



SEPTEMBER 10, 2024

Ryan Howser
El Paso County – Planning and Community Development Department
2880 International Circle, Suite 110
Colorado Springs, CO 80910

Dear Mr. Howser:

**RE: 4-Lot Development for property at 2415 Hodgen Road
El Paso County Parcel #6128100014
Finding of Sufficient Water Quality According to Section 8.4.7.B.10)(a) of the Amended El
Paso County Land Development Code (LDC-19-007)**

FINDING OF SUFFICIENT WATER QUALITY

Susan McLean owns approximately 38.68 acres on the above-described property, located at 2415 Hodgen Road, Colorado Springs, CO, 80921 (EPC Receipt No.: 6128100014). Ms. McLean wishes to subdivide the 38.68 acres into four (4) lots through the El Paso County Land Development and Planning process. As part of the subdivision process, McLean's Water Attorney has prepared a Water Resources report to support sufficient water quantity over a 300-year evaluation period, pursuant to Amended Decree 01CW21. The water resources report supports sufficient quantity but no sufficient quality according to Section 8.4.7.B.10)(a) of the Amended El Paso County Land Development Code. Ms. McLean subsequently reached out to RESPEC Company, LLC to complete water quality sufficiency sampling and analysis according to the aforementioned section of the Code and provide an engineering opinion of the analysis.

Section 8.4.7.B.10)(a) in the Amended El Paso County Land Development Code (EPC-LDC) requires that the applicant obtain analyses results for twenty-one (21) Volatile Organic Chemical (VOC) Contaminants, twenty-nine (29) Synthetic Organic Chemical Contaminants (SOC), fourteen (14) Inorganic Chemicals, ten (10) Secondary Maximum Contaminants, indicators of bacteriological pathogens (i.e. E. coli), inorganic anions, and two (2) radionuclides. According to Case No. 01CW21, which is included in the Water Resources Report, the proposed four (4) lot subdivision will be supplied with water from the underlying not-nontributary Dawson formation, which is considered a confined Denver Basin Aquifer. Therefore, according to paragraph two (2) from Section 8.4.7.B.10)(a) VOCs and SOCs are not required as part of the stipulated chemical analysis.

On August 13, 2024, representatives with RESPEC Company, LLC sampled an existing Dawson aquifer well located on and adjacent to the existing property at 2415 Hodgen Road. The representative Dawson well is located next door at address 2415 Hodgen Road and is permitted under Permit No. 49049 (see attached). Well samples for the well were taken on the 13th of August and overnighted to Colorado Analytical Laboratories to meet specified holding times for certain constituents. Results from all chemical analyses were received by RESPEC via email on September 9, 2024. Results were tabulated and compared vs. primary and secondary Maximum Contaminant Limits as established by the Colorado Department of

2700 GAMBELL STREET
SUITE 500
ANCHORAGE, AK 99503
907.743.3200



Public Health and Environment's (CDPHE) latest drinking water standards. From the evaluation, the well was found to have a low Langelier Index (LI) of -2.88 and low pH at 6.35 which indicates a serious level of corrosivity potential (Please see tabulated results and associated analytical results from Colorado Analytical Laboratories in the enclosure.) All other constituents were found to be below respective primary and secondary drinking standards.

As mentioned above, the raw water sampled in the representative Dawson Well was found to have a low LI at -2.88 units which is in the range that indicates that the water is under-saturated with calcium carbonate which can lead to serious corrosion. The LI is calculated using pH, temperature, total dissolved solids, alkalinity, and total hardness. The LI is a measure of the balance between pH and calcium carbonate (CaCO_3). As the LI value becomes more negative, the water is increasingly under-saturated with CaCO_3 and therefore has increased corrosion potential. Given the LI level, RESPEC Company, LLC recommends that the homeowner(s) install a whole house water acid neutralizing (pH booster) filter and PEX piping for the water plumbing to reduce corrosion potential in each residence. Chemical injection of soda ash can also be used to raise the pH and reduce corrosiveness. Additionally, a lead and copper test may be warranted in the existing home to determine that corrosion has not already occurred in the existing home.

After reviewing the analytical results, RESPEC Company, LLC does not find cause for concern in utilizing the underlying Dawson Aquifer for public consumption or irrigation uses within the proposed subdivision. However, RESPEC would also recommend that the developer and home builder provide a whole-house acid neutralizing water filter unit for each household to reduce corrosion potential because of the observed LI index in the source water. The above opinions are RESPEC's recommendations for additional treatment within the proposed residences to bring the source water into compliance with established Colorado Drinking Water Standards.

Should the El Paso County Planning and Development Department have any additional comments, questions, or concerns please do not hesitate to contact Brian "BJ" Elkins, P.E. with RESPEC Company, LLC at 719-283-7674 or at brian.elkins@respec.com.

