



**COLORADO**  
Department of Public  
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

March 17, 2015

Paul Seby, Registered Agent  
London Mine Limited Liability Company  
c/o Holland & Hart  
555 17<sup>th</sup> Street #3200  
Denver, Colorado 80202

Certified Mail Number: 7007 0220 0001 0163 1206

**RE: Order for Civil Penalty, Number: IP-150317-1**

Dear Mr. Seby:

London Mine Limited Liability Company is hereby served with the enclosed Order for Civil Penalty ("Penalty Order"). This Penalty Order is issued by the Colorado Department of Public Health and Environment's Water Quality Control Division (the "Division") pursuant to the authority given to the Division by §25-8-608(2) of the *Colorado Revised Statutes*. Payment of the imposed civil penalty should be made in accordance with the methods referenced in the Penalty Order.

If you have any questions regarding the Penalty Order or the payment method, please do not hesitate to contact me at (303) 692-3634 or by electronic mail at [kelly.morgan@state.co.us](mailto:kelly.morgan@state.co.us).

Sincerely,

Kelly Morgan, Enforcement Specialist  
Clean Water Enforcement Unit  
WATER QUALITY CONTROL DIVISION

*Enclosure(s)*

ec: Natasha Davis, EPA Region VIII  
Park County Environmental Health Department  
Nicole Rowan, Watershed Section, CDPHE  
Michael Beck, Grants and Loans Unit, CDPHE  
Bret Icenogle, Engineering Section, CDPHE  
Kelly Jacques, Field Services Section, CDPHE  
Kenan Diker, Permits Section, CDPHE  
Tania Watson, Data Management, CDPHE





# COLORADO

## Department of Public Health & Environment

### WATER QUALITY CONTROL DIVISION

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ORDER FOR CIVIL PENALTY

NUMBER: IP-150317-1

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IN THE MATTER OF:      LONDON MINE LIMITED LIABILITY COMPANY  
CDPS PERMIT NO. CO0038334  
PARK COUNTY, COLORADO

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This matter comes before the Executive Director of the Colorado Department of Public Health and Environment ("Department") on petition by the Water Quality Control Division ("Division") for a civil penalty against London Mine Limited Liability Company ("London Mine"). The Executive Director, through his designee (hereinafter the "Executive Director"), having considered this petition, makes the following findings and issues the following Order for Civil Penalty in accordance with §25-8-608, C.R.S. and 5 CCR 1002-21, §21.12.

#### GENERAL FINDINGS

1. Pursuant to §25-8-608(1), C.R.S., any person who violates the Colorado Water Quality Control Act ("Act"), or any permit issued under the Act, shall be subject to a civil penalty of not more than ten thousand dollars per day for each day during which such violation occurs.
2. On March 21, 2013, the Division issued London Mine a Notice of Violation/Cease and Desist Order (the "NOV/CDO") which included findings that London Mine violated the Colorado Discharge Permit System Permit, Number CO0038334 for discharges associated with the London Water Tunnel. A copy of the NOV/CDO is attached hereto as Exhibit A and is incorporated herein by reference.
3. On April 19, 2013, the Division received a request for a hearing and a request for a stay from London Mine. That hearing is pending.
4. On August 28, 2013, following several months of unsuccessful settlement negotiations, the Division filed a Notice of Setting Conference with the State of Colorado Office of Administrative Courts for the purpose of scheduling a date for a hearing to determine liability issues associated with the NOV/CDO. A hearing on the matter was subsequently set for April 14-16, 2014 before the Colorado Office of Administrative Courts, case number WQ-2013-002.
5. In March 2014, London Mine approached the Division with a proposal for a potential technical solution to address the current and future water quality issues at the London Water Tunnel (the "Pilot Project"). On March 27, 2014, the Division and London Mine entered into an Agreement to Hold Matter in Abeyance that identified specific measures and time schedules necessary to allow time for the London Mine to implement and evaluate the Pilot Project (the "Agreement"). A copy of the Agreement is attached hereto as Exhibit B and is incorporated herein by reference.



6. The London Mine failed to complete construction of the Pilot Project by September 14, 2014, as required by Milestone 2 of the Agreement.
7. Based on the findings and conclusions set forth in the NOV/CDO, London Mine's failure to comply with the Agreement, and following several additional months of unsuccessful settlement negotiations, the Director hereby enters the following order.

**ORDER FOR CIVIL PENALTY**

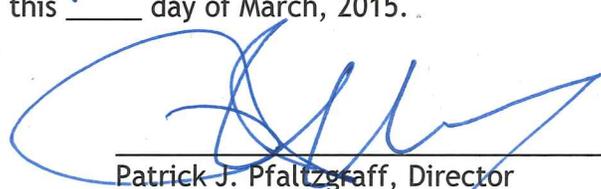
8. Based upon the facts described in the NOV/CDO, the Executive Director has determined that a civil penalty is appropriate and warranted in this matter. Therefore, the Executive Director hereby imposes a civil penalty in the amount of One Million One Hundred Eleven Thousand Nine Hundred Fourteen Dollars (\$1,111,914.00) against London Mine. The civil penalty was determined in accordance with the procedures outlined in the Division's Civil Penalty Policy (May 1, 1993). A copy of the civil penalty calculation is attached hereto as Exhibit C and is incorporated herein by reference. The civil penalty shall be paid within thirty (30) calendar days of the date of this Order for Civil Penalty. Method of payment shall be by certified or cashier's check drawn to the order of the "Colorado Department of Public Health and Environment," and delivered to:

Kelly Morgan  
Colorado Department of Public Health and Environment  
Water Quality Control Division  
Mail Code: WQCD-CWE-B2  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

**REQUEST FOR APPEAL**

9. Pursuant to 5 CCR 1002-21, §21.12(B) and 5CCR 1002-21, §21.4(A)(3)(b), an appeal of the determination of the civil penalty by the Executive Director shall be made in writing to the Division. Requests for such an appeal should be made in accordance with 5 CCR 1002-21, §21.12(B), shall be filed no later than thirty (30) calendar days after issuance of this action, and shall include the information specified in 5 CCR 1002-21, §21.4(B)(2).
10. Any appeal of the Order for Civil Penalty will be consolidated with the appeal regarding the NOV/CDO.

Issued at Denver, Colorado, this <sup>17<sup>th</sup></sup> day of March, 2015.

  
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Patrick J. Pfaltzgraff, Director  
Water Quality Control Division  
DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

# EXHIBIT A

## STATE OF COLORADO

John W. Hickenlooper, Governor  
Christopher E. Urbina, MD, MPH  
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.                      Laboratory Services Division  
Denver, Colorado 80246-1530              8100 Lowry Blvd.  
Phone (303) 692-2000                      Denver, Colorado 80230-6928  
Located in Glendale, Colorado              (303) 692-3090

<http://www.cdphe.state.co.us>



Colorado Department  
of Public Health  
and Environment

March 21, 2013

Arthur S. Bowman, Jr., Registered Agent  
London Mine Limited Liability Company  
1221 South Clarkson Street, Suite 222  
Denver, Colorado 80210

**Certified Mail Number: 7005 1820 0000 3212 8519**

**RE: Service of Notice of Violation/Cease and Desist Order, Number: IO-130321-1**

Dear Mr. Bowman:

London Mine Limited Liability Company ("London Mine, LLC") is hereby served with the enclosed Notice of Violation / Cease and Desist Order (the "NOV/CDO"). This NOV/CDO is issued by the Colorado Department of Public Health and Environment's Water Quality Control Division (the "Division") pursuant to the authority given to the Division by §§25-8-602 and 25-8-605, C.R.S., of the Colorado Water Quality Control Act, (the "Act"). The Division bases this NOV/CDO upon findings that London Mine, LLC has violated the Permit regulations promulgated pursuant to the Act, as described in the enclosed NOV/CDO.

Pursuant to §25-8-603, C.R.S., London Mine, LLC is required, within thirty (30) calendar days of receipt of this NOV/CDO, to submit to the Division an answer admitting or denying each paragraph of the Findings of Fact and responding to the Notice of Violation.

This action could result in the imposition of civil penalties. The Division is authorized pursuant to §25-8-608, C.R.S. to impose a penalty of \$10,000 per day for each day during which such violation occurs.

Please be advised that the Division is continuing its investigation into this matter and the Division may identify supplementary violations that warrant amendments to this NOV/CDO or the issuance of additional enforcement actions.

# EXHIBIT A

London Mine Limited Liability Company  
Notice of Violation / Cease and Desist Order  
Page 2 of 2

Should you or representatives of London Mine, LLC desire to discuss this matter informally with the Division, or if you have any questions regarding the NOV/CDO, please do not hesitate to contact me by phone at (303) 692-3634 or by electronic mail at [kelly.morgan@state.co.us](mailto:kelly.morgan@state.co.us).

Sincerely,



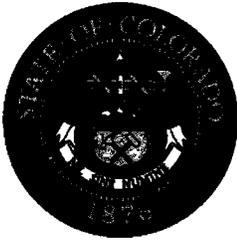
Kelly Morgan  
Clean Water Compliance & Enforcement Unit  
WATER QUALITY CONTROL DIVISION

Enclosure(s)

cc: Enforcement File

ec: Park County Environmental Health Department  
Natasha Davis, EPA Region VIII ([davis.natasha@epa.gov](mailto:davis.natasha@epa.gov))  
Annette Quill, Office of the Colorado Attorney General  
Engineering Section, CDPHE  
Field Services Section, CDPHE  
Dick Parachini, Clean Water Program, CDPHE  
Janet Kieler, Permits Section, CDPHE  
Michael Beck, Grants and Loans Unit, CDPHE  
Tania Watson, Compliance Assurance, CDPHE

# EXHIBIT A



**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**

**DIVISION OF ADMINISTRATION**

**WATER QUALITY CONTROL DIVISION**

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**NOTICE OF VIOLATION / CEASE AND DESIST ORDER**

**NUMBER: IO-130321-1**

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**IN THE MATTER OF:      LONDON MINE LIMITED LIABILITY COMPANY**  
**CDPS PERMIT NUMBER: CO-0038334**  
**PARK COUNTY, COLORADO**

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Pursuant to the authority vested in the Colorado Department of Public Health and Environment's (the "Department") Division of Administration by §§25-1-109 and 25-8-302, C.R.S., which authority is implemented through the Department's Water Quality Control Division (the "Division"), and pursuant to §§25-8-602 and 25-8-605, C.R.S., the Division hereby makes the following Findings of Fact and issues the following Notice of Violation / Cease and Desist Order:

### **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

1. At all times relevant to the violations cited herein, London Mine Limited Liability Company ("London Mine, LLC") was a Colorado limited liability company in good standing and registered to conduct business in the State of Colorado.
2. London Mine, LLC is a "person" as defined under the Water Quality Control Act, §25-8-103(13), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2(73).
3. London Mine, LLC owns and/or operates the London Mine Water Tunnel and associated treatment works, located approximately twelve (12) miles northwest of the town of Fairplay, Park County, Colorado, (the "Facility").
4. The London Mine Water Tunnel is part of the mine workings of the London Mine which is an underground gold mine which has ceased operation. Historically, the principle ores at this mine included gold and a small amount of silver. The contributing wastewater sources at the Facility include acid mine drainage from the London Mine Water Tunnel of the London Mine. The acid mine drainage is conveyed from the London Mine Water Tunnel portal to a sedimentation pond for passive treatment that consists solely of settling. No other wastewater treatment occurs at the Facility.
5. The Facility is the subject of the Colorado Discharge Permit System, Permit No. CO-0038334 (the "Permit"). The current Permit became effective on February 1, 2006. The Permit was amended with Amendment #1 and reissued effective July 1, 2007. The Permit was modified to correct typographical

# EXHIBIT A

errors with Minor Modification #1 and reissued effective August 31, 2009. The Permit expired on January 31, 2011 and has subsequently been administratively extended, pending permit reissuance.

6. The Permit authorizes London Mine, LLC to discharge treated wastewater from the Facility through the outfall associated with the sedimentation pond (Outfall 001) and into South Mosquito Creek. The Permit includes an authorization for a discharge from Outfall MON1, which is a database distinction assigned to Outfall 001 for monitor and report only effluent parameters required to support a reasonable potential analysis. Outfall 001 is physically located at latitude 39° 16' 22.5"N., longitude 106° 8' 41.5" W.
7. South Mosquito Creek is "state waters" as defined by §25-8-103(19), C.R.S. and its implementing permit regulation, 5 CCR 1002-61, §61.2 (102).
8. Pursuant to 5 CCR 1002-61, §61.8, London Mine, LLC must comply with all the terms and conditions of the Permit, and violations of such terms and conditions as specified in the Permit may be subject to civil and criminal liability pursuant to §§25-8-601 through 25-8-612, C.R.S.
9. On July 15, 2009, the Division issued a Notice of Violation/ Cease and Desist Order, Number IO-090715-1, to London Mine, LLC (the "2009 Order"). The 2009 Order cited London Mine, LLC for violations of the Permit. The 2009 Order included a number of corrective actions that London Mine, LLC was required to implement at the Facility in order to ensure permit compliance.

