mg/L	0.3	1	8/24/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	10.4		mg/L	0.1	0.5	8/24/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	53.1		mg/L	0.3	1	8/24/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/24/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		166		mg/L	2	10	8/15/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/15/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/15/98	sts
Total Alkalinity		166		mg/L	2	10	8/15/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		1.8		%			8/27/98	calc
Sum of Anions		8.0		meq/L	0.1	0.5	8/27/98	calc
Sum of Cations		8.3		meq/L	0.1	0.5	8/27/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19800-03*  
 Client Sample ID: *MW-4*  
 Client Project ID:  
 ACZ Report ID: *RG75554*

Molycorp. Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/11/98 00:00*  
 Date Received: *8/13/98*  
 Date Reported: *8/27/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	4	B	mg/L	1	5	8/14/98	jl
Fluoride	M340.2 - ISE	0.7		mg/L	0.1	0.5	8/19/98	cd
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	520		mg/L	10	20	8/15/98	ss/cd
Sulfate	M375.3 - Gravimetric	220		mg/L	10	20	8/17/98	mh/ct
TDS (calculated)	Calculation	486		mg/L	10	50	8/27/98	calc
TDS (ratio - measured/calculated)	Calculation	1.07					8/27/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RVP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19800-02**  
 Client Sample ID: **MW-14**  
 Client Project ID:  
 ACZ Report ID: **RG75553**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/11/98 00:00**  
 Date Received: **8/13/98**  
 Date Reported: **8/27/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/24/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/25/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/26/98	jb
Barium, dissolved	M200.7 ICP	0.078		mg/L	0.003	0.01	8/24/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/24/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/15/98	jb
Calcium, dissolved	M200.7 ICP	111		mg/L	0.2	1	8/24/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Iron, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/24/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/21/98	jb
Magnesium, dissolved	M200.7 ICP	22.0		mg/L	0.2	1	8/24/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/24/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/18/98	bg
Molybdenum, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr
Potassium, dissolved	M200.7 ICP	1.4		mg/L	0.3	1	8/24/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride	0.003	B	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	11.8		mg/L	0.1	0.5	8/24/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/21/98	jb
Sodium, dissolved	M200.7 ICP	48.9		mg/L	0.3	1	8/24/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/24/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/24/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		118		mg/L	2	10	8/15/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/15/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/15/98	sts
Total Alkalinity		118		mg/L	2	10	8/15/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-1.6		%			8/27/98	calc
Sum of Anions		9.8		meq/L	0.1	0.5	8/27/98	calc
Sum of Cations		9.5		meq/L	0.1	0.5	8/27/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19800-02**  
 Client Sample ID: **MW-14**  
 Client Project ID:  
 ACZ Report ID: **RG75553**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/11/98 00:00**  
 Date Received: **8/13/98**  
 Date Reported: **8/27/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	26		mg/L	1	5	8/14/98	jl
Fluoride	M340.2 - ISE	0.4	B	mg/L	0.1	0.5	8/19/98	cd
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	690		mg/L	10	20	8/15/98	ss/cd
Sulfate	M375.3 - Gravimetric	320		mg/L	10	20	8/17/98	mh/ct
TDS (calculated)	Calculation	601		mg/L	10	50	8/27/98	calc
TDS (ratio - measured/calculated)	Calculation	1.15					8/27/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RWP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-01**  
 Client Sample ID: **MW-1**  
 Client Project ID:  
 ACZ Report ID: **RG74598**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.019		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	132		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	27.5		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP	0.006	B	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.05		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	2.2		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C. AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	12.6		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	45.1		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		146		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		146		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-2.2		%			8/21/98	calc
Sum of Anions		11.4		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		10.9		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-01**  
 Client Sample ID: **MW-1**  
 Client Project ID:  
 ACZ Report ID: **RG74598**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	11		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.4	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	780		mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	390		mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	696		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.12					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **LI9718-02**  
 Client Sample ID: **MW-6**  
 Client Project ID:  
 ACZ Report ID: **RG74599**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.051		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	66.6		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.04	B	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	19.3		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP	0.015	B	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.03	B	mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	1.2		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	10.9		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	34.3		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		279		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		279		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		1.6		%			8/21/98	calc
Sum of Anions		6.2		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		6.4		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3-90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19718-02*  
 Client Sample ID: *MW-6*  
 Client Project ID:  
 ACZ Report ID: *RG74599*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/4/98 00:00*  
 Date Received: *8/6/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	U	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	1.0	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	350	mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	30	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	320	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.09				8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen



ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-10**  
 Client Sample ID: **MW7A**  
 Client Project ID:  
 ACZ Report ID: **RG74607**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.023		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	281		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	52.7		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	2.7		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	12.4		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	55.0		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		119		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		119		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-1.4		%			8/21/98	calc
Sum of Anions		21.5		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		20.9		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-10**  
 Client Sample ID: **MW7A**  
 Client Project ID:  
 ACZ Report ID: **RG74607**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez


Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	15		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.2	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1540		mg/L	10	20	8/10/98	cd/ss
Sulfate	M375.3 - Gravimetric	890		mg/L	10	20	8/10/98	cd
TDS (calculated)	Calculation	1370		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.13					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3.90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-03**  
 Client Sample ID: **MW-11**  
 Client Project ID:  
 ACZ Report ID: **RG74600**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.026		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	53.0		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	15.9		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.28		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	3.6		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	15.6		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	35.0		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP	0.006	B	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		77		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		77		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.9		%			8/21/98	calc
Sum of Anions		5.6		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		5.5		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19718-03*  
 Client Sample ID: *MW-11*  
 Client Project ID:  
 ACZ Report ID: *RG74600*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/4/98 00:00*  
 Date Received: *8/6/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	11	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	1.1	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	390	mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	180	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	346	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.13				8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

*RAP*  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-08**  
 Client Sample ID: **MW-A**  
 Client Project ID:  
 ACZ Report ID: **RG74605**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis


Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.033		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	258		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.03	B	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	46.1		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP	0.111		mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.89		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	2.8		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C. AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	11.0		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	63.2		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		167		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		167		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.5		%			8/21/98	calc
Sum of Anions		19.7		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		19.5		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19718-08*  
 Client Sample ID: *MW-A*  
 Client Project ID:  
 ACZ Report ID: *RG74605*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/4/98 00:00*  
 Date Received: *8/6/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	15		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.4	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1360		mg/L	10	20	8/10/98	cd/ss
Sulfate	M375.3 - Gravimetric	760		mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	1250		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.09					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RPP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-09**  
 Client Sample ID: **MW-C**  
 Client Project ID:  
 ACZ Report ID: **RG74606**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.039		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	bg
Calcium, dissolved	M200.7 ICP	354		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	65.6		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.49		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	1.7		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/17/98	bg
Silicon, dissolved	Calculation based on SiO2	12.3		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/11/98	jb
Sodium, dissolved	M200.7 ICP	93.0		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		194		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		194		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.9		%			8/21/98	calc
Sum of Anions		27.7		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		27.2		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: *L19718-09*  
 Client Sample ID: *MW-C*  
 Client Project ID:  
 ACZ Report ID: *RG74606*

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: *8/4/98 00:00*  
 Date Received: *8/6/98*  
 Date Reported: *8/21/98*

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	17	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.5	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1920	mg/L	10	20	8/10/98	cd/ss
Sulfate	M375.3 - Gravimetric	1110	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	1760	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.09				8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
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Lab Sample ID: **L19718-04**  
 Client Sample ID: **MW-13**  
 Client Project ID:  
 ACZ Report ID: **RG74601**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	0.14	B	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.015		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	31.5		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA		U	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	4.6		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.14		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	8.3		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	16.4		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	46.2		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP	0.009	B	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry


Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Carbonate as CaCO3		55		mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3		2	B	mg/L	2	10	8/8/98	sts
Total Alkalinity		58		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-2.3		%			8/21/98	calc
Sum of Anions		4.4		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		4.2		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3:90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

  
 Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-04**  
 Client Sample ID: **MW-13**  
 Client Project ID:  
 ACZ Report ID: **RG74601**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

Chloride	M325.2 - Colorimetric (RFA)	12	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.9	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	310	mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	140	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	301	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.03				8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

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PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
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Lab Sample ID: **L19718-05**  
 Client Sample ID: **EW-A**  
 Client Project ID:  
 ACZ Report ID: **RG74602**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

## Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.026		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	296		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA	0.004	B	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	49.9		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP	0.991		mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	2.68		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	3.2		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	10.0		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	102		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP	0.02	B	mg/L	0.01	0.05	8/13/98	kr

## Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		184		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		184		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-3.9		%			8/21/98	calc
Sum of Anions		25.4		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		23.5		meq/L	0.1	0.5	8/21/98	calc

## Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL

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PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-05**  
 Client Sample ID: **EW-A**  
 Client Project ID:  
 ACZ Report ID: **RG74602**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	16	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	1.5	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1710	mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	1010	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	1590	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.08				8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

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B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

*RVP*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
30400 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: **L19718-06**  
Client Sample ID: **EW-B**  
Client Project ID:  
ACZ Report ID: **RG74603**

Molycorp, Inc.  
P.O. Box 469 Hwy. 38  
Questa, NM 87556  
Fred Martinez

Date Sampled: **8/4/98 00:00**  
Date Received: **8/6/98**  
Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

## Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	0.08	B	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.028		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	271		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.11		mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA	0.001	B	mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	46.3		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP	2.500		mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	1.96		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	3.9		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	9.8		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	92.2		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr

## Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		197		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		197		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-2.3		%			8/21/98	calc
Sum of Anions		22.7		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		21.7		meq/L	0.1	0.5	8/21/98	calc

## Inorganic Qualifiers (based on EPA CLP 3-90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
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 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-06**  
 Client Sample ID: **EW-B**  
 Client Project ID:  
 ACZ Report ID: **RG74603**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	13	mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	1.5	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1520	mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	870	mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	1420	mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.07				8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3:90)

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
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 (800) 334-5493

Lab Sample ID: **L19718-07**  
 Client Sample ID: **EW-C**  
 Client Project ID:  
 ACZ Report ID: **RG74604**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: **Ground Water**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U	mg/L	0.03	0.2	8/13/98	kr
Antimony, dissolved	M204.2 GFAA		U	mg/L	0.002	0.01	8/15/98	jb
Arsenic, dissolved	M206.2 GFAA		U	mg/L	0.001	0.005	8/19/98	jb
Barium, dissolved	M200.7 ICP	0.017		mg/L	0.003	0.01	8/13/98	kr
Beryllium, dissolved	M200.7 ICP		U	mg/L	0.002	0.01	8/13/98	kr
Cadmium, dissolved	M213.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Calcium, dissolved	M200.7 ICP	287		mg/L	0.2	1	8/13/98	kr
Chromium, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Cobalt, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Copper, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Iron, dissolved	M200.7 ICP	0.14		mg/L	0.01	0.05	8/13/98	kr
Lead, dissolved	M239.2 GFAA	0.009		mg/L	0.001	0.005	8/13/98	jb
Magnesium, dissolved	M200.7 ICP	52.7		mg/L	0.2	1	8/13/98	kr
Manganese, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Mercury, dissolved	M245.1 CVAA		U	mg/L	0.0002	0.001	8/12/98	bg
Molybdenum, dissolved	M200.7 ICP	0.18		mg/L	0.01	0.05	8/13/98	kr
Nickel, dissolved	M200.7 ICP		U	mg/L	0.01	0.05	8/13/98	kr
Potassium, dissolved	M200.7 ICP	2.7		mg/L	0.3	1	8/13/98	kr
Selenium, dissolved	SM 3500-Se C, AA-Hydride		U	mg/L	0.001	0.005	8/10/98	bg
Silicon, dissolved	Calculation based on SiO2	11.3		mg/L	0.1	0.5	8/13/98	kr
Silver, dissolved	M272.2 GFAA		U	mg/L	0.0005	0.003	8/7/98	jb
Sodium, dissolved	M200.7 ICP	64.6		mg/L	0.3	1	8/13/98	kr
Thallium, dissolved	M279.2 GFAA		U	mg/L	0.002	0.01	8/20/98	jb
Vanadium, dissolved	M200.7 ICP		U	mg/L	0.005	0.03	8/13/98	kr
Zinc, dissolved	M200.7 ICP	0.01	B	mg/L	0.01	0.05	8/13/98	kr

### Wet Chemistry

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	M2320B							
Bicarbonate as CaCO3		132		mg/L	2	10	8/8/98	sts
Carbonate as CaCO3			U	mg/L	2	10	8/8/98	sts
Hydroxide as CaCO3			U	mg/L	2	10	8/8/98	sts
Total Alkalinity		132		mg/L	2	10	8/8/98	sts
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-2.9		%			8/21/98	calc
Sum of Anions		22.9		meq/L	0.1	0.5	8/21/98	calc
Sum of Cations		21.6		meq/L	0.1	0.5	8/21/98	calc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit

*RVPoulsen*

Vice President of Operations: Ralph Poulsen

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19718-07**  
 Client Sample ID: **EW-C**  
 Client Project ID:  
 ACZ Report ID: **RG74604**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Fred Martinez

Date Sampled: **8/4/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/21/98**

Sample Matrix: *Ground Water*

Chloride	M325.2 - Colorimetric (RFA)	17		mg/L	1	5	8/12/98	jl
Fluoride	M340.2 - ISE	0.2	B	mg/L	0.1	0.5	8/13/98	mh
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1600		mg/L	10	20	8/7/98	ss/cd
Sulfate	M375.3 - Gravimetric	940		mg/L	10	20	8/7/98	sts
TDS (calculated)	Calculation	1440		mg/L	10	50	8/21/98	calc
TDS (ratio - measured/calculated)	Calculation	1.11					8/21/98	calc

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen



# SAMPLE RECEIPT FORM

CLIENT: Molyaas  
PROJECT #: L19217

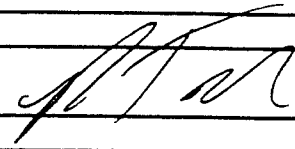
DATE AUG 07 1998

1) Does this project require special handling procedures such as CLP protocol?	<u>NA</u>	YES	NO
2) Are the custody seals on the cooler intact?	<u>NA</u>	YES	NO
3) Are the custody seals on the sample containers intact?	<u>NA</u>	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<u>YES</u>	NO
5) Is the COC complete? Relinquished? Yes ___ No ___ Requested Analysis? Yes ___ No ___		<u>YES</u>	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___ Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___ # of Containers: Yes ___ No ___		<u>YES</u>	NO
7) Is there enough sample for all requested analysis?		<u>YES</u>	NO
8) Are all samples within holding times for requested analysis?		<u>YES</u>	NO
9) Were all sample containers received intact?		<u>YES</u>	NO
10) Are samples requiring no headspace, headspace free?	<u>NA</u>	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<u>NO</u>
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___ Hazardous: Yes ___ No ___ Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Was the client contacted? Yes \_\_\_ No \_\_\_  
If yes: Date: \_\_\_\_\_ Name of person contacted: \_\_\_\_\_

Actions taken or client instructions:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: 



**CHAIN OF CUSTODY RECORD**

Laboratory Sample numbers

2107/18

COC #

Name to Appear on Report and Invoice:

cc: (Report) - (Invoice) to: (circle one or both)

Molycorp Inc  
 Hwy 38 PO Box 4169  
 Questa Nev 89556

Attn: Fred Martiner

Tel: 505-216-1673

Tel:

Project or P.O. #

**ANALYSES REQUESTED**

**REMARKS**

Standard T.A.T

Shipped Via:  FED X  UPS  Hand  Other

SAMPLE IDENTIFICATION DATE TIME Sample Matrix

# of CONTAINERS

Bi Carbonate	Carbonate	Hydroxide	Fluoride	Cl <sup>-</sup>	Sulfate	Ag	Al	As	Ba	Be	Ca	Co	Cr	Cu	Fe	Hg	K	Mn	Mo	Na	Ni	Pb	Se	Si	Tl	V	Zn
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

\* Matrix Options: SW (Surface water) • GW (Ground water) • WW (Wastewater) • DW (Drinking water) • SL (Sludge) • SOIL • OIL • Other (Specify)

**COMMENTS**

**SAMPLE DISPOSAL OPTIONS - Please complete section A, or choose one option from sections B AND C.**

Proper charges will be assessed.

(A) Long-term storage  
 Hold until N/A (date)  
 for future analysis.

(B) If Sample is Non-Hazardous  
 1) Local Disposal  
 2) RCRA - Permitted Facility  
 3) Return to Client

(C) If Sample is Hazardous  
 1) RCRA-Permitted Facility  
 2) Return to Client

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

DATE

TIME

PAGE #

Gail E. Enger

8/5/98

—

Fred Ex drop-off  
 [Signature]

[Signature]

1  
 OF  
 1

## SAMPLE RECEIPT FORM

CLIENT: MCLV  
 PROJECT #: L19863

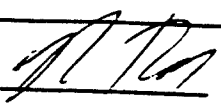
DATE 8/18/04

1) Does this project require special handling procedures such as CLP protocol?	<del>NA</del>	YES	NO
2) Are the custody seals on the cooler intact?	<del>NA</del>	YES	NO
3) Are the custody seals on the sample containers intact?	<del>NA</del>	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<del>YES</del>	NO
5) Is the COC complete? Relinquished? Yes ___ No ___      Requested Analysis? Yes ___ No ___		<del>YES</del>	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___      Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___      # of Containers: Yes ___ No ___		<del>YES</del>	NO
7) Is there enough sample for all requested analysis?		<del>YES</del>	NO
8) Are all samples within holding times for requested analysis?		<del>YES</del>	NO
9) Were all sample containers received intact?		<del>YES</del>	NO
10) Are samples requiring no headspace, headspace free?	<del>NA</del>	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<del>NO</del>
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___      Hazardous: Yes ___ No ___      Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Was the client contacted? Yes \_\_\_ No \_\_\_  
 If yes:      Date: \_\_\_\_\_      Name of person contacted: \_\_\_\_\_

Actions taken or client instructions:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: 



**CHAIN OF CUSTODY RECORD**

Laboratory Sample Numbers

2/1/98

COC #

Name to Appear on Report and Invoice:

cc: (Report) - (Invoice) to: (circle one or both)

MOLYCORP Inc  
Hwy 385 P.O. Box 469  
Questa N.M 87556

Attn: Fred Martinez Tel: 505-586-7673

Attn: \_\_\_\_\_ Tel: \_\_\_\_\_

Project or P.O. #

**ANALYSES REQUESTED**

**REMARKS**

Shipped Via: FED  UPS \_\_\_\_\_ Hand \_\_\_\_\_ Other \_\_\_\_\_

SAMPLE IDENTIFICATION	DATE	TIME	Sample Matrix	# of CONTAINERS	Bi Carbamate	Carbamate	Hydroxide	T. Alkalinity	CL-F	Sulfate	As	Al	Ba	Be	Ca	Cr	Hg	Mn	Mg	Mo	Na	Ni	Pb	Sb	Se	Si	Ti	Zn
MW-10	8/13			2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EW-1	8/17			2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EW-2				2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EW-3				2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
EW-D				2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
missing MW-10																												

standard T.A.T.