Sincerely,

Brian L. Elkins Jr., P.E.
Project Engineer

BLE

Enclosure: DWR Permit No. 49049

Tabulated Water Quality Sufficiency Results from August 13, 2024 Sample Trip to 2415 Hodgen Road

Analytical Results from Colorado Analytical, Task No.: 240814013 – Langoliers

Analytical Results from Colorado Analytical, Task No.: 240814013 – Chemical Constituents

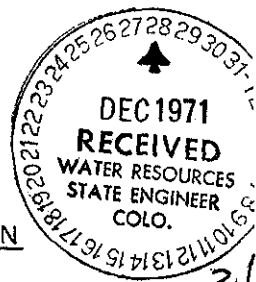
Analytical Report from Haxen, Task No.: 240814015 – Radiological

cc: Project Central File: W0256.23016.002 — Category: External Letter

STATE OF COLORADO
DIVISION OF WATER RESOURCES
OFFICE OF THE STATE ENGINEER

Index No. 2692
IDWD 2-10
Completion Use 1
Yield _____
Checked By _____

MAP AND STATEMENT FOR WATER WELL FILING

PERMIT NUMBER H9 049

STATE OF COLORADO) SS

CLAIMANT (s) Michael R. Laugh

being duly sworn upon oath deposes and says that he (they) is (are) the owner (s) of the well described hereon; the total number of acres

of land irrigated from this well is _____; work was commenced on this well by actual construction on the

11 day of Nov 1971; the sustainedyield from said well is 15 gpm, for which claim is hereby madefor Domestic purpose (s);

the average annual amount to be diverted is _____
acre-feet; this map and statement is filed in compliance with law;
he (they) has (have) read the statements made hereon; knows the
content thereof; and that the same are true of his (their) own
knowledge.

Signature (s) Michael C. McGarraghAddress: X

Subscribed and sworn to before me on this 16 day
of December, 1971

My Commission expires: My Commission Expires May 25, 1975
(Seal)

Vera Mateyka
Notary Public

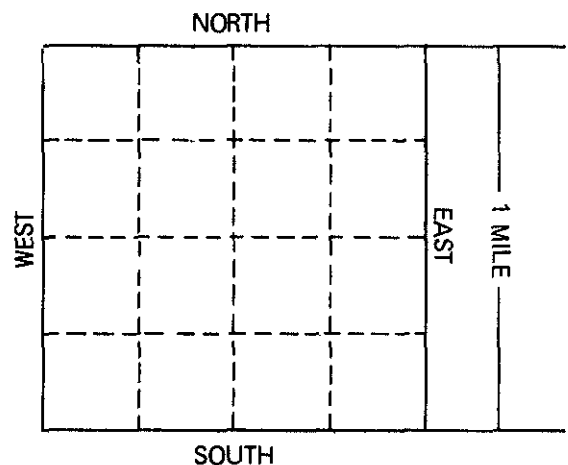
WELL DATA

Date Completed Nov 11 - 71Static Water Level 44' - 2"Total Depth of Well 125 ft.

WELL LOCATION

El Paso County 21
NE $\frac{1}{4}$ of NE $\frac{1}{4}$, sec. 28
T. NS R. 66W 6 P.M.

INDICATE WELL LOCATION ON DIAGRAM



WELL SHALL BE LOCATED WITH REFERENCE TO
GOVERNMENT SURVEY CORNERS OR MONUMENTS,
OR SECTION LINES BY DISTANCE AND BEARING.

_____ ft. from _____ section line.
(North or South)

_____ ft. from _____ section line.
(East or West)

Ground Water Basin _____

Water Management
District _____

Domestic wells may be located by the following:

LOT _____, BLOCK _____

SUBDIVISION _____

FILING # _____

ACCEPTED FOR FILING IN THE OFFICE OF THE STATE ENGINEER OF COLORADO ON THIS _____ DAY

OF _____, 19____.

STATE ENGINEER

FORM TO BE MADE OUT IN QUADRUPLICATE: WHITE FORM must be an original copy on both sides and signed.
WHITE AND GREEN copies must be filed with the State Engineer within 30 days after the well is completed or within 7 days
after expiration date of the permit, whichever is sooner; PINK COPY is for the Owner and YELLOW COPY is for the Driller.

WELL LOG

WELL DATA

Rotary

Type Drilling

HOLE DIAMETER:

8 in. from 0 ft. to 125 ft.

in. from ft. to ft.

in. from ft. to ft.

CASING RECORD

Plain Casing

Size 4 1/2 kind Plastic from 0 ft. to 75 ft.

Size, kind from ft. to ft.

Size, kind from ft. to ft.

Perforated Casing

Size 4 1/2 kind Plastic from 75 ft. to 125 ft.

Size, kind from ft. to ft.

Size, kind from ft. to ft.

GROUTING RECORD

Material CementedIntervals 0-55

Placement Method

GRAVEL PACK RECORD

Size 2/8 Interval 0-55

TEST DATA

Date Tested Nov-11-71Type of Pump ✓Length of Test 4 1/2

Sustained Yield (Metered)

Drawdown none

WELL DRILLERS STATEMENT

The undersigned, being duly sworn, deposes and says: he is the driller of the well hereon described; he has read the statement made hereon; knows the content thereof, and the same is true of his own knowledge.