### Failure to Comply with Permit Effluent Limitations

10. Pursuant to Part I.A.1 of the Permit, London Mine, LLC's permitted discharge at Outfall 001A shall not exceed the effluent limitations specified below:

Effluent Parameter	Discharge Limitations			
	30- Day Average	7-Day Average	85 <sup>th</sup> Percentile of 24 Month Rolling Average	Daily Maximum
Flow, MGD	Report	NA	NA	Report
Total Suspended Solids (TSS), mg/l	20	30	NA	NA
pH, s.u. (minimum- maximum)	NA	NA	NA	6.5 - 9
Oil and Grease, mg/l	NA	NA	NA	10
Zinc, potentially dissolved, ug/l	NA	1,300	654	NA
Cadmium, potentially dissolved, ug/l				
Through 2/28/2007	4	NA	NA	NA
Beginning 3/1/2007	3.2	NA	NA	NA
Whole Effluent Toxicity, Chronic Lethality	NA	NA	NA	Report*

*\*The whole effluent toxicity limitation is subject to the conditional requirements outlined in Part I.A.2 of the Permit*

# EXHIBIT A

11. Pursuant to Part I.B.1. of the Permit, London Mine, LLC is required to monitor defined effluent parameters at specified frequencies to provide an indication of compliance or non-compliance with the effluent limitations of the Permit.
12. Pursuant to Part I.E. of the Permit, London Mine, LLC is required to summarize and report the analytical results of its effluent monitoring to the Division via monthly discharge monitoring reports ("DMR"). Each DMR is to include a certification by London Mine, LLC that the information provided therein is true, accurate and complete to the knowledge and belief of London Mine, LLC.
13. London Mine, LLC's DMRs for May 2009, June 2009, July 2009, August 2009, September 2009, October 2009, November 2009, December 2009, January 2010, February 2010, March 2010, April 2010, May 2010, June 2010, July 2010, August 2010, September 2010, October 2010, November 2010, December 2010, January 2011, February 2011, March 2011, April 2011, May 2011, June 2011, July 2011, August 2011, September 2011, October 2011, November 2011, December 2011, January 2012, February 2012, March 2012, April 2012, May 2012, June 2012, July 2012, August 2012, September 2012, October 2012, November 2012, December 2012, and January 2013 include, among other information and data, the following effluent concentration summary data for total suspended solids, pH, potentially dissolved zinc, and potentially dissolved cadmium which exceeded the effluent limitations imposed by Part I.A.1. of the Permit:

<b>London Mine, LLC EFFLUENT SELF-MONITORING DATA</b>			
DISCHARGE MONITORING REPORTING PERIOD	OUTFALL NUMBER	SAMPLE MEASUREMENT	SAMPLE MEASUREMENT
<b>TOTAL SUSPENDED SOLIDS</b>		MAX 7 DAY AVG. LIMIT= 20 mg/l	30 DAY AVG. LIMIT= 20 mg/l
August 31, 2012	001A	<50	<50
<b>pH</b>		MINIMUM LIMIT= 6.5 S.U.	MAXIMUM LIMIT= 9.0 S.U.
June 30, 2009	001A	6.23	--
February 28, 2010	001A	6.4	--
<b>ZINC, POTENTIALLY DISSOLVED</b>		MAX 7 DAY AVG LIMIT= 1,300 µg/l	85 <sup>th</sup> PERCENTILE of 24 MONTH ROLLING AVG. LIMIT= 654 µg/l
May 31, 2009	001A	--	1,377.5
June 30, 2009	001A	2,300	1,400
July 31, 2009	001A	1,400	1,400
August 31, 2009	001A	1,600	1,510
September 30, 2009	001A	--	1,510
October 31, 2009	001A	--	1,510
November 30, 2009	001A	--	1,510
December 31, 2009	001A	--	1,510

# EXHIBIT A

<b>London Mine, LLC</b>			
<b>EFFLUENT SELF-MONITORING DATA</b>			
<b>DISCHARGE MONITORING REPORTING PERIOD</b>	<b>OUTFALL NUMBER</b>	<b>SAMPLE MEASUREMENT</b>	<b>SAMPLE MEASUREMENT</b>
<b>ZINC, POTENTIALLY DISSOLVED</b>		MAX 7 DAY AVG LIMIT= 1,300 µg/l	85 <sup>th</sup> PERCENTILE of 24 MONTH ROLLING AVG. LIMIT= 654 µg/l
January 31, 2010	001A	--	1,510
February 28, 2010	001A	--	1,510
March 31, 2010	001A	--	1,510
April 30, 2010	001A	--	1,510
May 31, 2010	001A	--	1,510
June 30, 2010	001A	--	1,510
July 31, 2010	001A	--	1,400
August 31, 2010	001A	--	1,400
September 30, 2010	001A	--	1,400
October 31, 2010	001A	--	1,400
November 30, 2010	001A	--	1,355
December 31, 2010	001A	--	1,355
January 31, 2011	001A	--	1,355
February 28, 2011	001A	--	1,310
March 31, 2011	001A	--	1,310
April 30, 2011	001A	--	1,110
May 31, 2011	001A	--	766
June 30, 2011	001A	2,780	766
July 31, 2011	001A	4,910	766
August 31, 2011	001A	3,120	766
September 30, 2011	001A	2,770	1,739.5
October 31, 2011	001A	3,410	2,775.5
November 30, 2011	001A	2,440	2,775.5
December 31, 2011	001A	2,060	2,775.5
January 31, 2012	001A	1,560	2,775.5
February 29, 2012	001A	1,560	2,775.5
March 31, 2012	001A	1,400	2,775.5

# EXHIBIT A

<b>London Mine, LLC</b>			
<b>EFFLUENT SELF-MONITORING DATA</b>			
<b>DISCHARGE MONITORING REPORTING PERIOD</b>	<b>OUTFALL NUMBER</b>	<b>SAMPLE MEASUREMENT</b>	<b>SAMPLE MEASUREMENT</b>
<b>ZINC, POTENTIALLY DISSOLVED</b>		MAX 7 DAY AVG LIMIT= 1,300 µg/l	85 <sup>th</sup> PERCENTILE of 24 MONTH ROLLING AVG. LIMIT= 654 µg/l
April 30, 2012	001A	1,600	2,775.5
May 31, 2012	001A	1,600	2,775.5
June 30, 2012	001A	3,600	2,967
July 31, 2012	001A	2,500	2,967
August 31, 2012	001A	2,200	2,967
September 30, 2012	001A	2,400	2,967
October 31, 2012	001A	2,100	2,967
November 30, 2012	001A	2,300	2,967
December 31, 2012	001A	2,000	2,967
January 31, 2013	001A	1,500	2,967
<b>CADMIUM, POTENTIALLY DISSOLVED</b>			30 DAY AVG. LIMIT= 3.2 µg/l
May 31, 2009	001A	--	4
June 30, 2009	001A	--	11
July 31, 2009	001A	--	4.7
August 31, 2009	001A	--	5.2
June 30, 2011	001A	--	11.8
July 31, 2011	001A	--	21
August 31, 2011	001A	--	14.9
September 30, 2011	001A	--	10.2
October 31, 2011	001A	--	11
November 30, 2011	001A	--	6.49
December 31, 2011	001A	--	7.62
January 31, 2012	001A	--	4.8
February 29, 2012	001A	--	5.91
March 31, 2012	001A	--	3.8
April 30, 2012	001A	--	4.4
May 31, 2012	001A	--	4.9

# EXHIBIT A

London Mine, LLC EFFLUENT SELF-MONITORING DATA			
DISCHARGE MONITORING REPORTING PERIOD	OUTFALL NUMBER	SAMPLE MEASUREMENT	SAMPLE MEASUREMENT
CADMIUM, POTENTIALLY DISSOLVED			30 DAY AVG. LIMIT= 3.2 µg/l
June 30, 2012	001A	--	14
July 31, 2012	001A	--	8.4
August 31, 2012	001A	--	7.9
September 30, 2012	001A	--	7.8
October 31, 2012	001A	--	8.3
November 30, 2012	001A	--	8.2
December 31, 2012	001A	--	6.6
January 31, 2013	001A	--	4.1

- Total suspended solids, pH, potentially dissolved zinc, and potentially dissolved cadmium are "pollutants" as defined by §25-8-103(15), C.R.S., or indicators thereof.
- Division records establish that the Permit and its subsequent amendment do not authorize the pollutant discharge levels identified above in paragraph 13. London Mine, LLC does not have any other permit authorizing such discharge into State Waters.
- London Mine, LLC's failure to comply with the Permit effluent limitations, as identified above in paragraph 13, constitutes violations of Part I.A.1 of the Permit.

## NOTICE OF VIOLATION

- Based on the foregoing Findings of Fact and Conclusions of Law, you are hereby notified that the Division has determined that the London Mine, LLC has violated the following section of the Permit:

**Part I.A.1. of Permit No. CO-0038334** which states in part: "In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), the permitted discharge shall not contain effluent parameter concentrations which exceed the following limitations..."

## REQUIRED CORRECTIVE ACTION

Based upon the foregoing factual and legal determinations and pursuant to §25-8-602 and §25-8-605, C.R.S., London Mine, LLC is hereby ordered to:

- Cease and desist from all violations of the Colorado Water Quality Control Act, §§25-8-101 through 25-8-803, C.R.S., its implementing regulations promulgated thereto and the Permit.

# EXHIBIT A

Furthermore, the Division hereby orders London Mine, LLC to comply with the following specific terms and conditions of this Order:

19. Within thirty (30) calendar days of receipt of this Order, London Mine, LLC shall retain the services of a qualified individual or entity specifically experienced in mine-related wastewater treatment to evaluate and recommend Facility improvements and/or mine water management options that must be implemented by London Mine, LLC to ensure compliance with the terms and conditions of the Permit. This evaluation must consider in detail all contributing pollutant sources and pollutant concentrations for all parameters of concern, specifically including zinc and cadmium, and what techniques or technologies may be utilized to produce effluent that is consistently in compliance with the Permit effluent limitations. The evaluation shall include itemized cost estimates associated with each treatment technique and/or technology identified as an option for mine water management.
20. Within forty five (45) calendar days of receipt of this Order, London Mine, LLC shall provide documentation to the Division that it has retained the services of the qualified individual or entity identified in paragraph 19. This documentation shall include, at a minimum, a copy of the individual or entity's qualifications and a copy of the written contract or agreement for such services, including a copy of the scope of services to be provided.
21. Within ninety (90) calendar days of receipt of this Order, London Mine, LLC shall submit in writing to the Division a final report on the findings of the evaluation identified and outlined in paragraph 19 above. Along with the findings of the evaluation, the report must identify the specific short-term and long-term measures that will be taken by London Mine, LLC in order for the Facility to consistently produce effluent that is in compliance with limitations identified in Part I.A. of the Permit. For each short-term and long-term measure identified, London Mine, LLC shall also submit a time schedule for completion of each measure. The implementation time schedule submitted must identify completion of all measures by no later than October 31, 2013. The measures and time schedule submitted shall become a condition of this Order, and London Mine, LLC shall implement the measures and time schedule as submitted unless notified by the Division, in writing, that alternate measures and/or time schedules are appropriate. If the Division imposes alternate measures and/or time schedules, they shall also become a condition of this Order.
22. Beginning in April 2013, and every calendar month thereafter, London Mine, LLC shall submit monthly progress reports to the Division by the end of each calendar month. At a minimum, each report shall outline activities undertaken in the current reporting period and planned activities for the next month to remain in compliance with this Order.
23. If the London Mine, LLC becomes aware of any situation or circumstances that cause the London Mine, LLC to become unable to comply with any condition or time schedules set forth by this Order, the London Mine, LLC shall provide written notice to the Division within five (5) calendar days of the London Mine, LLC becoming aware of such circumstances. The London Mine, LLC's notice shall describe what, if any, impacts will occur on the London Mine, LLC's ability to comply with the Colorado Water Quality Control Act and any impacts on the remaining conditions and/or time schedules specified by this Order, and what steps are being taken to mitigate the impacts.

# EXHIBIT A

24. All documents submitted under this Order shall use the same titles as stated in this Order, and shall reference both the number of this Order and the number of the paragraph pursuant to which the document is required. Within thirty (30) calendar days of receiving Division comments on submitted documents, the London Mine, LLC shall revise the submitted document(s) to properly address the Division's comments and resubmit the document(s) for Division review.

## NOTICES AND SUBMITTALS

For all documents, plans, records, reports and replies required to be submitted by this Notice of Violation/Cease and Desist Order, the London Mine, LLC shall submit an original and an electronic copy to the Division at the following address:

Colorado Department of Public Health and Environment  
Water Quality Control Division / WQCD-CWE-B2  
Attention: Kelly Morgan  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530  
Telephone: (303) 692-3634  
Email: [kelly.morgan@state.co.us](mailto:kelly.morgan@state.co.us)  
Fax: (303) 782-0390

*(For any facsimile transmittals, please include a cover sheet addressed to Ms. Morgan.)*

For any person submitting documents, plans, records and reports pursuant to this Notice of Violation / Cease and Desist Order, that person shall make the following certification with each submittal:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

## OBLIGATION TO ANSWER AND REQUEST FOR HEARING

Pursuant to §25-8-603, C.R.S. and 5 CCR 1002, §21.11 you are required to submit to the Division an answer affirming or denying each paragraph of the Findings of Fact and responding to the Notice of Violation. The answer shall be filed no later than thirty (30) calendar days after receipt of this action.

