

23 July 2024

Scott Bajer  
Inner Basin Environmental, LLC  
2355 N Steves Blvd., Suite C  
Flagstaff, AZ 86004

RE: Glen Canyon NRA Wahweap

Laboratory Work Order No.: 24G2203

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 07/16/24 10:51.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

**LEGEND TECHNICAL SERVICES OF ARIZONA, INC.**



Courtney Keen  
Client Services Representative

*This laboratory report is confidential and is intended for the sole use of LEGEND and its client.*

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
03712 (Wahweap - House 118)	24G2203-01	Drinking Water	Grab	07/11/24 08:21	07/16/24 10:51
03712 (Wahweap - District Manager Office)	24G2203-02	Drinking Water	Grab	07/11/24 08:02	07/16/24 10:51

**Sample Condition Upon Receipt:**

Temperature: 0.10 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

**Case Narrative:**

**Holding Times:** All holding times were met unless otherwise qualified.

**QA/QC Criteria:** All analyses met method requirements unless otherwise qualified.

**Certifications:** AZ(PHX)0004, AZ(TUC)0004, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

**Comments:** There were no problems encountered during the processing of the samples, unless otherwise noted.  
All samples were analyzed on a "wet" basis unless designated as "dry weight".

**03712 (Wahweap - House 118) (24G2203-01) Drinking Water (Grab) Sampled: 07/11/24 08:21 Received: 07/16/24 10:51**

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
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Legend Technical Services of Arizona, Inc.

**Volatile Organic Compounds**

Bromodichloromethane	0.0151	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:09	MAC	EPA 524.2	
Bromoform	0.0021	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:09	MAC	EPA 524.2	
Chloroform	0.0175	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:09	MAC	EPA 524.2	
Dibromochloromethane	0.0113	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:09	MAC	EPA 524.2	
Total THMs	0.0461	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:09	MAC	EPA 524.2	
Surrogate: 1,2-Dichlorobenzene-d4		122 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: 1,2-Dichloroethane-d4		101 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: 4-Bromofluorobenzene		79 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: Pentafluorobenzene		97 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	

**Haloacetic Acids**

Dibromoacetic acid	<0.0010	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	
Dichloroacetic acid	<0.0010	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	
HAA-5	0.0028	0.0020	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	
Monobromoacetic acid	<0.0010	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	
Monochloroacetic acid	<0.0020	0.0020	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	
Trichloroacetic acid	0.0028	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 17:15	SF	EPA 557	

**03712 (Wahweap - District Manager Office) (24G2203-02) Drinking Water (Grab) Sampled: 07/11/24 08:02 Received: 07/16/24 10:51**

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
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Legend Technical Services of Arizona, Inc.

**Volatile Organic Compounds**

Bromodichloromethane	0.0144	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:37	MAC	EPA 524.2	
Bromoform	0.0022	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:37	MAC	EPA 524.2	
Chloroform	0.0161	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:37	MAC	EPA 524.2	
Dibromochloromethane	0.0108	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:37	MAC	EPA 524.2	
Total THMs	0.0434	0.0005	mg/L	1	B4G0592	07/17/24 13:00	07/17/24 21:37	MAC	EPA 524.2	
Surrogate: 1,2-Dichlorobenzene-d4		119 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: 1,2-Dichloroethane-d4		103 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: 4-Bromofluorobenzene		81 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	
Surrogate: Pentafluorobenzene		95 %		70-130	B4G0592	07/17/24	07/17/24		EPA 524.2	

**Haloacetic Acids**

Dibromoacetic acid	0.0013	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	
Dichloroacetic acid	0.0027	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	
HAA-5	0.0067	0.0020	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	
Monobromoacetic acid	<0.0010	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	
Monochloroacetic acid	<0.0020	0.0020	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	

Inner Basin Environmental, LLC  
2355 N Steves Blvd., Suite C  
Flagstaff, AZ 86004

Project: Glen Canyon NRA Wahweap  
Project Number: 244209-210  
Project Manager: Scott Bajer

Reported:  
07/23/24 09:58

**03712 (Wahweap - District Manager Office) (24G2203-02) Drinking Water (Grab) Sampled: 07/11/24 08:02 Received: 07/16/24 10:51**

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
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Legend Technical Services of Arizona, Inc.