client shipping 8/19/98

Disposed per Scott H

\* Matrix Options: SW (Surface water) • GW (Ground water) • WW (Wastewater) • DW (Drinking water) • SL (Sludge) • SOIL • OIL • Other (Specify)

**COMMENTS**

**SAMPLE DISPOSAL OPTIONS - Please complete section A, or choose one option from sections B AND C. Proper charges will be assessed.**

**(A) Long-term storage**  
 Hold until N/A (date)  
 for future analysis.

**(B) If Sample is Non-Hazardous**  
 1) Local Disposal  
 2) RCRA - Permitted Facility  
 3) Return to Client

**(C) If Sample is Hazardous**  
 1) RCRA-Permitted Facility  
 2) Return to Client

RELINQUISHED BY: (SIGNATURE)

DATE

TIME

RECEIVED BY: (SIGNATURE)

DATE

TIME

PAGE #

Crail E. Tenje

8/17/98

→ Fed Ex drop-off Box

1

OF

1

# SAMPLE RECEIPT FORM

CLIENT: Adly Corp  
 PROJECT #: 619722

DATE 8/2/98

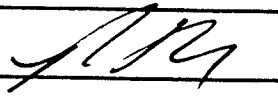
1) Does this project require special handling procedures such as CLP protocol?	<u>NA</u>	YES	NO
2) Are the custody seals on the cooler intact?	<u>NA</u>	YES	NO
3) Are the custody seals on the sample containers intact?	<u>NA</u>	YES	NO
4) Is there a Chain of Custody (COC), or other directive shipping papers present?		<u>YES</u>	NO
5) Is the COC complete? Relinquished? Yes ___ No ___ Requested Analysis? Yes ___ No ___		<u>YES</u>	NO
6) Is the COC in agreement with the samples received? # of Samples: Yes ___ No ___ Sample ID: Yes ___ No ___ Matrix: Yes ___ No ___ # of Containers: Yes ___ No ___		<u>YES</u>	NO
7) Is there enough sample for all requested analysis?		<u>YES</u>	NO
8) Are all samples within holding times for requested analysis?		<u>YES</u>	NO
9) Were all sample containers received intact?		<u>YES</u>	NO
10) Are samples requiring no headspace, headspace free?	<u>NA</u>	YES	NO
11) Do the samples require a Foreign Soils Permit Label or quarantine?		YES	<u>NO</u>
12) Do samples require special disposal/hold considerations? Non-Hazardous: Yes ___ No ___ Hazardous: Yes ___ No ___ Hold: ___ months			

Describe "NO" items (except #1, 11, & 12):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Was the client contacted? Yes \_\_\_ No \_\_\_

If yes: Date: \_\_\_\_\_ Name of person contacted: \_\_\_\_\_

Actions taken or client instructions:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Signature: 

# SAMPLE RECEIPT FORM

CLIENT: Moly Corp  
 PROJECT #: LC9727

DATE: 8/17/98  
 ANALYST: SA

## TEMPERATURE VERIFICATION SAMPLE CHECK (°C)

CONTAINER ID	TEMP (°C) 2° to 6°	RAD μR/hr
Client	6.1	14.0

If container radioactivity is > 25 μR/hr then each sample must be screened.

## PRESERVATION CHECK (pH) & RADIOACTIVITY SCREEN

SAMPLE	R <2	G <2	Y <2	YG <2	B <2	BG <2	O <2	T >12	P >12	RAD μR/hr
1-4	✓									

INTERNAL COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_

REPORT COMMENTS:  
 \_\_\_\_\_  
 \_\_\_\_\_





**TAILINGS DAM MONITOR WELLS STATIC WATER LEVELS**

**3RD QUARTER 1998**

	Jul-98	Aug-98	SE9-98
MW-1	48.22	50.67	51.9
MW-2	39.36	39.71	40.85
MW-3	19.59	20.24	20.45
MW-4	42.12	42.85	43.1
MW-6	6.25	12.12	8.89
MW-7A	66.15	68.67	69
MW7-B	66.42	68.89	69.28
MW-7C	143.4	143.39	143.39
MW-8	DRY	DRY	DRY
MW-9A	29.01	29.58	29.57
MW-9B	DRY	DRY	DRY
MW-10	30.34	30.15	30.3
MW-11	193.63	193.71	193.73
MW-12	129	129	128.99
MW-13	202.29	202.32	202.38
MW-14	47.58	47.72	47.69
EW-1	80.98	81.25	83.68
EW-2	149.89	124.5	149.84
EW-3	68.78	71.84	70.41
EW-4	39.8	52.14	32.32
MW-A	35.28	35.23	35.51
MW-B	DRY	DRY	DRY
MW-C	2.82	2.85	2.85
EW-5 A	20.15	29.64	33.83
EW-5 B	20.4	22.03	21.98
EW-5 C	34.61	34.83	31.15
EW-5 D	10.64	4.97	5

**ATTACHMENT B**  
**SPRING SAMPLING RESULTS**





# CDS Laboratories

An affiliate of Acculabs Inc.

**Durango**

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Mr. Geyza Lorinczi,  
Environmental Manager  
Molycorp, Inc  
PO Box 469  
Questa, NM 87556

September 28, 1998

Dear Sir,

Seven water samples collected by Vail Engineering from springs along the lower Red River, were received at our Durango laboratory on August 31th, 1998. Ordinarily this would have provided ample time for analysis and delivery of results to you well in advance of the due date of your quarterly report to The New Mexico Environmental Department.

We have completed the wet chemistry analysis and are enclosing the results with this letter.

During the past few weeks, we have been in the process of being acquired by Acculabs Inc of Phoenix, Arizona. We have been reorganizing our services and personnel assignments. Because of delays resulting from the reorganization process, it became apparent that we would be unable to complete the analysis for metals on a timely basis in our Durango laboratory. We therefore shipped the samples to Phoenix, Arizona for completion of the analyses in our affiliated and accredited laboratory.

We regret to advise you that the Phoenix laboratory had a backlog of work, and although your samples were given priority handling, it appears that the results of the metals analysis will not be available to CDS until October 2, 1998. We will then forward those results to you as soon as is possible.

We apologize for the delay in this instance. We wish to assure you that in the future we will be able to perform the analysis in a time frame that will meet your needs. Our acquisition by Acculabs Inc will result in our ability to provide you with timely data as well as the highest level of precision and quality control.

Sincerely Yours,

*Deborah Zufelt*

Deborah Zufelt

CDS Laboratories



# CDS Laboratories

An affiliate of Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136791  
Sample ID: #9-SEEP CONC BOX @QUE  
Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136791				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	204	mg/L	SM2320	
Carbonate	0	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	10	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	672	µS/cm	EPA120.1	1.000
Conductivity, Field Data	676	µS/cm		
Fluoride	0.51	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	7.33	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	205	mg/L	SM4500SO4	*****
Temperature, Field Data	15.0	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	7.30	Units		

Checked by: DJ Date: 9-28-98



# CDS Laboratories

An affiliate of Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136792  
 Sample ID: #10-FLOW OLD PIPE @QU  
 Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136792				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	187	mg/L	SM2320	
Carbonate	4	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	< 10	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	529	µS/cm	EPA120.1	1.000
Conductivity, Field Data	542	µS/cm		
Fluoride	0.76	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	7.94	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	130	mg/L	SM4500SO4	*****
Temperature, Field Data	14.6	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	7.80	Units		

Checked by: DJ Date: 9-28-98



# CDS Laboratories

**Durango**

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

An affiliate of Acculabs Inc.

**PRELIMINARY ANALYSIS REPORT****MOLYCORP INC.**

Our Lab #: A98-136793  
 Sample ID: #12-FIRST SPRG BLOW P  
 Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136793				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	89	mg/L	SM2320	
Carbonate	5	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	14	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	433	µS/cm	EPA120.1	1.000
Conductivity, Field Data	437	µS/cm		
Fluoride	0.82	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	8.04	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	125	mg/L	SM4500SO4	*****
Temperature, Field Data	16.7	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	8.00	Units		

Checked by: M 9-28-98 Date: \_\_\_\_\_



# CDS Laboratories

An affiliate of Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136794  
Sample ID: #14-SOUTH SIDE SPRING  
Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136794				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	88	mg/L	SM2320	
Carbonate	4	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	10	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	419	µS/cm	EPA120.1	1.000
Conductivity, Field Data	425	µS/cm		
Fluoride	0.86	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	8.13	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	120	mg/L	SM4500SO4	*****
Temperature, Field Data	18.5	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	8.20	Units		

Checked by: DJ Date: 9-28-98





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Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136795  
 Sample ID: #15 SPRG @CONC BOX 25  
 Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136795				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	90	mg/L	SM2320	
Carbonate	4	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	10	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	241	µS/cm	EPA120.1	1.000
Conductivity, Field Data	242	µS/cm		
Fluoride	1.05	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	8.18	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	27	mg/L	SM4500SO4	*****
Temperature, Field Data	18.5	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	8.20	Units		

Checked by: DJ Date: 9-28-98



# CDS Laboratories

An affiliate of Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136796  
 Sample ID: #17 HATCHERY COLD H20  
 Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136796				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	183	mg/L	SM2320	
Carbonate	0	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	< 10	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	425	µS/cm	EPA120.1	1.000
Conductivity, Field Data	433	µS/cm		
Fluoride	0.70	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	7.42	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	74	mg/L	SM4500SO4	*****
Temperature, Field Data	12.9	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	7.10	Units		

Checked by: DJ Date: 9-28-98



# CDS Laboratories

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

An affiliate of Acculabs Inc.

