

Appendix J - Notices of Intent

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RECEIVED

SEP 22 2016

WATER RESOURCES
STATE ENGINEER
COLOGWS-51
9/2016

NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online, dwrpermitsonline@state.co.usState of Colorado, Office of the State Engineer 1313 Sherman St, Room 821,
Denver, CO 80203 Phone 303-866-3581 www.water.state.co.usWell Owner Name(s): Adams County
Address: 4430 South Adams Parkway
Phone: (720) 523-6841
Email: jrutter@adcogov.comLandowner's Name: Adams County

Please check one and complete as indicated including contact info:

- ☐ Water Well Driller Licensed in Colorado - Lic. No. _____
- ☐ Professional Engineer Registered in Colorado - Reg. No. _____
- ☒ Professional Geologist per C.R.S. 23-41-208(b)
- ☐ Other — anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company Chris Krajicek/Quantum Water & EnvironmAddress 1746 Cole Blvd, Suite 340City, State & Zip Lakewood, CO 80401Phone (303) 589-4847Email Chris@quantumwaterco.comPrint Name: Chris KrajicekSignature or enter full name here: Chris KrajicekLocation: SW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 14Township 1 ☐ N ☒ S, Range 67 ☐ E ☒ W, 6th PMCounty: Adams

Subdivision: _____

Lot: _____ Block: _____ Filing: _____

Site/Property Address 14451 Riverdale Rd, Brighton, CO

GPS Location in UTM format if known:

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐ Zone 12 or ☐ Zone 13.

Easting _____ Northing _____

of Monitoring Hole(s) to be constructed in $\frac{1}{4}$ $\frac{1}{4}$: 5Estimated Depth 15 Ft., Aquifer NonePurpose of Monitoring Hole(s) Soil testingAnticipated Date of Construction: 09/26/2016Date Notice Submitted: 09/22/2016

(Must be at least 3 days prior to construction)

ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE
FOR OFFICE USE ONLY

055986

- MH

Div. 1WD 2

BAS _____

MD _____

PROCESSED BY W. Quinn GrovesDATE ACKNOWLEDGED 9/22/16

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 3 days prior to construction of monitoring & observation hole(s).
- 2) Construction of the hole(s) must be completed within 90 days of the date notice was given to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing must not be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.
- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Standard permit application and work report forms are found on the DWR website at <http://www.water.state.co.us>. Well Construction and Yield Estimate Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion. Aquifer testing information must be submitted on Well Yield Test Report (GWS-39).
- 4) Unless a well permit is obtained or variance approved, the hole(s) must be plugged and sealed within eighteen (18) months after construction. An Abandonment Report (GWS-09) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) A MONITORING HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery) or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and policies of the State Engineer.
- 6) IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND EMAIL TO THE DIVISION OF WATER RESOURCES AT DWRpermitsonline@state.co.us.

THIS ACKNOWLEDGEMENT OF NOTICE DOES NOT INDICATE THAT WELL PERMIT(S) CAN BE APPROVED.

NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online @ dwrpermitsonline@state.co.us
COLORADO DIVISION OF WATER RESOURCES-1313 SHERMAN ST-STE 821-DENVER-CO-80203
PHONE: 303-866-3581---FAX: 303-866-3589 WEB: www.water.state.co.us

Well Owner Name(s): _____

Address : _____

Phone (area code & no.): _____

Landowner's Name: _____

Please check one and complete as indicated including contact info:

☐ Water Well Driller Licensed in Colorado – Lic. No. _____

☐ Professional Engineer Registered in Colorado – Reg. No. _____

☐ Professional Geologist per CRS 34-1-201(3)

☐ Other -anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company _____

Address _____

City, State & Zip _____

Phone _____ Fax _____

Print Name: _____

Sign or enter full name here: _____

Location: _____ ¼ _____ ¼, Section _____

Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W, _____ PM

County _____

Subdivision: _____

Lot: _____ Block: _____ Filing Unit: _____

Site/Property Address _____

GPS Location in UTM format (optional):

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐ Zone 12 or ☐ Zone 13.

Easting _____ Northing _____

of Monitoring Hole(s) to be constructed: _____

Estimated Depth _____ Ft., Aquifer _____

Purpose of Monitoring Hole(s) _____

Anticipated Date of Construction (mm/dd/yyyy) _____

Date Notice Submitted (mm/dd/yyyy): _____

(Must be at least 3 days prior to construction)

ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE FOR OFFICE USE ONLY

_____ - MH PROCESSED BY _____

DIV. _____ WD _____ BAS _____ MD _____ DATE ACKNOWLEDGED _____

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 3 days prior to construction of monitoring & observation hole(s).
- 2) Construction of the hole(s) must be completed within **90 days** of the date notice was given to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing shall not be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.
- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Minimum construction standards must be met or a variance obtained. Standard permit application and work report forms, including online filing instructions, are found on the DWR website at <http://www.water.state.co.us>. Well Construction and Test Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion.
- 4) Unless a well permit is obtained, or variance approved, the hole(s) must be plugged and sealed within one (1) year after construction. An Abandonment Report (form GWS-9) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) The owner of the hole(s) shall maintain records of water quality testing and submit this data to the State Engineer upon request.
- 6) A MONITORING HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery) or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and policies of the State Engineer.
- 7) IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE, "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND FAX THE COPY TO THE DIVISION OF WATER RESOURCES.

THIS ACKNOWLEDGEMENT OF NOTICE DOES NOT INDICATE THAT WELL PERMIT(S) CAN BE APPROVED.

NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online @ dwrpermitsonline@state.co.us
COLORADO DIVISION OF WATER RESOURCES-1313 SHERMAN ST-STE 821-DENVER-CO-80203
PHONE: 303-866-3581—FAX: 303-866-3589 WEB: www.water.state.co.us

RECEIVED

MAY 12 2016

WATER RESOURCES
STATE ENGINEER
COLO

Well Owner Name(s): Adams County

Address : 4430 South Adams County Parkway

Phone (area code & no.): 720-523-6003

Landowner's Name: Adams County

Please check one and complete as indicated including contact info:

☐ Water Well Driller Licensed in Colorado – Lic. No. _____

☒ Professional Engineer Registered in Colorado – Reg. No. 39739

☐ Professional Geologist per CRS 34-1-201(3)

☐ Other -anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company John Dellaport / Quantum Water & Env.

Address 1746 Cole Blvd Suite 340

City, State & Zip Lakewood, CO 80401

Phone 720-524-4294 Fax _____

Print Name: John C. Dellaport

Sign or enter full name here: *John C. Dellaport*

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 14

Township 1 ☐ N ☒ S, Range 67 ☐ E ☒ W, 6th PM

County Adams

Subdivision: _____

Lot: _____ Block: _____ Filing Unit: _____

Site/Property Address 14451 Riverdale Rd,
Brighton, CO

GPS Location in UTM format (optional):

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐ Zone 12 or ☐ Zone 13.

Easting _____ Northing _____

of Monitoring Hole(s) to be constructed: 15 - 20

Estimated Depth 10 Ft., Aquifer none

Purpose of Monitoring Hole(s) Delineate landfill waste extent

Anticipated Date of Construction (mm/dd/yyyy) 05/16/2016

Date Notice Submitted (mm/dd/yyyy): 05/12/2016
(Must be at least 3 days prior to construction)

ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE FOR OFFICE USE ONLY

055372

- MH

PROCESSED BY *W. J. G. G. G.*

Div. 1 WD 2 BAS _____ MD _____ DATE ACKNOWLEDGED 5/17/16

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 3 days prior to construction of monitoring & observation hole(s).
- 2) Construction of the hole(s) must be completed within 90 days of the date notice was given to the State Engineer. Testing and/or pumping shall not exceed a total of 200 hours unless prior written approval is obtained from the State Engineer. Water diverted during testing shall not be used for beneficial purposes. The owner of the hole(s) is responsible for obtaining permit(s) and complying with all rules and regulations pertaining to the discharge of fluids produced during testing.
- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Minimum construction standards must be met or a variance obtained. Standard permit application and work report forms, including online filing instructions, are found on the DWR website at <http://www.water.state.co.us>. Well Construction and Test Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion.
- 4) Unless a well permit is obtained, or variance approved, the hole(s) must be plugged and sealed within one (1) year after construction. An Abandonment Report (form GWS-9) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) The owner of the hole(s) shall maintain records of water quality testing and submit this data to the State Engineer upon request.
- 6) A MONITORING HOLE CANNOT BE CONVERTED TO A PRODUCTION WATER WELL, except for purposes of remediation (recovery) or as a permanent dewatering system, if constructed in accordance with the Water Well Construction Rules and policies of the State Engineer.
- 7) IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE, "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND FAX THE COPY TO THE DIVISION OF WATER RESOURCES.

THIS ACKNOWLEDGEMENT OF NOTICE DOES NOT INDICATE THAT WELL PERMIT(S) CAN BE APPROVED.

GWS-51
3/2013

NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S) JUL 08 2016

Please type or print legibly in black or blue ink or file online @ dwrpermitsonline@state.co.us

COLORADO DIVISION OF WATER RESOURCES-1313 SHERMAN ST-STE 821-DENVER-CO-80203

PHONE: 303-866-3581--FAX: 303-866-3589 WEB: www.water.state.co.usRESOURCES
ENGINEER
COLOWell Owner Name(s): Adams CountyAddress : 4430 South Adams ParkwayPhone (area code & no.): 720-523-6003Landowner's Name: Adams County

Please check one and complete as indicated including contact info:

☐ Water Well Driller Licensed in Colorado - Lic. No. _____☒ Professional Engineer Registered in Colorado - Reg. No. 39739☐ Professional Geologist per CRS 34-1-201(3)☐ Other -anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologistContact / Company John Dellaport / Quantum Water & Env.Address 1746 Cole Blvd Suite 340City, State & Zip Lakewood, CO 80401Phone 720-524-4294 Fax _____Print Name: John C. Dellaport

Sign or enter full name here: _____

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 14Township 1 ☐ N ☒ S, Range 67 ☐ E ☒ W, 6th PMCounty Adams

Subdivision: _____

Lot: _____ Block: _____ Filing Unit: _____

Site/Property Address 14451 Riverdale Rd., Brighton

GPS Location in UTM format (optional):

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐ Zone 12 or ☐ Zone 13.

Easting _____ Northing _____

of Monitoring Hole(s) to be constructed: 5Estimated Depth 40 Ft., Aquifer DenverPurpose of Monitoring Hole(s) groundwater monitoringAnticipated Date of Construction (mm/dd/yyyy) 07/12/2016Date Notice Submitted (mm/dd/yyyy): 07/08/2016
(Must be at least 3 days prior to construction)ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE
FOR OFFICE USE ONLY

055621

- MH

PROCESSED BY

*Jeff Davis*DIV. 1 WD 2 BAS _____ MD _____

DATE ACKNOWLEDGED

7/8/16

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

- 1) Notice was provided to the State Engineer at least 3 days prior to construction of monitoring & observation hole(s).
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GWS-51
3/2013

NOTICE OF INTENT TO CONSTRUCT MONITORING HOLE(S)

Please type or print legibly in black or blue ink or file online @ dwrpermitsonline@state.co.us

COLORADO DIVISION OF WATER RESOURCES-1313 SHERMAN ST-STE 821-DENVER-CO

PHONE: 303-866-3581---FAX: 303-866-3589 WEB: www.water.state.co.us

RECEIVED

JUL 05 2016

WATER RESOURCES
STATE ENGINEER

Well Owner Name(s): Adams County

Address : 4430 South Adams Parkway

Phone (area code & no.): 720-523-6003

Landowner's Name: Adams County

Please check one and complete as indicated including contact info:

☐ Water Well Driller Licensed in Colorado - Lic. No. _____

☒ Professional Engineer Registered in Colorado - Reg. No. 39739

☐ Professional Geologist per CRS 34-1-201(3)

☐ Other - anyone directly employed by or under the supervision of a licensed driller, registered professional engineer or professional geologist

Contact / Company John Dellaport / Quantum Water & Env.

Address 1746 Cole Blvd Suite 340

City, State & Zip Lakewood, CO 80401

Phone 720-524-4294 Fax _____

Print Name: John C. Dellaport

Sign or enter full name here: John C. Dellaport

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 14

Township 1 ☐ N ☒ S, Range 67 ☐ E ☒ W, 6TH PM

County Adams

Subdivision: _____

Lot: _____ Block: _____ Filing Unit: _____

Site/Property Address 14451 Riverdale Rd., Brighton, CO

GPS Location in UTM format (optional):

Set GPS unit to true north, datum NAD83, and use meters for the distance units, ☐ Zone 12 or ☐ Zone 13.

Easting _____ Northing _____

of Monitoring Hole(s) to be constructed: 5

Estimated Depth 25 Ft., Aquifer Denver

Purpose of Monitoring Hole(s) water level monitoring

Anticipated Date of Construction (mm/dd/yyyy) 07/08/2016

Date Notice Submitted (mm/dd/yyyy): 07/05/2016
(Must be at least 3 days prior to construction)

ACKNOWLEDGEMENT FROM STATE ENGINEER'S OFFICE FOR OFFICE USE ONLY

055584

- MH

PROCESSED BY

Jeff Davis

DIV. 1 WD 2 BAS _____ MD _____

DATE ACKNOWLEDGED 7/5/16

CONDITIONS OF MONITORING HOLE ACKNOWLEDGEMENT

A COPY OF THE WRITTEN NOTICE OR ACKNOWLEDGEMENT SHALL BE AVAILABLE AT THE DRILLING SITE.

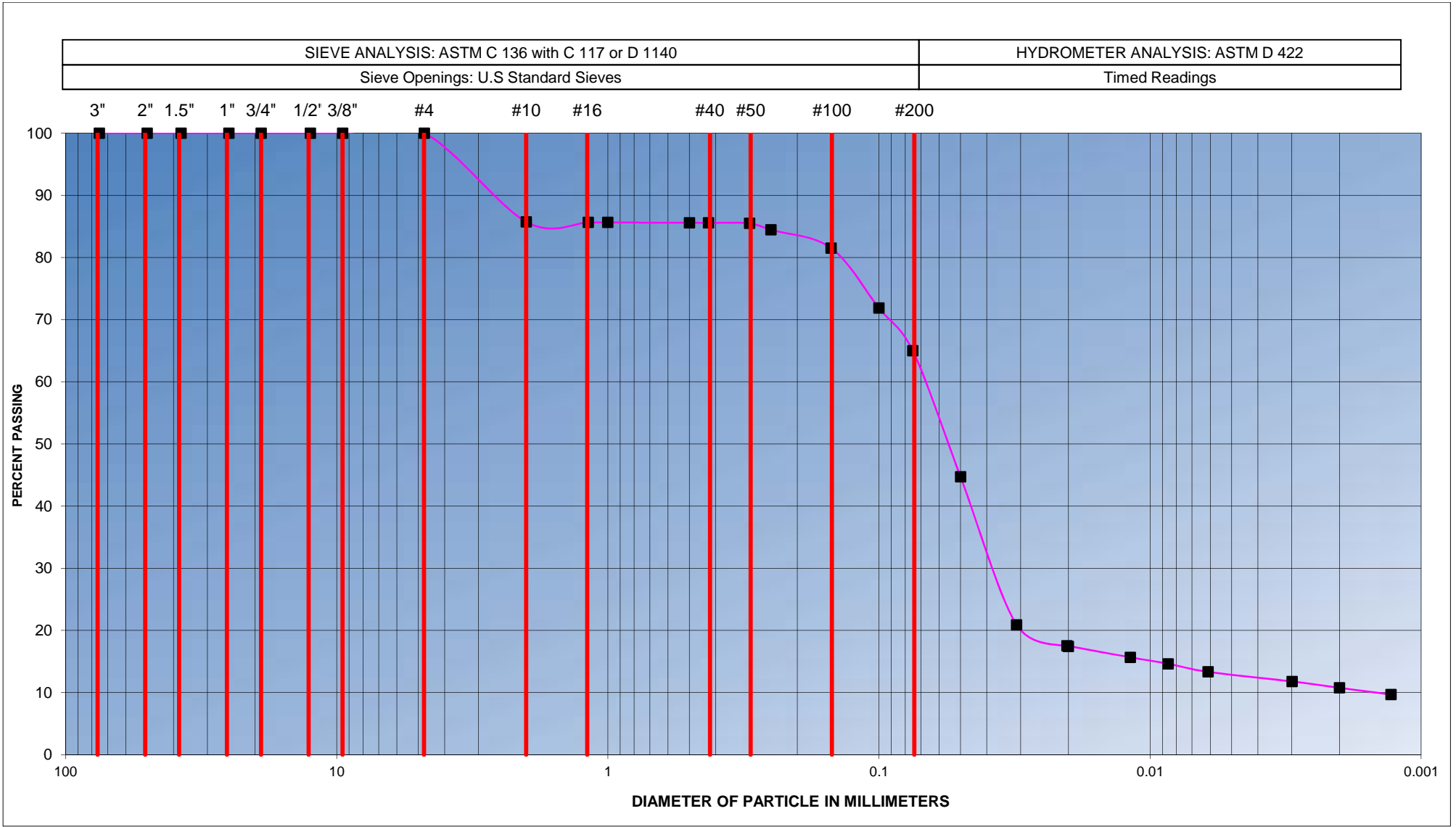
- 1) Notice was provided to the State Engineer at least 3 days prior to construction of monitoring & observation hole(s).
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- 3) All work must comply with the Water Well Construction Rules, 2 CCR 402-2. Minimum construction standards must be met or a variance obtained. Standard permit application and work report forms, including online filing instructions, are found on the DWR website at <http://www.water.state.co.us>. Well Construction and Test Reports (GWS-31) must be completed for each hole drilled. The licensed contractor or authorized individual must submit the completed forms to this office within 60 days of monitoring hole completion.
- 4) Unless a well permit is obtained, or variance approved, the hole(s) must be plugged and sealed within one (1) year after construction. An Abandonment Report (form GWS-9) must be submitted within 60 days of plugging & sealing. The above MH acknowledgement number, owner's structure name, and owner's name and address must be provided on all well permit application(s), well construction and abandonment reports.
- 5) The owner of the hole(s) shall maintain records of water quality testing and submit this data to the State Engineer upon request.
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- 7) IF HOLES WILL NOT BE CONSTRUCTED UNDER THIS NOTICE WITHIN 90 DAYS, PLEASE WRITE, "NO HOLES CONSTRUCTED" ON A COPY OF THE ACKNOWLEDGED NOTICE WITH THE FILE NUMBER AND FAX THE COPY TO THE DIVISION OF WATER RESOURCES.

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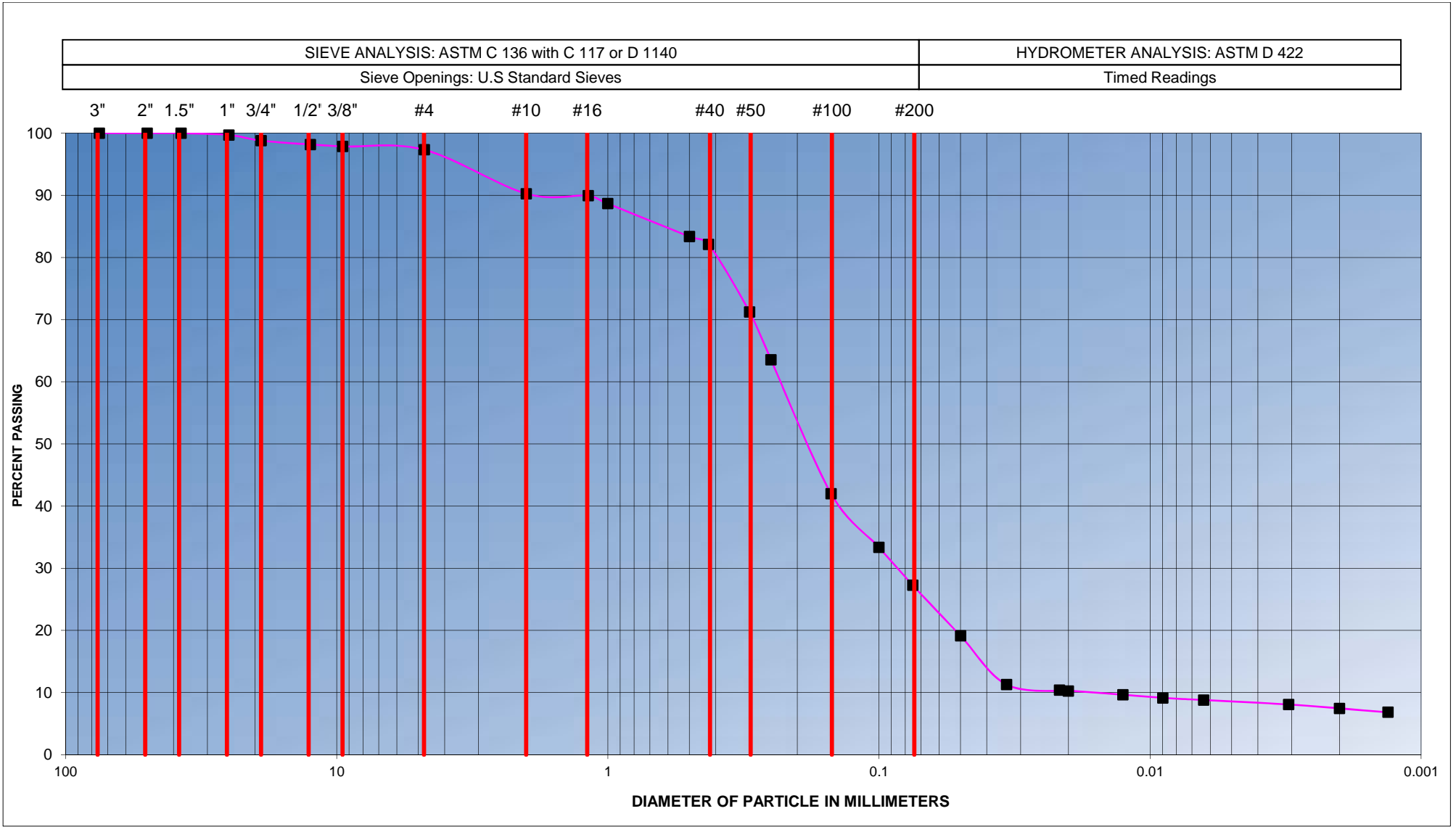
(Use above space for labels or additional conditions as needed)

Appendix K - Soil Geotechnical Reports

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	Gravel	0%	Sand	35%	Silt and Clay	65%	<div>GROUNDENGINEERING CONSULTANTS</div>
From: AC-SB-21, 11:20 8/24/2016						GRADATION TEST RESULTS	
						JOB NO.: 16-1163	
						FIGURE: 3984	



	Gravel	3%	Sand	70%	Silt and Clay	27%	<div>GROUND ENGINEERING CONSULTANTS</div>
From: AC-SB-10 15:27 8/24/2016						GRADATION TEST RESULTS	
						JOB NO.: 16-1163	
						FIGURE: 3985	

GROUND

ENGINEERING

June 29, 2016

Subject: Laboratory Testing,
Delivered Soil / Aggregate
Sample, Quantum Water
Lab Testing

Job No. 16-1163

Mr. John Dellaporte
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401

Dear Mr. Dellaporte,

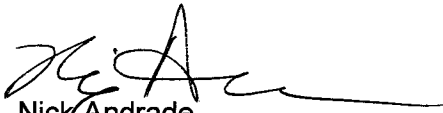
As requested, analytical testing was completed on four samples of soil – aggregate mixture delivered to our laboratory by your representative. The following testing was completed in general accordance with the respective standard; Aggregate Gradation (ASTM C 136).

The results of the testing have been attached.

If you have any questions regarding this data, please do not hesitate to contact our office.

GROUND ENGINEERING CONSULTANTS, INC.

Sincerely,



Nick Andrade
Laboratory Supervisor

GROUND

ENGINEERING CONSULTANTS

GRADATION PROPERTIES

Project: **Quantun Water Lab Testing**

Job Number: **16-1163**

Date: July 29, 2016

Reported to: Quantum Water & Environment

Attn: John Dellaporte

Sample Information

Sample Number: 3778

Sample Location: Sample Delivered by Client

Aggregate Identification: AC-SB-10

Date Sampled: 7/22/2016

Sampled By: Quantum Water Representative

Gradation Analysis

Sieve Size (opening)	Passing (%)
4"	100
3 1/2"	100
2"	100
1 1/2"	100
1"	100
3/4"	99
1/2"	99
3/8"	98
#4	98
#10	97
#16	95
#40	81
#50	64
#100	28
#200	17.4

GROUND

ENGINEERING CONSULTANTS

GRADATION PROPERTIES

Project: **Quantun Water Lab Testing**

Job Number: **16-1163**

Date: July 29, 2016

Reported to: Quantum Water & Environment

Attn: John Dellaporte

Sample Information

Sample Number: 3779

Sample Location: Sample Delivered by Client

Aggregate Identification: AC-SB-21

Date Sampled: 7/22/2016

Sampled By: Quantum Water Representative

Gradation Analysis

Sieve Size (opening)	Passing (%)
4"	100
3 1/2"	100
2"	100
1 1/2"	100
1"	100
3/4"	100
1/2"	100
3/8"	100
#4	100
#10	100
#16	99
#40	94
#50	86
#100	64
#200	49.6

GROUND

ENGINEERING CONSULTANTS

GRADATION PROPERTIES

Project: **Quantun Water Lab Testing**

Job Number: **16-1163**

Date: July 29, 2016

Reported to: Quantum Water & Environment

Attn: John Dellaporte

Sample Information

Sample Number: 3780

Sample Location: Sample Delivered by Client

Aggregate Identification: AC-SB-40

Date Sampled: 7/22/2016

Sampled By: Quantum Water Representative

Gradation Analysis

Sieve Size (opening)	Passing (%)
4"	100
3 1/2"	100
2"	100
1 1/2"	100
1"	99
3/4"	98
1/2"	97
3/8"	97
#4	96
#10	92
#16	90
#40	83
#50	77
#100	62
#200	49.2

Corporate
11 Inverness Dr East
Englewood, CO 80112
Tel:(303)289 1989
Fax:(303)289 1686

Offices: Denver, Loveland, Western Slope, Granby, Casper WY

North Denver
7393 Dahlia Street
Commerce City, CO 80022
Tel:(303)289 1989
Fax:(303)289 6742

GROUND

ENGINEERING CONSULTANTS

GRADATION PROPERTIES

Project: **Quantun Water Lab Testing**

Job Number: **16-1163**

Date: July 29, 2016

Reported to: Quantum Water & Environment

Attn: John Dellaporte

Sample Information

Sample Number: 3781

Sample Location: Sample Delivered by Client

Aggregate Identification: AC-SB-42

Date Sampled: 7/22/2016

Sampled By: Quantum Water Representative

Gradation Analysis

Sieve Size (opening)	Passing (%)
4"	100
3 1/2"	100
2"	100
1 1/2"	100
1"	100
3/4"	100
1/2"	99
3/8"	99
#4	99
#10	98
#16	98
#40	96
#50	94
#100	85
#200	70.5

GROUND ENGINEERING

June 27, 2016

Subject: Laboratory Testing,
Delivered Soil / Aggregate
Sample, Quantum Water
Lab Testing

Job No. 16-1163

Mr. John Dellaporte
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401

Dear Mr. Dellaporte,

As requested, analytical testing was completed on one sample of soil – aggregate mixture delivered to our laboratory by your representative. The following testing was completed in general accordance with the respective standards; Aggregate Gradation (ASTM C 136) and Atterberg Limits (ASTM D 4318).

The results of the testing have been attached.

If you have any questions regarding this data, please do not hesitate to contact our office.

GROUND ENGINEERING CONSULTANTS, INC.

Sincerely,


Nick Andrade
Laboratory Supervisor

GROUND

ENGINEERING CONSULTANTS

GRADATION PROPERTIES

Project: **Quantun Water Lab Testing**
Job Number: **16-1163** Date: June 27, 2016
Reported to: Quantum Water & Environment

Attn: John Dellaporte

Sample Information

Sample Number: 3605
Sample Location: Sample Delivered by Client
Aggregate Identification: 061716-0-12
Date Sampled: 6/17/2016
Sampled By: Quantum Water Representative

Gradation Analysis

Sieve Size (opening)	Passing (%)
4"	100
3 1/2"	95
2"	76
1 1/2"	71
1"	66
3/4"	61
1/2"	53
3/8"	50
#4	43
#8	35
#16	28
#30	14
#50	10
#100	6
#200	4.5
Liquid Limit:	28
Plasticity Index:	6

Classification:	USCS:	(GP)s	AASHTO:	A-1-a
-----------------	-------	-------	---------	-------

Corporate
11 Inverness Dr East
Englewood, CO 80112
Tel:(303)289 1989
Fax:(303)289 1686

Offices: Denver, Loveland, Western Slope, Granby, Casper WY

North Denver
7393 Dahlia Street
Commerce City, CO 80022
Tel:(303)289 1989
Fax:(303)289 6742

Appendix L - Appendix IA and IB Constituents

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APPENDIX I FOR DETECTION MONITORING
APPENDIX IA

GENERAL GROUND WATER QUALITY INDICATOR PARAMETERS

CATIONS

MAGNESIUM
SODIUM
POTASSIUM
CALCIUM

ANIONS

CARBONATE
BICARBONATE
CHLORIDE
SULFATE
NITRITE
NITRATE

FIELD PARAMETERS

PH
SPECIFIC CONDUCTIVITY
TEMPERATURE
TOTAL ORGANIC CARBON

APPENDIX IB

<u>COMMON NAME</u>	<u>CAS NUMBER</u>
INORGANIC CONSTITUENTS	
(1) ANTIMONY (TOTAL)	
(2) ARSENIC (TOTAL)	
(3) BARIUM (TOTAL)	
(4) BERYLLIUM (TOTAL)	
(5) CADMIUM (TOTAL)	
(6) CHROMIUM (TOTAL)	
(7) COBALT (TOTAL)	
(8) COPPER (TOTAL)	
(9) LEAD (TOTAL)	
(10) NICKEL (TOTAL)	
(11) SELENIUM (TOTAL)	
(12) SILVER (TOTAL)	
(13) THALLIUM (TOTAL)	

(14) VANADIUM (TOTAL)

(15) ZINC (TOTAL)

ORGANIC CONSTITUENTS:

(16) ACETONE	67-64-1
(17) ACRYLONITRILE	107-13-1
(18) BENZENE	71-43-2
(19) BROMOCHLOROMETHANE	74-97-5
(20) BROMODICHLOROMETHANE	75-27-4
(21) BROMOFORM; TRIBROMOMETHANE	75-25-2
(22) CARBON DISULFIDE	75-15-0
(23) CARBON TETRACHLORIDE	56-23-5
(24) CHLOROBENZENE	108-90-7
(25) CHLOROETHANE; ETHYL CHLORIDE	75-00-3
(26) CHLOROFORM; TRICHLOROMETHANE	67-66-3
(27) DIBROMOCHLOROMETHANE; CHLORODIBROMOMETHANE	124-48-1
(28) 1,2-DIBROMO-3-CHLOROPROPANE; DBCP	96-12-8
(29) 1,2-DIBROMOETHANE; ETHYLENE DIBROMIDE; EDB	106-93-4
(30) O-DICHLOROBENZENE; 1,2-DICHLOROBENZENE	95-50-1
(31) P-DICHLOROBENZENE; 1,4-DICHLOROBENZENE	106-46-7
(32) TRANS-1,4-DICHLORO-2-BUTENE	110-57-6
(33) 1,1-DICHLOROETHANE; ETHYLIDENE CHLORIDE	75-34-3
(34) 1,2-DICHLOROETHANE; ETHYLENE DICHLORIDE	107-06-2
(35) 1,1-DICHLOROETHYLENE; 1,1-DICHLOROETHENE; VINYLIDEN CHLORIDE	75-35-4
(36) CIS-1,2-DICHLOROETHYLENE; CIS-1,2-DICHLOROETHENE	156-59-2
(37) TRANS-1,2-DICHLOROETHYLENE; TRANS-1,2-DICHLOROETHENE	156-60-5
(38) 1,2-DICHLOROPROPANE; PROPYLENE DICHLORIDE	78-87-5
(39) CIS-1,3-DICHLOROPROPENE	10061-01-5
(40) TRANS-1,3-DICHLOROPROPENE	10061-02-6
(41) ETHYLBENZENE	100-41-4
(42) 2-HEXANONE; METHYL BUTYL KETONE	591-78-6
(43) METHYL BROMIDE; BROMOMETHANE	74-83-9
(44) METHYL CHLORIDE; CHLOROMETHANE	74-87-3
(45) METHYLENE BROMIDE; DIBROMOMETHANE	74-95-3
(46) METHYLENE CHLORIDE; DICHLOROMETHANE	75-09-2
(47) METHYL ETHYL KETONE; MEK; 2-BUTANONE	78-93-3
(48) METHYL IODIDE; IODOMETHANE	74-88-4

(49) 4-METHYL-2-PENTANONE; METHYL ISOBUTYL KETONE	108-10-1
(50) STYRENE	100-42-5
(51) 1,1,1,2-TETRACHLOROETHANE	630-20-6
(52) 1,1,2,2-TETRACHLOROETHANE	79-34-5
(53) TETRACHLOROETHYLENE; TETRACHLOROETHENE PERCHLOROETHYLENE	127-18-4
(54) TOLUENE	108-88-3
(55) 1,1,1-TRICHLOROETHANE; METHYLCHLOROFORM	71-55-6
(56) 1,1,2-TRICHLOROETHANE	79-00-5
(57) TRICHLOROETHYLENE; TRICHLOROETHENE	79-01-6
(58) TRICHLOROFLUOROMETHANE; CFC-11	75-69-4
(59) 1,2,3-TRICHLOROPROPANE	96-18-4
(60) VINYL ACETATE	108-05-4
(61) VINYL CHLORIDE	75-01-4
(62) XYLENES	1330-20-7

This list contains 47 volatile organics for which possible analytical procedures provided in EPA report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986, as revised December 1987, includes method 8260; and 15 metals for which SW-846 provides either method 6010 or a method from the 7000 series of methods.

Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

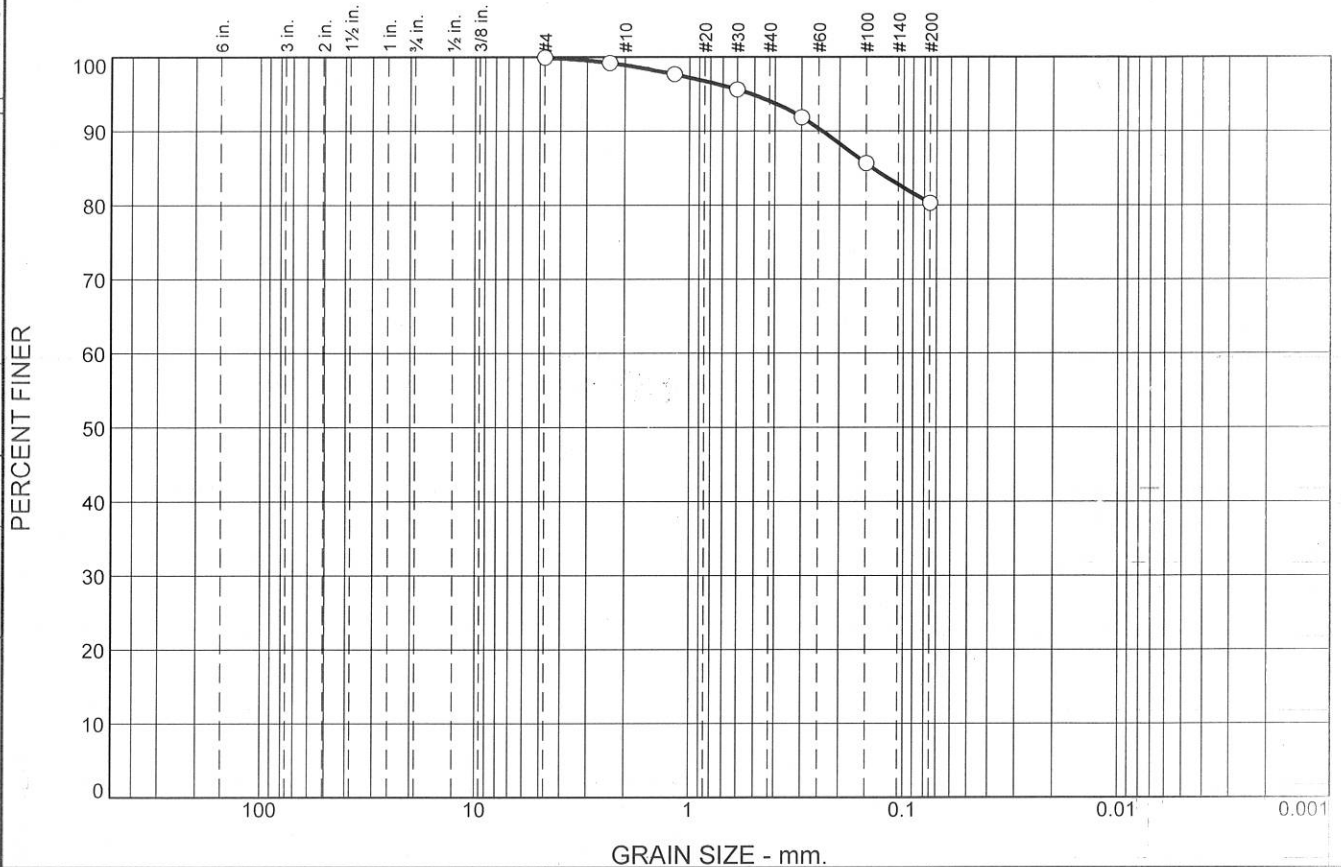
Cas number = Chemical Abstracts Service registry number.

Appendix M - Sludge Geotechnical Report

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These test results apply only to the samples which were tested. the testing report shall not be reproduced, except in full, without the written approval of K & A, Inc

Particle Size Distribution Report



% +3"		% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
				1	5	14	80	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100		
#8	99		
#16	98		
#30	96		
#50	92		
#100	86		
#200	80		

* (no specification provided)

Material Description

silt with sand

Atterberg Limits

PL= NP

LL= NV

PI= NP

Classification

USCS= ML

AASHTO= A-4(0)

Remarks

In-Situ Moisture = 47.8%

Location: Adams County Shooting Range (#132E-15)
Sample Number: 6768

Date: 10-5-16

Kumar & Associates, Inc.