Section 25-8-603, C.R.S. and 5 CCR 1002, §21.11 also provide that the recipient of a Notice of Violation may request the Division to conduct a public hearing to determine the validity of the Notice, including the Findings of Fact. Such request shall be filed in writing with the Division and include the information specified in 5 CCR 1002, §21.4(B)(2). Absent a request for hearing, the validity of the factual allegations and the Notice of Violation shall be deemed established in any subsequent Department proceeding. The

# EXHIBIT A

request for hearing, if any, shall be filed no later than thirty (30) calendar days after issuance of this action. The filing of an answer does not constitute a request for hearing.

## FALSIFICATION AND TAMPERING

Be advised, in accord with §25-8-610, C.R.S., that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Colorado Water Quality Control Act or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this article is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not more than ten thousand dollars, or by imprisonment in the county jail for not more than six months, or by both such fine and imprisonment.

## POTENTIAL CIVIL AND CRIMINAL PENALTIES

You are also advised that any person who violates any provision of the Colorado Water Quality Control Act (the "Act"), §§25-8-101 to 803, C.R.S., or of any permit issued under the Act, or any control regulation promulgated pursuant to the Act, or any final cease and desist order or clean-up order issued by the Division shall be subject to a civil penalty of not more than ten thousand dollars per day for each day during which such violation occurs. Further, any person who recklessly, knowingly, intentionally, or with criminal negligence discharges any pollutant into any state waters commits criminal pollution if such discharge is made without a permit, if a permit is required by the Act for such discharge, or if such discharge is made in violation of any permit issued under the Act or in violation of any Cease and Desist Order or Clean-up Order issued by the Division. By virtue of issuing this Notice of Violation / Cease and Desist Order, the State has not waived its right to bring an action for penalties under §§25-8-608 and 609, C.R.S., and may bring such action in the future.

## RELEASE OR DISCHARGE NOTIFICATION

Pursuant to §25-8-601, C.R.S., you are further advised that any person engaged in any operation or activity which results in a spill or discharge of oil or other substance which may cause pollution of the waters of the state, shall notify the Division of the discharge. If said person fails to so notify, said person is guilty of a misdemeanor, and may be fined or imprisoned or both.

## EFFECT OF ORDER

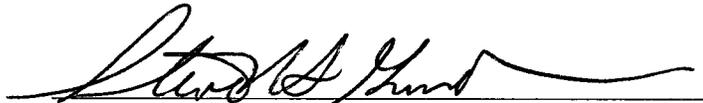
Nothing herein contained, particularly those portions requiring certain acts to be performed within a certain time, shall be construed as a permit or license, either to violate any provisions of the public health laws and regulations promulgated thereunder, or to make any discharge into state waters. Nothing herein contained shall be construed to preclude other individuals, cities, towns, counties, or duly constituted political subdivisions of the state from the exercise of their respective rights to suppress nuisances or to preclude any other lawful actions by such entities or the State.

# EXHIBIT A

For further clarification of your rights and obligations under this Notice of Violation / Cease and Desist Order you are advised to consult the Colorado Water Quality Control Act, §§25-8-101 to 803, C.R.S., and regulations promulgated thereunder, 5 CCR 1002.

Issued at Denver, Colorado, this 21<sup>st</sup> day of March, 2013.

**FOR THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**



Steven H. Gunderson, Director  
WATER QUALITY CONTROL DIVISION

# EXHIBIT B

<b>STATE OF COLORADO</b> <b>OFFICE OF ADMINISTRATIVE COURTS</b> 1525 Sherman Street, 4 <sup>th</sup> Floor, Denver, Colorado 80203	
<b>COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY CONTROL COMMISSION,</b> Petitioner,	▲ COURT USE ONLY ▲
v.	CASE NUMBER:
<b>LONDON MINE, LLC,</b> Respondent.	<b>WQ 2013-0002</b>
<b>ORDER GRANTING JOINT MOTION TO HOLD CASE IN ABEYANCE</b>	

This matter comes before the Administrative Law Judge (ALJ) on the Joint Motion to Hold Case in Abeyance, filed by the parties on March 27, 2014. Per the joint motion, the parties have reached an agreement to hold this matter in abeyance while Respondent explores a potential technical solution that may address current and future water quality issues at the London Water Tunnel as alleged in the Notice of Violation. Based on a review of the joint motion and the case file in this matter, it is hereby ordered that:

1. The Joint Motion to Hold Case in Abeyance is granted. This matter shall remain held in abeyance until further order of the ALJ.
2. The hearing scheduled in this matter for April 14 to 16, 2014 is vacated.
3. The parties shall file a status report with the ALJ no later than 180 days from the date of this Order describing the status of their settlement efforts and indicating whether the matter should be reset for a hearing on the merits.

**DONE AND SIGNED** this 1 day of April, 2014.



ROBERT N. SPENCER  
Administrative Law Judge

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APR 02 2014  
OFFICE OF THE  
ATTORNEY GENERAL  
NATURAL RESOURCES &  
ENVIRONMENTAL PROTECTION SECTION

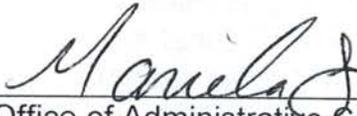
# EXHIBIT B

## CERTIFICATE OF SERVICE

I hereby certify that I have served a true and correct copy of the above **ORDER GRANTING JOINT MOTION TO HOLD CASE IN ABEYANCE** by placing same in the U.S. Mail, postage prepaid, at Denver, Colorado to:

Paul M. Seby, Esq.  
Marian C. Larsen, Esq.  
Seby Larson, LLP  
165 Madison Street  
Denver, CO 80206

and by courier pickup on: **Annette M. Quill, Senior Assistant Attorney General, Natural Resources Section, 1300 Broadway, 7th Floor, Denver, CO 80203**, on this 2 day of April, 2014.

  
\_\_\_\_\_  
Office of Administrative Courts

# EXHIBIT B

STATE OF COLORADO OFFICE OF ADMINISTRATIVE COURTS  1525 Sherman Street 4 <sup>th</sup> Floor Denver, CO 80203	
In re: London Mine LLC Notice of Violation/Cease and Desist Order Number IO-130321-1	▲ COURT USE ONLY ▲
Attorneys for Colorado Department of Public Health and Environment, Water Quality Control Division:  John Suthers, Attorney General Annette M. Quill*, Senior Assistant Attorney General 1300 Broadway, 7 <sup>th</sup> Floor Email: Annette.Quill@state.co.us Registration Number: 27683 Phone Number: (720) 508-6264 Fax: (720) 508-6039 *Counsel of Record	Case No.: WQ 20130002
<b>JOINT MOTION TO HOLD CASE IN ABEYANCE</b>	

The Water Quality Control Division of the Colorado Department of Public Health and Environment ("Division") and London Mine, LLC ("London Mine") (collectively, the "Parties") jointly move the Court to hold this case in abeyance. As grounds for the motion, the Parties state as follows:

As indicated in the Parties' Joint Request to Suspend Prehearing Submittal Deadlines, the Parties have been negotiating an agreement that would allow London Mine to explore a potential technical solution that may address current and future water quality issues at the London Water Tunnel as alleged in the Notice of Violation ("NOV") that is the subject of this case. The Parties agree that the Agreement is not an admission of liability by the London Mine to any of the allegations set forth in the NOV, and as set forth in the Agreement, the London Mine retains the right to assert all affirmative defenses available to it including those set forth in its Answer to the NOV.

As reflected in the attached Agreement To Hold Matter in Abeyance ("Agreement"), the Parties have reached such an agreement to hold this matter in abeyance. Therefore, pursuant to

# EXHIBIT B

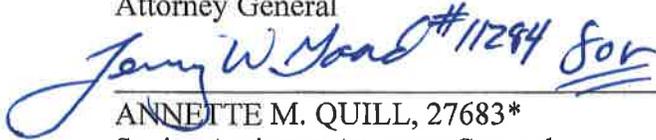
and subject to the Agreement, and in order to give the Parties the opportunity to fulfill the terms of the Agreement, further proceedings in this matter are not necessary at this time.

THEREFORE, the Parties respectfully move the Court to vacate the hearing in this matter scheduled for April 14-16, 2014, and to hold the matter in abeyance until further notice by the Parties.

Respectfully submitted this 27<sup>th</sup> day of March, 2014.

JOHN W. SUTHERS

Attorney General



ANNETTE M. QUILL, 27683\*

Senior Assistant Attorney General

Natural Resources and Environment Section

Attorneys for Water Quality Control Division

\*Counsel of Record

Colorado Department of Law

Ralph L. Carr Judicial Center

1300 Broadway, 7<sup>th</sup> Floor

Denver, CO 80203

Phone: (720) 508-6264

Fax: (720) 508-6039

[annette.quill@state.co.us](mailto:annette.quill@state.co.us)



SEBY LARSEN LLP

Paul M. Seby, #27487

Marian C. Larsen, #36514

Seby Larsen LLP

165 Madison Street

Denver, CO 80206

303-248-3772

[Paul.seby@sebylarsen.com](mailto:Paul.seby@sebylarsen.com)

[Mimi.larsen@sebylarsen.com](mailto:Mimi.larsen@sebylarsen.com)

Counsel for the London Mine LLC

# EXHIBIT B

## CERTIFICATE OF SERVICE

I certify that on this 27<sup>th</sup> day of March, 2014, the foregoing **JOINT MOTION TO HOLD CASE IN ABEYANCE** was served via email to the following:

Paul M. Seby Esq.  
Marian C. Larsen Esq.  
Seby Larsen, LLP  
165 Madison Street  
Denver, CO 80206

/s/Geoffrey Barta

# EXHIBIT B

## COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

### DIVISION OF ADMINISTRATION

### WATER QUALITY CONTROL DIVISION

**In re: Notice of Violation/Cease and Desist Order, Number: IO-130321-1**

---

#### AGREEMENT TO HOLD MATTER IN ABEYANCE

---

The Colorado Department of Public Health and Environment (“Department”), through the Water Quality Control Division (“Division”), and the London Mine Limited Liability Company (“LM LLC”), hereby agree to hold in abeyance the matter of London Mine LLC, Notice of Violation/Cease and Desist Order, Number WQ-2013-002 including the hearing that is currently scheduled for April 14-16, 2014. The Division and the LM LLC may be referred to collectively as “the Parties.” In support of the agreement to hold the matter in abeyance, the Parties state as follows:

1. The LM LLC holds Colorado Discharge Permit System Discharge Permit No. CO-0038334 (“Discharge Permit”).
2. On March 21, 2013, the Division served the LM LLC with a Notice of Violation/Cease and Desist Order, Number: IO-130321-1 (“NOV”).
3. The NOV asserts that the LM LLC has failed to comply with the Discharge Permit effluent limitations.
4. On April 19, 2013, the LM LLC submitted to the Division its Answer to the NOV. In its Answer, the LM LLC sets forth defenses and affirmative defenses in response to the allegations set forth in the NOV, which include that the alleged violations were caused by a third party.
5. By letter dated July 5, 2013, the Division agreed to suspend the required corrective action outlined in paragraph 18 of the NOV (ordering LM LLC to cease and desist from all alleged violations of the Colorado Water Quality Control Act) until such time as the liability issues raised by LM LLC are resolved.
6. A hearing on the NOV is currently set for April 14 -16, 2014 before the Colorado Office of Administrative Courts, case number WQ-2013-002.

# EXHIBIT B

7. Since the issuance of the NOV through the present, the Parties have been engaged in discussions concerning the NOV. LM LLC has recently identified a technical opportunity that may address current and future water quality issues at the London Water Tunnel as alleged in the NOV.

8. As described in detail in Attachment A to this Agreement, Alexco Resource U.S. Corp. (“Alexco”) has treatment technologies that may potentially address the quality of certain waters discharged via the London Water Tunnel.

9. The Parties have agreed to allow LM LLC the opportunity to focus its resources on facilitating a potential solution with Alexco to address current and future water quality issues at the London Water Tunnel.

10. In order to determine whether Alexco’s proposed treatment technologies may address the current and future water quality issues at the London Water Tunnel, Alexco requires time to establish and operate a pilot project at the London Water Tunnel (“Pilot Project”). A general overview of the Pilot Project and the associated milestones necessary to develop and implement the Pilot Project are set forth in Attachment A.

11. So as to allow time to implement and evaluate whether the Pilot Project may successfully address current and future water quality issues at the London Water Tunnel, the Parties agree that the matter, including the April 14-16, 2014 hearing, shall be held in abeyance. The Parties further agree that all remaining deadlines set forth in the March 4, 2014 Scheduling Order shall be held in abeyance.

12. Either the Division or the LM LLC may petition the Court for a new hearing date to determine the validity of the allegations set forth in the NOV upon one of the following occurrences:

- a. If within 45 days after completion of the Pilot Project or early termination of the Pilot Project, it has been determined that the Pilot Project failed to provide a remedy to address current and future water quality issues at the London Water Tunnel;
- b. If at any point during the term of the Pilot Project (as outlined in Attachment A), it has been mutually agreed that the Pilot Project will not be an effective remedy to address current and future water quality issues at the London Water Tunnel; or
- c. The LM LLC’s failure to meet a milestone for the Pilot Project, subject to Section 15 below.

