Navajo Nation – Cove Wash Watershed - Surface Water Quality Assessment Report (Integrated 305(b) Report and 303(d) Listing)

(Photograph of Cove Wash on October 29, 2011)

Prepared by:

Navajo Nation Environmental Protection Agency
Water Quality Program
Post Office Box 339
Window Rock, Arizona 86515
(928) 871-7998

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B. Laboratory Analytical Data for Site 10COVEWASH09

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1.0 Background and Purpose

The objective of the United States Clean Water Act (USCWA) is to "*restore* and *maintain* the chemical, physical, and biological integrity of the Nation's Waters" (USGPO, 1988). In order to meet this objective, and exert its sovereign authority to protect its water resources, the Navajo Nation codified the Navajo Nation Clean Water Act (NNCWA 1999) in July 1999. The importance of water to the Navajo Nation is clearly demonstrated by the adoption of the NNCWA, with the Navajo Nation being only one of a few tribes or states to adopt a clean water act. The NNCWA provides the legislative authority to allow the Navajo Nation to fulfill the USCWA requirements.

In order to *restore* and *maintain* the chemical, physical, and biological integrity of the Nation's Water, states and federally recognized tribes adopt water quality standards which protect the uses of the Nation's water bodies. Water quality standards are narrative and numeric criteria used as benchmarks to determine if a designated use for a water body is being attained. NNCWA Section 103(a)(2)(A) provides for "the establishment of water quality standards to protect fish and wildlife and the domestic, cultural, agricultural and recreational uses of the waters of the Navajo Nation." This is consistent with the "fishable and swimmable goal" set forth in USCWA Sections 101(a)(2) and 303(c)(2). NNCWA Sections 201(b) and (c) requires that designated uses be established for public water supplies, the protection and propagation of fish and wildlife, recreational purposes, agricultural (including livestock watering), industrial, cultural, and other uses, and to establish criteria to protect the designated uses.

The Navajo Nation first codified the 1999 Navajo Nation Water Quality Standards (1999 NNWQS) in July 1999 (NNEPA 1999). On January 20, 2006 the US Environmental Protection Agency (USEPA) approved the Navajo Nation's application to administer the Water Quality Standards and Certification Programs under the federal Clean Water Act's Sections 303 and 401. On March 26, 2009, the USEPA approved the 2007 Navajo Nation Surface Water Quality Standards (NNSWQS) (NNEPA 2008). The 2013 NNSWQS (NNEPA 2013) are currently awaiting Navajo Nation legislative approval.

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The Navajo Environmental Protection Agency Water Quality / Navajo Nation Pollutant Discharge Elimination System Program (Navajo EPA WQ/NNPDES Program) is responsible for implementing the requirements of the USCWA and the NNCWA within the Navajo Nation.

This report fulfills USCWA Section 305(b) reporting requirements, USCWA Section 303(d) listing requirements, USEPA's USCWA Section 106 Tribal Guidance, Chapter 8 and Appendix A, assessment reporting requirements, and FY 2014 National Water Program Guidance Measures WQ-SP14b.N11. It also fulfills assessment reporting requirements in the "Navajo Nation Environmental Protection Agency Water Quality/Navajo Nation Pollutant Discharge Elimination System Program, Federal Clean Water Act Performance Partnership Grant" Work Plan.

The purpose of this report is to assess Cove Wash surface water quality data obtained by the Navajo EPA WQ/NNPDES Program by:

1. Presenting the surface water quality data;
2. Comparing the surface water quality data to the latest version of the NNSWQS to see if standards are being met;
3. Determine if uses designated for Cove Wash surface waters are being supported using the methods described in the February 20, 2008 NNEPA document entitled: "Guidance for Assessing the Quality of Navajo Nation Surface Waters to Determine Impairment" (Integrated 305(b) Reporting and 303(d) Listing); and
4. Make recommendations for further surface water quality data gathering.

The Navajo Nation Cove Wash Watershed Surface Water Quality Assessment is intended to be a living document, which can be updated to include the latest surface water quality data. The Navajo EPA WQ/NNPDES Program welcomes all comments that will assist in revising this report in the future.

2.0 Cove Wash Watershed

The Cove Wash Watershed (Figure 2.0) is located on approximately 47 square miles within the Middle San Juan River Watershed. The United States Geological Survey (USGS) uses a 12-digit Hydrologic Unit Code (HUC) of 140801050903 (USGS 2013) for the Cove Wash Watershed. Cove Wash is the only named water body within this watershed. For the purposes of this report

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Cove Wash refers to Cove Wash and all tributaries within the Cove Wash Watershed. The combined length of Cove Wash and its tributaries is 52.1 miles (see Table 2.0). The uses that are designated for Cove Wash are Secondary Human Contact (ScHC), Fish Consumption (FC), Aquatic and Wildlife Habitat (A&WHbt), and Livestock Watering (LW) (See Table 2.1).

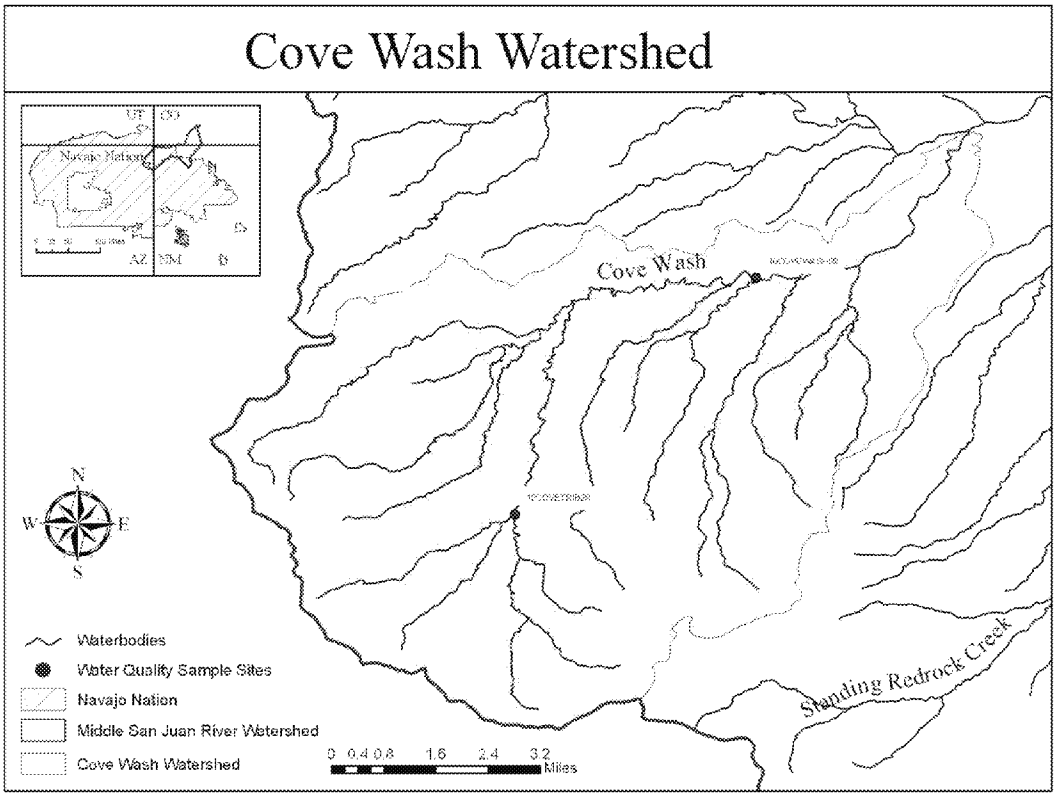

Figure 2.0 –Cove Wash Watershed (Approximately 47 square miles)

Table 2.0 – Cove Wash Watershed Atlas of Surface Water Bodies
(stream segment measurement on Cove, AZ 1:24,000 USGS Topographic Map)

Surface Water Body Name	Length (miles) or Area (acres)
Cove Wash	52.1 miles

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Table 2.1 – Cove Wash Watershed Surface Waters with Designated Uses
(from 2007 Navajo Nation Surface Water Quality Standards, Table 205.1)

Surface Water Body Name	Designated Uses*
Cove Wash	ScHC, FC, A&WHbt, and LW

Footnotes: * = Designated Uses are: ScHC = Secondary Human Contact, FC = Fish Consumption, A&WHbt = Aquatic and Wildlife Habitat, and LW = Livestock Watering.

3.0 Historic Uranium Mining

The Cove Wash Watershed has historically been mined for uranium ore. Figure 3.0 shows the location of these abandoned uranium mines and the location of surface water sampling site 10COVETRIB29. Figure 3.0 also indicates the location of the abandoned uranium mine area known as the Mesa I Mines. A detailed history of uranium mining in these areas will not be provided in this report. For a detailed history please refer to the following documents:

- Abandoned Uranium Mines Project – Arizona, New Mexico, Utah – Navajo Lands – 1994 – 2000 – Project Atlas (December 2000, United States Environmental Protection Agency Region 9 Superfund Records Center and United States Army Corps of Engineers Los Angeles District),
- Preliminary Assessment Report – Mesa I Mines – Apache County, Arizona - EPA ID No. NND983466772 (August 2008, United States Environmental Protection Agency Region 9),
- Amendment to Preliminary Assessment Report – Mesa I Mines – EPA ID No. NND983466772 (August 2008, United States Environmental Protection Agency Region 9); and
- Navajo Abandoned Uranium Mine – Site Screen Report – Cove Wash Area – Navajo AUM Northern Region (May 2010, United States Environmental Protection Agency Region 9).

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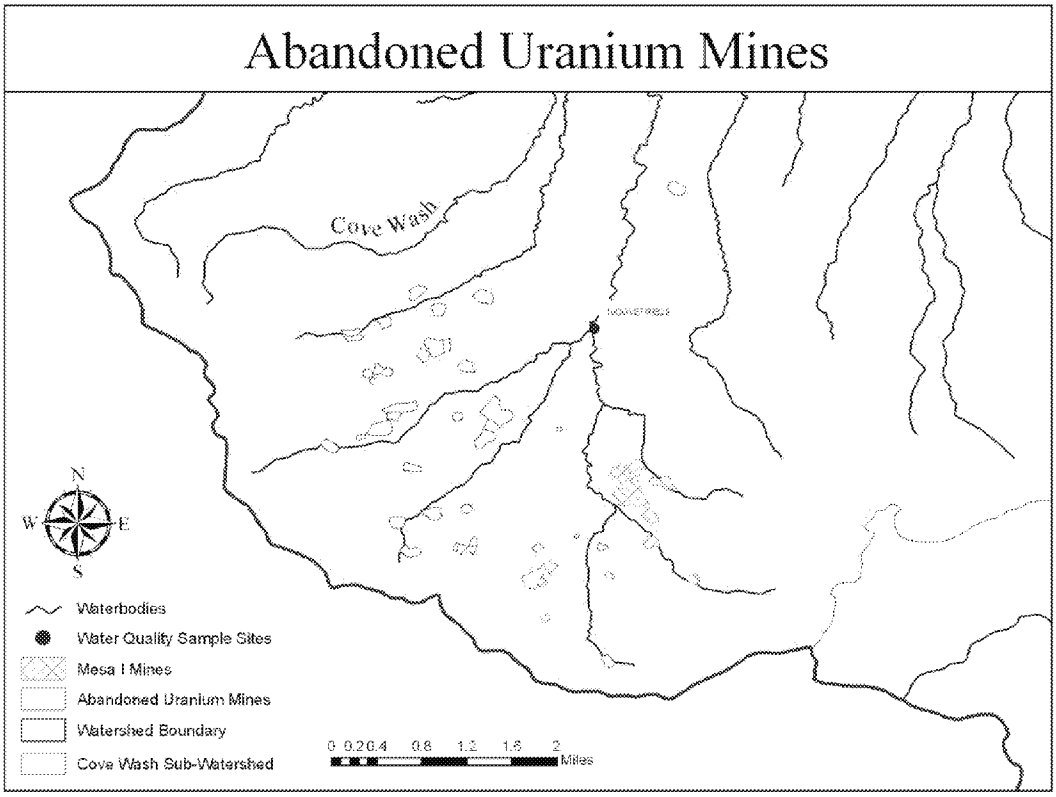

Figure 3.0 – Abandoned Uranium Mines in Cove Wash Watershed

4.0 Cove Wash Surface Water Quality Data Collection Activities

Cove Wash is the only surface water body from which water quality data was obtained. Monitoring and water quality sampling of Cove Wash was conducted at the sites listed in Table 4.0. These activities were undertaken using professional experience and in accordance with the NNEPA WQP June 1, 2012 "Quality Assurance Plan for Surface Water Data Collection" or previous quality assurance plans.

Table 4.0 – Cove Wash Sampling Locations and Dates.

Location	Site Name	Years Sampled
Cove Wash Tributary	10COVETRIB29	2011, 2012
Cove Wash	10COVEWASH09	2001

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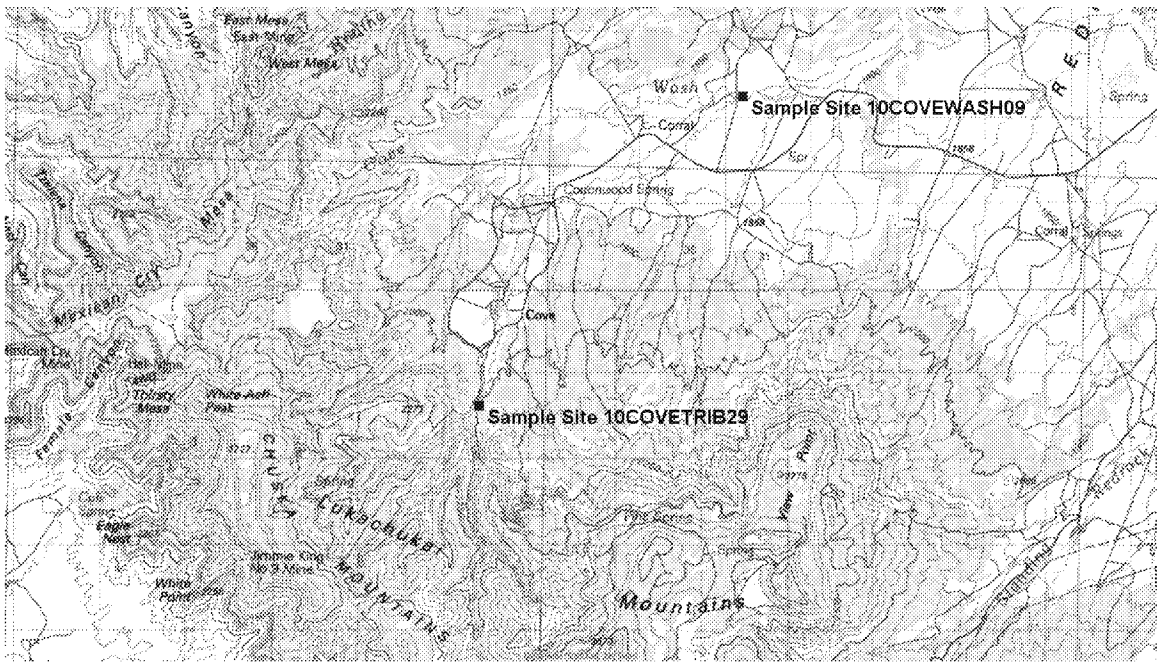
Water quality sampling was conducted in the years listed in Table 4.0. Measurements of physical/ chemical characteristics and stream discharge were made. Samples were obtained and submitted to an analytical laboratory for analyses. Quality Assurance and Quality Control samples were also obtained.

Cove Wash has been sampled at two sites. Sample site 10COVETRIB29 is one of the Cove Wash tributaries located in the watershed head waters. Sample site 10COVEWASH09 is located approximately at a mid-point in the Cove Wash between the head waters and the confluence with Blackhorse Creek. Both sites are located down gradient of the historical uranium mining areas. Cove Wash is intermittent at both sampling locations (Map 4.0). Photographs of surface flow conditions at sites 10COVETRIB29 and 10COVEWASH09 are provided below.



Map 4.0 - Location of Sample Sites 10COVETRIB29 and 10COVEWASH09.

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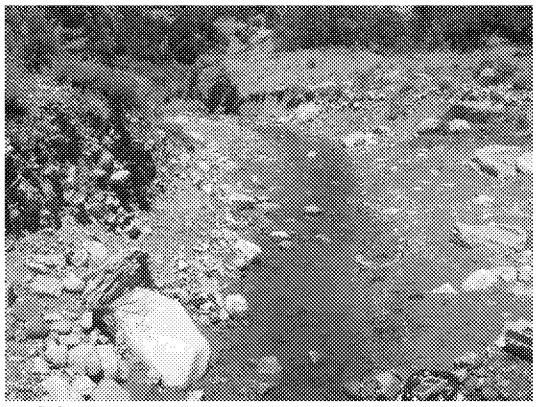
Photographs of Sample Sites:

10COVETRIB29 - May 23, 2011

10COVETRIB29 - August 1, 2012


10COVETRIB29 - June 20, 2011

10COVETRIB29 - August 27, 2012

10COVETRIB29 - July 20, 2011

10COVEWASH09 – March 12, 2001

4.1 Cove Wash Site 10COVETRIB29 Water Quality Data

A summary of all analytical and field data obtained at this site is provided in Table 4.1 and in the analytical laboratory reports in Appendix A. (For an electronic copy of these data, please call 505-368-1037).

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Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
05/23/2011	Alkalinity, bicarbonate as CaCO3	D	260	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, bicarbonate as CaCO3	D	380	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, bicarbonate as CaCO3	D	390	mg/l	6	APHA	2320B
08/27/2012	Alkalinity, bicarbonate as CaCO3	D	380	mg/l	6	APHA	2320B
05/23/2011	Alkalinity, carbonate as CaCO3	D	14	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, carbonate as CaCO3	D	ND	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, carbonate as CaCO3	D	ND	mg/l	6	APHA	2320B
08/27/2012	Alkalinity, carbonate as CaCO3	D	ND	mg/l	6	APHA	2320B
05/23/2011	Alkalinity, hydroxide as CaCO3	D	ND	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, hydroxide as CaCO3	D	ND	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, hydroxide as CaCO3	D	ND	mg/l	6	APHA	2320B
08/27/2012	Alkalinity, hydroxide as CaCO3	D	ND	mg/l	6	APHA	2320B
05/23/2011	Alkalinity, Phenolphthalein	D	6.9	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, Phenolphthalein	D	ND	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, Phenolphthalein	D	ND	mg/l	6	APHA	2320B
08/27/2012	Alkalinity, Phenolphthalein	D	ND	mg/l	6	APHA	2320B
05/23/2011	Alkalinity, total	D	270	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, total	D	380	mg/l	6	APHA	2320B
08/01/2012	Alkalinity, total	D	390	mg/l	6	APHA	2320B
08/27/2012	Alkalinity, total	D	380	mg/l	6	APHA	2320B
05/23/2011	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
05/23/2011	Aluminum	T	0.036	mg/L	0.01	USEPA	200.8
06/20/2011	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
06/20/2011	Aluminum	T	ND	mg/L	0.01	USEPA	200.8
07/20/2011	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
07/20/2011	Aluminum	T	7.2	mg/L	0.1	USEPA	200.8
08/01/2012	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
08/01/2012	Aluminum	T	1.6	mg/L	0.02	USEPA	200.8
08/01/2012	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
08/01/2012	Aluminum	T	1.4	mg/L	0.02	USEPA	200.8
08/27/2012	Aluminum	D	ND	mg/L	0.01	USEPA	200.8
08/27/2012	Aluminum	T	0.68	mg/L	0.01	USEPA	200.8
05/23/2011	Ammonia-nitrogen	T	0.027	mg/L	Field Measurement		
06/20/2011	Ammonia-nitrogen	T	ND	mg/L	Field Measurement		
07/20/2011	Ammonia-nitrogen	T	0.102	mg/L	Field Measurement		
08/01/2012	Ammonia-nitrogen	T	0.238	mg/L	Field Measurement		
08/27/2012	Ammonia-nitrogen	T	0.086	mg/L	Field Measurement		
05/23/2011	Antimony	D	ND	mg/l	0.003	USEPA	200.8
05/23/2011	Antimony	T	ND	mg/l	0.003	USEPA	200.8
06/20/2011	Antimony	D	ND	mg/l	0.003	USEPA	200.8
06/20/2011	Antimony	T	ND	mg/l	0.003	USEPA	200.8

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
07/20/2011	Antimony	D	ND	mg/l	0.003	USEPA	200.8
07/20/2011	Antimony	T	ND	mg/l	0.003	USEPA	200.8
08/01/2012	Antimony	D	ND	mg/l	0.003	USEPA	200.8
08/01/2012	Antimony	T	ND	mg/l	0.003	USEPA	200.8
08/01/2012	Antimony	D	ND	mg/l	0.003	USEPA	200.8
08/01/2012	Antimony	T	ND	mg/l	0.003	USEPA	200.8
08/27/2012	Antimony	D	ND	mg/l	0.003	USEPA	200.8
08/27/2012	Antimony	T	ND	mg/l	0.003	USEPA	200.8
05/23/2011	Arsenic	D	0.005	mg/l	0.001	USEPA	200.8
05/23/2011	Arsenic	T	0.0051	mg/l	0.001	USEPA	200.8
06/20/2011	Arsenic	T	0.0057	mg/l	0.001	USEPA	200.8
06/20/2011	Arsenic	D	0.0059	mg/l	0.001	USEPA	200.8
07/20/2011	Arsenic	D	0.008	mg/l	0.001	USEPA	200.8
07/20/2011	Arsenic	T	0.0086	mg/l	0.001	USEPA	200.8
08/01/2012	Arsenic	D	0.011	mg/l	0.001	USEPA	200.8
08/01/2012	Arsenic	T	0.014	mg/l	0.001	USEPA	200.8
08/01/2012	Arsenic	D	0.011	mg/l	0.001	USEPA	200.8
08/01/2012	Arsenic	T	0.013	mg/l	0.001	USEPA	200.8
08/27/2012	Arsenic	D	0.0056	mg/l	0.001	USEPA	200.8
08/27/2012	Arsenic	T	0.0066	mg/l	0.001	USEPA	200.8
05/23/2011	Barium	T	0.31	mg/l	0.01	USEPA	200.7
06/20/2011	Barium	T	0.29	mg/l	0.01	USEPA	200.7
07/20/2011	Barium	T	0.29	mg/l	0.01	USEPA	200.7
08/01/2012	Barium	T	0.53	mg/l	0.01	USEPA	200.7
08/01/2012	Barium	T	0.53	mg/l	0.01	USEPA	200.7
08/27/2012	Barium	T	0.42	mg/l	0.01	USEPA	200.7
05/23/2011	Beryllium	T	ND	mg/l	0.001	USEPA	200.7
06/20/2011	Beryllium	T	ND	mg/l	0.001	USEPA	200.7
07/20/2011	Beryllium	T	ND	mg/l	0.001	USEPA	200.7
08/01/2012	Beryllium	T	0.0015	mg/l	0.001	USEPA	200.7
08/01/2012	Beryllium	T	ND	mg/l	0.001	USEPA	200.7
08/27/2012	Beryllium	T	ND	mg/l	0.001	USEPA	200.7
05/23/2011	Boron	D	ND	mg/l	0.2	USEPA	200.7
05/23/2011	Boron	T	ND	mg/l	0.2	USEPA	200.7
06/20/2011	Boron	D	ND	mg/l	0.2	USEPA	200.7
06/20/2011	Boron	T	ND	mg/l	0.2	USEPA	200.7
07/20/2011	Boron	D	ND	mg/l	0.2	USEPA	200.7
07/20/2011	Boron	T	ND	mg/l	0.2	USEPA	200.7
08/01/2012	Boron	D	ND	mg/l	0.2	USEPA	200.7
08/01/2012	Boron	T	ND	mg/l	0.2	USEPA	200.7
08/01/2012	Boron	D	ND	mg/l	0.2	USEPA	200.7

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/01/2012	Boron	T	ND	mg/l	0.2	USEPA	200.7
08/27/2012	Boron	D	ND	mg/l	0.2	USEPA	200.7
08/27/2012	Boron	T	ND	mg/l	0.2	USEPA	200.7
05/23/2011	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Cadmium	D	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Cadmium	T	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Calcium	D	76	mg/l	2	USEPA	200.7
06/20/2011	Calcium	D	58	mg/l	2	USEPA	200.7
07/20/2011	Calcium	D	72	mg/l	2	USEPA	200.7
08/01/2012	Calcium	D	110	mg/l	2	USEPA	200.7
08/01/2012	Calcium	D	110	mg/l	2	USEPA	200.7
08/27/2012	Calcium	D	95	mg/l	2	USEPA	200.7
05/23/2011	Chloride	D	10	mg/l	2	USEPA	300
08/01/2012	Chloride	D	14	mg/l	2	USEPA	300
08/01/2012	Chloride	D	14	mg/l	2	USEPA	300
08/27/2012	Chloride	D	17	mg/l	2	USEPA	300
05/23/2011	Chromium	D	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Chromium	T	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Chromium	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Chromium	T	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Chromium	D	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Chromium	T	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Chromium	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Chromium	T	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Chromium	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Chromium	T	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Chromium	D	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Chromium	T	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Cobalt	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Cobalt	D	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Cobalt	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Cobalt	D	ND	mg/l	0.04	USEPA	200.7

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/01/2012	Cobalt	D	ND	mg/l	0.04	USEPA	200.7
08/27/2012	Cobalt	D	ND	mg/l	0.04	USEPA	200.7
05/23/2011	Copper	D	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Copper	T	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Copper	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Copper	T	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Copper	D	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Copper	T	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Copper	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Copper	T	0.01	mg/l	0.01	USEPA	200.7
08/01/2012	Copper	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Copper	T	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Copper	D	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Copper	T	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Cyanide	T	ND	mg/l	0.005	APHA	4500-CN(E)
06/20/2011	Cyanide	T	ND	mg/l	0.005	APHA	4500-CN(E)
07/20/2011	Cyanide	T	ND	mg/l	0.005	APHA	4500-CN(E)
08/01/2012	Cyanide	T	ND	mg/L	0.005	APHA	4500-CN(E)
08/01/2012	Cyanide	T	ND	mg/L	0.005	APHA	4500-CN(E)
08/27/2012	Cyanide	T	ND	mg/L	0.005	APHA	4500-CN (G)
05/23/2011	Dissolved oxygen (DO)		6.62	mg/L	Field Measurement		
06/20/2011	Dissolved oxygen (DO)		6.82	mg/L	Field Measurement		
07/20/2011	Dissolved oxygen (DO)		6.99	mg/L	Field Measurement		
08/01/2012	Dissolved oxygen (DO)		6.5	mg/L	Field Measurement		
08/27/2012	Dissolved oxygen (DO)		1.77	mg/L	Field Measurement		
05/23/2011	Dissolved oxygen saturation		73.9	%	Field Measurement		
06/20/2011	Dissolved oxygen saturation		79.8	%	Field Measurement		
07/20/2011	Dissolved oxygen saturation		78.4	%	Field Measurement		
08/01/2012	Dissolved oxygen saturation		82.2	%	Field Measurement		
08/27/2012	Dissolved oxygen saturation		20.1	%	Field Measurement		
05/23/2011	Flow		0.19	cfs	Field Measurement		
06/20/2011	Flow		0.02	cfs	Field Measurement		
07/20/2011	Flow		0.05	cfs	Field Measurement		
08/01/2012	Flow		~0.0003	cfs	Field Measurement		
08/27/2012	Flow		~0.0003	cfs	Field Measurement		
05/23/2011	Fluoride	T	ND	mg/l	0.4	USEPA	300
06/20/2011	Fluoride	T	ND	mg/l	0.4	USEPA	300
07/20/2011	Fluoride	T	ND	mg/l	0.4	USEPA	300
08/01/2012	Fluoride	T	ND	mg/l	0.4	USEPA	300
08/01/2012	Fluoride	T	ND	mg/l	0.4	USEPA	300
08/27/2012	Fluoride	T	ND	mg/l	0.4	USEPA	300

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
05/23/2011	Gross alpha radioactivity, (Americium-241 ref std)	T	50.3 ± 4.4	pCi/L		USEPA	00-02
06/20/2011	Gross alpha radioactivity, (Americium-241 ref std)	T	44 ± 4	pCi/L		USEPA	00-02
07/20/2011	Gross alpha radioactivity, (Americium-241 ref std)	T	43 ± 4	pCi/L		USEPA	00-02
08/01/2012	Gross alpha radioactivity, (Americium-241 ref std)	T	67 ± 6	pCi/L		USEPA	00-02
08/01/2012	Gross alpha radioactivity, (Americium-241 ref std)	T	63 ± 5	pCi/L		USEPA	00-02
08/27/2012	Gross alpha radioactivity, (Americium-241 ref std)	T	40 ± 3	pCi/L		USEPA	00-02
05/23/2011	Hardness, Calcium and Magnesium, caculated	D	260	mg/l	6	APHA	2340B
06/20/2011	Hardness, Calcium and Magnesium, caculated	D	210	mg/l	6	APHA	2340B
07/20/2011	Hardness, Calcium and Magnesium, caculated	D	240	mg/l	6	APHA	2340B
08/01/2012	Hardness, Calcium and Magnesium, caculated	D	370	mg/l	13	APHA	2340B
08/01/2012	Hardness, Calcium and Magnesium, caculated	D	380	mg/l	13	APHA	2340B
08/27/2012	Hardness, Calcium and Magnesium, caculated	D	350	mg/l	13	APHA	2340B
05/23/2011	Kjeldahl nitrogen	T	ND	mg/l	1	APHA	4500-NH3(D)
06/20/2011	Kjeldahl nitrogen	T	ND	mg/l	1	APHA	4500-NH3(D)
07/20/2011	Kjeldahl nitrogen	T	ND	mg/l	1	APHA	4500-NH3(D)
08/01/2012	Kjeldahl nitrogen	T	0.772	mg/L	0.1	APHA	4500-NH3(B)
08/01/2012	Kjeldahl nitrogen	T	0.915	mg/L	0.1	APHA	4500-NH3(B)
08/27/2012	Kjeldahl nitrogen	T	0.56	mg/L	0.1	USEPA	351.2
05/23/2011	Lead	D	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Lead	T	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Lead	D	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Lead	T	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Lead	D	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Lead	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Lead	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Lead	T	0.0013	mg/l	0.001	USEPA	200.8
08/01/2012	Lead	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Lead	T	0.001	mg/l	0.001	USEPA	200.8
08/27/2012	Lead	D	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Lead	T	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Magnesium	D	16	mg/l	0.25	USEPA	200.7
06/20/2011	Magnesium	D	16	mg/l	0.25	USEPA	200.7
07/20/2011	Magnesium	D	14	mg/l	0.25	USEPA	200.7
08/01/2012	Magnesium	D	24	mg/l	2	USEPA	200.7
08/01/2012	Magnesium	D	25	mg/l	2	USEPA	200.7
08/27/2012	Magnesium	D	26	mg/l	2	USEPA	200.7
05/23/2011	Mercury	T	0.92	ng/L	0.5	USEPA	1631E
06/20/2011	Mercury	T	0.32	ng/L	0.5	USEPA	1631E
07/20/2011	Mercury	T	2.6	ng/L	0.5	USEPA	1631E
08/01/2012	Mercury	T	0.004	ug/L	0.0005	USEPA	1631E
08/01/2012	Mercury	T	0.0052	ug/L	0.0005	USEPA	1631E

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/27/2012	Mercury	T	0.0009	ug/L	0.0005	USEPA	1631E
05/23/2011	Molybdenum	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Molybdenum	D	0.011	mg/l	0.01	USEPA	200.7
07/20/2011	Molybdenum	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Molybdenum	D	0.012	mg/l	0.01	USEPA	200.7
08/01/2012	Molybdenum	D	0.012	mg/l	0.01	USEPA	200.7
08/27/2012	Molybdenum	D	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Nickel	D	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Nickel	T	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Nickel	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Nickel	T	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Nickel	D	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Nickel	T	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Nickel	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Nickel	T	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Nickel	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Nickel	T	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Nickel	D	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Nickel	T	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Nitrogen, Nitrate (NO3) as N	T	ND	mg/L	Field Measurement		
06/20/2011	Nitrogen, Nitrate (NO3) as N	T	ND	mg/L	Field Measurement		
07/20/2011	Nitrogen, Nitrate (NO3) as N	T	ND	mg/L	Field Measurement		
08/01/2012	Nitrogen, Nitrate (NO3) as N	T	0.217	mg/L	Field Measurement		
08/27/2012	Nitrogen, Nitrate (NO3) as N	T	ND	mg/L	Field Measurement		
05/23/2011	Nitrogen, Nitrite (NO2) as N	T	0.001	mg/L	Field Measurement		
06/20/2011	Nitrogen, Nitrite (NO2) as N	T	ND	mg/L	Field Measurement		
07/20/2011	Nitrogen, Nitrite (NO2) as N	T	0.001	mg/L	Field Measurement		
08/01/2012	Nitrogen, Nitrite (NO2) as N	T	0.046	mg/L	Field Measurement		
08/27/2012	Nitrogen, Nitrite (NO2) as N	T	ND	mg/L	Field Measurement		
05/23/2011	pH	T	8.38	None	Field Measurement		
06/20/2011	pH	T	8.41	None	Field Measurement		
07/20/2011	pH	T	8.35	None	Field Measurement		
08/01/2012	pH	T	7.47	None	Field Measurement		
08/27/2012	pH	T	6.94	None	Field Measurement		
05/23/2011	Phosphorus	T	0.825	mg/L	Field Measurement		
06/20/2011	Phosphorus	T	0.444	mg/L	Field Measurement		
07/20/2011	Phosphorus	T	0.546	mg/L	Field Measurement		
08/01/2012	Phosphorus	T	0.661	mg/L	Field Measurement		
08/27/2012	Phosphorus	T	0.556	mg/L	Field Measurement		
05/23/2011	Potassium	D	3.3	mg/l	2	USEPA	200.7
08/01/2012	Potassium	D	5.3	mg/l	2	USEPA	200.7

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/01/2012	Potassium	D	5.4	mg/l	2	USEPA	200.7
08/27/2012	Potassium	D	3.6	mg/l	2	USEPA	200.7
05/23/2011	Radium-226	T	1.6 ± 0.2	pCi/L		USEPA	903.1
06/20/2011	Radium-226	T	1.7 ± 0.2	pCi/L		USEPA	903.1
07/20/2011	Radium-226	T	2.4 ± 0.3	pCi/L		USEPA	903.1
08/01/2012	Radium-226	T	1.9 ± 0.2	pCi/L		USEPA	903.1
08/01/2012	Radium-226	T	1.3 ± 0.1	pCi/L		USEPA	903.1
08/27/2012	Radium-226	T	3.2 ± 0.3	pCi/L		USEPA	903.1
05/23/2011	Radium-228	T	ND	pCi/L	0.3	USEPA	904
06/20/2011	Radium-228	T	ND	pCi/L	0.4	USEPA	904
07/20/2011	Radium-228	T	ND	pCi/L	0.5	USEPA	904
08/01/2012	Radium-228	T	1.2 ± 0.3	pCi/L		USEPA	904
08/01/2012	Radium-228	T	ND	pCi/L		USEPA	904
08/27/2012	Radium-228	T	ND	pCi/L		USEPA	904
05/23/2011	Salinity		0.26	0/00	Field Measurement		
06/20/2011	Salinity		0.23	0/00	Field Measurement		
07/20/2011	Salinity		0.26	0/00	Field Measurement		
08/01/2012	Salinity		0.43	0/00	Field Measurement		
08/27/2012	Salinity		0.36	0/00	Field Measurement		
05/23/2011	Selenium	T	0.002	mg/l	0.002	USEPA	200.8
06/20/2011	Selenium	T	ND	mg/l	0.002	USEPA	200.8
07/20/2011	Selenium	T	ND	mg/l	0.002	USEPA	200.8
08/01/2012	Selenium	T	ND	mg/l	0.002	USEPA	200.8
08/01/2012	Selenium	T	ND	mg/l	0.002	USEPA	200.8
08/27/2012	Selenium	T	ND	mg/l	0.002	USEPA	200.8
05/23/2011	Silver	D	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Silver	T	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Silver	D	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Silver	T	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Silver	D	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Silver	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Silver	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Silver	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Silver	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Silver	T	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Silver	D	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Silver	T	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Sodium	D	27	mg/l	2	USEPA	200.7
08/01/2012	Sodium	D	29	mg/l	2	USEPA	200.7
08/01/2012	Sodium	D	30	mg/l	2	USEPA	200.7
08/27/2012	Sodium	D	37	mg/l	2	USEPA	200.7

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
05/23/2011	Specific conductance		533	uS/cm	Field Measurement		
06/20/2011	Specific conductance		488	uS/cm	Field Measurement		
07/20/2011	Specific conductance		532	uS/cm	Field Measurement		
08/01/2012	Specific conductance		872	uS/cm	Field Measurement		
08/27/2012	Specific conductance		741	uS/cm	Field Measurement		
05/23/2011	Sulfate	D	28	mg/l	2	USEPA	300
08/01/2012	Sulfate	D	42	mg/l	2	USEPA	300
08/01/2012	Sulfate	D	42	mg/l	2	USEPA	300
08/27/2012	Sulfate	D	18	mg/l	2	USEPA	300
05/23/2011	Temperature, water		20.64	deg C	Field Measurement		
06/20/2011	Temperature, water		23.09	deg C	Field Measurement		
07/20/2011	Temperature, water		20.85	deg C	Field Measurement		
08/01/2012	Temperature, water		27.61	deg C	Field Measurement		
08/27/2012	Temperature, water		21.64	deg C	Field Measurement		
05/23/2011	Thallium	D	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Thallium	T	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Thallium	D	ND	mg/l	0.001	USEPA	200.8
06/20/2011	Thallium	T	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Thallium	D	ND	mg/l	0.001	USEPA	200.8
07/20/2011	Thallium	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Thallium	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Thallium	T	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Thallium	D	ND	mg/l	0.001	USEPA	200.8
08/01/2012	Thallium	T	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Thallium	D	ND	mg/l	0.001	USEPA	200.8
08/27/2012	Thallium	T	ND	mg/l	0.001	USEPA	200.8
05/23/2011	Total dissolved solids		352	mg/L	Field Measurement		
06/20/2011	Total dissolved solids		322	mg/L	Field Measurement		
07/20/2011	Total dissolved solids		351	mg/L	Field Measurement		
08/01/2012	Total dissolved solids		576	mg/L	Field Measurement		
08/27/2012	Total dissolved solids		489	mg/L	Field Measurement		
05/23/2011	Total suspended solids	T	3	mg/l	1	USEPA	2540D
06/20/2011	Total suspended solids	T	1	mg/l	1	USEPA	2540D
07/20/2011	Total suspended solids	T	39	mg/l	3.3	USEPA	2540D
08/01/2012	Total suspended solids	T	110	mg/l	5	USEPA	2540D
08/01/2012	Total suspended solids	T	110	mg/l	5	USEPA	2540D
08/27/2012	Total suspended solids	T	15	mg/l	1	USEPA	2540D
05/23/2011	Turbidity		1.91	NTU	Field Measurement		
06/20/2011	Turbidity		0.98	NTU	Field Measurement		
07/20/2011	Turbidity		58.9	NTU	Field Measurement		
08/01/2012	Turbidity		21.9	NTU	Field Measurement		

Table 4.1 - Summary of Analytical and Field Data for Site 10COVETRIB29 (continued)

08/27/2012	Turbidity		17.7	NTU	Field Measurement		
05/23/2011	Uranium	T	0.1	mg/l	0.001	USEPA	200.8
06/20/2011	Uranium	T	0.08	mg/l	0.001	USEPA	200.8
07/20/2011	Uranium	T	0.073	mg/l	0.001	USEPA	200.8
08/01/2012	Uranium	T	0.11	mg/l	0.001	USEPA	200.8
08/01/2012	Uranium	T	0.095	mg/l	0.001	USEPA	200.8
08/27/2012	Uranium	T	0.049	mg/l	0.001	USEPA	200.8
05/23/2011	Vanadium	D	ND	mg/l	0.01	USEPA	200.7
06/20/2011	Vanadium	D	ND	mg/l	0.01	USEPA	200.7
07/20/2011	Vanadium	D	0.012	mg/l	0.01	USEPA	200.7
08/01/2012	Vanadium	D	ND	mg/l	0.01	USEPA	200.7
08/01/2012	Vanadium	D	ND	mg/l	0.01	USEPA	200.7
08/27/2012	Vanadium	D	ND	mg/l	0.01	USEPA	200.7
05/23/2011	Zinc	D	ND	mg/l	0.05	USEPA	200.7
05/23/2011	Zinc	T	ND	mg/l	0.05	USEPA	200.7
06/20/2011	Zinc	D	ND	mg/l	0.05	USEPA	200.7
06/20/2011	Zinc	T	ND	mg/l	0.05	USEPA	200.7
07/20/2011	Zinc	D	ND	mg/l	0.05	USEPA	200.7
07/20/2011	Zinc	T	ND	mg/l	0.05	USEPA	200.7
08/01/2012	Zinc	D	0.09	mg/l	0.05	USEPA	200.7
08/01/2012	Zinc	T	0.7	mg/l	0.05	USEPA	200.7
08/01/2012	Zinc	D	0.092	mg/l	0.05	USEPA	200.7
08/01/2012	Zinc	T	0.7	mg/l	0.05	USEPA	200.7
08/27/2012	Zinc	D	ND	mg/l	0.05	USEPA	200.7
08/27/2012	Zinc	T	ND	mg/l	0.05	USEPA	200.7

KEY: mg/L = milligrams per Liter, ng/L = nanograms per Liter, ug/L = micrograms per Liter, pCi/L = picocuries per Liter, CFS = Cubic Feet per Second. uS/cm = microSiemens per centimeter, MPN = Most Probable Number, deg C = degrees Celsius, NTU = Nephelometric Turbidity Units USEPA = United States Environmental Protection Agency, SM = State Method (Arizona), APHA = American Public Health Association, ND = Non Detect, T = Total (not filtered), D = Dissolved (filtered with 0.45 um filter), col = coliform, CFU = Coliform Forming Units, MRL = Method Reporting Limit

4.1.1 Non-Attainment of NNSWQS for Site 10COVETRIB29

A list of parameters which did not attain the corresponding 2013 NNSWQS numeric standards for Cove Wash designated uses is provided in Table 4.1.1. Table 4.1.1 provides the sample date, parameter name, the analytical result, and the numeric NNSWQS for the corresponding designated use.

Aluminum (7.2 milligrams per liter) did not attain the chronic numeric standard of 4.55 milligrams per liter for the aquatic and wildlife designated use given a calcium and magnesium hardness of 240 milligrams per liter. Dissolved Oxygen (1.77 milligrams per liter) did not attain the warm water numeric standard of 6.0 milligrams per liter for the aquatic and wildlife designated use. Gross Alpha Radioactivity (40 ± 3to 67 ± 6 picocuries per liter) did not attain the numeric standard of 15 picocuries per liter for the livestock watering designated use. Selenium (0.002 milligrams per liter) did not attain the chronic numeric standard of 0.002 milligrams per liter for the aquatic and wildlife designated use.