**Haloacetic Acids**

Trichloroacetic acid	0.0026	0.0010	mg/L	1	B4G0518	07/17/24 11:00	07/17/24 18:04	SF	EPA 557	
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**Volatile Organic Compounds - Quality Control**  
**Legend Technical Services of Arizona, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B4G0592 - Default Prep VOC**

**Blank (B4G0592-BLK1)**

*Prepared & Analyzed: 07/17/24*

Bromodichloromethane	<0.0005	0.0005	mg/L							
Bromoform	<0.0005	0.0005	mg/L							
Chloroform	<0.0005	0.0005	mg/L							
Dibromochloromethane	<0.0005	0.0005	mg/L							
Total THMs	<0.0005	0.0005	mg/L							
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>0.0046</i>		<i>mg/L</i>	<i>0.00400</i>		<i>116</i>	<i>70-130</i>	<i>9.00</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0041</i>		<i>mg/L</i>	<i>0.00400</i>		<i>103</i>	<i>70-130</i>	<i>10.00</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0032</i>		<i>mg/L</i>	<i>0.00400</i>		<i>80</i>	<i>70-130</i>	<i>11.00</i>		
<i>Surrogate: Pentafluorobenzene</i>	<i>0.0039</i>		<i>mg/L</i>	<i>0.00400</i>		<i>97</i>	<i>70-130</i>	<i>12.00</i>		

**LCS (B4G0592-BS1)**

*Prepared & Analyzed: 07/17/24*

Bromodichloromethane	0.0022	0.0005	mg/L	0.00200		109	70-130			
Bromoform	0.0022	0.0005	mg/L	0.00200		111	70-130			
Chloroform	0.0022	0.0005	mg/L	0.00200		109	70-130			
Dibromochloromethane	0.0022	0.0005	mg/L	0.00200		112	70-130			
Total THMs	0.0088	0.0005	mg/L	0.00800		110	0-200			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>0.0041</i>		<i>mg/L</i>	<i>0.00400</i>		<i>102</i>	<i>70-130</i>	<i>20.00</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0040</i>		<i>mg/L</i>	<i>0.00400</i>		<i>100</i>	<i>70-130</i>	<i>21.00</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0038</i>		<i>mg/L</i>	<i>0.00400</i>		<i>96</i>	<i>70-130</i>	<i>22.00</i>		
<i>Surrogate: Pentafluorobenzene</i>	<i>0.0038</i>		<i>mg/L</i>	<i>0.00400</i>		<i>95</i>	<i>70-130</i>	<i>23.00</i>		

**LCS Dup (B4G0592-BSD1)**

*Prepared & Analyzed: 07/17/24*

Bromodichloromethane	0.0022	0.0005	mg/L	0.00200		110	70-130	0.9	20	
Bromoform	0.0023	0.0005	mg/L	0.00200		114	70-130	3	20	
Chloroform	0.0022	0.0005	mg/L	0.00200		112	70-130	3	20	
Dibromochloromethane	0.0023	0.0005	mg/L	0.00200		116	70-130	4	20	
Total THMs	0.0090	0.0005	mg/L	0.00800		113	0-200	2	200	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>0.0040</i>		<i>mg/L</i>	<i>0.00400</i>		<i>100</i>	<i>70-130</i>	<i>31.00</i>		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0042</i>		<i>mg/L</i>	<i>0.00400</i>		<i>104</i>	<i>70-130</i>	<i>32.00</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0039</i>		<i>mg/L</i>	<i>0.00400</i>		<i>97</i>	<i>70-130</i>	<i>33.00</i>		
<i>Surrogate: Pentafluorobenzene</i>	<i>0.0037</i>		<i>mg/L</i>	<i>0.00400</i>		<i>92</i>	<i>70-130</i>	<i>34.00</i>		