## EXHIBIT B

13. The Division further agrees that its suspension of the required corrective action outlined in paragraph 18 of the NOV shall remain in place during the period of time this matter is held in abeyance or until this matter is otherwise finally resolved, subject to the specific terms and conditions outlined in the Division's July 5, 2013 letter.

14. The Parties acknowledge that upon the occurrence of any Force Majeure Event, it may be necessary to amend or extend the milestones set forth in Attachment A. A "Force Majeure Event" shall mean any event beyond a party's control, including but not limited to: acts of war, acts of public enemies, terrorist attacks, governmental orders relating to the foregoing, insurrections, riots, sabotage, earthquakes, landslides, floods, acts of God, embargoes, authority of laws, labor disputes (including strikes, lockouts, job actions or boycotts), fires, explosions, or failure in electrical power, heat, light, air conditioning or communications equipment for a period of time exceeding seventy-two consecutive hours and which prohibits Alexco or any party hereto from proceeding with the Pilot Project. As such, the Parties agree that upon the occurrence of a Force Majeure Event, any milestone set forth in this Agreement shall either be either waived, extended or amended upon mutual agreement by the Parties. Such consent shall not be unreasonably withheld by any party.

15. Notwithstanding the provisions of Section 14, the Parties agree that the Division may at any time waive any milestone set forth in this Agreement, or that the Parties may mutually agree to amend or extend any milestone set forth in this Agreement. Such agreement to waive, amend or extend shall be set forth in writing and agreed to by both Parties. Such consent shall not be unreasonably withheld by any party.

16. Without limiting rights to any current or future affirmative defenses, the LM LLC affirms that if it transfers the Discharge Permit to another party, that third party shall assume all rights and responsibilities set forth in the Discharge Permit and that the new permit holder will assume responsibility for all conditions set forth in the Discharge Permit.

17. The Parties agree that this Agreement does not resolve the allegations set forth in the NOV. The Division reserves all rights to pursue the NOV against the LM LLC if the Parties are unable to resolve the allegations set forth in the NOV, as contemplated in this Agreement or otherwise.

18. The LM LLC agrees to continue to comply with all reporting requirements set forth in the NOV and in the Discharge Permit. Additionally, the LM LLC agrees that it and representatives of Alexco will be available to meet with the Division to provide quarterly updates on the progress of the Pilot Project.

# EXHIBIT B

19. The Division agrees that the LM LLC retains all rights to assert now or in the future before any court or at any administrative hearing any and all defenses and affirmative defenses available to it, including those set forth in the LM LLC's Answer to the NOV.

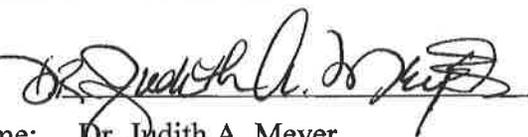
20. Notwithstanding Section 19, the LM LLC agrees not to assert any claims of laches against the Division for alleged failure to prosecute in a timely manner with respect to any future prosecution of the case arising out of this Agreement.

21. This Agreement may be executed in one or more counterparts, each of which shall be deemed original, and such counterparts together shall constitute but one and the same instrument.

The Parties have duly executed this Agreement as of the dates set forth below.

**LONDON MINE LIMITED  
LIABILITY COMPANY**

By:

  
Name: Dr. Judith A. Meyer

Title: Manager

Date: March 26, 2014

**COLORADO WATER QUALITY CONTROL  
DIVISION**

By:

  
Name: Steven H. Gunderson

Title: Director, Water Quality Control Division

Date: March 27, 2014

EXHIBIT B

**Attachment A**

## EXHIBIT B



ALEXCO

Innovations in water treatment  
technology enables cost-effective and  
sustainable approaches at London  
Mine

Joseph G Harrington  
Alexco Resource US Corp

EXHIBIT B

**LONDON MINE  
APPLICATION**

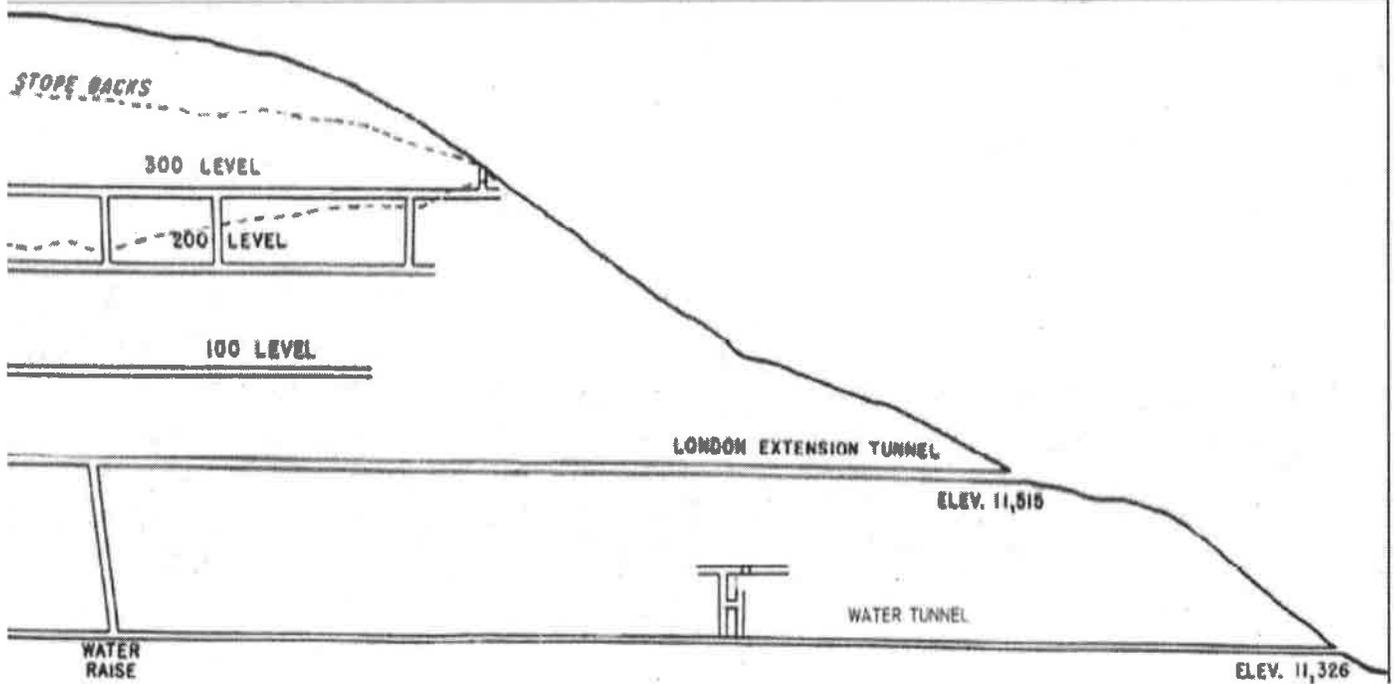
## EXHIBIT B

### Pilot: Separate and treat the water

- Install a cofferdam in Water Raise crosscut
- Convey collected water to the London Butte mine pool
- Amend the water during transit with molasses (or other sugar source) and with alcohol (methanol or ethanol)
- Inject the amended Extension water into the London Butte mine pool
- Monitor the quality of the mine pool for zinc and cadmium to ensure in-place treatment to form metal sulfides (ZnS/CdS) and redox.