## PRELIMINARY ANALYSIS REPORT

MOLYCORP INC.

Our Lab #: A98-136797  
 Sample ID: #18 HATCHERY WARM H2O  
 Collect Date: 08/27/98

Testname	Result	Units	Method	MDL
A98-136797				
Silver, dissolved		mg/L	SM3113B	0.010
Aluminum dissolved		mg/L	EPA200.7	0.500
Arsenic, dissolved		mg/L	SM3114 B	0.001
Barium, dissolved		mg/L	EPA200.7	0.500
Bicarbonate from Alkalinity	93	mg/L	SM2320	
Carbonate	4	mg/L	SM2320	
Calcium, dissolved		mg/L	EPA200.7	0.500
Cadmium, dissolved		mg/L	SM3113B	0.005
Chloride	13	mg/L	SM4500CL	*****
Chromium, dissolved		mg/L	SM3113B	0.020
Copper, dissolved		mg/L	EPA200.7	0.250
Conductivity	312	µS/cm	EPA120.1	1.000
Conductivity, Field Data	317	µS/cm		
Fluoride	1.01	mg/L	SM4500FE	0.200
Iron, dissolved		mg/L	EPA200.7	0.200
Mercury		mg/L	EPA245.1**	0.001
Potassium, dissolved		mg/L	EPA200.7	0.500
Magnesium, dissolved		mg/L	EPA200.7	0.500
Manganese, dissolved		mg/L	EPA200.7	0.200
Molybdenum, dissolved		mg/L	EPA200.7	0.100
Sodium, dissolved		mg/L	EPA200.7	0.500
Nickel, dissolved		mg/L	SM3113B	0.020
Nitrate/Nitrite-N		mg/L	EPA353.2	0.040
Lead, dissolved		mg/L	SM3113B	0.020
pH	8.18	Units	EPA150.1	
Selenium, dissolved		mg/L	SM3114B	0.001
Sulfate	66	mg/L	SM4500SO4	*****
Temperature, Field Data	16.8	°C		
Zinc, dissolved		mg/L	EPA200.7	0.250
pH, Field Data	8.20	Units		

Checked by: DJ Date: 9-28-98

**ATTACHMENT C**  
**TAILINGS IMPOUNDMENT PIEZOMETERS**

MOLYCORP, QUESTA MINE: PIEZOMETER READINGS, 7/98-9/98, PNEUMATIC TYPE

Meter	Tip Elevation	Pounds per square inch			Water Elevation, Feet			Remarks
		Jul	Aug	Sept	Jul	Aug	Sept	
1B1	7445.6				Lost	Lost	Lost	
1B2	7451.8			0.2	7451.8	7451.8	7452.3	
1B3	7458.4				BO	BO	BO	
1.1981	7300.2				DRY	DRY	DRY	
1C15	7437.1				DRY	DRY	DRY	
1C82	7460.3				DRY	DRY	DRY	
1C84	7465.0				DRY	DRY	DRY	
1C88	7468.0				DRY	DRY	DRY	
1C90	7460.0				DRY	DRY	DRY	
1C92	7460.0				DRY	DRY	DRY	
1C94	7461.0				DRY	DRY	DRY	
2A2	7537.5	0.4	0.4	0.4	7538.4	7538.4	7538.4	
2A3	7540.7	53.0	52.6	53.8	7663.1	7662.2	7665.0	
2A4	7525.6	0.4	0.4	0.2	7526.5	7526.5	7526.1	
2A6	7479.5				BO	BO	BO	
2A6	7505.5	6.6	6.6	12.4	7520.7	7520.7	7534.1	
2A7	7531.2	0.0	0.0	0.2	7531.2	7531.2	7531.7	
2A7	7506.4	0.0	0.0	0.2	7506.4	7506.4	7506.9	
4D1	7376.5				BO	BO	BO	
4D2	7348.6				BO	BO	BO	
4D2	7319.1			0.2	BO	BO	7319.6	
4D3	7349.2				BO	BO	BO	
4D3	7314.0				BO	BO	BO	
4D4	7349.9				BO	BO	BO	
4D4	7312.4				BO	BO	BO	
4D5	7342.6				BO	BO	BO	
4D6	7384.7	0.2	0.2	0.0	7385.2	7385.2	7384.7	
4D6	7354.7	0.2	0.2	0.0	7355.2	7355.2	7354.7	
4D7	7377.7				BO	BO	BO	
4D7	7347.2				BO	BO	BO	
4A2	7492.2	0.0	0.0	0.0	DRY	DRY	DRY	
4A3	7476.9	0.0	0.0	0.0	DRY	DRY	DRY	
4U1	7460.0	0.2	0.2	0.4	7460.5	7460.5	7460.9	
4U1	7476.1	55.0	54.8	55.6	7603.2	7602.7	7604.5	
4U2	7452.3			0.0	7452.3	7452.3	7452.3	
4U2	7469.4			0.0	BO	BO	7469.4	
4U3	7449.1	4.6	4.4	0.0	7459.7	7459.3	7449.1	
4U3	7468.6	14.8	14.5	0.0	7502.8	7502.1	7468.6	
4U4	7447.8	0.0	0.0	0.2	7447.8	7447.8	7448.3	
4U4	7473.9	0.0	0.0	0.0	7473.9	7473.9	7473.9	
4T1	7398.8			0.2	BO	BO	7399.3	
4T2	7389.7	53.8	53.6	0.0	7514.0	7513.5	7389.7	
4T5	7392.2			0.4	BO	BO	7393.1	
R1	7483.3	1.0	1.0	1.0	7485.6	7485.6	7485.6	
R2	7476.6	0.6	0.6	0.6	7478.0	7478.0	7478.0	
R3	7469.6	0.2	0.2	0.2	7470.1	7470.1	7470.1	
R4	7405.3				BO	BO	BO	
R5	7397.2	0.6	0.6	0.6	7398.6	7398.6	7398.6	
R6	7442.1	0.2	0.2	0.2	7442.6	7442.6	7442.6	

Molycorp, Questa Mine: Piezometer Readings 7/98-9/98 Casagrande Type								
Meter	Top of pipe El.	Depth to water, Feet			Water Elevation, Feet			Remarks
		Jul	Aug	Sept	Jul	Aug	Sept	
1C17	7565.3				DRY	DRY	DRY	
1C18	7530.7				DRY	DRY	DRY	
1C20	7562.3				DRY	DRY	DRY	
1C21	7528.6				DRY	DRY	DRY	
1C23	7559.6				DRY	DRY	DRY	
1C24	7526.2				DRY	DRY	DRY	
1C26	7558.9				DRY	DRY	DRY	
1C27	7525.1							
2A8S	7389.2				BO	BO	BO	
2A8D	7538.5	9.8	9.0	9.0	7528.7	7529.5	7529.5	
2A9S	7571.5	46.8	45.6	45.5	7524.7	7525.9	7526.0	
4A1	7507.6				DRY	DRY	DRY	
4A2	7517.9				BO	BO	BO	
4A3	7519.1				DRY	DRY	DRY	
1B2	7581.1				DRY	DRY	DRY	
1B3	7562.2				DRY	DRY	DRY	
90-1	7541.0							
90-2	7544.4				BO	BO	BO	
91-1	7584.5							
91-2	7571.4				DRY	DRY	DRY	
91-3	7570.4				DRY	DRY	DRY	
1C97	7582.1	120.4	120.2	120.6	7461.8	7461.9	7461.5	
90-8	7540.0	19.0	19.0	19.0	7521.0	7521.0	7521.0	
5A97	7541.5	37.2	37.0	38.8	7504.3	7504.5	7502.8	
1--97	7542.3	119.4	119.2	119.5	7422.9	7423.1	7422.8	
4-97	7514.2	40.2	40.1	42.2	7474.1	7474.1	7472.0	
EAST	7522.1	101.9	101.3	102.0	7420.2	7420.8	7420.1	
WEST	7521.9	120.8	120.5	124.0	7401.2	7401.4	7397.9	
1-A-97	7391.3	96.4	95.9	96.1	7295.0	7295.5	7295.2	

3rd Quarter

Water Discharge by Source						
Third Quarter, 1998						
	Tailings		Volume (acre-feet)	Water Source		
	Tonnage (tons)	Volume (yd3)		River	Wells	Mine
Jul-98	128,429	95,133	0.0	43%	42%	15%
Aug-98	0	-	1.0	11%	46%	43%
Sep-98	125,402	92,890	1.0	36%	45%	20%
3Q98	253,831	188,023	2.0	30%	44%	26%
NOTE: Tonnage data estimated through end of month						
Water data actual through 9/27/98						

2nd Quarter

Water Discharge by Source						
Second Quarter, 1998						
	Tailings		Volume (acre-feet)	Water Source		
	Tonnage (tons)	Volume (yd3)		River	Wells	Mine
Apr-98	116,104	86,003	264.0	37%	50%	13%
May-98	158,440	117,363	309.7	39%	47%	13%
Jun-98	93,009	68,896	277.9	49%	38%	14%
2Q98	367,553	272,261	851.5	42%	45%	13%