Denver, Colorado

Client: Quantum Water and Environment
Project: Adams County Shooting Range

Project No: 16-1-630

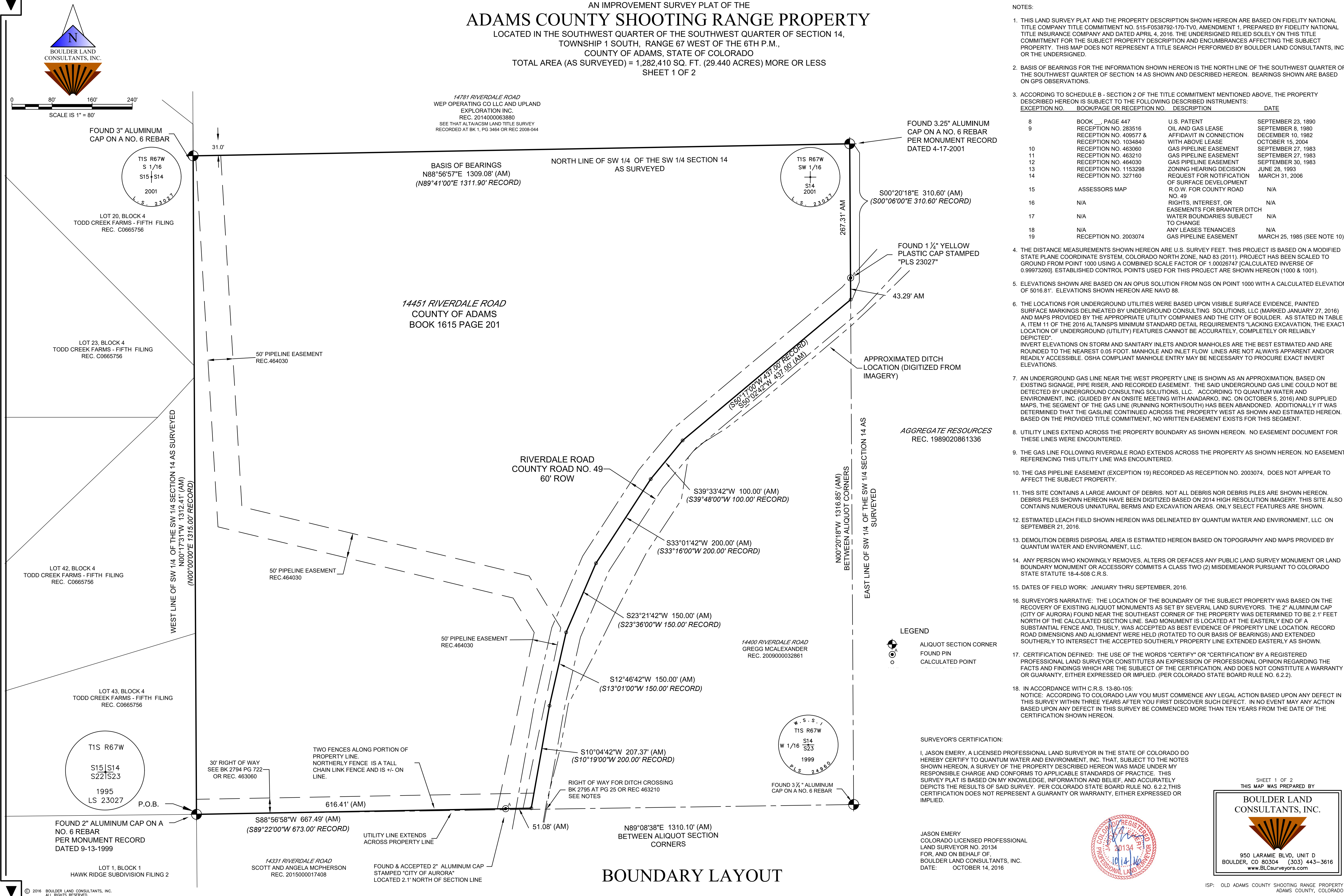
Figure

Tested By: TA

Checked By: DS

Appendix N - Land Survey Reports

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NOTES:

- THIS LAND SURVEY PLAT AND THE PROPERTY DESCRIPTION SHOWN HEREON ARE BASED ON FIDELITY NATIONAL TITLE COMPANY TITLE COMMITMENT NO. 515-F0530792-170-TVL, AMENDMENT 1, PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY AND DATED APRIL 4, 2016. THE UNDERSIGNED RELIED SOLELY ON THIS TITLE COMMITMENT FOR THE SUBJECT PROPERTY DESCRIPTION AND ENCUMBRANCES AFFECTING THE SUBJECT PROPERTY. THIS MAP DOES NOT REPRESENT A TITLE SEARCH PERFORMED BY BOULDER LAND CONSULTANTS, INC. OR THE UNDERSIGNED.
- BASIS OF BEARINGS FOR THE INFORMATION SHOWN HEREON IS THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 14 AS SHOWN AND DESCRIBED HEREON. BEARINGS SHOWN ARE BASED ON GPS OBSERVATIONS.
- ACCORDING TO SCHEDULE B - SECTION 2 OF THE TITLE COMMITMENT MENTIONED ABOVE, THE PROPERTY DESCRIBED HEREON IS SUBJECT TO THE FOLLOWING DESCRIBED INSTRUMENTS:

EXCEPTION NO.	BOOK/PAGE OR RECEPTION NO.	DESCRIPTION	DATE
8	BOOK __, PAGE 447	U.S. PATENT	SEPTEMBER 23, 1890
9	RECEPTION NO. 283516	OIL AND GAS LEASE	SEPTEMBER 8, 1980
	RECEPTION NO. 409577 &	AFFIDAVIT IN CONNECTION	DECEMBER 10, 1982
	RECEPTION NO. 1034840	WITH ABOVE LEASE	OCTOBER 15, 2004
10	RECEPTION NO. 463060	GAS PIPELINE EASEMENT	SEPTEMBER 27, 1983
11	RECEPTION NO. 463210	GAS PIPELINE EASEMENT	SEPTEMBER 27, 1983
12	RECEPTION NO. 464030	GAS PIPELINE EASEMENT	SEPTEMBER 27, 1983
13	RECEPTION NO. 1153298	ZONING HEARING DECISION	JUNE 28, 1993
14	RECEPTION NO. 327160	REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT	MARCH 31, 2006
15	ASSESSORS MAP	R.O.W. FOR COUNTY ROAD NO. 49	N/A
16	N/A	RIGHTS, INTEREST, OR EASEMENTS FOR BRANTER DITCH	N/A
17	N/A	WATER BOUNDARIES SUBJECT TO CHANGE	N/A
18	N/A	ANY LEASES TENANCIES	N/A
19	RECEPTION NO. 2003074	GAS PIPELINE EASEMENT	MARCH 25, 1985 (SEE NOTE 10)
- THE DISTANCE MEASUREMENTS SHOWN HEREON ARE U.S. SURVEY FEET. THIS PROJECT IS BASED ON A MODIFIED STATE PLANE COORDINATE SYSTEM, COLORADO NORTH ZONE, NAD 83 (2011). PROJECT HAS BEEN SCALED TO GROUND FROM POINT 1000 USING A COMBINED SCALE FACTOR OF 1.00026747 [CALCULATED INVERSE OF 0.99973260]. ESTABLISHED CONTROL POINTS USED FOR THIS PROJECT ARE SHOWN HEREON (1000 & 1001).
- ELEVATIONS SHOWN ARE BASED ON AN OPUS SOLUTION FROM NGS ON POINT 1000 WITH A CALCULATED ELEVATION OF 5016.81'. ELEVATIONS SHOWN HEREON ARE NAVD 88.
- THE LOCATIONS FOR UNDERGROUND UTILITIES WERE BASED UPON VISIBLE SURFACE EVIDENCE, PAINTED SURFACE MARKINGS DELINEATED BY UNDERGROUND CONSULTING SOLUTIONS, LLC (MARKED JANUARY 27, 2016) AND MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANIES AND THE CITY OF BOULDER. AS STATED IN TABLE A, ITEM 11 OF THE 2016 ALTA/NSPS MINIMUM STANDARD DETAIL REQUIREMENTS "LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND (UTILITY) FEATURES CANNOT BE ACCURATELY, COMPLETELY OR RELIABLY DEPICTED". INVERT ELEVATIONS ON STORM AND SANITARY INLETS AND/OR MANHOLES ARE THE BEST ESTIMATED AND ARE ROUNDED TO THE NEAREST 0.05 FOOT. MANHOLE AND INLET FLOW LINES ARE NOT ALWAYS APPARENT AND/OR READILY ACCESSIBLE. OSHA COMPLIANT MANHOLE ENTRY MAY BE NECESSARY TO PROCURE EXACT INVERT ELEVATIONS.
- AN UNDERGROUND GAS LINE NEAR THE WEST PROPERTY LINE IS SHOWN AS AN APPROXIMATION, BASED ON EXISTING SIGNAGE, PIPE RISER, AND RECORDED EASEMENT. THE SAID UNDERGROUND GAS LINE COULD NOT BE DETECTED BY UNDERGROUND CONSULTING SOLUTIONS, LLC. ACCORDING TO QUANTUM WATER AND ENVIRONMENT, INC. (GUIDED BY AN ONSITE MEETING WITH ANADARKO, INC. ON OCTOBER 5, 2016) AND SUPPLIED MAPS, THE SEGMENT OF THE GAS LINE (RUNNING NORTH/SOUTH) HAS BEEN ABANDONED. ADDITIONALLY IT WAS DETERMINED THAT THE GASLINE CONTINUED ACROSS THE PROPERTY WEST AS SHOWN AND ESTIMATED HEREON. BASED ON THE PROVIDED TITLE COMMITMENT, NO WRITTEN EASEMENT EXISTS FOR THIS SEGMENT.
- UTILITY LINES EXTEND ACROSS THE PROPERTY BOUNDARY AS SHOWN HEREON. NO EASEMENT DOCUMENT FOR THESE LINES WERE ENCOUNTERED.
- THE GAS LINE FOLLOWING RIVERDALE ROAD EXTENDS ACROSS THE PROPERTY AS SHOWN HEREON. NO EASEMENT REFERENCING THIS UTILITY LINE WAS ENCOUNTERED.
- THE GAS PIPELINE EASEMENT (EXCEPTION 19) RECORDED AS RECEPTION NO. 2003074, DOES NOT APPEAR TO AFFECT THE SUBJECT PROPERTY.
- THIS SITE CONTAINS A LARGE AMOUNT OF DEBRIS. NOT ALL DEBRIS NOR DEBRIS PILES ARE SHOWN HEREON. DEBRIS PILES SHOWN HEREON HAVE BEEN DIGITIZED BASED ON 2014 HIGH RESOLUTION IMAGERY. THIS SITE ALSO CONTAINS NUMEROUS UNNATURAL BERMS AND EXCAVATION AREAS. ONLY SELECT FEATURES ARE SHOWN.
- ESTIMATED LEACH FIELD SHOWN HEREON WAS DELINEATED BY QUANTUM WATER AND ENVIRONMENT, LLC. ON SEPTEMBER 21, 2016.
- DEMOLITION DEBRIS DISPOSAL AREA IS ESTIMATED HEREON BASED ON TOPOGRAPHY AND MAPS PROVIDED BY QUANTUM WATER AND ENVIRONMENT, LLC.
- ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO COLORADO STATE STATUTE 18-4-508 C.R.S.
- DATES OF FIELD WORK: JANUARY THRU SEPTEMBER, 2016.
- SURVEYOR'S NARRATIVE: THE LOCATION OF THE BOUNDARY OF THE SUBJECT PROPERTY WAS BASED ON THE RECOVERY OF EXISTING ALIQUOT MONUMENTS AS SET BY SEVERAL LAND SURVEYORS. THE 2" ALUMINUM CAP (CITY OF AURORA) FOUND NEAR THE SOUTHEAST CORNER OF THE PROPERTY WAS DETERMINED TO BE 2.1' FEET NORTH OF THE CALCULATED SECTION LINE. SAID MONUMENT IS LOCATED AT THE EASTERLY END OF A SUBSTANTIAL FENCE AND, THUSLY, WAS ACCEPTED AS BEST EVIDENCE OF PROPERTY LINE LOCATION. RECORD ROAD DIMENSIONS AND ALIGNMENT WERE HELD (ROTATED TO OUR BASIS OF BEARINGS) AND EXTENDED SOUTHERLY TO INTERSECT THE ACCEPTED SOUTHERLY PROPERTY LINE EXTENDED EASTERLY AS SHOWN.
- CERTIFICATION DEFINED: THE USE OF THE WORDS "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS AND FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTY, EITHER EXPRESSED OR IMPLIED. (PER COLORADO STATE BOARD RULE NO. 6.2.2).
- IN ACCORDANCE WITH C.R.S. 13-80-105:
NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

SURVEYOR'S CERTIFICATION:

I, JASON EMERY, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO DO HEREBY CERTIFY TO QUANTUM WATER AND ENVIRONMENT, INC. THAT, SUBJECT TO THE NOTES SHOWN HEREON, A SURVEY OF THE PROPERTY DESCRIBED HEREON WAS MADE UNDER MY RESPONSIBLE CHARGE AND CONFORMS TO APPLICABLE STANDARDS OF PRACTICE. THIS SURVEY PLAT IS BASED ON MY KNOWLEDGE, INFORMATION AND BELIEF, AND ACCURATELY DEPICTS THE RESULTS OF SAID SURVEY. PER COLORADO STATE BOARD RULE NO. 6.2.2, THIS CERTIFICATION DOES NOT REPRESENT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

JASON EMERY
COLORADO LICENSED PROFESSIONAL
LAND SURVEYOR NO. 20134
FOR, AND ON BEHALF OF:
BOULDER LAND CONSULTANTS, INC.
DATE: OCTOBER 14, 2016

SHEET 1 OF 2
THIS MAP WAS PREPARED BY
BOULDER LAND CONSULTANTS, INC.
950 LARAMIE BLVD., UNIT D
BOULDER, CO 80304 (303) 443-3616
www.BLCsurveyors.com

REGISTERED PROFESSIONAL LAND SURVEYOR
JASON EMERY
20134
10/14/16

BLC, INC. PROJECT NO. 68416 LSP
DRAWING LOCATION: S:\BLC\PROJECTS\68416\CAD\68416 LSP.DWG

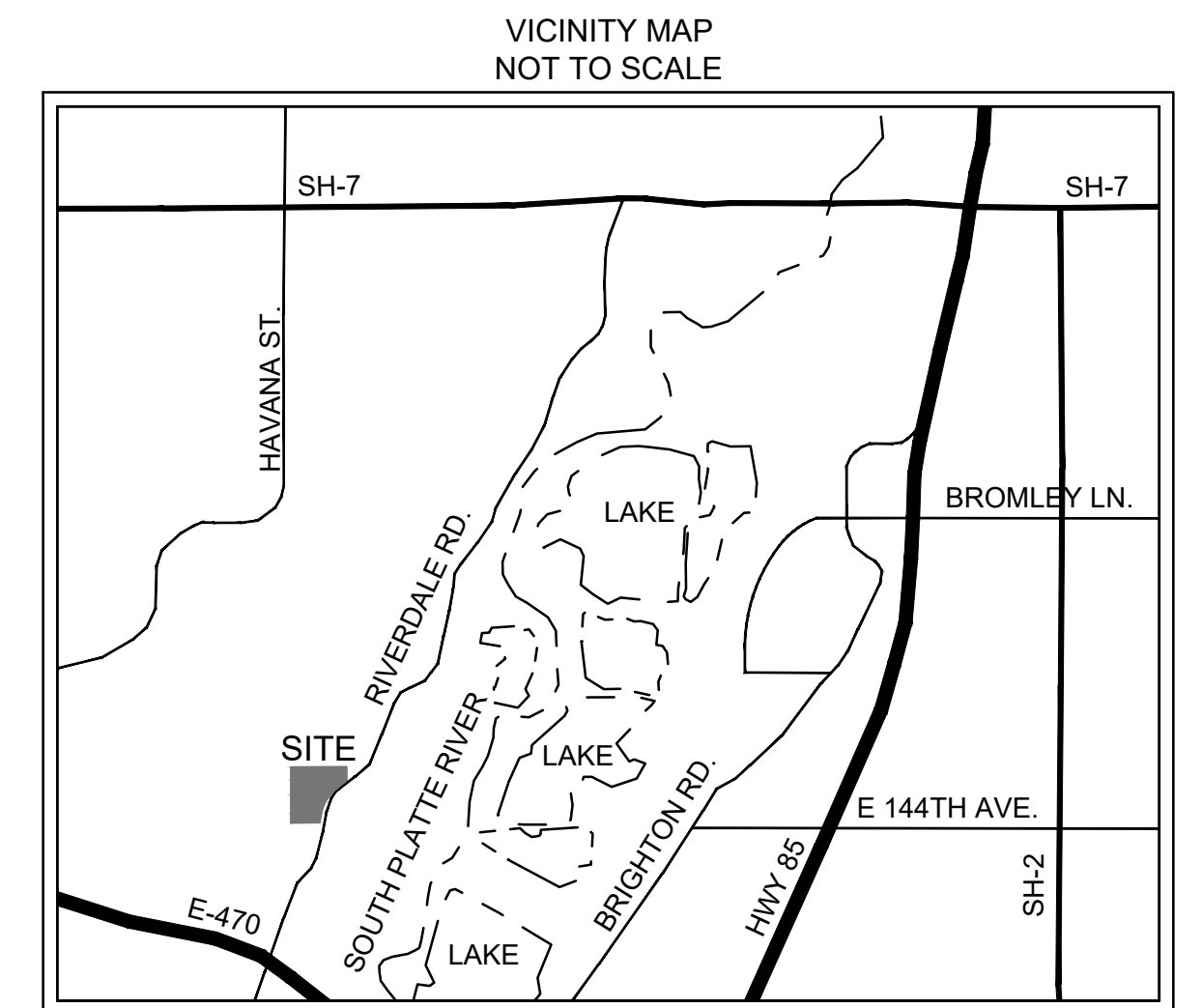
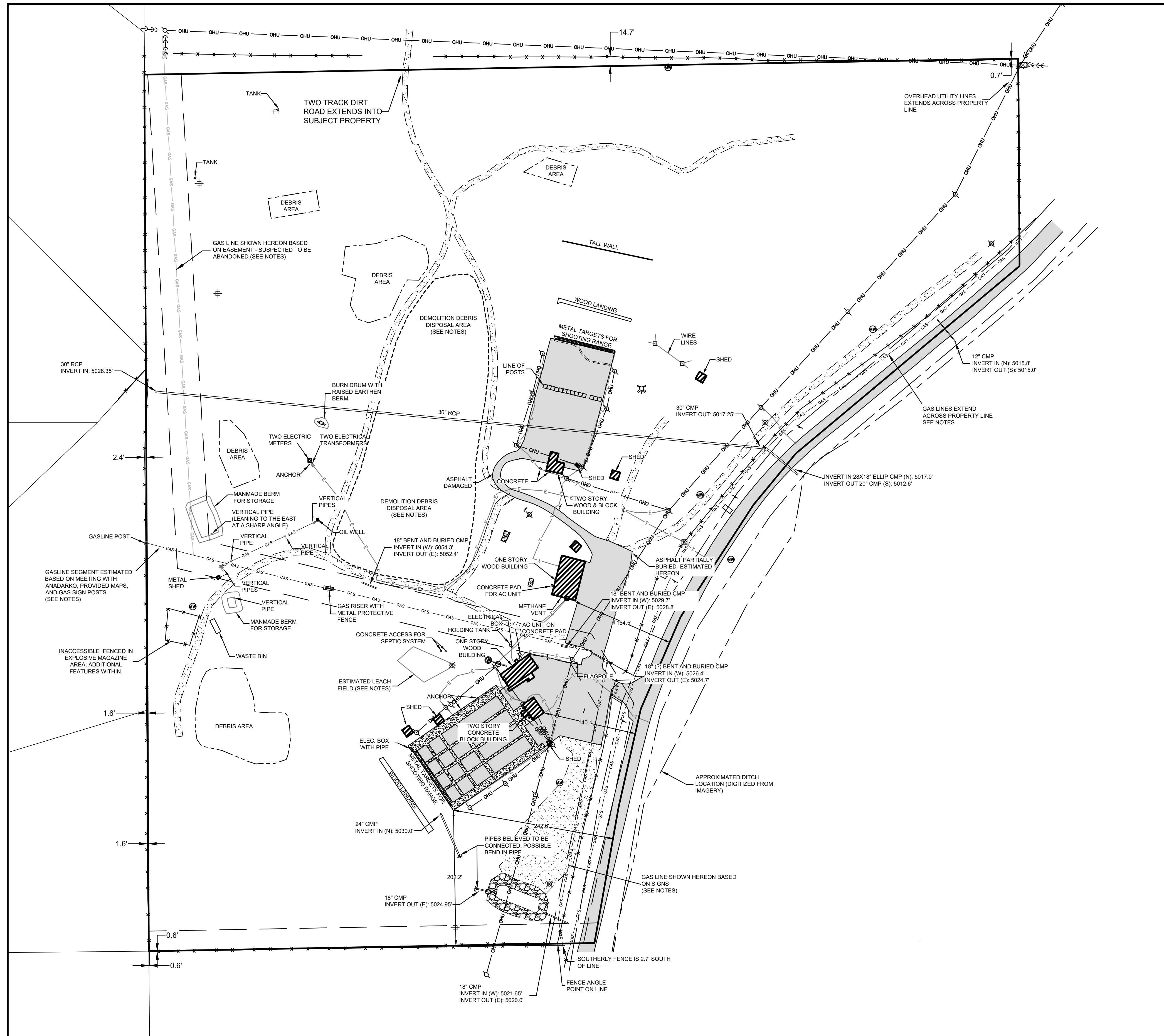
ISP: OLD ADAMS COUNTY SHOOTING RANGE PROPERTY
ADAMS COUNTY, COLORADO

AN IMPROVEMENT SURVEY PLAT OF THE
ADAMS COUNTY SHOOTING RANGE PROPERTY

LOCATED IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 14,
TOWNSHIP 1 SOUTH, RANGE 67 WEST OF THE 6TH P.M.,
COUNTY OF ADAMS, STATE OF COLORADO
TOTAL AREA (AS SURVEYED) = 1,282,410 SQ. FT. (29.440 ACRES) MORE OR LESS
SHEET 2 OF 2



0 80' 160' 240'
SCALE IS 1" = 80'



LEGEND

- UTILITY POLE
- FIBER OPTIC BOX
- GUY ANCHOR
- SIGN
- MONITORING WELL
- PIEZOMETER
- GAS MONITORING PROBE
- MAILBOX
- POST
- WATER WELL
- WATER SPIGOT
- FIRE HYDRANT
- GAS LINE
- ELECTRICAL LINE
- TELEPHONE LINE
- OVERHEAD UTILITY LINE
- WATER LINE
- FENCE LINE
- ASPHALT
- CONCRETE
- BUILDING OR SHED
- RIPRAP
- GRAVEL AREA OR DIRT DRIVE

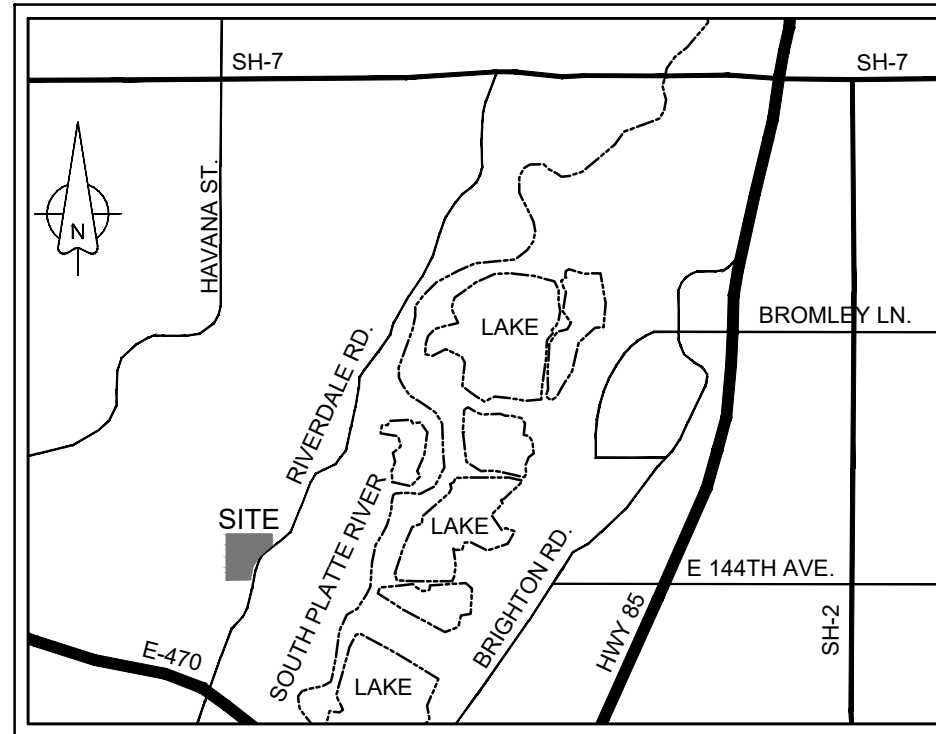
IMPROVEMENTS VIEW



A LAND SURVEY PLAT OF THE ADAMS COUNTY SHOOTING RANGE PROPERTY

LOCATED IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 14,
TOWNSHIP 1 SOUTH, RANGE 67 WEST OF THE 6TH P.M.,
COUNTY OF ADAMS, STATE OF COLORADO

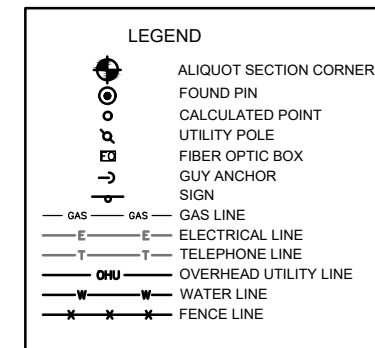
TOTAL AREA (AS SURVEYED) = 1,282,402 SQ. FT. (29.440 ACRES) MORE OR LESS
SHEET 1 OF 1



LEGAL DESCRIPTION:
(PER WARRANTY DEED RECORDED AS RECEPTION NO. 901132)

THAT PART OF THE SW $\frac{1}{4}$ SW $\frac{1}{4}$ OF SECTION 14, TOWNSHIP 1 SOUTH, RANGE 67 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID SW $\frac{1}{4}$ SW $\frac{1}{4}$; THENCE NORTH, ALONG THE WEST LINE THEREOF, A DISTANCE OF 1315.0 FEET, MORE OR LESS, TO THE NORTHWEST CORNER THEREOF; THENCE NORTH 89°41' EAST, ALONG THE NORTH LINE THEREOF, A DISTANCE OF 1311.9 FEET, MORE OR LESS, TO THE NORTHEAST CORNER THEREOF; THENCE SOUTH 0°06' EAST, ALONG THE EAST LINE THEREOF, A DISTANCE OF 310.6 FEET, MORE OR LESS, TO THE CENTERLINE OF COUNTY ROAD NO. 49; THENCE ALONG SAID CENTERLINE, THE FOLLOWING COURSES AND DISTANCES:
SOUTH 50°17' WEST, A DISTANCE OF 437.0 FEET;
SOUTH 39°48' WEST, A DISTANCE OF 100.0 FEET;
SOUTH 33°16' WEST, A DISTANCE OF 200.0 FEET;
SOUTH 23°36' WEST, A DISTANCE OF 150.0 FEET;
SOUTH 13°01' WEST, A DISTANCE OF 150.0 FEET;
SOUTH 10°19' WEST, A DISTANCE OF 200.0 FEET;
MORE OR LESS TO THE SOUTH LINE OF SAID SW $\frac{1}{4}$ SW $\frac{1}{4}$; THENCE SOUTH 89°22' WEST ALONG SAID SOUTH LINE, A DISTANCE OF 673.0 FEET, MORE OR LESS TO THE POINT OF BEGINNING.



NOTES:

1. THIS LAND SURVEY PLAT AND THE PROPERTY DESCRIPTION SHOWN HEREON ARE BASED ON FIDELITY NATIONAL TITLE COMPANY TITLE COMMITMENT NO. 515-F0538792-170-TV0, AMENDMENT 1, PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY AND DATED APRIL 4, 2016. THE UNDERSIGNED RELIED SOLELY ON THIS TITLE COMMITMENT FOR THE SUBJECT PROPERTY DESCRIPTION AND ENCUMBRANCES AFFECTING THE SUBJECT PROPERTY. THIS MAP DOES NOT REPRESENT A TITLE SEARCH PERFORMED BY BOULDER LAND CONSULTANTS, INC. OR THE UNDERSIGNED.

2. BASIS OF BEARINGS FOR THE INFORMATION SHOWN HEREON IS THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 14 AS SHOWN AND DESCRIBED HEREON. BEARINGS SHOWN ARE BASED ON GPS OBSERVATIONS.

3. ACCORDING TO SCHEDULE B - SECTION 2 OF THE TITLE COMMITMENT MENTIONED ABOVE, THE PROPERTY DESCRIBED HEREON IS SUBJECT TO THE FOLLOWING DESCRIBED INSTRUMENTS:

EXCEPTION NO.	BOOK/PAGE OR RECEPTION NO.	DESCRIPTION	DATE
8	BOOK __, PAGE 447	U.S. PATENT	SEPTEMBER 23, 1890
9	RECEPTION NO. 283516	OIL AND GAS LEASE	SEPTEMBER 8, 1980
	RECEPTION NO. 409577 &	AFFIDAVIT IN CONNECTION	DECEMBER 10, 1982
	RECEPTION NO. 1034840	WITH ABOVE LEASE	OCTOBER 15, 2004
10	RECEPTION NO. 463060	GAS PIPELINE EASEMENT	SEPTEMBER 27, 1983
11	RECEPTION NO. 463210	GAS PIPELINE EASEMENT	SEPTEMBER 27, 1983
12	RECEPTION NO. 464030	GAS PIPELINE EASEMENT	SEPTEMBER 30, 1983
13	RECEPTION NO. 1153298	ZONING HEARING DECISION	JUNE 28, 1993
14	RECEPTION NO. 327160	REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT	MARCH 31, 2006
15	ASSESSORS MAP	R.O.W. FOR COUNTY ROAD NO. 49	N/A
16	N/A	RIGHTS, INTEREST, OR EASEMENTS FOR BRANTR DITCH	N/A
17	N/A	WATER BOUNDARIES SUBJECT TO CHANGE	N/A
18	N/A	ANY LEASES TENANCIES	N/A
19	RECEPTION NO. 2003074	GAS PIPELINE EASEMENT	MARCH 25, 1985 (SEE NOTE 11)

4. THE DISTANCE MEASUREMENTS SHOWN HEREON ARE U.S. SURVEY FEET. THIS PROJECT IS BASED ON A MODIFIED STATE PLANE COORDINATE SYSTEM, COLORADO NORTH ZONE, NAD 83 (2011). PROJECT HAS BEEN SCALED TO GROUND FROM POINT 1000 USING A COMBINED SCALE FACTOR OF 1.00026747 [CALCULATED INVERSE OF 0.99973260]. ESTABLISHED CONTROL POINTS USED FOR THIS PROJECT ARE SHOWN HEREON (1000 & 1001).

5. ELEVATIONS SHOWN ARE BASED ON AN OPUS SOLUTION FROM NGS ON POINT 1000 WITH A CALCULATED ELEVATION OF 5016.81'. ELEVATIONS SHOWN HEREON ARE NAVD 88.

6. UNDERGROUND UTILITY LINES SHOWN HEREON WERE DELINEATED BY UNDERGROUND CONSULTING SOLUTIONS, LLC ON JANUARY 27, 2016.

7. AT THE REQUEST OF THE CLIENT, ONLY UTILITY LINES AND ATTENDANT UTILITY STRUCTURES ARE SHOWN. NO OTHER SURFACE FEATURES WERE SURVEYED.

8. AN UNDERGROUND GAS LINE NEAR THE WEST PROPERTY LINE IS SHOWN AS AN APPROXIMATION, BASED ON EXISTING SIGNAGE, PIPE RISER, AND RECORDED EASEMENT. THE SAID UNDERGROUND GAS LINE COULD NOT BE DETECTED BY UNDERGROUND CONSULTING SOLUTIONS, LLC.

9. UTILITY LINES EXTEND ACROSS THE PROPERTY BOUNDARY AS SHOWN HEREON. NO EASEMENT DOCUMENT FOR THESE LINES WERE ENCOUNTERED.

10. THE GAS LINE FOLLOWING RIVERDALE ROAD EXTENDS ACROSS THE PROPERTY AS SHOWN HEREON. NO EASEMENT REFERENCING THIS UTILITY LINE WAS ENCOUNTERED.

11. THE GAS PIPELINE EASEMENT (EXCEPTION 19) RECORDED AS RECEPTION NO. 2003074, DOES NOT APPEAR TO AFFECT THE SUBJECT PROPERTY.

12. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO COLORADO STATE STATUTE 18-4-508 C.R.S.

13. SURVEYOR'S NARRATIVE: THE LOCATION OF THE BOUNDARY OF THE SUBJECT PROPERTY WAS BASED ON THE RECOVERY OF EXISTING ALIQUOT MONUMENTS AS SET BY SEVERAL LAND SURVEYORS. THE 2" ALUMINUM CAP (CITY OF AURORA) FOUND NEAR THE SOUTHEAST CORNER OF THE PROPERTY WAS DETERMINED TO BE 2.1' FEET NORTH OF THE CALCULATED SECTION LINE. SAID MONUMENT IS LOCATED AT THE EASTERLY END OF A SUBSTANTIAL FENCE AND, THUSLY, WAS ACCEPTED AS BEST EVIDENCE OF PROPERTY LINE LOCATION. RECORD ROAD DIMENSIONS AND ALIGNMENT WERE HELD (ROTATED TO OUR BASIS OF BEARINGS) AND EXTENDED SOUTHERLY TO INTERSECT THE ACCEPTED SOUTHERLY PROPERTY LINE EXTENDED EASTERLY AS SHOWN.

14. CERTIFICATION DEFINED: THE USE OF THE WORDS "CERTIFY" OR "CERTIFICATION" BY A REGISTERED PROFESSIONAL LAND SURVEYOR CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS AND FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATION, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTY, EITHER EXPRESSED OR IMPLIED. (PER COLORADO STATE BOARD RULE NO. 6.2.2).

15. IN ACCORDANCE WITH C.R.S. 13-80-105:
NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

16. DATES OF FIELD WORK: JANUARY 27-29, 2016

SURVEYOR'S CERTIFICATION:

I, JASON EMERY, DO HEREBY CERTIFY TO ADAMS COUNTY, QUANTUM WATER AND ENVIRONMENT, LLC AND FIDELITY NATIONAL TITLE COMPANY THAT, SUBJECT TO THE NOTES SHOWN HEREON, A SURVEY OF THE PERIMETER OF THE PROPERTY (COMPLETED ON MARCH 30, 2016) AND DESCRIBED HEREON WAS MADE UNDER MY DIRECT SUPERVISION AND CONFORMS TO ALL APPLICABLE STATE LAWS AS DEFINED IN TITLE 38, ARTICLES 50, 51 AND 53, COLORADO REVISED STATUTES AND THAT THIS LAND SURVEY PLAT ACCURATELY DEPICTS THE RESULTS OF SAID SURVEY.

JASON EMERY
COLORADO LICENSED PROFESSIONAL
LAND SURVEYOR NO. 20134
FOR, AND ON BEHALF OF,
BOULDER LAND CONSULTANTS, INC.
DATE: APRIL 14, 2016



LSP: OLD ADAMS COUNTY SHOOTING RANGE PROPERTY
ADAMS COUNTY, COLORADO



Appendix O - Regulated Building Materials Survey Reports

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Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building A

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-A
Conducted: September 21, 2016



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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. A, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following material does not contain asbestos:

- White painted drywall with no texture
- White joint compound associated with the drywall referenced above
- White orange peel textured drywall
- White texture and white joint compound associated with the textured drywall referenced above
- Gray carpet with gray foam
- White insulation, and
- Shingles with black tar.

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a single-level commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the

materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of sixteen (16) asbestos bulk-samples of seven (7) homogeneous areas. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following material does not contain asbestos:

- White painted drywall with no texture
- White joint compound associated with the drywall referenced above
- White orange peel textured drywall
- White texture and white joint compound associated with the textured drywall referenced above
- Gray carpet with gray foam
- White insulation, and
- Shingles with black tar.

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

HA #	Sample ID	Sample Location	Material Description	Material Classification	Material Condition	Estimated Quantity	Material Friability	Asbestos Content
1	SM1-1	Southwest Corner of Main Room – West Wall	Smooth Painted Drywall with no texture	SM	G	~4400 ft²	Friable	ND
	SM1-2	South Wall in Southwest Room						
	SM1-3	Ceiling in Main Room						
	SM1-4	East Wall in Main Room						
	SM1-5	East Wall in Southeast Room						
2	JC1-1	Ceiling in Main Room	Joint Compound on drywall	MM	G	~4400 ft²	Friable	ND
3	SM2-1	West Wall in Center Room, on South Wall	Orange Peel Textured Painted Drywall	SM	G	~550 ft²	Friable	ND
	SM2-2	North Wall in Center – Main Room						
	SM2-3	Interior Wall in Main Room						
4	JC2-1	Main Room – North Wall – Northwest Corner	Joint Compound on drywall	MM	G	~550 ft²	Friable	ND
5	CAR 1-1	Southeast Room Floor	Multi-Colored Carpet with gray foam	MM	G	~130 ft²	Non-friable	ND
	CAR 1-2	Southeast Room Floor						
6	INS 1-1	Southwest Room Attic Access	White Blown-In Insulation	MM	G	~150 ft³	Non-friable	ND
	INS 1-2	Southwest Room Attic Access						

7	SHIN 1-1	Roof – East Side by Main Door	Roofing Shingles with black tar	MM	G	~2000 ft²	Non-friable	ND
	SHIN 1-2	Roof – East Side by Main Door						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

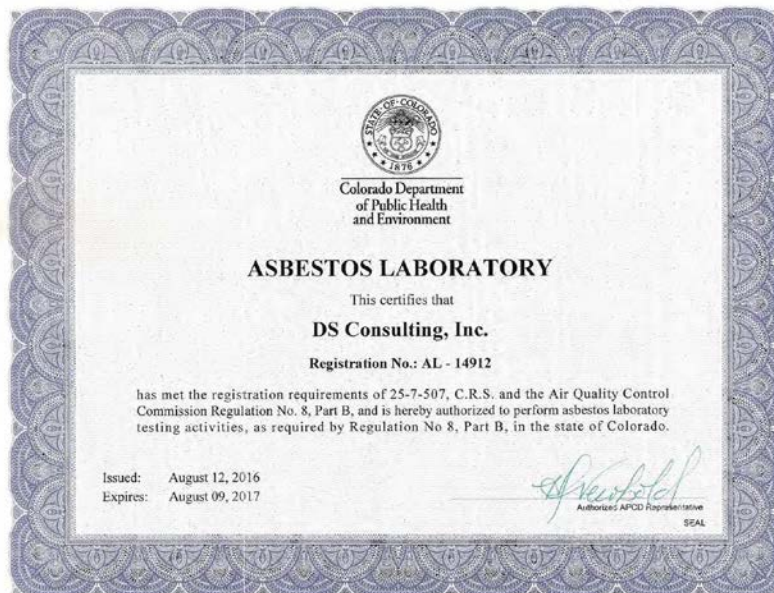
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361395-1
Project # / P.O. # 14431 Riverdale Rd Bldg A
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361395-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361395-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14431 Riverdale Rd Bldg A**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 1-1	EM 1711804	A	White compound w/ white paint	5		ND	0	100
		B	Pink/tan drywall	95		ND	85	15
SM 1-2	EM 1711805	A	White paint	1		ND	0	100
		B	Pink/tan drywall	99		ND	25	75
SM 1-3	EM 1711806	A	White paint	2		ND	0	100
		B	Pink/tan drywall	98		ND	15	85
SM 1-4	EM 1711807	A	White paint	2		ND	0	100
		B	Pink/tan drywall	98		ND	15	85
SM 1-5	EM 1711808	A	White compound w/ white paint	3		ND	0	100
		B	Pink/tan drywall	97		ND	15	85
JC 1-1	EM 1711809	A	White tape	1		ND	90	10
		B	White joint compound	2		ND	0	100
		C	White compound w/ white paint	5		ND	0	100
		D	Pink/tan drywall	92		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361395-1**
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 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 2-1	EM 1711810	A	White paint	1		ND	0	100
		B	White/tan drywall	99		ND	15	85
SM 2-2	EM 1711811	A	White texture w/ white paint	50		ND	0	100
		B	White/tan drywall	50		ND	25	75
SM 2-3	EM 1711812	A	White texture w/ white paint	25		ND	0	100
		B	White/tan drywall	75		ND	15	85
JC 2-1	EM 1711813	A	White texture w/ white paint	5		ND	0	100
		B	White tape	5		ND	90	10
		C	White joint compound	5		ND	0	100
		D	White/tan drywall	85		ND	15	85
CAR 1-1	EM 1711814	A	Gray/multi-colored carpet w/ gray foam	100		ND	50	50
CAR 1-2	EM 1711815	A	Gray/multi-colored carpet w/ gray foam	100		ND	50	50
INS 1-1	EM 1711816	A	White insulation	100		ND	90	10
INS 1-2	EM 1711817	A	White insulation	100		ND	90	10

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

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 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711818	A	Black tar	5		ND	0	100
		B	Black/tan shingle	95		ND	15	85
SHIN 1-2	EM 1711819	A	Black tar	3		ND	0	100
		B	Black/tan shingle	97		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Anya Angst
 Analyst / Data QA

Due Date: 9-26-98
 Due Time: 3:15p

RES 361395

REILAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866-RES-ENV
 Pager: 303-509-2098