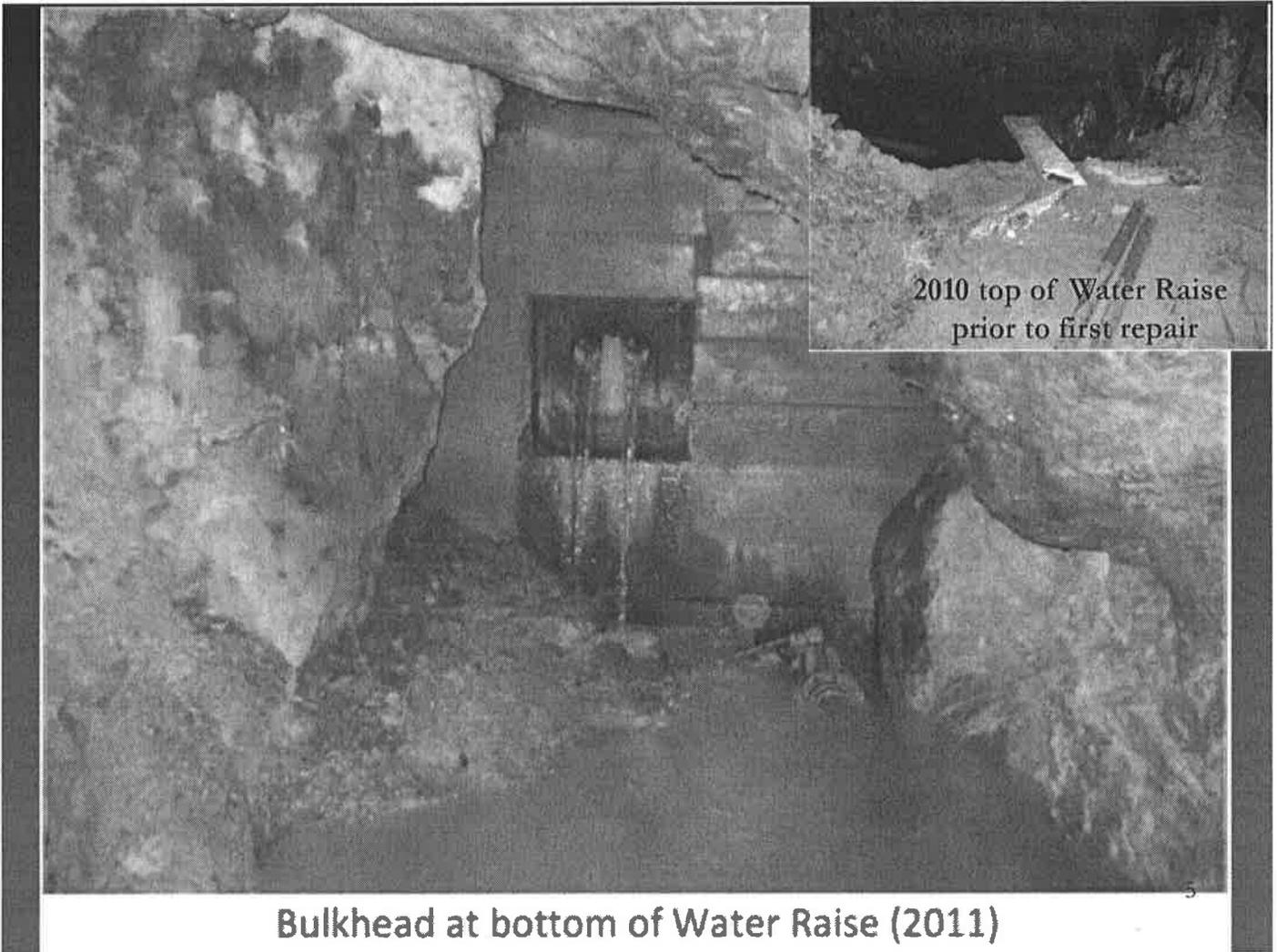
# EXHIBIT B

## London Mine



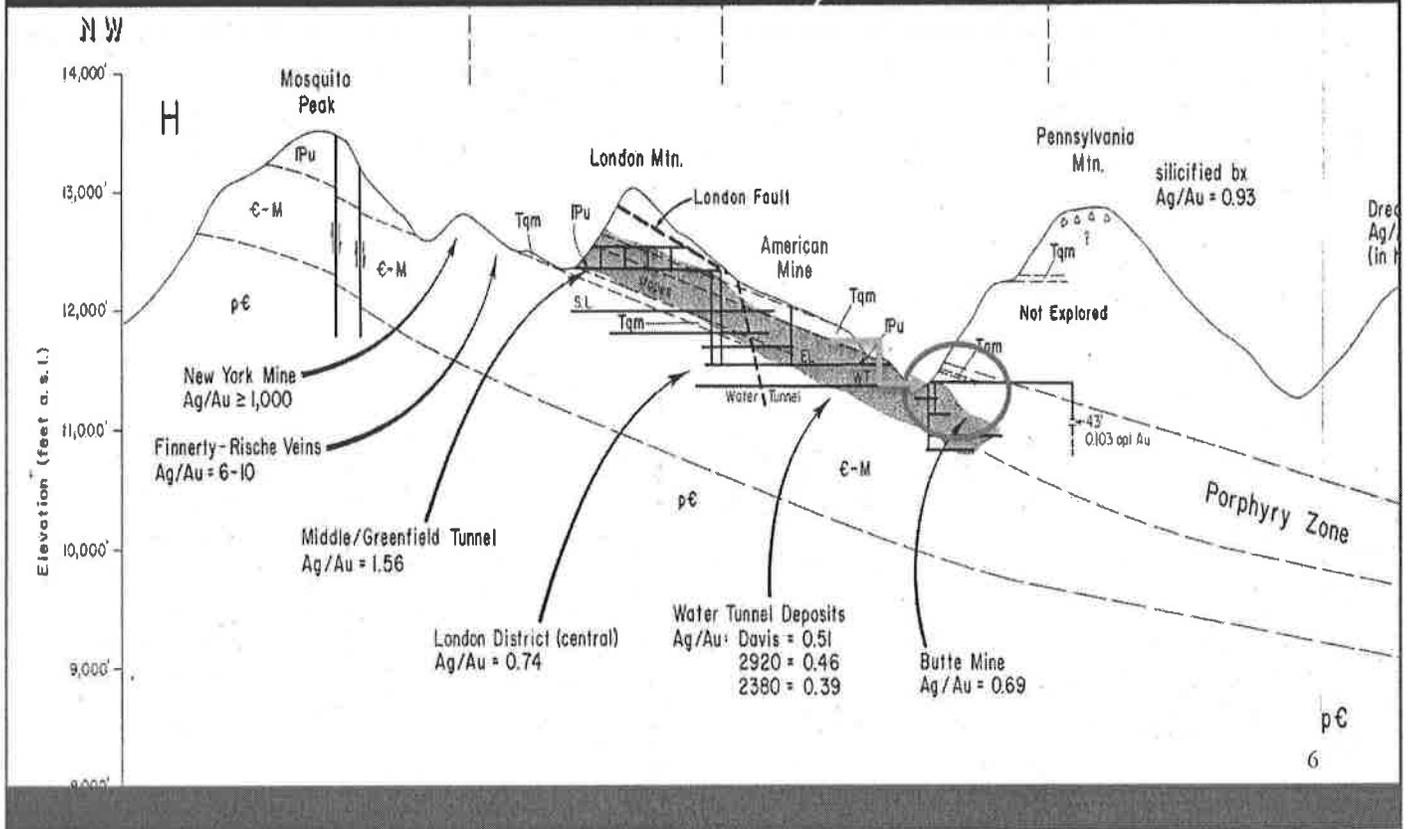
Modified from London Mine Longitudinal Section Map, (July, 1942)

# EXHIBIT B

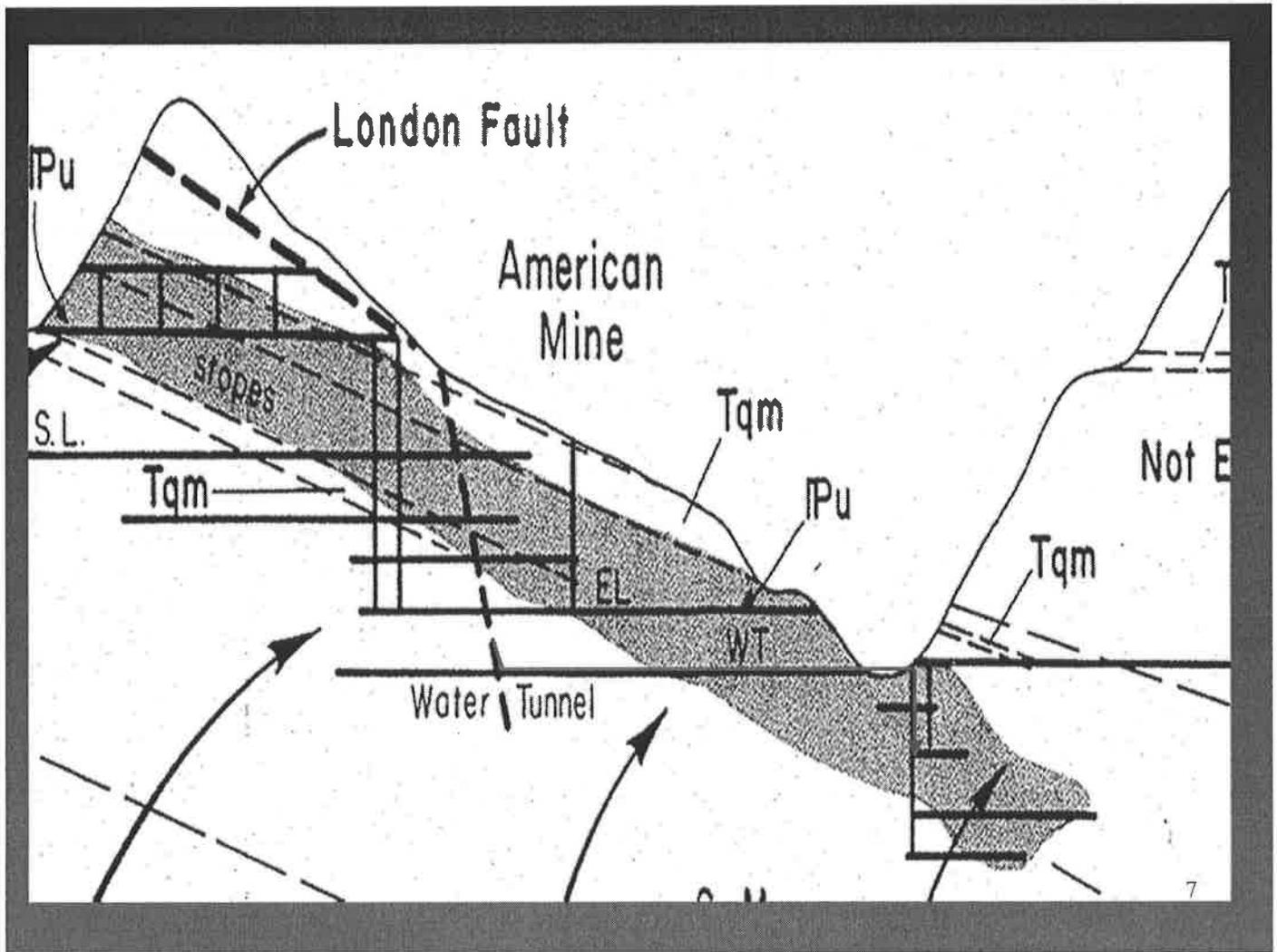


# EXHIBIT B

## District long-section (NW-SE section)



# EXHIBIT B



## EXHIBIT B

### Expected results of pilot test

- London Water Tunnel discharge quality will immediately improve (at least 80% reduction for zinc and cadmium);
- London Butte mine pool will be maintained at a low redox (sulfate-reducing conditions) conducive for the precipitation of sphalerite (ZnS) and greenockite (CdS) along with iron monosulfide (FeS) coating the mine workings beneath the water line.
- Contaminants will be permanently treated to form an encapsulated inert, non-acid-forming metal sulfide mineral

## EXHIBIT B

### Likelihood of success is high

- London Extension Tunnel water comingling with Water Tunnel at the Water Raise Cross-cut is the source of 92% of the zinc and 83% of the cadmium presently in the London Water Tunnel drainage
- Zn standard is 654 ppb, Cd is 3.2; projected quality is 328 ppb and 3.0 ppb after removal and treatment of Extension Tunnel water within the London Butte Mine Pool.

Water Source	Dis - Zn	Dis - Cd	Dis - Cu	Dis - Fe	Dis - Pb	Dis -	Dis - Ni	Flow, MGD
London Mine, Water Tunnel, ppb	3,810	17	77	3,200	2	450	14	1.12
loading from Water Tunnel, lbs/day	35.6	0.16	0.72	29.9	0.02	4.20	0.13	
London Extension Mine Water	77,700	315						0.050
Loading from Extension, lbs/day	32.7	0.13	-	-	-	-	-	
<b>Projected Quality, Water Tunnel, ppb</b>	<b>328</b>	<b>3.0</b>						

## EXHIBIT B

### Milestones

- In order to determine whether the Alexco metals immobilization treatment technology will succeed in abating discharges in excess of the effluent limits set forth in Discharge Permit No. CO-0038334 (Discharge Permit), Alexco will undertake a one year (365 day) pilot project that includes the construction and operation of an in-situ treatment system to treat water within the London Water Tunnel and inject the amended water into the London Butte mine pool (Pilot Project). Since the Pilot Project includes the utilization of underground injection, the Pilot Project shall not begin until Alexco receives the legally enforceable approval for the underground injection components of the Pilot Project from United States Environmental Protection Agency Underground Injection Control (US EPA UIC) Program. Alexco's application to US EPA UIC Program shall be submitted to the US EPA UIC Program by no later than April 11, 2014. Alexco shall submit a copy of the US EPA UIC Program's approval of the project to the Division within two (2) calendar days of receipt (hereinafter the "EPA Approval"). Contingent upon EPA Approval, the Pilot Project milestones are as follows:

# EXHIBIT B

## Milestones

- 1. Construction start date shall be fourteen (14) calendar days after receipt of EPA Approval, or July 1, 2014 whichever is later. Construction shall commence with a survey of the London Water Tunnel to determine necessary steps to address any safety issues for construction activities within the London Water Tunnel.
- 2. Construction completion date shall be seventy five (75) calendar days after the construction start date. A Construction Completion report shall be submitted to the Division within fourteen (14) calendar days after the construction completion date and shall include:
  - a. Results of the electrical conductivity survey of the contributing water sources within the London Water Tunnel;
  - b. Constructability assessment report for separation of the highly conductive waters presumed to contain the most zinc and cadmium;
  - c. Sampling report to indicate the concentrations of zinc and cadmium contained in the contributing water sources;
  - d. Construction documentation report with system designs and photographic evidence demonstrating the capture and collection of contributing sources of zinc and cadmium, the conveyance system transporting water to the reinjection point at the London Butte mine pool, the reinjection point, the reagent addition point(s) and the reagent storage system, as constructed;
  - e. Laboratory results (including chain of custody forms completed by Alexco personnel) of the collected water and of the remaining London Water Tunnel discharge (sampled at Discharge Permit outfall 001) after the construction of the capture system (to the extent that such results are available); and
  - f. This report will have a cover letter certifying the construction of the system by an officer of Alexco and by a Colorado registered Professional Engineer.

# EXHIBIT B

## Milestones

- 3. System start up date shall be not later than fourteen (14) calendar days after the construction completion date. System startup shall commence with injecting the collected water with molasses and or alcohol as described in the EPA Approval or incorporated by reference in the EPA Approval documents from Alexco's Application.
- 4. Progress report(s) on system operation shall be submitted to the Division at least every ninety one (91) calendar days after the system startup date; the progress report(s) shall include:
  - a. Analytical results received from the analytical laboratory of, at a minimum, all samples collected at Discharge Permit outfall 001;
  - b. A description of the actions taken and results received to-date, including:
    - i. Volumes or masses of reagents injected (which shall constitute Alexco's Confidential Business Information pursuant to protection under Colorado Law);
    - ii. Measured or estimated volumes of water collected and injected into the London Butte mine pool; and
    - iii. Any observations made about the efficacy of the treatment or any problem that may require early termination of the Pilot Project.
  - c. If an observation is made that may require early termination of the Pilot Project, or that requires any notice to US EPA UTC Program pursuant to the EPA Approval, then a report shall be submitted to the Division within seven (7) calendar days of the observation containing as much as possible all of the above information in this item #4.

# EXHIBIT B

## Milestones

- 5. Pilot Project completion date shall be 365 calendar days after the construction start date or fifteen (15) calendar days after an early termination due to item 4 c. (Project Completion date). A project completion report shall be submitted within thirty (30) calendar days after the Project Completion date and shall include summary information of the Pilot Project and in particular a conclusion by Alexco signed by an officer of Alexco and certified by a Colorado registered Professional Engineer who shall have had access to and been able to review all relevant data pertaining to the Pilot Project. This conclusion statement shall address the efficacy or lack thereof of the pilot test to meet the objectives. The objectives of the Pilot Project that shall be addressed in this report are:
  - a. The viability of separating zinc and/or cadmium contaminated water from the remaining water in the London Water Tunnel;
  - b. The treatability of the separated contaminated water within the London Butte mine pool; or any other treatment area approved in the EPA Approval;
  - c. Compliance with the Discharge Permit; and
  - d. Scientific evidence developed by Alexco throughout the test that can address the balancing factors of the technology compared against the presumptive remedy (lime coagulation/settling) as tested in the Pilot Project, including:
    - i. reduction in toxicity, mobility and volume of the contamination;
    - ii. short-term effectiveness;
    - iii. long-term effectiveness/permanence;
    - iv. implementability; and
    - v. cost effectiveness (that the cost of the technology is proportional to the benefits obtained compared to the expected costs of the presumptive remedy).