**ATTACHMENT E**  
**TAILINGS WATER SAMPLING RESULTS**

**Tailings Pond Water**

NEW MEXICO GROUNDWATER STANDARDS															250	1.8	10.0	600	1000
MOLYCORP, INC																			
DISCHARGE PLAN 933																			
3rd Quarter 1998																			
SAMPLE NO.	SITE	DATE OF SAMPLE	PH	CONDUCT	TEMP	CARBONATE	CARBONATE	HYDROXIDE	TOTAL ALK	CHLORIDE	FLUORIDE	NITRATE	SULFATE	TPS					
1	TAILS POND	Jul-98	9.00	3,950	11.8	<5	33	<5	33	16	5.8	0.2	2,200	3,400					
DECANT WATER																			
NM STATE STDS																			
		0.05	5.0	0.1	1.0			0.01		0.05	1.0	1.0	*	*	0.002				
		**						**											
SAMPLE NO.	SITE	SILVER	ALUMINUM	ARSENIC	BARIUM	BERYLLIUM	CALCIUM	CADMIUM	CHROMIUM	COPPER	IRON	MERCURY	POTASSIUM	MAGNESIUM					
1	tails pond	<.002	<0.1	<.005	0.06	<.004	830	<.001	<0.01	<0.01	0.1	<0.0002	50	69					
	STATE	0.2	1.0		0.20	0.05		10.00											
			**		**														
SAMPLE NO.	SITE	MN	MO	SODIUM	NICKEL	LEAD	SELENIUM	ZINC	Naphthalene	2-METHYLNAPHTHALENE	BENZO(A)PYRENE								
1	tails pond	0.06	3.6	66	0.02	<0.009	<0.005	<0.020	10.0 UG/L	10.0UG/L	10.0 UG/L								
SAMPLE TAKEN 7/18/98																			
Semi-Volatile Organics reporting limits 10.0 ug/l																			
ALL UNITS IN MG/L EXCEPT WHERE NOTED:																			



# Paragon Analytics, Inc.

## GC/MS Semivolatiles Case Narrative

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### **MolyCorp, Incorporated**

Tails Pond/Sewage Lagoon

Order Number - 9807161

1. This report consists of one water sample received by Paragon on July 17, 1998.
2. The sample was prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, based on Method 3520.
3. The samples were analyzed using GC/MS with a DB-5.625 capillary column according to protocols based on SW-846 Method 8270C. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria were met. Method 8270C states any compound exceeding 15% RSD is to be quantitated with a higher order curve. Several compounds from the curve were within the acceptance limit but exceeded the 15% RSD criteria and should be analyzed with a higher curve such as quadratic. We quantitated these compounds using the average response factor due to a software programming problem associated with Hewlett-Packard MSDs. The manufacturer is now aware of the problem and is working on a solution.
5. All continuing calibration criteria were met.
6. There were no target compounds detected in the method blank. However, the method blank was spiked with a surrogate mix that was contaminated with the TCLP spike mix. This resulted in recoveries of Hexachloroethane, Nitrobenzene, Hexachlorobutadiene, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, Hexachlorobenzene, and Pentachlorophenol which were above the reporting limits. The sample was also spiked with the same contaminated surrogate mix, resulting in similar recoveries. This did not effect the compounds of interest.



7. All laboratory control spike and laboratory control spike duplicate recoveries and RPDs were within the acceptance criteria.
8. A matrix spike and matrix spike duplicate were not requested. A laboratory control spike and laboratory control spike duplicate were performed instead.
9. The sample was extracted and analyzed within the established holding times.
10. All surrogate recoveries were within acceptance criteria.
11. All internal standard recoveries were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytical, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

CBiegelsen  
Ann Biegelsen  
Organic Chemist

9-16-98  
Date

MB  
Reviewer's Initials

9-15-98  
Date

# Paragon Analytics, Incorporated

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum: 9807161**

**Client Name: MolyCorp, Incorporated**

**Client Project Name: Tails Pond/Sewage Lagoon**

**Client Project Number:**

**Client PO Number:**

---

<b>Client Sample</b>	<b>Lab Sample Number</b>	<b>COC Number</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Time Collected</b>
Tails Pond	9807161-1		Water	7/16/98	
Sewage Lagoon	9807161-2		Water	7/16/98	

**CHAIN OF CUSTODY RECORD**

Laboratory Sample Numbers

9807161

COC #

Name to Appear on Report and Invoice:

cc: (Report) - (Invoice) to: (circle one or both)

Molycorp Inc  
 Hwy 38 PO Box 469  
 Questa NM 87556  
 Attn: Fred Martinez Tel: 505 516 7673

Tel: \_\_\_\_\_

Project or P.O. #

**ANALYSES REQUESTED**

REMARKS

Shipped Via: FED X  UPS \_\_\_\_\_ Hand \_\_\_\_\_ Other \_\_\_\_\_

Sample Identification DATE TIME Sample Matrix

# of CONTAINERS

Naphthalene	M-Naphthalene	Benz(a)pyrene	Carbonate	BiCarbonate	Hydroxide	T. Nickel	Cl F-TDS	Nitrate Sulfate	Ag Al As Ba	Be Ca Cd Cr	Cu Fe Hg K	Mg Mn Ni Pb	Se Zn	TKN	Nitrate	Nitrite
-------------	---------------	---------------	-----------	-------------	-----------	-----------	----------	-----------------	-------------	-------------	------------	-------------	-------	-----	---------	---------

standard  
T.A.T.

Tails Pond	7/14/98			4	X	X	X	X	X	X	X	X	X			
Sewage Lagoon	7/16/98			2										X	X	

Options: SW (Surface water) • GW (Ground water) • WW (Wastewater) • DW (Drinking water) • SL (Sludge) • SOIL • OIL • Other (Specify)

**COMMENTS**

**SAMPLE DISPOSAL OPTIONS - Please complete section A, or choose one option from sections B AND C. Proper charges will be assessed.**

(A) Long-term storage  
 Hold until N/A (date)  
 for future analysis.

(B) If Sample is Non-Hazardous  
 1) Local Disposal  
 2) RCRA - Permitted Facility  
 3) Return to Client

(C) If Sample is Hazardous  
 1) RCRA-Permitted Facility  
 2) Return to Client

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	PAGE #
Bill Ewing FED EX	7/16/98		Fed Ex Bill Ewing (BEARDAN)	7/17/98	0930	1 OF 1

CONDITION OF SAMPLE UPON RECEIPT

CLIENT: MOLY CORP - INC.

SHIPPING CONTAINER #: \_\_\_\_\_

WORKORDER NO. 98-07-161

INITIALS: BDB

DATE: 7/17/98

1.	Does this project require special handling according to NEESA, Level 3, or CLP protocols? If yes, complete a. and b. a. Cooler Temperature _____ b. Lot No's. _____ c. Airbill Number _____		Yes	<input checked="" type="radio"/> No
2.	Are custody seals on the cooler intact? If so, how many	<input checked="" type="radio"/> N/A	Yes	No
3.	Are custody seals on sample containers intact?	<input checked="" type="radio"/> N/A	Yes	No
4.	Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos?		<input checked="" type="radio"/> Yes	No
5.	Is the COC complete? Relinquished: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> Requested Analysis: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/>	N/A	<input checked="" type="radio"/> Yes	No
6.	Is the COC in agreement with the samples received? No. of Samples: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> Sample ID's: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> Matrix: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> No. of Containers: Yes <input checked="" type="radio"/> No <input checked="" type="radio"/>		<input checked="" type="radio"/> Yes	No
7.	Are the samples requiring chemical preservation preserved correctly?	N/A	Yes	<input checked="" type="radio"/> No
8.	Is there enough sample? If so, are they in the proper containers?		<input checked="" type="radio"/> Yes	No
9.	Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> Yes	No
10.	Were the sample(s) shipped on ice?	N/A	<input checked="" type="radio"/> Yes	No
11.	Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> Yes	No
12.	Are samples requiring no headspace, headspace free?	<input checked="" type="radio"/> N/A	Yes	No
13.	Do the samples require quarantine?		Yes	<input checked="" type="radio"/> No
14.	Do samples require Paragon disposal?		<input checked="" type="radio"/> Yes	No
15.	Did the client return any unused bottles?		Yes	<input checked="" type="radio"/> No

Describe "NO" items (except No's 1, 13, & 14): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Was the client contacted? Yes \_\_\_\_\_ No \_\_\_\_\_  
 If yes, Date: \_\_\_\_\_ Name of person contacted: \_\_\_\_\_  
 Describe actions taken or client instructions: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Group Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Cooler Temperature: ~~2°C~~  
4°C  
 BDB 7/17/98

# Semi-Volatile Organics by GC/MS

Method SW8270

Method Blank

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9807161

Client Name: MolyCorp, Incorporated

ClientProject ID:

Reported on: Tuesday, September 01, 1998

LABQC

EX980722-SMB

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: NA

Date Collected: 22-Jul-98

Date Extracted: 22-Jul-98

Date Analyzed: 27-Aug-98

Prep Batch: EX980722-5

Sample Aliquot: 1000

Final Volume: 1

Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	10	ug/L	10	U	
91-57-8	2-METHYLNAPHTHALENE	10	ug/L	10	U	
50-32-8	BENZO(A)PYRENE	10	ug/L	10	U	

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	29.5	ug/l	75	39	23 - 100
321-60-8	2-FLUOROBIPHENYL	19.7	ug/l	50	39	21 - 106
367-12-4	2-FLUOROPHENOL	29.4	ug/l	75	39	21 - 100
4165-60-0	NITROBENZENE-D5	21.1	ug/l	50	42	34 - 111
4165-62-2	PHENOL-D5	34.5	ug/l	75	46	15 - 104
1718-51-0	TERPHENYL-D14	24.8	ug/l	50	50	33 - 111