Page 1 of 2

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
	Cell pager:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "A"	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description/Location: BRIGHTON	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)		VALID MATRIX CODES: Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**		LAB NOTES:	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Metal(s) / Dust RUSH 24 hr 3-5 Day RCRA 8 / Metals & Welding RUSH 5 day 10 day Fume Scan / TCLP RUSH 24 hr 3 day 5 Day Organics RUSH 24 hr 48 hr 3 Day 5 Day		REQUESTED ANALYSIS: METALS - Analyte(s) DUST - Total, Respirable PCM - 7400A, 7400B, OSHA TEM - AHERA, Level II, 7402, ISO, +/-, Quant. Semi-quant, Micro-vac, ISO-Indirect Preps PLM - Short report, Long report, Point Count ORGANICS - METH RCRA 8, TCLP, Welding Fume, Metals Scan MICROBIOLOGY Salmonella +/- E. coli O157:H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification E. coli +/- or Quantification Coliforms +/- or Quantification S aureus +/- or Quantification Y & M +/- or Quantification Mold +/- Identification, Quantification		SAMPLER'S INITIALS OR OTHER NOTES:	
SPECIAL INSTRUCTIONS: Please call Dave with results: 720-201-6611 Client sample ID number: (Sample ID's must be unique)		EM Number (Laboratory Use Only)		Time Collected (human alp)	
1 SM 1-1 2 1-2 3 1-3 4 1-4 5 1-5 6 TC 1-1 7 SM 2-1 8 2-2 9 2-3 10 TC 2-1		1711824 05 06 07 08 09 10 11 12 13		Date Collected mm/dd/yy Matrix Code Sample Volume (L) / Area # Containers	

Number of samples received: 16
 Additional samples shall be listed on attached long form.)
 NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Daniel Sinkbeil</u>	Date/Time: <u>9-21-16 3:15AM</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only	Temp (F°) <u>68</u>	Yes / No <u>Yes</u> / No <u>No</u>
Results:	Phone Email Fax	Time
Contact	Phone Email Fax	Time
Contact	Phone Email Fax	Time



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV

RES Job # 361325

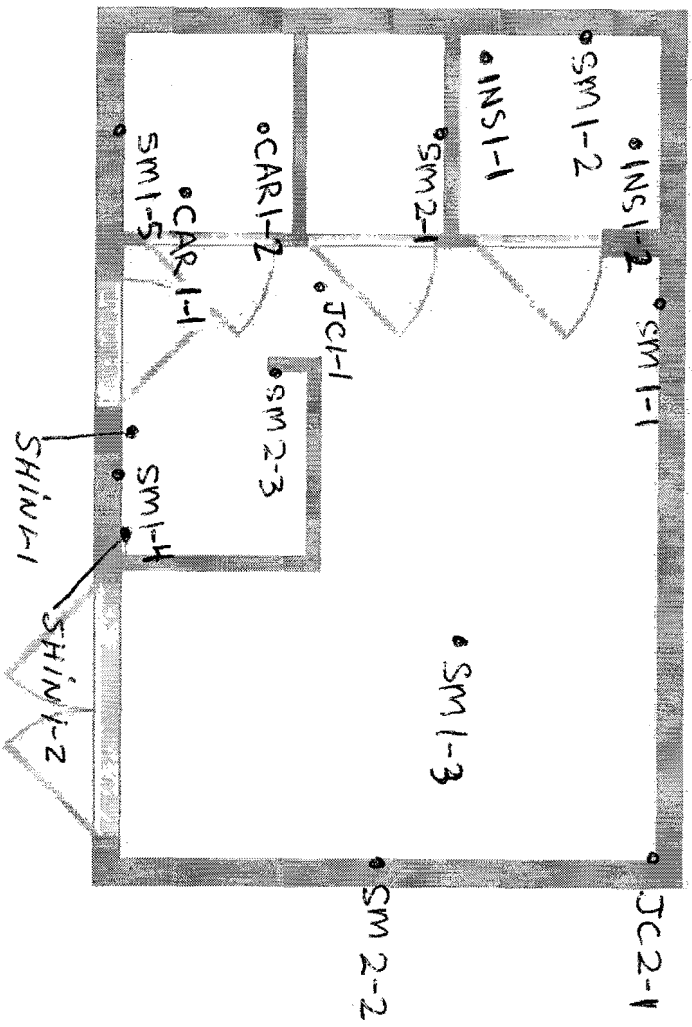
Page 2 of 2

Submitted by: DS CONSULTING

REQUESTED ANALYSIS		VALID MATRIX CODES				LAB NOTES							
PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	ORGANICS - BTEX, MTBE, 8260, GRO, METH	MICROBIOLOGY	OTHER	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
						Salmonella +/- E. coli O157:H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification F. coli +/- or Quantification Coliforms +/- or Quantification S. aureus +/- or Quantification Yeast/Mold +/- or Quantification							
11	Client sample ID number (Sample ID's must be unique)												
12	CAR 1-1												1711814
13	CAR 1-2												15
14	INS 1-1												16
15	INS 1-2												17
16	SHN 1-1												18
17	SHN 1-2												19
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APPENDIX C

SAMPLE LOCATIONS





Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building A

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-A
Conducted: September 21, 2016



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- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. A, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The white painted drywall walls and ceilings in the building and the dark brown stained exterior were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood-framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The white painted drywall walls and ceilings in the building and the dark brown stained exterior were tested for LBP. All types of paint were found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

9.0 Disclaimer & Limitations

This full LBP inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building B

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-B
Conducted: September 21, 2016



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APPENDIX A	Inspector & Firm Asbestos Certificates
APPENDIX B	Analytical Data
APPENDIX C	Sample Locations

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. B, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Rough orange peel-textured drywall
- White joint compound associated with the rough orange-peel textured drywall
- Very rough orange-peel textured drywall
- White joint compound associated with the very rough orange-peel textured drywall
- Painted, non-textured drywall
- White joint compound associated with the painted non-textured drywall
- Gray multi-colored carpet with tan mastic
- Black vinyl cove base with brown mastic
- Tan vinyl cove base with brown mastic
- Gray ceiling insulation
- Brown roofing shingles
- White 12"x 12" vinyl floor tile
- Gray sheet vinyl flooring

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a single-level, wood framed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of twenty-eight (28) asbestos bulk-samples of thirteen (13) homogeneous areas. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Rough orange peel-textured drywall

- White joint compound associated with the rough orange-peel textured drywall
- Very rough orange-peel textured drywall
- White joint compound associated with the very rough orange-peel textured drywall
- Painted, non-textured drywall
- White joint compound associated with the painted non-textured drywall
- Gray multi-colored carpet with tan mastic
- Black vinyl cove base with brown mastic
- Tan vinyl cove base with brown mastic
- Gray ceiling insulation
- Brown roofing shingles
- White 12"x 12" vinyl floor tile
- Gray sheet vinyl flooring

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

HA #	Sample ID	Sample Location	Material Description	Material Classification	Material Condition	Estimated Quantity	Material Friability	Asbestos Content
1	SM1-1	East Wall in Center Room, East Side	Rough Orange-Peel Textured Drywall	SM	G	~1500 ft ²	Friable	ND
	SM1-2	North Room, North Wall						
	SM1-3	North Room, Southeast Wall						
	SM1-4	North Room, Southeast Corner						
	SM1-5	Hallway, North Wall						
2	JC1-1	Center Room, Ceiling	Joint Compound	MM	G	~1500 ft ²	Friable	ND
3	SM2-1	South Room, West Wall, North End	Very Rough Orange-Peel Textured Drywall	SM	G	~550 ft ²	Friable	ND
	SM2-2	South Room, East Wall, Center						
	SM2-3	South Room, Ceiling						
4	JC2-1	South Room, South Wall, East Corner	Joint Compound	MM	G	~550 ft ²	Friable	ND
5	SM3-1	South Wall of Bathroom	Painted, Non-Textured Drywall	SM	G	~200 ft ²	Friable	ND
	SM3-2	East Wall of North Storage Room						
	SM3-3	Northeast Corner of East Room						
6	JC3-1	West Wall of Bathroom	Joint Compound	MM	G	~200 ft ²	Friable	ND

7	CPMA1-1	Northeast Corner of East Room	Gray Multi-Colored Carpet	MM	G	~500 ft²	Non-friable	ND
	CPMA 1-2	Southwest Corner of East Room						
8	CB1-1	West Wall of East Room	Black Vinyl Cove Base with Tan Mastic	MM	G	~100 lf	Non-Friable	ND
	CB1-2	West Wall of East Room						
9	CB2-1	West Wall of Closet in East Room	Tan Vinyl Cove Base with Brown Mastic	MM	G	~10 lf	Non-friable	ND
	CB2-2	West Wall of Closet in East Room						
10	INS1-1	Attic	Gray Blown in Insulation	MM	G	~1300 ft²	Non-Friable	ND
	INS1-2	Attic						
11	SHIN1-1	Attic	Black Shingles on vent pipe	MM	G	~15 ft²	Non-friable	ND
	SHIN1-2	Attic						
12	FT1-1	Room North of Bathroom	12"x 12" White Vinyl Floor Tile with Black Mastic	MM	G	~40 ft²	Non-friable	ND
	FT1-2	Room North of Bathroom						
13	SV1-1	Center Room South Side	Gray Sheet Vinyl Flooring	MM	G	~150 ft²	Friable	ND
	SV1-2	Center Room North Side						

HA - Homogeneous Area
ND - None-detected
TR - Trace, <1% Visual Estimate

G - Good
D - Damaged
SD - Significantly Damaged

CHRY - Chrysotile
ACT - Actinolite

SM - Surfacing Material
MM - Miscellaneous Material
TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

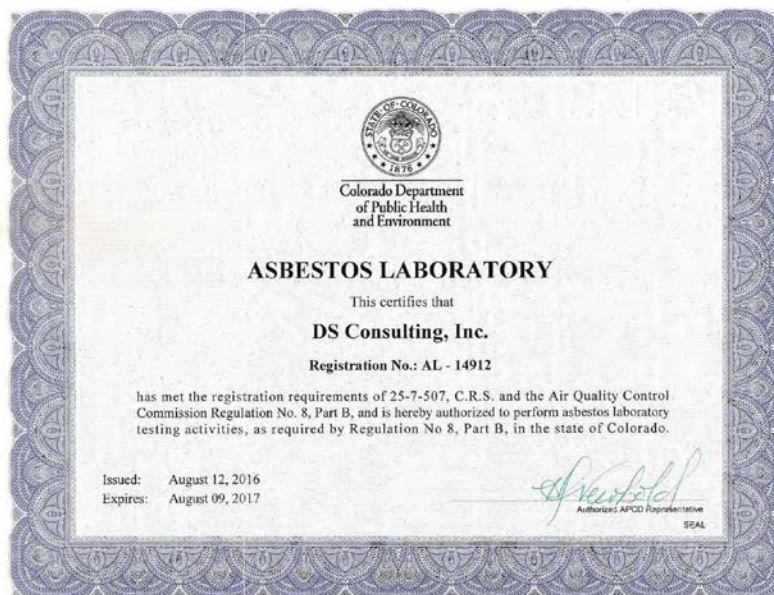
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361394-1
Project # / P.O. # 14331 Riverdale Rd Bldg B
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361394-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361394-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd Bldg B**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 1-1	EM 1711820	A	White texture w/ white paint	10		ND	0	100
		B	White/tan drywall	90		ND	15	85
SM 1-2	EM 1711821	A	White texture w/ white paint	5		ND	0	100
		B	Off white/tan drywall	95		ND	15	85
SM 1-3	EM 1711822	A	White texture w/ black/white paint	5		ND	0	100
		B	Pink/tan drywall	95		ND	15	85
SM 1-4	EM 1711823	A	White texture w/ black/white paint	15		ND	0	100
		B	White/tan drywall	85		ND	15	85
SM 1-5	EM 1711824	A	White texture w/ white paint	5		ND	0	100
		B	White/tan drywall	95		ND	15	85
JC 1-1	EM 1711825	A	White texture w/ white paint	5		ND	0	100
		B	White compound w/ white fibrous woven material	5		ND	10	90
		C	Pink/tan drywall	90		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361394-1**
 Client: **DS Environmental Consulting**
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 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 2-1	EM 1711826	A	White texture w/ white paint	30		ND	0	100
		B	White/tan drywall	70		ND	25	75
SM 2-2	EM 1711827	A	White compound w/ white fibrous woven material	5		ND	15	85
		B	White texture w/ white paint	25		ND	0	100
		C	Pink/tan drywall	70		ND	15	85
SM 2-3	EM 1711828	A	White texture w/ white paint	20		ND	0	100
		B	Pink/tan drywall	80		ND	15	85
JC 2-1	EM 1711829	A	White texture w/ white paint	20		ND	0	100
		B	Pink/tan drywall	80		ND	15	85
SM 3-1	EM 1711830	A	Pink paint w/ white texture	5		ND	0	100
		B	White/tan drywall	95		ND	15	85
SM 3-2	EM 1711831	A	Blue paint	2		ND	0	100
		B	White/tan drywall	98		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

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Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 3-3	EM 1711832	A	White compound w/ white paint	5		ND	0	100
		B	White compound w/ white fibrous woven material	5		ND	5	95
		C	White/tan drywall	90		ND	15	85
JC 3-1	EM 1711833	A	White compound w/ pink paint	5		ND	0	100
		B	White compound w/ white fibrous woven material	5		ND	5	95
		C	Pink/tan drywall	90		ND	15	85
CPMA 1-1	EM 1711834	A	Tan adhesive	3		ND	0	100
		B	Gray/multi-colored carpet	97		ND	90	10
CPMA 1-2	EM 1711835	A	Tan adhesive	5		ND	0	100
		B	Gray/multi-colored carpet	95		ND	90	10
CB 1-1	EM 1711836	A	Brown mastic	TR		ND	0	100
		B	Tan mastic	3		ND	0	100
		C	Black cove base	97		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361394-1**
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Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
CB 1-2	EM 1711837	A	Brown mastic	3		ND	0	100
		B	Tan mastic	3		ND	0	100
		C	Black cove base	94		ND	0	100
CB 2-1	EM 1711838	A	Brown mastic	5		ND	0	100
		B	Tan cove base	95		ND	0	100
CB 2-2	EM 1711839	A	Brown mastic	3		ND	0	100
		B	Tan cove base	97		ND	0	100
INS 1-1	EM 1711840	A	Gray fibrous material	100		ND	90	10
INS 1-2	EM 1711841	A	Gray fibrous material	100		ND	90	10
SHIN 1-1	EM 1711842	A	Black/brown shingle	100		ND	20	80
SHIN 1-2	EM 1711843	A	Black/brown shingle	100		ND	20	80
FT 1-1	EM 1711844	A	Tan mastic	1		ND	0	100
		B	Gray tile	99		ND	TR	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

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ND=None Detected
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 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
FT 1-2	EM 1711845	A	Tan mastic	TR		ND	0	100
		B	Gray tile	100		ND	TR	100
SV 1-1	EM 1711846	A	Tan mastic	2		ND	0	100
		B	Black/gray sheet vinyl w/ gray fibrous backing material	98		ND	20	80
SV 1-2	EM 1711847	A	Tan mastic	5		ND	0	100
		B	Black/gray sheet vinyl w/ gray fibrous backing material	95		ND	20	80

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Anya Angst
 Analyst / Data QA

Due Date 9-24-08
 Due Time 3:50P

REILAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 954-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV

JOB # _____
 Page 1 of 2

Pager: 303 509-2098

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
	Cellpage:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "B"	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description, location: BRIGHTON	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
 P.M. / P.C.M. / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD

(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust RUSH 24 hr. 3-5 Day

RCRA 8 / Metals & Welding RUSH 5 day 10 day

Fume Scan / TCLP RUSH 24 hr. 3 day 5 Day

Organics RUSH 24 hr. 3 day 5 Day

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, Saureus 24 hr. 2 Day 3-5 Day

Salmonella, Listeria, E.coli, APC, Y & M 48 Hr. 3-5 Day

Mold RUSH 24 Hr. 48 Hr. 3 Day 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

Please call Dave with results: 720-201-6611

Client sample ID number (Sample ID's must be unique)

1	SMI-1	
2	1-2	
3	1-3	
4	1-4	
5	1-5	
6	TC1-1	
7	SM2-1	
8	1-2-2	
9	1-2-3	
10	TC2-1	

28

Number of samples received:

(Additional samples shall be listed on attached long form)

NOTE: REI will analyze information samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Dave Sinkbeil</u>	Date/Time: <u>9-21-16 3:15PM</u>	Sample Condition: On Ice Sealed Intact
Laboratory Use Only	Carrier: <u>hand</u>	Temp (F°) Yes / No Yes / No
Results: Contact	Phone Email Fax	Time
Contact	Phone Email Fax	Time



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV

RES Job # 361354

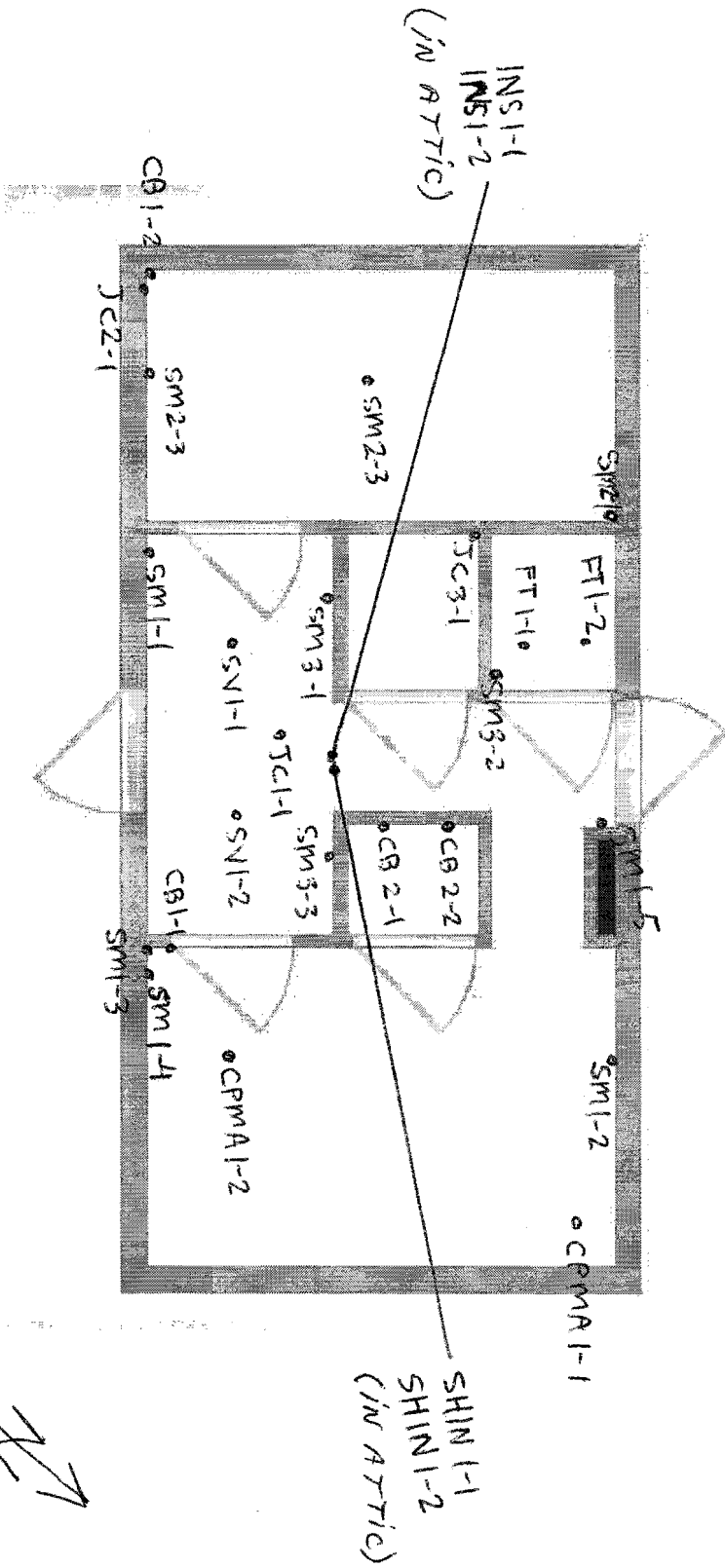
Page 2 of 2

Submitted by: DS CONSULTING

REQUESTED ANALYSIS										VALID MATRIX CODES				LAB NOTES:		
OTHER -										Air = A	Bulk = B					
MICROBIOLOGY										Dust = D	Paint = P					
ORGANICS - BTEX, MTBE, 8260, GRO, METH										Soil = S	Wipe = W					
METALS - Analyte(s)										Swab = SW	F = Food					
DUST - Total, Respirable										Drinking Water = DW	Waste Water = WW					
PCM - 7400A, 7400B, OSHA										O = Other						
TEM - AHERA, Level II, 7402, ISO +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps																
PLM - Short report, Long report, Point Count																
										Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)	
11	SM 3-1															1711834
12	3-2															31
13	3-3															32
14	3-1															33
15	CPMA 1-1															34
16	CPMA 1-2															35
17	CB 1-1															36
18	1-2															37
19	2-1															38
20	2-2															39
21	INS 1-1															40
22	INS 1-2															41
23	SHIN 1-1															42
24	SHIN 1-2															43
25	FT 1-1															44
26	FT 1-2															45
27	SV 1-1															46
28	SV 1-2															47
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41																

APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG. "B"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building B

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-B
Conducted: September 21, 2016



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- 3.0 Site Description**
- 4.0 Certifications**
- 5.0 Equipment Information**
- 6.0 Inspection & Testing Procedures**
- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
- 10.0 Copyright Notice**

APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. B, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The white, black, pink and light blue painted drywall walls and ceilings in the building and the dark brown stained exterior were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood-framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The white, black, pink and light painted blue drywall walls and ceilings in the building and the dark brown stained exterior were tested for LBP. All types of paint were found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

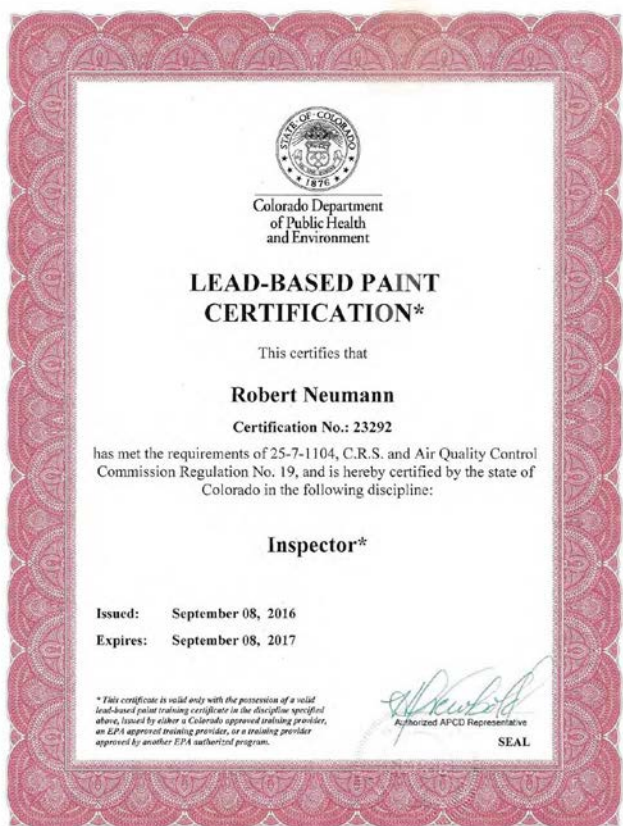
9.0 Disclaimer & Limitations

This full LBP inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building C

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-C
Conducted: September 21, 2016



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 - 6.1 Material Friability**
 - 6.2 Material Classifications**
 - 6.3 Material Conditions**
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- 7.0 Overview of Findings**
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- 9.0 Asbestos Abatement & Demolition Requirements**
- 10.0 Major & Minor Asbestos Spill Response Actions**
- 11.0 Project Design & Project Manager Requirements**
- 12.0 Disclaimer & Limitations**
- 13.0 Copyright Notice**

APPENDIX A	Inspector & Firm Asbestos Certificates
APPENDIX B	Analytical Data
APPENDIX C	Sample Locations

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the commercial building located at 14451 Riverdale Rd, Bldg. C, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Painted, non-textured drywall
- White joint compound associated with the painted, non-textured drywall
- Gray block filler
- Black vinyl cove base with green mastic
- Black vinyl stair tread

The following materials were found to contain asbestos:

- Green 9"x 9" vinyl floor tiles (2% Chrysotile asbestos) with black mastic (none detected for asbestos) located in the main room beneath the ceramic floor tile

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a two-story, concrete masonry unit walled commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of fifteen (15) asbestos bulk-samples of eight (8) homogeneous areas. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Painted, non-textured drywall
- White joint compound associated with the painted, non-textured drywall

- Gray block filler
- Black vinyl cove base with green mastic
- Black vinyl stair tread

The following materials were found to contain asbestos:

- Green 9"x 9" vinyl floor tiles (2% Chrysotile asbestos) with black mastic (none detected for asbestos) located in the main room beneath the ceramic floor tile

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

HA #	Sample ID	Sample Location	Material Description	Material Classification	Material Condition	Estimated Quantity	Material Friability	Asbestos Content
1	SM1-1	Ceiling in Main Room, 1 st Floor	Painted, Non-Textured drywall	SM	G	~500 ft²	Friable	ND
	SM1-2	North Wall, West Closet						
	SM1-3	Ceiling in Main Room						
2	JC1-1	Ceiling in Main Room	Painted, Non-Textured drywall w/ joint compound	MM	G	~500 ft²	Friable	ND
3	FT1-1	Northwest Corner of Floor Under Ceramic Tile	Green 9"x 9" Vinyl Floor Tile; Black Mastic	MM	G	~400 ft²	Non-friable	2% CHRY; ND
	FT1-2	Northwest Corner of Floor Under Ceramic Tile						
4	BF1-1	Main Room, Southwest Corner	Gray Block Filler	SM	G	~2500 ft²	Non-friable	ND
	BF1-2	Main Room, West Wall						
	BF1-3	Main Room, South Wall						
	BF1-4	Exterior, West Corner						
	BF1-5	Exterior, North Corner						
7	CB1-1	South Room, Baseboard	Black Vinyl Cove Base with Green Mastic	MM	G	~8 lf	Non-friable	ND
	CB1-2	South Room, Baseboard						
8	ST1-1	On Staircase to Second Floor	Black Vinyl Stair Tread	MM	G	~30 ft²	Non-Friable	ND
	ST1-2	On Staircase to Second Floor						

HA - Homogeneous Area
ND - None-detected
TR - Trace, <1% Visual Estimate

G - Good
D - Damaged
SD - Significantly Damaged

CHRY - Chrysotile
ACT - Actinolite

SM - Surfacing Material
MM - Miscellaneous Material
TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was identified within the Green 9"x 9" vinyl floor tile (the black mastic was none detected for asbestos) located underneath the ceramic floor tile in the main room of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016. Therefore, no professional abatement activities are required prior to the demolition of the building and the asbestos containing floor tiles can be left in place during the demolition, so long as the asbestos containing floor tiles are not rendered friable during the demolition activities.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

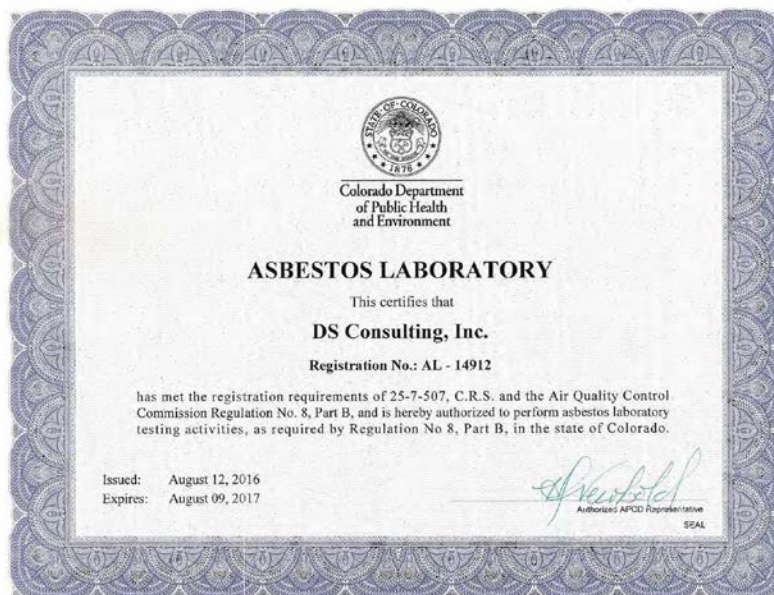
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361402-1
Project # / P.O. # 14331 Riverdale Rd Bldg C
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361402-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361402-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd Bldg C**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 1-1	EM 1711862	A	White paint	2		ND	0	100
		B	Pink/tan drywall	98		ND	15	85
SM 1-2	EM 1711863	A	White paint	2		ND	0	100
		B	Pink/tan drywall	98		ND	15	85
SM 1-3	EM 1711864	A	White paint	2		ND	0	100
		B	Pink/tan drywall	98		ND	15	85
JC 1-1	EM 1711865	A	White texture w/ white paint	5		ND	0	100
		B	Pink/tan drywall	95		ND	15	85
FT 1-1	EM 1711866	A	Tan mastic	3		ND	0	100
		B	Green tile	97	Chrysotile	2	0	98
FT 1-2	EM 1711867	A	Tan mastic	2		ND	0	100
		B	Green tile	98	Chrysotile	2	0	98
BF 1-1	EM 1711868	A	White paint w/ a trace of white block filler	2		ND	0	100
		B	Gray granular cementitious material	98		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361402-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd Bldg C**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
BF 1-2	EM 1711869	A	White paint w/ white block filler	3		ND	0	100
		B	Gray granular cementitious material	97		ND	0	100
BF 1-3	EM 1711870	A	White paint w/ a trace of white block filler	5		ND	0	100
		B	Gray granular cementitious material	45		ND	0	100
		C	Gray granular cementitious material	50		ND	0	100
BF 1-4	EM 1711871	A	Tan paint w/ white block filler	40		ND	0	100
		B	Gray granular cementitious material	60		ND	0	100
BF 1-5	EM 1711872	A	White block filler w/ tan paint	30		ND	0	100
		B	Gray granular cementitious material	70		ND	0	100
CB 1-1	EM 1711873	A	Yellow adhesive	5		ND	0	100
		B	Black cove base	95		ND	0	100
CB 1-2	EM 1711874	A	Yellow adhesive	5		ND	0	100
		B	Black cove base	95		ND	0	100
ST 1-1	EM 1711875	A	Black stair tread w/ paint	100		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361402-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd Bldg C**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
ST 1-2	EM 1711876	A	Black stair tread	100		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Anya Angst

Analyst / Data QA

RES Job # 761422 Page 2 of 2

Submitted by: DS CONSULTING

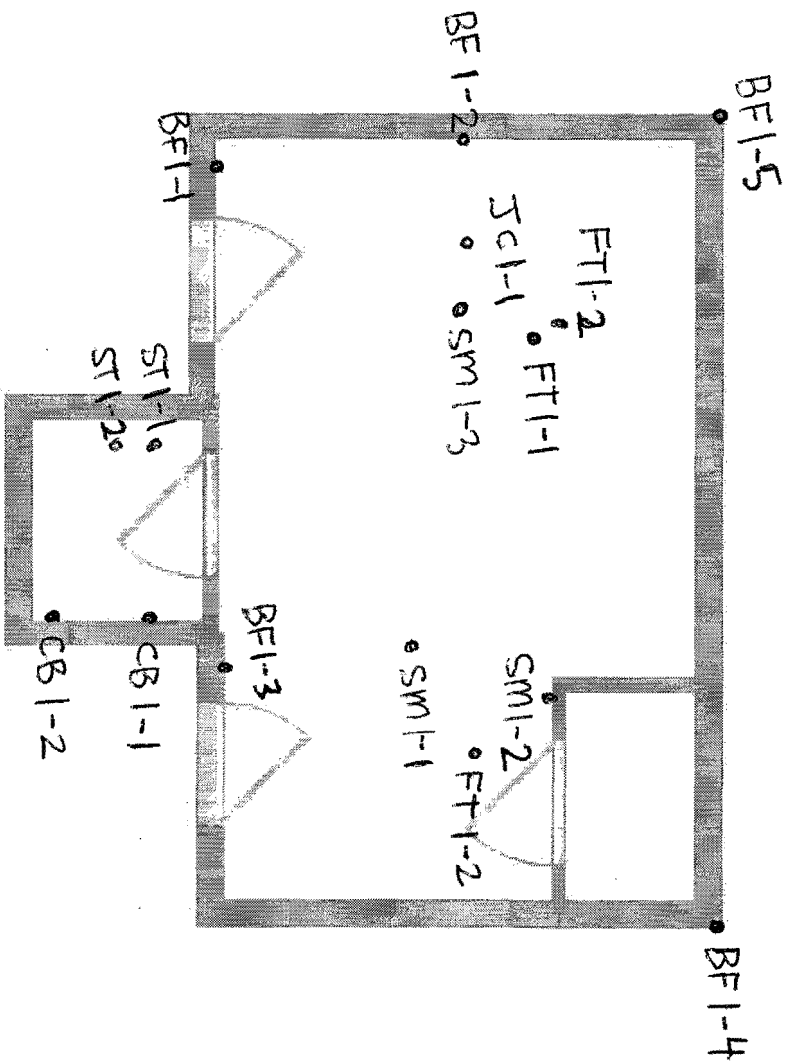
Client sample ID number (Sample ID's must be unique)	REQUESTED ANALYSIS										VALID MATRIX CODES				LAB NOTES:
	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vec, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - BTEX, MTBE, 8260, GRO, METH	MICROBIOLOGY				OTHER -				
							Salmonella +/-	E coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E coli +/- or Quantification	Coliforms +/- or Quantification	S aureus +/- or Quantification	Yeast/Mold +/- or Quantification	
11 BFI-5															
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13 CBI-2															
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(Laboratory Use Only)

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APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG, "C"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building C

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-C
Conducted: September 21, 2016



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- 2.0 Scope of Work**
- 3.0 Site Description**
- 4.0 Certifications**
- 5.0 Equipment Information**
- 6.0 Inspection & Testing Procedures**
- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
- 10.0 Copyright Notice**

APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. C, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The white painted concrete masonry unit walls and drywall ceilings were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a two-story commercial building constructed of concrete masonry unit blocks.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The white painted concrete masonry unit walls and drywall ceilings were tested for LBP. All types of paint were found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

9.0 Disclaimer & Limitations

This full LBP inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building D

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-D
Conducted: September 21, 2016



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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. D, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 12'x 12', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, North Corner	Black/white Roof Shingles	MM	G	~144 ft ²	Friable	All ND
	SHIN1-2	Roof, South Corner						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

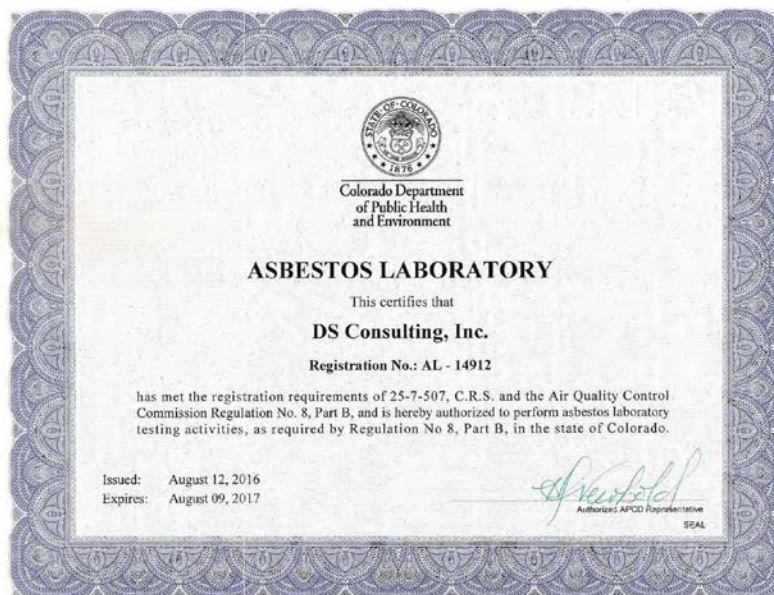
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361400-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "D"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361400-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361400-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "D"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711854	A	Black/white shingle	100		ND	15	85
SHIN 1-2	EM 1711855	A	Black/white shingle	100		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Brett S. Colbert

Analyst / Data QA

Due Date 9-26-28
Due Time 3:30



Reservoirs Environmental, Inc.