# EXHIBIT C

## WASTEWATER PENALTY COMPUTATION WORKSHEET

Entity Name: London Mine LLC	Permit Number: CO0038334
Beneficial Use Classification: Upper South Platte River Segment 02c - Aq Life Cold 1, Recreation E, Water Supply, Agriculture	Date of NOV/CDO: 3/21/2013 Number: IO-130321-1 Previous NOV/CDO: 7/15/2009 Number IO-090715-1
Type of Facility: Industrial Major- Inactive Mine	Flow: 0.97-1.6 MGD

This penalty calculation was developed in accordance with the Water Quality Control Division's Civil Penalty Policy (May 1, 1993). The penalty calculation methodology described in the Civil Penalty Policy can be illustrated by the following equation:

$$\text{Civil Penalty} = (\text{Effluent Violations Penalty} + \text{Administrative Violations Penalty}) \text{ +/- } \text{Aggravating/Mitigating Factors} + \text{Economic Benefit}$$

### Part I - Effluent Violations Penalty Determination

$$\text{Effluent Violations Penalty} = (\text{Potential Damage} + \text{Fault} + \text{History}) \times \text{Days of Violation}$$

#### A. Potential Damage Component

	Violation Type	Adjustment	Amount in Dollars
Line 1	Effluent Limit Violations (zinc and cadmium)	NA	\$2,752.00- \$3,146.00
<p><i>Calculation:</i> The potential damage component is calculated based on the receiving water beneficial uses, type of pollutants, and percentage exceedance of effluent limitations.</p> <p>Potential Damage Component = Pollutant Parameter Point Value × Percent Exceedance Multiplier × \$200</p> <p>The London Mine LLC (LM LLC) discharges approximately one million gallons per day of mine drainage from the London Mine Water Tunnel through a sedimentation pond into South Mosquito Creek. LM LLC submitted discharge monitoring reports (DMRs) reporting exceedances of the zinc and/or the cadmium permit effluent limits every monthly reporting period since July 2008.</p> <p><u>Pollutants and Beneficial Use:</u> Limits for zinc and cadmium are water quality based and were established for the protection of the beneficial uses of the receiving stream segment and therefore, the parameter point values for these pollutants were derived from the Beneficial Use Table of the Civil Penalty Policy (Figure 1). A parameter point value of 8 was assigned based on protection of the aquatic life class 1 beneficial use. It should be noted that the river segment downstream from South Mosquito Creek (Mosquito Creek) is listed on Colorado's Section 303(d) list as impaired for cadmium. While South Mosquito Creek was</p>			

# EXHIBIT C

	Violation Type	Adjustment	Amount in Dollars
	<p>not specifically included on the Section 303(d) list, the portion of South Mosquito Creek downstream from the London Mine to the confluence with Mosquito Creek exceeds the dissolved cadmium and zinc standards. The discharge from the London Mine Water Tunnel is a contributing factor towards the impairment.</p> <p><u>Degree of Exceedance:</u> The Percent Exceedance Multiplier values were determined based on the actual flow values that were reported on the DMRs each month and the percent by which the limit was exceeded for each specific effluent violation (Figure 3 of the Civil Penalty Policy).</p> <p>The attached <i>Civil Penalty Calculation Worksheet</i> displays the Percent Exceedance Multiplier for each month and the total calculated potential damage penalties for the effluent violations that occurred between the June 2011 and January 2015 monitoring periods. Consistent with Division practice and Section (A)(1) of the Civil Penalty Policy, for any calendar day where there was more than one violation cited, the potential damage component of the penalty for that day shall be set using the largest penalty amount for any individual parameter. Therefore, for the purposes of this calculation, the Division will follow this practice and utilize the penalties associated with the most significant effluent limit violation during each reporting period (month).</p>		
Line 2			N/A
	<i>Calculation:</i>		
Line 3			N/A
	<i>Calculation:</i>		
Line 4			N/A
	<i>Calculation:</i>		
Line 5	<b>Potential Damage Total</b> (Sum of Lines 1 through 4)	<i>(Not to exceed \$6000/day)</i>	<b>\$2,752.00-</b> <b>\$3,055.00</b>

## B. Fault Component

			Amount in Dollars
Line 6	<b>Fault: Category 3</b>	<i>(Not to exceed \$3000/day)</i>	<b>\$2,500.00</b>
	<p><i>Justification:</i> This component is calculated based on the degree of fault that can be attributed to the violator. The Division issued the NOV/CDO Number IO-090715-1 to the LM LLC in July 2009 citing significant exceedances of the zinc and cadmium effluent limits. As a result of that enforcement action, LM LLC chose to forgo pursuing the option of wastewater treatment and instead attempted to comply with the permit by doing minor construction within the inner workings of the mine (build a berm around the water raise to prevent drainage from the Extension Tunnel from entering the Water Tunnel). The effluent concentrations of zinc and cadmium reported by LM LLC began to decline, however, this strategy proved to be only temporarily successful at mitigating the ongoing violations. Subsequent collapses in the inner workings of the mine caused water to accumulate in the Extension Tunnel and eventually overtop the berm around the water raise. In June 2011, the LM LLC began reporting significant exceedances of the zinc and cadmium effluent</p>		

# EXHIBIT C

	<p>limits. The Division issued the second NOV/CDO Number IO-130321-1 in March 2013, again citing exceedances of the zinc and cadmium effluent limits and requiring LM LLC to undertake specific corrective actions to remedy the situation. In response to the second NOV/CDO, LM LLC hired a consultant to evaluate the mine and identify necessary treatment solutions. However, the LM LLC failed to implement one of these treatment solutions.</p> <p>LM LLC has legal and technical resources available. Additionally, LM LLC was well aware of the violations and the circumstances leading to the violations as well as treatment options to resolve the violations, but LM LLC failed to undertake any actions to address the ongoing violations.</p> <p>Therefore, the Division assigns a Category 3 Fault. The Division has conservatively chosen the midpoint of the Category 3 range, as the Division has no additional information to support adjustments from this value.</p>
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## C. History Component

			Amount in Dollars
Line 7	History: Category 5	<i>(Not to exceed \$1000/day)</i>	\$400.00
<p><i>Justification:</i> Penalties under the History component are classified into five categories ranging from \$0 to \$1,000/day of violation. As noted above, the Division issued two enforcement actions to LM LLC citing violations of the zinc and cadmium effluent limits, one action in 2009 and a second action in 2013. Therefore, the Division conservatively assigns a Category 5 History. The Division has chosen the high point of the Category 5 range given LM LLC's history of formal enforcement, including the issuance of two formal actions within a four year period.</p>			

## D. Days of Violation Determination

			Days of Violation
Line 8	Total Days of Violation		44
<p><i>Justification:</i> The Civil Penalty Policy outlines several methodologies to determine the days of violation for penalty calculation purposes. One of these methods is to conservatively assign one day of violation for each day of sampling required by the permit. The permit requires monitoring for metals once per month. Another method of determining days of violation, specifically with respect to violations of effluent limits for metals, is to equate the number of days of violation to the number of days in the averaging period.</p> <p>The LM LLC is considered a "major" facility by the state and federal government based on the volume of water discharged and the toxic pollutant potential of the effluent. In addition, the downstream segment from the LM LLC discharge is 303(d) listed as impaired for cadmium. Because of these factors, and because of the fact the discharge likely exceeded the permit limits on days that sampling was not required given that no treatment was provided to remove metals, the Division could assign one day of violation for each day in the averaging period. As noted in Line 1 above, LM LLC has reported exceedances of the</p>			

# EXHIBIT C

	<p>zinc and/or the cadmium limits every monthly reporting period since July 2008. As such, the Division believes at least 1,341 days of violation have occurred.</p> <p>However, the Division has conservatively chosen to set the number of days of violation for each individual parameter based on the number of sampling events required by the permit. The permit requires monitoring once per month for cadmium and zinc. Therefore, the Division has assigned one day of violation for each limit that was violated. Again, consistent with Division practice and Section(A)(1) of the Civil Penalty Policy, the penalty for each reporting period of non-compliance for effluent limit violations is the parameter that would yield the highest penalty for the designated period, which in this case conservatively yields a total of 44 days of violation (from the June 2011 reporting period through the January 2015 reporting period).</p>
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## E. Effluent Violations Multi-Day Penalty Calculation

		Amount in Dollars
<b>Line 9</b>	<b>Multi-Day Penalty Amount</b>	<b>\$256,843.00</b>
	<p><i>Calculation: (Potential Damage + Fault + History) × Days of Violation</i></p> <p>June 2011: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            July 2011: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            August 2011: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            September 2011: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            October 2011: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            November 2011: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            December 2011: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            January 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            February 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            March 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            April 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            May 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            June 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            July 2012: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            August 2012: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            September 2012: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            October 2012: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            November 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            December 2012: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            January 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            February 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            March 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            April 2013: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            May 2013: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            June 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            July 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            August 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            September 2013: <math>(\\$3,055 + \\$2,500 + \\$400) \times 1 = \\$5,955</math>            October 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            November 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            December 2013: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            January 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            February 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            March 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            April 2014: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            May 2014: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            June 2014: <math>(\\$3,055 + \\$2,500 + \\$400) \times 1 = \\$5,955</math>            July 2014: <math>(\\$3,101 + \\$2,500 + \\$400) \times 1 = \\$6,001</math>            August 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            September 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            October 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            November 2014: <math>(\\$3,040 + \\$2,500 + \\$400) \times 1 = \\$5,940</math>            December 2014: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math>            January 2015: <math>(\\$2,752 + \\$2,500 + \\$400) \times 1 = \\$5,652</math></p> <p style="text-align: right;"><b>TOTAL= \$256,843</b></p>	

# EXHIBIT C

## Part II - Administrative Violations Penalty Determination

	Violation Type	Adjustment	Amount in Dollars
Line 10			N/A
	<i>Calculation:</i>		
Line 11			N/A
	<i>Calculation:</i>		
Line 12			N/A
	<i>Calculation:</i>		
Line 13			N/A
	<i>Calculation:</i>		
Line 14	<b>Administrative Violation Total</b> (Sum of Lines 10 through 13)		<b>\$0.00</b>

## Part III - Base Penalty Total

		Amount in Dollars
Line 15	<b>Base Penalty Total</b> (Sum of Line 9 + Line 14)	<b>\$256,843.00</b>

## Part IV - Application of Mitigating Circumstances

	Mitigating Circumstances	% Base Penalty Decrease	Amount in Dollars
Line 16	Factor A: Adhering to a Compliance Schedule	0%	\$0.00
	<i>Justification:</i> The LM LLC did not complete the required corrective actions outlined in the NOV/CDOs. Because the LM LLC failed to adhere to the compliance schedules, no penalty mitigation applies.		
Line 17	Factor B: Steps Taken Beyond Required Actions	0%	\$0.00
	<i>Justification:</i> As noted above, the LM LLC did not complete any of the minimum required corrective actions and therefore did not take any other steps beyond those required. No penalty mitigation applies.		
Line 18	Factor C: Environmental Compliance Project	0%	\$0.00
	<i>Justification:</i> The LM LLC did not implement an environmental compliance project. Therefore, no penalty mitigation applies.		
Line 19	Factor D: Other Mitigating Circumstances	0%	\$0.00

# EXHIBIT C

	Mitigating Circumstances	% Base Penalty Decrease	Amount in Dollars
	<i>Justification:</i> No other mitigating circumstances were indentified.		
Line 20	Sum of Lines 16 through Line 19	0%	\$0.00
<b>Line 21</b>	<b>Adjusted Base Penalty Total</b> (Sum of Line 15 + Line 20)		<b>\$256,843.00</b>

## Part V- Economic Benefit Consideration

Line	Economic Benefit	Amount in Dollars
Line 22		<b>\$855,071.00</b>
	<p><i>Justification:</i></p> <p>In accordance with the Civil Penalty Policy, where the violator has benefited economically from noncompliance through savings on delayed or avoided design and construction costs, monitoring costs, etc., the violations are considered to be more serious and the Division will seek to recover the economic benefit as part of the overall penalty. The purpose of an economic benefit calculation is to determine the monetary savings associated with non-compliance, taking into consideration such factors as costs associated with capital investments in pollution control equipment and costs associated with operation and maintenance of such equipment. The goal is that civil penalties should at least recover the economic benefit from noncompliance to ensure that members of the regulated community have a strong economic incentive to comply with environmental laws on time. Funds not spent on environmental compliance are available for other profit-making activities or, alternatively, a violator avoids the costs associated with obtaining additional funds for environmental compliance - a concept that is known in economics as opportunity cost. Economic benefit is "no fault" in nature. A violator need not have deliberately chosen to delay compliance (for financial or any other reasons). Economic benefit does not represent compensation to the state like a typical "damages" calculation, but instead is the minimum amount a violator must be penalized to return it to the position it would have been in had it complied on time.</p> <p>As discussed above, LM LLC discharged mine wastewater that significantly exceeded the permit effluent limits. Even though the Division issued two formal enforcement actions that required LM LLC to address the ongoing water quality problems, LM LLC failed to take the necessary actions to ensure that LM LLC could reliably and consistently meet the permit limits. By failing to take the necessary steps to prevent and/or control the discharge of pollutants in excess of the permit limits, and thereby avoiding incurring the costs associated with managing the wastewater, LM LLC realized an economic benefit from its noncompliance.</p> <p>After the 2009 NOV/CDO was issued, LM LLC was able to temporarily comply with the 7 day max and 30 day average zinc and cadmium limits (the 2 year rolling average remained out of compliance due to the nature of its averaging period). However, beginning in June 2011, LM LLC began reporting significant increases in the pollutant concentrations of zinc and cadmium in the discharge. At the very least, LM LLC should have started investigating solutions to the permit effluent limit exceedances at this time.</p> <p>Following the issuance of the 2013 NOV/CDO, LM LLC submitted a "Facility Improvement</p>	

# EXHIBIT C

Plan” that outlined several options for mine water management and treatment. One of these options was to construct and operate a new water treatment plant located inside the mine. The total anticipated budget for this option was about \$850,000, which is approximately the same cost as an alternative pilot project contemplated by LM LLC. Since the Division does not have specific information on the cost of the pilot project, and because constructing a wastewater treatment plant inside the water tunnel is similar in nature to the pilot project, the Division used the cost estimates for the wastewater treatment plant in its economic benefit analysis.