**Haloacetic Acids - Quality Control**  
**Legend Technical Services of Arizona, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B4G0518 - Default Prep GC-Semi</b>										
<b>Blank (B4G0518-BLK1)</b> <span style="float:right">Prepared: 07/16/24 Analyzed: 07/17/24</span>										
Dibromoacetic acid	<0.0010	0.0010	mg/L							
Dichloroacetic acid	<0.0010	0.0010	mg/L							
HAA-5	<0.0020	0.0020	mg/L							
Monobromoacetic acid	<0.0010	0.0010	mg/L							
Monochloroacetic acid	<0.0020	0.0020	mg/L							
Trichloroacetic acid	<0.0010	0.0010	mg/L							
<b>LCS (B4G0518-BS1)</b> <span style="float:right">Prepared: 07/16/24 Analyzed: 07/17/24</span>										
Dibromoacetic acid	0.0019	0.0010	mg/L	0.00200		94	70-130			
Dichloroacetic acid	0.0020	0.0010	mg/L	0.00200		100	70-130			
HAA-5	0.0102	0.0020	mg/L	0.0100		102	0-200			
Monobromoacetic acid	0.0021	0.0010	mg/L	0.00200		106	70-130			
Monochloroacetic acid	0.0021	0.0020	mg/L	0.00200		105	70-130			
Trichloroacetic acid	0.0021	0.0010	mg/L	0.00200		104	70-130			
<b>Matrix Spike (B4G0518-MS1)</b> <span style="float:right">Source: 24G2150-01 Prepared: 07/16/24 Analyzed: 07/17/24</span>										
Dibromoacetic acid	0.0045	0.0010	mg/L	0.00200	0.0026	95	70-130			
Dichloroacetic acid	0.0026	0.0010	mg/L	0.00200	0.0006	99	70-130			
HAA-5	0.0144	0.0020	mg/L	0.0100	0.0026	117	0-200			
Monobromoacetic acid	0.0026	0.0010	mg/L	0.00200	0.0004	109	70-130			
Monochloroacetic acid	0.0023	0.0020	mg/L	0.00200	<0.0020	116	70-130			
Trichloroacetic acid	0.0023	0.0010	mg/L	0.00200	0.0003	101	70-130			
<b>Matrix Spike Dup (B4G0518-MSD1)</b> <span style="float:right">Source: 24G2150-01 Prepared: 07/16/24 Analyzed: 07/17/24</span>										
Dibromoacetic acid	0.0045	0.0010	mg/L	0.00200	0.0026	93	70-130	1	30	
Dichloroacetic acid	0.0026	0.0010	mg/L	0.00200	0.0006	99	70-130	0.2	30	
HAA-5	0.0144	0.0020	mg/L	0.0100	0.0026	117	0-200	0.2	200	
Monobromoacetic acid	0.0026	0.0010	mg/L	0.00200	0.0004	108	70-130	0.9	30	
Monochloroacetic acid	0.0023	0.0020	mg/L	0.00200	<0.0020	116	70-130	0.6	30	
Trichloroacetic acid	0.0023	0.0010	mg/L	0.00200	0.0003	101	70-130	0.2	30	

### Notes and Definitions

BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

24G2203



PM: Courtney Keen

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2355 N Steves Blvd, Suite C  
Flagstaff, Arizona 86004

928-440-5168  
scott@ibelabs.com  
spencer@ibelabs.com

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Client Information

Client Name		Address		City	State	Zip	Phone	Fax/Email
National Park Service Glen Canyon NRA		691 Scenic View Dr		Page	AZ	86040	928-608-6266	Jeff Arnold@nps.gov
Project Name		Samper		Grab/Composite (G/C)	Sample Type (Use Type Codes)	Compliance (Y or N)	Number of Containers	Analyses Requested
Surface Water Sampling		Conor Clancy						
Sample Type Codes		Turnaround Time						
D=Drinking Water    G=Groundwater B=Water                S=Soil/Solid W=Wastewater        T=Travel Blank F=Surface Water      O=Other		Laboratory Authorization Required for Accelerated Turnaround Times		Standard (10-15 Days)		Rush -		Lab ID
PWS or Permit ID	Sample Collection		Sample Location		DBPs			
	Date	Time						
037214	7/11/2024	08:21	Wahweap - House 118		X			244209 -01
03712								
03712	7/11/2024	08:02	Wahweap - District Manager Office		x			244210 -02
<b>CORRECTION MADE BY CLIENT OR COURIER PRIOR TO SAMPLE RECEIPT AT LEGEND</b> 07-17-24								

Comments: Q6

Relinquished By:

Received By:

Print Rich Cunrod	Date 7/11/24	Print Annette Utz	Date 7/11/24
Sign Rich Cunrod	Time 11:56	Sign [Signature]	Time 11:57
Print [Signature]	Date 7/15/24	Print [Signature]	Date 7/16/24
Sign [Signature]	Time 1536	Sign [Signature]	Time 1051

Temperature: 6.1°C @legend  
times must match OK 7-17-24  
Temperature: 17.9 °C

7774 0647 2374