5801 Logan St, Denver, CO 80216 • Ph: 303 964-1986 • Fax: 303-477-4275 • Toll Free 866 RES-ENV

Pager: 303-509-2098

RES 361400

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
	Cellpage:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "D"	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description/Location: BRIGHTON	

REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES
ASBESTOS/LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)		Air = A	Bulk = B	
CHEMISTRY/LABORATORY HOURS: Weekdays: 8am - 5pm Metals(s) / Dust RUSH 24 hr. 3-5 Day RCRA 8 / Metals & Welding RUSH 5 day 10 day Fume Scan / TCLP RUSH 24 hr. 3 day 5 Day Organics 24 hr. 3 day 5 Day		Dust = D	Paint = P	
MICROBIOLOGY/LABORATORY HOURS: Weekdays: 9am - 6pm E.coli O157:H7, Coliforms, S. aureus 24 hr. 2 Day 3-5 Day Salmonella, Listeria, E.coli, APC, Y & M 48 Hr. 3-5 Day Mold RUSH 24 Hr. 3 Day 5 Day		Soil = S	Wipe = W	
Prior notification is required for RUSH turnarounds.		Swab = SW	F = Food	
SPECIAL INSTRUCTIONS: Please call Dave with results: 720-201-6611 Client sample ID number (Sample ID's must be unique)		Drinking Water = DW	Waste Water = WW	
1 SHIN 1-1		O = Other		
2 SHIN 1-2		**ASTM E1792 approved wipe media only**		
3				
4				
5				
6				
7				
8				
9				
10				
Number of samples received: 2		EM Number (Laboratory Use Only)		17110551

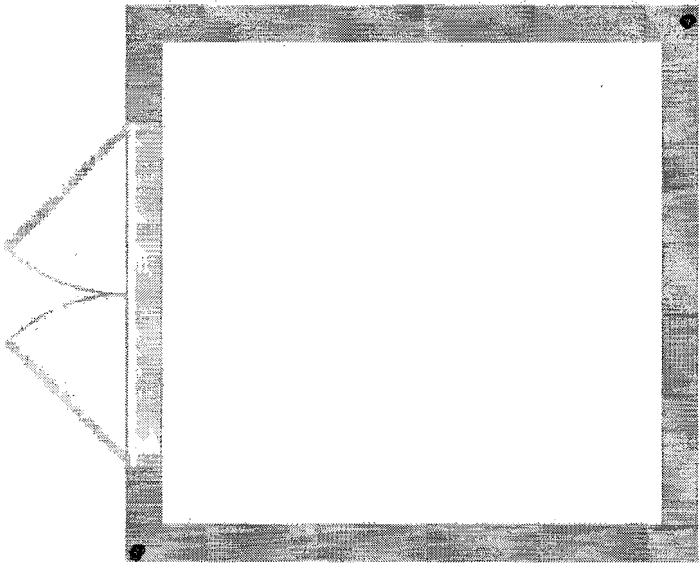
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM	Sample Condition: On Ice Sealed	Temp (F°):	Yes / No	Initials
Laboratory Use Only	Date/Time: 9-21-16 3:30	Carrier: hand			
Received By:	Phone Email Fax	Phone Email Fax	Date	Time	Initials
Results:	Phone Email Fax	Phone Email Fax	Date	Time	Initials

APPENDIX C

SAMPLE LOCATIONS

SHIN I-2



SHIN I-1



NOT-TO-SCALE
BLDG. "D"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building D

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-D
Conducted: September 21, 2016



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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. D, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted wood exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted wood exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

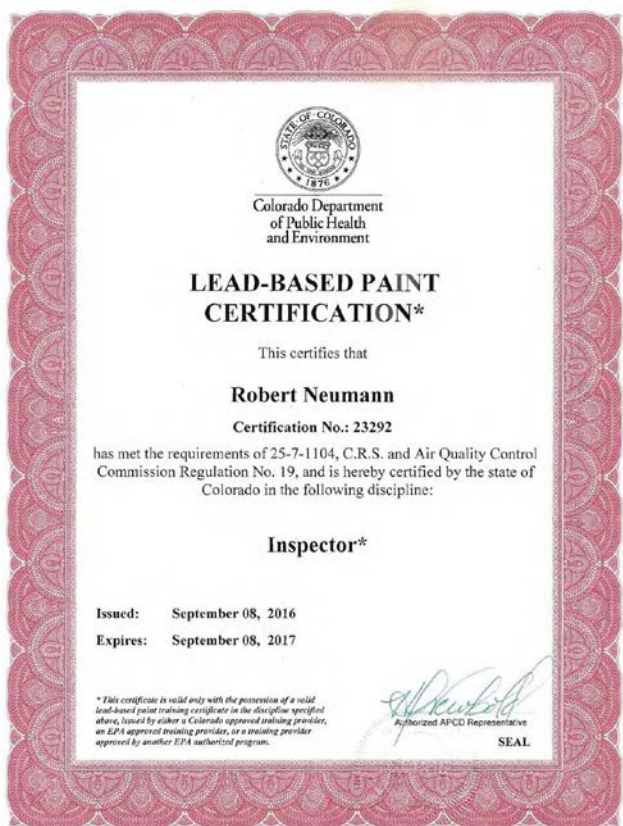
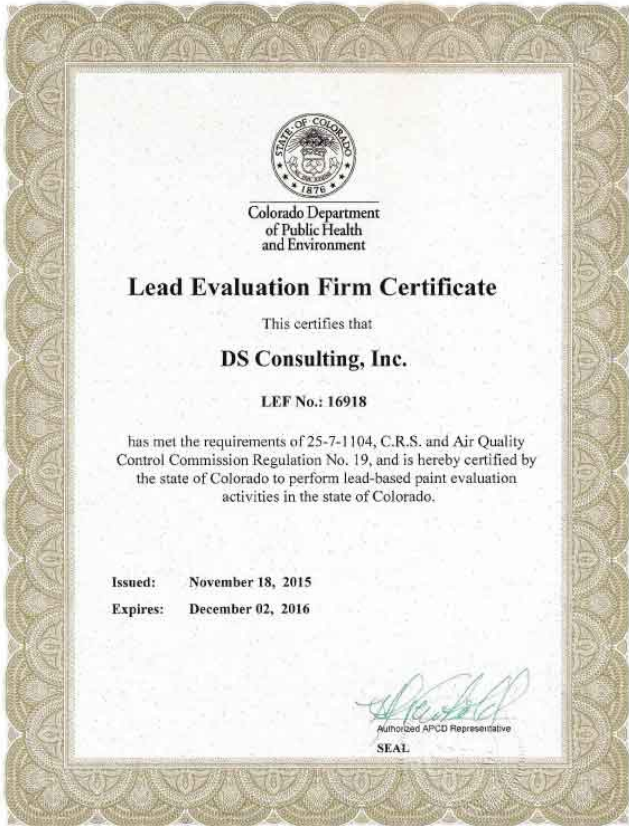
9.0 Disclaimer & Limitations

This full LBP inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building E

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-E
Conducted: September 21, 2016



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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. E, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 12'x 12', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, North Corner	Black/white Roof Shingles	MM	G	~144 ft ²	Friable	All ND
	SHIN1-2	Roof, West Corner						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

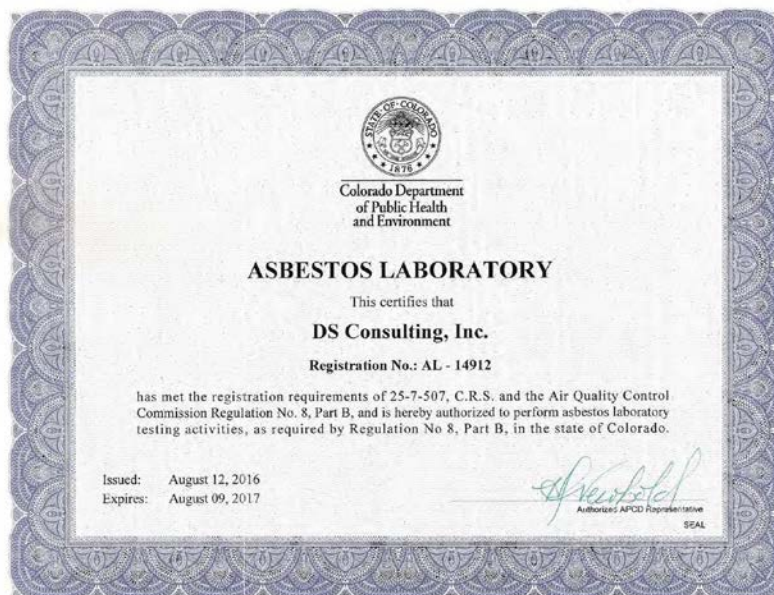
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361399-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "E"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361399-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361399-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "E"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711856	A	Black/white shingle	100		ND	15	85
SHIN 1-2	EM 1711857	A	Black/white shingle	100		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Brett S. Colbert

Analyst / Data QA

Due Date 5-26-28
Due Time 3:36



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 864-1985 • Fax: 303-477-4275 • Toll Free 866-RES-ENV
Pager: 303-508-2098

RES 361399

INVOICE TO: (IF DIFFERENT)

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil	CONTACT INFORMATION:	
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611	Phone:	
Lakewood, CO 80228	Fax:	Fax:	
	Cell/pager:	Cell/pager:	
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "E"	Final Data Deliverable Email Address: dsconsultinginc@msn.com		
Project Description/Location: BRIGH TON			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm. ☒ STANDARD
PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) (Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm.
Metals / Dust RUSH 24 hr 3-5 Day
RCRA 8 / Metals & Welding RUSH 5 day 10 day
Fume Scan / TCLP RUSH 24 hr 3 day 5 Day
Organics 24 hr 3 day 5 Day

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm
E.coli O157:H7, Coliforms, Saureus 24 hr 2 Day 3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M 48 Hr 3-5 Day
Mold RUSH 24 Hr 48 Hr 3 Day 5 Day

Prior notification is required for RUSH turnarounds.

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:
Please call Dave with results: 720-201-6611
Client sample ID number: (Sample ID's must be unique)

1	SHIN-1
2	SHIN-12
3	
4	
5	
6	
7	
8	
9	
10	

Number of samples received: 2 (Additional samples shall be listed on attached long form)

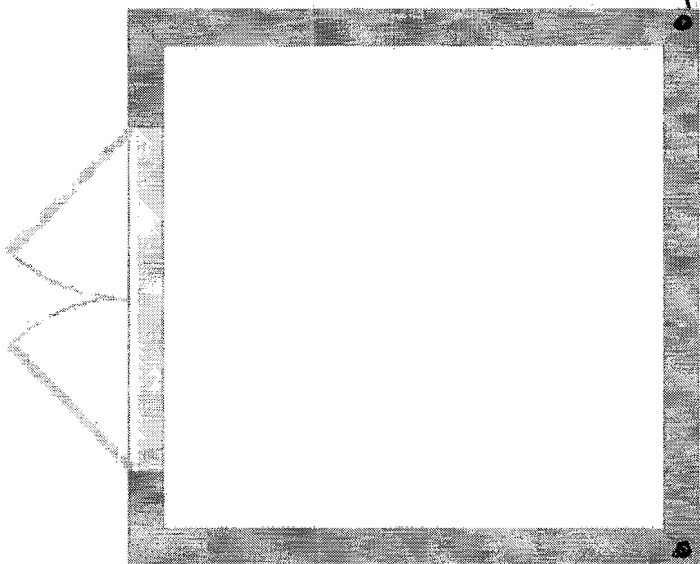
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM	Sample Condition: On Ice Sealed	Initial
Laboratory Use Only	Date/Time: 9-21-16 3:30	Temp. (F°) Yes / No	Yes / No
Received By: Elisea...	Carrier: Nancy		
Results:	Contact: Phone Email Fax	Date: Time	Initials
	Contact: Phone Email Fax	Date: Time	Initials

APPENDIX C

SAMPLE LOCATIONS

SHIN1-2



SHIN1-1



BLDG. "E"
NOT-TO-SCALE



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building E

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-E
Conducted: September 21, 2016



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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. E, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building F

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
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Performed & Prepared By:

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Project Details:

Project Number: 15140-F
Conducted: September 21, 2016



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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. F, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 4'x 8', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members

- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, North-west Side	Black/white Roof Shingles	MM	G	~32 ft ²	Friable	All ND
	SHIN1-2	Roof, North-west Side						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

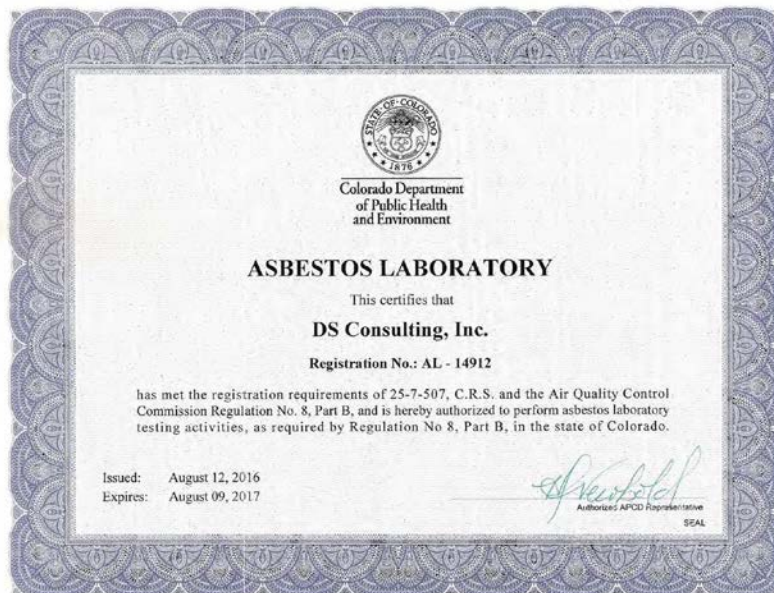
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361398-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "F"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361398-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361398-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "F"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711858	A	Black/white shingle	100		ND	15	85
SHIN 1-2	EM 1711859	A	Black/white shingle	100		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Brett S. Colbert

Analyst / Data QA

Due Date: 5-26-20
Due Time: 3:30



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax: 303-477-4275 • Toll Free 866-RES-ENV
Pager: 303-509-2098

RES 361398

INVOICE TO: (IF DIFFERENT)

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
	Cell/pager:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "F"	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description/Location: BRIGHTON	

CONTACT INFORMATION:

ASBESTOS: LABORATORY HOURS: Weekdays: 7am - 7pm. <input checked="" type="checkbox"/> STANDARD PCM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) (Rush PCM = 2hr, TEM = 6hr.)	REQUESTED ANALYSIS	VALID MATRIX CODES:	LAB NOTES:
CHEMISTRY: LABORATORY HOURS: Weekdays: 8am - 5pm. Metals / Dust RUSH 24 hr 3-5 Day RCRA 8 / Metals & Welding RUSH 5 day 10 day Fume Scan / TCLP RUSH 24 hr 3 day 5 Day Organics RUSH 24 hr 48 hr 3 Day 5 Day	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO, +/-, Quant. Semi-quant, Micro-vac, ISO-Indirect Preps PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan ORGANICS - METH MICROBIOLOGY E. coli O157 H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification E. coli +/- or Quantification Coliforms +/- or Quantification S. aureus +/- or Quantification Y & M +/- or Quantification Mold +/- Identification, Quantification	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**	EM Number (Laboratory Use Only) 1711858
SPECIAL INSTRUCTIONS: Please call Dave with results: 720-201-6611 Client sample ID number: (Sample ID's must be unique) SHIN 1-1 SHIN 1-2			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

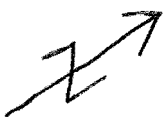
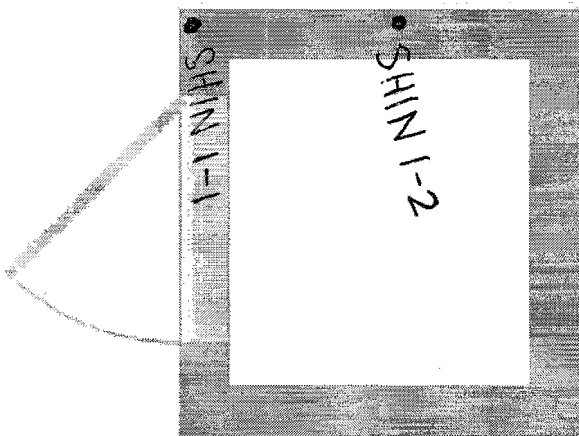
Number of samples received: 2 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM	Sample Condition: On Ice Sealed Intact
Laboratory Use Only: G. Lisamci	Date/Time: 9-21-16 3:30	Temp (F): Yes / No Yes / No
Received By: G. Lisamci	Phone Email Fax	Time Initials
Contact: G. Lisamci	Phone Email Fax	Time Initials

APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG, "F"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building F

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-F
Conducted: September 21, 2016



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- 6.0 Inspection & Testing Procedures**
- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. F, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

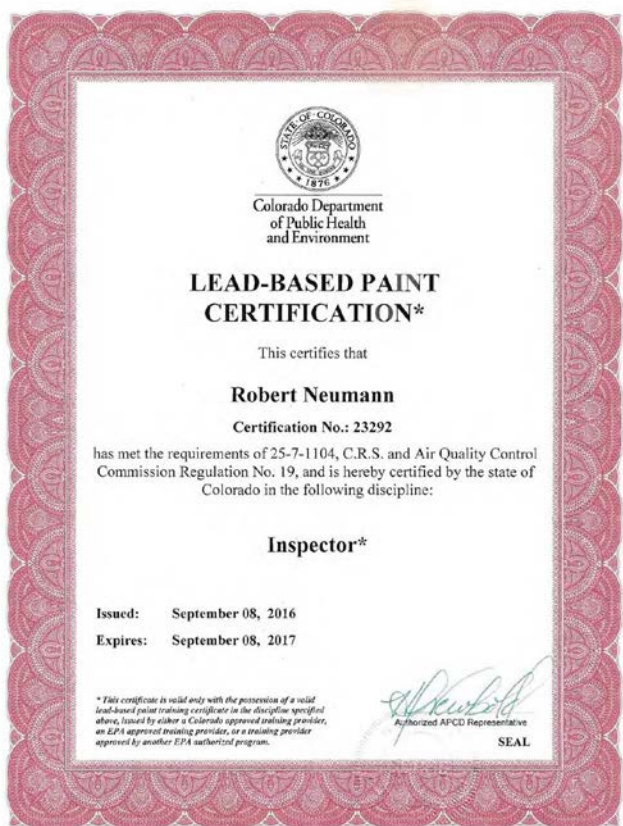
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building G

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-G
Conducted: September 21, 2016



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APPENDIX A	Inspector & Firm Asbestos Certificates
APPENDIX B	Analytical Data
APPENDIX C	Sample Locations

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. G, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black and white roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 12'x 12', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, South Corner	Tan Roof Shingle with Black Tar Adhesive	MM	G	~144 ft ²	Friable	All ND
	SHIN1-2	Roof, North Corner						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

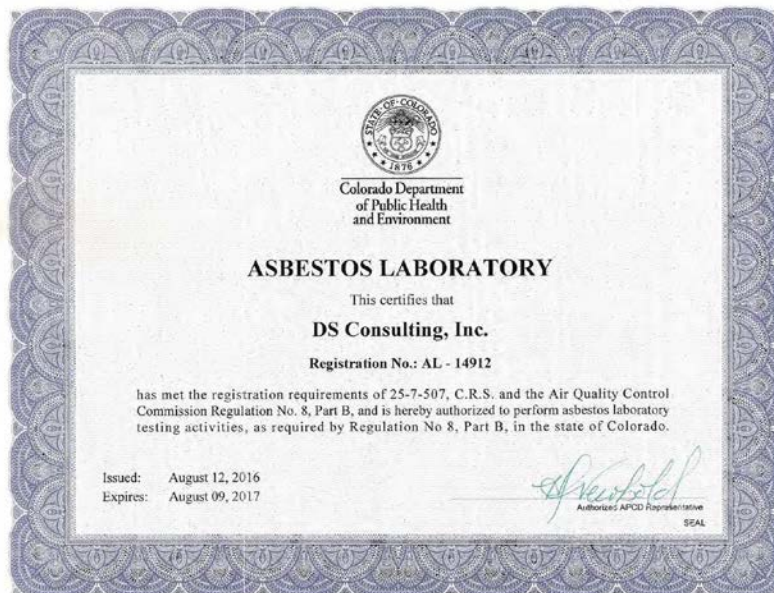
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361401-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "G"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361401-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361401-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "G"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711860	A	Black/white shingle	100		ND	15	85
SHIN 1-2	EM 1711861	A	Black/white shingle	100		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Brett S. Colbert

Analyst / Data QA

Due Date 9-26-20
Due Time 3:36



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph. 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV
Pager: 303-509-2098

RES 361401

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil	Contact:
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611	Phone:
Lakewood, CO 80228	Fax:	Fax:
	Cell pager:	Cell pager:
Project Number and/or P.O. #:	Final Data Deliverable Email Address:	
Project Description/Location: 14331 RIVERDALE RD, BLDG. "G" BRIGHTON	dsconsultinginc@msn.com	

ASBESTOS: LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)	REQUESTED ANALYSIS	VALID MATRIX CODES	LAB NOTES:
CHEMISTRY: LABORATORY HOURS: Weekdays: 8am - 5pm Metals / Dust RUSH 24 hr. 3-5 Day RCRA 8 / Metals & Welding RUSH 5 day 10 day Fume Scan / TCLP RUSH 24 hr. 3 day 5 Day Organics RUSH 24 hr. 48 Hr. 3 Day 5 Day	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO +/-, Quant. Semi-quant, Micro-vac, ISO-Indirect Preps PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan ORGANICS - METH MICROBIOLOGY E. coli O157 H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification Coliforms +/- or Quantification S. aureus +/- or Quantification Y & M +/- or Quantification Mold +/-, Identification, Quantification	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**	
SPECIAL INSTRUCTIONS: Please call Dave with results: 720-201-6611 Client sample ID number: (Sample ID's must be unique) SHIN F-1 SHIN F-2		Sample Volume (L) / Area Matrix Code # Containers Date Collected m/d/yyyy Time Collected h:mm a/p	EM Number (Laboratory Use Only) 171960
Number of samples received: 2			

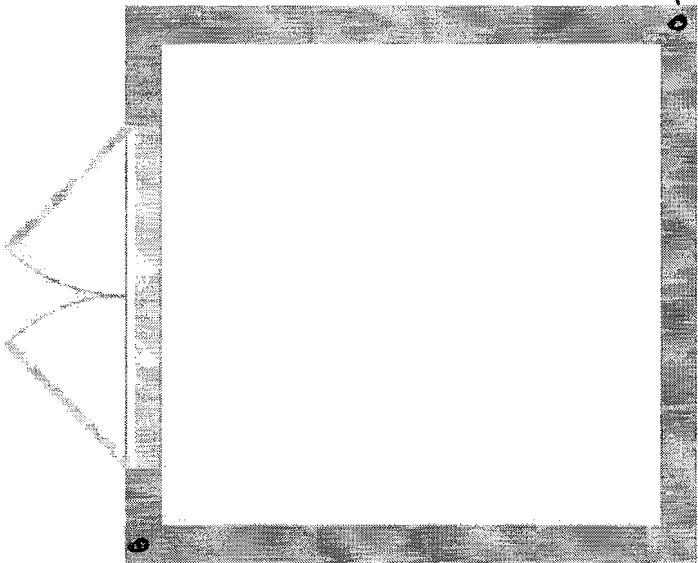
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM	Sample Condition: On Ice Sealed	Intact
Laboratory Use Only	Date/Time: 9-21-16 3:36	Temp (F°) _____	Yes / No Yes
Received By: Elsam	Carrier: Nanci		
Results:	Contact Phone Email Fax	Date	Time
Contact	Contact Phone Email Fax	Date	Time

APPENDIX C

SAMPLE LOCATIONS

SHIN 1-2



SHIN 1-1



NOT-TO-SCALE
BLDG. "G"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building G

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-G
Conducted: September 21, 2016



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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. G, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

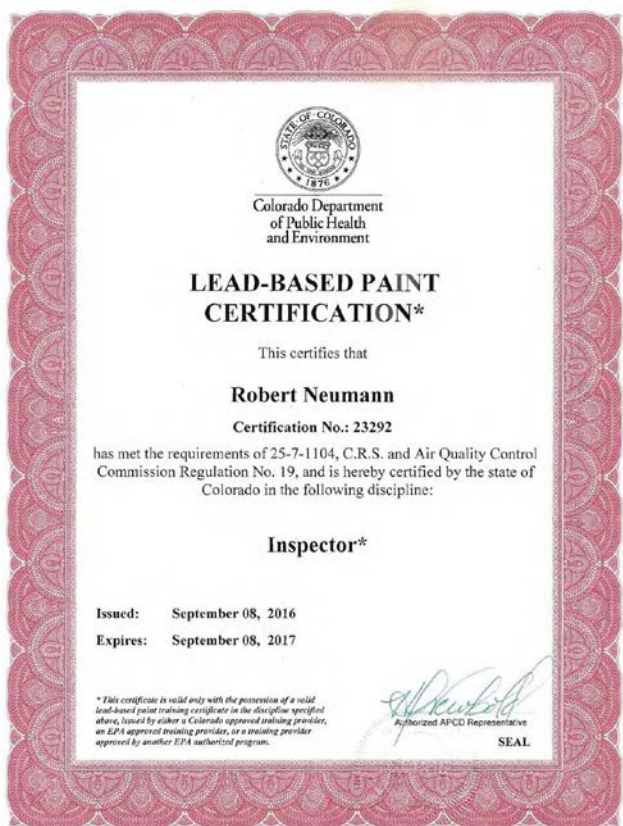
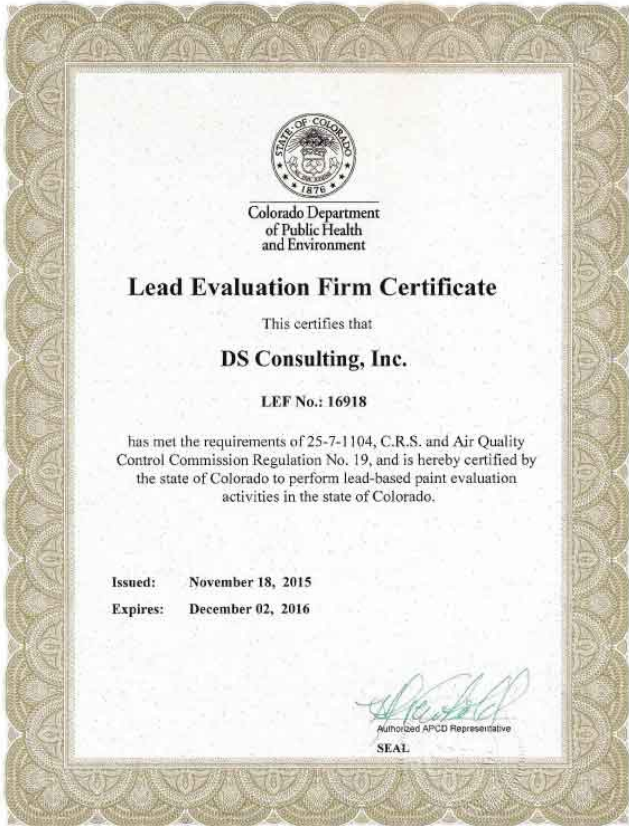
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building H

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
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Performed & Prepared By:

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(720) 201-6611

Project Details:

Project Number: 15140-H
Conducted: September 21, 2016



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APPENDIX A	Inspector & Firm Asbestos Certificates
APPENDIX B	Analytical Data
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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. H, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Painted, light textured drywall
- White joint compound associated with the painted, light textured drywall referenced above
- Tan 12"x 12" vinyl floor tile with black mastic
- Gray 12"x 12" vinyl floor tile with black mastic
- Black vinyl cove base with yellow mastic
- Tan vinyl cove base with yellow mastic

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building referenced above. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a two-story, wood framed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the

materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of fourteen (14) asbestos bulk-samples of six (6) homogeneous areas. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Painted, light textured drywall
- White joint compound associated with the painted, light textured drywall referenced above
- Tan 12"x 12" vinyl floor tile with black mastic
- Gray 12"x 12" vinyl floor tile with black mastic
- Black vinyl cove base with yellow mastic
- Tan vinyl cove base with yellow mastic

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

HA #	Sample ID	Sample Location	Material Description	Material Classification	Material Condition	Estimated Quantity	Material Friability	Asbestos Content
1	SM1-1	North Room, West Wall	Painted, light textured drywall w/joint compound	SM	G	~1500 ft ²	Friable	ND
	SM1-2	Main Room, South Wall						
	SM1-3	North Room, Northeast Corner						
	SM1-4	Main Room, Southeast Corner						
	SM1-5	Main Room, Ceiling West Side						
2	JC1-1	North Room, Northeast Corner	Painted, light textured drywall w/joint compound	MM	G	~1500 ft ²	Friable	ND
3	FT1-1	Main Room, Center of Room	Tan 12"x 12" Vinyl Floor Tile with Black Mastic	MM	G	~400 ft ²	Non-friable	ND
	FT1-2	Main Room, Center of Room						
4	FT2-1	North Room, Lower Level	Gray 12"x 12" Vinyl Floor Tile with Black Mastic	MM	G	~300 ft ²	Non-friable	ND
	FT2-1	North Room, Upper Level						
5	CB1-1	North Room, East Wall	Black Vinyl Cove Base with Yellow Mastic	MM	G	~60 lf	Non-friable	ND
	CB1-2	North Room, West Wall						
6	CB2-1	Main Room, North Wall	Tan Vinyl Cove Base with Yellow Mastic	MM	G	~70 lf	Non-friable	ND
	CB2-2	Main Room, South Wall						

HA - Homogeneous Area
 ND - None-detected
 TR - Trace, <1% Visual Estimate

G - Good
 D - Damaged
 SD - Significantly Damaged

CHRY - Chrysotile
 ACT - Actinolite

SM - Surfacing Material
 MM - Miscellaneous Material
 TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

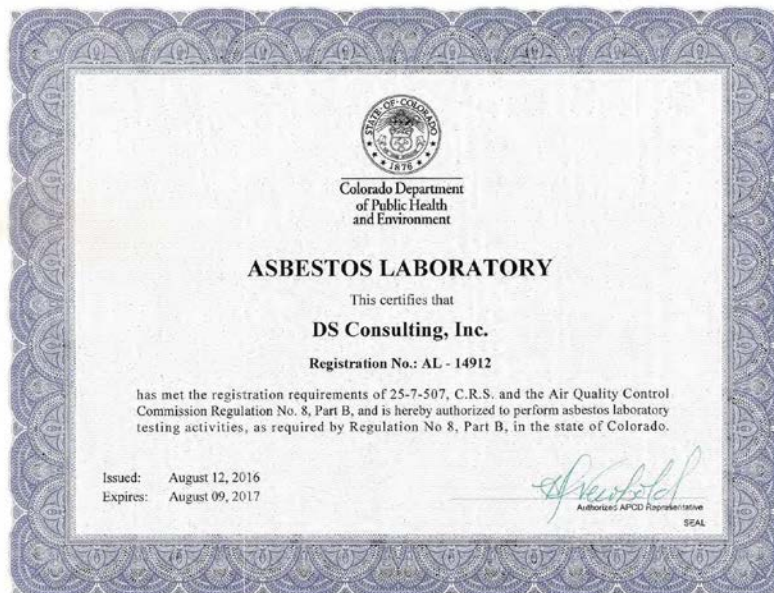
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361406-1
Project # / P.O. # 14331 Riverdale Rd Bldg H
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361406-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361406-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd Bldg H**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SM 1-1	EM 1711890	A	White paint	2		ND	0	100
		B	White/tan drywall	98		ND	15	85
SM 1-2	EM 1711891	A	White texture w/ white paint	10		ND	0	100
		B	White/tan drywall	90		ND	20	80
SM 1-3	EM 1711892	A	White texture w/ white paint	10		ND	0	100
		B	White tape	10		ND	90	10
		C	White joint compound	10		ND	0	100
		D	White/tan drywall	70		ND	15	85
SM 1-4	EM 1711893	A	White texture w/ white paint	5		ND	0	100
		B	White tape	5		ND	90	10
		C	White joint compound	5		ND	0	100
		D	White/tan drywall	85		ND	15	85
SM 1-5	EM 1711894	A	White texture w/ white paint	5		ND	0	100
		B	White/tan drywall	95		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361406-1**
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 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
JC 1-1	EM 1711895	A	White texture w/ white paint	5		ND	0	100
		B	White tape	5		ND	90	10
		C	White joint compound	5		ND	0	100
		D	White/tan drywall	85		ND	15	85
FT 1-1	EM 1711896	A	Yellow mastic	TR		ND	0	100
		B	Gray tile	100		ND	0	100
FT 1-2	EM 1711897	A	Yellow mastic	TR		ND	0	100
		B	Gray tile	100		ND	0	100
FT 2-1	EM 1711898	A	Yellow mastic w/ white debris	5		ND	0	100
		B	Gray tile	95		ND	0	100
FT 2-2	EM 1711899	A	Yellow mastic	TR		ND	0	100
		B	Gray tile	100		ND	0	100
CB 1-1	EM 1711900	A	Black cove base	100		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

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Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
CB 1-2	EM 1711901	A	White compound w/ white paint	2		ND	0	100
		B	Tan resinous material	2		ND	0	100
		C	Black cove base	96		ND	0	100
CB 2-1	EM 1711902	A	Tan mastic	3		ND	0	100
		B	Beige cove base	97		ND	0	100
CB 2-2	EM 1711903	A	Tan mastic	5		ND	0	100
		B	Beige cove base	95		ND	0	100

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Anya Angst
 Analyst / Data QA

Due Date: 7-26-28
Due Time: 3:40



Reservoirs Environmental, Inc.

RES 361406

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax: 303-477-4275 • Toll Free: 866-RES-ENV

Pager: 303-509-2098

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company:	DS Consulting, Inc.	Contact:	Dave Sinkbeil
Address:	12477 W. Cedar Dr., Suite 101	Phone:	720-201-6611
	Lakewood, CO 80228	Fax:	
		Cellpage:	

Project Number and/or P.O. #:	14331 RIVERDALE RD, BLDG. "H"
Project Description/Location:	BRIGHTON
Final Data Deliverable Email Address:	dsconsultinginc@msn.com

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm P.M. / P.C.M. / TEM: RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)	VALID MATRIX CODES: Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Metals / Dust: RUSH 24 hr. 3-5 Day RCRA 8 / Metals & Welding: RUSH 5 day 10 day Fume Scan / TCLP: RUSH 24 hr. 3 day 5 Day	REQUESTED ANALYSIS: METALS - Analyte(s) DUST - Total, Respirable PCM - 7400A, 7400B, OSHA SEM - AHRA, Level II, 7402, ISO, +/-, Quant. PLM - Short report, Long report, Point Count Semi-quant, Micro-vac, ISO, Indirect Preps
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E. coli O157:H7, Coliforms, S. aureus: 24 hr. 2 Day 3-5 Day Salmonella, Listeria, E. coli, APC, Y & M: RUSH 24 Hr. 48 Hr. 3 Day 5 Day Mold: RUSH 24 Hr. 48 Hr. 3 Day 5 Day	SAMPLER'S INITIALS OR OTHER NOTES: Mold +/- Identification, Quantification Y & M +/- or Quantification S. aureus +/- or Quantification Coliforms +/- or Quantification E. coli +/- or Quantification Aerobic Plate Count +/- or Quantification Listeria +/- E. coli O157:H7 +/- Salmonella +/- ORGANICS - METH RCRA 8, TCLP, Welding Fume, Metals Scan

Special Instructions: Please call Dave with results: 720-201-6611 Client sample ID number: (Sample ID's must be unique)	VALID MATRIX CODES: Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**
1 SM1-1 2 1-2 3 1-3 4 1-4 5 V1-5 6 JC1-1 7 FT1-1 8 1-2 9 2-1 10 V2-2	REQUESTED ANALYSIS: METALS - Analyte(s) DUST - Total, Respirable PCM - 7400A, 7400B, OSHA SEM - AHRA, Level II, 7402, ISO, +/-, Quant. PLM - Short report, Long report, Point Count Semi-quant, Micro-vac, ISO, Indirect Preps
EM Number (Laboratory Use Only) 171189	VALID MATRIX CODES: Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**

Number of samples received: 14 (Additional samples shall be listed on attached long form)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 7-21-16 3:15 PM	Sample Condition: On Ice Yes / No	Sealed Yes / No	Intact Yes / No
Laboratory Use Only	Date/Time: 7-21-16 3:40	Temp (F°):	On Ice Yes / No	Sealed Yes / No
Results:	Contact: Phone Email Fax	Date:	Time:	Initials:
Contact:	Contact: Phone Email Fax	Date:	Time:	Initials:

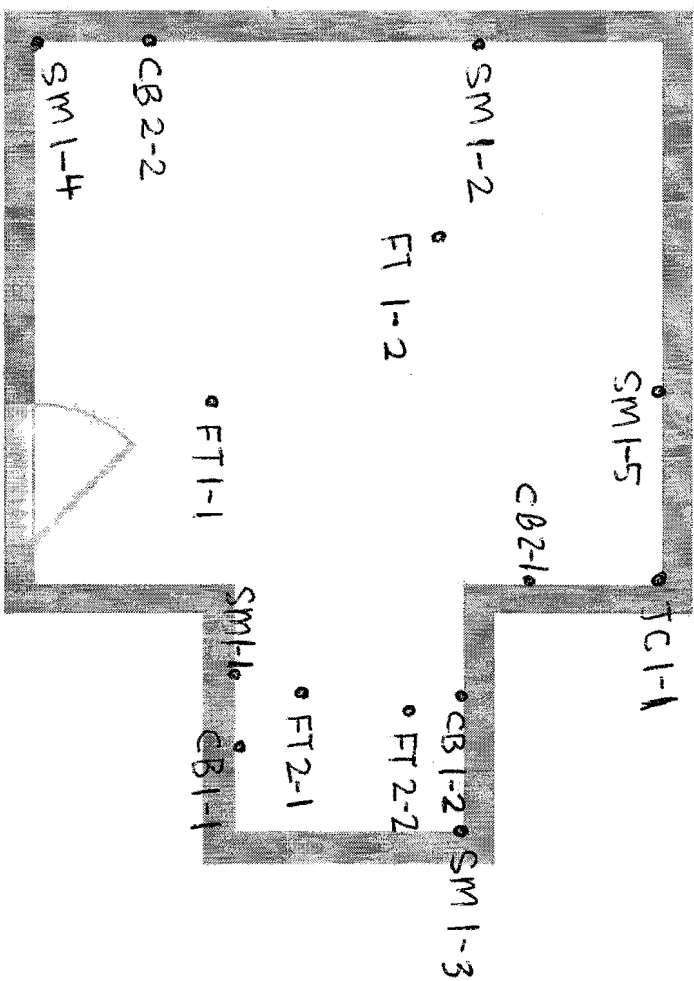
RES Job # 361406 Page 2 of 2

Submitted by: DS CONSULTING

Client sample ID number (Sample ID's must be unique)	REQUESTED ANALYSIS										VALID MATRIX CODES				LAB NOTES
	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - BTEX, MTBE, 8260, GRO, METH	MICROBIOLOGY				OTHER				
							Salmonella +/-	E coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E coli +/- or Quantification	Coliforms +/- or Quantification	S aureus +/- or Quantification	Yeast/Mold +/- or Quantification	
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APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG. "H"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building H

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-H
Conducted: September 21, 2016



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- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
- 10.0 Copyright Notice**

APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. H, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The white painted drywall walls and ceilings and off-white painted exterior walls were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, two-story commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The white painted drywall walls and ceilings and off-white painted exterior walls were tested for LBP. All types of paint were found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

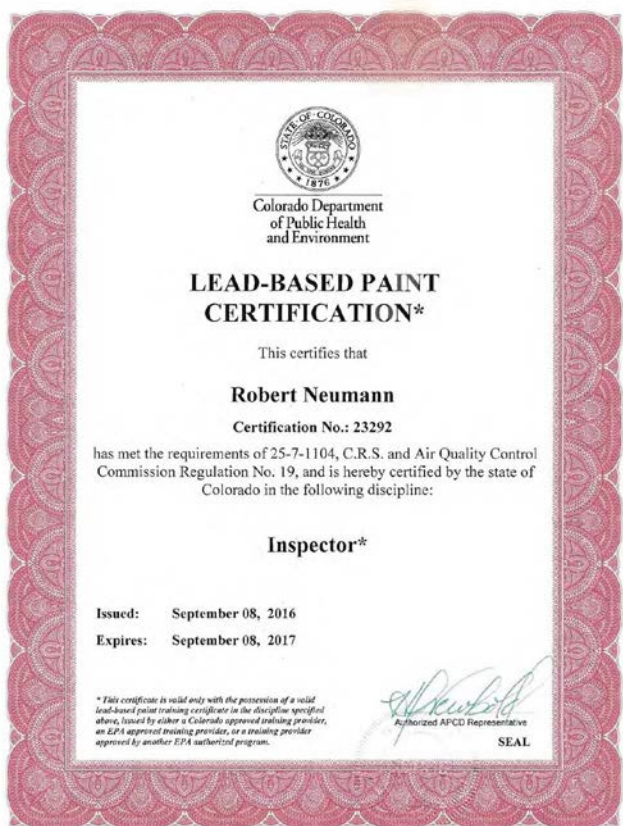
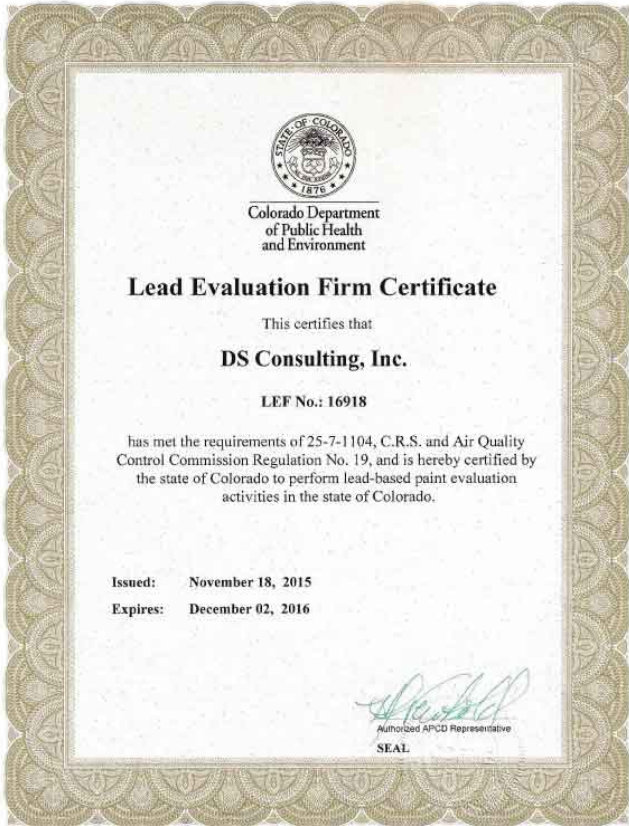
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building I

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-F
Conducted: September 21, 2016



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 - 6.3 Material Conditions**
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- 11.0 Project Design & Project Manager Requirements**
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- 13.0 Copyright Notice**

APPENDIX A	Inspector & Firm Asbestos Certificates
APPENDIX B	Analytical Data
APPENDIX C	Sample Locations

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. I, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles with tan paint
- Black roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 4'x 8', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members

- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles with tan paint
- Black roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, west side	Black/white roof shingles; Black shingles	MM	G	~32 ft ²	Friable	All ND
	SHIN1-2	Roof, east side						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

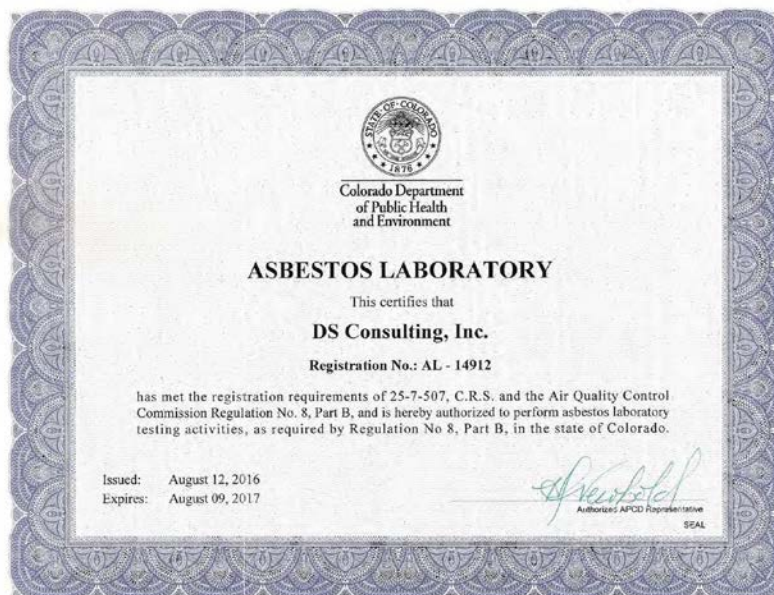
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