X John MatykaLicense No. 67day of December, 1971

Vera Matyka
Notary Public

Type & Color of Material

Water Loc.

From	To	Type & Color of Material	Water Loc.
0	2	Soil	
2	86	Hard Clay	
86	92	Water Sand	
92	108	Clay	
108	117	Water Sand	
117	125	Clay	

Use additional paper if necessary to complete log.

State of Colorado, County of El Paso ssSubscribed and sworn to before me this 16My Commission expires May 25, 1975My Commission expires May 25, 1975

DIVISION OF WATER RESOURCES, DEPARTMENT OF NATURAL RESOURCES
101 Columbine Bldg., 1845 Sherman Street, Denver, Colorado 80203

ENT

APPLICATION FOR:

- ☒ A PERMIT TO USE GROUND WATER
☒ A PERMIT TO CONSTRUCT A WELL
☐ REPLACEMENT FOR NO. _____
☐ A PERMIT TO INSTALL A PUMP
☐ OTHER

PRINT OR TYPE

LOCATION OF WELL



APPLICANT Michael E. McManagh COUNTY EL PASO
Street Address 319 Locust Dr. NE $\frac{1}{4}$ of the NE $\frac{1}{4}$ sec. 28
City & State Colo Spg. Colo 80907 T. 11S, R. 66W, 6 P.M.
Use of ground water Domestic Street or
Owner of land on which well Lot & Block _____
is located Same City or
Owner of irrigated Subdiv. _____ Filing _____
land _____
Number of acres _____
to be irrigated _____
Legal description of _____
irrigated land _____

LOCATE WELL ON THE BACK OF THIS SHEET

Driller M-B Dilling No. 69
Driller's Address Rt 2 Calhan W. Colo
Mr. & Mrs. M. E. McManagh
Signature of Applicant
CONDITIONS OF APPROVAL

Storage capacity _____ AF
ANTICIPATED PUMPING RATE 15 GPM
AVERAGE ANNUAL AMOUNT OF GROUND WATER TO
BE APPROPRIATED _____ Acre-feet

ESTIMATED WELL DATA

Anticipated start of drilling Oct 1971
Anticipated start of use Oct 1971

Hole Diameter:

8 in. from 0 ft. to 300 ft.
_____ in. from _____ ft. to _____ ft.

Casing:

Plain 4 1/2 in. from 0 ft. to 250 ft.
_____ in. from _____ ft. to _____ ft.
Perf. 4 1/2 in. from 250 ft. to 300 ft.
_____ in. from _____ ft. to _____ ft.

ESTIMATED PUMP DATA

Type ✓ HP ✓ Outlet Size ✓

APPLICATION MUST BE COMPLETED SATISFACTORILY BEFORE ACCEPTANCE

NO. GW 15313

APPLICATION APPROVED:
VALID FOR ONE (1) YEAR AFTER DATE ISSUED
UNLESS EXTENDED FOR GOOD CAUSE SHOWN TO
THE ISSUING AGENCY

PERMIT NO. 49049 CONDITIONAL ☐

DATE ISSUED SEP 27 1971

J. J. Snipes
STATE ENGINEER

BY Harlan W. Eker

(OVER)