4.1.2 Parameter of Interest at Site 10COVETRIB29

In addition to the parameters not attaining the numeric standards, another parameter is of interest in assessing Cove Wash surface water quality at this site and is listed in Table 4.1.2.

Uranium was present at concentrations ranging from 0.049 to 0.11 milligrams per liter. There is no uranium numeric standard for uses designated for Cove Wash. However, the NNSWQS does have a uranium numeric standard of 0.03 milligrams per liter for the Domestic Water Supply designated use. Domestic Water Supply is currently not an assigned designated use for Cove Wash but it may have been an historic use or possibly a current use by local residents. Uranium concentrations at Cove Wash did not attain the uranium numeric standard of 0.03 milligrams per liter for the Domestic Water Supply designated use.

ED_004888_00033250-00020

Table 4.1.1 - Non-Attainment of 2013 NNSWQS for Site 10COVETRIB29

Sample Date	Parameter	Fraction	Result	Units	Designated Use	NNSWQS
07/20/2011	Aluminum (Ca and Mg Hardness = 240 mg/L)	T	7.2	mg/L	A&WHbt Chronic	4.55
08/27/2012	Dissolved Oxygen		1.77	mg/L	A&WHbt WW	6
05/23/2011	Gross Alpha Radioactivity	T	50.3 ± 4.4	pCi/L	LW	15
06/20/2011	Gross Alpha Radioactivity	T	44 ± 4	pCi/L	LW	15
07/20/2011	Gross Alpha Radioactivity	T	43 ± 4	pCi/L	LW	15
08/01/2012	Gross Alpha Radioactivity	T	67 ± 6	pCi/L	LW	15
08/01/2012	Gross Alpha Radioactivity	T	63 ± 5	pCi/L	LW	15
08/27/2012	Gross Alpha Radioactivity	T	40 ± 3	pCi/L	LW	15
05/23/2011	Selenium	T	0.002	mg/l	A&WHbt Chronic	0.002

KEY: mg/L = milligrams per Liter, pCi/L = picocuries per Liter, T = Total (not filtered), Ca = Calcium, Mg = Magnesium, NNSWQS = Navajo Nation Surface Water Quality Standards, A&WHbt = Aquatic and Wildlife Habitat Designated Use, WW = Warm Water (greater than 20 °C), LW = Livestock Watering Designated Use

Table 4.1.2 - Parameter of Interest for Site 10COVETRIB29

Sample Date	Parameter	Fraction	Result	Units	MRL	Method
05/23/2011	Uranium	T	0.1	mg/l	0.001	USEPA 200.8
06/20/2011	Uranium	T	0.08	mg/l	0.001	USEPA 200.8
07/20/2011	Uranium	T	0.073	mg/l	0.001	USEPA 200.8
08/01/2012	Uranium	T	0.11	mg/l	0.001	USEPA 200.8
08/01/2012	Uranium	T	0.095	mg/l	0.001	USEPA 200.8
08/27/2012	Uranium	T	0.049	mg/l	0.001	USEPA 200.8

KEY: mg/L = milligrams per Liter, USEPA = United States Environmental Protection Agency, T = Total (not filtered), MRL = Method Reporting Limit

4.1.3 Parameters Showing No Degradation of Water Quality at Site 10COVETRIB29

Measure Code WQ-SP14b.N11 of the Fiscal Year 2014 USEPA National Water Program Guidance requests that tribes identify monitoring stations on tribal lands that are showing no degradation in water quality (meaning the waters are meeting uses). Based on water quality data obtained from 2011 to 2012 at site 10COVETRIB29, there are 28 parameters, which when compared to the 2013 NNSWQS, show no degradation of water quality for the ScHC, FC, A&WHbt, and LW designated uses. A listing of these parameters may be found in Table 4.1.3.

Table 4.1.3 - Parameters Showing No Degradation of Water Quality at Site 10COVETRIB29.
Ammonia-nitrogen
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Chromium
Cobalt
Copper
Cyanide
Fluoride
Lead
Mercury
Molybdenum
Nickel
Nitrogen, Nitrate (NO3) as N
pH
Radium-226 and 228 Combined
Salinity
Silver
Temperature, water
Thallium
Total Suspended Solids
Turbidity
Uranium
Vanadium
Zinc

ED_004888_00033250-00022

4.1.4 Designated Use Support Determination at Site 10COVETRIB29

For those parameters not attaining the numeric standards (see Table 4.1.1) a determination if the designated use for that standard is supported is made using the "Summary of Data Required to Determine Designated Use Support" found in Table 1 of the NNEPA Integrated 305(b) Reporting and 303(d) Listing guidance (NNEPA 2008). Table 1 provides the minimum number of values and the number or percent non-attainment of the water quality standard required to determine designated use support for each parameter. The minimum number of values required to determine support of the designated uses for those parameters and designated uses in Table 4.1.1 is five values for inorganics and radiologicals, and 10 values for dissolved oxygen. If the water quality standard is not attained one or less times the designated use is supported. If the water quality standard is not attained two or more times the designated use is not supported for that parameter. For dissolved oxygen, if the water quality standard is not attained less than 15 percent of the time the designated use is supported. If the water quality standard is not attained greater or equal to 15 percent of the time the designated use is not supported.

From Table 4.1.1 the aluminum result on July 20, 2011 was the only one of the six results which did not attain the chronic numeric standard for the aquatic and wildlife habitat designated use. ***Since this is one or less non attainment of the five values obtained, the aquatic and wildlife designated use for the chronic aluminum standard is supported.***

From Table 4.1.1 the dissolved oxygen result on August 27, 2012 was the only one of five results which did not attain the warm water numeric standard for the aquatic and wildlife designated use. Since a minimum of ten values was not obtained a determination of designated use support cannot be made.

From Table 4.1.1 the gross alpha radioactivity did not attain the livestock watering numeric standard six times in six samples. ***Since this is two or more non attainments of the six values obtained, the livestock watering designated use for the gross alpha standard is not supported.***

From Table 4.1.1 the selenium result on May 23, 2011 was the only one of the six results which did not attain the chronic numeric standard for the aquatic and wildlife habitat designated use. ***Since this is one or less non attainment of the five values obtained, the aquatic and wildlife designated use for the chronic selenium standard is supported.***

ED_004888_00033250-00023

4.1.5 Impairment Determination at Site 10COVETRIB29

Once a determination of designated use support is made for a given surface water body using Table 1 NNEPA Integrated 305(b) Reporting and 303(d) Listing guidance, surface water body segments are assigned one of five-categories based on their designated use support status to determine if the surface water should be listed as ***impaired.*** These five categories may be found in Section 3.2 of NNEPA Integrated 305(b) Reporting and 303(d) Listing guidance. Only surface water reaches falling into Category 5 will be considered *impaired* and will be requested to be listed on the federal Clean Water Act Section 303(d) list.

For the livestock watering numeric standard for gross alpha radioactivity the most appropriate category at this point is Category 5c. Category 5c states that "at least one designated use is not supported and additional data is needed before a TMDL is scheduled." Due to the extensive historical uranium mining in the Cove Wash Watershed, the non-attainment of the livestock watering numeric standard for gross alpha radioactivity may be attributable to discharge from these mines. ***The Navajo Nation will request that USEPA list Cove Wash under Section 303(d) of the federal Clean Water Act as impaired by gross alpha radiation for the use of the water for livestock watering.***

4.2 Cove Wash Site 10COVEWASH09 Water Quality Data

A summary of all analytical and field data obtained at this site is provided in Table 4.2 and in the analytical laboratory reports in Appendix B. (For an electronic copy of these data, please call 505-368-1037).

ED_004888_00033250-00024

Table 4.2 - Summary of Analytical and Field Data for Site 10COVEWASH09

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
03/12/2001	Alkalinity, bicarbonate as CaCO3		300	mg/L	2	APHA	2320B
08/06/2001	Alkalinity, bicarbonate as CaCO3		430	mg/L	2	APHA	2320B
03/12/2001	Alkalinity, carbonate as CaCO3		28	mg/L	2	APHA	2320B
08/06/2001	Alkalinity, carbonate as CaCO3		72	mg/L	2	APHA	2320B
03/12/2001	Alkalinity, hydroxide as CaCO3		ND	mg/L	2	APHA	2320B
08/06/2001	Alkalinity, hydroxide as CaCO3		ND	mg/L	2	APHA	2320B
03/12/2001	Alkalinity, total		330	mg/L	6	APHA	2320B
08/06/2001	Alkalinity, total		500	mg/L	6	APHA	2320B
03/12/2001	Aluminum	D	0.01	mg/L	0.1	USEPA	200.7
08/06/2001	Aluminum	D	0.06	mg/L	0.1	USEPA	200.7
03/12/2001	Ammonia-nitrogen	T	ND	mg/L	0.5	USEPA	350.3
08/06/2001	Ammonia-nitrogen	T	ND	mg/L	0.5	USEPA	350.3
03/12/2001	Anion/cation ratio	T	1		0	ASTM	D-596
08/06/2001	Anion/cation ratio	T	0.973		0	ASTM	D-596
03/12/2001	Antimony	D	ND	mg/L	0.003	USEPA	200.9
08/06/2001	Antimony	D	ND	mg/L	0.003	USEPA	200.9
03/12/2001	Arsenic	D	0.0079	mg/L	0.005	USEPA	200.9
08/06/2001	Arsenic	D	0.021	mg/L	0.005	USEPA	200.9
03/12/2001	Barium	D	0.14	mg/L	0.01	USEPA	200.7
08/06/2001	Barium	D	0.19	mg/L	0.01	USEPA	200.7
03/12/2001	Beryllium	D	ND	mg/L	0.001	USEPA	200.7
08/06/2001	Beryllium	D	ND	mg/L	0.001	USEPA	200.7
03/12/2001	Boron	D	0.19	mg/L	0.05	USEPA	200.7
08/06/2001	Boron	D	0.39	mg/L	0.05	USEPA	200.7
03/12/2001	Bromide		ND	mg/L	0.5	USEPA	300
08/06/2001	Bromide		ND	mg/L	0.5	USEPA	300
03/12/2001	Cadmium	D	ND	mg/L	0.001	USEPA	200.7
08/06/2001	Cadmium	D	ND	mg/L	0.001	USEPA	200.7
03/12/2001	Calcium	T	150	mg/L	2	USEPA	200.7
08/06/2001	Calcium	T	28	mg/L	2	USEPA	200.7
03/12/2001	Chloride	T	15	mg/L	2	USEPA	300
08/06/2001	Chloride	T	33	mg/L	2	USEPA	300
03/12/2001	Chlorine		0.083	mg/L	0.05	HACH	8167
08/06/2001	Chlorine		ND	mg/L	0.05	HACH	8167
03/12/2001	Chromium	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Chromium	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Chromium(III)	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Chromium(III)	D	ND	mg/L	0.01	USEPA	200.7

Table 4.2 - Summary of Analytical and Field Data for Site 10COVEWASH09 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
03/12/2001	Chromium(VI)	D	ND	mg/L	0.01	APHA	3500-CR(D)
08/06/2001	Chromium(VI)	D	ND	mg/L	0.01	APHA	3500-CR(D)
03/12/2001	Cobalt	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Cobalt	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Copper	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Copper	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Cyanide	T	ND	mg/L	0.02	APHA	4500-CN(E)
08/06/2001	Cyanide	T	ND	mg/L	0.02	APHA	4500-CN(E)
03/12/2001	Dissolved oxygen (DO)		8.74	mg/L	Field Measurement		
08/06/2001	Dissolved oxygen (DO)		6.46	mg/L	Field Measurement		
08/06/2001	Dissolved oxygen saturation		109.8	%	Field Measurement		
03/12/2001	Flow		< 1	cfs	Field Measurement		
08/06/2001	Flow		< 1	cfs	Field Measurement		
03/12/2001	Fluoride	T	ND	mg/L	0.4	USEPA	300
08/06/2001	Fluoride	T	0.41	mg/L	0.4	USEPA	300
03/12/2001	Gross alpha radioactivity, (Americium-241 ref std)	T	26.8 ± 2.9	pCi/L	3	USEPA	00-02
08/06/2001	Gross alpha radioactivity, (Americium-241 ref std)	T	40.0 ± 4.0	pCi/L	3	USEPA	00-02
03/12/2001	Hardness, Ca		380	mg/L	5	USEPA	200.7
08/06/2001	Hardness, Ca, Mg		110	mg/L	13	USEPA	200.7
03/12/2001	Lead	D	ND	mg/L	0.002	USEPA	200.9
08/06/2001	Lead	D	ND	mg/L	0.002	USEPA	200.9
03/12/2001	Magnesium	T	41	mg/L	2	USEPA	200.7
08/06/2001	Magnesium	T	8.9	mg/L	2	USEPA	200.7
03/12/2001	Mercury	D	ND	mg/L	0.0002	USEPA	245.1
03/12/2001	Mercury	T	ND	mg/L	0.0002	USEPA	245.1
08/06/2001	Mercury	D	ND	mg/L	0.0002	USEPA	245.1
08/06/2001	Mercury	T	ND	mg/L	0.0002	USEPA	245.1
03/12/2001	Molybdenum	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Molybdenum	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Nickel	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Nickel	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Nitrogen, Nitrate (NO3) as N	T	0.62	mg/L	0.2	USEPA	300
08/06/2001	Nitrogen, Nitrate (NO3) as N	T	ND	mg/L	0.2	USEPA	300
03/12/2001	Orthophosphate		ND	mg/L	0.1	USEPA	365.3
08/06/2001	Orthophosphate		0.16	mg/L	0.1	APHA	4500-P-E
03/12/2001	pH	T	8.95	None	Field Measurement		
03/12/2001	pH	T	8.7	None	2	USEPA	150.1
08/06/2001	pH	T	8.73	None	Field Measurement		

Table 4.2 - Summary of Analytical and Field Data for Site 10COVEWASH09 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/06/2001	pH	T	9.01	None	2	USEPA	150.1
03/12/2001	Phosphorus		2.2	mg/L	0.4	USEPA	365.3
08/06/2001	Phosphorus		ND	mg/L	0.2	APHA	4500-P-B
03/12/2001	Potassium	T	21	mg/L	2	USEPA	200.7
08/06/2001	Potassium	T	5.9	mg/L	2	USEPA	200.7
03/12/2001	Radium-226	T	ND	pCi/L	0.2	USEPA	903.1
08/06/2001	Radium-226	T	0.5 ± 0.1	pCi/L	0.2	USEPA	903.1
03/12/2001	Radium-228	T	ND	pCi/L	0.4	USEPA	904
08/06/2001	Radium-228	T	ND	pCi/L	0.4	USEPA	904
03/12/2001	Salinity		0.10	0/00	Field Measurement		
08/06/2001	Salinity		0.30	0/00	Field Measurement		
03/12/2001	Selenium	T	0.004	mg/L	0.002	USEPA	200.9
03/12/2001	Selenium	D	ND	mg/L	0.001	USEPA	200.9
08/06/2001	Selenium	T	0.001	mg/L	0.001	USEPA	200.9
08/06/2001	Selenium	D	ND	mg/L	0.001	USEPA	200.9
03/12/2001	Silica	T	200	mg/L	0.21	USEPA	200.7
08/06/2001	Silica	T	34	mg/L	0.21	USEPA	200.7
03/12/2001	Silver	D	ND	mg/L	0.01	USEPA	200.7
08/06/2001	Silver	D	ND	mg/L	0.01	USEPA	200.7
03/12/2001	Sodium	T	150	mg/L	20	USEPA	200.7
08/06/2001	Sodium	T	230	mg/L	10	USEPA	200.7
03/12/2001	Specific conductance		752	uS/cm	Field Measurement		
08/06/2001	Specific conductance		1080	uS/cm	Field Measurement		
03/12/2001	Sulfate	T	48	mg/L	40	USEPA	300
08/06/2001	Sulfate	T	53	mg/L	4	USEPA	300
03/12/2001	Sulfide		ND	mg/L	0.05	APHA	4500-S-C,D
08/06/2001	Sulfide		ND	mg/L	0.05	APHA	4500-S-C,D
03/12/2001	Temperature, water		12.6	deg C	Field Measurement		
08/06/2001	Temperature, water		31.5	deg C	Field Measurement		
03/12/2001	Thallium	D	ND	mg/L	0.001	USEPA	200.9
08/06/2001	Thallium	D	ND	mg/L	0.001	USEPA	200.9
03/12/2001	Total dissolved solids		496	mg/L	Field Measurement		
03/12/2001	Total dissolved solids		490	mg/L	10	APHA	2540C
08/06/2001	Total dissolved solids		713	mg/L	Field Measurement		
08/06/2001	Total dissolved solids		880	mg/L	10	APHA	2540C
03/12/2001	Total suspended solids	T	4100	mg/L	100	USEPA	160.2
08/06/2001	Total suspended solids	T	26	mg/L	10	USEPA	160.2
03/12/2001	Tritium		ND	pCi/L	361	USEPA	906

Table 4.2 - Summary of Analytical and Field Data for Site 10COVEWASH09 (continued)

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement	
08/06/2001	Tritium		ND	pCi/L	348	USEPA	906
03/12/2001	Turbidity		>999	NTU	Field Measurement		
08/06/2001	Turbidity		50.3	NTU	Field Measurement		
03/12/2001	Uranium	T	0.01	mg/L	0.0001	USEPA	200.8
08/06/2001	Uranium	T	0.056	mg/L	0.0001	USEPA	200.8
03/12/2001	Vanadium	D	0.074	mg/L	0.01	USEPA	200.7
08/06/2001	Vanadium	D	0.046	mg/L	0.01	USEPA	200.7
03/12/2001	Zinc	D	ND	mg/L	0.05	USEPA	200.7
08/06/2001	Zinc	D	ND	mg/L	0.05	USEPA	200.7

KEY: mg/L = milligrams per Liter, ng/L = nanograms per Liter, ug/L = micrograms per Liter, pCi = picocuries per Liter, CFS = Cubic Feet per Second. uS/cm = microSiemens per centimeter, MPN = Most Probable Number, deg C = degrees Celsius, NTU = Nephelometric Turbidity Units USEPA = United States Environmental Protection Agency, SM = State Method (Arizona), APHA = American Public Health Association, ND = Non Detect, T = Total (not filtered), D = Dissolved (filtered with 0.45 um filter), col = coliform, CFU = Coliform Forming Units, MRL = Method Reporting Limit

4.2.1 Non-Attainment of NNSWQS for Site 10COVEWASH09

A list of parameters which did not attain the corresponding 2013 NNSWQS numeric standards for Cove Wash designated uses is provided in Table 4.2.1. Table 4.2.1 provides the sample date, parameter name, the analytical result, and the numeric NNSWQS for the corresponding designated use.

Gross Alpha Radioactivity (26.8 ± 2.9 and 40.0 ± 4.0 picocuries per liter) did not attain the numeric standard of 15 picocuries per liter for the livestock watering designated use. Chlorine (0.083 milligrams per liter) did not attain the acute numeric standard of 0.019 milligrams per liter for the aquatic and wildlife designated use, the chronic numeric standard of 0.011 milligrams per liter for the aquatic and wildlife designated, and the numeric standard of 0.011 milligrams per liter for the livestock watering designated use. Selenium (0.004 milligrams per liter) did not attain the chronic numeric standard of 0.002 milligrams per liter for the aquatic and wildlife designated use.

4.2.2 Parameters of Interest at Site 10COVEWASH09

In addition to the parameters not attaining the numeric standards, parameters of interest in assessing Cove Wash surface water quality at this site are listed in Table 4.2.2.

Dissolved arsenic was present at a concentration of 0.021 milligrams per liter. Domestic Water Supply is currently not an assigned designated use for Cove Wash but it may have been an historic use or possibly a current use by local residents. However, if it were, the concentration of 0.021 would have not attained the Domestic Water Supply numeric standard for arsenic of 0.01 milligrams per liter. Uranium was present at concentrations of 0.01 and 0.056 milligrams per liter. There is no uranium numeric standard for uses designated for Cove Wash. However, the NNSWQS does have a uranium numeric standard of 0.03 milligrams per liter for the Domestic Water Supply designated use. The uranium concentrations of 0.056 milligrams per liter did not attain this standard.

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Table 4.2.1 - Non-Attainment of 2013 NNSWQS for Site 10COVEWASH09

Sample Date	Parameter	Fraction	Result	Units	Designated Use	NNSWQS
03/12/2001	Gross alpha radioactivity	T	26.8 ± 2.9	pCi/L	LW	15
08/06/2001	Gross alpha radioactivity	T	40.0 ± 4.0	pCi/L	LW	15
03/12/2001	Chlorine		0.083	mg/L	A&WHbt Acute, Chronic, and LW	0.019, 0.011, and 0.011
03/12/2001	Selenium	T	0.004	mg/L	A&WHbt Chronic	0.002

KEY: mg/L = milligrams per Liter, pCi = picocuries per Liter, T = Total (not filtered), NNSWQS = Navajo Nation Surface Water Quality Standards, A&WHbt = Aquatic and Wildlife Habitat Designated Use, LW = Livestock Watering Designated Use

Table 4.2.2 - Parameters of Interest for Site 10COVEWASH09

Sample Date	Parameter	Fraction	Result	Units	MRL	Method or Measurement
08/06/2001	Arsenic	D	0.021	mg/L	0.005	USEPA 200.9
03/12/2001	Uranium	T	0.01	mg/L	0.0001	USEPA 200.8
08/06/2001	Uranium	T	0.056	mg/L	0.0001	USEPA 200.8

KEY: mg/L = milligrams per Liter, USEPA = United States Environmental Protection Agency, T = Total (not filtered), D = Dissolved (filtered with 0.45 um filter), MRL = Method Reporting Limit

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4.2.3 Parameters Showing No Degradation of Water Quality at Site 10COVEWASH09

Measure Code WQ-SP14b.N11 of the Fiscal Year 2014 USEPA National Water Program Guidance requests that tribes identify monitoring stations on tribal lands that are showing no degradation in water quality (meaning the waters are meeting uses). Based on water quality data obtained in 2001 at site 10COVEWASH09, there are 32 parameters, which when compared to the 2013 NNSWQS, show no degradation of water quality for the ScHC, FC, A&WHbt, and LW designated uses. A listing of these parameters may be found in Table 4.2.3.

Table 4.2.3 - Parameters Showing No Degradation of Water Quality at Site 10COVEWASH09
Aluminum
Ammonia-nitrogen
Antimony
Arsenic
Barium
Beryllium
Boron
Cadmium
Chromium
Chromium(III)
Chromium(VI)
Cobalt
Copper
Cyanide
Fluoride
Lead
Mercury
Molybdenum
Nickel
Nitrogen, Nitrate (NO3) as N
pH
Radium-226 and 228 Combined
Salinity
Silver
Temperature, water
Thallium
Total suspended solids
Tritium
Turbidity
Uranium
Vanadium
Zinc

ED_004888_00033250-00031

4.2.4 Designated Use Support Determination at Site 10COVEWASH09

For those parameters not attaining the numeric standards (see Table 4.2.1) a determination if the designated use for that standard is supported is made using the "Summary of Data Required to Determine Designated Use Support" found in Table 1 of the NNEPA Integrated 305(b) Reporting and 303(d) Listing guidance (NNEPA 2008). Table 1 provides the minimum number of values and the number or percent non-attainment of the water quality standard required to determine designated use support for each parameter. The minimum number of values required to determine support of the designated uses for those parameters and designated uses in Table 4.2.1 is five values. If the water quality standard is not attained one or less times the designated use is supported. If the water quality standard is not attained two or more times the designated use is not supported for that parameter. The minimum requirement of five values was not obtained for the gross alpha radioactivity, chlorine, and selenium values listed in Table 4.2.1. Therefore a determination of designated use support cannot be made.

4.2.5 Impairment Determination at Site 10COVEWASH09

Once a determination of designated use support is made for a given surface water body as described in Section 4.2.4, surface water body segments are assigned one of five-categories based on their designated use support status to determine if the surface water should be listed as ***impaired.*** These five categories may be found in Section 3.2 of NNEPA Integrated 305(b) Reporting and 303(d) Listing guidance. Only surface water reaches falling into Category 5 will be considered *impaired* and will be requested to be listed on the federal Clean Water Act Section 303(d) list.

Since the minimum number of values were not obtained to determine designated use support, a determination of water body impairment at site 10COVEWASH09 cannot be made.

5.0 Conclusions and Recommendations

- There are 52.1 miles of intermittent surface water flows in Cove Wash and its tributaries.
- Uses designated for Cove Wash and its tributaries are secondary human contact, fish consumption, aquatic and wildlife habitat, and livestock watering.

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- Surface water quality in the Cove Wash Watershed was assessed as per USCWA Section 305(b) requirements at two sites: 10COVETRIB29 and 10COVEWASH09.
- Determinations of designated use support and water body impairment were conducted at both sites consistent with USCWA Sections 305(b) and 303(d).
- Aluminum, dissolved oxygen, gross alpha radioactivity, and selenium did not attain 2013 NNSWQS numeric standards at site 10COVETRIB29.
- Gross alpha radioactivity, chlorine and selenium did not attain 2013 NNSWQS numeric standards at site 10COVEWASH09.
- Uranium was a parameter of interest at both sites, while arsenic was a parameter of interest only at site 10COVEWASH09
- For the uses designated for Cove Wash there were 28 parameters which showed no degradation of water quality at site 10COVETRIB29, and 32 parameters showed no degradation of water quality at site 10COVEWASH09.
- At site 10COVETRIB29; the aquatic and wildlife designated use for the chronic aluminum standard is supported, the livestock watering designated use for the gross alpha standard is not supported, and the aquatic and wildlife designated use for the chronic selenium standards is supported.
- At site 10COVEWASH09 insufficient data was collected to determine designated use support and water body impairment.
- Cove Wash is assigned a 5 category of designated use support based on non-attainment of the gross alpha radioactivity numeric standard for the livestock watering designated use .
- Cove Wash is to be listed as a USCWA Section 303(d) impaired water body and a Total Maximum Daily Load for gross alpha radioactivity is to be developed in order to determine sources.

6.0 References

United States Government Printing Office (USGPO). March 1988. The Clean Water Act As Amended By The Water Quality Act Of 1987 Public Law 100-4.

NNEPA. July 23, 1999. Navajo Nation Clean Water Act.

NNEPA. November 9, 1999. Navajo Nation Water Quality Standards.

NNEPA. May 13, 2008. Navajo Nation Surface Water Quality Standards 2007

NNEPA. 2013. Draft - 2013 Navajo Nation Surface Water Quality Standards.

United States Geological Survey. 2013. National Hydrography Dataset.

ED_004888_00033250-00033

APPENDIX A –

Laboratory Analytical Data for Site 10COVETRIB29

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

LABORATORY REPORT

Prepared For: Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project: Mid SJ Run

Sampled: 05/23/11
Received: 05/24/11
Issued: 06/15/11 14:58

NELAP #01109CA Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PUE1470-01	10-29_110523	Water
PUE1470-02	10-29_110523	Water
PUE1470-03	Trip Blank	Water

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'E4' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	11E0891	0.010	**0.31**	1	5/24/2011	5/25/2011	
Beryllium	EPA 200.7	11E0891	0.0010	ND	1	5/24/2011	5/25/2011	
Boron	EPA 200.7	11E0891	0.20	ND	1	5/24/2011	5/27/2011	
Chromium	EPA 200.7	11E0891	0.010	ND	1	5/24/2011	5/25/2011	
Copper	EPA 200.7	11E0891	0.010	ND	1	5/24/2011	5/25/2011	
Nickel	EPA 200.7	11E0891	0.010	ND	1	5/24/2011	5/25/2011	
Zinc	EPA 200.7	11E0891	0.050	ND	1	5/24/2011	5/27/2011	

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Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

TOTAL METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11E0886	0.0030	ND	1	5/24/2011	5/30/2011	
Arsenic	EPA 200.8	11E0886	0.0010	**0.0051**	1	5/24/2011	5/30/2011	
Cadmium	EPA 200.8	11E0886	0.0010	ND	1	5/24/2011	5/30/2011	
Lead	EPA 200.8	11E0886	0.0010	ND	1	5/24/2011	5/30/2011	
Selenium	EPA 200.8	11E0886	0.0020	**0.0020**	1	5/24/2011	5/30/2011	
Silver	EPA 200.8	11E0886	0.0010	ND	1	5/24/2011	5/30/2011	
Thallium	EPA 200.8	11E0886	0.0010	ND	1	5/24/2011	5/30/2011	
Uranium	EPA 200.8	11E0886	0.0010	**0.10**	1	5/24/2011	5/30/2011	

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Sampled: 05/23/11
Received: 05/24/11

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-02 (10-29_110523 - Water)								
Reporting Units: mg/l								
Boron	EPA 200.7	11E0889	0.20	ND	1	5/24/2011	5/27/2011	
Calcium	EPA 200.7	11E0889	2.0	**76**	1	5/24/2011	5/26/2011	
Chromium	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Cobalt	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Copper	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Hardness, Dissolved	SM2340B	[CALC]	6.0	**260**	1	5/24/2011	5/26/2011	
Magnesium	EPA 200.7	11E0889	0.25	**16**	1	5/24/2011	5/26/2011	
Molybdenum	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Nickel	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Potassium	EPA 200.7	11E0889	2.0	**3.3**	1	5/24/2011	5/26/2011	
Sodium	EPA 200.7	11E0889	2.0	**27**	1	5/24/2011	5/26/2011	
Vanadium	EPA 200.7	11E0889	0.010	ND	1	5/24/2011	5/26/2011	
Zinc	EPA 200.7	11E0889	0.050	ND	1	5/24/2011	5/26/2011	

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Received: 05/24/11

DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-02 (10-29_110523 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11E0890	0.0030	ND	1	5/24/2011	5/28/2011	
Arsenic	EPA 200.8	11E0890	0.0010	**0.0050**	1	5/24/2011	5/28/2011	
Cadmium	EPA 200.8	11E0890	0.0010	ND	1	5/24/2011	5/28/2011	
Lead	EPA 200.8	11E0890	0.0010	ND	1	5/24/2011	5/28/2011	
Silver	EPA 200.8	11E0890	0.0010	ND	1	5/24/2011	5/28/2011	
Thallium	EPA 200.8	11E0890	0.0010	ND	1	5/24/2011	5/28/2011	

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Sampled: 05/23/11
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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)								
Reporting Units: mg/l								
Fluoride	EPA 300.0	11E0876	0.40	ND	1	5/24/2011	5/24/2011	
Total Kjeldahl Nitrogen	SM4500-NH3 D	11F0094	1.0	ND	1	6/2/2011	6/5/2011	
Total Suspended Solids	SM 2540D	11E0921	1.0	**3.0**	1	5/25/2011	5/25/2011	
Sample ID: PUE1470-02 (10-29_110523 - Water)								
Reporting Units: mg/l								
Alkalinity as CaCO3	SM 2320B	11E1060	6.0	**270**	1	5/31/2011	5/31/2011	
Bicarbonate Alkalinity as CaCO3	SM 2320B	11E1060	6.0	**260**	1	5/31/2011	5/31/2011	
Carbonate Alkalinity as CaCO3	SM 2320B	11E1060	6.0	**14**	1	5/31/2011	5/31/2011	
Chloride	EPA 300.0	11E0876	2.0	**10**	1	5/24/2011	5/24/2011	
Hydroxide Alkalinity as CaCO3	SM 2320B	11E1060	6.0	ND	1	5/31/2011	5/31/2011	
Sulfate	EPA 300.0	11E0876	2.0	**28**	1	5/24/2011	5/24/2011	
Alkalinity, Phenolphthalein	SM 2320B	11E1060	6.0	**6.9**	1	5/31/2011	5/31/2011	

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Received: 05/24/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8	11F0138	10	**36**	1	6/1/2011	6/7/2011	

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Received: 05/24/11

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-02 (10-29_110523 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8-Diss	11F0119	10	ND	1	6/1/2011	6/7/2011	

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)								
Reporting Units: mg/l								
Amenable Cyanide	SM4500-CN-G	11E3903	0.0050	ND	1	5/27/2011	5/27/2011	

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Sampled: 05/23/11
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Mercury, Low Level (CVAFS)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUE1470-01 (10-29_110523 - Water)									
Reporting Units: ng/L									
Mercury	1631E	3336	0.50	0.12	**0.92**	1	6/1/2011	6/2/2011	
Sample ID: PUE1470-03 (Trip Blank - Water)									
Reporting Units: ng/L									
Mercury	1631E	3336	0.50	0.12	ND	1	6/1/2011	6/2/2011	

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Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0891 Extracted: 05/24/11										
Blank Analyzed: 05/25/2011-05/27/2011 (11E0891-BLK1)										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0010	mg/l							
Boron	ND	0.20	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 05/25/2011-05/27/2011 (11E0891-BS1)										
Barium	1.02	0.010	mg/l	1.00		102	85-115			
Beryllium	1.04	0.0010	mg/l	1.00		104	85-115			
Boron	0.944	0.20	mg/l	1.00		94	85-115			
Chromium	1.05	0.010	mg/l	1.00		105	85-115			
Copper	0.967	0.010	mg/l	1.00		97	85-115			
Nickel	1.01	0.010	mg/l	1.00		101	85-115			
Zinc	1.03	0.050	mg/l	1.00		103	85-115			
LCS Dup Analyzed: 05/25/2011-05/27/2011 (11E0891-BSD1)										
Barium	1.05	0.010	mg/l	1.00		105	85-115	3	20	
Beryllium	1.04	0.0010	mg/l	1.00		104	85-115	0.06	20	
Boron	0.958	0.20	mg/l	1.00		96	85-115	1	20	
Chromium	1.08	0.010	mg/l	1.00		108	85-115	3	20	
Copper	0.998	0.010	mg/l	1.00		100	85-115	3	20	
Nickel	1.04	0.010	mg/l	1.00		104	85-115	3	20	
Zinc	1.06	0.050	mg/l	1.00		106	85-115	3	20	
Matrix Spike Analyzed: 05/25/2011-05/27/2011 (11E0891-MS1)					**Source: PUE1507-01**					
Barium	1.07	0.010	mg/l	1.00	0.0527	102	75-125			
Beryllium	1.05	0.0010	mg/l	1.00	ND	105	75-125			
Boron	2.15	0.20	mg/l	1.00	1.25	89	75-125			
Chromium	1.10	0.010	mg/l	1.00	0.0350	107	75-125			
Copper	1.05	0.010	mg/l	1.00	ND	105	75-125			
Nickel	1.01	0.010	mg/l	1.00	0.00359	101	75-125			
Zinc	1.00	0.050	mg/l	1.00	ND	100	75-125			

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0891 Extracted: 05/24/11										
Matrix Spike Dup Analyzed: 05/25/2011-05/27/2011 (11E0891-MSD1)					**Source: PUE1507-01**					
Barium	1.06	0.010	mg/l	1.00	0.0527	100	75-125	1	20	
Beryllium	1.03	0.0010	mg/l	1.00	ND	103	75-125	2	20	
Boron	2.11	0.20	mg/l	1.00	1.25	86	75-125	2	20	
Chromium	1.09	0.010	mg/l	1.00	0.0350	106	75-125	1	20	
Copper	1.04	0.010	mg/l	1.00	ND	104	75-125	1	20	
Nickel	1.00	0.010	mg/l	1.00	0.00359	100	75-125	1	20	
Zinc	1.01	0.050	mg/l	1.00	ND	101	75-125	0.7	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0886 Extracted: 05/24/11										
Blank Analyzed: 05/30/2011 (11E0886-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Selenium	ND	0.0020	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Uranium	ND	0.0010	mg/l							
LCS Analyzed: 05/30/2011 (11E0886-BS1)										
Antimony	0.109	0.0030	mg/l	0.100		109	85-115			
Arsenic	0.0990	0.0010	mg/l	0.100		99	85-115			
Cadmium	0.104	0.0010	mg/l	0.100		104	85-115			
Lead	0.104	0.0010	mg/l	0.100		104	85-115			
Selenium	0.0996	0.0020	mg/l	0.100		100	85-115			
Silver	0.0998	0.0010	mg/l	0.100		100	85-115			
Thallium	0.103	0.0010	mg/l	0.100		103	85-115			
Uranium	0.110	0.0010	mg/l	0.100		110	85-115			
LCS Dup Analyzed: 05/30/2011 (11E0886-BSD1)										
Antimony	0.108	0.0030	mg/l	0.100		108	85-115	0.6	20	
Arsenic	0.0982	0.0010	mg/l	0.100		98	85-115	0.7	20	
Cadmium	0.104	0.0010	mg/l	0.100		104	85-115	0.4	20	
Lead	0.104	0.0010	mg/l	0.100		104	85-115	0.5	20	
Selenium	0.100	0.0020	mg/l	0.100		100	85-115	0.4	20	
Silver	0.0990	0.0010	mg/l	0.100		99	85-115	0.8	20	
Thallium	0.102	0.0010	mg/l	0.100		102	85-115	1	20	
Uranium	0.109	0.0010	mg/l	0.100		109	85-115	1	20	

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Received: 05/24/11

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0886 Extracted: 05/24/11										
Matrix Spike Analyzed: 05/30/2011 (11E0886-MS1)					**Source: PUE1415-01**					
Antimony	0.108	0.0030	mg/l	0.100	ND	108	70-130			
Arsenic	0.102	0.0010	mg/l	0.100	0.00146	100	70-130			
Cadmium	0.102	0.0010	mg/l	0.100	ND	102	70-130			
Lead	0.0992	0.0010	mg/l	0.100	ND	99	70-130			
Selenium	0.0997	0.0020	mg/l	0.100	ND	100	70-130			
Silver	0.0947	0.0010	mg/l	0.100	ND	95	70-130			
Thallium	0.0984	0.0010	mg/l	0.100	ND	98	70-130			
Uranium	0.107	0.0010	mg/l	0.100	0.000260	107	70-130			
Matrix Spike Analyzed: 05/30/2011 (11E0886-MS2)					**Source: PUE1448-01**					
Antimony	0.109	0.0030	mg/l	0.100	ND	109	70-130			
Arsenic	0.108	0.0010	mg/l	0.100	0.00474	104	70-130			
Cadmium	0.0995	0.0010	mg/l	0.100	ND	99	70-130			
Lead	0.0954	0.0010	mg/l	0.100	ND	95	70-130			
Selenium	0.102	0.0020	mg/l	0.100	ND	102	70-130			
Silver	0.0276	0.0010	mg/l	0.100	ND	28	70-130			*M2*
Thallium	0.0951	0.0010	mg/l	0.100	ND	95	70-130			
Uranium	0.108	0.0010	mg/l	0.100	0.00145	106	70-130			
Matrix Spike Dup Analyzed: 05/30/2011 (11E0886-MSD1)					**Source: PUE1415-01**					
Antimony	0.106	0.0030	mg/l	0.100	ND	106	70-130	2	20	
Arsenic	0.101	0.0010	mg/l	0.100	0.00146	100	70-130	0.7	20	
Cadmium	0.102	0.0010	mg/l	0.100	ND	102	70-130	0.1	20	
Lead	0.0981	0.0010	mg/l	0.100	ND	98	70-130	1	20	
Selenium	0.0985	0.0020	mg/l	0.100	ND	99	70-130	1	20	
Silver	0.0943	0.0010	mg/l	0.100	ND	94	70-130	0.5	20	
Thallium	0.0971	0.0010	mg/l	0.100	ND	97	70-130	1	20	
Uranium	0.106	0.0010	mg/l	0.100	0.000260	105	70-130	2	20	

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Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0886 Extracted: 05/24/11										
Matrix Spike Dup Analyzed: 05/30/2011 (11E0886-MSD2)					**Source: PUE1448-01**					
Antimony	0.111	0.0030	mg/l	0.100	ND	111	70-130	2	20	
Arsenic	0.108	0.0010	mg/l	0.100	0.00474	103	70-130	0.5	20	
Cadmium	0.102	0.0010	mg/l	0.100	ND	102	70-130	2	20	
Lead	0.0962	0.0010	mg/l	0.100	ND	96	70-130	0.8	20	
Selenium	0.0999	0.0020	mg/l	0.100	ND	100	70-130	2	20	
Silver	0.0269	0.0010	mg/l	0.100	ND	27	70-130	2	20	*M2*
Thallium	0.0963	0.0010	mg/l	0.100	ND	96	70-130	1	20	
Uranium	0.110	0.0010	mg/l	0.100	0.00145	108	70-130	2	20	

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Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0889 Extracted: 05/24/11										
Blank Analyzed: 05/26/2011-05/27/2011 (11E0889-BLK1)										
Boron	ND	0.20	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Cobalt	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Magnesium	ND	0.25	mg/l							
Molybdenum	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Potassium	ND	2.0	mg/l							
Sodium	ND	2.0	mg/l							
Vanadium	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
Blank Analyzed: 05/26/2011 (11E0889-BLK2)										
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Cobalt	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Magnesium	ND	0.25	mg/l							
Molybdenum	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Potassium	ND	2.0	mg/l							
Sodium	ND	2.0	mg/l							
Vanadium	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 05/26/2011-05/27/2011 (11E0889-BS1)										
Boron	0.950	0.20	mg/l	1.00		95	85-115			
Calcium	21.4	2.0	mg/l	21.0		102	85-115			
Chromium	1.06	0.010	mg/l	1.00		106	85-115			
Cobalt	1.08	0.010	mg/l	1.00		108	85-115			
Copper	0.987	0.010	mg/l	1.00		99	85-115			
Magnesium	21.8	0.25	mg/l	21.0		104	85-115			
Molybdenum	1.01	0.010	mg/l	1.00		101	85-115			
Nickel	1.02	0.010	mg/l	1.00		102	85-115			
Potassium	20.1	2.0	mg/l	20.0		100	85-115			

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Linda Eshelman
Project Manager

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DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0889 Extracted: 05/24/11										
LCS Analyzed: 05/26/2011-05/27/2011 (11E0889-BS1)										
Sodium	20.3	2.0	mg/l	20.0		102	85-115			
Vanadium	1.05	0.010	mg/l	1.00		105	85-115			
Zinc	1.04	0.050	mg/l	1.00		104	85-115			
LCS Dup Analyzed: 05/26/2011-05/27/2011 (11E0889-BSD1)										
Boron	0.940	0.20	mg/l	1.00		94	85-115	1	20	
Calcium	20.8	2.0	mg/l	21.0		99	85-115	3	20	
Chromium	1.04	0.010	mg/l	1.00		104	85-115	2	20	
Cobalt	1.06	0.010	mg/l	1.00		106	85-115	2	20	
Copper	0.969	0.010	mg/l	1.00		97	85-115	2	20	
Magnesium	21.4	0.25	mg/l	21.0		102	85-115	2	20	
Molybdenum	0.992	0.010	mg/l	1.00		99	85-115	2	20	
Nickel	0.995	0.010	mg/l	1.00		99	85-115	2	20	
Potassium	19.7	2.0	mg/l	20.0		99	85-115	2	20	
Sodium	19.9	2.0	mg/l	20.0		100	85-115	2	20	
Vanadium	1.03	0.010	mg/l	1.00		103	85-115	2	20	
Zinc	1.02	0.050	mg/l	1.00		102	85-115	3	20	
Matrix Spike Analyzed: 05/26/2011-05/27/2011 (11E0889-MS1)					**Source: PUE1249-01**					
Boron	1.05	0.20	mg/l	1.00	0.0639	98	75-125			
Calcium	269	2.0	mg/l	21.0	251	84	75-125			
Chromium	1.01	0.010	mg/l	1.00	ND	101	75-125			
Cobalt	1.25	0.010	mg/l	1.00	0.254	99	75-125			
Copper	6.20	0.010	mg/l	1.00	5.35	85	75-125			
Magnesium	138	0.25	mg/l	21.0	120	89	75-125			
Molybdenum	0.976	0.010	mg/l	1.00	0.00358	97	75-125			
Nickel	1.11	0.010	mg/l	1.00	0.186	93	75-125			
Potassium	32.8	2.0	mg/l	20.0	12.4	102	75-125			
Sodium	97.4	2.0	mg/l	20.0	78.0	97	75-125			
Vanadium	1.01	0.010	mg/l	1.00	ND	101	75-125			
Zinc	1.42	0.050	mg/l	1.00	0.470	95	75-125			