13.0 Copyright Notice

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361404-1
Project # / P.O. # 14331 Riverdale Rd., Bldg. "I"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361404-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361404-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd., Bldg. "I"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711884	A	Black shingle w/ tan paint	40		ND	15	85
		B	Black/white shingle w/ tan paint	60		ND	15	85
SHIN 1-2	EM 1711885	A	Black/white shingle	45		ND	15	85
		B	Black shingle w/ tan paint	55		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Brett S. Colbert

Analyst / Data QA

Due Date 9-26-28
Due Time 3:40



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866-RES-ENV
Pager: 303-509-2098

RES 361404

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W. Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
Project Number and/or P.O. #:	Cell pager:
Project Description/Location: 14331 RIVERDALE RD, BLDG. "I" BRIGHTON	Final Data Deliverable Email Address: dsconsultinginc@msn.com

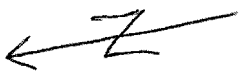
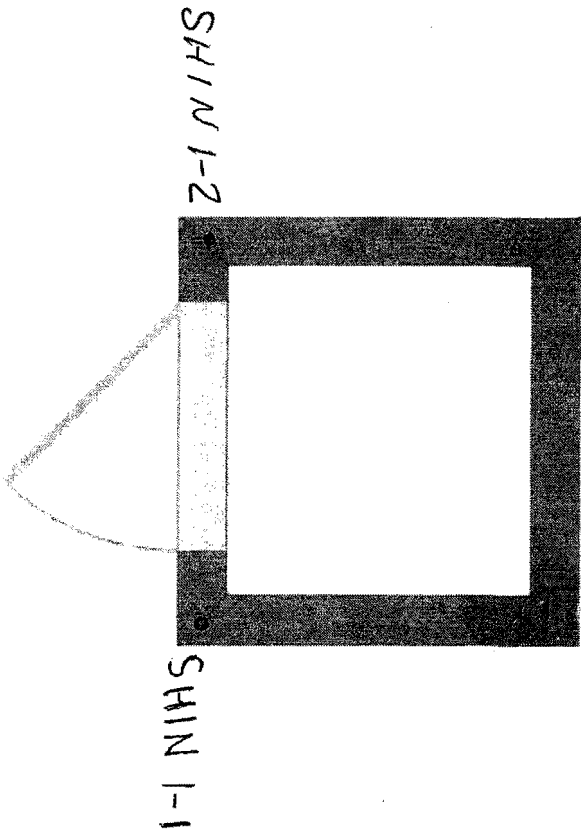
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)		REQUESTED ANALYSIS		VALID MATRIX CODES		LAB NOTES:	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Metal(s) / Dust RUSH 24 hr. 3-5 Day RCRA 8 / Metals & Welding Fume Scan / TCLP RUSH 5 day 10 day Organics 24 hr 3 day 5 Day **Prior notification is required for RUSH turnarounds.**		MICROBIOLOGY		Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coli O157:H7, Coliforms, Saureus 24 hr. 2 Day 3-5 Day Salmonella, Listeria, E.coli, APC, Y & M 48 Hr. 3-5 Day Mold RUSH 24 Hr. 48 Hr. 3 Day 5 Day **Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.**		ORGANICS - METH					
Special Instructions: Please call Dave with results: 720-201-6611 Client sample ID number: (Sample ID's must be unique)		METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan DUST - Total, Respirable PCM - 7400A, 7400B, OSHA SEM - AHERA, Level II, 7402, ISO, +/- Quant. PLM - Short report, Long report, Point Count		SAMPLER'S INITIALS OR OTHER NOTES			
1 SHIN-H		Salmonella +/-		E.coli O157:H7 +/-		Listeria +/-	
2 SHIN-H		Aerobic Plate Count +/- or Quantification		Coliforms +/- or Quantification		Saureus +/- or Quantification	
3		Y & M +/- or Quantification		Mold +/- Identification, Quantification			
4							
5							
6							
7							
8							
9							
10							
Number of samples received: 2		(Additional samples shall be listed on attached long form)		Sample Volume (L) / Area		Matrix Code	
				# Containers		Date Collected monthly	
				Time Collected minimum 4hr		EM Number (Laboratory Use Only)	

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM	Sample Condition: On Ice Sealed Inlet
Laboratory Use Only	Date/Time: 9-21-16 3:40	Temp (F°) Yes / No Yes / No
Results: Contact Phone Email Fax	Initials Time	Time
Contact Phone Email Fax	Initials Time	Time

APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG "I"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building I

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-I
Conducted: September 21, 2016



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- 7.0 Overview of Findings**
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- 9.0 Disclaimer & Limitations**
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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. I, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building J

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-J
Conducted: September 21, 2016



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PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. J, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white/gray roof shingles
- Black/white shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 12'x 12', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white/gray roof shingles
- Black/white shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, East Corner	Black/white/gray roof shingles; Black/white shingles	MM	G	~144 ft ²	Friable	All ND
	SHIN1-2	Roof, West Corner						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

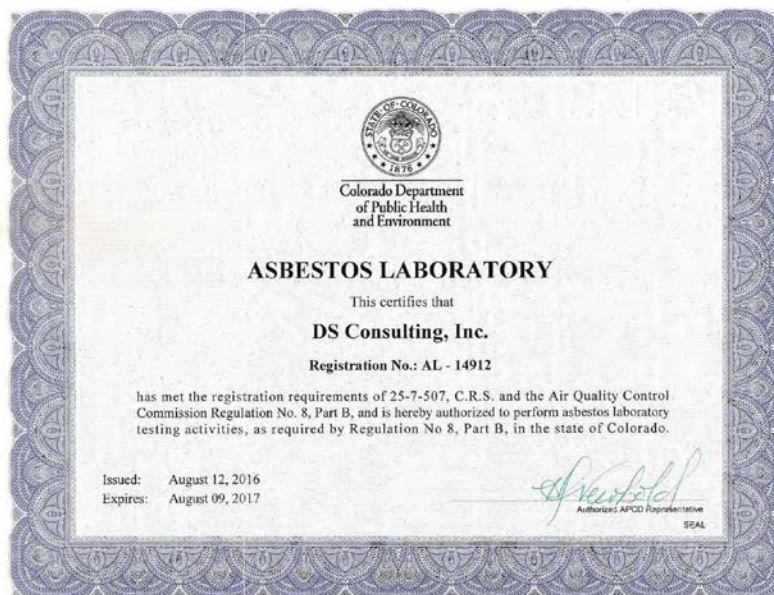
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361407-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "J"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361407-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361407-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "J"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711882	A	Black/white/gray shingle	45		ND	15	85
		B	Black/white shingle	55		ND	15	85
SHIN 1-2	EM 1711883	A	Black/white/gray shingle	40		ND	15	85
		B	Black/white shingle	60		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.


 Brett S. Colbert

Analyst / Data QA

Due Date: 9-26-08
Due Time: 3:46



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph. 303 964-1986 • Fax 303-477-4275 • Toll Free 866 RES-ENV

Pager: 303-509-2098

RES 361407

INVOICE TO: (IF DIFFERENT)

Company: DS Consulting, Inc.	Company: Dave Sinkbeil
Address: 12477 W. Cedar Dr., Suite 101 Lakewood, CO 80228	Phone: 720-201-6611
	Fax:
	Cell pager:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "J" BRIGHTON	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description/Location:	

CONTACT INFORMATION:

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm PLM / PCM / TEM RUSH (Same Day) PRIORITY (Next Day) STANDARD (Rush PCM = 2hr, TEM = 6hr.)	REQUESTED ANALYSIS	VALID MATRIX CODES:	LAB NOTES:
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Metals / Dust RUSH 24 hr 3-5 Day RCRA B / Metals & Welding RUSH 5 day 10 day Fume Scan / TCLP RUSH 24 hr 3 day 5 Day Organics RUSH 24 hr 3 day 5 Day	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO +/- Quant. Semi-quant, Micro-vac, ISO-Indirect Preps PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA B, TCLP, Welding Fume, Metals Scan ORGANICS - METH MICROBIOLOGY Salmonella +/- E. coli O157:H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification Coliforms +/- or Quantification S. aureus +/- or Quantification Y & M +/- or Quantification Mold +/- Identification, Quantification	Air = A Bulk = B Dust = D Paint = P Soil = S Swab = SW Wipe = W Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E. coli O157:H7, Coliforms, S. aureus 24 hr 2 Day 3-5 Day Salmonella, Listeria, E. coli, APC, Y & M 48 Hr 3-5 Day Mold RUSH 24 Hr 48 Hr 3 Day 5 Day		Sample Volume (L) / Area	EM Number (Laboratory Use Only)
Special Instructions: Please call Dave with results: 720-201-6611 Client sample ID number (Sample ID's must be unique)		# Containers	Time Collected
1 SHIN-1			1711002
2 SHIN-2			5
3			
4			
5			
6			
7			
8			
9			
10			

Number of samples received: 2

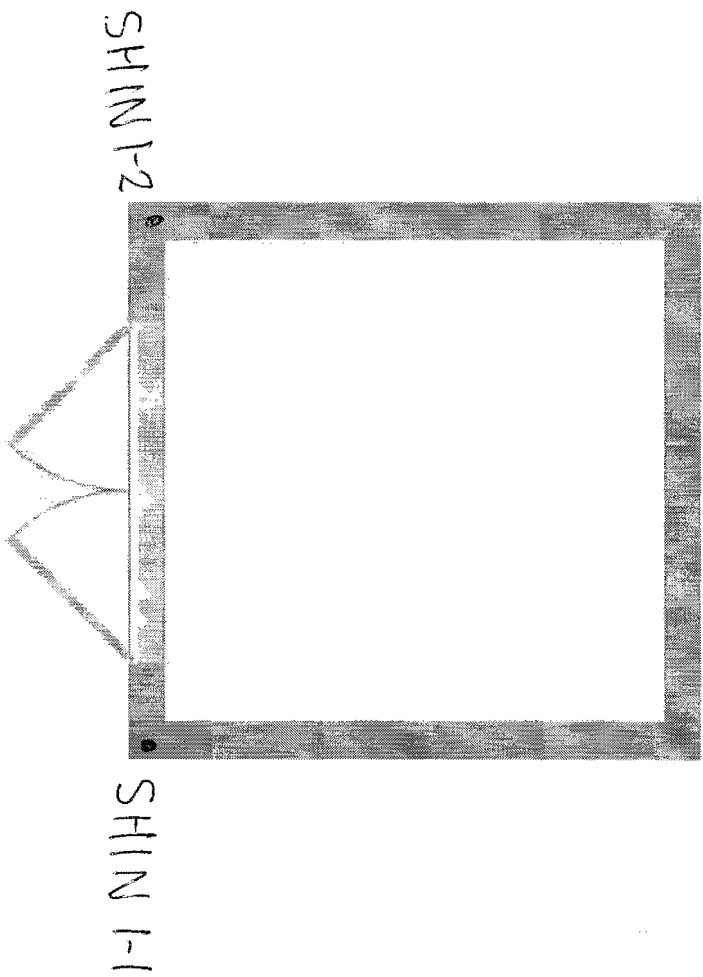
(Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:45 PM	Sample Condition: On Ice Sealed Inlet
Laboratory Use Only	Date/Time: 9-21-16 3:40	Temp (F) Yes / No
Received By: 2 Lisarwa	Carrier: Hand	Yes / No
Results:	Phone Email Fax	Phone Email Fax
Contact	Date	Date
Contact	Time	Time
Contact	Initials	Initials
Contact	Time	Time
Contact	Initials	Initials

APPENDIX C

SAMPLE LOCATIONS



NOT-TO-SCALE
BLDG. "J"





Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building J

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-J
Conducted: September 21, 2016



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- 6.0 Inspection & Testing Procedures**
- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
- 10.0 Copyright Notice**

APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. J, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

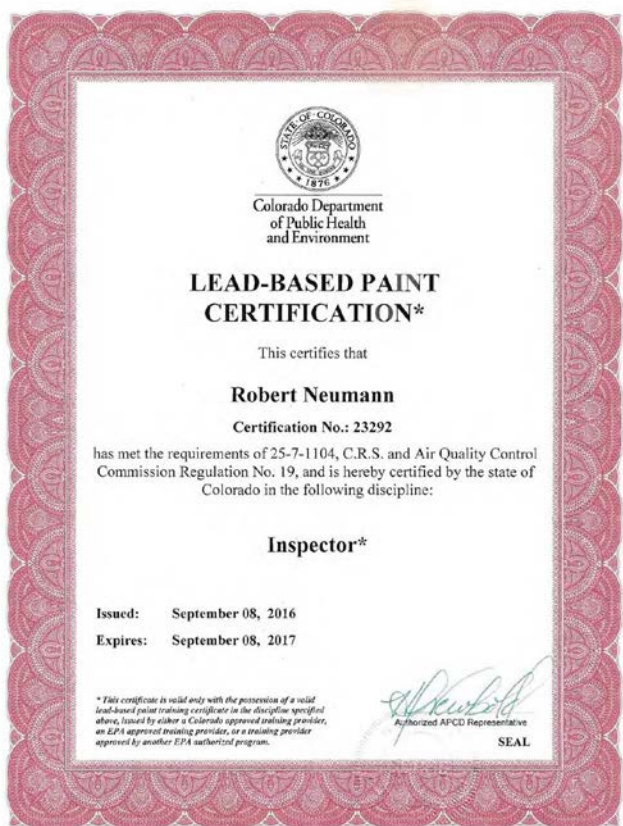
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building K

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-K
Conducted: September 21, 2016



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APPENDIX B	Analytical Data
APPENDIX C	Sample Locations

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection and collected asbestos bulk-samples of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. K, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on September 21, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a one-story, 12'x 12', wood constructed commercial building.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a "TRACE" amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members

- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

DS collected a total of two (2) asbestos bulk-samples of one (1) homogeneous area. The following are the suspect asbestos-containing materials that were collected and their respective asbestos content:

The following materials do not contain asbestos:

- Black/white roof shingles

Table 1 below describes the materials composing each homogeneous area as well as the locations of each bulk-sample collected. Also listed is the classification, condition, friability and estimated quantity of material to be removed and/or disturbed, as well as the asbestos content within each bulk-sample. Please see *Appendix B: Analytical Data* for the layer break-down of each bulk-sample.

TABLE 1

<i>HA #</i>	<i>Sample ID</i>	<i>Sample Location</i>	<i>Material Description</i>	<i>Material Classification</i>	<i>Material Condition</i>	<i>Estimated Quantity</i>	<i>Material Friability</i>	<i>Asbestos Content</i>
1	SHIN1-1	Roof, Southeast Corner	Black/white Roof Shingles	MM	G	~144 ft ²	Friable	All ND
	SHIN1-2	Roof, Northwest Corner						

HA - Homogeneous Area

ND - None-detected

TR - Trace, <1% Visual Estimate

G - Good

D - Damaged

SD - Significantly Damaged

CHRY - Chrysotile

ACT - Actinolite

SM - Surfacing Material

MM - Miscellaneous Material

TSI - Thermal System Insulation

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection and bulk-sampling performed on September 21, 2016; therefore, no professional abatement activities are required to remove or disturb the above-referenced sampled materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a "Major Asbestos Spill." The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.

- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

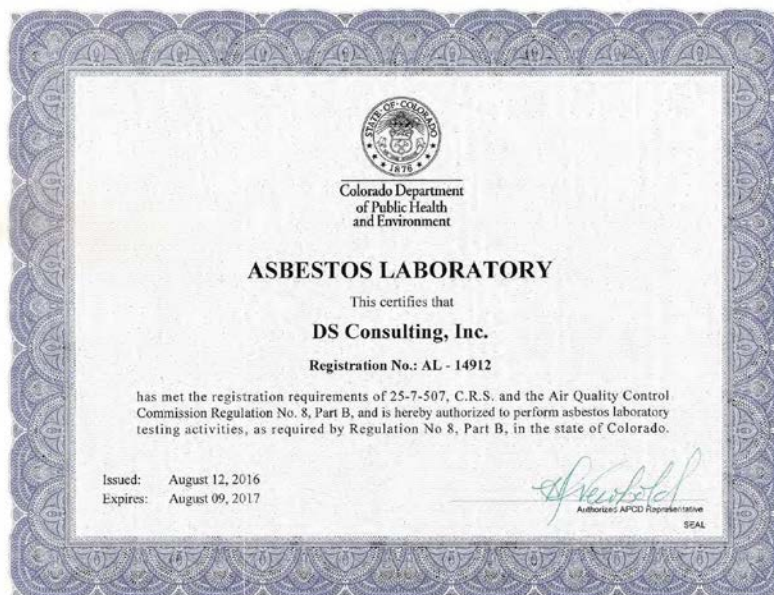
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

13.0 Copyright Notice

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES



APPENDIX B

ANALYTICAL DATA



September 24, 2016

Subcontract Number: NA
Laboratory Report: RES 361403-1
Project # / P.O. # 14331 Riverdale Rd, Bldg. "K"
Project Description: Brighton

DS Environmental Consulting
12477 W. Cedar Dr., Suite 101
Lakewood CO 80228

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 361403-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,


Emily Casey for

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL INC.

NVLAP Lab Code 101896-0

TABLE: PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME

RES Job Number: **RES 361403-1**
 Client: **DS Environmental Consulting**
 Client Project Number / P.O.: **14331 Riverdale Rd, Bldg. "K"**
 Client Project Description: **Brighton**
 Date Samples Received: **September 21, 2016**
 Method: **EPA 600/R-93/116 - Short Report, Bulk**
 Turnaround: **3-5 Day**
 Date Samples Analyzed: **September 24, 2016**

ND=None Detected
 TR=Trace, <1% Visual Estimate
 Trem/Act=Tremolite/Actinolite

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non- Fibrous Components (%)
					Mineral	Visual Estimate (%)		
SHIN 1-1	EM 1711880	A	Black/white shingle	100		ND	15	85
SHIN 1-2	EM 1711881	A	Black/white shingle	100		ND	15	85

TEM Analysis recommended for organically bound material (i.e. floor tile) if PLM results are <1%.



Brett S. Colbert

Analyst / Data QA

Due Date: 5-26-25
Due Time: 3:40



Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303-564-1986 • Fax: 303-477-4275 • Toll Free 866-RES-ENV

Pager: 303-509-2098

RES 361403

INVOICE TO: (IF DIFFERENT)

Company: DS Consulting, Inc.	Contact: Dave Sinkbeil
Address: 12477 W Cedar Dr., Suite 101	Phone: 720-201-6611
Lakewood, CO 80228	Fax:
	Cell pager:
Project Number and/or P.O. #: 14331 RIVERDALE RD, BLDG. "K"	Final Data Deliverable Email Address: dsconsultinginc@msn.com
Project Description/Location: BRIGHTON	

CONTACT INFORMATION:

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm. <input checked="" type="checkbox"/> STANDARD PLM / PCM / TEM <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> RUSH (Rush PCM = 2hr, TEM = 6hr.)	REQUESTED ANALYSIS	VALID MATRIX CODES	LAB NOTES:
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm. Metals / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day RCRA 8 / Metals & Welding <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day	PLM - Short report, Long report, Point Count TEM - AHERA, Level II, 7402, ISO, +/-, Quant. Semi-quant, Micro-vac, ISO-Indirect Preps PCM - 7400A, 7400B, OSHA DUST - Total, Respirable METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan ORGANICS - METH MICROBIOLOGY Salmonella +/- E.coli O157 H7 +/- Listeria +/- Aerobic Plate Count +/- or Quantification Coliforms +/- or Quantification S.aureus +/- or Quantification Y & M +/- or Quantification Mold +/- Identification, Quantification	Air = A Bulk = B Dust = D Paint = P Soil = S Wipe = W Swab = SW F = Food Drinking Water = DW Waste Water = WW O = Other **ASTM E1792 approved wipe media only**	
SPECIAL INSTRUCTIONS: Please call Dave with results: 720-201-6611 Client sample ID number (Sample ID's must be unique)		Sample Volume (L) / Area # Containers Date Collected mm/dd/yyyy Time Collected hh:mm a/p	EM Number (Laboratory Use Only)
1 SHIN 1-1			1711990
2 SHIN 1-2			
3			
4			
5			
6			
7			
8			
9			
10			

Number of samples received: 2

(Additional samples shall be listed on attached long form.)

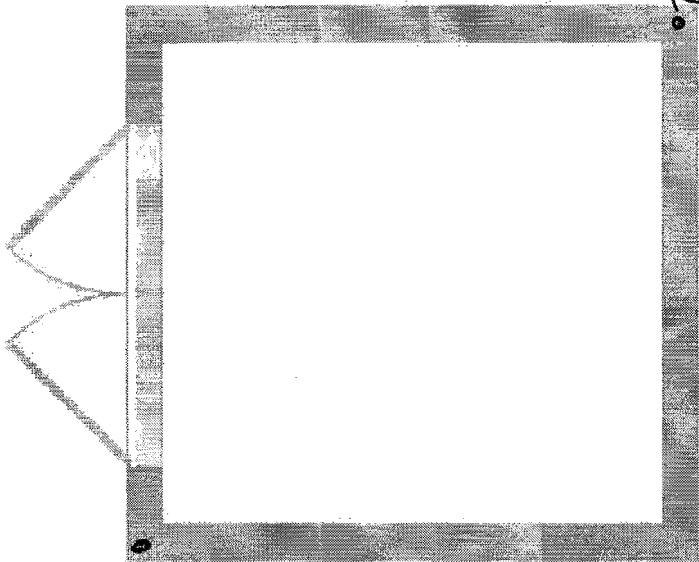
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: David Sinkbeil	Date/Time: 9-21-16 3:15 PM
Laboratory Use Only: G. Isaravi	Date/Time: 9-21-16 3:40
Carrier: Nancy	
Results:	
Contact: Phone Email Fax	Contact: Phone Email Fax
Contact: Phone Email Fax	Contact: Phone Email Fax
Sample Condition: On Ice Sealed	Temp (F°) Yes / No
Intact Yes / No	
Time	Time
Date	Date
Initials	Initials

APPENDIX C

SAMPLE LOCATIONS

SHIN 1-2



SHIN 1-1



NOT-TO-SCALE
BLDG. "K"



Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building K

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 369 - 6609

Project Details:

Project Number: 15140-K
Conducted: September 21, 2016



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- 7.0 Overview of Findings**
- 8.0 Conclusion & Recommendations**
- 9.0 Disclaimer & Limitations**
- 10.0 Copyright Notice**

APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On September 21, 2016, Mr. Robert Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the commercial building located at 14451 Riverdale Rd, Bldg. K, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the building defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a wood framed, single-level commercial building.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The tan painted exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

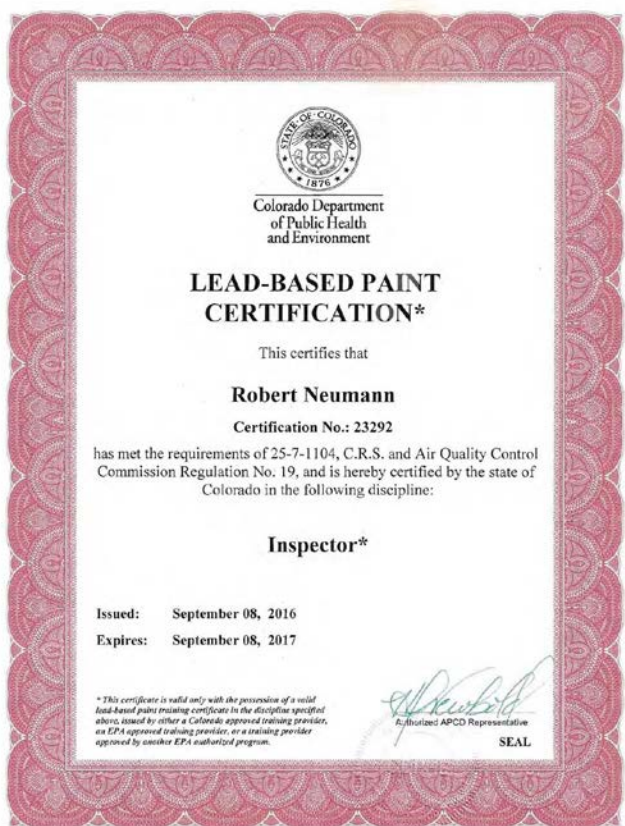
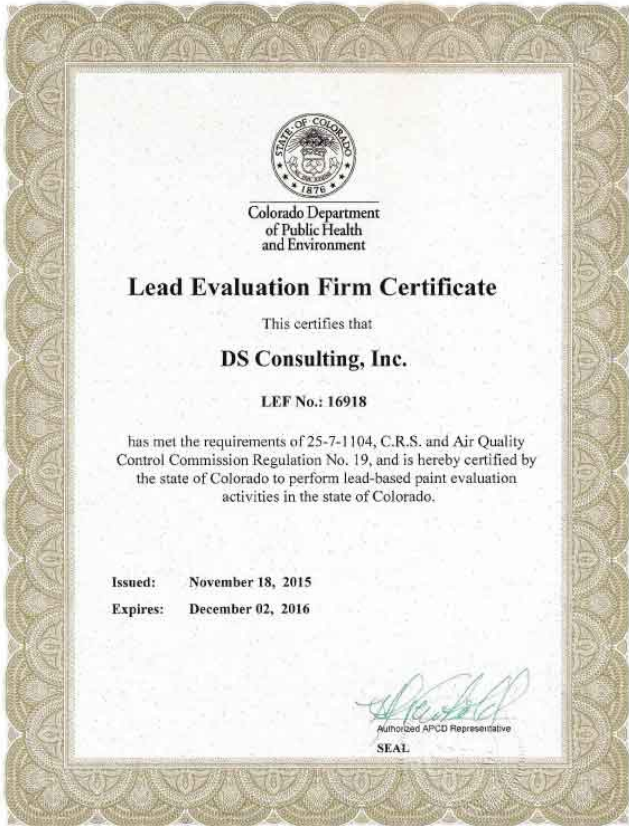
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

10.0 Copyright Notice

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building L

Presented To:

Mr. John Dellaport
Quantum Water & Environment
1746 Cole Blvd, Suite 340
Lakewood, CO 80401
720-626-6718
john@quantumwaterco.com

Performed & Prepared By:

Mr. Dave Sinkbeil
DS Environmental Consulting
12477 W Cedar Dr, Ste 101
Lakewood, CO 80228
(720) 201-6611

Project Details:

Project Number: 15140-L
Conducted: October 19, 2016



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- 10.0 Major & Minor Asbestos Spill Response Actions**
- 11.0 Project Design & Project Manager Requirements**
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APPENDIX A

Inspector & Firm Asbestos Certificates

PROJECT OVERVIEW

1.0 Introduction

On October 19, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. L, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. No suspect asbestos containing materials were identified within the structure.

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on October 19, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a small, steel storage shed.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a “TRACE” amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

No suspect asbestos containing materials were identified within the metal structure.

8.0 Conclusion & Recommendations

No suspect asbestos containing materials were identified and no bulk samples were collected from within the commercial building during the full building inspection performed on October 19, 2016; therefore, no professional abatement activities are required to remove or disturb any materials within this building.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a “Major Asbestos Spill.” The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.
- Discard all materials in accordance with subsection III.R. (Waste Handling).

- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

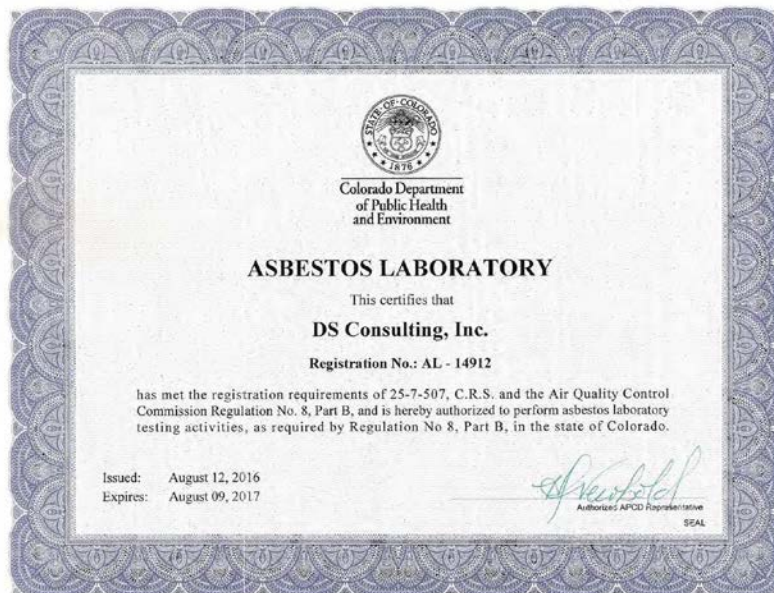
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES





Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building L

Presented To:

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Performed & Prepared By:

Mr. Robert Neumann
DS Environmental Consulting, Inc.
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Project Details:

Project Number: 15140-L
Conducted: October 13, 2016



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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On October 13, 2016, Mr. Rob Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the metal storage container located at 14451 Riverdale Rd, Bldg. L, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The white and red painted metal exterior metals walls were tested for LBP. All types of paint were found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the storage container defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a small metal exterior and wood interior, storage magazine.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The white and red painted metal exterior walls were tested for LBP. All types of paint were found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

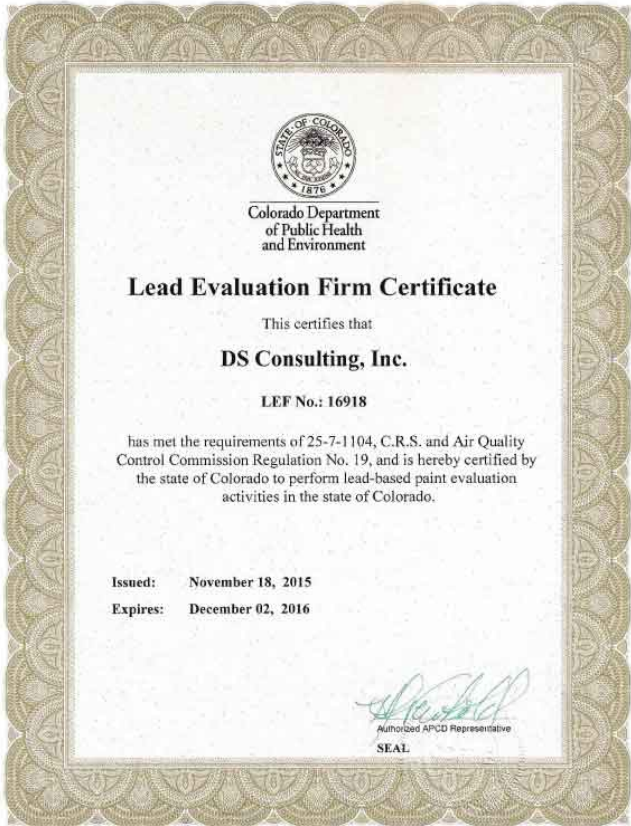
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Asbestos Inspection and Sampling Report

14451 Riverdale Rd, Brighton, Colorado

Building M

Presented To:

Mr. John Dellaport
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Performed & Prepared By:

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Project Details:

Project Number: 15140-M
Conducted: October 19, 2016



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APPENDIX A

Inspector & Firm Asbestos Certificates

PROJECT OVERVIEW

1.0 Introduction

On October 19, 2016, Mr. Dave Sinkbeil with DS Environmental Consulting (DS) conducted a full-building asbestos inspection of suspect asbestos-containing materials (ACM) within the entire commercial building located at 14451 Riverdale Rd, Bldg. L, Brighton, Colorado.

The purpose of the full-building inspection was to identify and sample potentially hazardous friable and non-friable ACM that may be impacted by demolition activities. No suspect asbestos containing materials were identified within the structure.

2.0 Scope of Work

The scope of the full-building inspection and bulk-sampling encompassed the entire commercial building. Any other out-building or detached garage on the property was not included in the scope of the inspection. The full-building asbestos inspection conducted on October 19, 2016 constituted a full building inspection and fulfills the asbestos inspection requirements for structures that are to be demolished.

3.0 Site Description

The structure is a small, steel storage shed.

4.0 Certifications

The asbestos inspection and bulk-sampling was conducted by Mr. Dave Sinkbeil with DS. DS is a Colorado Department of Public Health and Environment (CDPHE) certified Asbestos Consulting Firm, Registration No. 14912. Mr. Sinkbeil is a CDPHE certified Building Inspector; having certification number 13015 (*see Appendix A for certificates*).

5.0 Inspection, Sampling & Analytical Procedures

5.1 Inspection Procedures

The full asbestos inspection was conducted by an Environmental Protection Agency (EPA) and CDPHE certified Building Inspector. The inspection procedures included identifying and sampling suspect ACM throughout the building, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples.

5.2 Sampling Procedures

Statistically random bulk-samples representative of the suspect ACM of each homogeneous area were collected according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8).

DS has collected the appropriate number of bulk-samples to meet all regulatory requirements for the classification and quantity of each homogeneous area. Destructive sampling was conducted in order to locate and quantify suspect ACM from throughout the building.

5.3 Analytical Procedures

All asbestos bulk-samples were analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory via Polarized Light Microscopy (PLM) for asbestos content (*see Appendix B for laboratory report*).

The percentage of asbestos within each individual bulk-sample can vary depending on sample location, homogeneity of the material, and the type of application. Any sample reporting a “TRACE” amount of asbestos must be considered positive for asbestos greater than 1% unless it is re-analyzed utilizing the point-count method and verified to be less than 1%.

Materials containing less than 1% asbestos are not regulated by CDPHE Regulation 8, Part B – Asbestos. However, all demolition/abatement activities should be performed following the applicable Occupational Safety and Health Administration (OSHA) regulations. This would include, but not limited to, the appropriate asbestos training for the type of material being removed/disturbed as well as having a properly trained supervisor onsite, using wet removal methods, wearing adequate personal protective equipment (HEPA-filtered particulate respirators), medical surveillance of workers, personal-exposure air monitoring, area air monitoring in occupied buildings, etc. There may also be landfill disposal requirements for these materials, depending on the facility. DS recommends that all demolition/renovation areas involving any amount of asbestos be subjected to visual inspections and a final clearance air testing by a CDPHE-certified Air Monitoring Specialist (AMS) after the work has been completed, but before any containments are dismantled and the area is reoccupied.

6.0 Homogeneous Areas

A *Homogeneous Area (HA)* includes materials that are uniform in appearance, color, texture and date of application. The asbestos content of the bulk-samples collected within a homogeneous area can be applied to the entire homogenous area if they conform to the above characteristics and the regulated minimum sample quantities of each type of material are collected and analyzed.

6.1 Material Friability

A material can either be *friable* or *non-friable*. A friable material is one that, when dry, can be pulverized, or reduced to powder by hand pressure, a non-friable material cannot. A non-friable material may become friable if its condition had deteriorated or has been impacted by forces that have rendered it friable.

6.2 Material Classifications

Sampled materials are divided into one of the following three categories:

- *Surfacing Material*: sprayed or troweled onto structural building members
- *Thermal System Insulation (TSI)*: any type of pipe, boiler, tank, or duct insulation
- *Miscellaneous Material*: all other materials not classified in the above two categories

6.3 Material Conditions

Sampled materials are placed into one of the three following categories of conditions:

- *Good*: none to very little visible damage or deterioration
- *Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over less than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized
- *Significantly Damaged*: the surface is crumbling, blistered, water-stained, gouged, marred or otherwise abraded over greater than one-tenth of the surface if the damage is evenly distributed, or one-quarter if the damage is localized

6.4 Sample Quantities

DS collected at least the minimum number of samples from each homogeneous area necessary to meet all regulatory requirements for the quantity of material to be disturbed. The quantities listed in this report are approximate and on-site verification of the exact quantity of each material is required. The following outlines the minimum sample quantities required per homogeneous area:

- *Surfacing Materials*: up to 1,000 ft² of material requires a minimum of three (3) samples; between 1,000 ft² and 5,000 ft² of material requires a minimum of five (5) samples; over 5,000 ft² of material requires a minimum of seven (7) samples; one (1) sample of each patch
- *Thermal System Insulation (TSI)*: each homogeneous area requires a minimum of three (3) samples; at least one (1) sample must be collected from each patch; and collect enough samples sufficient to adequately assess the material and determine the asbestos content for TSI fittings such as pipe elbows or T's.
- *Miscellaneous Materials*: collect enough samples sufficient to determine the asbestos content

7.0 Overview of Findings

No suspect asbestos containing materials were identified within the structure.

8.0 Conclusion & Recommendations

Asbestos was not identified within the materials of the commercial building that were within the scope of the full building inspection performed on October 19, 2016; therefore, no professional abatement activities are required to remove any materials.

9.0 Asbestos Abatement & Demolition Requirements

If ACM is to be removed or disturbed in a single-family residence, and the total quantity exceeds any of the regulatory trigger levels of 50 linear ft. on pipes, 32 ft² on other surfaces, or the volume equivalent of a 55-gallon drum, a CDPHE-certified General Abatement Contractor (GAC) is required to perform the work. The regulatory trigger levels within a commercial building are 260 linear ft. on pipes, 160 ft² on other surfaces, or the volume equivalent of a 55-gallon drum. In addition, formal notification to CDPHE prior to the abatement of ACM as well as air monitoring, visual inspections, and final air clearances by a CDPHE-certified Asbestos AMS is required. DS can provide the client or building owner with a proposal for project design, abatement oversight and air monitoring upon request.

CDPHE regulations allow for the demolition of a building that contains non-friable asbestos-containing materials, such as caulking, mastic or resilient floor tiles. However, demolition must be completed without causing the non-friable ACM to be rendered friable. Burning a building with any ACM is prohibited. Operations such as sanding, cutting, crushing, grinding, pneumatic jacking, etc. of ACM are not permitted. Recycling of building materials such as concrete, metal, or wood that are bonded or contaminated with ACM, e.g. glue, caulking, or mastic is also prohibited. If any of the non-friable asbestos containing materials are to be recycled and rendered friable after demolition (i.e. crushing mastic-coated concrete), these materials must be abated of all ACM prior to shipping offsite for recycling.

OSHA regulations regarding occupational exposure during demolition activities is still mandatory. OSHA 29 CFR 1926.1101 requires that workers performing construction-related activities be protected from asbestos fibers in excess of the permissible exposure limit of 0.1 f/cc of air. Contractors are must comply with applicable provisions of OSHA 29 CFR 1926.1101 during demolition and renovation activities. These OSHA provisions include, but are not limited to, PPE and respirators, personnel training, personal-exposure air monitoring, employee medical surveillance, wet removal methods, signage for regulated areas, etc.

10.0 Major & Minor Asbestos Spill Response Actions

If ACM is significantly damaged and the total quantity exceeds the regulatory trigger levels, the area is deemed a “Major Asbestos Spill.” The area is consequently subject to the requirements in Reg. 8, Section III.T.1. – *Major Asbestos Spills*, as outlined below. Additional asbestos air or dust sampling should also be conducted within the remaining areas not directly impacted by the Major Asbestos Spill to determine if asbestos-containing dust/debris has spread to adjacent areas. If asbestos fibers are found within any other areas or on building contents, they should be included in the scope of professional abatement and decontamination. The following response actions must be followed per Colorado Reg. 8 when a Major Asbestos Spill occurs:

- Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
- Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits).
- Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. Any cleanup or asbestos abatement that must occur after the immediate danger has passed shall be supervised by a person certified by the Division.
- Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish none-detected air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and None-detected Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials.
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all surfaces in the contaminated area.

- Discard all materials in accordance with subsection III.R. (Waste Handling).
- Following completion of subparagraph III.T.1.a. through III.T.1.i. above, comply with air monitoring requirements as described in subsection III.P. (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area and
- Comply with any other measures deemed necessary by the Division to protect public health.

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

- Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident.
- Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building.
- Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights.
- HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R. (Waste Handling).
- Launder or discard contaminated clothing in accordance with subsection III.R. (Waste Handling).
- HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area.
- Following completion of subparagraphs III.T.2.a. through III.T.2.f. of Regulation 8, conduct air monitoring as described in paragraph III.P.3 of Regulation 8. (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

11.0 Project Design & Project Manager Requirements

DS can provide an Asbestos Project Design as well as fulfill the Colorado Asbestos Project Manager requirements for any asbestos abatement project, as applicable below.