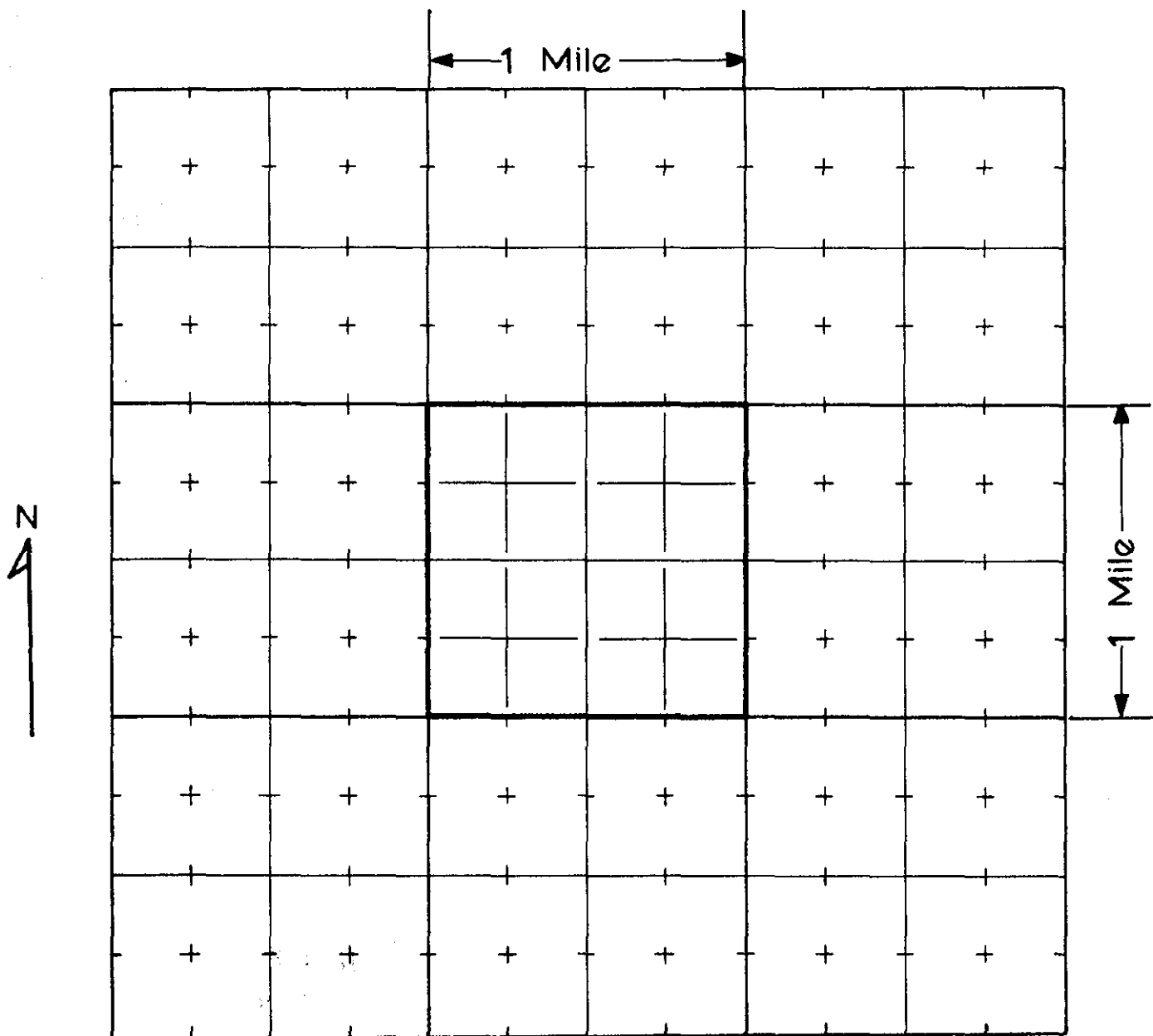
THE LOCATION OF THE PROPOSED WELL SHALL BE SHOWN ON THE DIAGRAM BELOW WITH REFERENCE TO SECTION LINES OR GOVERNMENT SURVEY CORNERS OR MONUMENTS.

_____ feet from _____ (North or South) section line

_____ feet from _____ (East or West) section line

IF WELL IS FOR IRRIGATION, THE AREA TO BE IRRIGATED MUST BE SHADED OR CROSS-HATCHED.

This diagram represents nine (9) sections. Use the CENTER SQUARE (one section) to indicate the location of the well.



THE SCALE OF THE DIAGRAM IS TWO INCHES EQUALS ONE-MILE

***El Paso County Land Development Code
Water Quality Requirements and Results
Dawson Confined Aquifer
McLean Property
2415 Hodgen Road, Colorado Springs, CO 80921
Sampled - 08/13/2024***

Compound	Units	MCL/SMCL	Result	Comment
Antimony	mg/l	0.006	0	ND
Arsenic	mg/l	0.01	0	ND
Barium	mg/l	2	0.0257	
Beryllium	mg/l	0.004	0.0002	
Cadmium	mg/l	0.005	0	ND
Chromium	mg/l	0.1	0	ND
Cyanide (Total)	mg/l	0	0	ND
Fluoride	mg/l	4	0	ND
Mercury	mg/l	0.002	0	ND
Nitrate as N	mg/l	10	0.95	
Nitrite as N	mg/l	1	0	ND
Total Nitrate/Nitrite as N	mg/l	10	0.95	
Selenium	mg/l	0.05	0	ND
Thallium	mg/l	0.002	0	ND
Aluminum	mg/l	0.05	0	ND
Chloride	mg/l	250	1.3	
Langlier Index			-2.88	Serious corrosion (<-0.5)
Iron	mg/l	0.3	0.018	
Manganese	mg/l	0.05	0	ND
pH		6.5 - 8.5	6.35	
Silver	mg/l	0.1	0	ND
Sulfate	mg/l	250	7.7	
TDS	mg/l	500	88	
Zinc	mg/l	5	0.112	
Gross Alpha/Beta	pCi/l	15	3.1	(Gross alpha is ND, DL = 1.3)
Combined Radium 226+228	pCi/l	5	1.9	
Total Coliform	#/100 ml	Absent	Absent	

Green = Result below MCL - Acceptable Water Quality

Red = Result above MCL - Not acceptable Water Quality

ND = Not Detected

DL = Detection Limit

Analytical Results

TASK NO: 240814013

Report To: Brian Elkins Jr.