U = Less than the Reporting Limit



# Semi-volatile Organics by GC/MS

## Method SW8270

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9807161

Client Name: MolyCorp, Incorporated

Client/Project ID:

Reported on: Tuesday, September 01, 1998

Tails Pond

9807161-1

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: AS RECEIVED

Date Collected: 16-Jul-98

Date Extracted: 22-Jul-98

Date Analyzed: 28-Aug-98

Prep Batch: EX980722-5

Sample Aliquot: 1000

Final Volume: 1

Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
91-20-3	NAPHTHALENE	10	ug/L	10	U	
91-57-6	2-METHYLNAPHTHALENE	10	ug/L	10	U	
50-32-8	BENZO(A)PYRENE	10	ug/L	10	U	

### Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	34.5	ug/l	75	46	23 - 100
321-60-8	2-FLUOROBIPHENYL	19.9	ug/l	50	40	21 - 106
367-12-4	2-FLUOROPHENOL	27.9	ug/l	75	37	21 - 100
4165-60-0	NITROBENZENE-D5	21	ug/l	50	42	34 - 111
4165-62-2	PHENOL-D5	31.5	ug/l	75	42	15 - 104
1718-51-0	TERPHENYL-D14	19.9	ug/l	50	40	33 - 111

U = Less than the Reporting Limit

# Semi-volatile Organics by GC/MS

Blank Spike and Blank Spike Duplicate

Method SW8270

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9807161

Client Name: MolyCorp, Incorporated

Client/Project ID:

Reported on: Tuesday, September 01, 1998

EX980722-5LCS

EX980722-5LCSD

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: N/A

Date Collected: 22-Jul-98

Date Extracted: 22-Jul-98

Date Analyzed: 27-Aug-98

Prep Batch: EX980722-5

Sample Aliquot: 1000

Final Volume: 1

Dilution: 1

CASNO	Target Analyte	Spike Added	BS Result	Units	Reporting Limit	BS % Rec.	Control Limits
108-95-2	PHENOL	75	54.6	ug/L	10	73	25 - 105
95-57-8	2-CHLOROPHENOL	75	58	ug/L	10	77	23 - 106
108-46-7	1,4-DICHLOROBENZENE	50	43.7	ug/L	10	87	13 - 113
621-84-7	N-NITROSO-DI-N-PROPYLAMINE	50	36.4	ug/L	10	73	25 - 113
120-82-1	1,2,4-TRICHLOROBENZENE	50	34.5	ug/L	10	69	22 - 106
59-50-7	4-CHLORO-3-METHYLPHENOL	75	55.8	ug/L	10	74	34 - 104
83-32-9	ACENAPHTHENE	50	36.9	ug/L	10	74	24 - 110
100-02-7	4-NITROPHENOL	75	38	ug/L	50	51	18 - 114
121-14-2	2,4-DINITROTOLUENE	50	47.3	ug/L	10	95	28 - 109
87-86-5	PENTACHLOROPHENOL	75	62.6	ug/L	50	83	23 - 112
129-00-0	PYRENE	50	46.9	ug/L	10	94	23 - 119

# Semi-volatile Organics by GC/MS

Blank Spike and Blank Spike Duplicate

Method SW8270

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9807161

Client Name: MolyCorp, Incorporated

ClientProject ID:

Reported on: Tuesday, September 01, 1998

CASNO	Target Analyte	Spike Added	BSD Result	Units	Reporting Limit	BSD % Rec.	RPD	RPD Limits
108-95-2	PHENOL	75	52.4	ug/L	10	70	4	40
95-57-8	2-CHLOROPHENOL	75	55.2	ug/L	10	74	4	42
108-46-7	1,4-DICHLOROBENZENE	50	42	ug/L	10	84	4	50
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	50	34.2	ug/L	10	68	7	44
120-82-1	1,2,4-TRICHLOROBENZENE	50	34	ug/L	10	68	1	42
59-50-7	4-CHLORO-3-METHYLPHENOL	75	53	ug/L	10	71	4	35
83-32-9	ACENAPHTHENE	50	35.2	ug/L	10	70	6	43
100-02-7	4-NITROPHENOL	75	36.9	ug/L	50	49	4	48
121-14-2	2,4-DINITROTOLUENE	50	42.9	ug/L	10	86	10	40
87-86-5	PENTACHLOROPHENOL	75	64.7	ug/L	50	86	4	44
129-00-0	PYRENE	50	42.4	ug/L	10	85	10	48

## Surrogate Recovery BS/BS

CASNO	Target Analyte	Spike Added	BS % Rec.	BSD % Rec.	RPD	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	75	51	49	4	23 - 100
321-60-8	2-FLUOROBIPHENYL	50	51	48	6	21 - 106
367-12-4	2-FLUOROPHENOL	75	49	49	0	21 - 100
4185-60-0	NITROBENZENE-D5	50	52	49	6	34 - 111
4165-62-2	PHENOL-D5	75	57	53	7	15 - 104
1718-51-0	TERPHENYL-D14	50	60	55	9	33 - 111

# Paragon Analytics, Incorporated

## Sample Number(s) Cross-Reference Table

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Paragon OrderNum: 9807161

Client Name: MolyCorp, Incorporated

Client Project Name: Tails Pond/Sewage Lagoon

Client Project Number:

Client PO Number:

---

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Tails Pond	9807161-1		Water	7/16/98	
Sewage Lagoon	9807161-2		Water	7/16/98	

**CHAIN OF CUSTODY RECORD**

Laboratory Sample Numbers

9807161

COC #

Name to Appear on Report and Invoice:

cc: (Report) - (Invoice) to: (circle one or both)

Molycorp Inc  
 Hwy 38 PO Box 4169  
 Questa NM 87556

Attn: Fred Martinez

Tel: 505 516 7673

Tel:

Project or P.O. #

**ANALYSES REQUESTED**

REMARKS

Shipped Via: FED X  UPS  Hand  Other

standard  
T.A.T.

MPLE IDENTIFICATION DATE TIME Sample Matrix

# of CONTAINERS

Napthalene  
 m-Napthalene  
 Benz(a)pyrene  
 Carbamate  
 Bicarbonate  
 Hydroxide  
 Trichloroethylene  
 Cl<sup>-</sup> F<sup>-</sup> TDS  
 Nitrate Sulfate  
 Ag Al As B  
 Be Ca Cd Cr  
 Cu Fe Hg K  
 Mg Mn Mo Ni  
 Pb Se Zn  
 TKN  
 Nitrate  
 Nitrite

MPLE IDENTIFICATION	DATE	TIME	Sample Matrix	# of CONTAINERS	Napthalene	m-Napthalene	Benz(a)pyrene	Carbamate	Bicarbonate	Hydroxide	Trichloroethylene	Cl <sup>-</sup> F <sup>-</sup> TDS	Nitrate Sulfate	Ag Al As B	Be Ca Cd Cr	Cu Fe Hg K	Mg Mn Mo Ni	Pb Se Zn	TKN	Nitrate	Nitrite	
1 Tails Pond	7/14/98			4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
2 Sewage Lagoon	7/16/98			2																X	X	

Matrix Options: SW (Surface water) • GW (Ground water) • WW (Wastewater) • DW (Drinking water) • SL (Sludge) • SOIL • OIL • Other (Specify)

**COMMENTS**

**SAMPLE DISPOSAL OPTIONS - Please complete section A, or choose one option from sections B AND C. Proper charges will be assessed.**

(A) Long-term storage  
 Hold until N/A (date)  
 for future analysis.

(B) If Sample is Non-Hazardous  
 1) Local Disposal  
 2) RCRA - Permitted Facility  
 3) Return to Client

(C) If Sample is Hazardous  
 1) RCRA-Permitted Facility  
 2) Return to Client

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	PAGE #
Gail E. Engle FED EX	7/16/98		Fed Ex Gail (BEARDAN)	7/17/98	0930	1 OF 1

CONDITION OF SAMPLE UPON RECEIPT

CLIENT: MOLY CORP. INC.