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0889 Extracted: 05/24/11										
Matrix Spike Analyzed: 05/26/2011-05/27/2011 (11E0889-MS2)					**Source: PUE1453-12**					
Boron	1.14	0.20	mg/l	1.00	0.118	102	75-125			
Calcium	114	2.0	mg/l	21.0	99.9	68	75-125			*M2*
Chromium	1.03	0.010	mg/l	1.00	ND	103	75-125			
Cobalt	1.02	0.010	mg/l	1.00	ND	102	75-125			
Copper	0.996	0.010	mg/l	1.00	ND	100	75-125			
Magnesium	43.5	0.25	mg/l	21.0	24.0	93	75-125			
Molybdenum	0.991	0.010	mg/l	1.00	0.00270	99	75-125			
Nickel	0.955	0.010	mg/l	1.00	ND	96	75-125			
Potassium	23.8	2.0	mg/l	20.0	4.71	95	75-125			
Sodium	160	2.0	mg/l	20.0	145	74	75-125			*M2*
Vanadium	1.04	0.010	mg/l	1.00	0.00262	103	75-125			
Zinc	0.984	0.050	mg/l	1.00	ND	98	75-125			
Matrix Spike Dup Analyzed: 05/26/2011-05/27/2011 (11E0889-MSD1)					**Source: PUE1249-01**					
Boron	1.05	0.20	mg/l	1.00	0.0639	98	75-125	0.2	20	
Calcium	270	2.0	mg/l	21.0	251	88	75-125	0.4	20	
Chromium	1.02	0.010	mg/l	1.00	ND	102	75-125	1	20	
Cobalt	1.26	0.010	mg/l	1.00	0.254	101	75-125	1	20	
Copper	6.23	0.010	mg/l	1.00	5.35	88	75-125	0.5	20	
Magnesium	139	0.25	mg/l	21.0	120	91	75-125	0.3	20	
Molybdenum	0.989	0.010	mg/l	1.00	0.00358	98	75-125	1	20	
Nickel	1.12	0.010	mg/l	1.00	0.186	94	75-125	0.9	20	
Potassium	32.8	2.0	mg/l	20.0	12.4	102	75-125	0.03	10	
Sodium	97.6	2.0	mg/l	20.0	78.0	98	75-125	0.1	20	
Vanadium	1.03	0.010	mg/l	1.00	ND	103	75-125	2	20	
Zinc	1.43	0.050	mg/l	1.00	0.470	96	75-125	1	20	
Matrix Spike Dup Analyzed: 05/26/2011-05/27/2011 (11E0889-MSD2)					**Source: PUE1453-12**					
Boron	1.12	0.20	mg/l	1.00	0.118	100	75-125	2	20	
Calcium	120	2.0	mg/l	21.0	99.9	97	75-125	5	20	
Chromium	1.03	0.010	mg/l	1.00	ND	103	75-125	0.3	20	
Cobalt	1.04	0.010	mg/l	1.00	ND	104	75-125	1	20	
Copper	0.999	0.010	mg/l	1.00	ND	100	75-125	0.3	20	
Magnesium	45.0	0.25	mg/l	21.0	24.0	100	75-125	4	20	
Molybdenum	1.00	0.010	mg/l	1.00	0.00270	100	75-125	0.9	20	
Nickel	0.968	0.010	mg/l	1.00	ND	97	75-125	1	20	

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Report Number: PUE1470

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Received: 05/24/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0889 Extracted: 05/24/11										
Matrix Spike Dup Analyzed: 05/26/2011-05/27/2011 (11E0889-MSD2)					**Source: PUE1453-12**					
Potassium	24.6	2.0	mg/l	20.0	4.71	100	75-125	4	10	
Sodium	165	2.0	mg/l	20.0	145	102	75-125	3	20	
Vanadium	1.04	0.010	mg/l	1.00	0.00262	104	75-125	0.3	20	
Zinc	0.998	0.050	mg/l	1.00	ND	100	75-125	1	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0890 Extracted: 05/24/11										
Blank Analyzed: 05/28/2011 (11E0890-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Blank Analyzed: 05/28/2011 (11E0890-BLK2)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
LCS Analyzed: 05/28/2011 (11E0890-BS1)										
Antimony	0.109	0.0030	mg/l	0.100		109	85-115			
Arsenic	0.101	0.0010	mg/l	0.100		101	85-115			
Cadmium	0.110	0.0010	mg/l	0.100		110	85-115			
Lead	0.106	0.0010	mg/l	0.100		106	85-115			
Silver	0.0974	0.0010	mg/l	0.100		97	85-115			
Thallium	0.106	0.0010	mg/l	0.100		106	85-115			
LCS Dup Analyzed: 05/28/2011 (11E0890-BSD1)										
Antimony	0.108	0.0030	mg/l	0.100		108	85-115	2	20	
Arsenic	0.0991	0.0010	mg/l	0.100		99	85-115	1	20	
Cadmium	0.108	0.0010	mg/l	0.100		108	85-115	1	20	
Lead	0.106	0.0010	mg/l	0.100		106	85-115	0.2	20	
Silver	0.0970	0.0010	mg/l	0.100		97	85-115	0.4	20	
Thallium	0.106	0.0010	mg/l	0.100		106	85-115	0.6	20	

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DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0890 Extracted: 05/24/11										
Matrix Spike Analyzed: 05/28/2011-05/30/2011 (11E0890-MS1)					**Source: PUE1473-02**					
Antimony	0.123	0.015	mg/l	0.100	ND	123	70-130			
Arsenic	0.203	0.0010	mg/l	0.100	0.109	95	70-130			
Cadmium	0.110	0.0050	mg/l	0.100	ND	110	70-130			
Lead	0.0974	0.0010	mg/l	0.100	0.000194	97	70-130			
Silver	0.0158	0.0050	mg/l	0.100	ND	16	70-130			*M2*
Thallium	0.0972	0.0010	mg/l	0.100	ND	97	70-130			
Matrix Spike Dup Analyzed: 05/28/2011-05/30/2011 (11E0890-MSD1)					**Source: PUE1473-02**					
Antimony	0.121	0.015	mg/l	0.100	ND	121	70-130	2	20	
Arsenic	0.201	0.0010	mg/l	0.100	0.109	92	70-130	1	20	
Cadmium	0.110	0.0050	mg/l	0.100	ND	110	70-130	0.01	20	
Lead	0.0980	0.0010	mg/l	0.100	0.000194	98	70-130	0.6	20	
Silver	0.0155	0.0050	mg/l	0.100	ND	15	70-130	2	20	*M2*
Thallium	0.0980	0.0010	mg/l	0.100	ND	98	70-130	0.9	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0876 Extracted: 05/24/11										
Blank Analyzed: 05/24/2011 (11E0876-BLK1)										
Chloride	ND	2.0	mg/l							
Fluoride	ND	0.40	mg/l							
Sulfate	ND	2.0	mg/l							
LCS Analyzed: 05/24/2011 (11E0876-BS1)										
Chloride	20.0	2.0	mg/l	20.0		100	90-110			
Fluoride	4.13	0.40	mg/l	4.00		103	90-110			
Sulfate	20.0	2.0	mg/l	20.0		100	90-110			
LCS Dup Analyzed: 05/24/2011 (11E0876-BSD1)										
Chloride	19.8	2.0	mg/l	20.0		99	90-110	0.7	15	
Fluoride	4.04	0.40	mg/l	4.00		101	90-110	2	20	
Sulfate	20.0	2.0	mg/l	20.0		100	90-110	0.1	15	
Matrix Spike Analyzed: 05/24/2011 (11E0876-MS1)					**Source: PUE1466-01**					
Chloride	28.9	2.0	mg/l	20.0	7.73	106	80-120			
Fluoride	4.42	0.40	mg/l	4.00	0.294	103	80-120			
Sulfate	33.4	2.0	mg/l	20.0	12.2	106	80-120			
Matrix Spike Dup Analyzed: 05/24/2011 (11E0876-MSD1)					**Source: PUE1466-01**					
Chloride	29.0	2.0	mg/l	20.0	7.73	106	80-120	0.5	15	
Fluoride	4.44	0.40	mg/l	4.00	0.294	104	80-120	0.5	20	
Sulfate	33.6	2.0	mg/l	20.0	12.2	107	80-120	0.6	15	
Batch: 11E0921 Extracted: 05/25/11										
Blank Analyzed: 05/25/2011 (11E0921-BLK1)										
Total Suspended Solids	ND	1.0	mg/l							

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INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0921 Extracted: 05/25/11										
LCS Analyzed: 05/25/2011 (11E0921-BS1)										
Total Suspended Solids	194	10	mg/l	200		97	90-110			
LCS Dup Analyzed: 05/25/2011 (11E0921-BSD1)										
Total Suspended Solids	188	10	mg/l	200		94	90-110	3	10	
Duplicate Analyzed: 05/25/2011 (11E0921-DUP1)					**Source: PUE1407-01**					
Total Suspended Solids	880	100	mg/l		960			9	10	
Duplicate Analyzed: 05/25/2011 (11E0921-DUP2)					**Source: PUE1472-03**					
Total Suspended Solids	176	20	mg/l		160			10	10	
Batch: 11E1060 Extracted: 05/31/11										
Blank Analyzed: 05/31/2011 (11E1060-BLK1)										
Alkalinity as CaCO3	ND	6.0	mg/l							
Bicarbonate Alkalinity as CaCO3	ND	6.0	mg/l							
Carbonate Alkalinity as CaCO3	ND	6.0	mg/l							
Hydroxide Alkalinity as CaCO3	ND	6.0	mg/l							
Alkalinity, Phenolphthalein	ND	6.0	mg/l							
LCS Analyzed: 05/31/2011 (11E1060-BS2)										
Alkalinity as CaCO3	257	6.0	mg/l	250		103	90-110			
LCS Dup Analyzed: 05/31/2011 (11E1060-BSD2)										
Alkalinity as CaCO3	248	6.0	mg/l	250		99	90-110	3	20	
Duplicate Analyzed: 05/31/2011 (11E1060-DUP1)					**Source: PUE1407-02**					
Alkalinity as CaCO3	94.8	6.0	mg/l		95.0			0.1	20	
Bicarbonate Alkalinity as CaCO3	94.8	6.0	mg/l		95.0			0.1	20	
Carbonate Alkalinity as CaCO3	ND	6.0	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	mg/l		ND				20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E1060 Extracted: 05/31/11										
Duplicate Analyzed: 05/31/2011 (11E1060-DUP2)					**Source: PUE1425-01**					
Alkalinity as CaCO3	109	6.0	mg/l		108			1	20	
Bicarbonate Alkalinity as CaCO3	109	6.0	mg/l		108			1	20	
Carbonate Alkalinity as CaCO3	ND	6.0	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	mg/l		ND				20	
Batch: 11F0094 Extracted: 06/02/11										
Blank Analyzed: 06/05/2011 (11F0094-BLK1)										
Total Kjeldahl Nitrogen	ND	1.0	mg/l							
LCS Analyzed: 06/05/2011 (11F0094-BS1)										
Total Kjeldahl Nitrogen	49.0	1.0	mg/l	50.0		98	80-120			
LCS Dup Analyzed: 06/05/2011 (11F0094-BSD1)										
Total Kjeldahl Nitrogen	48.1	1.0	mg/l	50.0		96	80-120	2	20	
Matrix Spike Analyzed: 06/05/2011 (11F0094-MS1)					**Source: PUE1470-01**					
Total Kjeldahl Nitrogen	43.8	1.0	mg/l	50.0	0.400	87	80-120			
Matrix Spike Dup Analyzed: 06/05/2011 (11F0094-MSD1)					**Source: PUE1470-01**					
Total Kjeldahl Nitrogen	44.4	1.0	mg/l	50.0	0.400	88	80-120	1	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0138 Extracted: 06/01/11										
Blank Analyzed: 06/07/2011 (11F0138-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 06/07/2011 (11F0138-BS1)										
Aluminum	91.6	10	ug/l	80.0		115	85-115			
Matrix Spike Analyzed: 06/07/2011 (11F0138-MS1)					**Source: IUE2752-01**					
Aluminum	89.7	10	ug/l	80.0	ND	112	70-130			
Matrix Spike Analyzed: 06/07/2011 (11F0138-MS2)					**Source: PUE1470-01**					
Aluminum	115	10	ug/l	80.0	35.6	99	70-130			
Matrix Spike Dup Analyzed: 06/07/2011 (11F0138-MSD1)					**Source: IUE2752-01**					
Aluminum	88.5	10	ug/l	80.0	ND	111	70-130	1	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0119 Extracted: 06/01/11										
Blank Analyzed: 06/07/2011 (11F0119-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 06/07/2011 (11F0119-BS1)										
Aluminum	91.6	10	ug/l	80.0		114	85-115			
Matrix Spike Analyzed: 06/07/2011 (11F0119-MS1)					**Source: PUE1470-02**					
Aluminum	83.8	10	ug/l	80.0	ND	105	70-130			
Matrix Spike Analyzed: 06/07/2011 (11F0119-MS2)					**Source: IUE2528-02**					
Aluminum	324	10	ug/l	80.0	224	126	70-130			
Matrix Spike Dup Analyzed: 06/07/2011 (11F0119-MSD1)					**Source: PUE1470-02**					
Aluminum	86.7	10	ug/l	80.0	ND	108	70-130	3	20	

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Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E3903 Extracted: 05/27/11										
Blank Analyzed: 05/27/2011 (11E3903-BLK1)										
Amenable Cyanide	ND	0.0050	mg/l							
LCS Analyzed: 05/27/2011 (11E3903-BS1)										
Amenable Cyanide	0.187	0.0050	mg/l	0.196		96	90-110			
Matrix Spike Analyzed: 05/27/2011 (11E3903-MS1)					**Source: PUE1470-01**					
Amenable Cyanide	0.176	0.0050	mg/l	0.196	ND	90	70-130			
Matrix Spike Dup Analyzed: 05/27/2011 (11E3903-MSD1)					**Source: PUE1470-01**					
Amenable Cyanide	0.174	0.0050	mg/l	0.196	ND	89	70-130	0.8	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 3336 Extracted: 06/01/11										
Blank Analyzed: 06/02/2011 (3765-27)					**Source:**					
Mercury	ND	0.50	ng/L				-			
LCS Analyzed: 06/02/2011 (3765-3)					**Source:**					
Mercury	4.15	0.50	ng/L	5.00		83	77-125			
Matrix Spike Dup Analyzed: 06/02/2011 (4631D)					**Source: PUE1470-01**					
Mercury	5.65	2.5	ng/L	5.00	0.92	95	71-125	8	24	
Matrix Spike Analyzed: 06/02/2011 (4631S)					**Source: PUE1470-01**					
Mercury	6.10	2.5	ng/L	5.00	0.92	104	71-125			

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Project Manager

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

DATA QUALIFIERS AND DEFINITIONS

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

TestAmerica Phoenix

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Project Manager

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2320B	Water		X
SM 2540D	Water		X
SM2340B	Water		X
SM4500-NH3 D	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PUE1470-01

Analysis Performed: Radium 226
Samples: PUE1470-01

Analysis Performed: Radium 228
Samples: PUE1470-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: EPA 200.8
Samples: PUE1470-01

Method Performed: EPA 200.8-Diss
Samples: PUE1470-02

Method Performed: SM4500-CN-G
Samples: PUE1470-01

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Navajo Nation EPA Water Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Mid SJ Run
Report Number: PUE1470

Sampled: 05/23/11
Received: 05/24/11

TestAmerica - North Canton

4101 Shuffel Drive NW - North Canton, OH 44720

Method Performed: 1631E

Samples: PUE1470-01, PUE1470-03

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record - Stream Suite With Cations Anions

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Eric Rich	Site Contact:	Date:	COC No:
Navajo Nation EPA	Tel/Fax: (928) 283-3080	Lab Contact: Linda Eshelman	Carrier:	____ of ____ COCs
Address: P.O. Box 1999	Analysis Turnaround Time			Job No.
City/State/Zip: Shiprock, NM 87420	Calendar (C) or Work Days (W) ____			
(505) 368-1037 Phone	TAT if different from Below ____			SDG No.
(505) 368-1416 FAX	☐ 2 weeks			
Project Name:	☐ 1 week			
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	FF Hardness (Ca and Mg)	FF 200.8 = Al, Sb, As, Cd, Pb, Ag, Tl	FF 200.7 - B, Cr, Co, Cu, Ni, Zn, Ca	FF 200.7 - Ca, Mg, Na, K, Mo, V	FF - Alk, SO4, Cl	Total 200.8-Al, Sb, As, Cd, Pb, Se, Ag,	Total 200.8 - Tl, U	Total 200.7 - Ba, Be, B, Cr, Cu,Ni, Zn	TKN	Cyanide (as Free)	F, TSS	Gross Alpha, Radium 226/228	Mercury LL - 1631	Sample Specific Notes:
10-29_110523	5/23/11	12:15		H_2O	13	X	X	X	X	X	X	X	X	X	X	X	X	X	PUE1470-01, 02, 03

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Special Instructions/QC Requirements & Comments: **FF = Field Filtered**

3.6 °C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	NNEPA	5/23/11 16:20	Fed Ex	Fed Ex	5/23/11 16:20
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: TA	Date/Time: 5/24/11 1030

ED_004888_00033250-00066

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: May 23, 2011
Sample Received: May 25, 2011
Analysis Completed: June 14, 2011

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PUE1470-01	50.3 ± 4.4	1.6 ± 0.2	< 0.3	1.6 ± 0.2

Date of Analysis	5/26/2011	5/26/2011	5/26/2011	5/26/2011

Robert L. Metzger, Ph.D., C.H.P.

Subcontract Order - TestAmerica Phoenix (PUE1470)

SENDING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Blvd. Ste 189
Phoenix, AZ 85040
Phone: (602) 437-3340
Fax: (602) 454-9303
Project Manager: Linda Eshelman

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: 480-892-5446
Project Location: Arizona
Receipt Temperature:_____°C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PUE1470-01 (10-29-110523 - Water)		Sampled: **05/23/11 12:15**	
Gross Alpha-O	pCi/L	05/22/12 12:15	
Radium 226-O	pCi/L	05/22/12 12:15	
Radium 228-O	pCi/L	05/22/12 12:15	41773
Containers Supplied:			
1 Gallon Poly (A)			

Released By	Date/Time	Received By	Date/Time
[signature]	5-25-11 10:12	[signature]	5/25/11 10:12

Page 1 of 1

Wednesday, June 15, 2011.max

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

LABORATORY REPORT

Prepared For: Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project: Middle JJR 305(b)

Sampled: 06/20/11
Received: 06/21/11
Issued: 07/20/11 11:20

NELAP #01109CA Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PUF1218-01	10-29_110620	Water
PUF1218-02	10-29_110620	Water

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
L3 - ICP Chromium - Batch 11F0759 / PUF1218-01 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
N1 - TKN - PUF1218-01 - TestAmerica routinely prepares TKN digestions with a 2X prep factor. This dilution is compensated for when analyzed using the auto-titrator. This analysis was performed manually and the prep factor is not included in the calculation, resulting in a 2X dilution factor. This does not impact the reporting limit

COMMENTS: Results that fall between the MDL and RL are 'E4' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	11F0759	0.010	**0.29**	1	6/21/2011	6/23/2011	
Beryllium	EPA 200.7	11F0759	0.0010	ND	1	6/21/2011	6/23/2011	
Boron	EPA 200.7	11F0759	0.20	ND	1	6/21/2011	6/23/2011	
Chromium	EPA 200.7	11F0759	0.010	ND	1	6/21/2011	6/27/2011	L3
Copper	EPA 200.7	11F0759	0.010	ND	1	6/21/2011	6/27/2011	
Nickel	EPA 200.7	11F0759	0.010	ND	1	6/21/2011	6/23/2011	
Zinc	EPA 200.7	11F0759	0.050	ND	1	6/21/2011	6/30/2011	

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Linda Eshelman
Project Manager

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Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

TOTAL METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11F0774	0.0030	ND	1	6/21/2011	6/23/2011	
Arsenic	EPA 200.8	11F0774	0.0010	**0.0057**	1	6/21/2011	6/23/2011	
Cadmium	EPA 200.8	11F0774	0.0010	ND	1	6/21/2011	6/23/2011	
Lead	EPA 200.8	11F0774	0.0010	ND	1	6/21/2011	6/23/2011	
Selenium	EPA 200.8	11F0774	0.0020	ND	1	6/21/2011	6/23/2011	
Silver	EPA 200.8	11F0774	0.0010	ND	1	6/21/2011	6/23/2011	
Thallium	EPA 200.8	11F0774	0.0010	ND	1	6/21/2011	6/23/2011	
Uranium	EPA 200.8	11F0774	0.0010	**0.080**	1	6/21/2011	6/23/2011	

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Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-02 (10-29_110620 - Water)								
Reporting Units: mg/l								
Boron	EPA 200.7	11F0992	0.20	ND	1	6/27/2011	7/7/2011	
Calcium	EPA 200.7	11F0992	2.0	**58**	1	6/27/2011	7/1/2011	
Chromium	EPA 200.7	11F0992	0.010	ND	1	6/27/2011	7/1/2011	
Cobalt	EPA 200.7	11F0992	0.010	ND	1	6/27/2011	7/1/2011	
Copper	EPA 200.7	11F0992	0.010	ND	1	6/27/2011	7/1/2011	
Hardness, Dissolved	SM2340B	[CALC]	6.0	**210**	1	6/27/2011	7/1/2011	
Magnesium	EPA 200.7	11F0992	0.25	**16**	1	6/27/2011	7/1/2011	
Molybdenum	EPA 200.7	11F0992	0.010	**0.011**	1	6/27/2011	7/1/2011	
Nickel	EPA 200.7	11F0992	0.010	ND	1	6/27/2011	7/1/2011	
Vanadium	EPA 200.7	11F0992	0.010	ND	1	6/27/2011	7/1/2011	
Zinc	EPA 200.7	11F0992	0.050	ND	1	6/27/2011	7/1/2011	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-02 (10-29_110620 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11F0775	0.0030	ND	1	6/21/2011	6/24/2011	
Arsenic	EPA 200.8	11F0775	0.0010	**0.0059**	1	6/21/2011	6/24/2011	
Cadmium	EPA 200.8	11F0775	0.0010	ND	1	6/21/2011	6/24/2011	
Lead	EPA 200.8	11F0775	0.0010	ND	1	6/21/2011	6/24/2011	
Silver	EPA 200.8	11F0775	0.0010	ND	1	6/21/2011	6/24/2011	
Thallium	EPA 200.8	11F0775	0.0010	ND	1	6/21/2011	6/24/2011	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)								
Reporting Units: mg/l								
Fluoride	EPA 300.0	11F0760	0.40	ND	1	6/21/2011	6/21/2011	
Total Kjeldahl Nitrogen	SM4500-NH3 D	11F1131	1.0	ND	2	7/3/2011	7/6/2011	N1
Total Suspended Solids	SM 2540D	11F0799	1.0	**1.0**	1	6/22/2011	6/22/2011	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8	11F4064	10	ND	1	6/30/2011	6/30/2011	

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THE LEADER IN ENVIRONMENTAL TESTING
4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-02 (10-29_110620 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8-Diss	11F4129	10	ND	1	6/30/2011	7/1/2011	V1

TestAmerica Phoenix

Linda Eshelman
Project Manager

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)								
Reporting Units: mg/l								
Amenable Cyanide	SM4500-CN-G	11F3702	0.0050	ND	1	6/28/2011	6/28/2011	

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Mercury, Low Level (CVAFS)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUF1218-01 (10-29_110620 - Water)									
Reporting Units: ng/L									
Mercury	1631E	6033	0.50	0.12	**0.32**	1	6/24/2011	6/26/2011	E4

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0759 Extracted: 06/21/11										
Blank Analyzed: 06/23/2011-06/30/2011 (11F0759-BLK1)										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0010	mg/l							
Boron	ND	0.20	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 06/23/2011-06/30/2011 (11F0759-BS1)										
Barium	1.09	0.010	mg/l	1.00		109	85-115			
Beryllium	1.06	0.0010	mg/l	1.00		106	85-115			
Boron	0.939	0.20	mg/l	1.00		94	85-115			
Chromium	1.19	0.010	mg/l	1.00		119	85-115			*L3*
Copper	1.07	0.010	mg/l	1.00		107	85-115			
Nickel	1.09	0.010	mg/l	1.00		109	85-115			
Zinc	1.06	0.050	mg/l	1.00		106	85-115			
LCS Dup Analyzed: 06/23/2011-06/30/2011 (11F0759-BSD1)										
Barium	1.08	0.010	mg/l	1.00		108	85-115	0.6	20	
Beryllium	1.05	0.0010	mg/l	1.00		105	85-115	1	20	
Boron	0.952	0.20	mg/l	1.00		95	85-115	1	20	
Chromium	1.19	0.010	mg/l	1.00		119	85-115	0.06	20	*L3*
Copper	1.07	0.010	mg/l	1.00		107	85-115	0.3	20	
Nickel	1.09	0.010	mg/l	1.00		109	85-115	0.4	20	
Zinc	1.05	0.050	mg/l	1.00		105	85-115	1	20	
Matrix Spike Analyzed: 06/23/2011-06/30/2011 (11F0759-MS1)					**Source: PUF1247-01**					
Barium	1.04	0.010	mg/l	1.00	0.00514	103	75-125			
Beryllium	1.01	0.0010	mg/l	1.00	ND	101	75-125			
Boron	1.43	0.20	mg/l	1.00	0.442	99	75-125			
Chromium	1.17	0.010	mg/l	1.00	ND	117	75-125			
Copper	1.18	0.010	mg/l	1.00	ND	118	75-125			
Nickel	1.04	0.010	mg/l	1.00	0.00997	103	75-125			
Zinc	1.13	0.050	mg/l	1.00	0.0787	105	75-125			

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0759 Extracted: 06/21/11										
Matrix Spike Dup Analyzed: 06/23/2011-06/30/2011 (11F0759-MSD1)					**Source: PUF1247-01**					
Barium	1.02	0.010	mg/l	1.00	0.00514	101	75-125	2	20	
Beryllium	0.992	0.0010	mg/l	1.00	ND	99	75-125	2	20	
Boron	1.38	0.20	mg/l	1.00	0.442	94	75-125	3	20	
Chromium	1.17	0.010	mg/l	1.00	ND	117	75-125	0.4	20	
Copper	1.18	0.010	mg/l	1.00	ND	118	75-125	0.3	20	
Nickel	1.03	0.010	mg/l	1.00	0.00997	102	75-125	0.6	20	
Zinc	1.12	0.050	mg/l	1.00	0.0787	104	75-125	0.8	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0774 Extracted: 06/21/11										
Blank Analyzed: 06/23/2011 (11F0774-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Selenium	ND	0.0020	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Uranium	ND	0.0010	mg/l							
LCS Analyzed: 06/23/2011 (11F0774-BS1)										
Antimony	0.0973	0.0030	mg/l	0.100		97	85-115			
Arsenic	0.0958	0.0010	mg/l	0.100		96	85-115			
Cadmium	0.0981	0.0010	mg/l	0.100		98	85-115			
Lead	0.0995	0.0010	mg/l	0.100		100	85-115			
Selenium	0.101	0.0020	mg/l	0.100		101	85-115			
Silver	0.101	0.0010	mg/l	0.100		101	85-115			
Thallium	0.0993	0.0010	mg/l	0.100		99	85-115			
Uranium	0.0921	0.0010	mg/l	0.100		92	85-115			
LCS Dup Analyzed: 06/23/2011 (11F0774-BSD1)										
Antimony	0.0975	0.0030	mg/l	0.100		98	85-115	0.3	20	
Arsenic	0.0965	0.0010	mg/l	0.100		97	85-115	0.8	20	
Cadmium	0.0985	0.0010	mg/l	0.100		99	85-115	0.4	20	
Lead	0.0998	0.0010	mg/l	0.100		100	85-115	0.3	20	
Selenium	0.101	0.0020	mg/l	0.100		101	85-115	0.3	20	
Silver	0.100	0.0010	mg/l	0.100		100	85-115	0.7	20	
Thallium	0.0985	0.0010	mg/l	0.100		98	85-115	0.8	20	
Uranium	0.0927	0.0010	mg/l	0.100		93	85-115	0.7	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0774 Extracted: 06/21/11										
Matrix Spike Analyzed: 06/23/2011 (11F0774-MS1)					**Source: PUF1193-03**					
Antimony	0.102	0.0030	mg/l	0.100	0.000608	102	70-130			
Arsenic	0.120	0.0010	mg/l	0.100	0.0208	99	70-130			
Cadmium	0.0950	0.0010	mg/l	0.100	ND	95	70-130			
Lead	0.0965	0.0010	mg/l	0.100	0.00472	92	70-130			
Selenium	0.108	0.0020	mg/l	0.100	0.00232	106	70-130			
Silver	0.0773	0.0010	mg/l	0.100	ND	77	70-130			
Thallium	0.0953	0.0010	mg/l	0.100	ND	95	70-130			
Uranium	0.0961	0.0010	mg/l	0.100	ND	96	70-130			
Matrix Spike Analyzed: 06/23/2011 (11F0774-MS2)					**Source: PUF1257-01**					
Antimony	0.105	0.0030	mg/l	0.100	ND	105	70-130			
Arsenic	0.106	0.0010	mg/l	0.100	0.00626	99	70-130			
Cadmium	0.0967	0.0010	mg/l	0.100	ND	97	70-130			
Lead	0.0976	0.0010	mg/l	0.100	0.000283	97	70-130			
Selenium	0.104	0.0020	mg/l	0.100	0.00209	102	70-130			
Silver	0.0614	0.0010	mg/l	0.100	ND	61	70-130			*M2*
Thallium	0.0951	0.0010	mg/l	0.100	ND	95	70-130			
Uranium	0.0985	0.0010	mg/l	0.100	0.00116	97	70-130			
Matrix Spike Dup Analyzed: 06/23/2011 (11F0774-MSD1)					**Source: PUF1193-03**					
Antimony	0.102	0.0030	mg/l	0.100	0.000608	102	70-130	0.008	20	
Arsenic	0.122	0.0010	mg/l	0.100	0.0208	101	70-130	1	20	
Cadmium	0.0956	0.0010	mg/l	0.100	ND	96	70-130	0.7	20	
Lead	0.0962	0.0010	mg/l	0.100	0.00472	91	70-130	0.3	20	
Selenium	0.110	0.0020	mg/l	0.100	0.00232	108	70-130	2	20	
Silver	0.0644	0.0010	mg/l	0.100	ND	64	70-130	18	20	*M2*
Thallium	0.0955	0.0010	mg/l	0.100	ND	95	70-130	0.2	20	
Uranium	0.0955	0.0010	mg/l	0.100	ND	95	70-130	0.7	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0774 Extracted: 06/21/11										
Matrix Spike Dup Analyzed: 06/23/2011 (11F0774-MSD2)					**Source: PUF1257-01**					
Antimony	0.102	0.0030	mg/l	0.100	ND	102	70-130	2	20	
Arsenic	0.107	0.0010	mg/l	0.100	0.00626	101	70-130	1	20	
Cadmium	0.0961	0.0010	mg/l	0.100	ND	96	70-130	0.6	20	
Lead	0.0959	0.0010	mg/l	0.100	0.000283	96	70-130	2	20	
Selenium	0.106	0.0020	mg/l	0.100	0.00209	104	70-130	1	20	
Silver	0.0606	0.0010	mg/l	0.100	ND	61	70-130	1	20	*M2*
Thallium	0.0941	0.0010	mg/l	0.100	ND	94	70-130	1	20	
Uranium	0.0966	0.0010	mg/l	0.100	0.00116	95	70-130	2	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0992 Extracted: 06/27/11										
Blank Analyzed: 07/01/2011-07/07/2011 (11F0992-BLK1)										
Boron	ND	0.20	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Cobalt	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Magnesium	ND	0.25	mg/l							
Molybdenum	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Vanadium	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 07/01/2011-07/07/2011 (11F0992-BS1)										
Boron	0.995	0.20	mg/l	1.00		99	85-115			
Calcium	21.5	2.0	mg/l	21.0		102	85-115			
Chromium	1.03	0.010	mg/l	1.00		103	85-115			
Cobalt	1.05	0.010	mg/l	1.00		105	85-115			
Copper	0.971	0.010	mg/l	1.00		97	85-115			
Magnesium	21.0	0.25	mg/l	21.0		100	85-115			
Molybdenum	1.02	0.010	mg/l	1.00		102	85-115			
Nickel	1.04	0.010	mg/l	1.00		104	85-115			
Vanadium	1.05	0.010	mg/l	1.00		105	85-115			
Zinc	1.09	0.050	mg/l	1.00		109	85-115			
LCS Dup Analyzed: 07/01/2011-07/07/2011 (11F0992-BSD1)										
Boron	0.986	0.20	mg/l	1.00		99	85-115	0.9	20	
Calcium	20.9	2.0	mg/l	21.0		100	85-115	3	20	
Chromium	1.01	0.010	mg/l	1.00		101	85-115	1	20	
Cobalt	1.06	0.010	mg/l	1.00		106	85-115	0.7	20	
Copper	0.962	0.010	mg/l	1.00		96	85-115	0.9	20	
Magnesium	20.5	0.25	mg/l	21.0		98	85-115	2	20	
Molybdenum	1.03	0.010	mg/l	1.00		103	85-115	1	20	
Nickel	1.05	0.010	mg/l	1.00		105	85-115	0.7	20	
Vanadium	1.05	0.010	mg/l	1.00		105	85-115	0.5	20	
Zinc	1.10	0.050	mg/l	1.00		110	85-115	0.5	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0992 Extracted: 06/27/11										
Matrix Spike Analyzed: 07/01/2011-07/07/2011 (11F0992-MS1)					**Source: PUF1285-02**					
Boron	0.972	0.20	mg/l	1.00	ND	97	75-125			
Calcium	21.0	2.0	mg/l	21.0	0.0128	100	75-125			
Chromium	1.02	0.010	mg/l	1.00	ND	102	75-125			
Cobalt	1.04	0.010	mg/l	1.00	ND	104	75-125			
Copper	0.967	0.010	mg/l	1.00	ND	97	75-125			
Magnesium	20.5	0.25	mg/l	21.0	ND	98	75-125			
Molybdenum	1.01	0.010	mg/l	1.00	0.00292	100	75-125			
Nickel	1.03	0.010	mg/l	1.00	ND	103	75-125			
Vanadium	1.05	0.010	mg/l	1.00	ND	105	75-125			
Zinc	1.08	0.050	mg/l	1.00	ND	108	75-125			
Matrix Spike Analyzed: 07/01/2011-07/07/2011 (11F0992-MS2)					**Source: PUF1289-02**					
Boron	0.979	0.20	mg/l	1.00	0.126	85	75-125			
Calcium	551	2.0	mg/l	21.0	548	15	75-125			*M3*
Chromium	0.889	0.010	mg/l	1.00	0.00705	88	75-125			
Cobalt	1.13	0.010	mg/l	1.00	0.256	87	75-125			
Copper	36.9	0.010	mg/l	1.00	36.1	84	75-125			
Magnesium	222	0.25	mg/l	21.0	206	75	75-125			
Molybdenum	0.948	0.010	mg/l	1.00	0.0759	87	75-125			
Nickel	1.03	0.010	mg/l	1.00	0.166	87	75-125			
Vanadium	0.889	0.010	mg/l	1.00	ND	89	75-125			
Zinc	9.98	0.050	mg/l	1.00	9.34	64	75-125			*M3*
Matrix Spike Dup Analyzed: 07/01/2011-07/07/2011 (11F0992-MSD1)					**Source: PUF1285-02**					
Boron	0.986	0.20	mg/l	1.00	ND	99	75-125	1	20	
Calcium	20.8	2.0	mg/l	21.0	0.0128	99	75-125	1	20	
Chromium	1.02	0.010	mg/l	1.00	ND	102	75-125	0.4	20	
Cobalt	1.05	0.010	mg/l	1.00	ND	105	75-125	1	20	
Copper	0.970	0.010	mg/l	1.00	ND	97	75-125	0.3	20	
Magnesium	20.3	0.25	mg/l	21.0	ND	97	75-125	1	20	
Molybdenum	1.01	0.010	mg/l	1.00	0.00292	101	75-125	0.7	20	
Nickel	1.04	0.010	mg/l	1.00	ND	104	75-125	0.8	20	
Vanadium	1.05	0.010	mg/l	1.00	ND	105	75-125	0.1	20	
Zinc	1.09	0.050	mg/l	1.00	ND	109	75-125	0.3	20	

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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0992 Extracted: 06/27/11										
Matrix Spike Dup Analyzed: 07/01/2011-07/07/2011 (11F0992-MSD2)					**Source: PUF1289-02**					
Boron	0.978	0.20	mg/l	1.00	0.126	85	75-125	0.2	20	
Calcium	555	2.0	mg/l	21.0	548	34	75-125	0.7	20	*M3*
Chromium	0.876	0.010	mg/l	1.00	0.00705	87	75-125	1	20	
Cobalt	1.13	0.010	mg/l	1.00	0.256	87	75-125	0.08	20	
Copper	36.6	0.010	mg/l	1.00	36.1	47	75-125	1	20	*M3*
Magnesium	217	0.25	mg/l	21.0	206	54	75-125	2	20	*M3*
Molybdenum	0.947	0.010	mg/l	1.00	0.0759	87	75-125	0.06	20	
Nickel	1.03	0.010	mg/l	1.00	0.166	87	75-125	0.2	20	
Vanadium	0.877	0.010	mg/l	1.00	ND	88	75-125	1	20	
Zinc	9.89	0.050	mg/l	1.00	9.34	56	75-125	0.8	20	*M3*

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Linda Eshelman
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0775 Extracted: 06/21/11										
Blank Analyzed: 06/24/2011 (11F0775-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
LCS Analyzed: 06/24/2011 (11F0775-BS1)										
Antimony	0.105	0.0030	mg/l	0.100		105	85-115			
Arsenic	0.0988	0.0010	mg/l	0.100		99	85-115			
Cadmium	0.100	0.0010	mg/l	0.100		100	85-115			
Lead	0.105	0.0010	mg/l	0.100		105	85-115			
Silver	0.102	0.0010	mg/l	0.100		102	85-115			
Thallium	0.104	0.0010	mg/l	0.100		104	85-115			
LCS Dup Analyzed: 06/24/2011 (11F0775-BSD1)										
Antimony	0.107	0.0030	mg/l	0.100		107	85-115	1	20	
Arsenic	0.0985	0.0010	mg/l	0.100		98	85-115	0.4	20	
Cadmium	0.0998	0.0010	mg/l	0.100		100	85-115	0.3	20	
Lead	0.104	0.0010	mg/l	0.100		104	85-115	1	20	
Silver	0.102	0.0010	mg/l	0.100		102	85-115	0.5	20	
Thallium	0.104	0.0010	mg/l	0.100		104	85-115	0.5	20	
Matrix Spike Analyzed: 06/24/2011 (11F0775-MS1)					**Source: PUF1218-02**					
Antimony	0.108	0.0030	mg/l	0.100	0.000631	108	70-130			
Arsenic	0.106	0.0010	mg/l	0.100	0.00585	100	70-130			
Cadmium	0.0972	0.0010	mg/l	0.100	ND	97	70-130			
Lead	0.101	0.0010	mg/l	0.100	0.000147	101	70-130			
Silver	0.0939	0.0010	mg/l	0.100	0.0000980	94	70-130			
Thallium	0.101	0.0010	mg/l	0.100	ND	101	70-130			

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Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0775 Extracted: 06/21/11										
Matrix Spike Dup Analyzed: 06/24/2011 (11F0775-MSD1)					**Source: PUF1218-02**					
Antimony	0.110	0.0030	mg/l	0.100	0.000631	109	70-130	2	20	
Arsenic	0.106	0.0010	mg/l	0.100	0.00585	100	70-130	0.4	20	
Cadmium	0.0980	0.0010	mg/l	0.100	ND	98	70-130	0.9	20	
Lead	0.103	0.0010	mg/l	0.100	0.000147	103	70-130	2	20	
Silver	0.0935	0.0010	mg/l	0.100	0.0000980	93	70-130	0.4	20	
Thallium	0.103	0.0010	mg/l	0.100	ND	103	70-130	2	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0760 Extracted: 06/21/11										
Blank Analyzed: 06/21/2011 (11F0760-BLK1)										
Fluoride	ND	0.40	mg/l							
LCS Analyzed: 06/21/2011 (11F0760-BS1)										
Fluoride	4.13	0.40	mg/l	4.00		103	90-110			
LCS Dup Analyzed: 06/21/2011 (11F0760-BSD1)										
Fluoride	4.15	0.40	mg/l	4.00		104	90-110	0.4	20	
Matrix Spike Analyzed: 06/21/2011 (11F0760-MS1)					**Source: PUF1218-01**					
Fluoride	4.68	0.40	mg/l	4.00	0.285	110	80-120			
Matrix Spike Dup Analyzed: 06/21/2011 (11F0760-MSD1)					**Source: PUF1218-01**					
Fluoride	4.69	0.40	mg/l	4.00	0.285	110	80-120	0.2	20	
Batch: 11F0799 Extracted: 06/22/11										
Blank Analyzed: 06/22/2011 (11F0799-BLK1)										
Total Suspended Solids	ND	1.0	mg/l							
LCS Analyzed: 06/22/2011 (11F0799-BS1)										
Total Suspended Solids	200	10	mg/l	200		100	90-110			
LCS Dup Analyzed: 06/22/2011 (11F0799-BSD1)										
Total Suspended Solids	196	10	mg/l	200		98	90-110	2	10	
Duplicate Analyzed: 06/22/2011 (11F0799-DUP1)					**Source: PUF1167-02**					
Total Suspended Solids	3260	100	mg/l		3360			3	10	

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Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F0799 Extracted: 06/22/11										
Duplicate Analyzed: 06/22/2011 (11F0799-DUP2)					**Source: PUF1128-03**					
Total Suspended Solids	990	100	mg/l		940			5	10	
Batch: 11F1131 Extracted: 07/03/11										
Blank Analyzed: 07/06/2011 (11F1131-BLK1)										
Total Kjeldahl Nitrogen	ND	1.0	mg/l							
LCS Analyzed: 07/06/2011 (11F1131-BS1)										
Total Kjeldahl Nitrogen	46.0	1.0	mg/l	50.0		92	80-120			
LCS Dup Analyzed: 07/06/2011 (11F1131-BSD1)										
Total Kjeldahl Nitrogen	45.7	1.0	mg/l	50.0		91	80-120	0.8	20	
Matrix Spike Analyzed: 07/06/2011 (11F1131-MS1)					**Source: PUF1305-01**					
Total Kjeldahl Nitrogen	48.7	1.0	mg/l	50.0	1.05	95	80-120			
Matrix Spike Dup Analyzed: 07/06/2011 (11F1131-MSD1)					**Source: PUF1305-01**					
Total Kjeldahl Nitrogen	52.0	1.0	mg/l	50.0	1.05	102	80-120	6	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F4064 Extracted: 06/30/11										
Blank Analyzed: 06/30/2011 (11F4064-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 06/30/2011 (11F4064-BS1)										
Aluminum	80.8	10	ug/l	80.0		101	85-115			
Matrix Spike Analyzed: 06/30/2011 (11F4064-MS1)					**Source: IUF2357-01**					
Aluminum	75.1	10	ug/l	80.0	ND	94	70-130			
Matrix Spike Dup Analyzed: 06/30/2011 (11F4064-MSD1)					**Source: IUF2357-01**					
Aluminum	75.1	10	ug/l	80.0	ND	94	70-130	0.05	20	

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P.O. Box 1999
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Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F4129 Extracted: 06/30/11										
Blank Analyzed: 07/01/2011 (11F4129-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 07/01/2011 (11F4129-BS1)										
Aluminum	86.9	10	ug/l	80.0		109	85-115			
Matrix Spike Analyzed: 07/01/2011 (11F4129-MS1)					**Source: PUF1218-02**					
Aluminum	86.3	10	ug/l	80.0	ND	108	70-130			
Matrix Spike Dup Analyzed: 07/01/2011 (11F4129-MSD1)					**Source: PUF1218-02**					
Aluminum	84.7	10	ug/l	80.0	ND	106	70-130	2	20	

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Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11F3702 Extracted: 06/28/11										
Blank Analyzed: 06/28/2011 (11F3702-BLK1)										
Amenable Cyanide	ND	0.0050	mg/l							
LCS Analyzed: 06/28/2011 (11F3702-BS1)										
Amenable Cyanide	0.198	0.0050	mg/l	0.200		99	90-110			
Matrix Spike Analyzed: 06/28/2011 (11F3702-MS1)					**Source: PUF1218-01**					
Amenable Cyanide	0.196	0.0050	mg/l	0.200	ND	98	70-130			
Matrix Spike Dup Analyzed: 06/28/2011 (11F3702-MSD1)					**Source: PUF1218-01**					
Amenable Cyanide	0.198	0.0050	mg/l	0.200	ND	99	70-130	0.8	20	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 6033 Extracted: 06/24/11										
Blank Analyzed: 06/26/2011 (6385-238)					**Source:**					
Mercury	ND	0.50	ng/L				-			
LCS Analyzed: 06/26/2011 (6385-239)					**Source:**					
Mercury	4.56	0.50	ng/L	5.00		91	77-125			

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

DATA QUALIFIERS AND DEFINITIONS

E4	Concentration estimated. Analyte was detected below laboratory minimum reporting limit (MRL).
L3	The associated blank spike recovery was above method acceptance limits.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
N1	See case narrative.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)
Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2540D	Water		X
SM2340B	Water		X
SM4500-NH3 D	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PUF1218-01

Analysis Performed: Radium 226
Samples: PUF1218-01

Analysis Performed: Radium 228
Samples: PUF1218-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: EPA 200.8
Samples: PUF1218-01

Method Performed: EPA 200.8-Diss
Samples: PUF1218-02

Method Performed: SM4500-CN-G
Samples: PUF1218-01

TestAmerica - North Canton
4101 Shuffel Drive NW - North Canton, OH 44720

Method Performed: 1631E
Samples: PUF1218-01

TestAmerica Phoenix

Linda Eshelman
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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle JJR 305(b)

Report Number: PUF1218

Sampled: 06/20/11
Received: 06/21/11

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Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

PUF1218

Chain of Custody Record - Basic Stream Suite

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Eric Rich	Site Contact:	Date: 6/20/11	COC No:
Navajo Nation EPA	Tel/Fax: (928) 283-3080	Lab Contact: Linda Eshelman	Carrier:	( ) of ( ) COCs
Address: P.O. Box 1999	Analysis Turnaround Time			Job No.
City/State/Zip: Shiprock, NM 87420	Calendar (C) or Work Days (W)			
(505) 368-1037 Phone	TAT if different from Below			
(505) 368-1416 FAX	☒ 2 weeks			SDG No.
Project Name: Middle SJR 305(b)	☐ 1 week			
Site:	☐ 2 days			
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	FF Hardness (Ca and Mg)	FF 200.8 = Al, Sb, As, Cd, Pb, Ag, Tl	FF 200.7 - B, Cr, Co, Cu, Ni, Zn	FF 200.7 - Mo, V		Total 200.8-Al, Sb, As, Cd, Pb, Se, Ag,	Total 200.8 - Tl, U	Total 200.7 - Ba, Be, B, Cr, Cu,Ni, Zn	TKN	Cyanide (as Free)	F, TSS	Gross Alpha, Radium 226/228	Mercury LL - 1631						Sample Specific Notes:
10-29_11062Ø	6/20/11	12:30		H2O	13	X	X	X	X		X	X	X	X	X	X	X	X						-01 +02

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments: **FF = Field Filtered**

2-2°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	NNEPA-WQP	6/20/11 16:45	Fed Ex	Fed Ex	6/20/11 16:45
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
			[signature]	TA	6/21/11 930

ED_004888_00033250-00098

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: June 20, 2011
Sample Received: June 22, 2011
Analysis Completed: June 30, 2011

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PUF1218-01	44.0 ± 4.0	1.7 ± 0.2	< 0.4	1.7 ± 0.2

Date of Analysis	6/23/2011	6/23/2011	6/23/2011	6/23/2011

Robert L. Metzger, Ph.D., C.H.P.