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Bill To: Accounts Payable

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Task No.: 240814013
Client PO:
Client Project: McLean

Date Received: 8/14/24
Date Reported: 8/22/24
Matrix: Water - Drinking

Customer Sample ID Well 1
Sample Date/Time: 8/13/24 7:57 AM
Lab Number: 240814013-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Total Coliform	ND mpn/100ml	Colilert	1 mpn/100ml		8/15/24	-	NRP
Chloride	1.3 mg/L	EPA 300.0	0.1 mg/L	250	8/14/24	QC75462	AMJ
Fluoride	ND mg/L	EPA 300.0	0.10 mg/L	4	8/14/24	QC75463	AMJ
Nitrate Nitrogen	0.95 mg/L	EPA 300.0	0.05 mg/L	10	8/14/24	QC75464	AMJ
Nitrite Nitrogen	ND mg/L	EPA 300.0	0.03 mg/L	1	8/14/24	QC75466	AMJ
Sulfate	7.7 mg/L	EPA 300.0	0.1 mg/L	250	8/14/24	QC75465	AMJ
Cyanide-Total	ND mg/L	EPA 335.4	0.005 mg/L		8/20/24	QC75575	KRB
Total							
Iron	0.018 mg/L	EPA 200.7	0.005 mg/L		8/19/24	QC75518	JJA
Aluminum	ND mg/L	EPA 200.8	0.001 mg/L	0.05	8/20/24	QC75572	MBN
Antimony	ND mg/L	EPA 200.8	0.0012 mg/L	0.006	8/20/24	QC75572	MBN
Arsenic	ND mg/L	EPA 200.8	0.0006 mg/L	0.01	8/20/24	QC75572	MBN
Barium	0.0257 mg/L	EPA 200.8	0.0007 mg/L	2	8/20/24	QC75572	MBN
Beryllium	0.0002 mg/L	EPA 200.8	0.0001 mg/L	0.004	8/20/24	QC75572	MBN
Cadmium	ND mg/L	EPA 200.8	0.0001 mg/L	0.005	8/20/24	QC75572	MBN
Chromium	ND mg/L	EPA 200.8	0.0015 mg/L	0.1	8/20/24	QC75572	MBN
Manganese	ND mg/L	EPA 200.8	0.0008 mg/L	0.05	8/20/24	QC75572	MBN
Mercury	ND mg/L	EPA 200.8	0.0001 mg/L	0.002	8/20/24	QC75572	MBN
Selenium	ND mg/L	EPA 200.8	0.0008 mg/L		8/20/24	QC75572	MBN
Silver	ND mg/L	EPA 200.8	0.0005 mg/L	0.1	8/20/24	QC75572	MBN

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Analytical Results

TASK NO: 240814013

Report To: Brian Elkins Jr.

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Bill To: Accounts Payable

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Task No.: 240814013

Client PO:

Client Project: McLean

Date Received: 8/14/24

Date Reported: 8/22/24

Matrix: Water - Drinking

Customer Sample ID Well 1

Sample Date/Time: 8/13/24 7:57 AM

Lab Number: 240814013-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
<i>Total</i>							
Thallium	ND mg/L	EPA 200.8	0.0002 mg/L	0.002	8/20/24	QC75572	MBN
Zinc	0.112 mg/L	EPA 200.8	0.001 mg/L	5	8/20/24	QC75572	MBN

Abbreviations/ References:

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Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Analytical QC Summary

TASK NO: 240814013

Report To: Brian Elkins Jr.
Company: RESPEC Company, LLC

Receive Date: 8/14/24

Project Name: McLean

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Chloride	QC75462	Blank	ND	EPA 300.0	8/14/24
Cyanide-Total	QC75575	Blank	ND	EPA 335.4	8/20/24
Fluoride	QC75463	Blank	ND	EPA 300.0	8/14/24
Aluminum	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Antimony	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Arsenic	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Barium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Beryllium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Cadmium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Chromium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Manganese	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Mercury	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Selenium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Silver	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Thallium	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Zinc	QC75572	Method Blank	ND	EPA 200.8	8/14/24
Iron	QC75518	Method Blank	ND	EPA 200.7	8/14/24
Nitrate Nitrogen	QC75464	Blank	ND	EPA 300.0	8/14/24
Nitrite Nitrogen	QC75466	Blank	ND	EPA 300.0	8/14/24
Sulfate	QC75465	Blank	ND	EPA 300.0	8/14/24

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Chloride	QC75462	Duplicate -240813042-01	0 - 20	-	0.8	EPA 300.0
		LCS	90 - 110	96.7	-	
		MS -240813042-01	75 - 125	91.0	-	
Cyanide-Total	QC75575	Duplicate -240814206-01	0 - 20	-	0.0	EPA 335.4
		LCS	90 - 110	99.3	-	
		MS -240814160-01	75 - 125	97.5	-	
Fluoride	QC75463	Duplicate -240813042-01	0 - 20	-	0.4	EPA 300.0
		LCS	90 - 110	96.2	-	
		MS -240813042-01	75 - 125	95.6	-	
Aluminum	QC75572	LCS	90 - 110	108.1	-	EPA 200.8
		MS -240814004-01	70 - 130	117.2	-	
		MSD -240814004-01	0 - 10	-	1.8	
Antimony	QC75572	LCS	90 - 110	102.3	-	EPA 200.8
		MS -240814004-01	70 - 130	99.6	-	
		MSD -240814004-01	0 - 10	-	2.6	
Arsenic	QC75572	LCS	90 - 110	103.1	-	EPA 200.8
		MS -240814004-01	70 - 130	105.7	-	
		MSD -240814004-01	0 - 10	-	5.2	
Barium	QC75572	LCS	90 - 110	99.9	-	EPA 200.8