Project Design

An abatement *Project Design* is an accurate and detailed scope of work, which includes project specifications and procedures, containment design/equipment placement, and descriptions of engineering controls and work practices for an asbestos abatement project or response action that is required by CDPHE Regulation Number 8, Part B - Asbestos (Reg. 8) on large asbestos abatement projects. Prior to the start of any asbestos abatement project in a non-school building, where the amount of asbestos-containing material (ACM) to be removed or disturbed exceeds 1,000 linear feet on pipes, or 3,000 square feet on surfaces, or in a school building in which the amount of friable ACM to be abated exceeds 3 linear feet on pipes, or 3 square feet on surfaces, a written Project Design must be developed by a State of Colorado certified Project Designer in accordance with subsection IV.G.7 of Regulation 8. A signed copy shall be posted on-site prior to commencing any abatement activities, shall be available on-site at all times, and shall remain onsite until final air clearances have been completed by a State of Colorado-certified Air Monitoring Specialist (AMS).

Project Manager

A *Project Manager* shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces per CDPHE Regulation Number 8, Part B – Section III.B.6. An asbestos Project Manager on an abatement project shall be responsible for assessing that the project is conducted in accordance with Regulation 8, assessing that the Project Design is followed, assessing that the abatement project is cleared in accordance with Regulation 8, assessing that the asbestos waste generated on the project is properly manifested and disposed of in accordance with Regulation 8, and communicating these assessments to the building owner or GAC. Project Managers must have proof of Colorado certification as an asbestos Project Designer and Air Monitoring Specialist in accordance with Section II of CDPHE Regulation 8 as well as a minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH) may be substituted for the Colorado asbestos Air Monitoring Specialist course.

The GAC shall notify the building owner during bid proposals as to whether or not a project manager is required. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house. Project managers must sign the original copy of the abatement permit for the permit to be valid.

12.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date, the limited number of bulk-samples collected, and the laboratory results of those bulk-samples. The laboratory results contained in this report apply specifically to the materials in which bulk-samples were collected. The results do not include or apply to any other materials within the structure that were not sampled, but may contain asbestos; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other materials contain asbestos.

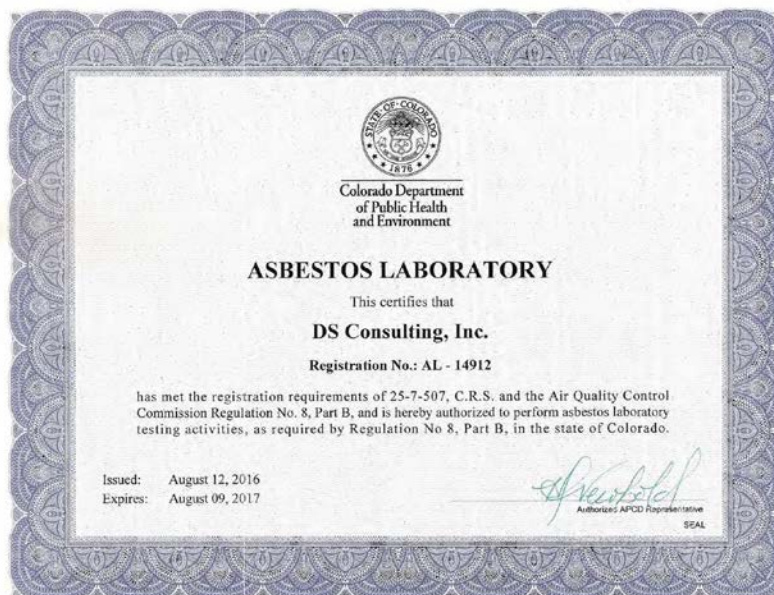
This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The results of any surfacing material indicated in this report also includes any associated overspray of that material, e.g., under carpet, above suspended ceilings, etc. The information contained in this report is intended as supplementary material for abatement design and is not to be used as the scope of work for abatement activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS can provide a full scope of work for abatement upon request. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

INSPECTOR & FIRM ASBESTOS CERTIFICATES





Lead-Based Paint Inspection and XRF Testing Report

14451 Riverdale Rd, Brighton, Colorado 80602

Building M

Presented To:

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Performed & Prepared By:

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Project Details:

Project Number: 15140-M
Conducted: October 13, 2016



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APPENDIX A

Inspector & Firm Lead Certificates

PROJECT OVERVIEW

1.0 Introduction

On October 13, 2016, Mr. Rob Neumann with DS Environmental Consulting, Inc. (DS) performed a full lead-based paint (LBP) inspection and performed XRF testing to determine the presence of LBP on painted building components of the metal storage container located at 14451 Riverdale Rd, Bldg. L, Brighton, Colorado 80602.

The term “paint” means any liquid mixture, usually of solid pigment in a liquid vehicle, used as a decorative or protective coating. This includes, but is not limited to, primer, lacquer, polyurethane, wood stain, etc. The term “*lead-based paint*” means any paint having concentrations of lead greater than 1.0 mg/cm², which is also Colorado’s action level.

The red painted metal exterior metals walls were tested for LBP. The one type of paint was found to be negative for LBP.

2.0 Scope of Work

The scope of the full LBP inspection included all areas of the storage container defined by the environmental consulting company as listed above. No garage or any out-building on the property were included in the scope of the inspection. The full LBP inspection did not constitute a hazard assessment.

3.0 Site Description

The structure is a small metal exterior and wood interior, storage magazine.

4.0 Certifications

Mr. Neumann and is a Colorado State Certified LBP Inspector; having EPA Accreditation #23292. DS Environmental Consulting, Inc. is a Colorado State Certified Lead Evaluation Firm, license #16918. Mr. Neumann is certified to operate the RMD LPA-1 XRF Lead Paint Spectrum Analyzer by the manufacturer (*see Appendix A for certificates*).

5.0 Equipment Information

LBP concentrations were obtained using a RMD Model LPA-1 X-ray Florescence (XRF) Lead Paint Spectrum Analyzer, Serial #3317, which is approved by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) to determine the concentration of lead in paint.

The RMD LPA-1 XRF Lead Paint Spectrum Analyzer was calibrated according to the manufacturer’s Performance Characteristic Sheet (PCS). The XRF was calibrated using the calibration standard block of known 1.0 mg/cm² lead content as well as a standard block of known 0.0 mg/cm² lead content. Three (3) calibration reading of each block were taken before the inspection began as well as after the inspection was completed.

6.0 Inspection & Testing Procedures

The LBP inspection and XRF testing were conducted by a State of Colorado accredited LBP Inspector qualified by experience, education, and training in approved LBP testing techniques. These procedures call for the visual inspection of the areas of concern and the collection of XRF readings for lead concentrations.

This inspection was performed in accordance with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD) guidelines for lead-hazard inspections, as well as the State of Colorado Air Quality Control Commission Regulation No. 19 for the Control of Lead Hazards. The EPA's 40 CFR Part 745 Final Rule (January 5, 2001) set standards for the identification of dangerous levels of lead. The standards identify when lead-based paint, lead-contaminated dust, and lead-contaminated soil are hazards. It also establishes residential dust clean-up levels (post-abatement clearance levels) and set dust and soil sampling requirements. The lead-based paint readings were collected by XRF analyzation for the purpose of determining lead concentrations as mg/cm².

7.0 Overview of Findings

The red painted metal exterior walls were tested for LBP. The one type of paint was found to be negative for LBP.

8.0 Conclusion & Recommendations

Since no LBP was found on the tested components, no further "lead safe" work practices are required when disturbing, removing or impacting the tested components. Additional testing is required if new materials are discovered or the scope of work changes.

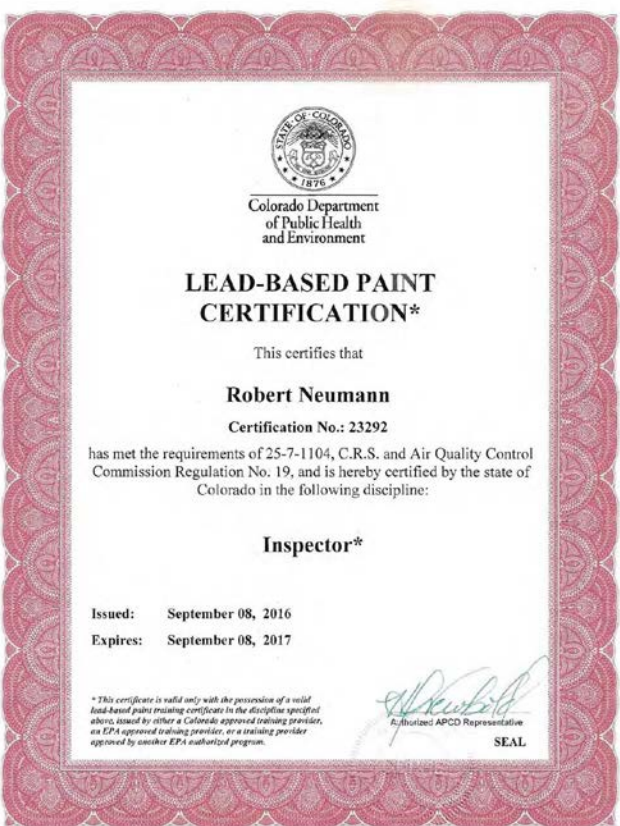
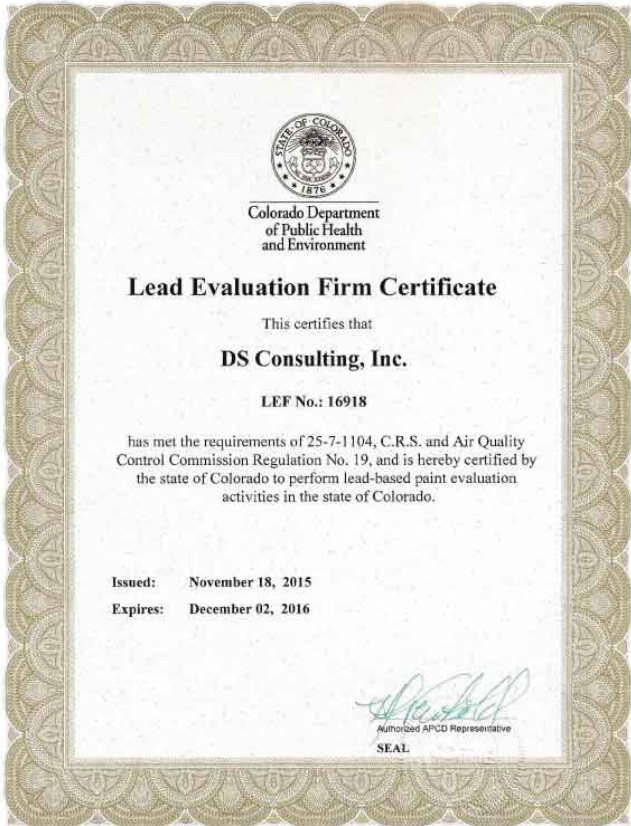
9.0 Disclaimer & Limitations

This full inspection does not constitute a full lead-hazard assessment of the building.

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APPENDIX A - INSPECTOR AND FIRM CERTIFICATION





Environmental

CONSULTING

Regulated Building Materials Survey Report

14451 Riverdale Rd, Brighton, Colorado

Buildings A, B, C, D, E, F, G, H, I, J, K, L, & M

Presented To:

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Project Details:

Project Number: 15140.RBM
Conducted: September 28, 2016 and October 13, 2016

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APPENDIX A

Photographs of Typical RBMs Encountered

PROJECT OVERVIEW

1.0 Introduction

On October 13, 2016, Mr. David Sinkbeil with DS Environmental Consulting, Inc. (DS) conducted an inspection for suspect regulated building materials (RBM) within 13 commercial/storage buildings located at 14451 Riverdale Road, Brighton, Colorado.

The purpose of the regulated building materials inspection was an assessment of environmental concerns including universal waste products per the federal universal waste regulations set forth in 40 CFR part 273. The intent was to identify and catalog potentially hazardous RBMs that may be impacted by planned demolition activities at the Adams County Shooting Range site referenced above. Visual observation of all accessible interior spaces in 13 buildings at this location were observed for chemical storage, suspect PCBs, DEHPs, and mercury-containing devices. Please refer to DS Environmental Consulting's various *Asbestos Inspection and Sampling Reports* and *Lead-Based Paint Inspection and XRF Analysis Reports* for detailed analytical results, photographs and figures showing any asbestos and lead-based paint locations.

2.0 Scope of Work

The scope of the inspection included the 13 commercial/storage buildings and the north backstop at this location defined by the client referenced above.

3.0 Site Description

The site buildings are listed as follows:

- **Building A-** Wood framed constructed single story commercial building with drywall interior walls and garage door
- **Building B-** Wood framed single story commercial building with drywall interior walls
- **Building C-** Concrete masonry unit block constructed partial two-story commercial building with wood and drywall ceilings
- **Building D-** Wood framed single story storage building
- **Building E-** Wood framed single story storage building
- **Building F-** Wood framed single story storage building
- **Building G-** Wood framed single story storage building
- **Building H-** Wood framed single story commercial building with drywall interior walls
- **Building I-** Wood framed single story storage building
- **Building J-** Wood framed single story storage building
- **Building K-** Wood framed single story storage building
- **Building L-** Metal single story storage magazine
- **Building M-** Metal single story storage magazine

4.0 Certifications

The limited inspection and report was conducted by Mr. David Sinkbeil with DS. Mr. Sinkbeil meets the professional certifications and qualifications for an *Industrial Hygienist*, as defined in Colorado State Statue section 24-30-1402, C.R.S. DS is a Colorado Department of Public Health and Environment (CDPHE)

certified Asbestos Consulting Firm, Registration No. 14912. DS is a Colorado State Certified Lead Evaluation Firm, license #16918.

5.0 Inspection Procedures

5.1 - Asbestos Containing Materials

The 13 full asbestos inspections were conducted by an Environmental Protection Agency (EPA) and CDPHE certified Asbestos Building Inspector. The inspection procedures included identifying and sampling suspect ACM within the 13 buildings to be demolished, submitting samples to an accredited laboratory for analysis, classifying the materials and assessing their condition, and compiling a final report detailing the inspection and the analytical results of the bulk-samples according to the guidelines published as EPA Final Rule: Title II of the Toxic Substances Control Act (TSCA), 15 USC, Sections 2641 through 2654 and in compliance with 40 CFR, Part 763 and CDPHE Regulation Number 8, Part B - Asbestos.

5.2 - Lead-based Paint

A lead based paint (LBP) screen was performed within each of the 13 buildings and the north metal backstop in accordance with the requirements of the State of Colorado's, Compliance Bulletin *Lead-Based Paint Abatement and Lead Waste Management*, revised January 2013. The State of Colorado's Department of Public Health and Environment (CDPHE) regulates the disposal of lead waste in Colorado. Lead-contaminated debris, not contaminated with other hazardous materials, is classified either as hazardous lead waste or as non-hazardous solid waste. The required analytical test to determine a material's waste classification is the Toxicity Characteristic Leachate Procedure (TCLP).

5.3 - Mercury-Containing Components

Mercury Containing Items - Fluorescent lamps, thermostats, mercury switches, manometers, natural gas meters, and other items can contain enough mercury to be classified as a special waste, and may therefore not be disposed of as regular construction debris. The mercury and mercury vapors associated with these products must be reclaimed prior to disposal of the material. A visual inspection for the presence of fluorescent lamps, thermostats and switches potentially containing mercury was performed within the areas of the 13 buildings to be demolished.

5.4 - PCB and Di-ethylhexyl-phthalate (DEHP) Containing Items

Typical PCB-containing devices observed in the renovation areas of the building include high intensity discharge (HID) light ballasts. The only suspect DEHP-containing items are light ballasts manufactured between 1979 and 1991. Mercury is assumed to present in overhead fluorescent and HID lightbulbs, thermostats, gages, and batteries in emergency or safety lighting. A visual inspection for the presence of lighting ballasts and electrical equipment potentially containing PCB's or DEHP was performed within the 13 buildings to be demolished.

5.5 - Electronic Waste

Colorado Senate Bill 12-133, known as the "Electronic Recycling Jobs Act," prohibits the disposal of waste electronic devices (e-waste) in Colorado as of July 1, 2013. Electronics wastes from non-household sources must be managed as hazardous or universal wastes and are prohibited from disposal in solid waste landfills. Waste electronic devices include television sets, computer central processing units (CPUs), monitors, computer peripherals, printers, fax machines, laptops, notebooks, ultra-books, net books, electronic tablets, DVD players, VCRs, radios, stereos, video game consoles and video display devices with viewing screens greater than four inches diagonally.

5.6 – Radioactive Exit Signs and Smoke Detectors

Some self-illuminating emergency exit signs can contain radioactive tritium gas and are required to have a permanent label affixed to the sign that identifies it as containing radioactive material. In addition, the label should include the name of the manufacturer, the serial number, the product model number, and the quantity of tritium contained. It is illegal to abandon or dispose of radioactive signs, except by transferring them to the manufacturer or other storage/disposal facilities licensed by the U.S. Nuclear Regulatory Commission to accept them.

5.7 – Freon in Appliances

Some air conditioning units can contain Freon. It is illegal to dispose of appliances in landfills that contain Freon. DS recommends that any appliances with the potential to contain Freon be picked up by a legitimate and licensed recycler for processing.

6.0 Overview of Findings

Potentially Hazardous and Regulated Building Materials

DS performed an interior Hazardous and RBMs inventory per the site demolition plan provided by the client. No pesticides, herbicides or cleaning supplies were observed during the inspection and survey. RBMs include items and materials that are not permitted to be disposed of at a C&D landfill (i.e. fluorescent light bulbs containing mercury, liquid mercury in thermostats and gauges, light ballasts containing PCBs or DEHP, batteries, electronics and circuit boards containing metals, Freon, chemicals, oils, fuels, etc.). The approximate quantities of RBMs identified at the project site that are required to be removed and/or recycled prior to demolition include:

Building A

- Eight (8) 8' Fluorescent Light Ballasts
- Five (5) 4' Fluorescent Light Ballasts
- Ten (10) 4' Fluorescent Light Bulbs
- Two (2) Illuminated Emergency Exit Signs
- One (1) Exterior Air Conditioning Unit
- One (1) Wall-mounted Thermostat

Building B

- Fourteen (14) 4' Fluorescent Light Ballasts
- Twenty Eight (28) 4' Fluorescent Light Bulbs
- One (1) Exterior Air Conditioning Unit
- One (1) Wall-mounted Thermostat

Building C

- Two (2) 8' Fluorescent Light Ballasts
- Four (4) 8' Fluorescent Light Bulbs

- One (1) Wall Mounted Air Conditioner
- One (1) Wall-mounted Thermostat

Building H

- Eight (8) 4' Fluorescent Light Ballasts
- Sixteen (16) 4' Fluorescent Light Bulbs

Note: Mercury may be present in fluorescent lightbulbs, thermostats as well as safety and emergency lighting in the four buildings referenced above. PCBs and possibly DEHP-containing light ballasts may be located in the four buildings referenced above. Freon may be present in the external air conditioning units of the two buildings and in one wall-mounted air conditioning unit of the one building referenced above.

7.0 Conclusion & Recommendations

Asbestos – No friable asbestos-containing materials were discovered during the thirteen full asbestos inspections and bulk sampling referenced above. There was approximately four hundred (400) square feet of non-friable green 9"x 9" asbestos containing vinyl floor tile (at 2% Chrysotile asbestos) with black mastic (that was none detected for asbestos) located under ceramic tile in Building C. The floor tiles can be demolished in place as long as the tiles are not rendered friable during demolition activities. Please refer to the *DS Asbestos Inspection and Sampling Report* dated September 21, 2016 for Building C.

Lead – Lead based paint was not discovered in any of the thirteen buildings or at the north metal backstop at the site. Please refer to the *DS Lead-Based Paint Inspection and XRF Sampling Reports* for each building. A TCLP test was performed on the north shooting range wood backstop. The results of the TCLP test were 0.43 mg/L compared to the EPA's regulatory limit of 5.0 mg/L.

Mercury Containing Items – A total of approximately fifty-eight (58) fluorescent light tubes and three (3) wall-mounted thermostats were present within the 13 buildings. The fluorescent light tubes and thermostats must be removed from the building for proper recycling prior to building demolition. DS recommends that all potential mercury-containing building materials be assumed to contain mercury, manifested as such and picked up by a licensed hazardous-materials management company for proper labeling, transportation and disposal.

PCBs and DEHP – Twenty-eight (28) potential PCB and DEHP-containing lighting ballasts were present within the 13 buildings. All of the approximately twenty-eight ballasts labels should be checked for manufacturer-provided labels. Lighting ballasts and oil-filled capacitors manufactured after 1979 may have "NO PCB's" stamped on its casing. These are filled with oil which does not contain PCB's but may contain DEHP. Capacitors with date stamps prior to 1979 or no date stamps are assumed to contain PCB's. Lighting ballasts labeled as "No PCB's" are assumed to contain DEHP if the date stamp is illegible or non-existent. Electronic ballasts are not assumed to contain PCB's or DEHP. The ballasts must be removed and checked for proper recycling/incineration prior to demolition of the buildings.

Electronic Waste – DS did not observed any electronic devices in the demolition areas (e.g., wall-mounted television sets, central processing units (CPUs), computer monitors, printers, fax machines, and telephones). DS recommends that any e-waste discovered during demolition activities be reused whenever possible, or otherwise picked up by a legitimate and licensed recycler for processing.

Radioactive Exit Signs – Two (2) self-luminous exit signs were observed in Building A. It is illegal to abandon or dispose of these signs except by transferring them to the manufacturer or other storage/disposal facilities licensed by the U.S. Nuclear Regulatory Commission to accept them. DS recommends reusing the exit signs, or checking the labels and returning any radioactive-isotope containing exit signs to the original manufacturer(s).

Freon – Two (2) external air and one (1) wall-mounted air conditioning units were found in the 3 buildings referenced above. DS recommends that any appliances with Freon be picked up by a legitimate and licensed recycler for processing.

8.0 Disclaimer & Limitations

The activities outlined in this report were conducted in a manner consistent with a level of care and expertise exercised by members of the environmental consulting and industrial hygiene profession. All activities were performed in accordance with all applicable federal, state, and local regulations as well as generally accepted standards and professional practice. No warranty is either expressed or implied. DS assumes no responsibility or liability for error in public information utilized, statements from sources other than DS, or developments resulting from situations outside the scope of this project.

The details provided within this report outline the inspection activities on the date(s) indicated and should not be relied upon to represent conditions at a later date. The results do not include or apply to any other materials or areas within the structure that were not inspected, but may contain regulated building materials; including materials that may be hidden or inaccessible. Additional inspection and bulk-sampling activities would be required to determine if any other areas contain regulated materials.

This report has been prepared on behalf of and exclusively for use by the Client, with specific application to their project as discussed in the scope of work. The information contained in this report is intended as supplementary material for project planning and is not to be used as the scope of work for abatement/remediation activities, bidding or billing purposes. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. DS does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report.

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APPENDIX A

PHOTOGRAPHS OF TYPICAL RBMs ENCOUNTERED



Typical lighting with potential Hg lightbulbs and PCB/DEHP ballasts



Typical emergency exit sign with potential radioactive isotope



Typical wall-mounted thermostat potentially containing mercury



Typical light ballasts with potentially containing PCB or DEHP.

Note - bottom ballast reads “no PCBs” on manufacturer’s label.



Air conditioning unit with potentially containing Freon

Appendix P - Calculations

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APPENDIX - NORTH SHOOTING RANGE - CALCULATION OF EXCESS RISK SOIL VOLUME

Sample Grid	Area (sq ft)	Sample Depth (inches)	Total Lead (mg/kg)	TCLP (mg/L)	Grid Depth (inches)	Grid Depth (feet)	Grid Volume (cubic feet)	Grid Volume (bcy)
NRBB-1	1617.6	0	32	--	0	0	0.0	0.0
NRBB-2	2589.7	0	74	--	0	0	0.0	0.0
NRBB-3	2509.0	0	240	--	0	0	0.0	0.0
NRBB-4	2681.0	0	23	--	0	0	0.0	0.0
NRBB-5	1573.9	0	36	36	0	0	0.0	0.0
NRBB-6	2479.7	0	120	--	0	0	0.0	0.0
NRBB-7	2720.7	0	34	--	0	0	0.0	0.0
NRBB-8	1861.0	0	18	--	0	0	0.0	0.0
NRBB-9	1268.8	0	55	--	0	0	0.0	0.0
NRBB-10	2441.2	0	37	--	0	0	0.0	0.0
NRIB-1	757.9	0	32000	710	0	0	0.0	0.0
NRIB-1	757.9	6	52000	--	12	1	757.9	28.1
NRIB-2	751.3	0	34000	410	0	0	0.0	0.0
NRIB-2	751.3	18	28	--	18	1.5	1126.9	41.7
NRIB-3	716.7	0	30000	450	0	0	0.0	0.0
NRIB-3	716.7	18	310	--	18	1.5	1075.1	39.8
NRIB-4	726.1	0	42	--	0	0	0.0	0.0
NRIB-5	674.2	0	57	--	0	0	0.0	0.0
NRLB-1I	944.4	0	14	--	0	0	0.0	0.0
NRLB-1O	1610.9	0	8.7	--	0	0	0.0	0.0
NRLB-2I	845.4	0	38	--	0	0	0.0	0.0
NRLB-2O	1628.2	0	10	--	0	0	0.0	0.0
NRLB-3I	1049.9	0	58	--	0	0	0.0	0.0
NRLB-3O	1406.5	0	14	--	0	0	0.0	0.0
NRLB-4I	1073.2	0	100	--	0	0	0.0	0.0
NRLB-4O	1412.4	0	480	--	0	0	0.0	0.0
NRLB-5I	1006.1	0	38	--	0	0	0.0	0.0
NRLB-5O	1123.8	0	290	--	0	0	0.0	0.0
NRLB-5O	1123.8	3	35	--	0	0	0.0	0.0
NRLB-5O	1123.8	0	86	--	0	0	0.0	0.0
NRLB-6O	694.5	0	12	--	0	0	0.0	0.0
NRLB-7I	986.5	0	60	--	0	0	0.0	0.0
NRLB-7O	912.7	0	7.6	--	0	0	0.0	0.0
NRLB-8I	300.6	0	14	--	0	0	0.0	0.0
NRLB-8O	355.0	0	33	--	0	0	0.0	0.0
NRLB-9I	416.1	0	45	--	0	0	0.0	0.0
NRLB-9O	244.8	0	36	--	0	0	0.0	0.0
NRLB-10I	1308.1	0	24	--	0	0	0.0	0.0
NRLB-10O	1237.2	0	13	--	0	0	0.0	0.0
NRLB-11I	907.6	0	11	--	0	0	0.0	0.0
NRLB-11O	1555.5	0	13	--	0	0	0.0	0.0
NRLB-12I	777.9	0	33	--	0	0	0.0	0.0
NRLB-12O	1883.2	0	20	--	0	0	0.0	0.0
NRLB-13I	567.9	0	17	--	0	0	0.0	0.0
NRLB-13O	2006.8	0	12	--	0	0	0.0	0.0
NRLB-14I	538.6	0	17	--	0	0	0.0	0.0
NRLB-14O	2079.0	0	11	--	0	0	0.0	0.0
NRRF-1	5732.0	0	81	--	0	0	0.0	0.0
NRRF-2	5758.1	0	14	--	0	0	0.0	0.0
NRRF-3	5442.8	0	10	--	0	0	0.0	0.0
NRRF-4	5529.4	0	10	--	0	0	0.0	0.0
NRRF-5	5478.1	0	29	--	0	0	0.0	0.0
NRRF-6	5599.2	0	24	--	0	0	0.0	0.0
NRRF-7	5441.3	0	68	--	0	0	0.0	0.0
NRRF-8	4704.4	0	170	--	0	0	0.0	0.0
NRRF-9	2708.1	0	18	--	0	0	0.0	0.0
NRSF-1	9894.3	0	20	--	0	0	0.0	0.0

APPENDIX - NORTH SHOOTING RANGE - CALCULATION OF EXCESS RISK SOIL VOLUME

Sample Grid	Area (sq ft)	Sample Depth (inches)	Total Lead (mg/kg)	TCLP (mg/L)	Grid Depth (inches)	Grid Depth (feet)	Grid Volume (cubic feet)	Grid Volume (bcy)
NRSF-2	8511.2	0	14	--	0	0	0.0	0.0
NRSF-3	7743.6	0	22	--	0	0	0.0	0.0
NRSF-4	7870.5	0	22	--	0	0	0.0	0.0
NRSF-5	7997.5	0	23	--	0	0	0.0	0.0
NRSF-6	8194.9	0	14	--	0	0	0.0	0.0
NRSF-7	8321.9	0	18	--	0	0	0.0	0.0
NRSF-8	9358.3	0	25	--	0	0	0.0	0.0
NRSF-9	10420.9	0	35	--	0	0	0.0	0.0
NRSF-10	10000.0	0	27	--	0	0	0.0	0.0
NRSF-11	10000.0	0	6.9	--	0	0	0.0	0.0
NRSF-12	10000.0	0	11	--	0	0	0.0	0.0
NRSF-13	10000.0	0	18	--	0	0	0.0	0.0
NRSF-14	10000.0	0	27	--	0	0	0.0	0.0
NRSF-15	9985.5	0	21	--	0	0	0.0	0.0
NRSF-16	9694.8	0	42	--	0	0	0.0	0.0
NRSF-17	9912.8	0	26	--	0	0	0.0	0.0
NRSF-18	10000.0	0	18	--	0	0	0.0	0.0
NRSF-19	10000.0	0	13	--	0	0	0.0	0.0
NRSF-20	10000.0	0	30	--	0	0	0.0	0.0
NRSF-21	8292.7	0	39	--	0	0	0.0	0.0
NRSF-22	10274.1	0	36	--	0	0	0.0	0.0
NRSF-23	10568.4	0	29	--	0	0	0.0	0.0
NRSF-24	9909.0	0	37	--	0	0	0.0	0.0
							TOTAL (CY)	109.6

NOTES:

BOLD TEXT = Exceeds action level

bcy = bank cubic yards

EPA Industrial Regional Screening Level for Lead = 800 mg/kg

TCLP = Toxicity Characteristic Leaching Procedure (TCLP Limit = 5.0 mg/L)

mg/L = milligrams per liter

mg/kg = milligrams per kilogram

sq ft = square feet

(--) = Not Analyzed

APPENDIX - SOUTH SHOOTING RANGE - CALCULATION OF EXCESS RISK SOIL VOLUME

Sample Grid	Area (sq ft)	Sample Depth (inches)	Total Lead (mg/kg)	TCLP (mg/L)	Grid Depth (inches)	Grid Depth (feet)	Grid Volume (cubic feet)	Grid Volume (bcy)
SRBB-1	2341.4	0	160	--	0	0	0.0	0.0
SRBB-2	2406.4	0	470	--	6	0.5	1203.2	44.6
SRBB-3	2419.8	0	13	--	0	0	0.0	0.0
SRBB-4	2354.9	0	37	--	0	0	0.0	0.0
SRBB-5	2344.1	0	980	--	6	0.5	1172.1	43.4
SRBB-6	2283.4	0	2400	6.5	6	0.5	1141.7	42.3
SRBB-6	2283.4	3	87	--	0	0	0.0	0.0
SRIB-1	720.8	0	120	--	0	0	0.0	0.0
SRIB-2	749.8	0	270	--	0	0	0.0	0.0
SRIB-3	748.9	0	180	--	0	0	0.0	0.0
SRIB-3	748.9	6	150	--	0	0	0.0	0.0
SRIB-4	734.6	0	340	--	0	0	0.0	0.0
SRIB-5	732.8	0	28	--	0	0	0.0	0.0
SRIB-6	632.5	0	1400	--	0	0	0.0	0.0
SRIB-6	632.5	3	34000	--	6	0.5	316.3	11.7
SRIB-7	744.7	0	25000	1100	0	0	0.0	0.0
SRIB-7	744.7	12	650	--	12	1	744.7	27.6
SRIB-8	751.1	0	130000	1300	0	0	0.0	0.0
SRIB-8	751.1	30	52	--	24	2	1502.1	55.6
SRIB-9	714.1	0	34000	1200	0	0	0.0	0.0
SRIB-9	714.1	30	110	--	24	2	1428.2	52.9
SRIB-10	731.2	0	86000	1500	0	0	0.0	0.0
SRIB-10	731.2	18	980	--	24	2	1462.4	54.2
SRIB-11	726.7	0	170000	--	0	0	0.0	0.0
SRIB-11	726.7	24	40	--	24	2	1453.4	53.8
SRIB-12	681.5	0	18000	--	0	0	0.0	0.0
SRIB-12	681.5	30	180	--	24	2	1362.9	50.5
SRLB-1I	1635.8	0	80	--	0	0	0.0	0.0
SRLB-10	697.5	0	23	--	0	0	0.0	0.0
SRLB-2I	1282.3	0	940	--	6	0.5	641.2	23.7
SRLB-20	816.0	0	20	--	0	0	0.0	0.0
SRLB-3I	591.3	0	61	--	0	0	0.0	0.0
SRLB-30	1053.6	0	150	--	0	0	0.0	0.0
SRLB-4I	529.6	0	330	--	0	0	0.0	0.0
SRLB-4I	529.6	6	100	--	0	0	0.0	0.0
SRLB-40	1504.1	0	13	7	6	0.5	752.1	27.9
SRLB-5I	1419.1	0	110	--	0	0	0.0	0.0
SRLB-50	1093.0	0	4000	64	0	0	0.0	0.0
SRLB-50	1093.0	15	21	--	18	1.5	1639.6	60.7
SRLB-6I	1096.8	0	37	--	0	0	0.0	0.0
SRLB-60	964.4	0	5400	--	6	0.5	482.2	17.9
SRLB-7I	1007.4	0	68	--	0	0	0.0	0.0
SRLB-70	1019.7	0	4600	--	6	0.5	509.8	18.9
SRLB-8I	1213.3	0	31	--	0	0	0.0	0.0
SRLB-80	952.0	0	16	--	0	0	0.0	0.0
SRRF-1	3345.9	0	34	--	0	0	0.0	0.0
SRRF-2	4185.4	0	1200	18	0	0	0.0	0.0
SRRF-2	4185.4	3	220	--	6	0.5	2092.7	77.5
SRRF-3	4365.1	0	2400	--	0	0	0.0	0.0
SRRF-3	4365.1	3	770	--	6	0.5	2182.6	80.8
SRRF-4	4519.6	0	3900	--	0	0	0.0	0.0
SRRF-4	4519.6	3	110	--	6	0.5	2259.8	83.7
SRRF-5	3653.8	0	220	--	0	0	0.0	0.0
SRRF-6	5517.8	0	2200	13	0	0	0.0	0.0
SRRF-6	5517.8	6	58	--	6	0.5	2758.9	102.2
SRRF-7	5645.3	0	55000	300	0	0	0.0	0.0
SRRF-7	5645.3	9	5800	--	12	1	5645.3	209.1
SRRF-8	5159.1	0	1800	--	0	0	0.0	0.0
SRRF-8	5159.1	3	500	--	6	0.5	2579.5	95.5
SRRF-9	5274.2	0	690	--	0	0	0.0	0.0
SRRF-9	5274.2	9	150	0.31	6	0.5	2637.1	97.7
SRRF-10	4825.5	0	350	--	0	0	0.0	0.0
SRRF-10	4825.5	6	350	--	0	0	0.0	0.0
STRF-1	6193.2	0	43	--	0	0	0.0	0.0
STRF-2	6294.5	0	52	--	0	0	0.0	0.0
SRSF-1	8975.0	0	17	--	0	0	0.0	0.0
SRSF-2	9936.0	0	80	--	0	0	0.0	0.0
SRSF-3	10154.1	0	220	0.32	0	0	0.0	0.0

APPENDIX - SOUTH SHOOTING RANGE - CALCULATION OF EXCESS RISK SOIL VOLUME

Sample Grid	Area (sq ft)	Sample Depth (inches)	Total Lead (mg/kg)	TCLP (mg/L)	Grid Depth (inches)	Grid Depth (feet)	Grid Volume (cubic feet)	Grid Volume (bcy)
SRSF-4COMPOSITE	10751.9	0	200	--	6	0.5	5375.9	199.1
SRSF-4NW	2144.2	0	150000	40	0	0	0.0	0.0
SRSF-4C	1877.1	0	240	--	0	0	0.0	0.0
SRSF-4NE	1861.0	0	160	--	0	0	0.0	0.0
SRSF-4SE	2607.4	0	120	--	0	0	0.0	0.0
SRSF-4E	2262.1	0	0.057	--	0	0	0.0	0.0
SRSF-5	10000.0	0	140	--	0	0	0.0	0.0
SRSF-6	10000.0	0	74	--	0	0	0.0	0.0
SRSF-7	9824.1	0	48	--	0	0	0.0	0.0
SRSF-8	14571.9	0	56	--	0	0	0.0	0.0
SRSF-9	13762.4	0	88	--	0	0	0.0	0.0
SEDIMENT BASIN	4458.8	0	6200	--	6	0.5	2229.4	82.6
							TOTAL (CY)	1613.8

2179

NOTES:

BOLD TEXT = Exceeds action level

bcy = bank cubic yards

EPA Residential Regional Screening Level for Lead = 400 mg/kg

NA = Not Analyzed

TCLP = Toxicity Characteristic Leaching Procedure (TCLP Limit = 5.0 mg/L)

mg/L = milligrams per liter

mg/kg = milligrams per kilogram

sq ft = square feet

(--) = Not Analyzed

APPENDIX - BULLET PILES AND ADDITIONAL CHARACTERIZATION AREAS - CALCULATION OF EXCESS RISK SOIL VOLUME

Sample Grid	Area (sq ft)	Sample Depth (inches)	Total Lead (mg/kg)	TCLP (mg/L)	Grid Depth (inches)	Grid Depth (feet)	Grid Volume (cubic feet)	Grid Volume (bcy)	Comments
Bullet Pile 1	1664	0	--	--	24	2	3328.0	123.3	See Note 1
Bullet Pile 2	100	0	--	--	6	0.5	50.0	1.9	See Note 1
Bullet Pile 3	250	0	--	--	6	0.5	125.0	4.6	See Note 1
ACA-1	8663	0	3100	0.21	6	0.5	4331.5	160.4	
ACA-2	8915	0	200	60	6	0.5	4457.5	165.1	
							TOTAL (CY)	455.3	

NOTES:

1) Grid not sampled. Soil is assumed to exceed TCLP and/or Industrial RSL based on high concentration of bullets and elemental lead

BOLD TEXT = Exceeds action level

ACA = Additional Characterization Area

bcy = bank cubic yards

EPA Industrial Regional Screening Level for Lead = 800 mg/kg

TCLP = Toxicity Characteristic Leaching Procedure (TCLP Limit = 5.0 mg/L)

mg/L = milligrams per liter

mg/kg = milligrams per kilogram

sq ft = square feet

(--) = Not Analyzed

APPENDIX - SOUTH SHOOTING RANGE - OTHER SOIL VOLUME

SampleID	Area Name	Area_sqft	Vol (6")	CF	CY
SRBB-1	South Range Back Berm	2341.4	1170.689	3558.037	131.7792
SRBB-3	South Range Back Berm	2419.8	1209.921		
SRBB-4	South Range Back Berm	2354.9	1177.427		
SRIB-1	South Range Impact Berm	720.8	360.3982		
SRIB-2	South Range Impact Berm	749.8	374.8778	1843.444	68.2757
SRIB-3	South Range Impact Berm	748.9	374.4732		
SRIB-4	South Range Impact Berm	734.6	367.2914		
SRIB-5	South Range Impact Berm	732.8	366.4033		
SRLB-1I	South Range Lateral Berm	1635.8	817.8925	6258.244	231.7868
SRLB-1O	South Range Lateral Berm	697.5	348.7442		
SRLB-2O	South Range Lateral Berm	816.0	407.9986		
SRLB-3I	South Range Lateral Berm	591.3	295.6518		
SRLB-3O	South Range Lateral Berm	1053.6	526.7813		
SRLB-8I	South Range Lateral Berm	1213.3	606.656		
SRLB-8O	South Range Lateral Berm	952.0	476.0095		
SRLB-6I	South Range Lateral Berm	1096.8	548.4233		
SRLB-7I	South Range Lateral Berm	1007.4	503.7065		
SRLB-5I	South Range Lateral Berm	1419.1	709.5389		
SRLB-4I	South Range Lateral Berm	529.6	264.7798		
SRLB-4O	South Range Lateral Berm	1504.1	752.0617		
SRRF-5	South Range Range Floor	3653.8	1826.881	5912.563	218.9838
SRRF-1	South Range Range Floor	3345.9	1672.936		
SRRF-10	South Range Range Floor	4825.5	2412.746		