Subcontract Order - TestAmerica Phoenix (PUF1218)

SENDING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Blvd. Ste 189
Phoenix, AZ 85040
Phone: (602) 437-3340
Fax: (602) 454-9303
Project Manager: Linda Eshelman

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: 480-892-5446
Project Location: Arizona
Receipt Temperature: _____ °C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PUF1218-01 (10-29_110620 - Water)		Sampled: **06/20/11 12:30**	
Gross Alpha-O	pCi/L	06/19/12 12:30	
Radium 226-O	pCi/L	06/19/12 12:30	11970
Radium 228-O	pCi/L	06/19/12 12:30	
Containers Supplied:			
1 Gallon Poly (A)			

Released By	Date/Time	Received By	Date/Time
[signature]	6-22-11 1032	[signature]	6-22-11 1033

Page 1 of 1

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THE LEADER IN ENVIRONMENTAL TESTING

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LABORATORY REPORT

Prepared For: Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project: Middle SJR 305 (b)

Sampled: 07/20/11
Received: 07/21/11
Issued: 08/08/11 14:09

NELAP #01109CA Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PUG1334-01	10-29_110720	Water
PUG1334-02	10-29_110720	Water

SAMPLE RECEIPT: Samples were received intact, at 1°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
N1 - TKN - Batch 11H0032 - BS1/BSD1 - The matrix spike and matrix spike duplicate are not available for reporting. The source sample was lost during analysis.

COMMENTS: Results that fall between the MDL and RL are 'E4' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL INFORMATION: Cyanide samples are tested for the presence of sulfide within 24 hours of sampling. The sample requiring cyanide was received and tested after the 24 hour period.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

TOTAL METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)								
Reporting Units: mg/l								
Barium	EPA 200.7	11G0753	0.010	**0.29**	1	7/21/2011	7/22/2011	
Beryllium	EPA 200.7	11G0753	0.0010	ND	1	7/21/2011	7/22/2011	
Boron	EPA 200.7	11G0753	0.20	ND	1	7/21/2011	7/22/2011	
Chromium	EPA 200.7	11G0753	0.010	ND	1	7/21/2011	7/24/2011	
Copper	EPA 200.7	11G0753	0.010	ND	1	7/21/2011	7/22/2011	
Nickel	EPA 200.7	11G0753	0.010	ND	1	7/21/2011	7/22/2011	
Zinc	EPA 200.7	11G0753	0.050	ND	1	7/21/2011	7/22/2011	

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TOTAL METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11G1102	0.0030	ND	1	7/29/2011	8/2/2011	
Arsenic	EPA 200.8	11G1102	0.0010	**0.0086**	1	7/29/2011	8/2/2011	
Cadmium	EPA 200.8	11G1102	0.0010	ND	1	7/29/2011	8/2/2011	
Lead	EPA 200.8	11G1102	0.0010	ND	1	7/29/2011	8/2/2011	
Selenium	EPA 200.8	11G1102	0.0020	ND	1	7/29/2011	8/2/2011	
Silver	EPA 200.8	11G1102	0.0010	ND	1	7/29/2011	8/2/2011	
Thallium	EPA 200.8	11G1102	0.0010	ND	1	7/29/2011	8/2/2011	
Uranium	EPA 200.8	11G1102	0.0010	**0.073**	1	7/29/2011	8/3/2011	

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DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-02 (10-29_110720 - Water)								
Reporting Units: mg/l								
Boron	EPA 200.7	11G1039	0.20	ND	1	7/28/2011	7/31/2011	
Calcium	EPA 200.7	11G1039	2.0	**72**	1	7/28/2011	7/30/2011	
Chromium	EPA 200.7	11G1039	0.010	ND	1	7/28/2011	7/30/2011	
Cobalt	EPA 200.7	11G1039	0.010	ND	1	7/28/2011	7/30/2011	
Copper	EPA 200.7	11G1039	0.010	ND	1	7/28/2011	7/30/2011	
Hardness, Dissolved	SM2340B	[CALC]	6.0	**240**	1	7/28/2011	7/30/2011	
Magnesium	EPA 200.7	11G1039	0.25	**14**	1	7/28/2011	7/30/2011	
Molybdenum	EPA 200.7	11G1039	0.010	ND	1	7/28/2011	7/30/2011	
Nickel	EPA 200.7	11G1039	0.010	ND	1	7/28/2011	7/30/2011	
Vanadium	EPA 200.7	11G1039	0.010	**0.012**	1	7/28/2011	8/1/2011	
Zinc	EPA 200.7	11G1039	0.050	ND	1	7/28/2011	7/30/2011	

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DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-02 (10-29_110720 - Water)								
Reporting Units: mg/l								
Antimony	EPA 200.8	11G0954	0.0030	ND	1	7/27/2011	7/28/2011	
Arsenic	EPA 200.8	11G0954	0.0010	**0.0080**	1	7/27/2011	7/28/2011	
Cadmium	EPA 200.8	11G0954	0.0010	ND	1	7/27/2011	7/28/2011	
Lead	EPA 200.8	11G0954	0.0010	ND	1	7/27/2011	7/28/2011	
Silver	EPA 200.8	11G0954	0.0010	ND	1	7/27/2011	7/28/2011	
Thallium	EPA 200.8	11G0954	0.0010	ND	1	7/27/2011	7/28/2011	

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)								
Reporting Units: mg/l								
Fluoride	EPA 300.0	11G0738	0.40	ND	1	7/21/2011	7/21/2011	
Total Kjeldahl Nitrogen	SM4500-NH3 D	11H0032	1.0	ND	1	8/1/2011	8/1/2011	
Total Suspended Solids	SM 2540D	11G0965	3.3	**39**	3.33	7/27/2011	7/27/2011	

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METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8	11H0071	100	**7200**	10	8/1/2011	8/2/2011	

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DISSOLVED METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-02 (10-29_110720 - Water)								
Reporting Units: ug/l								
Aluminum	EPA 200.8-Diss	11G3545	10	ND	1	7/29/2011	7/29/2011	

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INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)								
Reporting Units: mg/l								
Amenable Cyanide	SM4500-CN-G	11H0106	0.0050	ND	1	8/1/2011	8/1/2011	

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Mercury, Low Level (CVAFS)

Analyte	Method	Batch	Reporting Limit	MDL	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PUG1334-01 (10-29_110720 - Water)									
Reporting Units: ng/L									
Mercury	1631E	9815	0.50	0.12	**2.6**	1	7/26/2011	7/29/2011	

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0753 Extracted: 07/21/11										
Blank Analyzed: 07/22/2011-07/23/2011 (11G0753-BLK1)										
Barium	ND	0.010	mg/l							
Beryllium	ND	0.0010	mg/l							
Boron	ND	0.20	mg/l							
Chromium	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 07/22/2011-07/23/2011 (11G0753-BS1)										
Barium	1.01	0.010	mg/l	1.00		101	85-115			
Beryllium	1.02	0.0010	mg/l	1.00		102	85-115			
Boron	0.976	0.20	mg/l	1.00		98	85-115			
Chromium	0.987	0.010	mg/l	1.00		99	85-115			
Copper	0.978	0.010	mg/l	1.00		98	85-115			
Nickel	1.01	0.010	mg/l	1.00		101	85-115			
Zinc	1.05	0.050	mg/l	1.00		105	85-115			
LCS Dup Analyzed: 07/22/2011-07/23/2011 (11G0753-BSD1)										
Barium	1.01	0.010	mg/l	1.00		101	85-115	0.6	20	
Beryllium	1.01	0.0010	mg/l	1.00		101	85-115	0.5	20	
Boron	0.965	0.20	mg/l	1.00		97	85-115	1	20	
Chromium	0.970	0.010	mg/l	1.00		97	85-115	2	20	
Copper	0.966	0.010	mg/l	1.00		97	85-115	1	20	
Nickel	1.01	0.010	mg/l	1.00		101	85-115	0.5	20	
Zinc	1.03	0.050	mg/l	1.00		103	85-115	2	20	
Matrix Spike Analyzed: 07/22/2011-07/23/2011 (11G0753-MS1)					**Source: PUG1323-01**					
Barium	1.08	0.010	mg/l	1.00	0.0723	101	75-125			
Beryllium	1.02	0.0010	mg/l	1.00	ND	102	75-125			
Boron	1.90	0.20	mg/l	1.00	0.910	99	75-125			
Chromium	0.972	0.010	mg/l	1.00	0.0100	96	75-125			
Copper	1.02	0.010	mg/l	1.00	ND	102	75-125			
Nickel	1.01	0.010	mg/l	1.00	0.00493	101	75-125			
Zinc	1.06	0.050	mg/l	1.00	ND	106	75-125			

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0753 Extracted: 07/21/11										
Matrix Spike Analyzed: 07/22/2011-07/23/2011 (11G0753-MS2)					**Source: PUG1324-01**					
Barium	1.09	0.010	mg/l	1.00	0.0843	101	75-125			
Beryllium	1.02	0.0010	mg/l	1.00	ND	102	75-125			
Boron	2.16	0.20	mg/l	1.00	1.22	94	75-125			
Chromium	0.978	0.010	mg/l	1.00	0.00897	97	75-125			
Copper	1.03	0.010	mg/l	1.00	ND	103	75-125			
Nickel	1.02	0.010	mg/l	1.00	0.00400	102	75-125			
Zinc	1.11	0.050	mg/l	1.00	0.0611	105	75-125			
Matrix Spike Dup Analyzed: 07/22/2011-07/23/2011 (11G0753-MSD1)					**Source: PUG1323-01**					
Barium	1.09	0.010	mg/l	1.00	0.0723	101	75-125	0.4	20	
Beryllium	1.03	0.0010	mg/l	1.00	ND	103	75-125	1	20	
Boron	1.90	0.20	mg/l	1.00	0.910	99	75-125	0.04	20	
Chromium	0.976	0.010	mg/l	1.00	0.0100	97	75-125	0.5	20	
Copper	1.04	0.010	mg/l	1.00	ND	104	75-125	1	20	
Nickel	1.00	0.010	mg/l	1.00	0.00493	100	75-125	0.7	20	
Zinc	1.04	0.050	mg/l	1.00	ND	104	75-125	1	20	
Matrix Spike Dup Analyzed: 07/22/2011-07/23/2011 (11G0753-MSD2)					**Source: PUG1324-01**					
Barium	1.18	0.010	mg/l	1.00	0.0843	109	75-125	7	20	
Beryllium	1.10	0.0010	mg/l	1.00	ND	110	75-125	7	20	
Boron	2.33	0.20	mg/l	1.00	1.22	111	75-125	7	20	
Chromium	0.975	0.010	mg/l	1.00	0.00897	97	75-125	0.4	20	
Copper	1.11	0.010	mg/l	1.00	ND	111	75-125	7	20	
Nickel	1.08	0.010	mg/l	1.00	0.00400	107	75-125	6	20	
Zinc	1.17	0.050	mg/l	1.00	0.0611	111	75-125	5	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1102 Extracted: 07/29/11										
Blank Analyzed: 08/02/2011-08/03/2011 (11G1102-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Selenium	ND	0.0020	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Uranium	ND	0.0010	mg/l							
LCS Analyzed: 08/02/2011-08/03/2011 (11G1102-BS1)										
Antimony	0.106	0.0030	mg/l	0.100		106	85-115			
Arsenic	0.0981	0.0010	mg/l	0.100		98	85-115			
Cadmium	0.107	0.0010	mg/l	0.100		107	85-115			
Lead	0.103	0.0010	mg/l	0.100		103	85-115			
Selenium	0.0981	0.0020	mg/l	0.100		98	85-115			
Silver	0.0993	0.0010	mg/l	0.100		99	85-115			
Thallium	0.104	0.0010	mg/l	0.100		104	85-115			
Uranium	0.106	0.0010	mg/l	0.100		106	85-115			
LCS Dup Analyzed: 08/02/2011-08/03/2011 (11G1102-BSD1)										
Antimony	0.105	0.0030	mg/l	0.100		105	85-115	0.9	20	
Arsenic	0.0983	0.0010	mg/l	0.100		98	85-115	0.2	20	
Cadmium	0.108	0.0010	mg/l	0.100		108	85-115	0.5	20	
Lead	0.102	0.0010	mg/l	0.100		102	85-115	1	20	
Selenium	0.0996	0.0020	mg/l	0.100		100	85-115	2	20	
Silver	0.0998	0.0010	mg/l	0.100		100	85-115	0.4	20	
Thallium	0.104	0.0010	mg/l	0.100		104	85-115	0.1	20	
Uranium	0.106	0.0010	mg/l	0.100		106	85-115	0.2	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1102 Extracted: 07/29/11										
Matrix Spike Analyzed: 08/02/2011-08/03/2011 (11G1102-MS1)					**Source: PUG1606-17**					
Antimony	0.105	0.0030	mg/l	0.100	ND	105	70-130			
Arsenic	0.0978	0.0010	mg/l	0.100	0.000429	97	70-130			
Cadmium	0.106	0.0010	mg/l	0.100	ND	106	70-130			
Lead	0.101	0.0010	mg/l	0.100	ND	101	70-130			
Selenium	0.0966	0.0020	mg/l	0.100	ND	97	70-130			
Silver	0.0996	0.0010	mg/l	0.100	ND	100	70-130			
Thallium	0.101	0.0010	mg/l	0.100	ND	101	70-130			
Uranium	0.107	0.0010	mg/l	0.100	ND	107	70-130			
Matrix Spike Analyzed: 08/02/2011-08/03/2011 (11G1102-MS2)					**Source: PUG1618-01**					
Antimony	0.104	0.0030	mg/l	0.100	ND	104	70-130			
Arsenic	0.0979	0.0010	mg/l	0.100	0.000356	98	70-130			
Cadmium	0.106	0.0010	mg/l	0.100	ND	106	70-130			
Lead	0.101	0.0010	mg/l	0.100	ND	101	70-130			
Selenium	0.0970	0.0020	mg/l	0.100	ND	97	70-130			
Silver	0.0989	0.0010	mg/l	0.100	ND	99	70-130			
Thallium	0.102	0.0010	mg/l	0.100	ND	102	70-130			
Uranium	0.104	0.0010	mg/l	0.100	ND	104	70-130			
Matrix Spike Dup Analyzed: 08/02/2011-08/03/2011 (11G1102-MSD1)					**Source: PUG1606-17**					
Antimony	0.105	0.0030	mg/l	0.100	ND	105	70-130	0.3	20	
Arsenic	0.0972	0.0010	mg/l	0.100	0.000429	97	70-130	0.6	20	
Cadmium	0.106	0.0010	mg/l	0.100	ND	106	70-130	0.3	20	
Lead	0.100	0.0010	mg/l	0.100	ND	100	70-130	0.7	20	
Selenium	0.0965	0.0020	mg/l	0.100	ND	97	70-130	0.09	20	
Silver	0.0989	0.0010	mg/l	0.100	ND	99	70-130	0.7	20	
Thallium	0.102	0.0010	mg/l	0.100	ND	102	70-130	0.8	20	
Uranium	0.107	0.0010	mg/l	0.100	ND	107	70-130	0.7	20	

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Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1102 Extracted: 07/29/11										
Matrix Spike Dup Analyzed: 08/02/2011-08/03/2011 (11G1102-MSD2)					**Source: PUG1618-01**					
Antimony	0.105	0.0030	mg/l	0.100	ND	105	70-130	0.2	20	
Arsenic	0.0969	0.0010	mg/l	0.100	0.000356	97	70-130	1	20	
Cadmium	0.106	0.0010	mg/l	0.100	ND	106	70-130	0.3	20	
Lead	0.102	0.0010	mg/l	0.100	ND	102	70-130	0.9	20	
Selenium	0.0959	0.0020	mg/l	0.100	ND	96	70-130	1	20	
Silver	0.0998	0.0010	mg/l	0.100	ND	100	70-130	0.9	20	
Thallium	0.103	0.0010	mg/l	0.100	ND	103	70-130	0.7	20	
Uranium	0.105	0.0010	mg/l	0.100	ND	105	70-130	0.2	20	

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Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1039 Extracted: 07/28/11										
Blank Analyzed: 07/30/2011-08/01/2011 (11G1039-BLK1)										
Boron	ND	0.20	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Cobalt	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Magnesium	ND	0.25	mg/l							
Molybdenum	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Vanadium	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
Blank Analyzed: 07/30/2011-08/01/2011 (11G1039-BLK2)										
Boron	ND	0.20	mg/l							
Calcium	ND	2.0	mg/l							
Chromium	ND	0.010	mg/l							
Cobalt	ND	0.010	mg/l							
Copper	ND	0.010	mg/l							
Magnesium	ND	0.25	mg/l							
Molybdenum	ND	0.010	mg/l							
Nickel	ND	0.010	mg/l							
Vanadium	ND	0.010	mg/l							
Zinc	ND	0.050	mg/l							
LCS Analyzed: 07/30/2011-08/01/2011 (11G1039-BS1)										
Boron	0.975	0.20	mg/l	1.00		98	85-115			
Calcium	20.6	2.0	mg/l	21.0		98	85-115			
Chromium	1.00	0.010	mg/l	1.00		100	85-115			
Cobalt	0.991	0.010	mg/l	1.00		99	85-115			
Copper	0.960	0.010	mg/l	1.00		96	85-115			
Magnesium	20.2	0.25	mg/l	21.0		96	85-115			
Molybdenum	0.984	0.010	mg/l	1.00		98	85-115			
Nickel	1.00	0.010	mg/l	1.00		100	85-115			
Vanadium	1.04	0.010	mg/l	1.00		104	85-115			
Zinc	1.00	0.050	mg/l	1.00		100	85-115			

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1039 Extracted: 07/28/11										
LCS Dup Analyzed: 07/30/2011-08/01/2011 (11G1039-BSD1)										
Boron	1.00	0.20	mg/l	1.00		100	85-115	2	20	
Calcium	20.6	2.0	mg/l	21.0		98	85-115	0.1	20	
Chromium	0.992	0.010	mg/l	1.00		99	85-115	0.9	20	
Cobalt	1.00	0.010	mg/l	1.00		100	85-115	1	20	
Copper	0.942	0.010	mg/l	1.00		94	85-115	2	20	
Magnesium	20.2	0.25	mg/l	21.0		96	85-115	0.1	20	
Molybdenum	1.00	0.010	mg/l	1.00		100	85-115	2	20	
Nickel	1.01	0.010	mg/l	1.00		101	85-115	1	20	
Vanadium	1.04	0.010	mg/l	1.00		104	85-115	0.3	20	
Zinc	1.01	0.050	mg/l	1.00		101	85-115	1	20	
Matrix Spike Analyzed: 07/30/2011-08/01/2011 (11G1039-MS1)					**Source: PUG1390-02**					
Boron	1.17	0.20	mg/l	1.00	0.178	99	75-125			
Calcium	364	2.0	mg/l	21.0	336	130	75-125			*M3*
Chromium	0.999	0.010	mg/l	1.00	ND	100	75-125			
Cobalt	1.00	0.010	mg/l	1.00	ND	100	75-125			
Copper	1.02	0.010	mg/l	1.00	0.00521	101	75-125			
Magnesium	221	0.25	mg/l	21.0	197	111	75-125			
Molybdenum	1.03	0.010	mg/l	1.00	0.0104	102	75-125			
Nickel	1.01	0.010	mg/l	1.00	ND	101	75-125			
Vanadium	1.04	0.010	mg/l	1.00	ND	104	75-125			
Zinc	1.01	0.050	mg/l	1.00	ND	101	75-125			
Matrix Spike Analyzed: 07/30/2011-08/01/2011 (11G1039-MS2)					**Source: PUG1390-04**					
Boron	1.22	0.20	mg/l	1.00	0.249	97	75-125			
Calcium	457	2.0	mg/l	21.0	471	-68	75-125			*M3*
Chromium	0.972	0.010	mg/l	1.00	ND	97	75-125			
Cobalt	0.971	0.010	mg/l	1.00	0.0118	96	75-125			
Copper	0.996	0.010	mg/l	1.00	0.00659	99	75-125			
Magnesium	246	0.25	mg/l	21.0	243	16	75-125			*M3*
Molybdenum	0.986	0.010	mg/l	1.00	0.00896	98	75-125			
Nickel	0.976	0.010	mg/l	1.00	0.0123	96	75-125			
Vanadium	1.03	0.010	mg/l	1.00	ND	103	75-125			
Zinc	2.21	0.050	mg/l	1.00	1.33	88	75-125			

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G1039 Extracted: 07/28/11										
Matrix Spike Dup Analyzed: 07/30/2011-08/01/2011 (11G1039-MSD1)					**Source: PUG1390-02**					
Boron	1.15	0.20	mg/l	1.00	0.178	97	75-125	2	20	
Calcium	347	2.0	mg/l	21.0	336	51	75-125	5	20	*M3*
Chromium	0.990	0.010	mg/l	1.00	ND	99	75-125	0.9	20	
Cobalt	0.981	0.010	mg/l	1.00	ND	98	75-125	2	20	
Copper	1.01	0.010	mg/l	1.00	0.00521	100	75-125	1	20	
Magnesium	210	0.25	mg/l	21.0	197	59	75-125	5	20	*M3*
Molybdenum	1.01	0.010	mg/l	1.00	0.0104	100	75-125	2	20	
Nickel	0.987	0.010	mg/l	1.00	ND	99	75-125	2	20	
Vanadium	1.03	0.010	mg/l	1.00	ND	103	75-125	0.07	20	
Zinc	0.992	0.050	mg/l	1.00	ND	99	75-125	2	20	
Matrix Spike Dup Analyzed: 07/30/2011-08/01/2011 (11G1039-MSD2)					**Source: PUG1390-04**					
Boron	1.22	0.20	mg/l	1.00	0.249	97	75-125	0.4	20	
Calcium	463	2.0	mg/l	21.0	471	-39	75-125	1	20	*M3*
Chromium	0.948	0.010	mg/l	1.00	ND	95	75-125	2	20	
Cobalt	0.962	0.010	mg/l	1.00	0.0118	95	75-125	1	20	
Copper	0.970	0.010	mg/l	1.00	0.00659	96	75-125	3	20	
Magnesium	249	0.25	mg/l	21.0	243	29	75-125	1	20	*M3*
Molybdenum	0.974	0.010	mg/l	1.00	0.00896	97	75-125	1	20	
Nickel	0.969	0.010	mg/l	1.00	0.0123	96	75-125	0.7	20	
Vanadium	1.05	0.010	mg/l	1.00	ND	105	75-125	1	20	
Zinc	2.18	0.050	mg/l	1.00	1.33	85	75-125	1	20	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0954 Extracted: 07/27/11										
Blank Analyzed: 07/28/2011 (11G0954-BLK1)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
Blank Analyzed: 07/29/2011 (11G0954-BLK2)										
Antimony	ND	0.0030	mg/l							
Arsenic	ND	0.0010	mg/l							
Cadmium	ND	0.0010	mg/l							
Lead	ND	0.0010	mg/l							
Silver	ND	0.0010	mg/l							
Thallium	ND	0.0010	mg/l							
LCS Analyzed: 07/28/2011 (11G0954-BS1)										
Antimony	0.0926	0.0030	mg/l	0.100		93	85-115			
Arsenic	0.0958	0.0010	mg/l	0.100		96	85-115			
Cadmium	0.104	0.0010	mg/l	0.100		104	85-115			
Lead	0.107	0.0010	mg/l	0.100		107	85-115			
Silver	0.0958	0.0010	mg/l	0.100		96	85-115			
Thallium	0.103	0.0010	mg/l	0.100		103	85-115			
LCS Dup Analyzed: 07/28/2011 (11G0954-BSD1)										
Antimony	0.0935	0.0030	mg/l	0.100		94	85-115	0.9	20	
Arsenic	0.0970	0.0010	mg/l	0.100		97	85-115	1	20	
Cadmium	0.104	0.0010	mg/l	0.100		104	85-115	0.03	20	
Lead	0.108	0.0010	mg/l	0.100		108	85-115	1	20	
Silver	0.0949	0.0010	mg/l	0.100		95	85-115	0.9	20	
Thallium	0.106	0.0010	mg/l	0.100		106	85-115	2	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

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Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0954 Extracted: 07/27/11										
Matrix Spike Analyzed: 07/28/2011 (11G0954-MS1)					**Source: PUG1316-04**					
Antimony	0.100	0.0030	mg/l	0.100	0.000234	100	70-130			
Arsenic	0.106	0.0010	mg/l	0.100	0.00309	102	70-130			
Cadmium	0.0992	0.0010	mg/l	0.100	ND	99	70-130			
Lead	0.0933	0.0010	mg/l	0.100	ND	93	70-130			
Silver	0.0824	0.0010	mg/l	0.100	ND	82	70-130			
Thallium	0.0922	0.0010	mg/l	0.100	ND	92	70-130			
Matrix Spike Analyzed: 07/28/2011 (11G0954-MS2)					**Source: PUG1334-02**					
Antimony	0.0987	0.0030	mg/l	0.100	ND	99	70-130			
Arsenic	0.108	0.0010	mg/l	0.100	0.00795	100	70-130			
Cadmium	0.104	0.0010	mg/l	0.100	ND	104	70-130			
Lead	0.0989	0.0010	mg/l	0.100	ND	99	70-130			
Silver	0.0897	0.0010	mg/l	0.100	ND	90	70-130			
Thallium	0.0975	0.0010	mg/l	0.100	ND	97	70-130			
Matrix Spike Dup Analyzed: 07/28/2011 (11G0954-MSD1)					**Source: PUG1316-04**					
Antimony	0.0987	0.0030	mg/l	0.100	0.000234	98	70-130	2	20	
Arsenic	0.106	0.0010	mg/l	0.100	0.00309	103	70-130	0.4	20	
Cadmium	0.0984	0.0010	mg/l	0.100	ND	98	70-130	0.8	20	
Lead	0.0926	0.0010	mg/l	0.100	ND	93	70-130	0.7	20	
Silver	0.0812	0.0010	mg/l	0.100	ND	81	70-130	2	20	
Thallium	0.0909	0.0010	mg/l	0.100	ND	91	70-130	1	20	
Matrix Spike Dup Analyzed: 07/28/2011 (11G0954-MSD2)					**Source: PUG1334-02**					
Antimony	0.0985	0.0030	mg/l	0.100	ND	99	70-130	0.1	20	
Arsenic	0.107	0.0010	mg/l	0.100	0.00795	99	70-130	0.3	20	
Cadmium	0.103	0.0010	mg/l	0.100	ND	103	70-130	2	20	
Lead	0.101	0.0010	mg/l	0.100	ND	101	70-130	2	20	
Silver	0.0897	0.0010	mg/l	0.100	ND	90	70-130	0.03	20	
Thallium	0.0985	0.0010	mg/l	0.100	ND	98	70-130	1	20	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0738 Extracted: 07/21/11										
Blank Analyzed: 07/21/2011 (11G0738-BLK1)										
Fluoride	ND	0.40	mg/l							
LCS Analyzed: 07/21/2011 (11G0738-BS1)										
Fluoride	4.31	0.40	mg/l	4.00		108	90-110			
LCS Dup Analyzed: 07/21/2011 (11G0738-BSD1)										
Fluoride	4.32	0.40	mg/l	4.00		108	90-110	0.3	20	
Matrix Spike Analyzed: 07/21/2011 (11G0738-MS1)					**Source: PUG1347-09**					
Fluoride	4.55	0.40	mg/l	4.00	0.144	110	80-120			
Matrix Spike Dup Analyzed: 07/21/2011 (11G0738-MSD1)					**Source: PUG1347-09**					
Fluoride	4.57	0.40	mg/l	4.00	0.144	111	80-120	0.4	20	
Batch: 11G0965 Extracted: 07/27/11										
Blank Analyzed: 07/27/2011 (11G0965-BLK1)										
Total Suspended Solids	ND	1.0	mg/l							
LCS Analyzed: 07/27/2011 (11G0965-BS1)										
Total Suspended Solids	196	10	mg/l	200		98	90-110			
LCS Dup Analyzed: 07/27/2011 (11G0965-BSD1)										
Total Suspended Solids	198	10	mg/l	200		99	90-110	1	10	
Duplicate Analyzed: 07/27/2011 (11G0965-DUP1)					**Source: PUG1362-01**					
Total Suspended Solids	1520	50	mg/l		1660			9	10	

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Attention: Steve Austin

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Sampled: 07/20/11
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G0965 Extracted: 07/27/11										
Duplicate Analyzed: 07/27/2011 (11G0965-DUP2)					**Source: PUG1311-01**					
Total Suspended Solids	157	13	mg/l		144			9	10	
Batch: 11H0032 Extracted: 08/01/11										
Blank Analyzed: 08/01/2011 (11H0032-BLK1)										
Total Kjeldahl Nitrogen	ND	1.0	mg/l							
LCS Analyzed: 08/01/2011 (11H0032-BS1)										
Total Kjeldahl Nitrogen	46.7	1.0	mg/l	50.0		93	80-120			*N1*
LCS Dup Analyzed: 08/01/2011 (11H0032-BSD1)										
Total Kjeldahl Nitrogen	45.4	1.0	mg/l	50.0		91	80-120	3	20	*N1*

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Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H0071 Extracted: 08/01/11										
Blank Analyzed: 08/01/2011 (11H0071-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 08/01/2011 (11H0071-BS1)										
Aluminum	79.3	10	ug/l	80.0		99	85-115			
Matrix Spike Analyzed: 08/01/2011 (11H0071-MS1)					**Source: IUG2389-01**					
Aluminum	622	10	ug/l	80.0	466	196	70-130			*M3*
Matrix Spike Analyzed: 08/01/2011 (11H0071-MS2)					**Source: IUG2401-01**					
Aluminum	77.3	10	ug/l	80.0	ND	97	70-130			
Matrix Spike Dup Analyzed: 08/01/2011 (11H0071-MSD1)					**Source: IUG2389-01**					
Aluminum	600	10	ug/l	80.0	466	167	70-130	4	20	*M3*

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Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11G3545 Extracted: 07/29/11										
Blank Analyzed: 07/29/2011 (11G3545-BLK1)										
Aluminum	ND	10	ug/l							
LCS Analyzed: 07/29/2011 (11G3545-BS1)										
Aluminum	75.1	10	ug/l	80.0		94	85-115			
Matrix Spike Analyzed: 07/29/2011 (11G3545-MS1)					**Source: IUG2240-01**					
Aluminum	75.9	10	ug/l	80.0	ND	95	70-130			
Matrix Spike Analyzed: 07/29/2011 (11G3545-MS2)					**Source: IUG2240-02**					
Aluminum	75.9	10	ug/l	80.0	ND	95	70-130			
Matrix Spike Dup Analyzed: 07/29/2011 (11G3545-MSD1)					**Source: IUG2240-01**					
Aluminum	75.1	10	ug/l	80.0	ND	94	70-130	1	20	

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Linda Eshelman
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11H0106 Extracted: 08/01/11										
Blank Analyzed: 08/01/2011 (11H0106-BLK1)										
Amenable Cyanide	ND	0.0050	mg/l							
LCS Analyzed: 08/01/2011 (11H0106-BS1)										
Amenable Cyanide	0.198	0.0050	mg/l	0.200		99	90-110			
Matrix Spike Analyzed: 08/01/2011 (11H0106-MS1)					**Source: PUG1334-01**					
Amenable Cyanide	0.196	0.0050	mg/l	0.200	ND	98	70-130			
Matrix Spike Dup Analyzed: 08/01/2011 (11H0106-MSD1)					**Source: PUG1334-01**					
Amenable Cyanide	0.199	0.0050	mg/l	0.200	ND	99	70-130	1	20	

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Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9815 Extracted: 07/26/11										
Matrix Spike Analyzed: 07/29/2011 (10311-10)					**Source: 240-10311-9**					
Mercury	3.67	2.5	ng/L	5.00		56	71-125			*M2*
Matrix Spike Dup Analyzed: 07/29/2011 (10311-11)					**Source: 240-10311-9**					
Mercury	3.86	2.5	ng/L	5.00		60	71-125	5	24	*M2*
Blank Analyzed: 07/29/2011 (10311-17)					**Source:**					
Mercury	ND	0.50	ng/L				-			
LCS Analyzed: 07/29/2011 (10311-18)					**Source:**					
Mercury	4.11	0.50	ng/L	5.00		82	77-125			

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Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

DATA QUALIFIERS AND DEFINITIONS

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
N1	See case narrative.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2540D	Water		X
SM2340B	Water		X
SM4500-NH3 D	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PUG1334-01

Analysis Performed: Radium 226
Samples: PUG1334-01

Analysis Performed: Radium 228
Samples: PUG1334-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: EPA 200.8
Samples: PUG1334-01

Method Performed: EPA 200.8-Diss
Samples: PUG1334-02

Method Performed: SM4500-CN-G
Samples: PUG1334-01

TestAmerica - North Canton
4101 Shuffel Drive NW - North Canton, OH 44720

Method Performed: 1631E
Samples: PUG1334-01

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Attention: Steve Austin

Project ID: Middle SJR 305 (b)
Report Number: PUG1334

Sampled: 07/20/11
Received: 07/21/11

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Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record - Basic Stream Suite

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Eric Rich	Site Contact:	Date: 7/20/11	COC No:
Navajo Nation EPA	Tel/Fax: (928) 283-3080	Lab Contact: Linda Eshelman	Carrier:	1 of 1 COCs
Address: P.O. Box 1999	Analysis Turnaround Time			Job No.
City/State/Zip: Shiprock, NM 87420	Calendar (C) or Work Days (W)			
(505) 368-1037 Phone	TAT if different from Below			
(505) 368-1416 FAX	☒ 2 weeks			SDG No.
Project Name: Middle SJR 305(b)	☐ 1 week			
Site:	☐ 2 days			
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	FF Hardness (Ca and Mg)	FF 200.8 = Al, Sb, As, Cd, Pb, Ag, Tl	FF 200.7 - B, Cr, Co, Cu, Ni, Zn	FF 200.7 - Mo, V		Total 200.8-Al, Sb, As, Cd, Pb, Se, Ag,	Total 200.8 - Tl, U	Total 200.7 - Ba, Be, B, Cr, Cu,Ni, Zn	TKN	Cyanide (as Free)	F, TSS	Gross Alpha, Radium 226/228	Mercury LL - 1631						Sample Specific Notes:
10-29-110720	7/20/11	10:30		H_2O	13	X	X	X	X		X	X	X	X	X	X	X	Y						PVG1334-01
																								-02

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☒ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments: FF = Field Filtered

1.3°C

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	NEPA-WQP	7/20/11 16:50	Fed Ex	Fed Ex	7/20/11 16:50
Fed Ex			[signature]	TA	7/21/11 10:30

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: July 20, 2011
Sample Received: July 22, 2011
Analysis Completed: August 04, 2011

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PUG1334-01	43.0 ± 4.0	2.4 ± 0.3	< 0.5	2.4 ± 0.3

Date of Analysis	7/25/2011	7/28/2011	7/28/2011	7/28/2011

Robert L. Metzger, Ph.D., C.H.P.

Subcontract Order - TestAmerica Phoenix (PUG1334)

SENDING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Blvd. Ste 189
Phoenix, AZ 85040
Phone: (602) 437-3340
Fax: (602) 454-9303
Project Manager: Linda Eshelman

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: 480-892-5446
Project Location: Arizona
Receipt Temperature:_____°C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PUG1334-01 (10-29_110720 - Water)		Sampled: **07/20/11 10:30**	42230
Gross Alpha-O	pCi/L	07/19/12 10:30	
Radium 226-O	pCi/L	07/19/12 10:30	
Radium 228-O	pCi/L	07/19/12 10:30	
Containers Supplied:			
1 Gallon Poly (A)			

Released By	Date/Time	Received By	Date/Time
[signature]	7-22-11 1347	[signature]	7-22-11 1347

Page 1 of 1

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THE LEADER IN ENVIRONMENTAL TESTING

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LABORATORY REPORT

Prepared For: Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project: 10COVETRIB29FS

Sampled: 08/01/12
Received: 08/02/12
Issued: 08/27/12 14:14

NELAP #01109CA / AZ100001 Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PVH0185-01	10-29_20120801_FS	Water
PVH0185-02	10-29_20120801_FS	Water

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
N1 - Fluoride - Batch 12H0213-BS1/BSD1 - Due to CCV failure, the MS/MSD results were not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
N1a - ICPMS Silver - Batch 12H0813-MSD1 - The RPD exceeded the acceptance limit due to sample matrix effects.