Abbreviations/ References:

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mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Beryllium	QC75572	MS -240814004-01	70 - 130	99.1	-	EPA 200.8
		MSD -240814004-01	0 - 10	-	1.3	
		LCS	90 - 110	102.3	-	
		MS -240814004-01	70 - 130	99.2	-	
Cadmium	QC75572	MSD -240814004-01	0 - 10	-	0.5	EPA 200.8
		LCS	90 - 110	99.1	-	
		MS -240814004-01	70 - 130	97.0	-	
		MSD -240814004-01	0 - 10	-	1.9	
Chromium	QC75572	LCS	90 - 110	102.9	-	EPA 200.8
		MS -240814004-01	70 - 130	101.2	-	
		MSD -240814004-01	0 - 10	-	1.9	
		LCS	90 - 110	106.6	-	EPA 200.8
Manganese	QC75572	MS -240814004-01	70 - 130	95.6	-	
		MSD -240814004-01	0 - 10	-	3.4	
		LCS	90 - 110	101.2	-	EPA 200.8
		MS -240814004-01	70 - 130	81.5	-	
Mercury	QC75572	MSD -240814004-01	0 - 10	-	0.9	
		LCS	90 - 110	102.9	-	EPA 200.8
		MS -240814004-01	70 - 130	102.9	-	
		MSD -240814004-01	0 - 10	-	8.0	
Silver	QC75572	LCS	90 - 110	109.8	-	EPA 200.8
		MS -240814004-01	70 - 130	94.1	-	
		MSD -240814004-01	0 - 10	-	3.5	
		LCS	90 - 110	100.1	-	EPA 200.8
Thallium	QC75572	MS -240814004-01	70 - 130	91.7	-	
		MSD -240814004-01	0 - 10	-	3.9	
		LCS	90 - 110	102.4	-	EPA 200.8
		MS -240814004-01	70 - 130	89.6	-	
Zinc	QC75572	MSD -240814004-01	0 - 10	-	1.8	
		LCS	90 - 110	-	0.0	EPA 200.7
		MS -240814004-01	70 - 130	105.1	-	
		MS -240814013-01A	75 - 125	111.9	-	
Iron	QC75518	Duplicate -240814028-01	0 - 20	-	0.0	EPA 200.7
		LCS	90 - 110	105.1	-	
		MS -240814013-01A	75 - 125	111.9	-	
		Duplicate -240813042-01	0 - 20	-	0.3	EPA 300.0
Nitrate Nitrogen	QC75464	LCS	90 - 110	94.4	-	
		MS -240813042-01	75 - 125	86.9	-	
		Duplicate -240813129-01	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	90.8	-	
Nitrite Nitrogen	QC75466	MS -240813129-01A	75 - 125	93.8	-	
		Duplicate -240813042-01	0 - 20	-	0.2	EPA 300.0
		LCS	90 - 110	93.2	-	
		MS -240813042-01	75 - 125	100.6	-	
Sulfate	QC75465	Duplicate -240813042-01	0 - 20	-	0.2	EPA 300.0
		LCS	90 - 110	93.2	-	
		MS -240813042-01	75 - 125	100.6	-	
		Duplicate -240813042-01	0 - 20	-	0.2	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) The accuracy of the spike recovery value is reduced due to the analyte concentration in the sample being disproportionate to the spike level. The laboratory control sample recovery was acceptable

MCL = Maximum contaminant level per the EPA
ND = Not Detected at Reporting Limit.

10411 Heinz Way / Commerce City, CO 80640 / 303-659-2313
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507

Subcontract Analyses

C/S Info:

* see attachment

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Fedd x

☒ C/S ChargeTemp. $6^{\circ}\text{C}/\text{ice}$ 4

Sample Pres. Yes ☒ No ☐

Relinquished By:

Date/Time:

Received By:

Date/Time:

Relinquished By:

Date/Time:

Received By:

Date/Time:

~~James~~ 8/14/2000

EPC Confined Aquifer Sampling Requirements

CAL Task

240814013

CJF

Field Measurements

pH

Temp

Radionuclides

Radium 226 and Radium 228

Gross alpha/Beta

Inorganics

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Cyanide (Total)

Fluoride

Mercury

Nitrate

Nitrite

Selenium

Thallium

Secondary MCLs

Aluminum

Chloride

Corrosivity

Iron

Manganese

Silver

Sulfate

Zinc

TDS

Bacteriological:

Total Coliform

Analytical Results

TASK NO: 240814013

Report To: Brian Elkins Jr.