According to financial information submitted by LM LLC in its “Facility Improvement Plan” dated July 1, 2013, the capital costs associated with the wastewater treatment plant are \$702,437 with an annual operation and maintenance cost of \$67,000. The economic benefit that LM LLC realized by avoiding the costs of implementing a wastewater management strategy was analyzed using the Environmental Protection Agency’s economic benefit financial model “BEN.” Using the BEN inputs identified below, EPA’s BEN model determined that the resulting economic benefit of the avoided costs was \$855,071.

## BEN Inputs

- Date of non compliance: June 1, 2011 (date that LM LLC began reporting exceedances of the 7 day max, 30-day average, and 2-yr rolling average zinc and cadmium limits)
- Date of compliance: 3/31/2015 (conservatively assumed based on the estimated date that LM LLC will sell property and/or Order for Civil Penalty will be issued)
- Capital investment: \$702,437, date LM LLC should have made capital investment: 6/1/2011 (First date of reporting period that LM LLC reported consistent exceedances of the zinc and cadmium effluent limits). Note that the capital investment cost was provided in the “Facility Improvement Plan” dated July 2013 and therefore the costs outlined in the plan were determined based on the price level of goods and services in 2013. The BEN model does account for inflation and adjusted the \$702,436 costs accordingly to represent dollar value in 2011.
- Annually recurring: \$67,000, date LM LLC should have begun incurring costs: 6/1/2011 (First date of reporting period that LM LLC reported consistent exceedances of the zinc and cadmium effluent limits. Again, the annually recurring cost was provided in the “Facility Improvement Plant” dated July 2013 and therefore the cost was determined based on the price level of goods and services in 2013. The BEN model does account for inflation and adjusted the \$67,000 costs accordingly to represent dollar value in 2011.)
- Costs are considered avoided (not delayed) because the LM LLC failed to initiate any improvements to address the non-compliance
- Cost index assigned to account for inflation: GDP

**Based on the above inputs, the Division has conservatively determined that LM LLC realized an economic benefit of \$855,071.**

The Division contracted with a financial analyst housed within the department to conduct an independent determination of the economic benefit in the case. The Division provided its BEN calculation and relevant supporting documentation to the analyst for review. The analyst concluded that the Division’s calculation was consistent with accepted policies and procedures for using the BEN model to make an economic benefit determination and that the output of the BEN model was a reliable estimate of the economic benefit realized by LM LLC.

# EXHIBIT C

## Part VII - Violation Penalty Total

			Amount in Dollars
Line 23	Civil Penalty: (Sum Line 21 + Line 22)		\$1,111,914.00

## Part VIII - Ability to Pay Adjustment

			Amount in Dollars
Line 24	Ability to Pay Reduction: N/A		\$0.00
	<i>Justification:</i> The purpose of conducting an ability to pay analysis is to determine if the cost of the necessary injunctive relief and penalty jeopardizes a violator's ability to continue operations and achieve compliance. The LM LLC has informed the Division that it does not intend on funding the necessary corrective actions. As outlined in the Civil Penalty Policy, the violator has the principal burden of establishing a claim of inability to pay a penalty. LM LLC has made claims of an inability to pay but has not submitted information clearly demonstrating an inability to pay, as LM LLC's assets in the mine and those assets of a related third party are inextricably linked. (The combined assets include surface, mineral and water rights.) As such, an inability to pay the penalty could not be verified and, therefore, a reduction to the penalty amount is not warranted.		

## Part IX - Final Penalty

			Amount in Dollars
Line 25	Total Civil Penalty: (Sum Line 23 + Line 24)		\$1,111,914.00

# EXHIBIT C

## CIVIL PENALTY CALCULATION WORKSHEET

London Mine LLC

PERMIT NO. CO0038334

Flow Range: (MGD) 0.97-1.6MGD

Stream Classification: COSPUS02c: Aq life cold 1, rec E, water supply, ag

I. Potential Damage Component										
Report Period	Parameter	Reported Value	Limit	% Exc.	% Exc. Multiplier	Parameter Points	Point Total	\$ Multiplier	Daily Penalty	Total Penalty
Jun-11	Zn (max 7 day)	2,780.00	1,300.00	114	1.51	8	12.08	\$200	\$ 2,416	
	Zn (rolling avg)	766.00	654.00	17	1.35	8	10.8	\$200	\$ 2,160	
	Cd (30 day avg)	11.80	3.20	269	1.72	8	13.76	\$200	\$ 2,752	\$2,752
Jul-11	Zn (max 7 day)	4910.00	1,300.00	278	1.72	8	13.76	\$200	\$ 2,752	
	Zn (rolling avg)	766.00	654.00	17	1.35	8	10.8	\$201	\$ 2,171	
	Cd (30 day avg)	21.00	3.20	556	1.72	8	13.76	\$200	\$ 2,752	\$2,752
Aug-11	Zn (max 7 day)	3120.00	1,300.00	140	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	766.00	654.00	17	1.5	8	12	\$200	\$ 2,400	
	Cd (30 day avg)	14.90	3.20	366	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Sep-11	Zn (max 7 day)	2770.00	1,300.00	113	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	1740.00	654.00	166	1.76	8	14.08	\$200	\$ 2,816	
	Cd (30 day avg)	10.20	3.20	219	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Oct-11	Zn (max 7 day)	3410.00	1,300.00	162	1.76	8	14.08	\$200	\$ 2,816	
	Zn (rolling avg)	2776.00	654.00	324	1.9	8	15.2	\$200	\$ 3,040	
	Cd (30 day avg)	11.00	3.20	244	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Nov-11	Zn (max 7 day)	2440.00	1,300.00	88	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2776.00	654.00	324	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	6.49	3.20	103	1.68	8	13.44	\$200	\$ 2,688	
Dec-11	Zn (max 7 day)	2060.00	1,300.00	58	1.09	8	8.72	\$200	\$ 1,744	
	Zn (rolling avg)	2776.00	654.00	324	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	7.62	3.20	138	1.68	8	13.44	\$200	\$ 2,688	
Jan-12	Zn (max 7 day)	1560.00	1,300.00	20	1.5	8	12	\$200	\$ 2,400	
	Zn (rolling avg)	2776.00	654.00	324	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	4.80	3.20	50	1.39	8	11.12	\$200	\$ 2,224	
Feb-12	Zn (max 7 day)	1560.00	1,300.00	20	1.35	8	10.8	\$200	\$ 2,160	
	Zn (rolling avg)	2776.00	654.00	324	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	5.91	3.20	85	1.44	8	11.52	\$200	\$ 2,304	
Mar-12	Zn (max 7 day)	1400.00	1,300.00	8	1.35	8	10.8	\$200	\$ 2,160	
	Zn (rolling avg)	2776.00	654.00	324	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	3.80	3.20	19	1.35	8	10.8	\$200	\$ 2,160	
Apr-12	Zn (max 7 day)	1600.00	1,300.00	23	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	2,776.00	654.00	324	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	4.40	3.20	38	1.39	8	11.12	\$200	\$ 2,224	
May-12	Zn (max 7 day)	1,600.00	1,300.00	23	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	2776.00	654.00	324	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	4.90	3.20	53	1.44	8	11.52	\$201	\$ 2,316	
Jun-12	Zn (max 7 day)	3600.00	1,300.00	177	1.76	8	14.08	\$200	\$ 2,816	
	Zn (rolling avg)	2967.00	654.00	354	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	14.00	3.20	338	1.72	8	13.76	\$200	\$ 2,752	
Jul-12	Zn (max 7 day)	2500.00	1,300.00	92	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	8.40	3.20	163	1.76	8	14.08	\$200	\$ 2,816	

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Aug-12	Zn (max 7 day)	2200.00	1,300.00	69	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	7.90	3.20	147	1.76	8	14.08	\$200	\$ 2,816	
Sep-12	Zn (max 7 day)	2400.00	1,300.00	85	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	7.80	3.20	144	1.76	8	14.08	\$200	\$ 2,816	
Oct-12	Zn (max 7 day)	2100.00	1,300.00	62	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	8.30	3.20	159	1.76	8	14.08	\$200	\$ 2,816	
Nov-12	Zn (max 7 day)	2300.00	1,300.00	77	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2967.00	654.00	354	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	8.20	3.20	156	1.59	8	12.72	\$200	\$ 2,544	
Dec-12	Zn (max 7 day)	2000.00	1,300.00	54	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	2967.00	654.00	354	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	6.60	3.20	106	1.51	8	12.08	\$200	\$ 2,416	
Jan-13	Zn (max 7 day)	1500.00	1,300.00	15	1.5	8	12	\$200	\$ 2,400	
	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	4.10	3.20	28	1.54	8	12.32	\$200	\$ 2,464	
Feb-13	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	3.60	3.20	13	1.5	8	12	\$200	\$ 2,400	
Mar-13	Zn (rolling avg)	2967.00	654.00	354	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	3.30	3.20	3	1.5	8	12	\$201	\$ 2,412	
Apr-13	Zn (rolling avg)	2967.00	654.00	354	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	4.00	3.20	25	1.39	8	11.12	\$200	\$ 2,224	
May-13	Zn (max 7 day)	1700.00	1,300.00	31	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	2967.00	654.00	354	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	5.40	3.20	69	1.44	8	11.52	\$200	\$ 2,304	
Jun-13	Zn (max 7 day)	4400.00	1,300.00	238	1.9	8	15.2	\$200	\$ 3,040	
	Zn (rolling avg)	3280.00	654.00	402	1.9	8	15.2	\$201	\$ 3,055	
	Cd (30 day avg)	17.00	3.20	431	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Jul-13	Zn (max 7 day)	4100.00	1,300.00	215	1.9	8	15.2	\$200	\$ 3,040	
	Zn (rolling avg)	3280.00	654.00	402	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	14.00	3.20	338	1.9	8	15.2	\$200	\$ 3,040	
Aug-13	Zn (max 7 day)	3900.00	1,300.00	200	1.76	8	14.08	\$200	\$ 2,816	
	Zn (rolling avg)	3515.00	654.00	437	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	14.00	3.20	338	1.9	8	15.2	\$200	\$ 3,040	
Sep-13	Zn (max 7 day)	3,700.00	1,300.00	185	1.76	8	14.08	\$200	\$ 2,816	
	Zn (rolling avg)	3655.00	654.00	459	1.9	8	15.2	\$200	\$ 3,040	
	Cd (30 day avg)	13.00	3.20	306	1.9	8	15.2	\$201	\$ 3,055	\$3,055
Oct-13	Zn (max 7 day)	4600.00	1,300.00	254	1.9	8	15.2	\$200	\$ 3,040	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	
	Cd (30 day avg)	17.00	3.10	448	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Nov-13	Zn (max 7 day)	2800.00	1,300.00	115	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	
	Cd (30 day avg)	10.00	3.20	213	1.9	8	15.2	\$200	\$ 3,040	\$3,040
Dec-13	Zn (max 7 day)	1900.00	1,300.00	46	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	5.70	3.20	78	1.6	8	12.8	\$200	\$ 2,560	
Jan-14	Zn (max 7 day)	2100.00	1,300.00	62	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	6.50	3.20	103	1.68	8	13.44	\$200	\$ 2,688	
Feb-14	Zn (max 7 day)	1700.00	1,300.00	31	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	\$3,040

# EXHIBIT C

	Cd (30 day avg)	5.70	3.20	78	1.6	8	12.8	\$200	\$ 2,560	
Mar-14	Zn (max 7 day)	1600.00	1,300.00	23	1.54	8	12.32	\$200	\$ 2,464	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	4.80	3.20	50	1.54	8	12.32	\$200	\$ 2,464	
Apr-14	Zn (max 7 day)	1500.00	1,300.00	15	1.5	8	12	\$200	\$ 2,400	
	Zn (rolling avg)	3810.00	654.00	483	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	4.40	3.20	38	1.39	8	11.12	\$200	\$ 2,224	
May-14	Zn (max 7 day)	2200.00	1,300.00	69	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	3810.00	654.00	483	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	8.10	3.20	153	1.59	8	12.72	\$200	\$ 2,544	
Jun-14	Zn (max 7 day)	2900.00	1,300.00	123	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	3810.00	654.00	483	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	12.00	3.20	275	1.9	8	15.2	\$200	\$ 3,040	
Jul-14	Zn (max 7 day)	5000.00	1,300.00	285	1.9	8	15.2	\$200	\$ 3,040	
	Zn (rolling avg)	4010.00	654.00	513	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	19.00	3.20	494	1.9	8	15.2	\$200	\$ 3,040	
Aug-14	Zn (max 7 day)	5000.00	1,300.00	285	1.9	8	15.2	\$200	\$ 3,040	
	Zn (rolling avg)	4265.00	654.00	552	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	20.00	3.20	525	1.9	8	15.2	\$200	\$ 3,040	
Sep-14	Zn (max 7 day)	3500.00	1,300.00	169	1.76	8	14.08	\$200	\$ 2,816	
	Zn (rolling avg)	4265.00	654.00	552	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	13.00	3.20	306	1.9	8	15.2	\$200	\$ 3,040	
Oct-14	Zn (max 7 day)	2200.00	1,300.00	69	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	4265.00	654.00	552	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	8.30	3.20	159	1.76	8	14.08	\$200	\$ 2,816	
Nov-14	Zn (max 7 day)	2700.00	1,300.00	108	1.68	8	13.44	\$200	\$ 2,688	
	Zn (rolling avg)	4265.00	654.00	552	1.9	8	15.2	\$200	\$ 3,040	\$3,040
	Cd (30 day avg)	9.20	3.20	188	1.76	8	14.08	\$200	\$ 2,816	
Dec-14	Zn (max 7 day)	2000.00	1,300.00	54	1.6	8	12.8	\$200	\$ 2,560	
	Zn (rolling avg)	4265.00	654.00	552	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	7.10	3.20	122	1.51	8	12.08	\$200	\$ 2,416	
Jan-15	Zn (rolling avg)	4265.00	654.00	552	1.72	8	13.76	\$200	\$ 2,752	\$2,752
	Cd (30 day avg)	3.8	3.20	19	1.35	8	10.8	\$200	\$ 2,160	
<b>Total Potential Damage Penalty</b>										<b>\$129,167</b>