COMMENTS: Results that fall between the MDL and RL are 'E4' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

TOTAL METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Barium	EPA 200.7	12H0433	N/A	0.010	**0.53**	1	08/10/12	08/11/12	
Beryllium	EPA 200.7	12H0433	N/A	0.0010	**0.0015**	1	08/10/12	08/11/12	
Boron	EPA 200.7	12H0433	N/A	0.20	ND	1	08/10/12	08/15/12	
Chromium	EPA 200.7	12H0433	N/A	0.010	ND	1	08/10/12	08/11/12	
Copper	EPA 200.7	12H0433	N/A	0.010	**0.010**	1	08/10/12	08/11/12	
Nickel	EPA 200.7	12H0433	N/A	0.010	ND	1	08/10/12	08/11/12	
Zinc	EPA 200.7	12H0433	N/A	0.050	**0.70**	1	08/10/12	08/11/12	

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Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

TOTAL METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12H0552	N/A	0.0030	ND	1	08/14/12	08/15/12	
Arsenic	EPA 200.8	12H0552	N/A	0.0010	**0.014**	1	08/14/12	08/15/12	
Cadmium	EPA 200.8	12H0552	N/A	0.0010	ND	1	08/14/12	08/15/12	
Lead	EPA 200.8	12H0552	N/A	0.0010	**0.0013**	1	08/14/12	08/15/12	
Selenium	EPA 200.8	12H0552	N/A	0.0020	ND	1	08/14/12	08/15/12	
Thallium	EPA 200.8	12H0552	N/A	0.0010	ND	1	08/14/12	08/15/12	
Uranium	EPA 200.8	12H0552	N/A	0.0010	**0.11**	1	08/14/12	08/15/12	M2
Sample ID: PVH0185-01RE2 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Silver	EPA 200.8	12H0812	N/A	0.0010	ND	1	08/19/12	08/21/12	

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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-02 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Boron	EPA 200.7	12H0425	N/A	0.20	ND	1	08/10/12	08/11/12	
Calcium	EPA 200.7	12H0425	N/A	2.0	**110**	1	08/10/12	08/11/12	
Chromium	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Cobalt	EPA 200.7	12H0425	N/A	0.040	ND	1	08/10/12	08/11/12	
Copper	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Hardness, Dissolved	SM2340B	[CALC]	N/A	13	**370**	1	08/10/12	08/11/12	
Magnesium	EPA 200.7	12H0425	N/A	2.0	**24**	1	08/10/12	08/11/12	
Molybdenum	EPA 200.7	12H0425	N/A	0.010	**0.012**	1	08/10/12	08/11/12	
Nickel	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Potassium	EPA 200.7	12H0425	N/A	2.0	**5.3**	1	08/10/12	08/11/12	
Sodium	EPA 200.7	12H0425	N/A	2.0	**29**	1	08/10/12	08/11/12	
Vanadium	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/13/12	
Zinc	EPA 200.7	12H0425	N/A	0.050	**0.090**	1	08/10/12	08/11/12	

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Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-02 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12H0386	N/A	0.0030	ND	1	08/06/12	08/09/12	
Arsenic	EPA 200.8	12H0386	N/A	0.0010	**0.011**	1	08/06/12	08/09/12	
Cadmium	EPA 200.8	12H0386	N/A	0.0010	ND	1	08/06/12	08/09/12	
Lead	EPA 200.8	12H0386	N/A	0.0010	ND	1	08/06/12	08/09/12	
Silver	EPA 200.8	12H0386	N/A	0.0010	ND	1	08/06/12	08/09/12	M2
Thallium	EPA 200.8	12H0386	N/A	0.0010	ND	1	08/06/12	08/09/12	

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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Fluoride	EPA 300.0	12H0213	N/A	0.40	ND	1	08/06/12	08/07/12	
Total Suspended Solids	SM 2540D	12H0130	N/A	5.0	**110**	5	08/03/12	08/03/12	
Sample ID: PVH0185-02 (10-29_20120801_FS - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	**380**	1	08/09/12	08/09/12	
Bicarbonate Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	**380**	1	08/09/12	08/09/12	
Carbonate Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	
Chloride	EPA 300.0	12H0213	N/A	2.0	**14**	1	08/06/12	08/07/12	
Hydroxide Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	
Sulfate	EPA 300.0	12H0213	N/A	2.0	**42**	1	08/06/12	08/07/12	
Alkalinity, Phenolphthalein	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	

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P.O. Box 1999
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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

Nitrogen, Total Kjeldahl

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/L									
Kjeldahl Nitrogen as N	351.2 TKN mg/L	13489	0.0600	0.100	**0.772**	1	08/20/12	08/21/12	

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

Cyanide, Amenable (Low Level)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/L									
Cyanide, Amenable	SM 4500 CN G mg/L	45477	N/A	0.0050	ND	1	08/14/12	08/14/12	

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Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
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Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

Metals (ICP/MS) Dissolved

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-02 (10-29_20120801_FS - Water)									
Reporting Units: mg/L									
Aluminum	200.8 Dissolved mg/L	43545	N/A	0.010	ND	1	08/07/12	08/09/12	

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

Metals (ICP/MS) Total Recoverable

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: mg/L									
Aluminum	.8 Total Recoverable m	43720	N/A	0.020	**1.6**	2	08/07/12	08/09/12	

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Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

Mercury, Low Level (CVAFS)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)									
Reporting Units: ug/L									
Mercury	1631E ug/L	160213	N/A	0.00050	**0.0040**	1	08/07/12	08/09/12	

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Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0433 Extracted: 08/10/12											
Blank Analyzed: 08/11/2012-08/15/2012 (12H0433-BLK1)											
Barium	ND	0.010	N/A	mg/l							
Beryllium	ND	0.0010	N/A	mg/l							
Boron	ND	0.20	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 08/11/2012-08/15/2012 (12H0433-BS1)											
Barium	1.03	0.010	N/A	mg/l	1.00		103	85-115			
Beryllium	1.02	0.0010	N/A	mg/l	1.00		102	85-115			
Boron	0.975	0.20	N/A	mg/l	1.00		97	85-115			
Chromium	1.03	0.010	N/A	mg/l	1.00		103	85-115			
Copper	0.973	0.010	N/A	mg/l	1.00		97	85-115			
Nickel	1.04	0.010	N/A	mg/l	1.00		104	85-115			
Zinc	1.07	0.050	N/A	mg/l	1.00		107	85-115			
LCS Dup Analyzed: 08/11/2012-08/15/2012 (12H0433-BSD1)											
Barium	1.02	0.010	N/A	mg/l	1.00		102	85-115	1	20	
Beryllium	1.02	0.0010	N/A	mg/l	1.00		102	85-115	0.7	20	
Boron	0.965	0.20	N/A	mg/l	1.00		97	85-115	1	20	
Chromium	1.02	0.010	N/A	mg/l	1.00		102	85-115	1	20	
Copper	0.965	0.010	N/A	mg/l	1.00		97	85-115	0.8	20	
Nickel	1.03	0.010	N/A	mg/l	1.00		103	85-115	0.6	20	
Zinc	1.06	0.050	N/A	mg/l	1.00		106	85-115	1	20	
Matrix Spike Analyzed: 08/11/2012-08/15/2012 (12H0433-MS1)						**Source: PVH0492-01**					
Barium	1.03	0.010	N/A	mg/l	1.00	0.00939	102	70-130			
Beryllium	1.03	0.0010	N/A	mg/l	1.00	0.000639	103	70-130			
Boron	1.21	0.20	N/A	mg/l	1.00	0.237	97	70-130			
Chromium	1.04	0.010	N/A	mg/l	1.00	0.0171	102	70-130			
Copper	1.04	0.010	N/A	mg/l	1.00	0.0312	101	70-130			
Nickel	1.02	0.010	N/A	mg/l	1.00	ND	102	70-130			

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Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0433 Extracted: 08/10/12											
Matrix Spike Analyzed: 08/11/2012-08/15/2012 (12H0433-MS1)						**Source: PVH0492-01**					
Zinc	1.09	0.050	N/A	mg/l	1.00	0.0518	104	70-130			
Matrix Spike Dup Analyzed: 08/11/2012-08/15/2012 (12H0433-MSD1)						**Source: PVH0492-01**					
Barium	1.03	0.010	N/A	mg/l	1.00	0.00939	102	70-130	0.03	20	
Beryllium	1.03	0.0010	N/A	mg/l	1.00	0.000639	103	70-130	0.5	20	
Boron	1.20	0.20	N/A	mg/l	1.00	0.237	96	70-130	0.7	20	
Chromium	1.05	0.010	N/A	mg/l	1.00	0.0171	103	70-130	0.7	20	
Copper	1.05	0.010	N/A	mg/l	1.00	0.0312	102	70-130	0.8	20	
Nickel	1.03	0.010	N/A	mg/l	1.00	ND	103	70-130	1	20	
Zinc	1.11	0.050	N/A	mg/l	1.00	0.0518	106	70-130	1	20	

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Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0552 Extracted: 08/14/12											
Blank Analyzed: 08/15/2012 (12H0552-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	ND	0.0010	N/A	mg/l							
Selenium	ND	0.0020	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
Uranium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/15/2012 (12H0552-BS1)											
Antimony	0.101	0.0030	N/A	mg/l	0.100		101	85-115			
Arsenic	0.100	0.0010	N/A	mg/l	0.100		100	85-115			
Cadmium	0.101	0.0010	N/A	mg/l	0.100		101	85-115			
Lead	0.0977	0.0010	N/A	mg/l	0.100		98	85-115			
Selenium	0.101	0.0020	N/A	mg/l	0.100		101	85-115			
Thallium	0.0965	0.0010	N/A	mg/l	0.100		96	85-115			
Uranium	0.0943	0.0010	N/A	mg/l	0.100		94	85-115			
LCS Dup Analyzed: 08/15/2012 (12H0552-BSD1)											
Antimony	0.103	0.0030	N/A	mg/l	0.100		103	85-115	1	20	
Arsenic	0.102	0.0010	N/A	mg/l	0.100		102	85-115	1	20	
Cadmium	0.101	0.0010	N/A	mg/l	0.100		101	85-115	0.3	20	
Lead	0.0982	0.0010	N/A	mg/l	0.100		98	85-115	0.5	20	
Selenium	0.101	0.0020	N/A	mg/l	0.100		101	85-115	0.2	20	
Thallium	0.0970	0.0010	N/A	mg/l	0.100		97	85-115	0.6	20	
Uranium	0.0952	0.0010	N/A	mg/l	0.100		95	85-115	0.9	20	
Matrix Spike Analyzed: 08/15/2012 (12H0552-MS1)						**Source: PVH0185-01**					
Antimony	0.103	0.0030	N/A	mg/l	0.100	0.000432	102	70-130			
Arsenic	0.113	0.0010	N/A	mg/l	0.100	0.0139	99	70-130			
Cadmium	0.0967	0.0010	N/A	mg/l	0.100	0.000119	97	70-130			
Lead	0.0913	0.0010	N/A	mg/l	0.100	0.00129	90	70-130			
Selenium	0.0987	0.0020	N/A	mg/l	0.100	0.00161	97	70-130			
Thallium	0.0912	0.0010	N/A	mg/l	0.100	ND	91	70-130			

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Shiprock, NM 87420
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Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0552 Extracted: 08/14/12											
Matrix Spike Analyzed: 08/15/2012 (12H0552-MS1)						**Source: PVH0185-01**					
Uranium	0.175	0.0010	N/A	mg/l	0.100	0.107	68	70-130			*M2*
Matrix Spike Dup Analyzed: 08/15/2012 (12H0552-MSD1)						**Source: PVH0185-01**					
Antimony	0.0992	0.0030	N/A	mg/l	0.100	0.000432	99	70-130	3	20	
Arsenic	0.116	0.0010	N/A	mg/l	0.100	0.0139	102	70-130	3	20	
Cadmium	0.0987	0.0010	N/A	mg/l	0.100	0.000119	99	70-130	2	20	
Lead	0.0949	0.0010	N/A	mg/l	0.100	0.00129	94	70-130	4	20	
Selenium	0.101	0.0020	N/A	mg/l	0.100	0.00161	100	70-130	2	20	
Thallium	0.0936	0.0010	N/A	mg/l	0.100	ND	94	70-130	3	20	
Uranium	0.179	0.0010	N/A	mg/l	0.100	0.107	73	70-130	2	20	
Batch: 12H0812 Extracted: 08/19/12											
Blank Analyzed: 08/21/2012 (12H0812-BLK1)											
Silver	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/21/2012 (12H0812-BS1)											
Silver	0.0955	0.0010	N/A	mg/l	0.100		95	85-115			
LCS Dup Analyzed: 08/21/2012 (12H0812-BSD1)											
Silver	0.0952	0.0010	N/A	mg/l	0.100		95	85-115	0.2	20	
Matrix Spike Analyzed: 08/21/2012 (12H0812-MS1)						**Source: PVH1277-01**					
Silver	0.0725	0.0010	N/A	mg/l	0.100	ND	73	70-130			
Matrix Spike Dup Analyzed: 08/21/2012 (12H0812-MSD1)						**Source: PVH1277-01**					
Silver	0.0534	0.0010	N/A	mg/l	0.100	ND	53	70-130	30	20	*M2, N1a*

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Shiprock, NM 87420
Attention: Eric Rich

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Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
Blank Analyzed: 08/11/2012-08/13/2012 (12H0425-BLK1)											
Boron	ND	0.20	N/A	mg/l							
Calcium	ND	2.0	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Cobalt	ND	0.040	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Magnesium	ND	2.0	N/A	mg/l							
Molybdenum	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Potassium	ND	2.0	N/A	mg/l							
Sodium	ND	2.0	N/A	mg/l							
Vanadium	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
Blank Analyzed: 08/11/2012-08/13/2012 (12H0425-BLK2)											
Boron	ND	0.20	N/A	mg/l							
Calcium	ND	2.0	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Cobalt	ND	0.040	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Magnesium	ND	2.0	N/A	mg/l							
Molybdenum	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Potassium	ND	2.0	N/A	mg/l							
Sodium	ND	2.0	N/A	mg/l							
Vanadium	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 08/11/2012-08/13/2012 (12H0425-BS1)											
Boron	0.964	0.20	N/A	mg/l	1.00		96	85-115			
Calcium	21.4	2.0	N/A	mg/l	21.0		102	85-115			
Chromium	1.02	0.010	N/A	mg/l	1.00		102	85-115			
Cobalt	1.01	0.040	N/A	mg/l	1.00		101	85-115			

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Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
LCS Analyzed: 08/11/2012-08/13/2012 (12H0425-BS1)											
Copper	0.986	0.010	N/A	mg/l	1.00		99	85-115			
Magnesium	21.3	2.0	N/A	mg/l	21.0		102	85-115			
Molybdenum	1.00	0.010	N/A	mg/l	1.00		100	85-115			
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115			
Potassium	19.4	2.0	N/A	mg/l	20.0		97	85-115			
Sodium	19.8	2.0	N/A	mg/l	20.0		99	85-115			
Vanadium	0.996	0.010	N/A	mg/l	1.00		100	85-115			
Zinc	1.02	0.050	N/A	mg/l	1.00		102	85-115			
LCS Dup Analyzed: 08/11/2012-08/13/2012 (12H0425-BSD1)											
Boron	0.964	0.20	N/A	mg/l	1.00		96	85-115	0.01	20	
Calcium	21.6	2.0	N/A	mg/l	21.0		103	85-115	0.6	20	
Chromium	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.5	20	
Cobalt	1.00	0.040	N/A	mg/l	1.00		100	85-115	0.7	20	
Copper	0.984	0.010	N/A	mg/l	1.00		98	85-115	0.3	20	
Magnesium	21.5	2.0	N/A	mg/l	21.0		102	85-115	0.8	20	
Molybdenum	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.9	20	
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.08	20	
Potassium	19.5	2.0	N/A	mg/l	20.0		98	85-115	0.6	20	
Sodium	20.1	2.0	N/A	mg/l	20.0		101	85-115	1	20	
Vanadium	1.01	0.010	N/A	mg/l	1.00		101	85-115	1	20	
Zinc	1.02	0.050	N/A	mg/l	1.00		102	85-115	0.4	20	
MRL Check Analyzed: 08/13/2012 (12H0425-MRL1)											
Vanadium	0.0132	0.010	N/A	mg/l	0.0100		132	50-150			
Matrix Spike Analyzed: 08/11/2012-08/13/2012 (12H0425-MS1)						**Source: PVH0031-02**					
Boron	1.08	0.20	N/A	mg/l	1.00	0.0906	99	70-130			
Calcium	88.3	2.0	N/A	mg/l	21.0	69.3	90	70-130			
Chromium	1.00	0.010	N/A	mg/l	1.00	ND	100	70-130			
Cobalt	0.993	0.040	N/A	mg/l	1.00	ND	99	70-130			
Copper	1.01	0.010	N/A	mg/l	1.00	0.00900	100	70-130			
Magnesium	30.3	2.0	N/A	mg/l	21.0	8.77	102	70-130			

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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
Matrix Spike Analyzed: 08/11/2012-08/13/2012 (12H0425-MS1)						**Source: PVH0031-02**					
Molybdenum	0.988	0.010	N/A	mg/l	1.00	0.00430	98	70-130			
Nickel	0.985	0.010	N/A	mg/l	1.00	ND	99	70-130			
Potassium	26.5	2.0	N/A	mg/l	20.0	5.68	104	70-130			
Sodium	58.9	2.0	N/A	mg/l	20.0	40.2	94	70-130			
Vanadium	1.01	0.010	N/A	mg/l	1.00	0.0120	100	70-130			
Zinc	1.03	0.050	N/A	mg/l	1.00	0.0281	100	70-130			
Matrix Spike Dup Analyzed: 08/11/2012-08/13/2012 (12H0425-MSD1)						**Source: PVH0031-02**					
Boron	1.08	0.20	N/A	mg/l	1.00	0.0906	99	70-130	0.09	20	
Calcium	88.3	2.0	N/A	mg/l	21.0	69.3	90	70-130	0.05	20	
Chromium	1.00	0.010	N/A	mg/l	1.00	ND	100	70-130	0.4	20	
Cobalt	0.994	0.040	N/A	mg/l	1.00	ND	99	70-130	0.08	20	
Copper	1.01	0.010	N/A	mg/l	1.00	0.00900	100	70-130	0.3	20	
Magnesium	30.5	2.0	N/A	mg/l	21.0	8.77	104	70-130	0.8	20	
Molybdenum	0.994	0.010	N/A	mg/l	1.00	0.00430	99	70-130	0.6	20	
Nickel	0.986	0.010	N/A	mg/l	1.00	ND	99	70-130	0.07	20	
Potassium	26.5	2.0	N/A	mg/l	20.0	5.68	104	70-130	0.02	20	
Sodium	58.5	2.0	N/A	mg/l	20.0	40.2	92	70-130	0.7	20	
Vanadium	1.03	0.010	N/A	mg/l	1.00	0.0120	102	70-130	2	20	
Zinc	1.02	0.050	N/A	mg/l	1.00	0.0281	99	70-130	0.8	20	

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0386 Extracted: 08/06/12											
Blank Analyzed: 08/09/2012 (12H0386-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	0.00208	0.0010	N/A	mg/l							*B1*
Silver	ND	0.0010	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/09/2012 (12H0386-BS1)											
Antimony	0.104	0.0030	N/A	mg/l	0.100		104	85-115			
Arsenic	0.107	0.0010	N/A	mg/l	0.100		107	85-115			
Cadmium	0.106	0.0010	N/A	mg/l	0.100		106	85-115			
Lead	0.105	0.0010	N/A	mg/l	0.100		105	85-115			
Silver	0.106	0.0010	N/A	mg/l	0.100		106	85-115			
Thallium	0.101	0.0010	N/A	mg/l	0.100		101	85-115			
LCS Dup Analyzed: 08/09/2012 (12H0386-BSD1)											
Antimony	0.106	0.0030	N/A	mg/l	0.100		106	85-115	2	20	
Arsenic	0.106	0.0010	N/A	mg/l	0.100		106	85-115	0.9	20	
Cadmium	0.105	0.0010	N/A	mg/l	0.100		105	85-115	0.9	20	
Lead	0.104	0.0010	N/A	mg/l	0.100		104	85-115	0.9	20	
Silver	0.104	0.0010	N/A	mg/l	0.100		104	85-115	1	20	
Thallium	0.100	0.0010	N/A	mg/l	0.100		100	85-115	0.2	20	
Matrix Spike Analyzed: 08/09/2012 (12H0386-MS1)						**Source: PVH0185-02**					
Antimony	0.106	0.0030	N/A	mg/l	0.100	ND	106	70-130			
Arsenic	0.117	0.0010	N/A	mg/l	0.100	0.0108	106	70-130			
Cadmium	0.0973	0.0010	N/A	mg/l	0.100	0.000100	97	70-130			
Lead	0.0938	0.0010	N/A	mg/l	0.100	0.000432	93	70-130			
Silver	0.0653	0.0010	N/A	mg/l	0.100	ND	65	70-130			*M2*
Thallium	0.0931	0.0010	N/A	mg/l	0.100	ND	93	70-130			

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Linda Eshelman
Project Manager

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METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0386 Extracted: 08/06/12											
Matrix Spike Dup Analyzed: 08/09/2012 (12H0386-MSD1)						**Source: PVH0185-02**					
Antimony	0.106	0.0030	N/A	mg/l	0.100	ND	106	70-130	0.2	20	
Arsenic	0.118	0.0010	N/A	mg/l	0.100	0.0108	107	70-130	0.7	20	
Cadmium	0.0977	0.0010	N/A	mg/l	0.100	0.000100	98	70-130	0.4	20	
Lead	0.0950	0.0010	N/A	mg/l	0.100	0.000432	95	70-130	1	20	
Silver	0.0729	0.0010	N/A	mg/l	0.100	ND	73	70-130	11	20	
Thallium	0.0943	0.0010	N/A	mg/l	0.100	ND	94	70-130	1	20	

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Received: 08/02/12

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0130 Extracted: 08/03/12											
Blank Analyzed: 08/03/2012 (12H0130-BLK1)											
Total Suspended Solids	ND	1.0	N/A	mg/l							
LCS Analyzed: 08/03/2012 (12H0130-BS1)											
Total Suspended Solids	189	10	N/A	mg/l	200		94	90-110			
LCS Dup Analyzed: 08/03/2012 (12H0130-BSD1)											
Total Suspended Solids	199	10	N/A	mg/l	200		100	90-110	5	10	
Duplicate Analyzed: 08/03/2012 (12H0130-DUP1)						**Source: PVG2075-01**					
Total Suspended Solids	2420	200	N/A	mg/l		2740			12	10	*R9*
Duplicate Analyzed: 08/03/2012 (12H0130-DUP2)						**Source: PVH0244-01**					
Total Suspended Solids	9880	50	N/A	mg/l		9860			0.2	10	
Batch: 12H0213 Extracted: 08/06/12											
Blank Analyzed: 08/07/2012 (12H0213-BLK1)											
Chloride	ND	2.0	N/A	mg/l							
Fluoride	ND	0.40	N/A	mg/l							
Sulfate	ND	2.0	N/A	mg/l							
LCS Analyzed: 08/07/2012 (12H0213-BS1)											
Chloride	21.2	2.0	N/A	mg/l	20.0		106	90-110			
Fluoride	3.91	0.40	N/A	mg/l	4.00		98	90-110			*N1*
Sulfate	21.1	2.0	N/A	mg/l	20.0		105	90-110			
LCS Dup Analyzed: 08/07/2012 (12H0213-BSD1)											
Chloride	21.1	2.0	N/A	mg/l	20.0		106	90-110	0.03	15	
Fluoride	3.94	0.40	N/A	mg/l	4.00		99	90-110	0.8	20	*N1*
Sulfate	21.0	2.0	N/A	mg/l	20.0		105	90-110	0.3	15	

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Report Number: PVH0185

Sampled: 08/01/12
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0213 Extracted: 08/06/12											
Matrix Spike Analyzed: 08/07/2012 (12H0213-MS1)						**Source: PVH0467-01**					
Chloride	57.8	2.0	N/A	mg/l	20.0	35.5	112	80-120			
Sulfate	73.6	2.0	N/A	mg/l	20.0	53.0	103	80-120			
Matrix Spike Dup Analyzed: 08/07/2012 (12H0213-MSD1)						**Source: PVH0467-01**					
Chloride	58.4	2.0	N/A	mg/l	20.0	35.5	115	80-120	1	15	
Sulfate	73.7	2.0	N/A	mg/l	20.0	53.0	104	80-120	0.1	15	
Batch: 12H0375 Extracted: 08/09/12											
Blank Analyzed: 08/09/2012 (12H0375-BLK1)											
Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Bicarbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l							
LCS Analyzed: 08/09/2012 (12H0375-BS2)											
Alkalinity as CaCO3	244	6.0	N/A	mg/l	250		98	90-110			
LCS Dup Analyzed: 08/09/2012 (12H0375-BSD2)											
Alkalinity as CaCO3	243	6.0	N/A	mg/l	250		97	90-110	0.6	20	
Duplicate Analyzed: 08/09/2012 (12H0375-DUP1)						**Source: PVH0171-02**					
Alkalinity as CaCO3	125	6.0	N/A	mg/l		125			0.01	20	
Bicarbonate Alkalinity as CaCO3	8.67	6.0	N/A	mg/l		8.11			7	20	
Carbonate Alkalinity as CaCO3	116	6.0	N/A	mg/l		117			0.5	20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	58.1	6.0	N/A	mg/l		58.4			0.5	20	

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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0375 Extracted: 08/09/12											
Duplicate Analyzed: 08/09/2012 (12H0375-DUP2)						**Source: PVH0306-01**					
Alkalinity as CaCO3	66.8	6.0	N/A	mg/l		67.1			0.4	20	
Bicarbonate Alkalinity as CaCO3	66.8	6.0	N/A	mg/l		67.1			0.4	20	
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l		ND				20	

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METHOD BLANK/QC DATA

Nitrogen, Total Kjeldahl

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 13489 Extracted: 08/20/12											
Matrix Spike Dup Analyzed: 08/21/2012 (14420-10)					**Source: 490-14420-8**						
Kjeldahl Nitrogen as N	2.891	0.100	0.0600	mg/L	2.50		77	90-110	9	20	*M2*
Duplicate Analyzed: 08/21/2012 (14420-14)					**Source: 490-14420-11**						
Kjeldahl Nitrogen as N	1.681	0.100	0.0600	mg/L				-	7	20	
Blank Analyzed: 08/21/2012 (14420-4)					**Source:**						
Kjeldahl Nitrogen as N	ND	0.100	0.0600	mg/L				-			
LCS Analyzed: 08/21/2012 (14420-5)					**Source:**						
Kjeldahl Nitrogen as N	2.360	0.100	0.0600	mg/L	2.50		94	90-110			
LCS Dup Analyzed: 08/21/2012 (14420-6)					**Source:**						
Kjeldahl Nitrogen as N	2.577	0.100	0.0600	mg/L	2.50		103	90-110	9	20	
Matrix Spike Analyzed: 08/21/2012 (14420-9)					**Source: 490-14420-8**						
Kjeldahl Nitrogen as N	2.651	0.100	0.0600	mg/L	2.50		68	90-110			*M2*

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METHOD BLANK/QC DATA

Cyanide, Amenable (Low Level)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 45477 Extracted: 08/14/12											
Matrix Spike Analyzed: 08/14/2012 (45477-15)					**Source: 440-45477-14**						
Cyanide, Amenable	ND	0.0050	N/A	mg/L	0.100		0	70-130			*M2*
Matrix Spike Dup Analyzed: 08/14/2012 (45477-16)					**Source: 440-45477-14**						
Cyanide, Amenable	ND	0.0050	N/A	mg/L	0.100		0	70-130	NC	20	*M2*
Blank Analyzed: 08/14/2012 (45477-3)					**Source:**						
Cyanide, Amenable	ND	0.0050	N/A	mg/L				-			
LCS Analyzed: 08/14/2012 (45477-4)					**Source:**						
Cyanide, Amenable	0.107	0.0050	N/A	mg/L	0.100		107	90-110			

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METHOD BLANK/QC DATA

Metals (ICP/MS) Dissolved

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 43545 Extracted: 08/07/12											
Matrix Spike Analyzed: 08/09/2012 (44476-19)						**Source: 440-44476-18**					
Aluminum	0.124	0.010	N/A	mg/L	0.0800		106	70-130			
Matrix Spike Dup Analyzed: 08/09/2012 (44476-20)						**Source: 440-44476-18**					
Aluminum	0.120	0.010	N/A	mg/L	0.0800		101	70-130	4	20	

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METHOD BLANK/QC DATA

Metals (ICP/MS) Total Recoverable

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 43720 Extracted: 08/07/12											
Blank Analyzed: 08/09/2012 (44466-16)						**Source:**					
Aluminum	ND	0.010	N/A	mg/L				-			
LCS Analyzed: 08/09/2012 (44466-17)						**Source:**					
Aluminum	0.0762	0.010	N/A	mg/L	0.0800		95	85-115			
Matrix Spike Analyzed: 08/09/2012 (44466-19)						**Source: 440-44466-18**					
Aluminum	0.0738	0.010	N/A	mg/L	0.0800		92	70-130			
Matrix Spike Dup Analyzed: 08/09/2012 (44466-20)						**Source: 440-44466-18**					
Aluminum	0.0735	0.010	N/A	mg/L	0.0800		92	70-130	0	20	

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METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 160213 Extracted: 08/09/12											
Blank Analyzed: 08/09/2012 (160262-3)						**Source:**					
Mercury	ND	0.00050	N/A	ug/L				-			
LCS Analyzed: 08/09/2012 (160262-4)						**Source:**					
Mercury	0.00457	0.00050	N/A	ug/L	0.00500		91	79-121			
LCS Dup Analyzed: 08/09/2012 (160262-5)						**Source:**					
Mercury	0.00477	0.00050	N/A	ug/L	0.00500		95	79-121	4	20	
Matrix Spike Analyzed: 08/09/2012 (160262-7)						**Source: 400-160262-6**					
Mercury	0.520	0.025	N/A	ug/L	0.250		90	71-125			
Matrix Spike Dup Analyzed: 08/09/2012 (160262-8)						**Source: 400-160262-6**					
Mercury	0.525	0.025	N/A	ug/L	0.250		92	71-125	1	24	

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DATA QUALIFIERS AND DEFINITIONS

B1	Target analyte detected in method blank at or above the method reporting limit.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
N1	See case narrative.
R9	Sample RPD exceeded the laboratory acceptance limit
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2320B	Water		X
SM 2540D	Water		X
SM2340B	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PVH0185-01

Analysis Performed: Radium 226
Samples: PVH0185-01

Analysis Performed: Radium 228
Samples: PVH0185-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: 200.8 Dissolved mg/L
Samples: PVH0185-02

Method Performed: 200.8 Total Recoverable mg/L
Samples: PVH0185-01

Method Performed: SM 4500 CN G mg/L
Samples: PVH0185-01

TestAmerica - Nashville, TN *Arizona Cert #AZ0473*
2960 Foster Creighton Drive - Nashville, TN 37204

Method Performed: 351.2 TKN mg/L
Samples: PVH0185-01

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Attention: Eric Rich

Project ID: 10COVETRIB29FS
Report Number: PVH0185

Sampled: 08/01/12
Received: 08/02/12

TestAmerica - Pensacola *Arizona Cert #AZ0710*
3355 McLemore Drive - Pensacola, FL 32514

Method Performed: 1631E ug/L
Samples: PVH0185-01

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Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

PUH0185

Chain of Custody Record - Stream Suite With Cations Anions

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ED_004888_00033250-00164

Client Contact	Project Manager: Eric Rich	Site Contact:	Date: 8/1/12
Navajo Nation EPA	Tel/Fax: (928) 283-3080	Lab Contact: Linda Eshelman	Carrier:
Address: P.O. Box 1999	Analysis Turnaround Time		
City/State/Zip: Shiprock, NM 87420	Calendar (C) or Work Days (W) _____		
(505) 368-1037 Phone	TAT if different from Below _____		
(505) 368-1416 FAX	☑ 2 weeks		
Project Name: 18 LOVETRIB29 FS	☐ 1 week		
Site:	☐ 2 days		
PO#	☐ 1 day		

COC No: 1 of ____ COCs

Job No.

SDG No.

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	FF Hardness (Ca and Mg)	FF 200.8 = Al, Sb, As, Cd, Pb, Ag, Tl	FF 200.7 - B, Cr, Co, Cu, Ni, Zn, Ca	FF 200.7 - Ca, Mg, Na, K, Mo, V	FF - Alk., SO4, Cl	Total 200.8-Al, Sb, As, Cd, Pb, Se, Ag,	Total 200.8 - Tl, U	Total 200.7 - Ba, Be, B, Cr, Cu, Ni, Zn	TKN	Cyanide (as Free)	F, TSS	Gross Alpha, Radium 226/228	Mercury LL - 1631	Sample Specific Notes:
18-29_20120801_FS	8/1/12	13:45		H2O	1	X	X	X	X	X	X	X	X	X	X	X	X	X	-01 +02

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* *Poison B* ☐ *Unknown* ☐

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements & Comments: FF = Field Filtered

Relinquished by:	Company: NNEPA-WRP	Date/Time: 8/1/12 16:55	Received by: FedEx	Company: FedEx	Date/Time: 8/1/12 16:55
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time: 8/2/12 10:30

1.9°C

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: August 01, 2012
Sample Received: August 03, 2012
Analysis Completed: August 30, 2012

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PVH0185-01	67.0 ± 6.0	1.9 ± 0.2	1.2 ± 0.3	3.1 ± 0.4

Date of Analysis	8/6/2012	8/9/2012	8/9/2012	8/9/2012

Robert L. Metzger, Ph.D., C.H.P.

Subcontract Order - TestAmerica Phoenix (PVH0185)

SENDING LABORATORY:	RECEIVING LABORATORY:
TestAmerica Phoenix	Radiation Safety Engineering, Inc.
4625 East Cotton Center Blvd. Ste 189	3245 N. Washington St.
Phoenix, AZ 85040	Chandler, AZ 85225-1121
Phone: (602) 437-3340	Phone :(480) 897-9459
Fax: (602) 454-9303	Fax: 480-892-5446
Project Manager: Linda Eshelman	Project Location: Arizona
	Receipt Temperature: _____ °C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PVH0185-01 (10-29_20120801_FS - Water)		Sampled: 08/01/12 13:45	44667
Gross Alpha-O	pCi/L	08/01/13 13:45	
Radium 226-O	pCi/L	08/01/13 13:45	
Radium 228-O	pCi/L	08/01/13 13:45	

Containers Supplied:
1 Gallon Poly (A)

Released By	Date/Time	Received By	Date/Time
[signature]	8-3-12 0950	[signature]	8-3-12 9:50

Page 1 of 1

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

LABORATORY REPORT

Prepared For: Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project: 10MIDSJR 10COVETRIB29RS

Sampled: 08/01/12
Received: 08/02/12
Issued: 08/30/12 07:54

NELAP #01109CA / AZ100001 Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PVH0183-01	10-29_20120801_RS	Water
PVH0183-02	10-29_20120801_RS	Water

TestAmerica Phoenix

Linda Eshelman
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS

Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

SAMPLE RECEIPT:	Samples were received intact, at 4°C, on ice and with chain of custody documentation.
HOLDING TIMES:	All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.
PRESERVATION:	Samples requiring preservation were verified prior to sample analysis.
QA/QC CRITERIA:	All analyses met method criteria, except as noted in the report with data qualifiers. L3 - ICPMS Lead - Batch 12H0125-BS1 - Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted. N1 - Fluoride - Batch 12H0213-BS1/BSD1 - Due to CCV failure, the MS/MSD results were not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS). N1a - ICPMS Silver - Batch 12H0812-MSD1 - The RPD exceeded the acceptance limit due to sample matrix effects.
COMMENTS:	Results that fall between the MDL and RL are 'E4' flagged.
SUBCONTRACTED:	Refer to the last page for specific subcontract laboratory information included in this report.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

TOTAL METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Barium	EPA 200.7	12H0433	N/A	0.010	**0.53**	1	08/10/12	08/11/12	
Beryllium	EPA 200.7	12H0433	N/A	0.0010	ND	1	08/10/12	08/11/12	
Boron	EPA 200.7	12H0433	N/A	0.20	ND	1	08/10/12	08/15/12	
Chromium	EPA 200.7	12H0433	N/A	0.010	ND	1	08/10/12	08/11/12	
Copper	EPA 200.7	12H0433	N/A	0.010	ND	1	08/10/12	08/11/12	
Nickel	EPA 200.7	12H0433	N/A	0.010	ND	1	08/10/12	08/11/12	
Zinc	EPA 200.7	12H0433	N/A	0.050	**0.70**	1	08/10/12	08/11/12	

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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

TOTAL METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12H0552	N/A	0.0030	ND	1	08/14/12	08/15/12	
Arsenic	EPA 200.8	12H0552	N/A	0.0010	**0.013**	1	08/14/12	08/15/12	
Cadmium	EPA 200.8	12H0552	N/A	0.0010	ND	1	08/14/12	08/15/12	
Lead	EPA 200.8	12H0552	N/A	0.0010	**0.0010**	1	08/14/12	08/15/12	
Selenium	EPA 200.8	12H0552	N/A	0.0020	ND	1	08/14/12	08/15/12	
Thallium	EPA 200.8	12H0552	N/A	0.0010	ND	1	08/14/12	08/15/12	
Uranium	EPA 200.8	12H0552	N/A	0.0010	**0.095**	1	08/14/12	08/15/12	
Sample ID: PVH0183-01RE2 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Silver	EPA 200.8	12H0812	N/A	0.0010	ND	1	08/19/12	08/21/12	

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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-02 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Boron	EPA 200.7	12H0425	N/A	0.20	ND	1	08/10/12	08/11/12	
Calcium	EPA 200.7	12H0425	N/A	2.0	**110**	1	08/10/12	08/11/12	
Chromium	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Cobalt	EPA 200.7	12H0425	N/A	0.040	ND	1	08/10/12	08/11/12	
Copper	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Hardness, Dissolved	SM2340B	[CALC]	N/A	13	**380**	1	08/10/12	08/11/12	
Magnesium	EPA 200.7	12H0425	N/A	2.0	**25**	1	08/10/12	08/11/12	
Molybdenum	EPA 200.7	12H0425	N/A	0.010	**0.012**	1	08/10/12	08/11/12	
Nickel	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/11/12	
Potassium	EPA 200.7	12H0425	N/A	2.0	**5.4**	1	08/10/12	08/11/12	
Sodium	EPA 200.7	12H0425	N/A	2.0	**30**	1	08/10/12	08/11/12	
Vanadium	EPA 200.7	12H0425	N/A	0.010	ND	1	08/10/12	08/13/12	
Zinc	EPA 200.7	12H0425	N/A	0.050	**0.092**	1	08/10/12	08/11/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-02 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12H0125	N/A	0.0030	ND	1	08/03/12	08/13/12	
Arsenic	EPA 200.8	12H0125	N/A	0.0010	**0.011**	1	08/03/12	08/09/12	
Cadmium	EPA 200.8	12H0125	N/A	0.0010	ND	1	08/03/12	08/09/12	
Silver	EPA 200.8	12H0125	N/A	0.0010	ND	1	08/03/12	08/09/12	
Thallium	EPA 200.8	12H0125	N/A	0.0010	ND	1	08/03/12	08/09/12	
Sample ID: PVH0183-02RE1 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Lead	EPA 200.8	12H1198	N/A	0.0010	ND	1	08/03/12	08/29/12	

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Fluoride	EPA 300.0	12H0213	N/A	0.40	ND	1	08/06/12	08/07/12	
Total Suspended Solids	SM 2540D	12H0130	N/A	5.0	**110**	5	08/03/12	08/03/12	
Sample ID: PVH0183-02 (10-29_20120801_RS - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	**390**	1	08/09/12	08/09/12	
Bicarbonate Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	**390**	1	08/09/12	08/09/12	
Carbonate Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	
Chloride	EPA 300.0	12H0213	N/A	2.0	**14**	1	08/06/12	08/07/12	
Hydroxide Alkalinity as CaCO3	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	
Sulfate	EPA 300.0	12H0213	N/A	2.0	**42**	1	08/06/12	08/07/12	
Alkalinity, Phenolphthalein	SM 2320B	12H0375	N/A	6.0	ND	1	08/09/12	08/09/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Nitrogen, Total Kjeldahl

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/L									
Kjeldahl Nitrogen as N	351.2 TKN mg/L	13489	0.0600	0.100	**0.915**	1	08/20/12	08/22/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Cyanide, Amenable (Low Level)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/L									
Cyanide, Amenable	SM 4500 CN G mg/L	45477	N/A	0.0050	ND	1	08/14/12	08/14/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Metals (ICP/MS) Dissolved

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-02 (10-29_20120801_RS - Water)									
Reporting Units: mg/L									
Aluminum	200.8 Dissolved mg/L	43545	N/A	0.010	ND	1	08/07/12	08/09/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Metals (ICP/MS) Total Recoverable

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: mg/L									
Aluminum	.8 Total Recoverable m	43720	N/A	0.020	**1.4**	2	08/07/12	08/09/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Mercury, Low Level (CVAFS)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)									
Reporting Units: ug/L									
Mercury	1631E ug/L	160213	N/A	0.00050	**0.0052**	1	08/07/12	08/09/12	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0433 Extracted: 08/10/12											
Blank Analyzed: 08/11/2012-08/15/2012 (12H0433-BLK1)											
Barium	ND	0.010	N/A	mg/l							
Beryllium	ND	0.0010	N/A	mg/l							
Boron	ND	0.20	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 08/11/2012-08/15/2012 (12H0433-BS1)											
Barium	1.03	0.010	N/A	mg/l	1.00		103	85-115			
Beryllium	1.02	0.0010	N/A	mg/l	1.00		102	85-115			
Boron	0.975	0.20	N/A	mg/l	1.00		97	85-115			
Chromium	1.03	0.010	N/A	mg/l	1.00		103	85-115			
Copper	0.973	0.010	N/A	mg/l	1.00		97	85-115			
Nickel	1.04	0.010	N/A	mg/l	1.00		104	85-115			
Zinc	1.07	0.050	N/A	mg/l	1.00		107	85-115			
LCS Dup Analyzed: 08/11/2012-08/15/2012 (12H0433-BSD1)											
Barium	1.02	0.010	N/A	mg/l	1.00		102	85-115	1	20	
Beryllium	1.02	0.0010	N/A	mg/l	1.00		102	85-115	0.7	20	
Boron	0.965	0.20	N/A	mg/l	1.00		97	85-115	1	20	
Chromium	1.02	0.010	N/A	mg/l	1.00		102	85-115	1	20	
Copper	0.965	0.010	N/A	mg/l	1.00		97	85-115	0.8	20	
Nickel	1.03	0.010	N/A	mg/l	1.00		103	85-115	0.6	20	
Zinc	1.06	0.050	N/A	mg/l	1.00		106	85-115	1	20	
Matrix Spike Analyzed: 08/11/2012-08/15/2012 (12H0433-MS1)						**Source: PVH0492-01**					
Barium	1.03	0.010	N/A	mg/l	1.00	0.00939	102	70-130			
Beryllium	1.03	0.0010	N/A	mg/l	1.00	0.000639	103	70-130			
Boron	1.21	0.20	N/A	mg/l	1.00	0.237	97	70-130			
Chromium	1.04	0.010	N/A	mg/l	1.00	0.0171	102	70-130			
Copper	1.04	0.010	N/A	mg/l	1.00	0.0312	101	70-130			
Nickel	1.02	0.010	N/A	mg/l	1.00	ND	102	70-130			

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P.O. Box 1999
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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0433 Extracted: 08/10/12											
Matrix Spike Analyzed: 08/11/2012-08/15/2012 (12H0433-MS1)						**Source: PVH0492-01**					
Zinc	1.09	0.050	N/A	mg/l	1.00	0.0518	104	70-130			
Matrix Spike Dup Analyzed: 08/11/2012-08/15/2012 (12H0433-MSD1)						**Source: PVH0492-01**					
Barium	1.03	0.010	N/A	mg/l	1.00	0.00939	102	70-130	0.03	20	
Beryllium	1.03	0.0010	N/A	mg/l	1.00	0.000639	103	70-130	0.5	20	
Boron	1.20	0.20	N/A	mg/l	1.00	0.237	96	70-130	0.7	20	
Chromium	1.05	0.010	N/A	mg/l	1.00	0.0171	103	70-130	0.7	20	
Copper	1.05	0.010	N/A	mg/l	1.00	0.0312	102	70-130	0.8	20	
Nickel	1.03	0.010	N/A	mg/l	1.00	ND	103	70-130	1	20	
Zinc	1.11	0.050	N/A	mg/l	1.00	0.0518	106	70-130	1	20	