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Bill To: Accounts Payable

Company: RESPEC Company, LLC
5540 Tech Center Drive
Suite 100
Colorado Springs CO 80919

Task No.: 240814013
Client PO:
Client Project: McLean

Date Received: 8/14/24
Date Reported: 8/22/24
Matrix: Water - Drinking

Customer Sample ID Well 1

Sample Date/Time: 8/13/24 7:57 AM

Lab Number: 240814013-01

Test	Result	Method	RL	Date Analyzed	QC Batch ID	Analyzed By
Bicarbonate	22.1 mg/L as CaCO ₃	SM 2320-B	0.2 mg/L as CaCO ₃	8/14/24	-	KJP
Calcium as CaCO ₃	18.0 mg/L	EPA 200.7	0.1 mg/L	8/19/24	-	JJA
Carbonate	ND mg/L as CaCO ₃	SM 2320-B	0.2 mg/L as CaCO ₃	8/14/24	-	KJP
Hydroxide	ND mg/L as CaCO ₃	SM 2320-B	0.2 mg/L as CaCO ₃	8/14/24	-	KJP
Langelier Index	-2.88 units	SM 2330-B	units	8/21/24	-	DPL
pH	6.35 units	SM 4500-H-B	0.01 units	8/14/24	-	Sampler
Temperature	15 °C	SM 4500-H-B	1 °C	8/14/24	-	Sampler
Total Alkalinity	22.1 mg/L as CaCO ₃	SM 2320-B	4.0 mg/L as CaCO ₃	8/14/24	QC75447	KJP
Total Dissolved Solids	88 mg/L	SM 2540-C	5 mg/L	8/15/24	QC75482	ISG

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Analytical QC Summary

TASK NO: 240814013

Report To: Brian Elkins Jr.
Company: RESPEC Company, LLC

Receive Date: 8/14/24
Project Name: McLean

Test	QC Batch ID	QC Type	Result	Method	Prep Date
Total Alkalinity	QC75447	Blank	ND	SM 2320-B	8/14/24
Total Dissolved Solids	QC75482	Blank	ND	SM 2540-C	8/15/24

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Total Alkalinity	QC75447	Duplicate -240809017-01	0 - 20	-	3.8	SM 2320-B
		LCS	90 - 110	100.4	-	
		LCS-2	90 - 110	102.5	-	
Total Dissolved Solids	QC75482	Duplicate -240814103-01	0 - 10	-	2.0	SM 2540-C
		LCS	85 - 115	106.8	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

EPC Confined Aquifer Sampling Requirements

CAL Task

240814013

CJF

Field Measurements

pH

Temp

Radionuclides

Radium 226 and Radium 228

Gross alpha/Beta

Inorganics

Antimony

Arsenic

Barium

Beryllium

Cadmium

Chromium

Cyanide (Total)

Fluoride

Mercury

Nitrate

Nitrite

Selenium

Thallium

Secondary MCLs

Aluminum

Chloride

Corrosivity

Iron

Manganese

Silver

Sulfate

Zinc

TDS

Bacteriological:

Total Coliform



Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 24H02568
Received: Aug 15, 2024
Reported: Sep 05, 2024
Purchase Order No.
None Received

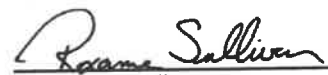
Customer ID: 05377Z
Account ID: Z01034

Rebecca Manzanares
Colorado Analytical Laboratories, Inc.
10411 Heinz Way
Commerce City, CO 80640

ANALYTICAL REPORT

*Report may only be copied in its entirety.
Results reported herein relate only to discrete samples
submitted by the client. Hazen Research, Inc. does not warrant
that the results are representative of anything other than the
samples that were received in the laboratory*

Reviewed and approved by:


Roxanne Sullivan
Analytical Laboratories Director



Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 24H02568

Received: Aug 15, 2024

Reported: Sep 05, 2024

Purchase Order No.

None Received

Customer ID: 05377Z

Account ID: Z01034

ANALYTICAL REPORT

Rebecca Manzanares

Colorado Analytical Laboratories, Inc.

Lab Sample ID			24H02568-001					
Customer Sample ID			240814015-01 - McLean - Well 1					
			sampled on 08/13/24 @ 0757					
			Precision*		Detection		Analysis	
Parameter	Units	Code	Result	+/-	Limit	Method	Date / Time	Analyst
Gross Alpha	pCi/L	T	<1.3	1.1	1.3	SM 7110 B	08/30/24 @ 0736	JR
Gross Beta	pCi/L	T	1.9	2.3	1.8	SM 7110 B	08/30/24 @ 0736	JR

Lab Sample ID			24H02568-002					
Customer Sample ID			240814015-01A - McLean - Well 1					
			sampled on 08/13/24 @ 0757					
			Precision*		Detection		Analysis	
Parameter	Units	Code	Result	+/-	Limit	Method	Date / Time	Analyst
Radium-226	pCi/L	T	0.8	0.4	0.2	SM 7500-Ra B	08/20/24 @ 1230	KT
Radium-228	pCi/L	T	1.1	0.6	0.2	EPA pg.19	08/27/24 @ 1456	KR

Certification ID's: CO/EPA CO00008

*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.