# EXHIBIT C

<b>Run Name = LM LLC BEN fina</b>	
<b>Present Values as of Noncompliance Date (NCD),</b>	<b>01-Jun-2011</b>
A) On-Time Capital & One-Time Costs	\$523,751
B) Delay Capital & One-Time Costs	\$0
C) Avoided Annually Recurring Costs	\$141,030
D) Initial Economic Benefit (A-B+C)	\$664,781
<b>E) Final Econ. Ben. at Penalty Payment Date,</b>	
<b><u>30-May-2015</u></b>	<b><u>\$855,071</u></b>
<i>C-Corporation w/ CO tax rates</i>	
Discount/Compound Rate	6.5%
Discount/Compound Rate Calculated By:	BEN
Compliance Date	31-Mar-2015
<u>Capital Investment:</u>	avoided
Cost Estimate	customized
Cost Estimate Date	customized
Cost Index for Inflation	customized
Consider Future Replacement (Useful Life)	y (15)
<u>One-Time, Nondepreciable Expenditure:</u>	
Cost Estimate	customized
Cost Estimate Date	customized
Cost Index for Inflation	customized
Tax Deductible?	N/A
<u>Annually Recurring Costs:</u>	
Cost Estimate	\$67,000
Cost Estimate Date	01-Jul-2013
Cost Index for Inflation	GDP
<u>User-Customized Specific Cost Estimates:</u>	
On-Time Capital Investment	\$677,596
Delay Capital Investment	\$722,018
On-Time Nondepreciable Expenditure	\$0
<u>Delay Nondepreciable Expenditure</u>	<u>\$0</u>

# EXHIBIT C

## Discount/Compound Rate Calculation

- Notes: (1) Corporate bond rates averaged across all industries (average of Aaa & Baa); Federal Reserve Statistical Release H.15.  
 (2) Combined state/federal marginal tax rates: federal+(state\*(1-federal)); Federation of Tax Administrators.  
 (3) Calculated as: (1) \* (100%-(2)). [Adjusts for tax-deductibility of interest payments.]  
 (4) Average corporate debt weight; Standard & Poor's Analysts' Handbook, S&P Industrials Sample Balance Sheet.  
 (5) Federal Reserve Bulletin Table 1.35. [Used as a proxy for the risk-free rate in the Capital Asset Pricing Model (CAPM)].  
 (6) Beta measures risk relative to overall stock market, with a value of 1.00 therefore assuming risk is same as market.  
 (7) Differences of average returns between stock market and 5-yr T-notes, 1926 - prior yr; Ibbotson Associates Handbook.  
 (8) Calculated as (6) \* (7). [Also equal to (7), since (6) is equal to 1.00 for a company of average risk.]  
 (9) Calculated as (5) + (8). [Reflects risk-free rate of return plus the company risk premium.]  
 (10) Calculated as 100% - (4). [Reflects: total financing - debt = equity financing.]  
 (11) Calculated as (3) \* (4) + (9) \* (10). [Reflects: (debt cost x debt weight) + (equity cost x equity weight).]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	average from: 2011 to: 2014 =										<i>Final rate:</i> 6.5%
YEAR	Cost of Debt	Tax Rate	After-Tax Debt Cost	Debt Weight	Five-Year Treasury Notes	Beta	Intermed. Horizon Risk Prem	Company Risk Premium	Equity Cost	Equity Weight	Rate
1987	9.98%	38.0%	6.19%	46.0%	7.94%	1.00	7.7%	7.7%	15.6%	54%	
1988	10.27%	38.0%	6.37%	50.2%	8.48%	1.00	7.6%	7.6%	16.1%	50%	
1989	9.72%	37.6%	6.07%	46.3%	8.50%	1.00	7.6%	7.6%	16.1%	54%	
1990	9.84%	37.6%	6.14%	50.1%	8.37%	1.00	7.8%	7.8%	16.2%	50%	
1991	9.29%	37.6%	5.80%	45.4%	7.37%	1.00	7.5%	7.5%	14.9%	55%	
1992	8.56%	37.5%	5.35%	49.3%	6.19%	1.00	7.8%	7.8%	14.0%	51%	
1993	7.58%	38.3%	4.68%	44.0%	5.14%	1.00	7.7%	7.7%	12.8%	56%	
1994	8.30%	38.3%	5.12%	48.0%	6.69%	1.00	7.6%	7.6%	14.3%	52%	
1995	7.90%	38.3%	4.87%	41.3%	6.38%	1.00	7.4%	7.4%	13.8%	59%	
1996	7.71%	38.3%	4.76%	37.0%	6.18%	1.00	7.8%	7.8%	14.0%	63%	
1997	7.57%	38.3%	4.67%	32.1%	6.22%	1.00	7.9%	7.9%	14.1%	68%	
1998	6.88%	38.3%	4.24%	27.8%	5.15%	1.00	8.2%	8.2%	13.4%	72%	
1999	7.47%	38.3%	4.61%	26.1%	5.55%	1.00	8.4%	8.4%	14.0%	74%	
2000	8.00%	38.1%	4.95%	29.3%	6.16%	1.00	8.5%	8.5%	14.7%	71%	
2001	7.52%	38.0%	4.66%	33.5%	4.56%	1.00	8.2%	8.2%	12.8%	67%	
2002	7.15%	38.0%	4.43%	41.3%	3.82%	1.00	7.8%	7.8%	11.6%	59%	
2003	6.21%	38.0%	3.85%	36.8%	2.97%	1.00	7.4%	7.4%	10.4%	63%	
2004	6.01%	38.0%	3.73%	37.3%	3.43%	1.00	7.6%	7.6%	11.0%	63%	

# EXHIBIT C

2005	5.65%	38.0%	3.50%	35.9%	4.05%	1.00	7.6%	7.6%	11.7%	64%	
2006	6.04%	38.0%	3.74%	32.8%	4.75%	1.00	7.6%	7.6%	12.4%	67%	
2007	6.02%	38.0%	3.73%	33.7%	4.43%	1.00	7.6%	7.6%	12.0%	66%	
2008	6.54%	38.0%	4.05%	45.0%	2.80%	1.00	7.5%	7.5%	10.3%	55%	
2009	6.30%	38.0%	3.91%	38.6%	2.20%	1.00	6.9%	6.9%	9.1%	61%	
2010	5.49%	38.0%	3.40%	36.7%	1.93%	1.00	7.2%	7.2%	9.1%	63%	
2011	5.15%	38.0%	3.19%	37.0%	1.52%	1.00	7.2%	7.2%	8.7%	63%	6.7%
2012	4.31%	38.0%	2.67%	35.9%	0.76%	1.00	7.1%	7.1%	7.9%	64%	6.0%
2013	4.67%	38.0%	2.90%	35.9%	1.17%	1.00	7.2%	7.2%	8.4%	64%	6.4%
2014	4.83%	38.0%	2.99%	35.9%	1.66%	1.00	7.2%	7.2%	8.9%	64%	6.8%

# EXHIBIT C

<b>A) On-Time Capital &amp; One-Time Costs</b>	01-Jun-2011	01-Dec-2011	01-Dec-2012	01-Dec-2013	01-Dec-2014	01-Dec-2015	01-Dec-2016	01-Dec-2017	01-Dec-2018
One-Time, Nondepreciable Expenditure	0								
Capital Investment- Initial Installation	(677,596)								
Depreciation- Federal	0	(387,212)	(82,972)	(59,256)	(42,316)	(30,255)	(30,221)	(30,255)	(15,110)
Marginal Tax Rate (MTR)- Federal	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Tax Liability Offset- Federal	0	135,524	29,040	20,740	14,811	10,589	10,577	10,589	5,289
Depreciation- State (CO)	0	(387,212)	(82,972)	(59,256)	(42,316)	(30,255)	(30,221)	(30,255)	(15,110)
MTR- State (CO), adj. for fed. deductibility	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Tax Liability Offset- State (CO)	0	11,653	2,497	1,783	1,273	911	909	911	455
Net After-Tax Cash Flow	(677,596)	147,177	31,537	22,523	16,084	11,500	11,487	11,500	5,743
PV Factor: Adjusts Cash Flow to NCD	1.0000	0.9689	0.9096	0.8541	0.8020	0.7530	0.7070	0.6638	0.6233
<b>PV Cash Flow as of NCD</b>	<b>(677,596)</b>	<b>142,603</b>	<b>28,687</b>	<b>19,237</b>	<b>12,899</b>	<b>8,660</b>	<b>8,121</b>	<b>7,634</b>	<b>3,580</b>
Federal Utilized Depreciation Schedule:		57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
State Utilized Depreciation Schedule:		57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
<i>Bonus schedules &amp; dates (also '08-13):</i>	MACRS:	14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%
	10-Sep-01 6-May-03	40.00%	17.14%	12.24%	8.74%	6.25%	6.24%	6.25%	3.12%
	5-May-03 1-Jan-05	57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
<u>Imputed Lease Cost for Interim Period When On-Time (But Not Delay) Equipment Would Need Replacement</u>					Start Date:	End Date:	Years:	Capital Cost:	Annual Lease:
<i>Applicable Only w/ Default Values of Delayed (Not Avoided) Capital and Considered Future Replacement</i>					01-Jun-2026	31-Mar-2030	3.8	(898,993)	(95,610)
Total Imputed Lease Cost:	(363,319)	x	MTR- Federal/State Combined:	38.0%	=	Net After-Tax Cash Flow:			(225,258)
PV Factor: Adjusts Cash Flow to NCD:	0.3444								
<u>PV Cash Flow as of NCD: (77,575)</u>		+	<u>Initial Install. NPV (see above): (446,176)</u>		=	<u>On-Time Total NPV, Install+Lease: (523,751)</u>			
<b>B) Delay Capital &amp; One-Time Costs</b>	31-Mar-2015	01-Oct-2015	01-Oct-2016	01-Oct-2017	01-Oct-2018	01-Oct-2019	01-Oct-2020	01-Oct-2021	01-Oct-2022
One-Time, Nondepreciable Expenditure	0								
Capital Investment	0								
Depreciation- Federal	0	0	0	0	0	0	0	0	0
Marginal Tax Rate (MTR)- Federal	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Tax Liability Offset- Federal	0	0	0	0	0	0	0	0	0
Depreciation- State (CO)	0	0	0	0	0	0	0	0	0
MTR- State (CO), adj. for fed. deductibility	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Tax Liability Offset- State (CO)	0	0	0	0	0	0	0	0	0
Net After-Tax Cash Flow	0	0	0	0	0	0	0	0	0
PV Factor: Adjusts Cash Flow to NCD	0.7855	0.7610	0.7144	0.6708	0.6299	0.5914	0.5552	0.5214	0.4895
<b>PV Cash Flow as of NCD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<u>PV Cash Flow as of NCD: 0</u>									
Federal Utilized Depreciation Schedule:		14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%
State Utilized Depreciation Schedule:		14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%

# EXHIBIT C

## C) Avoided Annually Recurring Costs

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*GDP value as of cost estimate date= 106.778*

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<i>GDP mid-point value:</i>	103.650	105.292	106.778	108.395	109.578
Period of Avoided Annual Costs; From:	01-Jun-2011	01-Jan-2012	01-Jan-2013	01-Jan-2014	01-Jan-2015
To:	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Mar-2015
Annual Costs Avoided	(38,131)	(66,249)	(67,000)	(68,015)	(16,954)
Marginal Tax Rate	38.0%	38.0%	38.0%	38.0%	38.0%
Net After-Tax Cash Flow	(23,641)	(41,074)	(41,540)	(42,169)	(10,511)
PV Factor: Adjusts Cash Flow to NCD	0.9818	0.9339	0.8768	0.8233	0.7916
PV Cash Flow as of NCD	(23,211)	(38,358)	(36,422)	(34,717)	(8,321)

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**NPV of Avoided Annual Costs as of NCD** **(\$141,030)**

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