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Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0552 Extracted: 08/14/12											
Blank Analyzed: 08/15/2012 (12H0552-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	ND	0.0010	N/A	mg/l							
Selenium	ND	0.0020	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
Uranium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/15/2012 (12H0552-BS1)											
Antimony	0.101	0.0030	N/A	mg/l	0.100		101	85-115			
Arsenic	0.100	0.0010	N/A	mg/l	0.100		100	85-115			
Cadmium	0.101	0.0010	N/A	mg/l	0.100		101	85-115			
Lead	0.0977	0.0010	N/A	mg/l	0.100		98	85-115			
Selenium	0.101	0.0020	N/A	mg/l	0.100		101	85-115			
Thallium	0.0965	0.0010	N/A	mg/l	0.100		96	85-115			
Uranium	0.0943	0.0010	N/A	mg/l	0.100		94	85-115			
LCS Dup Analyzed: 08/15/2012 (12H0552-BSD1)											
Antimony	0.103	0.0030	N/A	mg/l	0.100		103	85-115	1	20	
Arsenic	0.102	0.0010	N/A	mg/l	0.100		102	85-115	1	20	
Cadmium	0.101	0.0010	N/A	mg/l	0.100		101	85-115	0.3	20	
Lead	0.0982	0.0010	N/A	mg/l	0.100		98	85-115	0.5	20	
Selenium	0.101	0.0020	N/A	mg/l	0.100		101	85-115	0.2	20	
Thallium	0.0970	0.0010	N/A	mg/l	0.100		97	85-115	0.6	20	
Uranium	0.0952	0.0010	N/A	mg/l	0.100		95	85-115	0.9	20	
Matrix Spike Analyzed: 08/15/2012 (12H0552-MS1)						**Source: PVH0185-01**					
Antimony	0.103	0.0030	N/A	mg/l	0.100	0.000432	102	70-130			
Arsenic	0.113	0.0010	N/A	mg/l	0.100	0.0139	99	70-130			
Cadmium	0.0967	0.0010	N/A	mg/l	0.100	0.000119	97	70-130			
Lead	0.0913	0.0010	N/A	mg/l	0.100	0.00129	90	70-130			
Selenium	0.0987	0.0020	N/A	mg/l	0.100	0.00161	97	70-130			
Thallium	0.0912	0.0010	N/A	mg/l	0.100	ND	91	70-130			

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0552 Extracted: 08/14/12											
Matrix Spike Analyzed: 08/15/2012 (12H0552-MS1)						**Source: PVH0185-01**					
Uranium	0.175	0.0010	N/A	mg/l	0.100	0.107	68	70-130			*M2*
Matrix Spike Dup Analyzed: 08/15/2012 (12H0552-MSD1)						**Source: PVH0185-01**					
Antimony	0.0992	0.0030	N/A	mg/l	0.100	0.000432	99	70-130	3	20	
Arsenic	0.116	0.0010	N/A	mg/l	0.100	0.0139	102	70-130	3	20	
Cadmium	0.0987	0.0010	N/A	mg/l	0.100	0.000119	99	70-130	2	20	
Lead	0.0949	0.0010	N/A	mg/l	0.100	0.00129	94	70-130	4	20	
Selenium	0.101	0.0020	N/A	mg/l	0.100	0.00161	100	70-130	2	20	
Thallium	0.0936	0.0010	N/A	mg/l	0.100	ND	94	70-130	3	20	
Uranium	0.179	0.0010	N/A	mg/l	0.100	0.107	73	70-130	2	20	
Batch: 12H0812 Extracted: 08/19/12											
Blank Analyzed: 08/21/2012 (12H0812-BLK1)											
Silver	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/21/2012 (12H0812-BS1)											
Silver	0.0955	0.0010	N/A	mg/l	0.100		95	85-115			
LCS Dup Analyzed: 08/21/2012 (12H0812-BSD1)											
Silver	0.0952	0.0010	N/A	mg/l	0.100		95	85-115	0.2	20	
Matrix Spike Analyzed: 08/21/2012 (12H0812-MS1)						**Source: PVH1277-01**					
Silver	0.0725	0.0010	N/A	mg/l	0.100	ND	73	70-130			
Matrix Spike Dup Analyzed: 08/21/2012 (12H0812-MSD1)						**Source: PVH1277-01**					
Silver	0.0534	0.0010	N/A	mg/l	0.100	ND	53	70-130	30	20	*M2, N1a*

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
Blank Analyzed: 08/11/2012-08/13/2012 (12H0425-BLK1)											
Boron	ND	0.20	N/A	mg/l							
Calcium	ND	2.0	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Cobalt	ND	0.040	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Magnesium	ND	2.0	N/A	mg/l							
Molybdenum	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Potassium	ND	2.0	N/A	mg/l							
Sodium	ND	2.0	N/A	mg/l							
Vanadium	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
Blank Analyzed: 08/11/2012-08/13/2012 (12H0425-BLK2)											
Boron	ND	0.20	N/A	mg/l							
Calcium	ND	2.0	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Cobalt	ND	0.040	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Magnesium	ND	2.0	N/A	mg/l							
Molybdenum	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Potassium	ND	2.0	N/A	mg/l							
Sodium	ND	2.0	N/A	mg/l							
Vanadium	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 08/11/2012-08/13/2012 (12H0425-BS1)											
Boron	0.964	0.20	N/A	mg/l	1.00		96	85-115			
Calcium	21.4	2.0	N/A	mg/l	21.0		102	85-115			
Chromium	1.02	0.010	N/A	mg/l	1.00		102	85-115			
Cobalt	1.01	0.040	N/A	mg/l	1.00		101	85-115			

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P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
LCS Analyzed: 08/11/2012-08/13/2012 (12H0425-BS1)											
Copper	0.986	0.010	N/A	mg/l	1.00		99	85-115			
Magnesium	21.3	2.0	N/A	mg/l	21.0		102	85-115			
Molybdenum	1.00	0.010	N/A	mg/l	1.00		100	85-115			
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115			
Potassium	19.4	2.0	N/A	mg/l	20.0		97	85-115			
Sodium	19.8	2.0	N/A	mg/l	20.0		99	85-115			
Vanadium	0.996	0.010	N/A	mg/l	1.00		100	85-115			
Zinc	1.02	0.050	N/A	mg/l	1.00		102	85-115			
LCS Dup Analyzed: 08/11/2012-08/13/2012 (12H0425-BSD1)											
Boron	0.964	0.20	N/A	mg/l	1.00		96	85-115	0.01	20	
Calcium	21.6	2.0	N/A	mg/l	21.0		103	85-115	0.6	20	
Chromium	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.5	20	
Cobalt	1.00	0.040	N/A	mg/l	1.00		100	85-115	0.7	20	
Copper	0.984	0.010	N/A	mg/l	1.00		98	85-115	0.3	20	
Magnesium	21.5	2.0	N/A	mg/l	21.0		102	85-115	0.8	20	
Molybdenum	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.9	20	
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.08	20	
Potassium	19.5	2.0	N/A	mg/l	20.0		98	85-115	0.6	20	
Sodium	20.1	2.0	N/A	mg/l	20.0		101	85-115	1	20	
Vanadium	1.01	0.010	N/A	mg/l	1.00		101	85-115	1	20	
Zinc	1.02	0.050	N/A	mg/l	1.00		102	85-115	0.4	20	
MRL Check Analyzed: 08/13/2012 (12H0425-MRL1)											
Vanadium	0.0132	0.010	N/A	mg/l	0.0100		132	50-150			
Matrix Spike Analyzed: 08/11/2012-08/13/2012 (12H0425-MS1)						**Source: PVH0031-02**					
Boron	1.08	0.20	N/A	mg/l	1.00	0.0906	99	70-130			
Calcium	88.3	2.0	N/A	mg/l	21.0	69.3	90	70-130			
Chromium	1.00	0.010	N/A	mg/l	1.00	ND	100	70-130			
Cobalt	0.993	0.040	N/A	mg/l	1.00	ND	99	70-130			
Copper	1.01	0.010	N/A	mg/l	1.00	0.00900	100	70-130			
Magnesium	30.3	2.0	N/A	mg/l	21.0	8.77	102	70-130			

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0425 Extracted: 08/10/12											
Matrix Spike Analyzed: 08/11/2012-08/13/2012 (12H0425-MS1)						**Source: PVH0031-02**					
Molybdenum	0.988	0.010	N/A	mg/l	1.00	0.00430	98	70-130			
Nickel	0.985	0.010	N/A	mg/l	1.00	ND	99	70-130			
Potassium	26.5	2.0	N/A	mg/l	20.0	5.68	104	70-130			
Sodium	58.9	2.0	N/A	mg/l	20.0	40.2	94	70-130			
Vanadium	1.01	0.010	N/A	mg/l	1.00	0.0120	100	70-130			
Zinc	1.03	0.050	N/A	mg/l	1.00	0.0281	100	70-130			
Matrix Spike Dup Analyzed: 08/11/2012-08/13/2012 (12H0425-MSD1)						**Source: PVH0031-02**					
Boron	1.08	0.20	N/A	mg/l	1.00	0.0906	99	70-130	0.09	20	
Calcium	88.3	2.0	N/A	mg/l	21.0	69.3	90	70-130	0.05	20	
Chromium	1.00	0.010	N/A	mg/l	1.00	ND	100	70-130	0.4	20	
Cobalt	0.994	0.040	N/A	mg/l	1.00	ND	99	70-130	0.08	20	
Copper	1.01	0.010	N/A	mg/l	1.00	0.00900	100	70-130	0.3	20	
Magnesium	30.5	2.0	N/A	mg/l	21.0	8.77	104	70-130	0.8	20	
Molybdenum	0.994	0.010	N/A	mg/l	1.00	0.00430	99	70-130	0.6	20	
Nickel	0.986	0.010	N/A	mg/l	1.00	ND	99	70-130	0.07	20	
Potassium	26.5	2.0	N/A	mg/l	20.0	5.68	104	70-130	0.02	20	
Sodium	58.5	2.0	N/A	mg/l	20.0	40.2	92	70-130	0.7	20	
Vanadium	1.03	0.010	N/A	mg/l	1.00	0.0120	102	70-130	2	20	
Zinc	1.02	0.050	N/A	mg/l	1.00	0.0281	99	70-130	0.8	20	

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0125 Extracted: 08/03/12											
Blank Analyzed: 08/09/2012-08/13/2012 (12H0125-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	0.0210	0.0010	N/A	mg/l							*B1*
Silver	ND	0.0010	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/09/2012-08/13/2012 (12H0125-BS1)											
Antimony	0.104	0.0030	N/A	mg/l	0.100		104	85-115			
Arsenic	0.100	0.0010	N/A	mg/l	0.100		100	85-115			
Cadmium	0.102	0.0010	N/A	mg/l	0.100		102	85-115			
Lead	0.119	0.0010	N/A	mg/l	0.100		119	85-115			*L3*
Silver	0.102	0.0010	N/A	mg/l	0.100		102	85-115			
Thallium	0.0992	0.0010	N/A	mg/l	0.100		99	85-115			
LCS Dup Analyzed: 08/09/2012-08/13/2012 (12H0125-BSD1)											
Antimony	0.0993	0.0030	N/A	mg/l	0.100		99	85-115	5	20	
Arsenic	0.0932	0.0010	N/A	mg/l	0.100		93	85-115	7	20	
Cadmium	0.0956	0.0010	N/A	mg/l	0.100		96	85-115	7	20	
Lead	0.114	0.0010	N/A	mg/l	0.100		114	85-115	4	20	
Silver	0.0961	0.0010	N/A	mg/l	0.100		96	85-115	6	20	
Thallium	0.0926	0.0010	N/A	mg/l	0.100		93	85-115	7	20	
Matrix Spike Analyzed: 08/09/2012-08/13/2012 (12H0125-MS1)						**Source: PVH0318-02**					
Antimony	0.104	0.0030	N/A	mg/l	0.100	ND	104	70-130			
Arsenic	0.104	0.0010	N/A	mg/l	0.100	0.00337	101	70-130			
Cadmium	0.0982	0.0010	N/A	mg/l	0.100	ND	98	70-130			
Lead	0.128	0.0010	N/A	mg/l	0.100	0.0175	110	70-130			
Silver	0.0735	0.0010	N/A	mg/l	0.100	ND	74	70-130			
Thallium	0.0959	0.0010	N/A	mg/l	0.100	ND	96	70-130			

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0125 Extracted: 08/03/12											
Matrix Spike Dup Analyzed: 08/09/2012-08/13/2012 (12H0125-MSD1)						**Source: PVH0318-02**					
Antimony	0.106	0.0030	N/A	mg/l	0.100	ND	106	70-130	2	20	
Arsenic	0.104	0.0010	N/A	mg/l	0.100	0.00337	100	70-130	0.5	20	
Cadmium	0.0973	0.0010	N/A	mg/l	0.100	ND	97	70-130	0.9	20	
Lead	0.127	0.0010	N/A	mg/l	0.100	0.0175	110	70-130	0.5	20	
Silver	0.0821	0.0010	N/A	mg/l	0.100	ND	82	70-130	11	20	
Thallium	0.0962	0.0010	N/A	mg/l	0.100	ND	96	70-130	0.3	20	
Batch: 12H1198 Extracted: 08/28/12											
Blank Analyzed: 08/29/2012 (12H1198-BLK1)											
Lead	ND	0.0010	N/A	mg/l							
Blank Analyzed: 08/29/2012 (12H1198-BLK2)											
Lead	ND	0.0010	N/A	mg/l							
LCS Analyzed: 08/29/2012 (12H1198-BS1)											
Lead	0.101	0.0010	N/A	mg/l	0.100		101	85-115			
LCS Dup Analyzed: 08/29/2012 (12H1198-BSD1)											
Lead	0.101	0.0010	N/A	mg/l	0.100		101	85-115	0.08	20	
Matrix Spike Analyzed: 08/29/2012 (12H1198-MS1)						**Source: PVH1958-02**					
Lead	0.0971	0.0010	N/A	mg/l	0.100	0.000261	97	70-130			
Matrix Spike Dup Analyzed: 08/29/2012 (12H1198-MSD1)						**Source: PVH1958-02**					
Lead	0.0968	0.0010	N/A	mg/l	0.100	0.000261	97	70-130	0.3	20	

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0130 Extracted: 08/03/12											
Blank Analyzed: 08/03/2012 (12H0130-BLK1)											
Total Suspended Solids	ND	1.0	N/A	mg/l							
LCS Analyzed: 08/03/2012 (12H0130-BS1)											
Total Suspended Solids	189	10	N/A	mg/l	200		94	90-110			
LCS Dup Analyzed: 08/03/2012 (12H0130-BSD1)											
Total Suspended Solids	199	10	N/A	mg/l	200		100	90-110	5	10	
Duplicate Analyzed: 08/03/2012 (12H0130-DUP1)						**Source: PVG2075-01**					
Total Suspended Solids	2420	200	N/A	mg/l		2740			12	10	*R9*
Duplicate Analyzed: 08/03/2012 (12H0130-DUP2)						**Source: PVH0244-01**					
Total Suspended Solids	9880	50	N/A	mg/l		9860			0.2	10	
Batch: 12H0213 Extracted: 08/06/12											
Blank Analyzed: 08/07/2012 (12H0213-BLK1)											
Chloride	ND	2.0	N/A	mg/l							
Fluoride	ND	0.40	N/A	mg/l							
Sulfate	ND	2.0	N/A	mg/l							
LCS Analyzed: 08/07/2012 (12H0213-BS1)											
Chloride	21.2	2.0	N/A	mg/l	20.0		106	90-110			
Fluoride	3.91	0.40	N/A	mg/l	4.00		98	90-110			*N1*
Sulfate	21.1	2.0	N/A	mg/l	20.0		105	90-110			
LCS Dup Analyzed: 08/07/2012 (12H0213-BSD1)											
Chloride	21.1	2.0	N/A	mg/l	20.0		106	90-110	0.03	15	
Fluoride	3.94	0.40	N/A	mg/l	4.00		99	90-110	0.8	20	*N1*
Sulfate	21.0	2.0	N/A	mg/l	20.0		105	90-110	0.3	15	

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Linda Eshelman
Project Manager

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0213 Extracted: 08/06/12											
Matrix Spike Analyzed: 08/07/2012 (12H0213-MS1)						**Source: PVH0467-01**					
Chloride	57.8	2.0	N/A	mg/l	20.0	35.5	112	80-120			
Sulfate	73.6	2.0	N/A	mg/l	20.0	53.0	103	80-120			
Matrix Spike Dup Analyzed: 08/07/2012 (12H0213-MSD1)						**Source: PVH0467-01**					
Chloride	58.4	2.0	N/A	mg/l	20.0	35.5	115	80-120	1	15	
Sulfate	73.7	2.0	N/A	mg/l	20.0	53.0	104	80-120	0.1	15	
Batch: 12H0375 Extracted: 08/09/12											
Blank Analyzed: 08/09/2012 (12H0375-BLK1)											
Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Bicarbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l							
LCS Analyzed: 08/09/2012 (12H0375-BS2)											
Alkalinity as CaCO3	244	6.0	N/A	mg/l	250		98	90-110			
LCS Dup Analyzed: 08/09/2012 (12H0375-BSD2)											
Alkalinity as CaCO3	243	6.0	N/A	mg/l	250		97	90-110	0.6	20	
Duplicate Analyzed: 08/09/2012 (12H0375-DUP1)						**Source: PVH0171-02**					
Alkalinity as CaCO3	125	6.0	N/A	mg/l		125			0.01	20	
Bicarbonate Alkalinity as CaCO3	8.67	6.0	N/A	mg/l		8.11			7	20	
Carbonate Alkalinity as CaCO3	116	6.0	N/A	mg/l		117			0.5	20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	58.1	6.0	N/A	mg/l		58.4			0.5	20	

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Linda Eshelman
Project Manager

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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H0375 Extracted: 08/09/12											
Duplicate Analyzed: 08/09/2012 (12H0375-DUP2)						**Source: PVH0306-01**					
Alkalinity as CaCO3	66.8	6.0	N/A	mg/l		67.1			0.4	20	
Bicarbonate Alkalinity as CaCO3	66.8	6.0	N/A	mg/l		67.1			0.4	20	
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l		ND				20	

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

Nitrogen, Total Kjeldahl

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 13489 Extracted: 08/20/12											
Matrix Spike Dup Analyzed: 08/21/2012 (14420-10)					**Source: 490-14420-8**						
Kjeldahl Nitrogen as N	2.891	0.100	0.0600	mg/L	2.50		77	90-110	9	20	*M2*
Duplicate Analyzed: 08/21/2012 (14420-14)					**Source: 490-14420-11**						
Kjeldahl Nitrogen as N	1.681	0.100	0.0600	mg/L				-	7	20	
Blank Analyzed: 08/21/2012 (14420-4)					**Source:**						
Kjeldahl Nitrogen as N	ND	0.100	0.0600	mg/L				-			
LCS Analyzed: 08/21/2012 (14420-5)					**Source:**						
Kjeldahl Nitrogen as N	2.360	0.100	0.0600	mg/L	2.50		94	90-110			
LCS Dup Analyzed: 08/21/2012 (14420-6)					**Source:**						
Kjeldahl Nitrogen as N	2.577	0.100	0.0600	mg/L	2.50		103	90-110	9	20	
Matrix Spike Analyzed: 08/21/2012 (14420-9)					**Source: 490-14420-8**						
Kjeldahl Nitrogen as N	2.651	0.100	0.0600	mg/L	2.50		68	90-110			*M2*

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

Cyanide, Amenable (Low Level)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 45477 Extracted: 08/14/12											
Matrix Spike Analyzed: 08/14/2012 (45477-15)						**Source: 440-45477-14**					
Cyanide, Amenable	ND	0.0050	N/A	mg/L	0.100		0	70-130			*M2*
Matrix Spike Dup Analyzed: 08/14/2012 (45477-16)						**Source: 440-45477-14**					
Cyanide, Amenable	ND	0.0050	N/A	mg/L	0.100		0	70-130	NC	20	*M2*
Blank Analyzed: 08/14/2012 (45477-3)						**Source:**					
Cyanide, Amenable	ND	0.0050	N/A	mg/L				-			
LCS Analyzed: 08/14/2012 (45477-4)						**Source:**					
Cyanide, Amenable	0.107	0.0050	N/A	mg/L	0.100		107	90-110			

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

Metals (ICP/MS) Dissolved

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 43545 Extracted: 08/07/12											
Matrix Spike Analyzed: 08/09/2012 (44476-19)						**Source: 440-44476-18**					
Aluminum	0.124	0.010	N/A	mg/L	0.0800		106	70-130			
Matrix Spike Dup Analyzed: 08/09/2012 (44476-20)						**Source: 440-44476-18**					
Aluminum	0.120	0.010	N/A	mg/L	0.0800		101	70-130	4	20	

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

Metals (ICP/MS) Total Recoverable

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 43720 Extracted: 08/07/12											
Blank Analyzed: 08/09/2012 (44466-16)						**Source:**					
Aluminum	ND	0.010	N/A	mg/L				-			
LCS Analyzed: 08/09/2012 (44466-17)						**Source:**					
Aluminum	0.0762	0.010	N/A	mg/L	0.0800		95	85-115			
Matrix Spike Analyzed: 08/09/2012 (44466-19)						**Source: 440-44466-18**					
Aluminum	0.0738	0.010	N/A	mg/L	0.0800		92	70-130			
Matrix Spike Dup Analyzed: 08/09/2012 (44466-20)						**Source: 440-44466-18**					
Aluminum	0.0735	0.010	N/A	mg/L	0.0800		92	70-130	0	20	

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 160213 Extracted: 08/09/12											
Blank Analyzed: 08/09/2012 (160262-3)						**Source:**					
Mercury	ND	0.00050	N/A	ug/L				-			
LCS Analyzed: 08/09/2012 (160262-4)						**Source:**					
Mercury	0.00457	0.00050	N/A	ug/L	0.00500		91	79-121			
LCS Dup Analyzed: 08/09/2012 (160262-5)						**Source:**					
Mercury	0.00477	0.00050	N/A	ug/L	0.00500		95	79-121	4	20	
Matrix Spike Analyzed: 08/09/2012 (160262-7)						**Source: 400-160262-6**					
Mercury	0.520	0.025	N/A	ug/L	0.250		90	71-125			
Matrix Spike Dup Analyzed: 08/09/2012 (160262-8)						**Source: 400-160262-6**					
Mercury	0.525	0.025	N/A	ug/L	0.250		92	71-125	1	24	

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Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

DATA QUALIFIERS AND DEFINITIONS

B1	Target analyte detected in method blank at or above the method reporting limit.
L3	The associated blank spike recovery was above method acceptance limits.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
N1	See case narrative.
R9	Sample RPD exceeded the laboratory acceptance limit
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

TestAmerica Phoenix

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Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2320B	Water		X
SM 2540D	Water		X
SM2340B	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PVH0183-01

Analysis Performed: Radium 226
Samples: PVH0183-01

Analysis Performed: Radium 228
Samples: PVH0183-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: 200.8 Dissolved mg/L
Samples: PVH0183-02

Method Performed: 200.8 Total Recoverable mg/L
Samples: PVH0183-01

Method Performed: SM 4500 CN G mg/L
Samples: PVH0183-01

TestAmerica - Nashville, TN *Arizona Cert #AZ0473*
2960 Foster Creighton Drive - Nashville, TN 37204

Method Performed: 351.2 TKN mg/L
Samples: PVH0183-01

TestAmerica Phoenix

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Attention: Eric Rich

Project ID: 10MIDSJR 10COVETRIB29RS
Report Number: PVH0183

Sampled: 08/01/12
Received: 08/02/12

TestAmerica - Pensacola *Arizona Cert #AZ0710*
3355 McLemore Drive - Pensacola, FL 32514

Method Performed: 1631E ug/L
Samples: PVH0183-01

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Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

PVH0183

Chain of Custody Record - Stream Suite With Cati

Sample Identification: 10-29_20120827_RS

Client Contact	Project Manager: Eric Rich	Site Contact:	Date:
Navajo Nation EPA	Tel/Fax: (928) 283-3080	Lab Contact: Linda Eshelman	Carrier:
Address: P.O. Box 1999	Analysis Turnaround Time		
City/State/Zip: Shiprock, NM 87420	Calendar (C) or Work Days (W) _____		
(505) 368-1037 Phone	TAT if different from Below _____		
(505) 368-1416 FAX	☑ 2 weeks		
Project Name: 10MIDSTR	☐ 1 week		
Site: 10 CONTRIB 29 RS	☐ 2 days		
PO#	☐ 1 day		

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	FF Hardness (Ca and Mg)	FF 200.8 = Al, Sb, As, Cd, Pb, Ag, Tl	FF 200.7 - B, Cr, Co, Cu, Ni, Zn, Ca	FF 200.7 - Ca, Mg, Na, K, Mo, V	FF - Alk, SO4, Cl	Total 200.8-Al, Sb, As, Cd, Pb, Se, Ag,	Total 200.8 - Tl, U	Total 200.7 - Ba, Be, B, Cr, Cu, Ni, Zn	TKN	Cyanide (as Free)	F, TSS
10-29_20120801_RS	8/1/12	13:15		H_2O	11	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assesse
☐ Return To Client ☐ Disposal

Special Instructions/QC Requirements & Comments: FF = Field Filtered

Relinquished by:	Company:	Date/Time:	Received by:
	NNEPA- W2P	8/1/12 16:55	Fed Ex
Relinquished by:	Company:	Date/Time:	Received by:
Relinquished by:	Company:	Date/Time:	Received by:

eservation Used: 1= Ice, 2= HCl; 3= H2SO4;
ssible Hazard Identification
Non-Hazard Flammable
pecial Instructions/QC Requirements &
linquished by:
linquished by:
linquished by:

ED_004888_00033250-00199

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: August 01, 2012
Sample Received: August 03, 2012
Analysis Completed: August 14, 2012

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PVH0183-01	63.0 ± 5.0	1.3 ± 0.1	<0.3	1.3 ± 0.1

Date of Analysis	8/6/2012	8/9/2012	8/9/2012	8/9/2012

Robert L. Metzger, Ph.D., C.H.P.

Subcontract Order - TestAmerica Phoenix (PVH0183)

SENDING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Blvd. Ste 189
Phoenix, AZ 85040
Phone: (602) 437-3340
Fax: (602) 454-9303
Project Manager: Linda Eshelman

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: 480-892-5446
Project Location: Arizona
Receipt Temperature:_____ °C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PVH0183-01 (10-29_20120801_RS - Water)		Sampled: **08/01/12 13:15**	
Gross Alpha-O	pCi/L	08/01/13 13:15	
Radium 226-O	pCi/L	08/01/13 13:15	44671
Radium 228-O	pCi/L	08/01/13 13:15	
Containers Supplied:			
1 Gallon Poly (A)			

Released By	Date/Time	Received By	Date/Time
[signature]	8-3-12 9:50	[signature]	8-3-12 9:50

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THE LEADER IN ENVIRONMENTAL TESTING

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LABORATORY REPORT

Prepared For: Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project: 10MIDSJR 10COVE TRIB29

Sampled: 08/27/12
Received: 08/28/12
Issued: 09/20/12 15:49

NELAP #01109CA / AZ100001 Arizona DHS#AZ0728

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID	CLIENT ID	MATRIX
PVH2074-01	10-29_20120827_RS	Water
PVH2074-02	10-29_20120827_RS	Water

SAMPLE RECEIPT: Samples were received intact, at 1°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
N1 - Dissloved Sulfate - Batch 12H1316-BS1/BSD1 - Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).

COMMENTS: Results that fall between the MDL and RL are 'E4' flagged.

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

Reviewed By:

TestAmerica Phoenix

Linda Eshelman
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

TOTAL METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Barium	EPA 200.7	12I0096	N/A	0.010	**0.42**	1	09/05/12	09/06/12	
Beryllium	EPA 200.7	12I0096	N/A	0.0010	ND	1	09/05/12	09/06/12	
Boron	EPA 200.7	12I0096	N/A	0.20	ND	1	09/05/12	09/06/12	
Chromium	EPA 200.7	12I0096	N/A	0.010	ND	1	09/05/12	09/06/12	
Copper	EPA 200.7	12I0096	N/A	0.010	ND	1	09/05/12	09/06/12	
Nickel	EPA 200.7	12I0096	N/A	0.010	ND	1	09/05/12	09/06/12	
Zinc	EPA 200.7	12I0096	N/A	0.050	ND	1	09/05/12	09/06/12	

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Project Manager

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TOTAL METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12I0144	N/A	0.0030	ND	1	09/06/12	09/11/12	
Arsenic	EPA 200.8	12I0144	N/A	0.0010	**0.0066**	1	09/06/12	09/10/12	
Cadmium	EPA 200.8	12I0144	N/A	0.0010	ND	1	09/06/12	09/10/12	
Lead	EPA 200.8	12I0144	N/A	0.0010	ND	1	09/06/12	09/10/12	
Selenium	EPA 200.8	12I0144	N/A	0.0020	ND	1	09/06/12	09/10/12	
Silver	EPA 200.8	12I0144	N/A	0.0010	ND	1	09/06/12	09/10/12	
Thallium	EPA 200.8	12I0144	N/A	0.0010	ND	1	09/06/12	09/10/12	
Uranium	EPA 200.8	12I0144	N/A	0.0010	**0.049**	1	09/06/12	09/10/12	

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DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-02 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Boron	EPA 200.7	12I0156	N/A	0.20	ND	1	09/06/12	09/07/12	
Calcium	EPA 200.7	12I0156	N/A	2.0	**95**	1	09/06/12	09/07/12	
Chromium	EPA 200.7	12I0156	N/A	0.010	ND	1	09/06/12	09/07/12	
Cobalt	EPA 200.7	12I0156	N/A	0.040	ND	1	09/06/12	09/07/12	
Copper	EPA 200.7	12I0156	N/A	0.010	ND	1	09/06/12	09/07/12	
Hardness, Dissolved	SM2340B	[CALC]	N/A	13	**350**	1	09/06/12	09/07/12	
Magnesium	EPA 200.7	12I0156	N/A	2.0	**26**	1	09/06/12	09/07/12	
Molybdenum	EPA 200.7	12I0156	N/A	0.010	ND	1	09/06/12	09/07/12	
Nickel	EPA 200.7	12I0156	N/A	0.010	ND	1	09/06/12	09/07/12	
Potassium	EPA 200.7	12I0156	N/A	2.0	**3.6**	1	09/06/12	09/10/12	
Sodium	EPA 200.7	12I0156	N/A	2.0	**37**	1	09/06/12	09/07/12	
Vanadium	EPA 200.7	12I0156	N/A	0.010	ND	1	09/06/12	09/07/12	
Zinc	EPA 200.7	12I0156	N/A	0.050	ND	1	09/06/12	09/07/12	

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DISSOLVED METALS BY ICP/MS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-02RE1 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Antimony	EPA 200.8	12I0565	N/A	0.0030	ND	1	09/17/12	09/19/12	
Arsenic	EPA 200.8	12I0565	N/A	0.0010	**0.0056**	1	09/17/12	09/19/12	
Cadmium	EPA 200.8	12I0565	N/A	0.0010	ND	1	09/17/12	09/19/12	
Lead	EPA 200.8	12I0565	N/A	0.0010	ND	1	09/17/12	09/19/12	
Silver	EPA 200.8	12I0565	N/A	0.0010	ND	1	09/17/12	09/19/12	
Thallium	EPA 200.8	12I0565	N/A	0.0010	ND	1	09/17/12	09/19/12	

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INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Fluoride	EPA 300.0	12H1250	N/A	0.40	ND	1	08/28/12	08/28/12	
Total Suspended Solids	SM 2540D	12H1444	N/A	1.0	**15**	1	09/03/12	09/03/12	
Sample ID: PVH2074-02 (10-29_20120827_RS - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	SM 2320B	12H1418	N/A	6.0	**380**	1	08/31/12	09/01/12	
Bicarbonate Alkalinity as CaCO3	SM 2320B	12H1418	N/A	6.0	**380**	1	08/31/12	09/01/12	
Carbonate Alkalinity as CaCO3	SM 2320B	12H1418	N/A	6.0	ND	1	08/31/12	09/01/12	
Chloride	EPA 300.0	12H1316	N/A	2.0	**17**	1	08/29/12	08/30/12	
Hydroxide Alkalinity as CaCO3	SM 2320B	12H1418	N/A	6.0	ND	1	08/31/12	09/01/12	
Sulfate	EPA 300.0	12H1316	N/A	2.0	**18**	1	08/29/12	08/30/12	
Alkalinity, Phenolphthalein	SM 2320B	12H1418	N/A	6.0	ND	1	08/31/12	09/01/12	

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Cyanide, Amenable

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/L									
Cyanide, Amenable	M 4500 CN G ACN mg	21054	0.0030	0.0050	ND	1	09/18/12	09/18/12	

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Nitrogen, Total Kjeldahl

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/L									
Kjeldahl Nitrogen	351.2 TKN mg/L	17920	0.060	0.10	**0.56**	1	09/06/12	09/06/12	

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Metals (ICP/MS) Dissolved

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-02 (10-29_20120827_RS - Water)									
Reporting Units: mg/L									
Aluminum	200.8 Dissolved mg/L	50522	N/A	0.010	ND	1	09/07/12	09/10/12	

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Sampled: 08/27/12
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Metals (ICP/MS) Total Recoverable

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: mg/L									
Aluminum	.8 Total Recoverable m	50424	N/A	0.010	**0.68**	1	09/07/12	09/07/12	

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Mercury, Low Level (CVAFS)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)									
Reporting Units: ug/L									
Mercury	1631E ug/L	161747	N/A	0.00050	**0.00090**	1	08/30/12	09/04/12	

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0096 Extracted: 09/05/12											
Blank Analyzed: 09/06/2012 (12I0096-BLK1)											
Barium	ND	0.010	N/A	mg/l							
Beryllium	ND	0.0010	N/A	mg/l							
Boron	ND	0.20	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 09/06/2012 (12I0096-BS1)											
Barium	0.988	0.010	N/A	mg/l	1.00		99	85-115			
Beryllium	0.974	0.0010	N/A	mg/l	1.00		97	85-115			
Boron	0.968	0.20	N/A	mg/l	1.00		97	85-115			
Chromium	0.982	0.010	N/A	mg/l	1.00		98	85-115			
Copper	0.929	0.010	N/A	mg/l	1.00		93	85-115			
Nickel	0.988	0.010	N/A	mg/l	1.00		99	85-115			
Zinc	1.01	0.050	N/A	mg/l	1.00		101	85-115			
LCS Dup Analyzed: 09/06/2012 (12I0096-BSD1)											
Barium	0.993	0.010	N/A	mg/l	1.00		99	85-115	0.4	20	
Beryllium	0.990	0.0010	N/A	mg/l	1.00		99	85-115	2	20	
Boron	0.974	0.20	N/A	mg/l	1.00		97	85-115	0.7	20	
Chromium	0.994	0.010	N/A	mg/l	1.00		99	85-115	1	20	
Copper	0.936	0.010	N/A	mg/l	1.00		94	85-115	0.8	20	
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115	3	20	
Zinc	1.04	0.050	N/A	mg/l	1.00		104	85-115	3	20	
Matrix Spike Analyzed: 09/06/2012 (12I0096-MS1)						**Source: PVH2277-01**					
Barium	1.01	0.010	N/A	mg/l	1.00	0.0367	98	70-130			
Beryllium	0.981	0.0010	N/A	mg/l	1.00	0.000370	98	70-130			
Boron	1.06	0.20	N/A	mg/l	1.00	0.0959	96	70-130			
Chromium	0.976	0.010	N/A	mg/l	1.00	ND	98	70-130			
Copper	0.950	0.010	N/A	mg/l	1.00	0.00212	95	70-130			
Nickel	1.00	0.010	N/A	mg/l	1.00	ND	100	70-130			

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METHOD BLANK/QC DATA

TOTAL METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0096 Extracted: 09/05/12											
Matrix Spike Analyzed: 09/06/2012 (12I0096-MS1)						**Source: PVH2277-01**					
Zinc	2.02	0.050	N/A	mg/l	1.00	1.10	92	70-130			
Matrix Spike Dup Analyzed: 09/06/2012 (12I0096-MSD1)						**Source: PVH2277-01**					
Barium	1.02	0.010	N/A	mg/l	1.00	0.0367	98	70-130	0.3	20	
Beryllium	0.993	0.0010	N/A	mg/l	1.00	0.000370	99	70-130	1	20	
Boron	1.07	0.20	N/A	mg/l	1.00	0.0959	97	70-130	0.9	20	
Chromium	0.980	0.010	N/A	mg/l	1.00	ND	98	70-130	0.5	20	
Copper	0.960	0.010	N/A	mg/l	1.00	0.00212	96	70-130	1	20	
Nickel	1.02	0.010	N/A	mg/l	1.00	ND	102	70-130	2	20	
Zinc	2.03	0.050	N/A	mg/l	1.00	1.10	92	70-130	0.1	20	

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METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0144 Extracted: 09/06/12											
Blank Analyzed: 09/10/2012-09/11/2012 (12I0144-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	ND	0.0010	N/A	mg/l							
Selenium	ND	0.0020	N/A	mg/l							
Silver	ND	0.0010	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
Uranium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 09/10/2012-09/11/2012 (12I0144-BS1)											
Antimony	0.102	0.0030	N/A	mg/l	0.100		102	85-115			
Arsenic	0.114	0.0010	N/A	mg/l	0.100		114	85-115			
Cadmium	0.103	0.0010	N/A	mg/l	0.100		103	85-115			
Lead	0.0941	0.0010	N/A	mg/l	0.100		94	85-115			
Selenium	0.102	0.0020	N/A	mg/l	0.100		102	85-115			
Silver	0.104	0.0010	N/A	mg/l	0.100		104	85-115			
Thallium	0.0950	0.0010	N/A	mg/l	0.100		95	85-115			
Uranium	0.0905	0.0010	N/A	mg/l	0.100		91	85-115			
LCS Dup Analyzed: 09/10/2012-09/11/2012 (12I0144-BSD1)											
Antimony	0.107	0.0030	N/A	mg/l	0.100		107	85-115	5	20	
Arsenic	0.115	0.0010	N/A	mg/l	0.100		115	85-115	1	20	
Cadmium	0.104	0.0010	N/A	mg/l	0.100		104	85-115	0.3	20	
Lead	0.0963	0.0010	N/A	mg/l	0.100		96	85-115	2	20	
Selenium	0.103	0.0020	N/A	mg/l	0.100		103	85-115	0.6	20	
Silver	0.105	0.0010	N/A	mg/l	0.100		105	85-115	0.9	20	
Thallium	0.0968	0.0010	N/A	mg/l	0.100		97	85-115	2	20	
Uranium	0.0923	0.0010	N/A	mg/l	0.100		92	85-115	2	20	

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Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

TOTAL METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0144 Extracted: 09/06/12											
Matrix Spike Analyzed: 09/10/2012-09/11/2012 (12I0144-MS1)						**Source: PVH2416-01**					
Antimony	0.112	0.0030	N/A	mg/l	0.100	ND	112	70-130			
Arsenic	0.116	0.0010	N/A	mg/l	0.100	0.000786	116	70-130			
Cadmium	0.103	0.0010	N/A	mg/l	0.100	ND	103	70-130			
Lead	0.0937	0.0010	N/A	mg/l	0.100	0.00166	92	70-130			
Selenium	0.104	0.0020	N/A	mg/l	0.100	ND	104	70-130			
Silver	0.0273	0.0010	N/A	mg/l	0.100	ND	27	70-130			*M2*
Thallium	0.0950	0.0010	N/A	mg/l	0.100	ND	95	70-130			
Uranium	0.0948	0.0010	N/A	mg/l	0.100	0.000878	94	70-130			
Matrix Spike Dup Analyzed: 09/10/2012-09/11/2012 (12I0144-MSD1)						**Source: PVH2416-01**					
Antimony	0.111	0.0030	N/A	mg/l	0.100	ND	111	70-130	0.7	20	
Arsenic	0.117	0.0010	N/A	mg/l	0.100	0.000786	116	70-130	0.2	20	
Cadmium	0.103	0.0010	N/A	mg/l	0.100	ND	103	70-130	0.2	20	
Lead	0.0945	0.0010	N/A	mg/l	0.100	0.00166	93	70-130	0.8	20	
Selenium	0.103	0.0020	N/A	mg/l	0.100	ND	103	70-130	1	20	
Silver	0.0257	0.0010	N/A	mg/l	0.100	ND	26	70-130	6	20	*M2*
Thallium	0.0954	0.0010	N/A	mg/l	0.100	ND	95	70-130	0.4	20	
Uranium	0.0960	0.0010	N/A	mg/l	0.100	0.000878	95	70-130	1	20	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0156 Extracted: 09/06/12											
Blank Analyzed: 09/07/2012-09/10/2012 (12I0156-BLK1)											
Boron	ND	0.20	N/A	mg/l							
Calcium	ND	2.0	N/A	mg/l							
Chromium	ND	0.010	N/A	mg/l							
Cobalt	ND	0.040	N/A	mg/l							
Copper	ND	0.010	N/A	mg/l							
Magnesium	ND	2.0	N/A	mg/l							
Molybdenum	ND	0.010	N/A	mg/l							
Nickel	ND	0.010	N/A	mg/l							
Potassium	ND	2.0	N/A	mg/l							
Sodium	ND	2.0	N/A	mg/l							
Vanadium	ND	0.010	N/A	mg/l							
Zinc	ND	0.050	N/A	mg/l							
LCS Analyzed: 09/07/2012-09/10/2012 (12I0156-BS1)											
Boron	0.983	0.20	N/A	mg/l	1.00		98	85-115			
Calcium	21.3	2.0	N/A	mg/l	21.0		101	85-115			
Chromium	0.987	0.010	N/A	mg/l	1.00		99	85-115			
Cobalt	1.02	0.040	N/A	mg/l	1.00		102	85-115			
Copper	0.936	0.010	N/A	mg/l	1.00		94	85-115			
Magnesium	21.2	2.0	N/A	mg/l	21.0		101	85-115			
Molybdenum	0.972	0.010	N/A	mg/l	1.00		97	85-115			
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115			
Potassium	19.2	2.0	N/A	mg/l	20.0		96	85-115			
Sodium	19.2	2.0	N/A	mg/l	20.0		96	85-115			
Vanadium	1.00	0.010	N/A	mg/l	1.00		100	85-115			
Zinc	1.02	0.050	N/A	mg/l	1.00		102	85-115			
LCS Dup Analyzed: 09/07/2012-09/10/2012 (12I0156-BSD1)											
Boron	0.985	0.20	N/A	mg/l	1.00		99	85-115	0.2	20	
Calcium	21.0	2.0	N/A	mg/l	21.0		100	85-115	1	20	
Chromium	0.987	0.010	N/A	mg/l	1.00		99	85-115	0.03	20	
Cobalt	1.03	0.040	N/A	mg/l	1.00		103	85-115	0.8	20	