Codes: (T) = Total (D) = Dissolved (S) = Suspended (R) = Replicate Sample (AR) = As Received < = Less Than

HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY

Date: 08/23/2024

Batch QC Summary Form

Analyte: Radium-228

Control Standard/LFB: ID: C6-008 pCi/mL: 14.2 (use 5 diluted)

Spike Solution: ID: C6-008 pCi/mL: 14.2 (use 5 mL)

Spike Recovery Calculation: Sample: 24H02600-002b

Calculation: $\frac{(73.3) - (1.000)}{71} \times 100 = 99.9\%$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 20 %	x		
Spike Recovery	80 - 120 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap			x

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

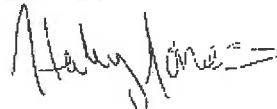
Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

24H02565	_____
24H02567	_____
24H02568	_____
24H02569	_____
24H02570	_____
24H02571	_____
24H02595	_____
24H02600	_____
_____	_____
_____	_____

Evaluator:

 _____

09/05/2024

Date

HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY

Date: 08/30/2024

Batch QC Summary Form

Analyte: Gross Alpha

Control Standard/LFB: ID: C11-006 pCi/mL: 57.4 (use 1 diluted)

Spike Solution: ID: C11-006 pCi/mL: 57.4 (use 1 mL)

Spike Recovery Calculation: Sample: Tap

$$\text{Calculation: } \frac{(286.9) - (0.200)}{57.4} - \frac{(0.65) - (0.200)}{57.4} \times 100 = 99.7\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 30 %	x		
Spike Recovery	70 - 130 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap	x		

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

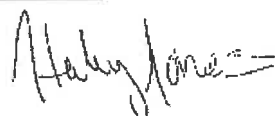
Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

24H02568	24H02604
24H02569	24H02606
24H02570	24H02607
24H02571	24H02608
24H02572	24H02609
24H02593	_____
24H02594	_____
24H02596	_____
24H02600	_____
24H02603	_____

Evaluator:



09/04/2024

Date

HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY

Date: 08/30/2024

Batch QC Summary Form

Analyte: Gross Beta

Control Standard/LFB: ID: C11-006 pCi/mL: 44 (use 1 diluted)

Spike Solution: ID: C11-006 pCi/mL: 44 (use 1 mL)

Spike Recovery Calculation: Sample: Tap

$$\text{Calculation: } \frac{(199.3) - (0.200)}{44} - \frac{(0.9) - (0.200)}{44} \times 100 = 90.2\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 30 %	x		
Spike Recovery	70 - 130 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap	x		

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

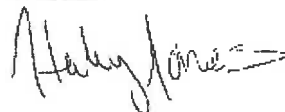
Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

24H02568	24H02607
24H02569	24H02608
24H02570	24H02609
24H02571	_____
24H02572	_____
24H02593	_____
24H02596	_____
24H02603	_____
24H02604	_____
24H02606	_____

Evaluator:

 _____

09/04/2024

Date

HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY

Date: 08/20/2024

Batch QC Summary Form

Analyte: Radium-226

Control Standard/LFB: ID: C73-006 pCi/mL: 21.1 (use 2 diluted)

Spike Solution: ID: C73-006 pCi/mL: 21.1 (use 2 mL)

Spike Recovery Calculation: Sample: 24H02567-02b

$$\text{Calculation: } \frac{(37.8) (1.000) - (0.1) (1.000)}{42.2} \times 100 = 89\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 20 %	x		
Spike Recovery	80 - 120 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap			x

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

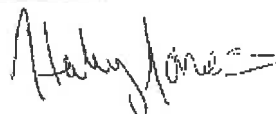
Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

24H02563	_____
24H02564	_____
24H02567	_____
24H02568	_____
24H02569	_____
24H02570	_____
24H02572	_____
_____	_____
_____	_____
_____	_____

Evaluator:



08/23/2024

Date

24H 02568



Company: Hazen Research

Preserved: Y / N

HNO3 Lot #: N/A

Date Preserved: N/A

Report To Information Company Name <u>Colorado Analytical Laboratory</u> Report To: <u>Rebecca Manzanarez</u> E-Mail: <u>rebeccamanzanarez@coloradolab.com</u>		Bill To Information: (if different from report to) Project Name <u>McLean</u>	
Address: <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u> Phone: <u>303-659-2313</u>		CAL TASK 240814015 C.JF	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Tests Requested

Sample Date/Time	Sample ID	Matrix	Tests Requested												Container Type
8/13/24 7:57 AM	240814015-01 - Well 1	Water - Drinking	Radium 228 (Sub)												1L - Unpreserved
8/13/24 7:57 AM	240814015-01 - Well 1	Water - Drinking	Gross Alpha/Beta (Sub)	X											4 - 1L - Unpreserved
			Radium 226 (Sub)	X											

Comment:

Hazen Preservation Checks
 8/13/24 Initial pH 7
 A Not Preserved by
 8/13/24 Final pH 7
 Final pH 7

Relinquished by: (Signature) <u>Adam</u>	Date: Time 8/15/24	Received by: (Signature) <u>830</u>	Date: Time 8/15/24
Relinquished by: (Signature)		Received by: (Signature)	

771237