650.8255

Appendix Q - Water Well Search

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On time. On target. In touch.™

GeoPlus Water Well Report

[Satellite view](#)

Target Property:

14451 Riverdale Road

14451 Riverdale Rd

Brighton, Adams County, Colorado 80602

Prepared For:

Quantum Water Consulting

Order #: 59165

Job #: 127394

Date: 11/06/2015

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Target Property Summary

14451 Riverdale Road

14451 Riverdale Rd

Brighton, Adams County, Colorado 80602

USGS Quadrangle: **Brighton, CO**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

**(-104.86316, 39.957665), (-104.86551, 39.957681), (-104.86546, 39.961349), (-104.86083, 39.961341),
(-104.86083, 39.960510), (-104.86149, 39.960091), (-104.86208, 39.959745), (-104.86246, 39.959334),
(-104.86276, 39.958882), (-104.86297, 39.958257), (-104.86316, 39.957665)**

County/Parish Covered:

Adams (CO)

Zipcode(s) Covered:

Brighton CO: 80601, 80602

State(s) Covered:

CO

***Target property is located in Radon Zone 1.**

**Zone 1 areas have a predicted average indoor radon screening level greater than 4 pCi/L
(picocuries per liter).**

Locatable Database Findings

FEDERAL LISTING

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
NWIS	0.5000	0	0	1	4	NS	NS	5
SUB-TOTAL		0	0	1	4	0	0	5

Locatable Database Findings

STATE (CO) LISTING

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
DWRWELLS	0.5000	7	16	42	46	NS	NS	111

SUB-TOTAL		7	16	42	46	0	0	111
-----------	--	---	----	----	----	---	---	-----

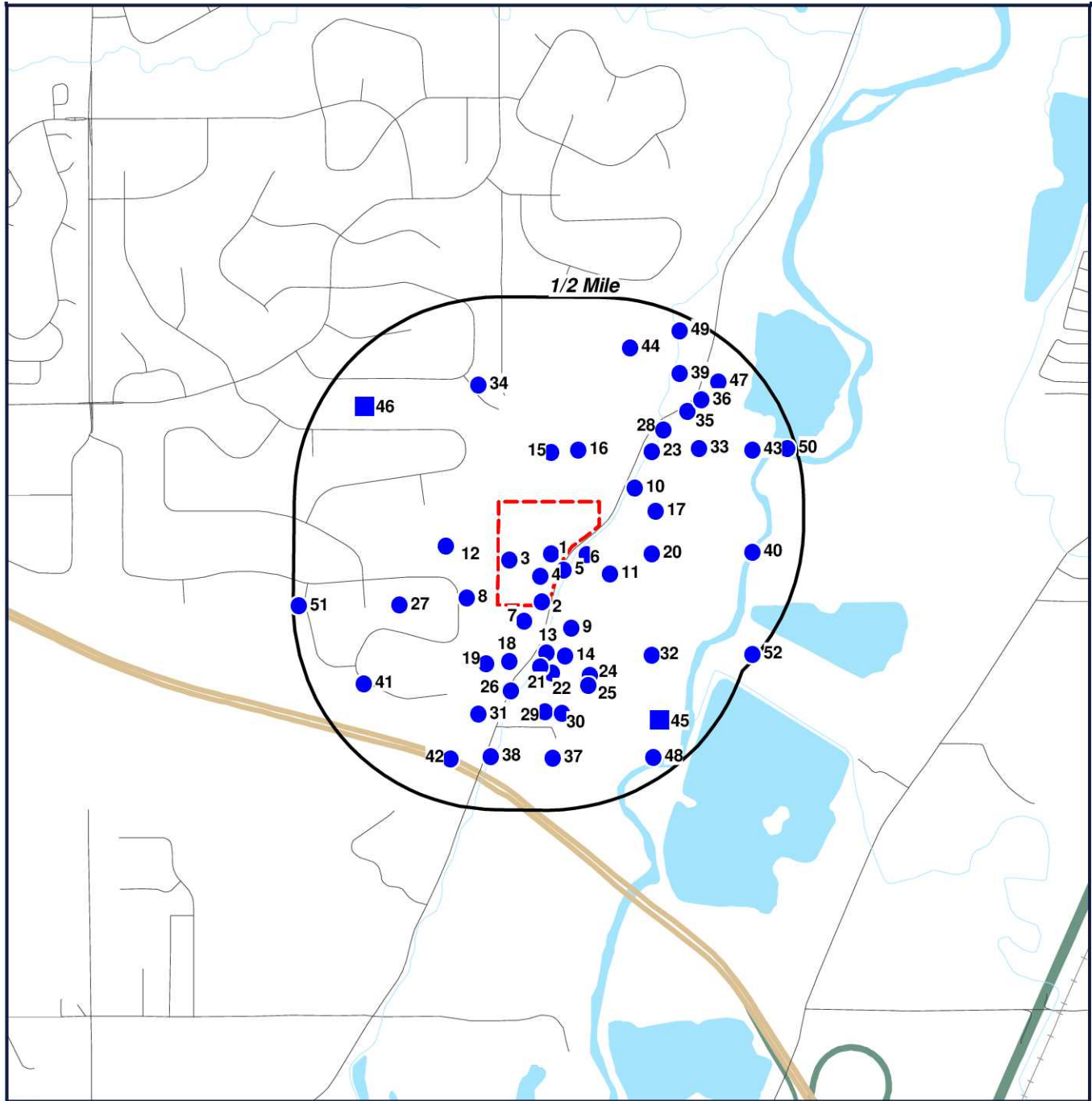
TOTAL		7	16	43	50	0	0	116
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NOTES:

NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Waterwell Map



- Target Property (TP)
- DWRWELLS
- NWIS

**14451 Riverdale Road
14451 Riverdale Rd
Brighton, Colorado
80602**

CONTOUR LINES REPRESENTED IN FEET



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

[Click here to access Satellite view](#)

Report Summary of Locatable Sites

Map ID#	Database Name	Site ID#	Distance From Site	Site Name	Address	PAGE #
1	DWRWELLS	0043576	0.001 N	MW-HO5		8
1	DWRWELLS	43576	0.001 N	MW-HO5		9
2	DWRWELLS	50673	0.001 NW	LH-112		10
3	DWRWELLS	50779	0.001 NW			11
4	DWRWELLS	0337121	0.001 N			12
4	DWRWELLS	337121	0.001 N			13
5	DWRWELLS	0528704D	0.02 N	MW-H05		14
6	DWRWELLS	487353	0.04 NE			15
6	DWRWELLS	525338	0.04 NE			16
6	DWRWELLS	0487353	0.04 NE			17
6	DWRWELLS	0525338	0.04 NE			18
6	DWRWELLS	0421008	0.03 NE			19
6	DWRWELLS	421008	0.03 NE			20
7	DWRWELLS	3666534B	0.04 SW			21
8	DWRWELLS	0474605	0.08 W			22
8	DWRWELLS	474605	0.08 W			23
9	DWRWELLS	9004640	0.08 SE			24
10	DWRWELLS	252156	0.1 NE			25
11	DWRWELLS	0043577	0.11 NE	MW-HO6		26
11	DWRWELLS	0528704E	0.11 NE	MW-H06		27
11	DWRWELLS	43577	0.11 NE	MW-HO6		28
12	DWRWELLS	51093	0.12 NW			29
12	DWRWELLS	3662301C	0.13 NW	MW-03		30
13	DWRWELLS	43954	0.13 S			31
13	DWRWELLS	50672	0.12 S	LH-108		32
13	DWRWELLS	0043575	0.13 S	MW-HO3 & MW-H04		33
13	DWRWELLS	0043954	0.13 S			34
13	DWRWELLS	43575	0.13 S	MW-HO3 & MW-H04		35
14	DWRWELLS	0538923	0.13 S			36
14	DWRWELLS	538923	0.13 S			37
15	DWRWELLS	0021753	0.13 N			38
15	NWIS	00207488	0.14 N	SC00106714CBA		39
15	DWRWELLS	9000482	0.13 N			40
16	DWRWELLS	21753	0.14 N			41
17	DWRWELLS	0528704G	0.14 NE	MW-H08		42
18	DWRWELLS	9004516	0.14 SW			43
19	DWRWELLS	0440319	0.15 SW			44
19	DWRWELLS	440319	0.15 SW			45
20	DWRWELLS	0043579	0.15 NE	MW-HO8		46
20	DWRWELLS	43579	0.15 NE	MW-HO8		47
21	DWRWELLS	0528704B	0.15 S	MW-H02		48

Report Summary of Locatable Sites

22	DWRWELLS	0528704C	0.17 S	MW-H04	49
23	DWRWELLS	51095	0.19 NE		50
23	DWRWELLS	0043578	0.19 NE	MW-HO7	51
23	DWRWELLS	0252156	0.19 NE		52
23	DWRWELLS	43578	0.19 NE	MW-HO7	53
24	DWRWELLS	3654425H	0.2 SE	BH-108	54
24	DWRWELLS	3654425G	0.2 SE	BH-107	55
24	DWRWELLS	3654425A	0.21 SE	BH-101	56
24	DWRWELLS	3654425B	0.21 SE	BH-102	57
24	DWRWELLS	3654425C	0.2 SE	BH-103	58
24	DWRWELLS	3654425D	0.21 SE	BH-104	59
24	DWRWELLS	3654425E	0.21 SE	BH-105	60
24	DWRWELLS	3654425F	0.2 SE	BH-106	61
24	DWRWELLS	3654425I	0.21 SE	BH-109	62
24	DWRWELLS	3654425J	0.21 SE	BH-110	63
24	DWRWELLS	3654425K	0.21 SE	BH-111	64
24	DWRWELLS	3654425M	0.2 SE	BH-113	65
24	DWRWELLS	3654425N	0.21 SE	BH-114	66
24	DWRWELLS	3654425O	0.21 SE	BH-115	67
24	DWRWELLS	3654425P	0.19 SE	BH-117	68
24	DWRWELLS	3654425L	0.2 SE	BH-112	69
25	DWRWELLS	3654425Q	0.22 SE	BH-118	70
26	DWRWELLS	0531485A	0.21 SW	MW-H03	71
27	DWRWELLS	0454399B	0.24 W	TCF 6	72
28	DWRWELLS	0528704F	0.25 NE	MW-H07	73
29	NWIS	00207359	0.27 S	SC00106723BCA USGS 395714104514500	74
29	NWIS	00207360	0.27 S	SC00106723BCA1 RUSSELL PERRY	75
29	DWRWELLS	3647173D	0.26 S	MW-H02B	76
30	DWRWELLS	0312623D	0.27 S	AL-4	77
31	DWRWELLS	0464335A	0.28 SW	TCF 8	78
31	DWRWELLS	0520818B	0.28 SW	TCMD #8	79
32	DWRWELLS	52231	0.28 SE		80
32	DWRWELLS	0051831A	0.29 SE		81
32	DWRWELLS	52225	0.29 SE		82
33	DWRWELLS	0220289	0.29 NE		83
33	DWRWELLS	220289	0.29 NE		84
34	DWRWELLS	51094	0.3 N		85
34	DWRWELLS	3662301B	0.3 N	MW-02	86
35	DWRWELLS	0441119	0.32 NE		87
35	DWRWELLS	441119	0.32 NE		88
36	DWRWELLS	0485759	0.36 NE	BRIGHTON PIT	89

Report Summary of Locatable Sites

36	DWRWELLS	485759	0.36 NE	BRIGHTON PIT	90
37	DWRWELLS	49258	0.38 S		91
37	DWRWELLS	0043574	0.38 S	MW-HO2	92
37	DWRWELLS	0049258	0.38 S		93
37	DWRWELLS	43574	0.38 S	MW-HO2	94
38	DWRWELLS	0528704A	0.38 S	MW-H01	95
39	DWRWELLS	9004232	0.38 NE		96
40	DWRWELLS	51829	0.39 E		97
40	DWRWELLS	0049257	0.39 E		98
40	DWRWELLS	49257	0.39 E		99
41	DWRWELLS	0464335B	0.39 SW	TCF 7	100
41	DWRWELLS	0520818A	0.39 SW	TCMD #7	101
42	DWRWELLS	0043573	0.4 SW	MW-HO1	102
42	DWRWELLS	43573	0.4 SW	MW-HO1	103
43	DWRWELLS	3661193D	0.4 NE	HAMMER PIT 4	104
43	DWRWELLS	3661193E	0.4 NE	HAMMER PIT 5	105
43	DWRWELLS	3661193F	0.4 NE	HAMMER PIT 6	106
43	DWRWELLS	51828	0.4 NE		107
43	DWRWELLS	9000655	0.4 NE		108
44	DWRWELLS	0385925	0.4 N		109
44	DWRWELLS	385925	0.4 N		110
45	NWIS	00207352	0.4 SE	SC00106723BCA USGS 395713104512701	111
46	NWIS	00207520	0.41 NW	SC00206715ADB1 USGS 395753104521601	112
47	DWRWELLS	9004319	0.43 NE		113
48	DWRWELLS	51832	0.45 SE		114
48	DWRWELLS	0050180	0.45 SE		115
48	DWRWELLS	50180	0.45 SE		116
49	DWRWELLS	3661633	0.48 NE		117
50	DWRWELLS	0057116	0.49 NE		118
50	DWRWELLS	57116	0.49 NE		119
51	DWRWELLS	0454399A	0.49 W		120
52	DWRWELLS	51830	0.5 E		121
52	DWRWELLS	0050179	0.5 E		122
52	DWRWELLS	50179	0.5 E		123

Wells Database (DWRWELLS)

[MAP ID# 1](#)

Distance from Property: 0.00 mi. N

APPLICANT INFORMATION

RECEIPT #: 0043576

PERMIT #: 43576

NAME: MW-HO5

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 1](#)

Distance from Property: 0.00 mi. N

APPLICANT INFORMATION

RECEIPT #: 43576

PERMIT #: 43576

NAME: MW-HO5

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 2](#)

Distance from Property: 0.00 mi. NW

APPLICANT INFORMATION

RECEIPT #: 50673

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 3](#)

Distance from Property: 0.00 mi. NW

APPLICANT INFORMATION

RECEIPT #: 50779

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 4

Distance from Property: 0.00 mi. N

APPLICANT INFORMATION

RECEIPT #: 0337121

PERMIT #: 164204

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: COMMERCIAL

WELL DEPTH: 400 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 05/22/1992

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 10/05/1993

PUMP INSTALLED DATE: 10/07/1993

STATIC WATER LEVEL: 185

OWNER WELL NAME: ADAMS COUNTY SHERIFF % LT HIBB

ADDRESS: 150 N 19TH AVE

BRIGHTON, 80601

COMMENTS

NO PUMP TEST

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 4

Distance from Property: 0.00 mi. N

APPLICANT INFORMATION

RECEIPT #: 337121

PERMIT #: 164204

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: COMMERCIAL

WELL DEPTH: 400 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 5/22/1992

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 10/5/1993

PUMP INSTALLED DATE: 10/7/1993

STATIC WATER LEVEL: 185

OWNER WELL NAME: ADAMS COUNTY SHERIFF % LT HIBBARD

ADDRESS: 150 N 19TH AVE

BRIGHTON, 80601

COMMENTS

NO PUMP TEST

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 5](#)

Distance from Property: 0.02 mi. N

APPLICANT INFORMATION

RECEIPT #: 0528704D

PERMIT #: 259505

NAME: MW-H05

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 9/28/2004

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 6/16/2004

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 6](#)

Distance from Property: 0.04 mi. NE

APPLICANT INFORMATION

RECEIPT #: **487353**

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 6](#)

Distance from Property: 0.04 mi. NE

APPLICANT INFORMATION

RECEIPT #: 525338

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 6

Distance from Property: 0.04 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0487353

PERMIT #: 239546

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ARAPAHOE

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 0 '

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 03/22/2002

PERMIT EXPIRATION DATE: 03/22/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: MCALEXANDER GREGG & LISA

ADDRESS: 5925 E 124TH WAY

BRIGHTON, 80602

COMMENTS

PRE 72 LOT CREATION. NNT KA 4% REPLACEMENT. MTT 03/08/02

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 6

Distance from Property: 0.04 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0525338

PERMIT #: 258253

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 300 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 07/20/2004

PERMIT EXPIRATION DATE: 07/20/2006

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 10/06/2004

PUMP INSTALLED DATE: 10/11/2004

STATIC WATER LEVEL: 81

OWNER WELL NAME: MCALEXANDER GREGG & LISA

ADDRESS: 5925 E 124TH WAY

BRIGHTON, 80602

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 6

Distance from Property: 0.03 mi. NE

APPLICANT INFORMATION

RECEIPT #: **0421008**

PERMIT #: **206490**

NAME: **NOT REPORTED**

COUNTY: **ADAMS**

AQUIFER: **ARAPAHOE**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **DOMESTIC**

WELL DEPTH: **NOT REPORTED**

WELL STATUS: **NOT REPORTED**

PERMIT ISSUED: **11/13/1997**

PERMIT EXPIRATION DATE: **11/13/1999**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **NOT REPORTED**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **MAJORS THOMAS**

ADDRESS: **4205 GRAY ST**

WHEATRIDGE, 80212

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 6

Distance from Property: 0.03 mi. NE

APPLICANT INFORMATION

RECEIPT #: **421008**

PERMIT #: **206490**

NAME: **NOT REPORTED**

COUNTY: **ADAMS**

AQUIFER: **ARAPAHOE**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **DOMESTIC**

WELL DEPTH: **NOT REPORTED**

WELL STATUS: **NOT REPORTED**

PERMIT ISSUED: **11/13/1997**

PERMIT EXPIRATION DATE: **11/13/1999**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **NOT REPORTED**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **MAJORS THOMAS**

ADDRESS: **4205 GRAY ST**

WHEATRIDGE, 80212

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 7](#)

Distance from Property: 0.04 mi. SW

APPLICANT INFORMATION

RECEIPT #: 3666534B

PERMIT #: 78505

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LOWER ARAPAHOE

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 9/26/2014

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 9/15/1976

PUMP INSTALLED DATE: 9/16/1976

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: MCPHERSON SCOTT & ANGELA

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

PERMIT COPY RNT D & FWD D TO 14300 RIVERDALE RD. BRIGHTON 80602 10-7-14 SVJ

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Wells Database (DWRWELLS)

[MAP ID# 8](#)

Distance from Property: 0.08 mi. W

APPLICANT INFORMATION

RECEIPT #: **0474605**

PERMIT #: **55804**

NAME: **NOT REPORTED**

COUNTY: **ADAMS**

AQUIFER: **LARAMIE FOX HILLS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **INDUSTRIAL**

WELL DEPTH: **1104 '**

WELL STATUS: **WELL CONSTRUCTED**

PERMIT ISSUED: **05/24/2001**

PERMIT EXPIRATION DATE: **05/24/2002**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **07/17/2001**

PUMP INSTALLED DATE: **08/06/2001**

STATIC WATER LEVEL: **844**

OWNER WELL NAME: **TODD CREEK FARMS METRO DIST NO**

ADDRESS: **PO BOX 490**

BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 8](#)

Distance from Property: 0.08 mi. W

APPLICANT INFORMATION

RECEIPT #: 474605

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 9](#)

Distance from Property: 0.08 mi. SE

APPLICANT INFORMATION

RECEIPT #: 9004640

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 10

Distance from Property: 0.10 mi. NE

APPLICANT INFORMATION

RECEIPT #: 252156

PERMIT #: 138802

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 300 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 3/8/1985

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 3/23/1985

PUMP INSTALLED DATE: 3/23/1985

STATIC WATER LEVEL: 120

OWNER WELL NAME: AGGREGATE RESC

ADDRESS: NOT REPORTED

DENVER, 80212

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 11](#)

Distance from Property: 0.11 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0043577

PERMIT #: 43577

NAME: MW-HO6

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 11](#)

Distance from Property: 0.11 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0528704E

PERMIT #: 259507

NAME: MW-H06

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 9/28/2004

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 5/26/2004

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 11](#)

Distance from Property: 0.11 mi. NE

APPLICANT INFORMATION

RECEIPT #: 43577

PERMIT #: 43577

NAME: MW-HO6

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 12](#)

Distance from Property: 0.12 mi. NW

APPLICANT INFORMATION

RECEIPT #: 51093

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 12

Distance from Property: 0.13 mi. NW

APPLICANT INFORMATION

RECEIPT #: 3662301C

PERMIT #: 292768

NAME: MW-03

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 15 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 10/29/2013

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 12/17/2012

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 9

OWNER WELL NAME: TODD CREEK VILLAGE METROPOLITAN DIST

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 13

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 43954

PERMIT #: 43954

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 8/24/2004

PERMIT EXPIRATION DATE: 11/21/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 13](#)

Distance from Property: 0.12 mi. S

APPLICANT INFORMATION

RECEIPT #: 50672

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 13

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 0043575

PERMIT #: 43575

NAME: MW-HO3 & MW-H04

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

DRILLING WILL BE ON 5-26-04. ADB 5-26-04

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Wells Database (DWRWELLS)

[MAP ID# 13](#)

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 0043954

PERMIT #: 43954

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 08/24/2004

PERMIT EXPIRATION DATE: 11/21/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 13](#)

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 43575

PERMIT #: 43575

NAME: MW-HO3 & MW-H04

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

DRILLING WILL BE ON 5-26-04. ADB 5-26-04

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Wells Database (DWRWELLS)

MAP ID# 14

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 0538923

PERMIT #: 264186

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 315 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 07/01/2005

PERMIT EXPIRATION DATE: 07/01/2007

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 10/03/2006

PUMP INSTALLED DATE: 10/10/2006

STATIC WATER LEVEL: 75

OWNER WELL NAME: RENSLOW ROY & CHARMAYNE

ADDRESS: 14331 RIVERDALE RD

BRIGHTON, 80602

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 14](#)

Distance from Property: 0.13 mi. S

APPLICANT INFORMATION

RECEIPT #: 538923

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 15

Distance from Property: 0.13 mi. N

APPLICANT INFORMATION

RECEIPT #: 0021753

PERMIT #: 2950

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: STOCK

WELL DEPTH: NOT REPORTED

WELL STATUS: APPLICATION DENIED

PERMIT ISSUED: 06/08/1972

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: GATES CYCLO INC.

ADDRESS: NOT REPORTED

BRIGHTON, 80601

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

United States Geological Survey National Water Information System (NWIS)

[MAP ID# 15](#)

Distance from Property: 0.14 mi. N

REPORTING AGENCY: **US GEOLOGICAL SURVEY**

SITE NUMBER: **395748104514401**

STATION NAME: **SC00106714CBA**

SITE TYPE: **WELL**

LATITUDE: **39.963317680**

LONGITUDE: **-104.862752400**

DATE DRILLED: **1977-03-31**

WELL DEPTH: **1020 FEET**

HOLE DEPTH: **NOT REPORTED**

LOCAL AQUIFER: **NOT REPORTED**

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 15](#)

Distance from Property: 0.13 mi. N

APPLICANT INFORMATION

RECEIPT #: 9000482

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 16

Distance from Property: 0.14 mi. N

APPLICANT INFORMATION

RECEIPT #: 21753

PERMIT #: 2950

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: STOCK

WELL DEPTH: NOT REPORTED

WELL STATUS: APPLICATION DENIED

PERMIT ISSUED: 6/8/1972

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: GATES CYCLO INC.

ADDRESS: NOT REPORTED

BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 17](#)

Distance from Property: 0.14 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0528704G

PERMIT #: 259509

NAME: MW-H08

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 16'

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 9/28/2004

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 5/26/2004

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 18](#)

Distance from Property: 0.14 mi. SW

APPLICANT INFORMATION

RECEIPT #: 9004516

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 19](#)

Distance from Property: 0.15 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0440319

PERMIT #: 215794

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 1025 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 02/22/1999

PERMIT EXPIRATION DATE: 02/22/2001

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 02/17/2000

PUMP INSTALLED DATE: 10/19/2000

STATIC WATER LEVEL: 500

OWNER WELL NAME: WAGNER GARY L TRUSTEE

ADDRESS: 9430 NEWTON

WESTMINSTER, 80030

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 19](#)

Distance from Property: 0.15 mi. SW

APPLICANT INFORMATION

RECEIPT #: 440319

PERMIT #: 215794

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 1025 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 2/22/1999

PERMIT EXPIRATION DATE: 2/22/2001

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 2/17/2000

PUMP INSTALLED DATE: 10/19/2000

STATIC WATER LEVEL: 500

OWNER WELL NAME: WAGNER GARY L TRUSTEE

ADDRESS: 9430 NEWTON

WESTMINSTER, 80030

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 20

Distance from Property: 0.15 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0043579

PERMIT #: 43579

NAME: MW-HO8

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 20

Distance from Property: 0.15 mi. NE

APPLICANT INFORMATION

RECEIPT #: 43579

PERMIT #: 43579

NAME: MW-HO8

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 21](#)

Distance from Property: 0.15 mi. S

APPLICANT INFORMATION

RECEIPT #: **0528704B**

PERMIT #: **259503**

NAME: **MW-H02**

COUNTY: **ADAMS**

AQUIFER: **ALL UNNAMED AQUIFERS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **OTHER**

WELL DEPTH: **38 '**

WELL STATUS: **WELL ABANDONED**

PERMIT ISSUED: **9/28/2004**

PERMIT EXPIRATION DATE: **NOT REPORTED**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **5/25/2004**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **THORNTON CITY OF**

ADDRESS: **C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112**

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 22

Distance from Property: 0.17 mi. S

APPLICANT INFORMATION

RECEIPT #: **0528704C**

PERMIT #: **259504**

NAME: **MW-H04**

COUNTY: **ADAMS**

AQUIFER: **ALL UNNAMED AQUIFERS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **OTHER**

WELL DEPTH: **15'**

WELL STATUS: **WELL CONSTRUCTED**

PERMIT ISSUED: **9/28/2004**

PERMIT EXPIRATION DATE: **NOT REPORTED**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **5/26/2004**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **THORNTON CITY OF**

ADDRESS: **C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112**

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 23](#)

Distance from Property: 0.19 mi. NE

APPLICANT INFORMATION

RECEIPT #: 51095

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 23

Distance from Property: 0.19 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0043578

PERMIT #: 43578

NAME: MW-HO7

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 23

Distance from Property: 0.19 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0252156

PERMIT #: 138802

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 300 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 03/08/1985

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 03/23/1985

PUMP INSTALLED DATE: 03/23/1985

STATIC WATER LEVEL: 120

OWNER WELL NAME: AGGREGATE RESC

ADDRESS: NOT REPORTED

DENVER, 80212

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 23

Distance from Property: 0.19 mi. NE

APPLICANT INFORMATION

RECEIPT #: 43578

PERMIT #: 43578

NAME: MW-HO7

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425H

PERMIT #: 287985

NAME: BH-108

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: **3654425G**

PERMIT #: **287984**

NAME: **BH-107**

COUNTY: **ADAMS**

AQUIFER: **ALL UNNAMED AQUIFERS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **OTHER**

WELL DEPTH: **17 '**

WELL STATUS: **WELL ABANDONED**

PERMIT ISSUED: **4/12/2012**

PERMIT EXPIRATION DATE: **NOT REPORTED**

PLUG & ABANDONED DATE: **11/17/2014**

WELL CONSTRUCTED DATE: **8/31/2011**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **THORNTON CITY OF**

ADDRESS: **C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112**

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425A

PERMIT #: 287978

NAME: BH-101

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425B

PERMIT #: 287979

NAME: BH-102

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 10'

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425C

PERMIT #: 287980

NAME: BH-103

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425D

PERMIT #: 287981

NAME: BH-104

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 8'

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425E

PERMIT #: 287982

NAME: BH-105

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425F

PERMIT #: 287983

NAME: BH-106

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425I

PERMIT #: 287986

NAME: BH-109

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425J

PERMIT #: 287987

NAME: BH-110

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 14 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425K

PERMIT #: 287988

NAME: BH-111

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425M

PERMIT #: 287990

NAME: BH-113

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425N

PERMIT #: 287991

NAME: BH-114

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 24](#)

Distance from Property: 0.21 mi. SE

APPLICANT INFORMATION

RECEIPT #: 36544250

PERMIT #: 287992

NAME: BH-115

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/1/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.19 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425P

PERMIT #: 287993

NAME: BH-117

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 17 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/2/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 24

Distance from Property: 0.20 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425L

PERMIT #: 287989

NAME: BH-112

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 18 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 8/31/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 25

Distance from Property: 0.22 mi. SE

APPLICANT INFORMATION

RECEIPT #: 3654425Q

PERMIT #: 287994

NAME: BH-118

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 18 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 4/12/2012

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 11/17/2014

WELL CONSTRUCTED DATE: 9/2/2011

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O RJH CONSULTANTS INC 9800 MT PYRAMID COURT #330
ENGLEWOOD, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 26

Distance from Property: 0.21 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0531485A

PERMIT #: 260252

NAME: MW-H03

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 11/3/2004

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 9/17/2004

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 27](#)

Distance from Property: 0.24 mi. W

APPLICANT INFORMATION

RECEIPT #: **0454399B**

PERMIT #: **53127**

NAME: **TCF 6**

COUNTY: **ADAMS**

AQUIFER: **LARAMIE FOX HILLS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **MUNICIPAL**

WELL DEPTH: **1080 '**

WELL STATUS: **WELL CONSTRUCTED**

PERMIT ISSUED: **1/6/2000**

PERMIT EXPIRATION DATE: **1/6/2001**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **4/17/2000**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **530**

OWNER WELL NAME: **TODD CREEK METRO DISTRICT #1**

ADDRESS: **PO BOX 490**

BRIGHTON, 80601

COMMENTS

X-REF 49680-F,46216-F,47815-F & 49941-F

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Wells Database (DWRWELLS)

MAP ID# 28

Distance from Property: 0.25 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0528704F

PERMIT #: 259508

NAME: MW-H07

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 9/28/2004

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: 8/18/2011

WELL CONSTRUCTED DATE: 6/15/2004

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112

COMMENTS

NOT REPORTED

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United States Geological Survey National Water Information System (NWIS)

[MAP ID# 29](#)

Distance from Property: 0.27 mi. S

REPORTING AGENCY: **US GEOLOGICAL SURVEY**

SITE NUMBER: **395714104514500**

STATION NAME: **SC00106723BCA USGS 395714104514500**

SITE TYPE: **WELL**

LATITUDE: **39.953873360**

LONGITUDE: **-104.863030300**

DATE DRILLED: **1966-11-15**

WELL DEPTH: **NOT REPORTED**

HOLE DEPTH: **NOT REPORTED**

LOCAL AQUIFER: **VALLEY-FILL DEPOSITS**

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United States Geological Survey National Water Information System (NWIS)

[MAP ID# 29](#)

Distance from Property: 0.27 mi. S

REPORTING AGENCY: **US GEOLOGICAL SURVEY**

SITE NUMBER: **395714104514501**

STATION NAME: **SC00106723BCA1 RUSSELL PERRY**

SITE TYPE: **WELL**

LATITUDE: **39.953873360**

LONGITUDE: **-104.863030300**

DATE DRILLED: **--**

WELL DEPTH: **NOT REPORTED**

HOLE DEPTH: **NOT REPORTED**

LOCAL AQUIFER: **VALLEY-FILL DEPOSITS**

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Wells Database (DWRWELLS)

MAP ID# 29

Distance from Property: 0.26 mi. S

APPLICANT INFORMATION

RECEIPT #: 3647173D

PERMIT #: 283956

NAME: MW-H02B

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 9/8/2010

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 8/3/2010

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF/INFRA MAINT DEPT

ADDRESS: C/O GEI CONSULTANTS INC 4601 DTC BOULEVARD SUITE 900
DENVER, 80237

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 30

Distance from Property: 0.27 mi. S

APPLICANT INFORMATION

RECEIPT #: 0312623D

PERMIT #: 12147

NAME: AL-4

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: MUNICIPAL

WELL DEPTH: NOT REPORTED

WELL STATUS: APPLICATION DENIED

PERMIT ISSUED: 5/21/1990

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: CARLSON ASSOC

ADDRESS: 11990 GRANT ST STE 200

DENVER, 80233

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 31](#)

Distance from Property: 0.28 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0464335A

PERMIT #: 54358

NAME: TCF 8

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: MUNICIPAL

WELL DEPTH: 1058 '

WELL STATUS: PERMIT CANCELED

PERMIT ISSUED: 8/18/2000

PERMIT EXPIRATION DATE: 8/18/2001

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: 5/1/2001

STATIC WATER LEVEL: 197

OWNER WELL NAME: TODD CREEK FARMS METRO DIST #1

ADDRESS: PO BOX 490

BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 31](#)

Distance from Property: 0.28 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0520818B

PERMIT #: 60889

NAME: TCMD #8

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: MUNICIPAL

WELL DEPTH: 1100 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 3/23/2004

PERMIT EXPIRATION DATE: 3/23/2005

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 10/2/2000

PUMP INSTALLED DATE: 5/1/2001

STATIC WATER LEVEL: 400

OWNER WELL NAME: TODD CREEK FARMS METRO DISTRICT NO 1

ADDRESS: PO BOX 490

BRIGHTON, 80601

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 32](#)

Distance from Property: 0.28 mi. SE

APPLICANT INFORMATION

RECEIPT #: 52231

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 32

Distance from Property: 0.29 mi. SE

APPLICANT INFORMATION

RECEIPT #: 0051831A

PERMIT #: 51831

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 8/26/2013

PERMIT EXPIRATION DATE: 11/24/2013

PLUG & ABANDONED DATE: 8/25/2014

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: METRO WASTEWATER RECLAMATION DISTRICT

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

THREE (3) HOLES TO BE CONSTRUCTED NOTICE SUBMITTED THAT WELLS ARE FOR DEWATERING PURPOSES 6-17-14 SVJ

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Wells Database (DWRWELLS)

[MAP ID# 32](#)

Distance from Property: 0.29 mi. SE

APPLICANT INFORMATION

RECEIPT #: 52225

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 33

Distance from Property: 0.29 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0220289

PERMIT #: 4577

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: COMMERCIAL

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 03/05/1982

PERMIT EXPIRATION DATE: 03/05/1983

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: UNITED BANK OF DENVER

ADDRESS: 1700 BROADWAY

DENVER, 80290

COMMENTS

NO LOG RECEIVED. PREVIOUS WELL SITE ERODED AWAY BY THE RIVER.

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 33

Distance from Property: 0.29 mi. NE

APPLICANT INFORMATION

RECEIPT #: 220289

PERMIT #: 4577

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: COMMERCIAL

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 3/5/1982

PERMIT EXPIRATION DATE: 3/5/1983

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: UNITED BANK OF DENVER

ADDRESS: 1700 BROADWAY
DENVER, 80290

COMMENTS

NO LOG RECEIVED. PREVIOUS WELL SITE ERODED AWAY BY THE RIVER.