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Shiprock, NM 87420
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Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0156 Extracted: 09/06/12											
LCS Dup Analyzed: 09/07/2012-09/10/2012 (12I0156-BSD1)											
Copper	0.936	0.010	N/A	mg/l	1.00		94	85-115	0.08	20	
Magnesium	21.0	2.0	N/A	mg/l	21.0		100	85-115	0.8	20	
Molybdenum	0.990	0.010	N/A	mg/l	1.00		99	85-115	2	20	
Nickel	1.01	0.010	N/A	mg/l	1.00		101	85-115	0.1	20	
Potassium	18.8	2.0	N/A	mg/l	20.0		94	85-115	2	20	
Sodium	19.0	2.0	N/A	mg/l	20.0		95	85-115	1	20	
Vanadium	1.00	0.010	N/A	mg/l	1.00		100	85-115	0.08	20	
Zinc	1.01	0.050	N/A	mg/l	1.00		101	85-115	0.6	20	
Matrix Spike Analyzed: 09/07/2012-09/10/2012 (12I0156-MS1)						**Source: PVH2128-01**					
Boron	1.14	0.20	N/A	mg/l	1.00	0.150	100	70-130			
Calcium	564	2.0	N/A	mg/l	21.0	582	-89	70-130			*M3*
Chromium	0.979	0.010	N/A	mg/l	1.00	0.0651	91	70-130			
Cobalt	0.931	0.040	N/A	mg/l	1.00	0.0207	91	70-130			
Copper	1.01	0.010	N/A	mg/l	1.00	ND	101	70-130			
Magnesium	967	20	N/A	mg/l	21.0	1010	-213	70-130			*M3*
Molybdenum	0.928	0.010	N/A	mg/l	1.00	0.00494	92	70-130			
Nickel	0.918	0.010	N/A	mg/l	1.00	0.0212	90	70-130			
Potassium	26.8	2.0	N/A	mg/l	20.0	6.90	100	70-130			
Sodium	213	2.0	N/A	mg/l	20.0	203	49	70-130			*M3*
Vanadium	1.15	0.010	N/A	mg/l	1.00	0.196	95	70-130			
Zinc	0.935	0.050	N/A	mg/l	1.00	0.0493	89	70-130			
Matrix Spike Dup Analyzed: 09/07/2012-09/10/2012 (12I0156-MSD1)						**Source: PVH2128-01**					
Boron	1.14	0.20	N/A	mg/l	1.00	0.150	99	70-130	0.3	20	
Calcium	563	2.0	N/A	mg/l	21.0	582	-93	70-130	0.2	20	*M3*
Chromium	0.974	0.010	N/A	mg/l	1.00	0.0651	91	70-130	0.6	20	
Cobalt	0.929	0.040	N/A	mg/l	1.00	0.0207	91	70-130	0.2	20	
Copper	0.997	0.010	N/A	mg/l	1.00	ND	100	70-130	2	20	
Magnesium	973	20	N/A	mg/l	21.0	1010	-188	70-130	0.6	20	*M3*
Molybdenum	0.933	0.010	N/A	mg/l	1.00	0.00494	93	70-130	0.6	20	
Nickel	0.915	0.010	N/A	mg/l	1.00	0.0212	89	70-130	0.3	20	

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0156 Extracted: 09/06/12											
Matrix Spike Dup Analyzed: 09/07/2012-09/10/2012 (12I0156-MSD1)						**Source: PVH2128-01**					
Potassium	26.4	2.0	N/A	mg/l	20.0	6.90	98	70-130	1	20	
Sodium	208	2.0	N/A	mg/l	20.0	203	24	70-130	2	20	*M3*
Vanadium	1.13	0.010	N/A	mg/l	1.00	0.196	93	70-130	1	20	
Zinc	0.940	0.050	N/A	mg/l	1.00	0.0493	89	70-130	0.5	20	

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Project Manager

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Shiprock, NM 87420
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METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0565 Extracted: 09/17/12											
Blank Analyzed: 09/19/2012 (12I0565-BLK1)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	ND	0.0010	N/A	mg/l							
Silver	ND	0.0010	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
Blank Analyzed: 09/19/2012 (12I0565-BLK2)											
Antimony	ND	0.0030	N/A	mg/l							
Arsenic	ND	0.0010	N/A	mg/l							
Cadmium	ND	0.0010	N/A	mg/l							
Lead	ND	0.0010	N/A	mg/l							
Silver	ND	0.0010	N/A	mg/l							
Thallium	ND	0.0010	N/A	mg/l							
LCS Analyzed: 09/19/2012 (12I0565-BS1)											
Antimony	0.102	0.0030	N/A	mg/l	0.100		102	85-115			
Arsenic	0.0990	0.0010	N/A	mg/l	0.100		99	85-115			
Cadmium	0.0963	0.0010	N/A	mg/l	0.100		96	85-115			
Lead	0.0955	0.0010	N/A	mg/l	0.100		96	85-115			
Silver	0.101	0.0010	N/A	mg/l	0.100		101	85-115			
Thallium	0.0942	0.0010	N/A	mg/l	0.100		94	85-115			
LCS Dup Analyzed: 09/19/2012 (12I0565-BSD1)											
Antimony	0.105	0.0030	N/A	mg/l	0.100		105	85-115	3	20	
Arsenic	0.0993	0.0010	N/A	mg/l	0.100		99	85-115	0.3	20	
Cadmium	0.0952	0.0010	N/A	mg/l	0.100		95	85-115	1	20	
Lead	0.0971	0.0010	N/A	mg/l	0.100		97	85-115	2	20	
Silver	0.100	0.0010	N/A	mg/l	0.100		100	85-115	0.6	20	
Thallium	0.0961	0.0010	N/A	mg/l	0.100		96	85-115	2	20	

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Project Manager

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

DISSOLVED METALS BY ICP/MS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12I0565 Extracted: 09/17/12											
Matrix Spike Analyzed: 09/19/2012 (12I0565-MS1)						**Source: PVI0822-02**					
Antimony	0.108	0.0030	N/A	mg/l	0.100	ND	108	70-130			
Arsenic	0.104	0.0010	N/A	mg/l	0.100	0.00314	101	70-130			
Cadmium	0.0942	0.0010	N/A	mg/l	0.100	ND	94	70-130			
Lead	0.0931	0.0010	N/A	mg/l	0.100	ND	93	70-130			
Silver	0.0844	0.0010	N/A	mg/l	0.100	ND	84	70-130			
Thallium	0.0932	0.0010	N/A	mg/l	0.100	ND	93	70-130			
Matrix Spike Dup Analyzed: 09/19/2012 (12I0565-MSD1)						**Source: PVI0822-02**					
Antimony	0.106	0.0030	N/A	mg/l	0.100	ND	106	70-130	2	20	
Arsenic	0.102	0.0010	N/A	mg/l	0.100	0.00314	99	70-130	2	20	
Cadmium	0.0931	0.0010	N/A	mg/l	0.100	ND	93	70-130	1	20	
Lead	0.0904	0.0010	N/A	mg/l	0.100	ND	90	70-130	3	20	
Silver	0.0851	0.0010	N/A	mg/l	0.100	ND	85	70-130	0.8	20	
Thallium	0.0906	0.0010	N/A	mg/l	0.100	ND	91	70-130	3	20	

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P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

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Report Number: PVH2074

Sampled: 08/27/12
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H1250 Extracted: 08/28/12											
Blank Analyzed: 08/28/2012 (12H1250-BLK1)											
Fluoride	ND	0.40	N/A	mg/l							
LCS Analyzed: 08/28/2012 (12H1250-BS1)											
Fluoride	3.93	0.40	N/A	mg/l	4.00		98	90-110			
LCS Dup Analyzed: 08/28/2012 (12H1250-BSD1)											
Fluoride	3.90	0.40	N/A	mg/l	4.00		98	90-110	0.8	20	
Matrix Spike Analyzed: 08/28/2012 (12H1250-MS1)						**Source: PVH2074-01**					
Fluoride	4.93	0.40	N/A	mg/l	4.00	0.309	116	80-120			
Matrix Spike Dup Analyzed: 08/28/2012 (12H1250-MSD1)						**Source: PVH2074-01**					
Fluoride	4.85	0.40	N/A	mg/l	4.00	0.309	114	80-120	2	20	
Batch: 12H1316 Extracted: 08/29/12											
Blank Analyzed: 08/30/2012 (12H1316-BLK1)											
Chloride	ND	2.0	N/A	mg/l							
Sulfate	ND	2.0	N/A	mg/l							
LCS Analyzed: 08/30/2012 (12H1316-BS1)											
Chloride	20.0	2.0	N/A	mg/l	20.0		100	90-110			
Sulfate	20.1	2.0	N/A	mg/l	20.0		100	90-110			*N1*
LCS Dup Analyzed: 08/30/2012 (12H1316-BSD1)											
Chloride	20.1	2.0	N/A	mg/l	20.0		100	90-110	0.07	15	
Sulfate	20.1	2.0	N/A	mg/l	20.0		101	90-110	0.2	15	*N1*

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

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P.O. Box 1999
Shiprock, NM 87420
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METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H1316 Extracted: 08/29/12											
Matrix Spike Analyzed: 08/30/2012 (12H1316-MS1)						**Source: PVH2076-01**					
Chloride	90.3	2.0	N/A	mg/l	20.0	70.6	99	80-120			
Matrix Spike Dup Analyzed: 08/30/2012 (12H1316-MSD1)						**Source: PVH2076-01**					
Chloride	91.0	2.0	N/A	mg/l	20.0	70.6	102	80-120	0.8	15	
Batch: 12H1418 Extracted: 08/31/12											
Blank Analyzed: 09/01/2012 (12H1418-BLK1)											
Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Bicarbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l							
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l							
LCS Analyzed: 09/01/2012 (12H1418-BS2)											
Alkalinity as CaCO3	249	6.0	N/A	mg/l	250		100	90-110			
LCS Dup Analyzed: 09/01/2012 (12H1418-BSD2)											
Alkalinity as CaCO3	249	6.0	N/A	mg/l	250		100	90-110	0.04	20	
Duplicate Analyzed: 09/01/2012 (12H1418-DUP1)						**Source: PVH2074-02**					
Alkalinity as CaCO3	387	6.0	N/A	mg/l		384			0.6	20	
Bicarbonate Alkalinity as CaCO3	387	6.0	N/A	mg/l		384			0.6	20	
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l		ND				20	

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

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Received: 08/28/12

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 12H1418 Extracted: 08/31/12											
Duplicate Analyzed: 09/01/2012 (12H1418-DUP2)						**Source: PVH2171-01**					
Alkalinity as CaCO3	243	6.0	N/A	mg/l		242			0.1	20	
Bicarbonate Alkalinity as CaCO3	243	6.0	N/A	mg/l		242			0.1	20	
Carbonate Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Hydroxide Alkalinity as CaCO3	ND	6.0	N/A	mg/l		ND				20	
Alkalinity, Phenolphthalein	ND	6.0	N/A	mg/l		ND				20	
Batch: 12H1444 Extracted: 09/03/12											
Blank Analyzed: 09/03/2012 (12H1444-BLK1)											
Total Suspended Solids	ND	1.0	N/A	mg/l							
LCS Analyzed: 09/03/2012 (12H1444-BS1)											
Total Suspended Solids	198	10	N/A	mg/l	200		99	90-110			
LCS Dup Analyzed: 09/03/2012 (12H1444-BSD1)											
Total Suspended Solids	205	10	N/A	mg/l	200		102	90-110	3	10	
Duplicate Analyzed: 09/03/2012 (12H1444-DUP1)						**Source: PVH2217-01**					
Total Suspended Solids	6650	500	N/A	mg/l		7400			11	10	*R9*
Duplicate Analyzed: 09/03/2012 (12H1444-DUP2)						**Source: PVH2234-02**					
Total Suspended Solids	6160	200	N/A	mg/l		6220			1	10	

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Attention: Eric Rich

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Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

Nitrogen, Total Kjeldahl

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 17920 Extracted: 09/06/12											
Duplicate Analyzed: 09/06/2012 (18000-11)						**Source: 490-18000-10**					
Kjeldahl Nitrogen	0.135	0.10	0.060	mg/L				-	NC	20	
Blank Analyzed: 09/06/2012 (18000-4)						**Source:**					
Kjeldahl Nitrogen	ND	0.10	0.060	mg/L				-			
LCS Analyzed: 09/06/2012 (18000-5)						**Source:**					
Kjeldahl Nitrogen	2.32	0.10	0.060	mg/L	2.50		93	90-110			
Matrix Spike Analyzed: 09/06/2012 (18000-8)						**Source: 490-18000-7**					
Kjeldahl Nitrogen	2.65	0.10	0.060	mg/L	2.50		85	90-110			*M2*
Matrix Spike Dup Analyzed: 09/06/2012 (18000-9)						**Source: 490-18000-7**					
Kjeldahl Nitrogen	2.67	0.10	0.060	mg/L	2.50		86	90-110	1	20	*M2*

TestAmerica Phoenix

Linda Eshelman
Project Manager

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

Metals (ICP/MS) Dissolved

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 50522 Extracted: 09/07/12											
Matrix Spike Analyzed: 09/10/2012 (51089-17)						**Source: 440-51089-16**					
Aluminum	0.0819	0.010	N/A	mg/L	0.0800		102	70-130			
Matrix Spike Dup Analyzed: 09/10/2012 (51089-18)						**Source: 440-51089-16**					
Aluminum	0.0867	0.010	N/A	mg/L	0.0800		108	70-130	6	20	

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Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

Metals (ICP/MS) Total Recoverable

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 50424 Extracted: 09/07/12											
Blank Analyzed: 09/07/2012 (50603-17)					**Source:**						
Aluminum	ND	0.010	N/A	mg/L				-			
LCS Analyzed: 09/07/2012 (50603-18)					**Source:**						
Aluminum	0.0821	0.010	N/A	mg/L	0.0800		103	85-115			
Matrix Spike Analyzed: 09/07/2012 (50603-20)					**Source: 440-50603-19**						
Aluminum	0.0798	0.010	N/A	mg/L	0.0800		100	70-130			
Matrix Spike Dup Analyzed: 09/07/2012 (50603-21)					**Source: 440-50603-19**						
Aluminum	0.0790	0.010	N/A	mg/L	0.0800		99	70-130	1	20	

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

METHOD BLANK/QC DATA

Mercury, Low Level (CVAFS)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 161747 Extracted: 08/30/12											
Matrix Spike Analyzed: 09/04/2012 (161783-15)						**Source: 400-161783-14**					
Mercury	0.0494	0.0025	N/A	ug/L	0.0250		47	71-125			*M1*
Matrix Spike Dup Analyzed: 09/04/2012 (161783-16)						**Source: 400-161783-14**					
Mercury	0.0458	0.0025	N/A	ug/L	0.0250		32	71-125	8	24	*M1*
Blank Analyzed: 09/04/2012 (161783-7)						**Source:**					
Mercury	ND	0.00050	N/A	ug/L				-			
LCS Analyzed: 09/04/2012 (161783-8)						**Source:**					
Mercury	0.00480	0.00050	N/A	ug/L	0.00500		96	79-121			
LCS Dup Analyzed: 09/04/2012 (161783-9)						**Source:**					
Mercury	0.00504	0.00050	N/A	ug/L	0.00500		101	79-121	5	20	

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Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

DATA QUALIFIERS AND DEFINITIONS

M1	Matrix spike recovery was high; the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
N1	See case narrative.
R9	Sample RPD exceeded the laboratory acceptance limit
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29
Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

Certification Summary

TestAmerica Phoenix

Method	Matrix	Nelac	Arizona
EPA 200.7	Water		X
EPA 200.8	Water		X
EPA 300.0	Water		X
SM 2320B	Water		X
SM 2540D	Water		X
SM2340B	Water		X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

Subcontracted Laboratories

Radiation Safety Engineering, Inc. *Arizona Cert #AZ0462*
3245 N. Washington St. - Chandler, AZ 85225-1121

Analysis Performed: Gross Alpha
Samples: PVH2074-01

Analysis Performed: Radium 226
Samples: PVH2074-01

Analysis Performed: Radium 228
Samples: PVH2074-01

TestAmerica - Irvine, CA *NELAC Cert #01108CA, California Cert #1197, Arizona Cert #AZ0671, Nevada Cert #CA72-2002-63, ORELAP Cert #Text1*
17461 Derian Ave., Suite 100 - Irvine, CA 92614

Method Performed: 200.8 Dissolved mg/L
Samples: PVH2074-02

Method Performed: 200.8 Total Recoverable mg/L
Samples: PVH2074-01

TestAmerica - Nashville, TN *Arizona Cert #AZ0473*
2960 Foster Creighton Drive - Nashville, TN 37204

Method Performed: 351.2 TKN mg/L
Samples: PVH2074-01

Method Performed: SM 4500 CN G ACN mg/L
Samples: PVH2074-01

TestAmerica Phoenix

Linda Eshelman
Project Manager

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4625 East Cotton Center Blvd. Ste 189, Phoenix, AZ 85040 (602) 437-3340 Fax:(602) 454-9303

Navajo EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
Attention: Eric Rich

Project ID: 10MIDSJR 10COVE TRIB29

Report Number: PVH2074

Sampled: 08/27/12
Received: 08/28/12

TestAmerica - Pensacola *Arizona Cert #AZ0710*
3355 McLemore Drive - Pensacola, FL 32514

Method Performed: 1631E ug/L
Samples: PVH2074-01

TestAmerica Phoenix

Linda Eshelman
Project Manager

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Robert L. Metzger, Ph.D., C.H.P.

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

TestAmerica
4625 E. Cotton Center Blvd., Suite #189
Phoenix, AZ 85040

Sampling Date: August 27, 2012
Sample Received: August 29, 2012
Analysis Completed: September 10, 2012

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Radium 226 Activity Method 903.1 (pCi/L)	Radium 228 Activity Method 904 (pCi/L)	Total Radium (pCi/L)
PVH2074-01	40.0 ± 3.0	3.2 ± 0.3	< .4	3.2 ± 0.3

Date of Analysis	8/29/2012	8/30/2012	8/30/2012	8/30/2012

Subcontract Order - TestAmerica Phoenix (PVH2074)

SENDING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Blvd. Ste 189
Phoenix, AZ 85040
Phone: (602) 437-3340
Fax: (602) 454-9303
Project Manager: Linda Eshelman

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone :(480) 897-9459
Fax: 480-892-5446
Project Location: Arizona
Receipt Temperature:_____ °C Ice: Y / N

Standard TAT is requested unless specific due date is requested. => Due Date: _____ Initials: _____

Analysis	Units	Expires	Comments
Sample ID: PVH2074-01 (10-29_20120827_RS - Water)		Sampled: **08/27/12 11:30**	44856
Gross Alpha-O	pCi/L	08/27/13 11:30	
Radium 226-O	pCi/L	08/27/13 11:30	
Radium 228-O	pCi/L	08/27/13 11:30	

Containers Supplied:
1 Gallon Poly (A)

Released By	Date/Time	Received By	Date/Time
[illegible]	8-29-12 816	Rene Pongetto	8-29-12 8:16

APPENDIX B –

Laboratory Analytical Data for Site 10COVEWASH09

Precision Analytical Laboratories, Inc.

April 05, 2001

10 COVEWASH09
3/16/01

RECEIVED
APR 30 2001
NNEPA-WATER QUALITY PROGRAM

Steve Austin
Navajo Nation EPA Water Quality Program
PO Box 1999
Shiprock, NM 87420
TEL: (505) 368-1037
FAX: (505) 368-1416

Checkbook data 2/24/03

RE: Order No.: 0103463

Dear Steve Austin:

Precision Analytical Laboratories, Inc. received 1 sample on 3/16/2001 for the analyses presented in the following report.

This report includes the following information:

- Case Narrative. The case narrative contains a listing of common method references, data qualifiers, and any comments that may be needed regarding the analytical results.

- Analytical Report. Analysis results are reported with the compound name first, followed by the test result, report limit (Limit), any required data qualifier (Qual), units, dilution factor (DF), and date analyzed.

- QC Summary Report. This section includes quality control results for some or all of the following: method blanks, sample duplicates, sample matrix spikes, sample matrix spike duplicates, laboratory control spikes, and laboratory control spike duplicates.

If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Marcia A. Smith
Vice President - Client Services

CC:

1725 W. 17th St. • Tempe, AZ 85281 • 480 967-1310 • Fax 480 967-1019 • www.palabs.com

CLIENT: Navajo Nation EPA Water Quality Program
Project:
Lab Order: 0103463

CASE NARRATIVE

Data Qualifiers
Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D3 Sample dilution required due to insufficient sample.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
E7 Concentration estimated. Internal standard recoveries did not meet laboratory acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
H4 Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
M1 Matrix spike recovery was high, the method control sample recovery was acceptable.
M2 Matrix spike recovery was low, the method control sample recovery was acceptable.
M3 The accuracy of the spike recovery value is reduced since the analyte

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ED_004888_00033250-00237

concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.

M5 Analyte concentration was determined by the method of standard addition (MSA).

N1 See case narrative.

Q1 Sample integrity was not maintained. See case narrative.

Q2 Sample received with head space.

Q3 Sample received with improper chemical preservation.

Q5 Sample received without chemical preservation, but preserved by the laboratory.

Q6 Sample was received above recommended temperature.

Q7 Sample inadequately dechlorinated.

Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.

Q10 Sample received in inappropriate sample container.

Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.

R2 RPD exceeded the laboratory control limit. See case narrative.

R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.

R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

S2 Surrogate recovery was above laboratory and method acceptance limits.

S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.

S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.

S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.

S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.

S10 Surrogate recovery was above laboratory and method acceptance limits. See case narrative (N1).

T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.

T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.

V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

V5 CCV recovery after a group of samples was above acceptance limits. This target

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analyte was not detected in the sample. Acceptable per EPA Method 8000B.

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.
PAL- North Phoenix laboratory Arizona certification number: AZ0611.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Anion/cation balance checks were calculated using dissolved results for calcium, magnesium, and potassium.

Radiochemistry analyses were performed by Radiation Safety in Chandler, AZ. Uranium analysis was performed by West Coast Analytical in Santa Fe Springs, CA. Copies of their reports are enclosed.

Sample 0103463-01A was analyzed by Method 160.2 - Total Suspended Solids beyond the recommended 7-day holding time. The sample was collected on 3/12/01, shipped on 3/14/01, and received by the laboratory on 3/16/01. The laboratory did not have sufficient time to analyze for TSS within the holding time.

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ED_004888_00033250-00239

Precision Analytical Laboratories, Inc.

Date: *23-Apr-01*

CLIENT:	Navajo Nation EPA Water Quality Program	**Client Sample ID:**	10COVEWASH09
Lab Order:	0103463	**Tag Number:**	
Project:		**Collection Date:**	3/12/01 12:30:00 PM
Lab ID:	0103463-01A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MK**
Calcium	150	2.0		mg/L	1	3/19/01 12:55:06 PM
Hardness, Calcium (As CaCO3)	380	5.0		mg/L	1	3/19/01 12:55:06 PM
Magnesium	41	2.0		mg/L	1	3/19/01 12:55:06 PM
Potassium	21	2.0		mg/L	1	3/19/01 12:55:06 PM
Silica (Silicon dioxide-SiO2)	200	0.21		mg/L	1	3/24/01 9:48:36 AM
Sodium	150	20	D2	mg/L	10	3/21/01 2:30:14 PM
ICP METALS, DISSOLVED		**E200.7**				Analyst: **MK**
Aluminum	0.01	0.10	J	mg/L	1	3/19/01 11:56:59 AM
Barium	0.14	0.010		mg/L	1	3/19/01 11:56:59 AM
Beryllium	< 0.0010	0.0010		mg/L	1	3/19/01 11:56:59 AM
Boron	0.19	0.050		mg/L	1	3/19/01 11:56:59 AM
Cadmium	< 0.0010	0.0010		mg/L	1	3/19/01 11:56:59 AM
Chromium	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Cobalt	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Copper	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Molybdenum	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Nickel	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Silver	< 0.010	0.010		mg/L	1	3/19/01 11:56:59 AM
Vanadium	0.074	0.010		mg/L	1	3/19/01 11:56:59 AM
Zinc	< 0.050	0.050		mg/L	1	3/19/01 11:56:59 AM
METALS BY GFAA		**E200.9**				Analyst: **MK**
Selenium	0.004	0.0050	J	mg/L	1	3/26/01
DISSOLVED METALS BY GFAA		**E200.9**				Analyst: **MK**
Antimony	< 0.0030	0.0030		mg/L	1	3/23/01
Arsenic	0.0079	0.0050		mg/L	1	3/21/01
Lead	< 0.0020	0.0020		mg/L	1	3/27/01
Selenium	< 0.0050	0.0050		mg/L	1	3/28/01
Thallium	< 0.0010	0.0010		mg/L	1	3/20/01
MERCURY IN WATERS		**E245.1**				Analyst: **CU**
Mercury	< 0.00020	0.00020		mg/L	1	3/19/01 4:20:02 PM
DISSOLVED MERCURY IN WATERS		**E245.1**				Analyst: **CU**
Mercury	< 0.00020	0.00020		mg/L	1	3/19/01 4:20:02 PM
NITROGEN, NITRATE AS N		**E300**				Analyst: **LH**
Nitrogen, Nitrate (As N)	0.62	0.20	H3	mg/L	1	3/17/01 1:50:00 AM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LH**
Bromide	< 0.50	0.50		mg/L	1	3/28/01
Chloride	15	2.0		mg/L	1	3/28/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Precision Analytical Laboratories, Inc.

Date: *23-Apr-01*

CLIENT:	Navajo Nation EPA Water Quality Program	**Client Sample ID:**	10COVEWASH09
Lab Order:	0103463	**Tag Number:**	
Project:		**Collection Date:**	3/12/01 12:30:00 PM
Lab ID:	0103463-01A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Fluoride	< 0.40	0.40		mg/L	1	3/28/01
Sulfate	48	40		mg/L	20	3/28/01
ALKALINITY		**M2320 B**				Analyst: **GL**
Alkalinity, Bicarbonate (As CaCO3)	300	2.0		mg/L CaCO3	1	3/21/01 12:00:00 PM
Alkalinity, Carbonate (As CaCO3)	28	2.0		mg/L CaCO3	1	3/21/01 12:00:00 PM
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0		mg/L CaCO3	1	3/21/01 12:00:00 PM
Alkalinity, Total (As CaCO3)	330	6.0		mg/L CaCO3	1	3/21/01 12:00:00 PM
CHLORINE, TOTAL RESIDUAL		**H8167**				Analyst: **VDB**
Chlorine	0.083	0.050	H3	mg/L	1	3/16/01 10:40:00 AM
TRIVALENT CHROMIUM, DISSOLVED		**CALC**				Analyst: **LH**
Trivalent Chromium	< 0.010	0.010		mg/L	1	3/28/01
DISSOLVED HEXAVALENT CHROMIUM		**M3500-CR D**				Analyst: **VDB**
Chromium, Hexavalent	< 0.010	0.010	H3	mg/L	1	3/16/01 9:40:00 AM
CYANIDE		**M4500-CN CE**				Analyst: **JE**
Cyanide,Total	< 0.020	0.020		mg/L	1	3/19/01 12:20:00 PM
CATION/ANION BALANCE		**CALC**				Analyst: **LH**
Cation/Anion Balance	1.0	0			1	3/30/01
NITROGEN, AMMONIA AS N		**E350.3**				Analyst: **GL**
Nitrogen, Ammonia (As N)	< 0.50	0.50		mg/L	1	3/16/01 9:30:00 AM
ORTHOPHOSPHATE (PO4) AS P		**E365.3**				Analyst: **JE**
Phosphorus, Total Orthophosphate (As P)	< 0.10	0.10	H3	mg/L	1	3/16/01 5:15:00 PM
TOTAL PHOSPHORUS AS P		**E365.3**				Analyst: **JE**
Phosphorus, Total (As P)	2.2	0.40	D2	mg/L	2	3/16/01 1:45:00 PM
PH		**E150.1**				Analyst: **VDB**
pH	8.70	2.00		pH units	1	3/16/01 2:00:00 PM
SULFIDE		**M4500-S D**				Analyst: **GL**
Sulfide	< 0.050	0.050		mg/L	1	3/19/01 9:45:00 AM
TOTAL DISSOLVED SOLIDS		**M2540 C**				Analyst: **JE**
Total Dissolved Solids	490	10		mg/L	1	3/19/01 3:05:00 PM
TOTAL SUSPENDED SOLIDS		**E160.2**				Analyst: **JE**
Suspended Solids (Residue, Non-Filterable)	4,100	100	D2,H1	mg/L	10	3/20/01 10:30:00 AM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Precision Analytical Laboratories, Inc.

Date:

Anion/Cation Balance Check

Sample No: 0103463-01A

ION	ABBREV.	RESULT (mg/L)	FACTOR	CATIONS (meq/L)	ANIONS (meq/L)
Ammonia	NH4	0	0.05544	0	
Calcium	CA	12.6	0.0499	0.62874	
Chloride	CL	15	0.02821		0.42315
Carbonate	CO3	28	0.03333		0.93324
Bicarbonate	HCO3	300	0.01639		4.917
Copper	CU	0	0.03147	0	
Fluoride	F	0	0.05264		0
Iron 3+	FE 3+	0	0.03581	0	
Potassium	K	2.8	0.02558	0.071624	
Magnesium	MG	4.5	0.08229	0.370305	
Manganese	MN	0	0.0364	0	
Sodium	NA	150	0.0435	6.525	
Nitrate	NO3	0.62	0.01613		0.0100006
Silica	SiO3 2-	0	0.02629		0
Sulfate	SO4	48	0.02082		0.99936
Total		561.52		7.595669	7.2827506
TDS		490			
Cation/Anion Ratio				1.042967062	
Measured TDS/Calculated TDS			0.872631429		

Criteria: 0.9-1.1

Calcium, potassium, magnesium, and sodium results are dissolved analyses.

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Precision Analytical Laboratories, Inc.

Date: *05-Apr-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-3522** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 12:12:25 PM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 2.0	2									
Hardness, Calcium (As CaCO3)	< 5.0	5									
Magnesium	< 2.0	2									
Potassium	< 2.0	2									
Sodium	< 2.0	2									

Sample ID: **MB-3522** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/24/01 9:23:13 AM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010324C** SeqNo: **92072**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	< 0.21	0.21									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-3529** Batch ID: **3529** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 11:21:27 AM** Prep Date: **3/17/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	< 0.10	0.1									
Barium	< 0.010	0.01									
Beryllium	< 0.0010	0.001									
Boron	< 0.050	0.05									
Cadmium	< 0.0010	0.001									
Chromium	< 0.010	0.01									
Cobalt	< 0.010	0.01									
Copper	< 0.010	0.01									
Molybdenum	< 0.010	0.01									
Nickel	< 0.010	0.01									
Silver	< 0.010	0.01									
Vanadium	< 0.010	0.01									
Zinc	< 0.050	0.05									

Sample ID: **MB-3524** Batch ID: **3524** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/26/01** Prep Date: **3/16/01**
Client ID: Run ID: **GFAA001_010326C** SeqNo: **91875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	< 0.0050	0.005									

Sample ID: **MB-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/20/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010320A** SeqNo: **90345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	< 0.0010	0.001									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/21/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010321A** SeqNo: **90480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	< 0.0050	0.005									

Sample ID: **MB-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/23/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010323A** SeqNo: **90958**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	< 0.0030	0.003									

Sample ID: **MB-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/27/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010327B** SeqNo: **92454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	< 0.0020	0.002									

Sample ID: **MB-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/28/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010328A** SeqNo: **92497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	< 0.0050	0.005									

Sample ID: **MB-3552** Batch ID: **3552** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319E** SeqNo: **89451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.0002									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-3553** Batch ID: **3553** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319F** SeqNo: **89460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.0002									

Sample ID: **MB-R8585A** Batch ID: **R8585A** Test Code: **E300** Units: **mg/L** Analysis Date: **3/16/01** Prep Date:
Client ID: Run ID: **IC 1_010316A** SeqNo: **89712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	< 0.20	0.2									

Sample ID: **MB-R8804** Batch ID: **R8804** Test Code: **E300** Units: **mg/L** Analysis Date: **3/28/01** Prep Date:
Client ID: Run ID: **IC 1_010327C** SeqNo: **92538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	< 0.50	0.5									
Chloride	< 2.0	2									
Fluoride	< 0.40	0.4									
Sulfate	< 2.0	2									

Sample ID: **MB-R8662** Batch ID: **R8662** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **3/21/01 12:00:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010321A** SeqNo: **90660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2.0	2									
Alkalinity, Carbonate (As CaCO3)	< 2.0	2									
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2									
Alkalinity, Total (As CaCO3)	< 6.0	6									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-R8560** Batch ID: **R8560** Test Code: **H8167** Units: **mg/L** Analysis Date: **3/16/01 10:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316F** SeqNo: **89287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine	< 0.050	0.05									

Sample ID: **MB-R8558** Batch ID: **R8558** Test Code: **M3500-Cr D** Units: **mg/L** Analysis Date: **3/16/01 9:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316D** SeqNo: **89266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	< 0.010	0.01									

Sample ID: **MB-R8578** Batch ID: **R8578** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **3/19/01 7:35:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319C** SeqNo: **89547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	< 0.020	0.02									

Sample ID: **MB-R8507** Batch ID: **R8507** Test Code: **E350.3** Units: **mg/L** Analysis Date: **3/16/01 9:30:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010316A** SeqNo: **88536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	< 0.50	0.5									

Sample ID: **MB-R8526** Batch ID: **R8526** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 5:15:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316C** SeqNo: **88810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	< 0.10	0.1									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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CLIENT: Navajo Nation EPA Water Quality Program
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QC SUMMARY REPORT
Method Blank

Sample ID: **MB-R8515** Batch ID: **R8515** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 1:45:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316B** SeqNo: **88674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	< 0.20	0.2									

Sample ID: **MB-R8562A** Batch ID: **R8562A** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **3/19/01 9:45:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319B** SeqNo: **94116**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	< 0.050	0.05									

Sample ID: **MB-R8642** Batch ID: **R8642** Test Code: **M2540 C** Units: **mg/L** Analysis Date: **3/19/01 3:05:00 PM** Prep Date:
Client ID: Run ID: **BL002_010319B** SeqNo: **90364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	< 10	10									

Sample ID: **MB-R8587** Batch ID: **R8587** Test Code: **E160.2** Units: **mg/L** Analysis Date: **3/20/01 10:30:00 AM** Prep Date:
Client ID: Run ID: **BL002_010320B** SeqNo: **89727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 10	10									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

Date: *05-Apr-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0103461-01A DUP** Batch ID: **R8585A** Test Code: **E300** Units: **mg/L** Analysis Date: **3/17/01 3:52:00 AM** Prep Date:
Client ID: Run ID: **IC 1_010316A** SeqNo: **89710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	< 0.20	0.2	0	0	0	0	0	0	0	20	

Sample ID: **0103620-01A DUP** Batch ID: **R8804** Test Code: **E300** Units: **mg/L** Analysis Date: **3/28/01** Prep Date:
Client ID: Run ID: **IC 1_010327C** SeqNo: **92549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	< 0.50	0.5	0	0	0	0	0	0	0	20	
Chloride	13.46	2	0	0	0	0	0	13.8	2.49	20	
Fluoride	< 0.40	0.4	0	0	0	0	0	0	0	20	
Sulfate	9.6	2	0	0	0	0	0	10.21	6.16	20	

Sample ID: **0103456-01A DUP** Batch ID: **R8662** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **3/21/01 12:00:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010321A** SeqNo: **90679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	250	2	0	0	0	0	0	250	0	20	
Alkalinity, Carbonate (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Total (As CaCO3)	250	6	0	0	0	0	0	250	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0103573-02A DUP** Batch ID: **R8662** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **3/21/01 12:00:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010321A** SeqNo: **90680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	530	2	0	0	0	0	0	530	0	20	
Alkalinity, Carbonate (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Total (As CaCO3)	530	6	0	0	0	0	0	530	0	20	

Sample ID: **0103457-01A DUP** Batch ID: **R8560** Test Code: **H8167** Units: **mg/L** Analysis Date: **3/16/01 10:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316F** SeqNo: **89297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine	< 0.050	0.05	0	0	0	0	0	0	0	20	H3

Sample ID: **0103452-01A DUP** Batch ID: **R8558** Test Code: **M3500-Cr D** Units: **mg/L** Analysis Date: **3/16/01 9:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316D** SeqNo: **89276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	< 0.010	0.01	0	0	0	0	0	0	0	20	H3

Sample ID: **0103452-01A DUP** Batch ID: **R8526** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 5:15:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316C** SeqNo: **88820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	< 0.10	0.1	0	0	0	0	0	0	0	20	

Sample ID: **0103455-01A DUP** Batch ID: **R8515** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 1:45:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316B** SeqNo: **89542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	< 0.20	0.2	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0103465-01A DUP** Batch ID: **R8556** Test Code: **E150.1** Units: **pH units** Analysis Date: **3/16/01 2:00:00 PM** Prep Date:
Client ID: Run ID: **PH 1_010316A** SeqNo: **89260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.54	2	0	0	0	0	0	7.54	0	10	

Sample ID: **0103464-03A DUP** Batch ID: **R8562A** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **3/19/01 9:45:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319B** SeqNo: **89341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	< 0.050	0.05	0	0	0	0	0	0	0	20	

Sample ID: **0103455-01A DUP** Batch ID: **R8642** Test Code: **M2540 C** Units: **mg/L** Analysis Date: **3/19/01 3:05:00 PM** Prep Date:
Client ID: Run ID: **BL002_010319B** SeqNo: **90375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	2724	20	0	0	0	0	0	2698	0.959	10	D2

Sample ID: **0103452-01A DUP** Batch ID: **R8587** Test Code: **E160.2** Units: **mg/L** Analysis Date: **3/20/01 10:30:00 AM** Prep Date:
Client ID: Run ID: **BL002_010320B** SeqNo: **89739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 10	10	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00251

Precision Analytical Laboratories, Inc.