SHIPPING CONTAINER #: \_\_\_\_\_

WORKORDER NO. 98-07-161

INITIALS: BDB

DATE: 7/17/98

1.	Does this project require special handling according to NEESA, Level 3, or CLP protocols? If yes, complete a. and b. a. Cooler Temperature _____ b. Lot No's. _____ c. Airbill Number _____		Yes	<input checked="" type="radio"/> No
2.	Are custody seals on the cooler intact? If so, how many	<u>N/A</u>	Yes	No
3.	Are custody seals on sample containers intact?	<u>N/A</u>	Yes	No
4.	Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos?		<input checked="" type="radio"/> Yes	No
5.	Is the COC complete? Relinquished: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Requested Analysis: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>	N/A	<input checked="" type="radio"/> Yes	No
6.	Is the COC in agreement with the samples received? No. of Samples: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Sample ID's: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Matrix: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No. of Containers: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>		<input checked="" type="radio"/> Yes	No
7.	Are the samples requiring chemical preservation preserved correctly?	N/A	Yes	<input checked="" type="radio"/> No
8.	Is there enough sample? If so, are they in the proper containers?		<input checked="" type="radio"/> Yes	No
9.	Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> Yes	No
10.	Were the sample(s) shipped on ice?	N/A	<input checked="" type="radio"/> Yes	No
11.	Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> Yes	No
12.	Are samples requiring no headspace, headspace free?	<u>N/A</u>	Yes	No
13.	Do the samples require quarantine?		Yes	<input checked="" type="radio"/> No
14.	Do samples require Paragon disposal?		<input checked="" type="radio"/> Yes	No
15.	Did the client return any unused bottles?		Yes	<input checked="" type="radio"/> No

Describe "NO" items (except No's 1, 13, & 14): \_\_\_\_\_

Was the client contacted? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, Date: \_\_\_\_\_ Name of person contacted: \_\_\_\_\_

Describe actions taken or client instructions: \_\_\_\_\_

Group Leader's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Cooler Temperature: ~~2°C~~  
4°C  
BDB 7/17/98

**ATTACHMENT F**  
**TAILINGS SOLIDS CHARACTERIZATION**

ACZ Laboratories, Inc.  
 30400 Downhill Drive  
 Steamboat Springs, CO 80487  
 (800) 334-5493

Lab Sample ID: **L19757-01**  
 Client Sample ID: **T7/98(1-2)**  
 Client Project ID:  
 ACZ Report ID: **RG75484**

Molycorp, Inc.  
 P.O. Box 469 Hwy. 38  
 Questa, NM 87556  
 Geyza Lorinczi

Date Sampled: **7/31/98 00:00**  
 Date Received: **8/6/98**  
 Date Reported: **8/24/98**

Sample Matrix: **Soil**

### Metals Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Aluminum, total (3051)	M6010B ICP	9740		mg/Kg	20	3	8/18/98	gg
Arsenic, total (3051)	M6010B ICP	7	B	mg/Kg	20	5	8/18/98	gg
Barium, total (3051)	M6010B ICP	104		mg/Kg	1	0.3	8/18/98	gg
Cadmium, total (3051)	M6010B ICP	3.5		mg/Kg	2	0.3	8/20/98	kr
Chromium, total (3051)	M6010B ICP	39		mg/Kg	6	1	8/18/98	gg
Copper, total (3051)	M6010B ICP	165		mg/Kg	6	1	8/20/98	kr
Iron, total (3051)	M6010B ICP	17000		mg/Kg	6	1	8/20/98	gg
Lead, total (3051)	M6010B ICP	62		mg/Kg	20	5	8/18/98	gg
Manganese, total (3051)	M6010B ICP	481		mg/Kg	1	0.6	8/18/98	gg
Mercury, total	M7471 CVAA		U	mg/Kg	0.2	0.04	8/18/98	bg
Molybdenum, total (3051)	M6010B ICP	257		mg/Kg	6	1	8/18/98	gg
Nickel, total (3051)	M6010B ICP	33		mg/Kg	6	1	8/18/98	gg
Selenium, total (3051)	M7742 Modified, AA-Hydride	0.8		mg/Kg	0.6	0.1	8/24/98	bg
Silver, total (3051)	M6010B ICP	2.4	B	mg/Kg	3	0.6	8/18/98	gg
Zinc, total (3051)	M6010B ICP	110		mg/Kg	6	1	8/18/98	gg

### Soil Analysis

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc)	M600/2-78-054 1.3	30		t CaCO3/Kt	5	1	8/18/98	cc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3	39		t CaCO3/Kt	5	1	8/18/98	cc
Acid-Base Potential (calc)	M600/2-78-054 1.3	9		t CaCO3/Kt	5	1	8/18/98	cc
Conductivity @25C	M120.1 - Meter, w/ Saturated Paste Prep	2.290		mmhos/cm	0.01	0.001	8/18/98	vv
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3 - Modified (No Heat)	3.9		%	0.5	0.1	8/17/98	cc
pH, Saturated Paste	USDA No. 60 (21A)	8.3		units	0.1	0.1	8/18/98	vv
Solids, Percent	CLPSOW390. PART F, D-98	44.4		%	0.5	0.1	8/14/98	sw
Sulfur Forms	M600/2-78-054 3.2.4							
Sulfur Sulfate (HCl extractable)		0.21		%	0.1	0.01	8/18/98	cc
Sulfur Sulfide (Total - Sulfate)		0.76		%	0.1	0.01	8/18/98	cc
Sulfur Total		0.97		%	0.1	0.01	8/18/98	cc

### Soil Preparation

Parameter	EPA Method	Result	Qual	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972						8/13/98	vv
Digestion - Microwave	M3051, HNO3						8/17/98	cjv
Saturated Paste Extraction	USDA No. 60 (2)						8/18/98	vv
Sieve-250 um (60 mesh)	ASA No.9 15-4.2.2						8/17/98	cc

### Inorganic Qualifiers (based on EPA CLP 3/90)

U = Analyte was analyzed for but not detected at the indicated MDL  
 B = Analyte concentration detected at a value between MDL and PQL  
 PQL = Practical Quantitation Limit



Vice President of Operations: Ralph Poulsen



ACZ Laboratories, Inc.  
30400 Downhill Drive  
Steamboat Springs, CO 80487  
(800) 334-5493

Lab Sample ID: *L19757-01*  
Client Sample ID: *T7/98(1-2)*  
Client Project ID:  
ACZ Report ID: *RG75484*

Molycorp, Inc.  
P.O. Box 469 Hwy. 38  
Questa, NM 87556  
Geyza Lorinczi

Date Sampled: *7/31/98 00:00*  
Date Received: *8/6/98*  
Date Reported: *8/24/98*

Sample Matrix: *Soil*

---

**Note: Duplicate precision for conductivity exceeds ACZ's QC limit of 20% RPD.**

**Inorganic Qualifiers (based on EPA CLP 3/90)**

U = Analyte was analyzed for but not detected at the indicated MDL

B = Analyte concentration detected at a value between MDL and PQL

PQL = Practical Quantitation Limit

**ATTACHMENT G**  
**pH OF DISCHARGED WATERS**

Tailing pH's  
Third Quarter, 1998

Jul-98		
Date	pH	
	Line 1	Line 2
1	7.0	6.8
2	Line out-of service	6.8
3	Line out-of service	6.7
4	Line out-of service	6.7
5	Line out-of service	6.7
6	Line out-of service	6.7
7	Line out-of service	6.4
8	Line out-of service	6.1
9	Line out-of service	6.1
10	Line out-of service	6.3
11	Line out-of service	6.5
12	Line out-of service	6.7
13	Line out-of service	6.7
14	Line out-of service	7.3
15	Line out-of service	7.9
16	Line out-of service	8.1
17	Line out-of service	8.3
18	Line out-of service	8.2
19	Line out-of service	8.1
20	7.5	8.1
21	7.8	8.1
22	7.9	8.1
23	8.2	8.5
24	8.0	8.1
25	7.9	7.9
26	8.0	8.0
27	8.0	8.0
28	8.0	8.0
29	7.9	7.9
30	7.9	8.0
31	7.7	8.0

Aug-98		
Date	pH	
	Line 1	Line 2
1	7.7	8.0
2	Line out-of service	8.0
3	Line out-of service	8.0
4	Line out-of service	6.4
5	Line out-of service	6.2
6	Line out-of service	7.0
7	Line out-of service	7.1
8	Line out-of service	6.9
9	Line out-of service	6.7
10	Line out-of service	6.0
11	6.0	7.0
12	6.0	Line out-of service
13	6.2	7.0
14	6.1	6.6
15	6.2	Line out-of service
16	6.3	6.8
17	Line out-of service	Line out-of service
18	6.1	Line out-of service
19	6.3	Line out-of service
20	6.3	Line out-of service
21	6.4	6.5
22	6.4	Line out-of service
23	6.3	Line out-of service
24	6.4	Line out-of service
25	6.8	Line out-of service
26	6.7	Line out-of service
27	6.8	Line out-of service
28	6.8	Line out-of service
29	6.8	6.0
30	6.8	Line out-of service
31	6.7	Line out-of service

Sep-98		
Date	pH	
	Line 1	Line 2
1	6.8	Line out-of service
2	6.8	Line out-of service
3	6.8	6.7
4	6.8	6.7
5	6.7	Line out-of service
6	6.7	Line out-of service
7	6.7	Line out-of service
8	6.7	Line out-of service
9	6.7	Line out-of service
10	6.7	Line out-of service
11	6.7	Line out-of service
12	6.6	Line out-of service
13	6.6	Line out-of service
14	6.7	6.2
15	6.7	Line out-of service
16	6.8	Line out-of service
17	6.8	Line out-of service
18	6.8	Line out-of service
19	6.7	Line out-of service
20	6.7	6.5
21	6.7	6.4
22	6.9	6.6
23	7.1	6.2
24	7.2	6.4
25	7.0	6.0
26	7.2	6.0
27	7.2	6.0
28		
29		
30		

Tailing pH's  
Second Quarter, 1998

9/28/98

Apr-98		
Date	pH	
	Line 1	Line 2
1	7.6	7.5
2	7.7	7.5
3	7.6	7.5
4	7.5	7.4
5	7.5	7.4
6	7.5	7.4
7	7.8	7.4
8	7.9	7.4
9	7.8	7.3
10	7.7	7.4
11	7.6	7.3
12	7.6	7.4
13	7.5	7.4
14	7.5	7.4
15	7.3	7.5
16	7.3	7.4
17	7.3	7.5
18	7.4	7.6
19	7.3	8.0
20	7.2	7.9
21	7.2	8.0
22	7.2	7.9
23	7.2	7.8
24	7.1	7.1
25	7.1	7.1
26	7.1	7.1
27	7.1	7.1
28	7.2	7.3
29	7.2	7.0
30	6.8	6.8