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 34](#)

Distance from Property: 0.30 mi. N

APPLICANT INFORMATION

RECEIPT #: 51094

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 34](#)

Distance from Property: 0.30 mi. N

APPLICANT INFORMATION

RECEIPT #: 3662301B

PERMIT #: 292767

NAME: MW-02

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: 10 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 10/29/2013

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 12/17/2012

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 1

OWNER WELL NAME: TODD CREEK VILLAGE METROPOLITAN DIST

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 35

Distance from Property: 0.32 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0441119

PERMIT #: 216092

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ARAPAHOE

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 520 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 03/11/1999

PERMIT EXPIRATION DATE: 03/11/2001

PLUG & ABANDONED DATE: 06/02/2000

WELL CONSTRUCTED DATE: 03/16/1999

PUMP INSTALLED DATE: 04/07/1999

STATIC WATER LEVEL: 90

OWNER WELL NAME: AGGREGATE RESOURCES

ADDRESS: 4330 W 37TH AVE

DENVER, 80212

COMMENTS

PUMP TEST ONLY 07/22/1999 LIC 1081

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 35](#)

Distance from Property: 0.32 mi. NE

APPLICANT INFORMATION

RECEIPT #: 441119

PERMIT #: 216092

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ARAPAHOE

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 520 '

WELL STATUS: WELL ABANDONED

PERMIT ISSUED: 3/11/1999

PERMIT EXPIRATION DATE: 3/11/2001

PLUG & ABANDONED DATE: 6/2/2000

WELL CONSTRUCTED DATE: 3/16/1999

PUMP INSTALLED DATE: 4/7/1999

STATIC WATER LEVEL: 90

OWNER WELL NAME: AGGREGATE RESOURCES

ADDRESS: 4330 W 37TH AVE

DENVER, 80212

COMMENTS

PUMP TEST ONLY 07/22/1999 LIC 1081

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Wells Database (DWRWELLS)

MAP ID# 36

Distance from Property: 0.36 mi. NE

APPLICANT INFORMATION

RECEIPT #: **0485759**

PERMIT #: **56993**

NAME: **BRIGHTON PIT**

COUNTY: **ADAMS**

AQUIFER: **ALL UNNAMED AQUIFERS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **OTHER**

WELL DEPTH: **0 '**

WELL STATUS: **WELL CONSTRUCTED**

PERMIT ISSUED: **01/16/2002**

PERMIT EXPIRATION DATE: **01/16/2003**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **NOT REPORTED**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **AGGREGATE INDUSTRIES**

ADDRESS: **C/O APPLGATE GROUP INC 1499 WEST 120TH AVE STE 200
DENVER, 80234**

COMMENTS

DMG#-M-77-436 ALSO SECTION 23

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Wells Database (DWRWELLS)

[MAP ID# 36](#)

Distance from Property: 0.36 mi. NE

APPLICANT INFORMATION

RECEIPT #: 485759

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 37](#)

Distance from Property: 0.38 mi. S

APPLICANT INFORMATION

RECEIPT #: 49258

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 37](#)

Distance from Property: 0.38 mi. S

APPLICANT INFORMATION

RECEIPT #: 0043574

PERMIT #: 43574

NAME: MW-HO2

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 37](#)

Distance from Property: 0.38 mi. S

APPLICANT INFORMATION

RECEIPT #: 0049258

PERMIT #: 49258

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 07/27/2010

PERMIT EXPIRATION DATE: 10/24/2010

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 09/01/2010

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 4601 DTC BLVD SUITE 900
DENVER, 80237

COMMENTS

ONE (1) HOLE TO BE CONSTRUCTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 37](#)

Distance from Property: 0.38 mi. S

APPLICANT INFORMATION

RECEIPT #: 43574

PERMIT #: 43574

NAME: MW-HO2

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 38

Distance from Property: 0.38 mi. S

APPLICANT INFORMATION

RECEIPT #: **0528704A**

PERMIT #: **259502**

NAME: **MW-H01**

COUNTY: **ADAMS**

AQUIFER: **ALL UNNAMED AQUIFERS**

BASIN: **NOT REPORTED**

SUBDIVISION: **NOT REPORTED**

LOT: **NOT REPORTED**

BLOCK: **NOT REPORTED**

FILING: **NOT REPORTED**

WELL USE: **OTHER**

WELL DEPTH: **NOT REPORTED**

WELL STATUS: **WELL CONSTRUCTED**

PERMIT ISSUED: **9/28/2004**

PERMIT EXPIRATION DATE: **NOT REPORTED**

PLUG & ABANDONED DATE: **NOT REPORTED**

WELL CONSTRUCTED DATE: **6/16/2004**

PUMP INSTALLED DATE: **NOT REPORTED**

STATIC WATER LEVEL: **NOT REPORTED**

OWNER WELL NAME: **THORNTON CITY OF**

ADDRESS: **C/O GEI CONSULTANTS INC 6950 SOUTH POTOMAC ST STE 300
CENTENNIAL, 80112**

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 39](#)

Distance from Property: 0.38 mi. NE

APPLICANT INFORMATION

RECEIPT #: 9004232

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 40](#)

Distance from Property: 0.39 mi. E

APPLICANT INFORMATION

RECEIPT #: 51829

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 40

Distance from Property: 0.39 mi. E

APPLICANT INFORMATION

RECEIPT #: 0049257

PERMIT #: 49257

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 07/27/2010

PERMIT EXPIRATION DATE: 10/24/2010

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 08/03/2010

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 4601 DTC BLVD SUITE 900
DENVER, 80237

COMMENTS

ONE (1) HOLE TO BE CONSTRUCTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 40](#)

Distance from Property: 0.39 mi. E

APPLICANT INFORMATION

RECEIPT #: 49257

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 41](#)

Distance from Property: 0.39 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0464335B

PERMIT #: 54359

NAME: TCF 7

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: MUNICIPAL

WELL DEPTH: 1086 '

WELL STATUS: PERMIT CANCELED

PERMIT ISSUED: 8/18/2000

PERMIT EXPIRATION DATE: 8/18/2001

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: 4/27/2001

STATIC WATER LEVEL: 164

OWNER WELL NAME: TODD CREEK FARMS METRO DIST #1

ADDRESS: PO BOX 490

BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 41](#)

Distance from Property: 0.39 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0520818A

PERMIT #: 60888

NAME: TCMD #7

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: ALL BENEFICIAL USES

WELL DEPTH: 1100 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 3/23/2004

PERMIT EXPIRATION DATE: 3/23/2005

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 9/14/2000

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 650

OWNER WELL NAME: TODD CREEK FARMS METRO DISTRICT NO 1

ADDRESS: PO BOX 490

BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 42

Distance from Property: 0.40 mi. SW

APPLICANT INFORMATION

RECEIPT #: 0043573

PERMIT #: 43573

NAME: MW-HO1

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 05/20/2004

PERMIT EXPIRATION DATE: 08/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 42

Distance from Property: 0.40 mi. SW

APPLICANT INFORMATION

RECEIPT #: 43573

PERMIT #: 43573

NAME: MW-HO1

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 5/20/2004

PERMIT EXPIRATION DATE: 8/19/2004

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: THORNTON CITY OF

ADDRESS: C/O GEI CONSULTANTS INC 6950 S POTOMAC ST STE 300
CENTENNIAL, 80401

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 43

Distance from Property: 0.40 mi. NE

APPLICANT INFORMATION

RECEIPT #: 3661193D

PERMIT #: 292197

NAME: HAMMER PIT 4

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 8/7/2013

PERMIT EXPIRATION DATE: 8/7/2015

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: METRO WASTEWATER RECLAMATION DISTRICT

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 43

Distance from Property: 0.40 mi. NE

APPLICANT INFORMATION

RECEIPT #: 3661193E

PERMIT #: 292198

NAME: HAMMER PIT 5

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 8/7/2013

PERMIT EXPIRATION DATE: 8/7/2015

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: METRO WASTEWATER RECLAMATION DISTRICT

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

MAP ID# 43

Distance from Property: 0.40 mi. NE

APPLICANT INFORMATION

RECEIPT #: 3661193F

PERMIT #: 292199

NAME: HAMMER PIT 6

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 8/7/2013

PERMIT EXPIRATION DATE: 8/7/2015

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: METRO WASTEWATER RECLAMATION DISTRICT

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 43](#)

Distance from Property: 0.40 mi. NE

APPLICANT INFORMATION

RECEIPT #: 51828

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 43](#)

Distance from Property: 0.40 mi. NE

APPLICANT INFORMATION

RECEIPT #: 9000655

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 44](#)

Distance from Property: 0.40 mi. N

APPLICANT INFORMATION

RECEIPT #: 0385925

PERMIT #: 188562

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LOWER DAWSON

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 400 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 07/19/1995

PERMIT EXPIRATION DATE: 07/19/1997

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 07/28/1995

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 165

OWNER WELL NAME: RICHERS MARK E

ADDRESS: 9980 E 157TH AVE
BRIGHTON, 80601

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 44](#)

Distance from Property: 0.40 mi. N

APPLICANT INFORMATION

RECEIPT #: 385925

PERMIT #: 188562

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LOWER DAWSON

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: 400 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 7/19/1995

PERMIT EXPIRATION DATE: 7/19/1997

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 7/28/1995

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 165

OWNER WELL NAME: RICHERS MARK E

ADDRESS: 9980 E 157TH AVE
BRIGHTON, 80601

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

United States Geological Survey National Water Information System (NWIS)

[MAP ID# 45](#)

Distance from Property: 0.40 mi. SE

REPORTING AGENCY: **US GEOLOGICAL SURVEY**

SITE NUMBER: **395713104512701**

STATION NAME: **SC00106723BCA USGS 395713104512701**

SITE TYPE: **WELL**

LATITUDE: **39.953595580**

LONGITUDE: **-104.858030000**

DATE DRILLED: **1957-11-07**

WELL DEPTH: **17.0 FEET**

HOLE DEPTH: **NOT REPORTED**

LOCAL AQUIFER: **VALLEY-FILL DEPOSITS**

[Back to Report Summary](#)

United States Geological Survey National Water Information System (NWIS)

[MAP ID# 46](#)

Distance from Property: 0.41 mi. NW

REPORTING AGENCY: **US GEOLOGICAL SURVEY**

SITE NUMBER: **395753104521601**

STATION NAME: **SC00206715ADB1 USGS 395753104521601**

SITE TYPE: **WELL**

LATITUDE: **39.964706570**

LONGITUDE: **-104.871641700**

DATE DRILLED: **1955-09-12**

WELL DEPTH: **46.6 FEET**

HOLE DEPTH: **NOT REPORTED**

LOCAL AQUIFER: **NOT REPORTED**

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 47](#)

Distance from Property: 0.43 mi. NE

APPLICANT INFORMATION

RECEIPT #: 9004319

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

[MAP ID# 48](#)

Distance from Property: 0.45 mi. SE

APPLICANT INFORMATION

RECEIPT #: 51832

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 48

Distance from Property: 0.45 mi. SE

APPLICANT INFORMATION

RECEIPT #: 0050180

PERMIT #: 50180

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 09/13/2011

PERMIT EXPIRATION DATE: 12/11/2011

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: BRIGHTON CITY OF

ADDRESS: C/O TZA WATER ENGINEERS 12596 W BAYAUD AVE #330
LAKEWOOD, 80228

COMMENTS

TWO (2) HOLES TO BE CONSTRUCTED

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Wells Database (DWRWELLS)

MAP ID# 48

Distance from Property: 0.45 mi. SE

APPLICANT INFORMATION

RECEIPT #: 50180

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 49

Distance from Property: 0.48 mi. NE

APPLICANT INFORMATION

RECEIPT #: 3661633

PERMIT #: 292439

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: DOMESTIC

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 9/5/2013

PERMIT EXPIRATION DATE: 9/5/2015

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: ADER MARVIN M

ADDRESS: NOT REPORTED

NOT REPORTED,

COMMENTS

NOT REPORTED

[Back to Report Summary](#)

Wells Database (DWRWELLS)

MAP ID# 50

Distance from Property: 0.49 mi. NE

APPLICANT INFORMATION

RECEIPT #: 0057116

PERMIT #: 4577

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: ALL UNNAMED AQUIFERS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: COMMERCIAL

WELL DEPTH: 31 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 11/25/1974

PERMIT EXPIRATION DATE: NOT REPORTED

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 12/06/1974

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 9

OWNER WELL NAME: GATES CYCLO INC

ADDRESS: 4850 E 39TH AVE
DENVER, 80207

COMMENTS

NOT REPORTED

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Wells Database (DWRWELLS)

[MAP ID# 50](#)

Distance from Property: 0.49 mi. NE

APPLICANT INFORMATION

RECEIPT #: 57116

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

[MAP ID# 51](#)

Distance from Property: 0.49 mi. W

APPLICANT INFORMATION

RECEIPT #: 0454399A

PERMIT #: 53128

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: LARAMIE FOX HILLS

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: MUNICIPAL

WELL DEPTH: 1080 '

WELL STATUS: WELL CONSTRUCTED

PERMIT ISSUED: 1/6/2000

PERMIT EXPIRATION DATE: 1/6/2001

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: 4/24/2000

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: 585

OWNER WELL NAME: TODD CREEK METRO DISTRICT #1

ADDRESS: PO BOX 490

BRIGHTON, 80601

COMMENTS

X-REF 49680-F,46216-F,47815-F & 49941-F

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Wells Database (DWRWELLS)

[MAP ID# 52](#)

Distance from Property: 0.50 mi. E

APPLICANT INFORMATION

RECEIPT #: 51830

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Wells Database (DWRWELLS)

MAP ID# 52

Distance from Property: 0.50 mi. E

APPLICANT INFORMATION

RECEIPT #: 0050179

PERMIT #: 50179

NAME: NOT REPORTED

COUNTY: ADAMS

AQUIFER: QUATERNARY ALLUVIUM

BASIN: NOT REPORTED

SUBDIVISION: NOT REPORTED

LOT: NOT REPORTED

BLOCK: NOT REPORTED

FILING: NOT REPORTED

WELL USE: OTHER

WELL DEPTH: NOT REPORTED

WELL STATUS: PERMIT ISSUED; COMPLETION STATUS UNKNOWN

PERMIT ISSUED: 09/13/2011

PERMIT EXPIRATION DATE: 12/11/2011

PLUG & ABANDONED DATE: NOT REPORTED

WELL CONSTRUCTED DATE: NOT REPORTED

PUMP INSTALLED DATE: NOT REPORTED

STATIC WATER LEVEL: NOT REPORTED

OWNER WELL NAME: BRIGHTON CITY OF

ADDRESS: C/O TZA WATER ENGINEERS 12596 W BAYAUD AVE #330
LAKEWOOD, 80228

COMMENTS

ONE (1) HOLE TO BE CONSTRUCTED

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Wells Database (DWRWELLS)

MAP ID# 52

Distance from Property: 0.50 mi. E

APPLICANT INFORMATION

RECEIPT #: 50179

PERMIT #:

NAME:

COUNTY:

AQUIFER:

BASIN:

SUBDIVISION:

LOT:

BLOCK:

FILING:

WELL USE:

WELL DEPTH: '

WELL STATUS:

PERMIT ISSUED:

PERMIT EXPIRATION DATE:

PLUG & ABANDONED DATE:

WELL CONSTRUCTED DATE:

PUMP INSTALLED DATE:

STATIC WATER LEVEL:

OWNER WELL NAME:

ADDRESS:

COMMENTS

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Environmental Records Definitions - FEDERAL

NWIS

United States Geological Survey National Water Information System

VERSION DATE: 07/02/14

This USGS National Water Information System database only includes groundwater wells. The USGS defines this well type as: A hole or shaft constructed in the earth intended to be used to locate, sample, or develop groundwater, oil, gas, or some other subsurface material. The diameter of a well is typically much smaller than the depth. Wells are also used to artificially recharge groundwater or to pressurize oil and gas production zones. Additional information about specific kinds of wells should be recorded under the secondary site types or the Use of Site field. Underground waste-disposal wells should be classified as waste-injection wells.

Environmental Records Definitions - STATE (CO)

DWRWELLS

Wells Database

VERSION DATE: 09/04/15

The DWR Wells database contains all well permitting data as received by the Colorado Division of Water Resources. The elements included are water well applications, permits issued, and associated data for the well constructed under the permit. The database consists of the dates actions were taken on a well permit as well as some of the physical characteristics of the well, such as depth and yield at the time the well was constructed or the first pump was installed. Currently the entire statewide database includes over 370,000 records.

Appendix R - Treatability Plan

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Treatability Testing Plan
Evaluate Effectiveness of ECOBOND® to Reduce Leachability of Lead from Shooting Range Soils
October 7, 2016

Purpose and Scope:

The purpose of this Treatability Testing Plan is to evaluate the effectiveness of ECOBOND® at reducing leachability of Lead from the Adams County Shooting Range soils. MT2 reports that ECOBOND® has consistently reduced Lead leachability in soils by 80 to 90%. The goal of this treatability testing study will be to establish a CDPHE-approved Leachate Criterion as determined by the Synthetic Precipitation Leachate Procedure (SPLP, EPA Method 1312) and to establish Calculated Lead Leachability Values for three soil areas within the Shooting Range. On the basis of our discussions with representatives of the Colorado Department of Public Health and Environment (CDPHE), soil that meets the EPA Industrial Risk Regional Screening Level (RSL) for Lead (800 milligrams per kilogram [mg/kg]) and is non-hazardous based on the Toxicity Characteristic Leaching Procedure (TCLP) will be acceptable for placement as gradefill onsite beneath the Water Balance Cover (WBC) planned for installation over the existing landfill. Soil that does not meet the Industrial RSL, is non-hazardous (based on TCLP), and does not meet the “Leachate Criterion” based on SPLP results, will be treated (stabilized for Lead) onsite and reanalyzed for SPLP. If the SPLP result is less than the Leachate Criterion, the soil will be acceptable for placement as gradefill beneath the WBC. A Calculated Lead Leachability Value will be derived by multiplying the SPLP result by a Lead Attenuation Factor. If the Calculated Lead Leachability Value is less than the mutually-agreed Leachate Criterion, the soil will be considered acceptable for use as gradefill beneath the WBC, otherwise the soil will be disposed in accordance with standard manifesting and permitting protocols at a licensed facility offsite.

Definitions:

Calculated Lead Leachability Value (milligrams per liter [mg/L]) – Calculated by multiplying the **SPLP Result** by the **Lead Attenuation Factor**. This value is the predicted Lead leachate concentration at the water table interface after taking into account the leaching of Lead from the gradefill (as determined by TCLP) and the Lead Attenuation Factor.

Leachate Criterion (mg/L) – The maximum leachate concentration that will be accepted for Lead-impacted soil to be placed as gradefill beneath the WBC. We will discuss with CDPHE what value is acceptable to prevent adverse impact to local groundwater. CDPHE has indicated that a value of 1.1 mg/L may be appropriate as that is CDPHE’s Groundwater Protection Value for dissolved Lead.

Lead Attenuation Factor – A factor that accounts for the reduction of Lead concentration in leachate as it moves through the vadose zone between the bottom of lead-impacted soil and the water table. CDPHE has indicated that the “22 times Rule” may be applied to this site provided that groundwater is one meter or more below waste and the nearest water well is more than ten meters from the downgradient edge of waste). The rule is applied by multiplying the Lead groundwater standard (0.05 milligrams per liter [mg/L]) by 22, which in this case for Lead is equivalent to the Leachate Reference Concentration (1.1 mg/L) in CDPHE’s Groundwater Protection Values Soil Cleanup Table, March 2014. If an alternative modeling approach is proposed, CDPHE concurrence will be obtained prior to use.

SPLP Result (mg/L) – The laboratory-determined Lead leachability of the soil. Distilled water, instead of acidic water, will be used as the extracting solution. Distilled water is believed to be more representative of the neutral pH of soil water in the Lead-impacted soil gradefill after percolating through overlying WBC and clean gradefill layers.

Treatability Study:

The attached preliminary table provides an estimate of the volumes of soil onsite that could contain total Lead concentrations above the Industrial RSL. Approximately 1,600 cubic yards (cy) of soil contain total Lead at concentrations greater than the Industrial RSL for Lead. This soil is potentially suitable for treatment to reduce Lead leachability. For the purposes of this Treatability Testing Plan, we assume that ECOBOND® will be used to stabilize Lead. Representative soil samples will be collected and treated with ECOBOND® to evaluate the amendment's ability to reduce Lead leachability. Two ECOBOND® mixture ratios will be tested to evaluate the effectiveness of Lead stabilization at different ECOBOND® concentrations.

Method:

1. Surface soils in Shooting Range grids SRIB-11, SRIB-6, and SRRF-4 were initially sampled and contained total Lead concentrations of 170,000, 34,000 and 3,900 mg/kg, respectively. Sampling results from these three grids display a broad range in total Lead concentrations, believed to be generally representative of conditions at the Shooting Range; and accordingly, were selected for treatability testing. One soil sample from each grid will be collected from near the original sample location with the intention of obtaining similar total Lead concentration results. The soil sample (3 to 4 gallons in size) will be collected at the same original sample depth. Each sample will be thoroughly mixed and split into three subsamples. One subsample will be untreated, one subsample will be treated with 1% ECOBOND® by weight, and one subsample will be treated with 2% ECOBOND® by weight. This procedure will produce a total of nine subsamples (three subsamples from each grid).
2. The nine subsamples will be submitted to Test America for analysis.
 - a. The untreated sample will be analyzed for total Lead (EPA 6010), dissolved Lead by TCLP (EPA Method 1311), and dissolved Lead by SPLP (EPA Method 1312).
 - b. The two treated samples will be analyzed for dissolved Lead by TCLP (EPA Method 1311), and dissolved Lead by SPLP (EPA Method 1312).
3. The calculated Lead Leachability Value will be derived for each subsample using the "22 times Rule" or vadose zone transport model approved by CDPHE.
4. Regression analyses will be performed to establish relationships between total Lead concentration (expressed in mg/kg) and calculated Lead Leachability (expressed in mg/L). These results will be used to estimate the percentage of the 1,600 cy of soil that is potentially treatable so that the material can remain onsite as gradefill beneath the WBC, while remaining protective of human health and the environment.

PRELIMINARY

Lead-Impacted Soil Remediation Volumes
Date: 10/3/16

Sample (Grid) ID	Area of Polygon (sq ft)	Sample Collection Depth (Inches)	Total Lead (mg/kg)	Excavation Cut Depth (inches)	Excavation Cut Depth (feet)	Volume of Excavation for Entire Polygon (cubic feet)	Volume of Excavation for Entire Polygon (cubic yards)	Notes	No. of Polygons	Potential Remediation Volume (bcy)	Remediation Waste Type
NRBB-5	1,573.9	0	NA	0.0	0.0	0.0	0.0	sample being reanalyzed			
SRIB-11	726.7	0	170,000	24.0	2.0	1,453.4	53.8	SPLP/EcoBond Testing			
SRSF-4NW	2,144.2	0	150,000	6.0	0.5	1,072.1	39.7				
SRIB-8	751.1	0	130,000	24.0	2.0	1,502.1	55.6				
SRIB-10	731.2	0	86,000	24.0	2.0	1,462.4	54.2				
SRRF-7	5,645.3	0	55,000	12.0	1.0	5,645.3	209.1				
NRIB-1	757.9	6	52,000	12.0	1.0	757.9	28.1				
NRIB-2	751.3	0	34,000	18.0	1.5	1,126.9	41.7				
SRIB-6	632.5	3	34,000	6.0	0.5	316.3	11.7	SPLP/EcoBond Testing			
SRIB-9	714.1	0	34,000	24.0	2.0	1,428.2	52.9				
NRIB-1	757.9	0	32,000	12.0	1.0	757.9	28.1				
NRIB-3	716.7	0	30,000	18.0	1.5	1,075.1	39.8				
SRIB-7	744.7	0	25,000	12.0	1.0	744.7	27.6				
SRIB-12	681.5	0	18,000	24.0	2.0	1,362.9	50.5				
SRRF-7	5,645.3	6	5,800	12.0	1.0	5,645.3	209.1		27	1,574	
SRLB-60	964.4	0	5,400	6.0	0.5	482.2	17.9				
SRLB-70	1,019.7	0	4,600	6.0	0.5	509.8	18.9				
SRLB-50	1,093.0	0	4,000	6.0	0.5	546.5	20.2				
SRRF-4	4,519.6	0	3,900	6.0	0.5	2,259.8	83.7	SPLP/EcoBond Testing			
SRBB-6	2,283.4	0	2,400	6.0	0.5	1,141.7	42.3				
SRRF-3	4,365.1	0	2,400	6.0	0.5	2,182.6	80.8				
SRRF-6	5,517.8	0	2,200	6.0	0.5	2,758.9	102.2				
SRRF-8	5,159.1	0	1,800	6.0	0.5	2,579.5	95.5				
SRIB-6	632.5	0	1,400	6.0	0.5	316.3	11.7				
SRRF-2	4,185.4	0	1,200	6.0	0.5	2,092.7	77.5				
SRBB-5	2,344.1	0	980	6.0	0.5	1,172.1	43.4				
SRIB-10	731.2	18	980	24.0	2.0	1,462.4	54.2				
SRLB-21	1,282.3	0	940	6.0	0.5	641.2	23.7				Soil potentially acceptable for onsite stabilization

Appendix S - Conceptual Landfill Closure Plan

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Memorandum



Date: October 31, 2016

To: John Dellaport, PE, PG, Quantum Water & Environment

From: Joshua Lee, PE
Bradley A. Coleman, PE

Subject: Adams County Shooting Range Landfill Closure, Adams County, Colorado

INTRODUCTION

Burns & McDonnell has prepared this memorandum as a subcontract deliverable for Quantum Water and Environment (Quantum). It has been prepared to present the conceptual design for the closure of the landfill located adjacent to the Adams County Shooting Range located at 14451 Riverdale Road in unincorporated Adams County, Colorado. Adams County owns the shooting range and the landfill. The County is planning to remove several buildings and miscellaneous structures/debris on the property and then remediate the shooting range and close the landfill. Others are designing/planning the demolition/removal of structures and the remediation of the shooting range. The scope of this memorandum is to provide the conceptual design of the closure of the property within the landfill limits only.

BACKGROUND

The overall property covers just under 30 acres. It is bounded to the north by open land containing oil and gas wells, to the south and west by residential property, and to the east by Riverdale Road. Within the property limits, the landfill is located on roughly 16 acres in the northwest portion of the property. Earlier this year, Quantum mapped the landfill limits as part of their overall site assessment. The landfill limits abuts the west property line and is bounded by open ground on the east and the shooting range to the south. The landfill limits extend slight north of the north property lines. This waste will require consolidation onto the landfill within the property limits. Drawing C001 in Attachment A shows the existing conditions at the site.

In early 2016, Quantum issued a Phase I Environmental Site Assessment (ESA), (Quantum, 2016). Based on information in the Phase I ESA, the landfill operated between 1970 and 1977, and accepted “sanitary” waste, sludge, construction debris, and fly ash. According to historical aerial photographs, the property consisted of undeveloped land through 1964 with site grading activities and/or landfiling operations visible as early as 1971. The property, including the landfill area, has been used for oil and gas production since 1982. The shooting range operated from 1959 to 1970 and from 1993 until approximately 2012.

Quantum has broken the overall site closure into three projects:

- Building Demolition and Debris Removal
- Firing Range Remediation
- Landfill Closure

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These projects will be bid separately and likely be performed by different contractors. As part of the shooting range remediation, the contractor will be placing and compacting treated soil meeting CDPHE-approved criteria as gradefill on the landfill area. Additionally, Anardarko Petroleum Corporation (Anardarko) and the Colorado Oil and Gas Conservation Commission (COGCC) will be removing and/or abandoning several oil and gas structures that exist in the landfill area.

CONCEPTUAL CLOSURE DESIGN

The closure of the landfill will consist of the following activities:

1. Waste placement compaction and grading consisting of:
 - a. Excavation of waste from outside the north property limits and placement and compaction of this waste within the property limits and on top of the existing landfill.
 - b. Spreading and compacting of any debris remaining after removal of the onsite buildings, and other structures.
 - c. Placement and compaction of other waste excavated as part of drainage improvements or as necessary to meet design grades.
 - d. Placement and grading of an interim cover soil over the waste until final cover can be constructed over it.
2. Construction of a storm drain system to replace the existing 30-inch corrugated metal pipe (CMP) under the landfill. This pipe routes drainage from the upgradient Todd Creek Farm development. Efforts to videotape the existing pipe length were unsuccessful due to partial blockages as the pipe has extensive debris in it and shows evidence of collapse.
3. Abandonment of the existing 30" CMP and any remaining pipes or conduits left over from the structures removal and oil facility removals.
4. Construction of a water balance cover (WBC) over the regraded landfill surface.
5. Installation of storm water management structures for the conveyance of runoff from the landfill cover.
6. Revegetation of the constructed landfill cover.
7. Installation of methane monitoring probes around the landfill perimeter.
8. Construction quality assurance (CQA) by Quantum and its subcontractors will be performed during all the above activities.

The design and construction will be in general accordance with the Colorado Department of Public Health and Environment (CDPHE) *Regulations Pertaining to Solid Waste Sites and Facilities* (CDPHE, 2015) and the CDPHE's *Final Guidance Document, Water Balance Covers in Colorado* (CDPHE, 2013). These documents hereafter are referred to as the "Solid Waste Regulations" and the "WBC Guidance," respectively.

October 31, 2016

Page 3

The following attachments are included as part of this memorandum:

- Attachment A – Conceptual Design Drawings. In Attachment A, Drawing C001 shows the existing site conditions as of October 2016, Drawing C002 is the conceptual Gradefill Grading Plan showing the top of waste/bottom of cover design grades, and Drawing C003 shows the conceptual Final Cover Grading Plan and a typical WBC section for the final cover.
- Attachment B – Preliminary List of Technical Specifications
- Attachment C – Preliminary CQA Plan Outline
- Attachment D – Preliminary Budgetary Cost Estimate

The remainder of this memorandum describes the conceptual design for the project.

Gradefill Placement and Grading

The term “gradefill” as used in this memorandum means any soil, waste, or debris placed on top of the existing landfill for the purposes of achieving design grades. As previously mentioned, gradefill will be placed over the existing landfill mass from the following sources:

- The treated soil from the remediation of the shooting range. This soil is currently planned to be placed in the northern shooting range area by the shooting range remediation contractor.
- The waste placed north of the northern property limits. This waste will be excavated and placed on the landfill within the property limits.
- Any miscellaneous waste or debris remaining after demolition/removal of the site structures.
- Any waste excavated as part of the CMP abandonment and replacement.
- Clean soil placed over the waste as an interim cover prior to final cover placement.
- Any additional soil required to achieve those grades shown on the final Gradefill Grading Plan.

Drawing C002 presents our conceptual grading plan for the gradefill. It currently accommodates about 6,000 cubic yards of gradefill. This might require modification if additional gradefill requirements are identified as the design progresses. Surface slopes of the gradefill vary from 1.5 to 25 percent. Also note that the drawing reflects the northern waste limits moving south to the property line.

CMP Replacement

The storm water from the property currently generally flows to the east. Site elevation are lowest near the midpoint of the eastern boundary and rise toward the south, west and north boundaries. Runoff from the site is conveyed across Riverdale road through a 30-inch CMP to the Brantner ditch. A portion of the site in the southeastern corner of the site drains to an existing riprap basin

October 31, 2016

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and discharges through an 18-inch pipe to the ditch on the west side of Riverdale Road. The flows in the ditch are conveyed south of the site.

Prior to the placement of waste on the property, the site was the mouth of a narrow valley that extended approximately 4400 feet to the west. In order to convey the flows from the upstream properties to the river, a 30-inch CMP was installed prior to the placement of waste. The inlet of the CMP is situated near the midpoint of the west boundary and flows east approximately 920 feet discharging just upstream of the CMP under Riverdale Road as shown on Drawing C001 in Attachment A. As part of the site assessment, the CMP under the landfill was investigated with CCTV camera equipment. The equipment could not advance the camera past 100 feet from each end due to obstructions. The pipe was also found to be collapsed and deteriorating but is assumed to still transmit some drainage as no ponding water has been observed this year upgradient of the pipe.

Due to the surrounding topography, the conveyance of the storm water runoff from the Todd Creek development must continue to be conveyed through the Adams County property, therefore replacement of the existing CMP or other means of storm water conveyance is necessary and will be included in this design. Based on the chosen design storm, runoff flow rates and volumes will be calculated and the conveyance through the property will be sized accordingly. One option is to bore a new casing pipe through the landfill on an alignment that would reduce the amount of pipe needed under the landfill to approximately 525 feet. The alignment would start at the existing inlet of the CMP and advance to the southeast exiting the landfill limits to the west of the armory building as shown on Drawings C002 and C003. The casing pipe would be steel and would be large enough to slide the carrier pipe through on spacers. The carrier pipe would be polyvinyl chloride (PVC) or high-density polyethylene (HDPE) and would be sized to accommodate the required flows. By changing the alignment this option would likely allow some of the boring to take place in native soils.

Another option that is being evaluated is the excavation of the waste along the optimized alignment described above and shown on the drawings. This would allow a drainage swale to be constructed along the alignment to transmit the drainage. Side slopes of the excavation would be 4:1 (horizontal to vertical) or flatter and capped with the final cover. This option would require the excavation of a significant amount (up to 92,000 cy) of waste that would need to be placed as gradefill or disposed of at an approved off-site landfill. This option if selected would require revision of Drawing C002 and C003 to reflect the revised grading conditions.

Substantial cost will be involved in either option. As a next step, we recommend that vertical borings be performed every 50 feet along the optimized alignment to the depth of the proposed pipe/channel to aid in the evaluation of the options. This information will then be used to refine the cost estimates and technical specifications for either option.

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Final Cover Construction

The WBC will be designed in accordance with the WBC Guidance. A borrow source for the WBC has not been identified so therefore a design thickness is not yet known. Drawing C003 assumes that the cover will be 3-feet thick. The final cover design, construction, and CQA requirements will all be consistent with the WBC Guidance except where otherwise approved by CDPHE.

The completed cover will be amended and vegetated with native grasses in accordance with County requirements.

Surface water controls will be designed and incorporated into the landfill cover surface to provide long-term erosional resistance. It is anticipated that a combination of terraces, swales, and possibly let-down channels will be incorporated into the design. Linings for these conveyances will be selected based on slope and the design flow. Linings will be either grasses, temporary or permanent erosion mats, and possibly riprap. These will be designed once the CMP replacement option is selected and the final cover grading plan finalized.

Landfill Gas Monitoring Probe Installation

The Solid Waste Regulations require landfill gas (LFG) monitoring be performed at the landfill perimeter. Monitoring probes will be designed and installed along the landfill perimeter to meet these requirements. These locations will be monitored in accordance with the post-closure operations, maintenance, and monitoring (OM&M) plan, which will be submitted under separate cover.

CONSTRUCTION QUALITY ASSURANCE

The CQA plan outline for the landfill closure is provided in Attachment C. The scope of the CQA plan will include the following activities:

- Waste excavation and gradefill placement
- CMP replacement
- Final cover placement and vegetation
- Surface water controls installation

The CQA plan will set forth the CQA requirements to be implemented during landfill closure to verify that the construction is completed in accordance with the design drawings and technical specifications. In addition, the plan will define CQA roles, definitions, documentation, meeting, and reporting requirements. Once the closure is completed, a CQA certification report will be submitted to CDPHE. The CQA report will include completed documentation forms, a summary of construction activities, drawings indicating sample and test locations, field and laboratory test results, as-built surveys, a summary of deviations from the contract documents, justification for

October 31, 2016

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the changes, and a description of construction problems and how they were resolved. Additionally, a registered Professional Engineer licensed in the State of Colorado will certify that the construction was conducted in substantial conformance with the approved construction documents.

NEXT SUBMITTAL

As discussed with CDPHE, we plan to meet with CDPHE and present the intermediate (60 percent) design package and gain real time feedback. If possible, the 60 percent design documents will be emailed out ahead of the meeting. The next formal submittal will be to Adams County of the draft (90 percent) design submittal and will include a completed set of design drawings, technical specifications, and the CQA plan. Once Adams County's comments are incorporated, a draft final (95 percent) design submittal will be made to CDPHE. After incorporation of CDPHE comments, the final (100 percent) design package will be compiled and provided to all parties.

REFERENCES

Colorado Department of Public Health and Environment. *Regulations Pertaining to Solid Waste Site and Facilities, 6 CCR 1007-2*. December 30, 2015.

Colorado Department of Public Health and Environment. *Final Guidance Document, Water Balance Covers in Colorado*. March 2013.

Quantum Water & Environment. *Phase I Environmental Site Assessment, Adams County Shooting Range*. January 19, 2016.

ATTACHMENTS

Attachment A – Conceptual Design Drawings

Attachment B – Preliminary List of Technical Specifications

Attachment C – Preliminary CQA Plan Outline

Attachment D – Preliminary Budgetary Cost Estimate

Attachment A
Conceptual Design Drawings

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Scale For Microfilming
Inches
Millimeters



- LEGEND**
- PROPERTY LINE
 - - - - - EXISTING MAJOR CONTOUR
 - - - - - EXISTING MINOR CONTOUR
 - = = = = = EXISTING STORM DRAIN
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 - - - - - DESIGN MAJOR CONTOUR
 - - - - - DESIGN MINOR CONTOUR
 - - - - - LANDFILL LIMITS



0 80' 160'
SCALE IN FEET

MAJOR CONTOUR INTERVAL = 10 FEET
MINOR CONTOUR INTERVAL = 2 FEET



QUANTUM
WATER & ENVIRONMENT
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date NOVEMBER 2016	detailed M GONZALES
designed J LEE	checked B COLEMAN



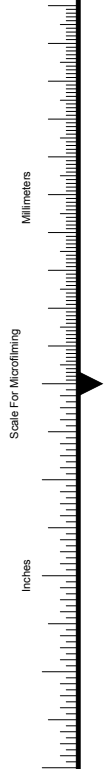
ADAMS COUNTY
COLORADO

ADAMS COUNTY, COLORADO
ADAMS COUNTY SHOOTING RANGE
LANDFILL CLOSURE

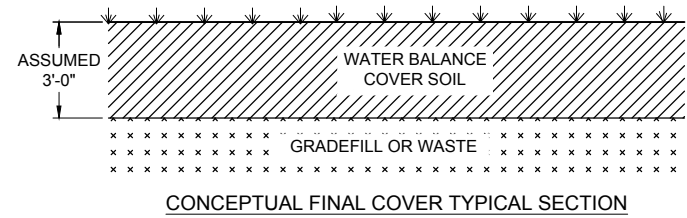
GRADEFILL GRADING PLAN

project 90334	contract QUANTUM EC-4
drawing C002	rev. 0
sheet 2 of 3 sheets	file 90334C002GRDF.DWG

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- LEGEND**
- PROPERTY LINE
 - 5020 EXISTING MAJOR CONTOUR
 - 5020 EXISTING MINOR CONTOUR
 - 5020 DESIGN MAJOR CONTOUR
 - 5020 DESIGN MINOR CONTOUR
 - LANDFILL LIMITS



no.	date	by	ckd	description										
<p>MAJOR CONTOUR INTERVAL = 10 FEET MINOR CONTOUR INTERVAL = 2 FEET</p> <p>QUANTUM WATER & ENVIRONMENT 1746 Cole Blvd Lakewood, CO 80401 720.524.4294 www.quantumwaterco.com</p> <p>BURNS & MCDONNELL 9785 Maroon Circle, Suite 400 Centennial, CO 80112 303-721-9292</p> <table border="1"><tr><td>date NOVEMBER 2016</td><td>detailed M GONZALES</td></tr><tr><td>designed J LEE</td><td>checked B COLEMAN</td></tr></table> <p>ADAMS COUNTY COLORADO ADAMS COUNTY, COLORADO ADAMS COUNTY SHOOTING RANGE LANDFILL CLOSURE</p> <p>FINAL COVER GRADING PLAN</p> <table border="1"><tr><td>project 90334</td><td>contract QUANTUM EC-4</td></tr><tr><td>drawing C003</td><td>rev. 0</td></tr><tr><td>sheet 3 of 3 sheets</td><td>file 90334C003FCGP.DWG</td></tr></table>					date NOVEMBER 2016	detailed M GONZALES	designed J LEE	checked B COLEMAN	project 90334	contract QUANTUM EC-4	drawing C003	rev. 0	sheet 3 of 3 sheets	file 90334C003FCGP.DWG
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project 90334	contract QUANTUM EC-4													
drawing C003	rev. 0													
sheet 3 of 3 sheets	file 90334C003FCGP.DWG													

Attachment B

Preliminary List of Technical Specifications

**Adams County, Colorado
Shooting Range Landfill Closure
Project No. 90334**

Specification Index

**Section
Identification**

Chapter Title

Division 1

Section 011100

Summary of Work

Other sections to be coordinated with Adams County

Division 31

Section 312050

Earthwork

Section 312051

Waste Excavation and Placement

Section 313211

Soil Surface Erosion Control

Division 32

Section 323100

Fences and Gates

Section 329200

Revegetation

Division 33

Section 334000

Storm Drainage Utilities (may be more depending on option selected)

Attachment C
Preliminary CQA Plan Outline

OUTLINE
CONSTRUCTION QUALITY ASSURANCE PLAN
ADAMS COUNTY SHOOTING RANGE LANDFILL CLOSURE

1.0 INTRODUCTION

- Project description
- Scope of plan

2.0 DEFINITIONS AND KEY ROLES

- Definitions of terms
- Identification of key roles, responsibilities, and qualifications

3.0 MEETINGS

- Description and required attendees at pre-construction and/or preparatory meetings, progress meetings and deficiency meetings

4.0 GRADEFILL QUALITY ASSURANCE

- Waste excavation and placement

5.0 EARTHEN MATERIAL QUALITY ASSURANCE

- Gradefill (waste, soil, debris) placement
- Common fill placement
- Final cover construction

6.0 STORMWATER CONTROLS QUALITY ASSURANCE

- CMP abandonment
- CMP replacement
- Riprap placement (if necessary)
- Erosion mat installation (if necessary)

7.0 VEGETATION QUALITY ASSURANCE

- Soil amendment
- Seeding

8.0 SURVEYING

- Survey control
- As-built surveys

9.0 DOCUMENTATION

- Field forms
- Meeting minutes
- Submittals
- Design changes
- Certification report

6.0 REFERENCES

- Documents used in the development of the plan

Attachment D
Preliminary Budgetary Cost Estimate

Attachment D
Preliminary Budgetary Estimate
Adams County Shooting Range Landfill Closure
Adams County, Colorado

Item	Unit	Unit Cost	Quantity	Total Cost	Remarks
Design Cost					
Finalize Design & Administer Bidding	ls	100000	1	\$ 100,000	Evaluate/select storm drainage option, prepare design docs, negotiate CDPHE approval, administer bidding
Design Subtotal				\$ 100,000	
Construction Cost					
Cover					
Mobilization/Demobilization	ls	10%	1,478,000	\$ 147,800	% of other construction cost items (includes bond costs)
Site Preparation	ac	\$ 2,000	16	\$ 32,000	Clear and Grub, Strip 3" Topsoil and stockpiling
Site Grading/Waste Relocation	cy	\$ 7	50,000	\$ 350,000	Needed grading to establish free-draining landfill slopes between 1% to 25%. Includes compaction
Cover Soil Import	cy	\$ 4	95,000	\$ 380,000	Quantity includes 20% fluff/loss factor; cost to excavate and haul from Thorton site (will increase substantially if further away)
Cover Soil Placement	cy	\$ 3	95,000	\$ 285,000	3 ft cover thickness. No compaction, imported soil is dumped near point of placement
Permanent Storm Water Controls	ls	\$ 250,000	1	\$ 250,000	Drainage channel and detention basin construction
Temporary Erosion Controls	ls	\$ 75,000	1	\$ 75,000	Dust control, check dams, temp. erosion mat, vehicle tracking controls, and silt fence
Revegetation	ac	\$ 3,500	16	\$ 56,000	Seed, fertilizer, amendments, and mulch
As-built Surveys	ls	\$ 50,000	1	\$ 50,000	
Contingency		25%		\$ 406,450	used 25% due to unknowns
Cover Construction Subtotal				\$ 2,032,250	
CMP Replaced with New Pipe Option					
Mobilization/Demobilization	ls	10%	772,500	\$ 77,250	
Boring new storm drain	lf	\$ 1,300	525	\$ 682,500	Assumes alignment toward existing armory, steel casing pipe with HDPE or PVC carrier pipe on spacers
RCP storm drain to outfall	lf	\$ 200	450	\$ 90,000	assumes standard installation of RCP pipe and manholes 10'-15' deep
Contingency		25%		\$ 212,438	used 25% due to unknowns
New Pipe Construction Subtotal				\$ 1,062,188	
CMP Replaced with Open Channel Option					
Mobilization/Demobilization	ls	10%	620,000	\$ 62,000	% of other construction cost items (includes bond costs)
Waste Excavation and Relocation	cy	\$ 7	70,000	\$ 490,000	Needed grading to establish free-draining landfill slopes between 2% to 25%. Includes compaction. Assumes onsite relocation and no asbestos.
Native Soil Excavation and Relocation	cy	\$ 2.50	22,000	\$ 55,000	
Channel Stabilization	ls	\$ 75,000	1	\$ 75,000	Assumes permanent erosion mat
Contingency		25%		\$ 170,500	used 25% due to unknowns
Open Channel Construction Subtotal				\$ 852,500	
Construction Management & Oversight					
Construction Management	ls	5%	3,094,438	\$ 154,722	Assumes County hires CM to coordinate/manage subcontractors. Full time site manager, trailer, pickup
CQA Oversight by Engineer	ls	6%	3,094,438	\$ 185,666	Full time oversight during all landfill closure activities, submittal review, design change requests, cert report. Typically ranges from 5-10% of construction cost. costs are very schedule & travel dependent
CM and CQA Subtotal				\$ 340,388	

Total with New Pipe Option: **\$ 3,500,000** (see note)

Total with Open Channel Option: **\$ 3,300,000** (see note)

Note: The quantities, unit costs, and cost items are all subject to significant change as the design progresses. **These values should only be used for preliminary budgeting purposes only.** This cost estimate will be refined as the design progresses. An official engineer's opinion of probable construction cost will be generated at the 100% design level.

Abbreviations

ac: acre
 cy: cubic yard
 lf: linear foot
 ls: lump sum