May-98		
Date	pH	
	Line 1	Line 2
1	6.8	Line out-of-service
2	6.8	Line out-of service
3	6.8	Line out-of service
4	6.8	Line out-of service
5	6.2	Line out-of service
6	6.2	Line out-of service
7	6.3	Line out-of service
8	6.6	6.8
9	Line out-of service	6.7
10	Line out-of service	6.6
11	Line out-of service	7.0
12	Line out-of service	6.5
13	8.6	7.2
14	7.3	8.8
15	9.1	8.8
16	8.7	8.4
17	8.4	8.2
18	7.8	8.0
19	7.6	7.7
20	7.3	7.7
21	7.3	7.4
22	7.4	7.2
23	7.4	7.1
24	7.3	7.2
25	7.3	7.2
26	7.2	7.2
27	Line out-of service	7.3
28	7.7	7.3
29	7.4	6.7
30	6.0	7.7
31	6.8	7.0

Jun-98		
Date	pH	
	Line 1	Line 2
1	7.2	6.6
2	Line out-of service	6.9
3	Line out-of service	6.6
4	6.9	Line out-of service
5	7.1	Line out-of service
6	6.8	Line out-of service
7	7.0	Line out-of service
8	7.0	Line out-of service
9	6.2	Line out-of service
10	6.4	7.0
11	6.5	7.3
12	6.8	7.3
13	7.0	7.3
14	6.9	7.3
15	6.9	7.3
16	6.7	6.7
17	6.4	6.2
18	6.8	7.4
19	6.7	7.6
20	6.7	7.6
21	7.0	7.5
22	7.3	7.5
23	8.4	8.1
24	7.4	Line out-of service
25	6.9	Line out-of service
26	6.7	Line out-of service
27	6.5	Line out-of service
28	6.4	Line out-of service
29	6.7	6.9
30	7.0	6.9

Molycorp, Inc.  
A Unocal Company  
Questa Division  
P.O. Box 469  
Questa, New Mexico 87556  
Telephone: (505) 586-0212



**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

November 3, 1998

Ms. Marcy Leavitt, Bureau Chief  
Ground Water Protection & Remediation Bureau  
State of New Mexico Environment Department  
Harold Runnels Building  
1190 St. Francis Drive  
Santa Fe, NM 87502

**RECEIVED**

**NOV 06 1998**

**GROUND WATER BUREAU**

**RE: Discharge Plan 933. Quarterly Monitoring Report  
Third Quarter, 1998**

Dear Ms. Leavitt:

Enclosed please find a complete set of analytical results on water samples taken from springs along the lower reaches of the Red River during the third quarter of 1998. As it was indicated in the transmittal letter to the quarterly monitoring report for that period, analytical work for metals was delayed due to administrative complications caused by the acquisition of CDS Laboratories by Acculabs Inc. of Phoenix.

Please have this enclosure incorporated in the subject report under Attachment B.

Sincerely,

A handwritten signature in cursive script, appearing to read "Geyza I. Lorinczi".

Geyza I. Lorinczi  
Environmental Manager

Encl.

Xc: D. R. Shoemaker  
K. A. Potts, Streich Lang



# Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Attn:GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #9-SEEP CONC BOX @QUESTA  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By:08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #:A98-136791

## ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	204	mg/L	SM2320		
Carbonate	0	mg/L	SM2320		
Calcium, dissolved	112	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	10	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	672	µS/cm	EPA120.1	1	
Conductivity, Field Data	676	µS/cm			
Fluoride	0.51	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	10.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	19.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	0.13	mg/L	SM3113B	0.10	
Sodium, dissolved	33.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	1.80	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	7.33	Units	EPA150.1		
pH, Field Data	7.30	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	205	mg/L	SM4500SO4	10	
Temperature, Field Data	15.0	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DJ



Attn:GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #10-FLOW OLD PIPE @QUEST  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By:08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #:A98-136792

ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	187	mg/L	SM2320		
Carbonate	4	mg/L	SM2320		
Calcium, dissolved	80.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	< 10	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	529	µS/cm	EPA120.1	1	
Conductivity, Field Data	542	µS/cm			
Fluoride	0.76	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	2.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	12.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	37.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.31	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	7.94	Units	EPA150.1		
pH, Field Data	7.80	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	130	mg/L	SM4500SO4	10	
Temperature, Field Data	14.6	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DZ



# Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Attn:GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #12-FIRST SPRG BLOW POPE  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By:08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #:A98-136793

## ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	89	mg/L	SM2320		
Carbonate	5	mg/L	SM2320		
Calcium, dissolved	43.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	14	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	433	µS/cm	EPA120.1	1	
Conductivity, Field Data	437	µS/cm			
Fluoride	0.82	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	4.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	13.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	30.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.31	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	8.04	Units	EPA150.1		
pH, Field Data	8.00	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	125	mg/L	SM4500S04	10	
Temperature, Field Data	16.7	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DZ





Attn:GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #14-SOUTH SIDE SPRING  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By:08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #:A98-136794

ANALYTICAL REPORT

Report Date 10/29/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	88	mg/L	SM2320		
Carbonate	4	mg/L	SM2320		
Calcium, dissolved	44.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	10	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	419	µS/cm	EPA120.1	1	
Conductivity, Field Data	425	µS/cm			
Fluoride	0.86	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	4.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	12.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	30.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.31	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	8.13	Units	EPA150.1		
pH, Field Data	8.20	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	120	mg/L	SM4500SO4	10	
Temperature, Field Data	18.5	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DZ



# Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Attn:GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #15 SPRG @CONC BOX 250'B  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By:08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #:A98-136795

## ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	90	mg/L	SM2320		
Carbonate	4	mg/L	SM2320		
Calcium, dissolved	22.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	10	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	241	µS/cm	EPA120.1	1	
Conductivity, Field Data	242	µS/cm			
Fluoride	1.05	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	3.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	6.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	20.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.30	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	8.18	Units	EPA150.1		
pH, Field Data	8.20	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	27	mg/L	SM4500SO4	10	
Temperature, Field Data	18.5	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: \_\_\_\_\_

*Glen Green*

Checked By: \_\_\_\_\_

*D3*



# Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Attn: GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #17 HATCHERY COLD H2O SU  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By: 08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #: A98-136796

## ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	183	mg/L	SM2320		
Carbonate	0	mg/L	SM2320		
Calcium, dissolved	59.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	< 10	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	425	µS/cm	EPA120.1	1	
Conductivity, Field Data	433	µS/cm			
Fluoride	0.70	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	< 2.0	mg/L	SM3113B	2.0	
Magnesium, dissolved	9.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	28.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.40	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	7.42	Units	EPA150.1		
pH, Field Data	7.10	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	74	mg/L	SM4500SO4	10	
Temperature, Field Data	12.9	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DJ



# Acculabs Inc.

Durango

75 Suttle Street, Durango CO 81301 ■ 970-247-4220 ■ Fax 247-4227

Attn: GEYSA LORINCZI  
MOLYCORP INC.  
PO BOX 469  
QUESTA

NM 87556

Sample ID : #18 HATCHERY WARM H2O SU  
Date Login: 08/31/98  
Date Rec'd: 08/31/98

SAMPLE COLLECTION:  
Date/Time/By: 08/27/98 ROB. VAIL  
Location: LOWER RED RIVER

CDS Lab #: A98-136797

## ANALYTICAL REPORT

Report Date 10/28/98

Testname	Result	Units	Method	DL	MCL
Silver, dissolved	< 0.01	mg/L	SM3113B	0.01	
Aluminum dissolved	< 0.5	mg/L	SM3113B	0.5	
Arsenic, dissolved	< 0.005	mg/L	SM3113B	0.005	
Barium, dissolved	< 0.5	mg/L	SM3113B	0.5	
Bicarbonate from Alkalinity	93	mg/L	SM2320		
Carbonate	4	mg/L	SM2320		
Calcium, dissolved	28.0	mg/L	SM3113B	0.5	
Cadmium, dissolved	< 0.005	mg/L	SM3113B	0.005	
Chloride	13	mg/L	SM4500CL	10	
Chromium, dissolved	< 0.02	mg/L	SM3113B	0.02	
Copper, dissolved	< 0.25	mg/L	SM3113B	0.25	
Conductivity	312	µS/cm	EPA120.1	1	
Conductivity, Field Data	317	µS/cm			
Fluoride	1.01	mg/L	SM4500FE	0.20	4.00
Iron, dissolved	< 0.2	mg/L	SM3113B	0.2	
Mercury	< 0.001	mg/L	SM3113B	0.001	
Potassium, dissolved	3.0	mg/L	SM3113B	0.5	
Magnesium, dissolved	8.0	mg/L	SM3113B	0.5	
Manganese, dissolved	< 0.2	mg/L	SM3113B	0.2	
Molybdenum, dissolved	< 0.10	mg/L	SM3113B	0.10	
Sodium, dissolved	27.0	mg/L	SM3113B	0.5	
Nickel, dissolved	< 0.02	mg/L	SM3113B	0.02	
Nitrate/Nitrite-N	0.32	mg/L	EPA353.2	0.05	10.00
Lead, dissolved	< 0.02	mg/L	SM3113B	0.02	
pH	8.18	Units	EPA150.1		
pH, Field Data	8.20	Units			
Selenium, dissolved	< 0.002	mg/L	SM3113B	0.002	
Sulfate	66	mg/L	SM4500SO4	10	
Temperature, Field Data	16.8	°C			
Zinc, dissolved	< 0.25	mg/L	SM3113B	0.25	

Approved By: John Green Checked By: DJ