Date: *05-Apr-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103452-01A MS** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 12:28:55 PM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	86.79	2	21	70.56	77.3	70	130	0			
Magnesium	32.99	2	21	12.43	97.9	70	130	0			
Potassium	22.32	2	20	0	112	70	130	0			
Sodium	28	2	20	6.986	105	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 12:32:02 PM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	87.04	2	21	70.56	78.5	70	130	86.79	0.283	20	
Magnesium	33	2	21	12.43	98	70	130	32.99	0.0199	20	
Potassium	22.34	2	20	0	112	70	130	22.32	0.0456	20	
Sodium	28	2	20	6.986	105	70	130	28	0.00398	20	

Sample ID: **0103452-01A MS** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/24/01 9:30:00 AM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010324C** SeqNo: **92075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	22.4	0.21	10.7	11.6	101	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/24/01 9:32:14 AM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010324C** SeqNo: **92076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	22.46	0.21	10.7	11.6	102	70	130	22.4	0.263	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103452-01A MS** Batch ID: **3529** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 11:31:05 AM** Prep Date: **3/17/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.322	0.1	2	0	116	70	130	0			
Barium	1.13	0.01	1	0.08743	104	70	130	0			
Beryllium	1.068	0.001	1	0	107	70	130	0			
Boron	1.143	0.05	1	0	114	70	130	0			
Cadmium	1.022	0.001	1	0	102	70	130	0			
Chromium	1.034	0.01	1	0	103	70	130	0			
Cobalt	0.9984	0.01	1	0	99.8	70	130	0			
Copper	1.014	0.01	1	0	101	70	130	0			
Molybdenum	1.066	0.01	1	0.01826	105	70	130	0			
Nickel	0.9812	0.01	1	0	98.1	70	130	0			
Silver	0.09358	0.01	0.09	0	104	70	130	0			
Vanadium	1.082	0.01	1	0	108	70	130	0			
Zinc	1.061	0.05	1	0	106	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0103452-01A MSD** Batch ID: **3529** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 11:34:23 AM** Prep Date: **3/17/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.37	0.1	2	0	118	70	130	2.322	2.05	20	
Barium	1.156	0.01	1	0.08743	107	70	130	1.13	2.31	20	
Beryllium	1.091	0.001	1	0	109	70	130	1.068	2.1	20	
Boron	1.177	0.05	1	0	118	70	130	1.143	2.88	20	
Cadmium	1.045	0.001	1	0	105	70	130	1.022	2.2	20	
Chromium	1.056	0.01	1	0	106	70	130	1.034	2.05	20	
Cobalt	1.02	0.01	1	0	102	70	130	0.9984	2.17	20	
Copper	1.041	0.01	1	0	104	70	130	1.014	2.61	20	
Molybdenum	1.09	0.01	1	0.01826	107	70	130	1.066	2.29	20	
Nickel	1.016	0.01	1	0	102	70	130	0.9812	3.48	20	
Silver	0.09578	0.01	0.09	0	106	70	130	0.09358	2.32	20	
Vanadium	1.104	0.01	1	0	110	70	130	1.082	1.97	20	
Zinc	1.088	0.05	1	0	109	70	130	1.061	2.49	20	

Sample ID: **0103452-01A MS** Batch ID: **3524** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/26/01** Prep Date: **3/16/01**
Client ID: Run ID: **GFAA001_010326C** SeqNo: **91878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0213	0.005	0.02	0	106	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3524** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/26/01** Prep Date: **3/16/01**
Client ID: Run ID: **GFAA001_010326C** SeqNo: **91879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0208	0.005	0.02	0	104	70	130	0.0213	2.38	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103452-01A MS** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/20/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010320A** SeqNo: **90348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.00776	0.001	0.01	0	77.6	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/20/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010320A** SeqNo: **90349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.00793	0.001	0.01	0	79.3	70	130	0.00776	2.17	20	

Sample ID: **0103452-01A MS** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/21/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010321A** SeqNo: **90496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0241	0.005	0.02	0	120	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/21/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010321A** SeqNo: **90497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0238	0.005	0.02	0	119	70	130	0.0241	1.25	20	

Sample ID: **0103452-01A MS** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/23/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010323A** SeqNo: **90961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.02349	0.003	0.02	0	117	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0103452-01A MSD** Batch ID: **3524** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/23/01** Prep Date: **3/16/01**
Client ID: Run ID: **GFAA001_010323A** SeqNo: **90962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.02143	0.003	0.02	0	107	70	130	0.02349	9.17	20	

Sample ID: **0103452-01A MS** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/27/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010327B** SeqNo: **92438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0242	0.002	0.02	0	121	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/27/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010327B** SeqNo: **92439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0244	0.002	0.02	0	122	70	130	0.0242	0.823	20	

Sample ID: **0103452-01A MS** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/28/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010328A** SeqNo: **92500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0217	0.005	0.02	0	108	70	130	0			

Sample ID: **0103452-01A MSD** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/28/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010328A** SeqNo: **92501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0207	0.005	0.02	0	103	70	130	0.0217	4.72	20	

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103465-01AMS** Batch ID: **3552** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319E** SeqNo: **89456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00525	0.0002	0.005	0	105	70	130	0			

Sample ID: **0103465-01AMSD** Batch ID: **3552** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319E** SeqNo: **89457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00538	0.0002	0.005	0	108	70	130	0.00525	2.45	20	

Sample ID: **0103452-01AMS** Batch ID: **3553** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319F** SeqNo: **89463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00515	0.0002	0.005	0	103	70	130	0			

Sample ID: **0103452-01AMSD** Batch ID: **3553** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319F** SeqNo: **89464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00529	0.0002	0.005	0	106	70	130	0.00515	2.68	20	

Sample ID: **0103461-01A MS** Batch ID: **R8585A** Test Code: **E300** Units: **mg/L** Analysis Date: **3/17/01 4:09:00 AM** Prep Date:
Client ID: Run ID: **IC 1_010316A** SeqNo: **89711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.06	0.2	2	0	103	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
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QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103620-01A MS** Batch ID: **R8804** Test Code: **E300** Units: **mg/L** Analysis Date: **3/28/01** Prep Date:
Client ID: Run ID: **IC 1_010327C** SeqNo: **92550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.4	0.5	2	0	120	80	120	0			
Chloride	36.51	2	20	13.8	114	80	120	0			
Fluoride	2.39	0.4	2	0	120	80	120	0			
Sulfate	33.04	2	20	10.21	114	80	120	0			

Sample ID: **0103439-01A MS** Batch ID: **R8578** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **3/19/01 7:35:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319C** SeqNo: **89555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.17	0.02	0.2	0	85	80	120	0			

Sample ID: **0103439-01A MSD** Batch ID: **R8578** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **3/19/01 7:35:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319C** SeqNo: **89557**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.16	0.02	0.2	0	80	80	120	0.17	6.06	10	

Sample ID: **0103376-01A MS** Batch ID: **R8507** Test Code: **E350.3** Units: **mg/L** Analysis Date: **3/16/01 9:30:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010316A** SeqNo: **88546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	9.45	0.5	10	0	94.5	80	120	0			

Sample ID: **0103376-01A MSD** Batch ID: **R8507** Test Code: **E350.3** Units: **mg/L** Analysis Date: **3/16/01 9:30:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010316A** SeqNo: **88547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	9.61	0.5	10	0	96.1	80	120	9.45	1.68	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0103452-01A MS** Batch ID: **R8526** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 5:15:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316C** SeqNo: **88821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	0.591	0.1	0.5	0	118	80	120	0			

Sample ID: **0103455-01A MS** Batch ID: **R8515** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 1:45:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316B** SeqNo: **89544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.531	0.2	0.5	0	106	80	120	0			

Sample ID: **0103464-03A MS** Batch ID: **R8562A** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **3/19/01 9:45:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319B** SeqNo: **89342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.503	0.05	0.5	0	101	75	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

Date: *05-Apr-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-3522** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/19/01 12:15:52 PM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010319C** SeqNo: **89956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	20.36	2	21	0	96.9	85	115	0			
Magnesium	21.33	2	21	0	102	85	115	0			
Potassium	19.31	2	20	0	96.5	85	115	0			
Sodium	19.74	2	20	0	98.7	85	115	0			

Sample ID: **LCS-3522** Batch ID: **3522** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/24/01 9:25:33 AM** Prep Date: **3/16/01**
Client ID: Run ID: **ICP001_010324C** SeqNo: **92073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	10.63	0.21	10.7	0	99.4	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-3529** Batch ID: **3529** Test Code: **E200.7** Units: **mg/L** Analysis Date: **3/21/01 12:20:41 PM** Prep Date: **3/17/01**
Client ID: Run ID: **ICP001_010321A** SeqNo: **90186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.077	0.1	2	0	104	85	115	0			
Barium	0.9842	0.01	1	0	98.4	85	115	0			
Beryllium	1.014	0.001	1	0	101	85	115	0			
Boron	1.002	0.05	1	0	100	85	115	0			
Cadmium	0.9714	0.001	1	0	97.1	85	115	0			
Chromium	0.9762	0.01	1	0	97.6	85	115	0			
Cobalt	0.965	0.01	1	0	96.5	85	115	0			
Copper	0.936	0.01	1	0	93.6	85	115	0			
Molybdenum	0.9898	0.01	1	0	99	85	115	0			
Nickel	0.9563	0.01	1	0	95.6	85	115	0			
Silver	0.09559	0.01	0.09	0	106	85	115	0			
Vanadium	1.007	0.01	1	0	101	85	115	0			
Zinc	0.9691	0.05	1	0	96.9	85	115	0			

Sample ID: **LCS-3524** Batch ID: **3524** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/26/01** Prep Date: **3/16/01**
Client ID: Run ID: **GFAA001_010326C** SeqNo: **91876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.019	0.005	0.02	0	95	85	115	0			

Sample ID: **LCS-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/20/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010320A** SeqNo: **90346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.00959	0.001	0.01	0	95.9	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

ED_004888_00033250-00261

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/21/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010321A** SeqNo: **90481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0206	0.005	0.02	0	103	85	115	0			

Sample ID: **LCS-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/23/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010323A** SeqNo: **90959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.02157	0.003	0.02	0	108	85	115	0			

Sample ID: **LCS-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/27/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010327B** SeqNo: **92436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0221	0.002	0.02	0	110	85	115	0			

Sample ID: **LCS-3530** Batch ID: **3530** Test Code: **E200.9** Units: **mg/L** Analysis Date: **3/28/01** Prep Date: **3/17/01**
Client ID: Run ID: **GFAA001_010328A** SeqNo: **92498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0215	0.005	0.02	0	108	85	115	0			

Sample ID: **LCS-3552** Batch ID: **3552** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319E** SeqNo: **89452**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00541	0.0002	0.005	0	108	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00262

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-3553** Batch ID: **3553** Test Code: **E245.1** Units: **mg/L** Analysis Date: **3/19/01 4:20:02 PM** Prep Date: **3/19/01**
Client ID: Run ID: **FIMS HG_010319F** SeqNo: **89461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00517	0.0002	0.005	0	103	85	115	0			

Sample ID: **LCS-R8585A** Batch ID: **R8585A** Test Code: **E300** Units: **mg/L** Analysis Date: **3/16/01** Prep Date:
Client ID: Run ID: **IC 1_010316A** SeqNo: **89713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.03	0.2	2	0	101	90	110	0			

Sample ID: **LCS-R8804** Batch ID: **R8804** Test Code: **E300** Units: **mg/L** Analysis Date: **3/28/01** Prep Date:
Client ID: Run ID: **IC 1_010327C** SeqNo: **92539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.17	0.5	2	0	108	90	110	0			
Chloride	19.51	2	20	0	97.6	90	110	0			
Fluoride	2.16	0.4	2	0	108	90	110	0			
Sulfate	20.96	2	20	0	105	90	110	0			

Sample ID: **LCS-R8662** Batch ID: **R8662** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **3/21/01 12:00:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010321A** SeqNo: **90661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	248	6	250	0	99.2	90	110	0			

Sample ID: **LCS-R8560** Batch ID: **R8560** Test Code: **H8167** Units: **mg/L** Analysis Date: **3/16/01 10:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316F** SeqNo: **89288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine	1.06	0.05	1	0	106	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00263

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-R8558** Batch ID: **R8558** Test Code: **M3500-Cr D** Units: **mg/L** Analysis Date: **3/16/01 9:40:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010316D** SeqNo: **89267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	0.054	0.01	0.05	0	108	90	110	0			

Sample ID: **LCS-R8578** Batch ID: **R8578** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **3/19/01 7:35:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319C** SeqNo: **89548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.182	0.02	0.2	0	91	90	110	0			

Sample ID: **LCS-R8507** Batch ID: **R8507** Test Code: **E350.3** Units: **mg/L** Analysis Date: **3/16/01 9:30:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010316A** SeqNo: **88537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	9.73	0.5	10	0	97.3	90	110	0			

Sample ID: **LCS-R8526** Batch ID: **R8526** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 5:15:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316C** SeqNo: **88811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	0.496	0.1	0.5	0	99.2	90	110	0			

Sample ID: **LCS-R8515** Batch ID: **R8515** Test Code: **E365.3** Units: **mg/L** Analysis Date: **3/16/01 1:45:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010316B** SeqNo: **88675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total (As P)	0.995	0.2	1	0	99.5	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00264

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0103463
Project:

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS-R8556** Batch ID: **R8556** Test Code: **E150.1** Units: **pH units** Analysis Date: **3/16/01 2:00:00 PM** Prep Date:
Client ID: Run ID: **PH 1_010316A** SeqNo: **89250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7	2	7	0	100	99.28	100.72	0			

Sample ID: **LCS-R8562A** Batch ID: **R8562A** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **3/19/01 9:45:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010319B** SeqNo: **94117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.525	0.05	0.5	0	105	90	110	0			

Sample ID: **LCS-R8642** Batch ID: **R8642** Test Code: **M2540 C** Units: **mg/L** Analysis Date: **3/19/01 3:05:00 PM** Prep Date:
Client ID: Run ID: **BL002_010319B** SeqNo: **90365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	989	10	1000	0	98.9	90	110	0			

Sample ID: **LCS-R8587** Batch ID: **R8587** Test Code: **E160.2** Units: **mg/L** Analysis Date: **3/20/01 10:30:00 AM** Prep Date:
Client ID: Run ID: **BL002_010320B** SeqNo: **89728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	325	10	319	0	102	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00265

Precision Analytical Laboratories, Inc.

0-103-463

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[ ] North Phoenix- 2020 West Lone Cactus Drive, Phoenix, AZ 85027 (623) 780-4800 FAX (623) 780-7695
[ ] Tucson- 4455 South Park Avenue, Ste.110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

LAB ID NUMBER: ~~0-103-457~~

Page 1 of 2

Client:	Navajo EPA Water Quality Program	E-Mail Address:	nnepawq@cyberport.com
Address:	P.O. Box 1999	Fax Results:	Y (N)
City, State, Zip:	Shiprock, NM 87420	E-Mail Results:	(Y) N
Contact:	Steve Austin		
Phone:	505-368-1037		
Fax:	505-368-1416		
Sampler:	Steve Austin		
P.O. Number:	P180672		

TAT Request

24 Hours 48 Hours
72 Hours 5 Day
Laboratory Approval Required for RUSH Analyses Surcharges May Apply
(Standard 10 Day)

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty	200.7 - Dissolved Metals (Listed Below)	245.1 - Dissolved Mercury	200.9 - Dissolved Sb, As, Pb, Se, Tl	Dissolved Hex Chromium, Diss Cr III	Total Mercury 245.1, Total Selenium 200.9 Total Ca, Mg, K, Na, SiO2- 200.7	T. Residual Chlorine, Nitrate, pH	Orthophosphate	Cyanide	Sulfide	Ammonia, T. Phosphorus	Alk, Br, Cl, F, SO4, TDS, TSS	Cation Anion Balance	Ca Hardness
01	H_2O	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	8	X	X	X	X	X	X	X	X	X	X	X	X	X
		1ØCOVEWASHØ9	3/12/01	1230														

Project Name: ~~[illegible]~~

Project Number:

Instructions/Special Requirements: NNEPA Inorganic Suite

200.7 - Dissolved Metals: Al,Ba,Be,B,Cd,Cr,Co,Cu,Mo,Ni,Ag,V,Zn "Report J flags"

Dissolved Constituents are Field Filtered

Date	Time	Relinquished By:	Company	Received By:	Company
3/14/01	1700	[signature]	NNEPA	[signature]	FEDEX
3/16/01	0855	Fedex		[signature]	

ED_004888_00033250-00266

Precision Analytical Laboratories, Inc.

0103463

[X] Main Lab- 1725 West 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix- 2020 West Lone Cactus Drive, Phoenix, AZ 85027 (623) 780-4800 FAX (623) 780-7695
[ ] Tucson- 4455 South Park Avenue, Ste.110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

LAB ID NUMBER: [redacted]

Page 2 of 2

Client:	Navajo EPA Water Quality Program	E-Mail Address:	nnepaing@cyberport.com
Address:	P.O. Box 1999	Fax Results:	Y (N)
City, State, Zip:	Shiprock, NM 87420	E-Mail Results:	(Y) N
Contact:	Steve Austin		
Phone:	505-368-1077		
Fax:	505-368-1416		
Sampler:	Steve Austin		
P.O. Number:	PI 80672		

TAT Request

24 Hours 48 Hours
72 Hours 5 Day
Laboratory Approval Required for RUSH Analyses
Surcharges May Apply
Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty	Gross Alpha	Radium 226+228	Tritium	Uranium (as metal)
a	H_2O	[redacted]	[redacted]		3	X	X	X	X
		1ØCOVEWASHØ9	3/12/01	1230	↗				

Project Name: [redacted]

Project Number:

Instructions/Special Requirements:

Date	Time	Relinquished By:	Company	Relinquished By:	Company
3/14/01	1700	[signature]	NNEPA	[signature]	FEDEX
3/16/01	0855	FedEX		[signature]	PAL

ED_004888_00033250-00267

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Precision Analytical Laboratories, Inc.

Samples Received: March 16, 2001
Analyses Completed: April 2, 2001

Sample ID	Gross Alpha Activity method 600/00-02 (pCi/L)	Tritium Activity method 906 (pCi/L)	Radium 226 Activity method 903.1 (pCi/L)	Radium 228 Activity method 904 (pCi/L)	Total Radium Activity (pCi/L)
0-103-463-01	26.8 ± 2.9	< 361	< 0.2	< 0.4	< 0.4

Pierre Pouquette, Staff Chemist

Precision Analytical Laboratories, Inc.

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LAB ID NUMBER:

Page ____ of ____

Client: PAL	E-Mail Address:
Address:	Fax Results: Y N
City, State, Zip:	E-Mail Results: Y N
Contact: M. Smith	**TAT Request**
Phone:	24 Hours 48 Hours
Fax:	72 Hours 5 Day
Sampler:	Laboratory Approval Required for RUSH Analyses Surcharges May Apply
P.O. Number:	Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty														
		10 COUL WASH Ø9	3/12/01	1230	2	Y	N	N						0	103	46331			
		12048																	

Project Name:	Instructions/Special Requirements:
Project Number: 0103-463	Received

Date	Time	Relinquished By:	Company	Relinquished By:	Company
3/16/01	1:00	[signature]		[signature]	TSD
3-16-01	14:00	[signature]	TSD	[signature]	PSE 1C

WEST COAST
ANALYTICAL
SERVICE, INC.
Analytical Chemists

March 26, 2001

Precision Analytical Laboratories
1725 West 17th Street
Tempe, AZ 85281

Attn: Marcia Smith

Job No: 51864 DL

LABORATORY REPORT

Samples Received: One (1) Sample
Date Received: 03/20/2001
Purchase Order No: 0-103-463

The sample was analyzed as follows:

Analysis	Page
Uranium by ICPMS	2

D. J. Northington, Ph.D. Quality Assurance Officer	Charles Jacks, Ph.D. Senior Staff Chemist

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ED_004888_00033250-00270

WEST COAST ANALYTICAL SERVICE, INC.

Precision Analytical Laboratories
Attn: Marcia Smith

Job No: 51864
March 26, 2001

Uranium
Quantitative Analysis Report
Inductively Coupled Plasma-Mass Spectrometry

Parts Per Million (mg/L)

Sample ID	Uranium
10COVEWASH09	0.01
Detection Limit:	0.0001

Date Analyzed: 3-21-01

Quality Control Summary

Sample: Batch QC

Parts Per Million (mg/L)

	Uranium
Sample:	0.032
Spike Conc:	0.05
MS Result:	0.082
% Recovery	100
MSD Result:	0.084
% Recovery	104
Spike RPD:	2.4

Date Analyzed: 3-21-01

Sample: Laboratory Fortified Blank (LFB)

Parts Per Million (mg/L)

Element	Blank	Spike Conc.	LFB	% Recovery
Uranium	ND	0.0	0.049	98

Date Analyzed: 3-21-01

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WCAS

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[ ] Tucson- 4455 South Park Avenue, Ste.110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
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LAB ID NUMBER:

Page ____ of ____

Client:	E-Mail Address:
Address:	Fax Results: Y N
City, State, Zip:	E-Mail Results: Y N
Contact:	**TAT Request**
Phone:	24 Hours 48 Hours
Fax:	72 Hours 5 Day
Sampler:	Laboratory Approval Required for RUSH Analyses Surcharges May Apply
P.O. Number:	Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty

Project Name:	Instructions/Special Requirements:
Project Number:	

Date	Time	Relinquished By:	Company	Relinquished By:	Company

№ 51864

ED_004888_00033250-00272

Precision Analytical Laboratories, Inc.
A Division of Aerotech Laboratories, Inc.

10COVEWASH09
8/6/01

RECEIVED
SEP 13 2001
NNEPA-WATER QUALITY PROGRAM

September 09, 2001

Steve Austin
Navajo Nation EPA Water Quality Program
P.O. Box 1999
Shiprock, NM 87420
TEL: (505) 368-1037
FAX (505) 368-1416

Handout ✓
2/24/05

RE: 305(b)

Order No.: 0108158

Dear Steve Austin:

Precision Analytical Laboratories, Inc. received 1 sample on 8/7/01 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Marcia A. Smith

Marcia A. Smith
Vice President - Client Services

CC:

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Project: 305(b)
Lab Order: 0108158

CASE NARRATIVE

Data Qualifiers:

Listed below are data qualifiers which may be used in your analytical report to explain any analytical or quality control issues. If one or more of the following data qualifiers is associated with your analytical or quality control data it will be noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

B1 Target analyte detected in method blank at or above the method reporting limit.
D1 Sample required dilution due to matrix interference.
D2 Sample required dilution due to high concentration of target analyte.
D3 Sample dilution required due to insufficient sample.
D4 Minimum reporting level (MRL) adjusted to reflect sample amount received and analyzed.
E1 Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
E2 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E3 Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to holding time requirements.
E4 Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
E6 Concentration estimated. Internal standard recoveries did not meet method acceptance criteria.
E7 Concentration estimated. Internal standard recoveries did not meet laboratory acceptance criteria.
H1 Sample analysis performed past holding time. See case narrative.
H2 Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3 Sample was received and analyzed past holding time.
H4 Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
K1 The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/L. The reported result is an estimated value.
K2 The sample dilutions set up for the BOD analysis failed to meet the criteria of a residual dissolved oxygen of at least 1 mg/L. The reported result is estimated.
L1 The associated blank spike recovery was above laboratory acceptance limits. See case narrative.
L2 The associated blank spike recovery was below laboratory acceptance limits. See

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ED_004888_00033250-00274

case narrative.

M1 Matrix spike recovery was high, the method control sample recovery was acceptable.

M2 Matrix spike recovery was low, the method control sample recovery was acceptable.

M3 The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

M4 The analysis of the spiked sample required a dilution such that the spike concentration was diluted below the reporting limit. The method control sample recovery was acceptable.

M5 Analyte concentration was determined by the method of standard addition (MSA).

N1 See case narrative.

Q1 Sample integrity was not maintained. See case narrative.

Q2 Sample received with head space.

Q3 Sample received with improper chemical preservation.

Q5 Sample received without chemical preservation, but preserved by the laboratory.

Q6 Sample was received above recommended temperature.

Q7 Sample inadequately dechlorinated.

Q8 Insufficient sample received to meet method QC requirements. QC requirements satisfy ADEQ policies 0154 and 0155.

Q10 Sample received in inappropriate sample container.

Q11 Sample is heterogeneous. Sample homogeneity could not be readily achieved using routine laboratory practices.

R2 RPD exceeded the laboratory control limit. See case narrative.

R3 Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the higher value was reported.

R4 RPD exceeded the method control limit. Recovery met acceptance criteria.

R5 RPD exceeded the laboratory control limit. Recovery met acceptance criteria.

S2 Surrogate recovery was above laboratory and method acceptance limits.

S4 Surrogate recovery was above laboratory and method acceptance limits. No target analytes were detected in the sample.

S6 Surrogate recovery was below laboratory and method acceptance limits. Reextraction and/or reanalysis confirms low recovery caused by matrix effect.

S7 Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect.

S9 The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria. The method control sample recovery was acceptable.

S10 Surrogate recovery was above laboratory and method acceptance limits. See case narrative (N1).

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ED_004888_00033250-00275

CLIENT: Navajo Nation EPA Water Quality Program
Project: 305(b)
Lab Order: 0108158

CASE NARRATIVE

T2 Cited ADHS licensed method does not contain this analyte as part of method compound list.
T4 Tentatively identified compound. Concentration is estimated and based on the closest internal standard.
V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.
V2 CCV recovery was above method acceptance limits. This target analyte was detected in the sample. The sample could not be reanalyzed due to insufficient sample.
V5 CCV recovery after a group of samples was above acceptance limits. This target analyte was not detected in the sample. Acceptable per EPA Method 8000B.

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992 and 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1995. Appendix A to Part 136- Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Precision Analytical Laboratories, Inc (PAL) holds the following certifications:
Arizona (certification no. AZ0610) and California (I-2410).
PAL- Tucson laboratory Arizona certification number: AZ0609.

PAL participates in the AIHA Proficiency Analytical Testing (PAT) program for metals, solvents, and formaldehyde.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

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ED_004888_00033250-00276

CLIENT: Navajo Nation EPA Water Quality Program
Project: 305(b)
Lab Order: 0108158

CASE NARRATIVE

Radiochemistry analyses were performed by Radiation Safety in Chandler, AZ. Uranium analysis was performed by West Coast Analytical in Santa Fe Springs, CA. Copies of their reports are enclosed.

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ED_004888_00033250-00277

Precision Analytical Laboratories, Inc.

A Division of Aerotech Laboratories, Inc.

Date: *09-Sep-01*

CLIENT:	Navajo Nation EPA Water Quality Program	**Client Sample ID:**	10COVEWASH09
Lab Order:	0108158	**Tag Number:**	
Project:	305(b)	**Collection Date:**	8/6/01 12:30:00 PM
Lab ID:	0108158-01A	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP METALS, TOTAL RECOVERABLE		**E200.7**				Analyst: **MK**
Calcium	28	2.0		mg/L	1	8/8/01 2:57:11 PM
Hardness, Calcium/Magnesium (As CaCO3)	110	13		mg/L	1	8/8/01 2:57:11 PM
Magnesium	8.9	2.0		mg/L	1	8/8/01 2:57:11 PM
Potassium	5.9	2.0		mg/L	1	8/8/01 2:57:11 PM
Silica (Silicon dioxide-SiO2)	34	0.21		mg/L	1	8/10/01 3:35:26 PM
Sodium	230	10		mg/L	5	8/9/01 2:38:38 PM
ICP METALS, DISSOLVED		**E200.7**				Analyst: **MK**
Aluminum	0.06	0.10	J	mg/L	1	8/8/01 1:52:00 PM
Barium	0.19	0.010		mg/L	1	8/8/01 1:52:00 PM
Beryllium	< 0.0010	0.0010		mg/L	1	8/8/01 1:52:00 PM
Boron	0.39	0.050		mg/L	1	8/8/01 1:52:00 PM
Cadmium	< 0.0010	0.0010		mg/L	1	8/10/01 6:47:09 AM
Chromium	< 0.010	0.010		mg/L	1	8/8/01 1:52:00 PM
Cobalt	< 0.010	0.010		mg/L	1	8/8/01 1:52:00 PM
Copper	< 0.010	0.010		mg/L	1	8/8/01 1:52:00 PM
Molybdenum	< 0.010	0.010		mg/L	1	8/10/01 6:47:09 AM
Nickel	< 0.010	0.010		mg/L	1	8/8/01 1:52:00 PM
Silver	< 0.010	0.010		mg/L	1	8/8/01 1:52:00 PM
Vanadium	0.046	0.010		mg/L	1	8/8/01 1:52:00 PM
Zinc	< 0.050	0.050		mg/L	1	8/8/01 1:52:00 PM
GFAA METALS, TOTAL		**E200.9**				Analyst: **HLO**
Selenium	0.001	0.0050	J	mg/L	1	8/13/01
GFAA METALS, DISSOLVED		**E200.9**				Analyst: **HLO**
Antimony	< 0.0030	0.0030		mg/L	1	8/10/01
Arsenic	0.021	0.0050		mg/L	1	8/9/01
Lead	< 0.0020	0.0020		mg/L	1	8/10/01
Selenium	< 0.0050	0.0050		mg/L	1	8/9/01
Thallium	< 0.0010	0.0010		mg/L	1	8/10/01
MERCURY, TOTAL		**E245.1**				Analyst: **CU**
Mercury	< 0.00020	0.00020		mg/L	1	8/9/01 4:09:20 PM
MERCURY, DISSOLVED		**E245.1**				Analyst: **CU**
Mercury	< 0.00020	0.00020		mg/L	1	8/9/01 4:09:20 PM
NITROGEN, NITRATE AS N		**E300**				Analyst: **GL**
Nitrate-N	< 0.20	0.20		mg/L	1	8/7/01 4:51:00 PM
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **GL**
Bromide	< 0.50	0.50		mg/L	1	8/10/01

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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ED_004888_00033250-00278

Precision Analytical Laboratories, Inc.

A Division of Aerotech Laboratories, Inc.

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Lab Order: 0108158
Project: 305(b)
Lab ID: 0108158-01A

Client Sample ID: 10COVEWASH09
Tag Number:
Collection Date: 8/6/01 12:30:00 PM
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
Chloride	33	2.0		mg/L	1	8/10/01
Fluoride	0.41	0.40		mg/L	1	8/10/01
Sulfate	53	4.0	D2	mg/L	2	8/10/01
ALKALINITY		**M2320 B**				Analyst: **LD**
Alkalinity, Bicarbonate (As CaCO3)	430	2.0		mg/L CaCO3	1	8/8/01 2:15:00 PM
Alkalinity, Carbonate (As CaCO3)	72	2.0		mg/L CaCO3	1	8/8/01 2:15:00 PM
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2.0		mg/L CaCO3	1	8/8/01 2:15:00 PM
Alkalinity, Total (As CaCO3)	500	6.0		mg/L CaCO3	1	8/8/01 2:15:00 PM
CHLORINE, TOTAL RESIDUAL		**H8167**				Analyst: **NG**
Chlorine, Total Residual	< 0.050	0.050		mg/L	1	8/7/01 10:10:00 AM
CHROMIUM, TRIVALENT DISSOLVED		**CALC**				Analyst: **RAJ**
Chromium III	< 0.010	0.010		mg/L	1	8/16/01
CHROMIUM, HEXAVALENT DISSOLVED		**M3500-CR D**				Analyst: **VDB**
Chromium VI	< 0.010	0.010		mg/L	1	8/7/01 10:10:00 AM
CYANIDE, TOTAL		**M4500-CN CE**				Analyst: **VDB**
Cyanide, Total	< 0.020	0.020		mg/L	1	8/9/01 8:00:00 AM
CATION/ANION BALANCE		**CALC**				Analyst: **LH**
Cation/Anion Balance	0.973	0			1	8/17/01
NITROGEN, AMMONIA AS N		**E350.3**				Analyst: **LD**
Ammonia-N	< 0.50	0.50		mg/L	1	8/14/01 10:00:00 AM
PHOSPHATE, TOTAL ORTHOPHOSPHATE AS P		**M4500-P E**				Analyst: **RAJ**
Orthophosphate - P	0.16	0.10		mg/L	1	8/7/01 5:00:00 PM
PHOSPHOROUS, TOTAL AS P		**M4500-P B**				Analyst: **PM**
Phosphorus, Total - P	< 0.20	0.20		mg/L	1	8/13/01 1:00:00 PM
PH		**E150.1**				Analyst: **RAJ**
pH	9.01	2.00		pH units	1	8/7/01 7:15:00 PM
SULFIDE, TOTAL		**M4500-S D**				Analyst: **LD**
Sulfide	< 0.050	0.050		mg/L	1	8/7/01 3:00:00 PM
RESIDUE, FILTERABLE		**M2540 C**				Analyst: **VDB**
Total Dissolved Solids	880	10		mg/L	1	8/7/01 2:00:00 PM
RESIDUE, NONFILTERABLE		**E160.2**				Analyst: **VDB**
Total Suspended Solids	26	10		mg/L	1	8/7/01 12:45:00 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

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Precision Analytical Laboratories, Inc.
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Date: 8/17/01

Anion/Cation Balance Check

Sample No: 0108158

ION	ABBREV.	RESULT (mg/L)	FACTOR	CATIONS (meq/L)	ANIONS (meq/L)
Aluminum	Al	0.06	0.1112	0.006672	
Ammonia	NH4	0	0.05544	0	
Calcium	CA	28	0.0499	1.3972	
Chloride	CL	33	0.02821		0.93093
Carbonate	CO3	72	0.03333		2.39976
Bicarbonate	HCO3	430	0.01639		7.0477
Copper	CU	0	0.03147	0	
Fluoride	F	0.41	0.05264		0.0215824
Potassium	K	5.9	0.02558	0.150922	
Magnesium	MG	8.9	0.08229	0.732381	
Sodium	NA	230	0.0435	10.005	
Nitrate	NO3	0	0.01613		0
Silicate	SiO3 2-	43.18	0.02629		1.1352022
Sulfate	SO4	53	0.02082		1.10346
Total		904.39		12.292175	12.6386346
Cation/Anion Ratio				0.97258726	

Criteria: 0.9-1.1

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Precision Analytical Laboratories, Inc.

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 2:22:12 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	< 2.0	2									
Hardness, Calcium/Magnesium (As Ca	< 13	13									
Magnesium	< 2.0	2									
Potassium	< 2.0	2									
Sodium	< 2.0	2									

Sample ID: **MB-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:13:49 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	< 2.0	2									

Sample ID: **MB-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/10/01 3:17:07 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010810C** SeqNo: **138689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	< 0.21	0.21									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-5017** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 1:29:52 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	< 0.10	0.1									
Barium	< 0.010	0.01									
Beryllium	< 0.0010	0.001									
Boron	< 0.050	0.05									
Chromium	< 0.010	0.01									
Cobalt	< 0.010	0.01									
Copper	< 0.010	0.01									
Nickel	< 0.010	0.01									
Silver	< 0.010	0.01									
Vanadium	< 0.010	0.01									
Zinc	< 0.050	0.05									

Sample ID: **MB-5017** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:41:31 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	< 0.0010	0.001									
Molybdenum	< 0.010	0.01									

Sample ID: **MB-5014** Batch ID: **5014** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	< 0.0050	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00282

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	< 0.0050	0.005									

Sample ID: **MB-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010809A** SeqNo: **137997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	< 0.0050	0.005									

Sample ID: **MB-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010810A** SeqNo: **138278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	< 0.0010	0.001									

Sample ID: **MB-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810A** SeqNo: **138623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	< 0.0030	0.003									

Sample ID: **MB-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810B** SeqNo: **138963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	< 0.0020	0.002									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00283

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-5048** Batch ID: **5048** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809A** SeqNo: **138102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.0002									

Sample ID: **MB-5050** Batch ID: **5050** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809C** SeqNo: **138125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	< 0.00020	0.0002									

Sample ID: **MB-R12286** Batch ID: **R12286** Test Code: **E300** Units: **mg/L** Analysis Date: **8/7/01 2:48:00 PM** Prep Date:
Client ID: Run ID: **IC 1_010807A** SeqNo: **137078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	< 0.20	0.2									

Sample ID: **MB-R12372** Batch ID: **R12372** Test Code: **E300** Units: **mg/L** Analysis Date: **8/10/01** Prep Date:
Client ID: Run ID: **IC 1_010809C** SeqNo: **138306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	< 0.50	0.5									
Chloride	< 2.0	2									
Fluoride	< 0.40	0.4									
Sulfate	< 2.0	2									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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ED_004888_00033250-00284

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-R12311** Batch ID: **R12311** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **8/8/01 2:15:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010808A** SeqNo: **137485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	< 2.0	2									
Alkalinity, Carbonate (As CaCO3)	< 2.0	2									
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2									
Alkalinity, Total (As CaCO3)	< 6.0	6									

Sample ID: **MB-R12266** Batch ID: **R12266** Test Code: **H8167** Units: **mg/L** Analysis Date: **8/7/01 10:10:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010807C** SeqNo: **136812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine, Total Residual	< 0.050	0.05									

Sample ID: **MB-R12275** Batch ID: **R12275** Test Code: **M3500-Cr D** Units: **mg/L** Analysis Date: **8/7/01 10:10:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010807G** SeqNo: **136930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium, Dissolved	< 0.010	0.01									

Sample ID: **MB-R12332** Batch ID: **R12332** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **8/9/01 8:00:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010809A** SeqNo: **137789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	< 0.020	0.02									

Sample ID: **MB-R12464** Batch ID: **R12464** Test Code: **E350.3** Units: **mg/L** Analysis Date: **8/14/01 10:00:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010814B** SeqNo: **139402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia-N	< 0.50	0.5									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00285

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-R12274** Batch ID: **R12274** Test Code: **M4500-P E** Units: **mg/L** Analysis Date: **8/7/01 5:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807F** SeqNo: **136916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	< 0.10	0.1									

Sample ID: **MB-R12437** Batch ID: **R12437** Test Code: **M4500-P B** Units: **mg/L** Analysis Date: **8/13/01 1:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010813C** SeqNo: **139104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus,Total	< 0.20	0.2									

Sample ID: **MB-R12264** Batch ID: **R12264** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **8/7/01 3:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807B** SeqNo: **136787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	< 0.050	0.05									

Sample ID: **MB-R12318** Batch ID: **R12318** Test Code: **M2540 C** Units: **mg/L** Analysis Date: **8/7/01 2:00:00 PM** Prep Date:
Client ID: Run ID: **BL002_010807D** SeqNo: **137561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dissolved Solids (Residue, Filterable)	< 10	10									

Sample ID: **MB-R12288** Batch ID: **R12288** Test Code: **E160.2** Units: **mg/L** Analysis Date: **8/7/01 12:45:00 PM** Prep Date:
Client ID: Run ID: **BL002_010807B** SeqNo: **137092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 10	10									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00286

Precision Analytical Laboratories, Inc.

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0108163-01A DUP** Batch ID: **R12286** Test Code: **E300** Units: **mg/L** Analysis Date: **8/7/01 5:43:00 PM** Prep Date:
Client ID: Run ID: **IC 1_010807A** SeqNo: **137088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	< 0.20	0.2	0	0	0	0	0	0.2	0	20	

Sample ID: **0108579-01A DUP** Batch ID: **R12372** Test Code: **E300** Units: **mg/L** Analysis Date: **8/10/01** Prep Date:
Client ID: Run ID: **IC 1_010809C** SeqNo: **138319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	< 0.50	0.5	0	0	0	0	0	0	0	20	
Chloride	< 2.0	2	0	0	0	0	0	0	0	20	
Fluoride	< 0.40	0.4	0	0	0	0	0	0	0	20	
Sulfate	< 2.0	2	0	0	0	0	0	0	0	20	

Sample ID: **0108144-01A DUP** Batch ID: **R12311** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **8/8/01 2:15:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010808A** SeqNo: **137497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	96	2	0	0	0	0	0	96	0	20	
Alkalinity, Carbonate (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	< 2.0	2	0	0	0	0	0	0	0	20	
Alkalinity, Total (As CaCO3)	96	6	0	0	0	0	0	96	0	20	

Sample ID: **0108158-01A DUP** Batch ID: **R12266** Test Code: **H8167** Units: **mg/L** Analysis Date: **8/7/01 10:10:00 AM** Prep Date:
Client ID: **10COVEWASH09** Run ID: **SPEC 1_010807C** SeqNo: **136818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine, Total Residual	< 0.050	0.05	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00287

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0108158-01A DUP** Batch ID: **R12275** Test Code: **M3500-Cr D** Units: **mg/L** Analysis Date: **8/7/01 10:10:00 AM** Prep Date:
Client ID: **10COVEWASH09** Run ID: **SPEC 1_010807G** SeqNo: **136931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium, Dissolved	< 0.010	0.01	0	0	0	0	0	0	0	20	

Sample ID: **0108155-01A DUP** Batch ID: **R12274** Test Code: **M4500-P E** Units: **mg/L** Analysis Date: **8/7/01 5:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807F** SeqNo: **136922**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	< 0.10	0.1	0	0	0	0	0	0	0	20	

Sample ID: **0108206-01A DUP** Batch ID: **R12437** Test Code: **M4500-P B** Units: **mg/L** Analysis Date: **8/13/01 1:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010813C** SeqNo: **139115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus,Total	< 0.20	0.2	0	0	0	0	0	0	0	20	

Sample ID: **0108185-01A DUP** Batch ID: **R12272** Test Code: **E150.1** Units: **pH units** Analysis Date: **8/7/01 7:15:00 PM** Prep Date:
Client ID: Run ID: **PH 1_010807A** SeqNo: **136910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.72	2	0	0	0	0	0	7.71	0.13	10	

Sample ID: **0108158-01A DUP** Batch ID: **R12264** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **8/7/01 3:00:00 PM** Prep Date:
Client ID: **10COVEWASH09** Run ID: **SPEC 1_010807B** SeqNo: **136794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	< 0.050	0.05	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

ED_004888_00033250-00288

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **0108156-01A DUP** Batch ID: **R12318** Test Code: **M2540 C** Units: **mg/L** Analysis Date: **8/7/01 2:00:00 PM** Prep Date:
Client ID: Run ID: **BL002_010807D** SeqNo: **137567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dissolved Solids (Residue, Filterable)	572	10	0	0	0	0	0	580	1.39	20	

Sample ID: **0108155-01A DUP** Batch ID: **R12288** Test Code: **E160.2** Units: **mg/L** Analysis Date: **8/7/01 12:45:00 PM** Prep Date:
Client ID: Run ID: **BL002_010807B** SeqNo: **137104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	< 10	10	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

ED_004888_00033250-00289

Precision Analytical Laboratories, Inc.

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108194-01A MS** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 2:32:07 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	67.55	2	21	41.29	125	70	130	0			
Magnesium	22.01	2	21	0	105	70	130	0			

Sample ID: **0108194-01A MSD** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 2:35:23 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	62.91	2	21	41.29	103	70	130	67.55	7.1	20	
Magnesium	20.64	2	21	0	98.3	70	130	22.01	6.42	20	

Sample ID: **0108194-01A MS** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:23:09 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	20.93	10	20	0	105	70	130	0			
Sodium	258.5	10	20	236.4	110	70	130	0			

Sample ID: **0108194-01A MSD** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:26:10 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	21.07	10	20	0	105	70	130	20.93	0.672	20	
Sodium	257.6	10	20	236.4	106	70	130	258.5	0.364	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108194-01A MS** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/10/01 3:24:01 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010810C** SeqNo: **138692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	24.4	0.21	10.7	13.1	106	70	130	0			

Sample ID: **0108194-01A MSD** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/10/01 3:26:15 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010810C** SeqNo: **138693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	24.4	0.21	10.7	13.1	106	70	130	24.4	0	20	

Sample ID: **0108155-01A MS** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 1:39:36 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.165	0.1	2	0	108	70	130	0			
Barium	1.106	0.01	1	0.136	97	70	130	0			
Beryllium	0.9598	0.001	1	0	96	70	130	0			
Boron	1.197	0.05	1	0.1219	108	70	130	0			
Chromium	0.9211	0.01	1	0	92.1	70	130	0			
Cobalt	0.9124	0.01	1	0	91.2	70	130	0			
Copper	0.9591	0.01	1	0	95.9	70	130	0			
Nickel	0.9088	0.01	1	0	90.9	70	130	0			
Silver	0.08154	0.01	0.09	0	90.6	70	130	0			
Vanadium	0.9676	0.01	1	0.01068	95.7	70	130	0			
Zinc	0.994	0.05	1	0	99.4	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00291

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0108155-01A MSD** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 1:42:50 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.304	0.1	2	0	115	70	130	2.165	6.26	20	
Barium	1.168	0.01	1	0.136	103	70	130	1.106	5.44	20	
Beryllium	1.017	0.001	1	0	102	70	130	0.9598	5.8	20	
Boron	1.278	0.05	1	0.1219	116	70	130	1.197	6.48	20	
Chromium	0.9725	0.01	1	0	97.2	70	130	0.9211	5.42	20	
Cobalt	0.9489	0.01	1	0	94.9	70	130	0.9124	3.92	20	
Copper	1.019	0.01	1	0	102	70	130	0.9591	6.01	20	
Nickel	0.9572	0.01	1	0	95.7	70	130	0.9088	5.18	20	
Silver	0.0869	0.01	0.09	0	96.6	70	130	0.08154	6.37	20	
Vanadium	1.021	0.01	1	0.01068	101	70	130	0.9676	5.4	20	
Zinc	1.047	0.05	1	0	105	70	130	0.994	5.17	20	

Sample ID: **0108155-01A MS** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:50:41 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.9043	0.001	1	0	90.4	70	130	0			
Molybdenum	0.8984	0.01	1	0	89.8	70	130	0			

Sample ID: **0108155-01A MSD** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/10/01 6:38:07 AM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.94	0.001	1	0	94	70	130	0.9043	3.88	20	
Molybdenum	0.9514	0.01	1	0	95.1	70	130	0.8984	5.74	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108194-01A MS** Batch ID: **5014** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.01484	0.005	0.02	0	74.2	70	130	0			

Sample ID: **0108194-01A MSD** Batch ID: **5014** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.01479	0.005	0.02	0	73.9	70	130	0.01484	0.337	20	

Sample ID: **0108156-01A MS** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0182	0.005	0.02	0.00188	81.6	70	130	0			

Sample ID: **0108156-01A MSD** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.01787	0.005	0.02	0.00188	80	70	130	0.0182	1.83	20	

Sample ID: **0108156-01A MS** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010809A** SeqNo: **138001**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.02692	0.005	0.02	0.0037	116	70	130	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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ED_004888_00033250-00293

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0108156-01A MSD** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010809A** SeqNo: **138002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.02802	0.005	0.02	0.0037	122	70	130	0.02692	4	20	

Sample ID: **0108156-01A MS** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010810A** SeqNo: **138282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0105	0.001	0.01	0	105	70	130	0			

Sample ID: **0108156-01A MSD** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010810A** SeqNo: **138283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0106	0.001	0.01	0	106	70	130	0.0105	0.948	20	

Sample ID: **0108156-01A MS** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810A** SeqNo: **138627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.02414	0.003	0.02	0	121	70	130	0			

Sample ID: **0108156-01A MSD** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810A** SeqNo: **138628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0242	0.003	0.02	0	121	70	130	0.02414	0.248	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00294

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108156-01A MS** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810B** SeqNo: **138967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0228	0.002	0.02	0	114	70	130	0			

Sample ID: **0108156-01A MSD** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810B** SeqNo: **138968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0232	0.002	0.02	0	116	70	130	0.0228	1.74	20	

Sample ID: **0108142-02AMS** Batch ID: **5048** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809A** SeqNo: **138105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00523	0.0002	0.005	0	105	70	130	0			

Sample ID: **0108142-02AMSD** Batch ID: **5048** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809A** SeqNo: **138106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00544	0.0002	0.005	0	109	70	130	0.00523	3.94	20	

Sample ID: **0108155-01AMS** Batch ID: **5050** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809C** SeqNo: **138128**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00535	0.0002	0.005	0	107	70	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00295

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **0108155-01AMSD** Batch ID: **5050** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809C** SeqNo: **138129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00534	0.0002	0.005	0	107	70	130	0.00535	0.187	20	

Sample ID: **0108163-01A MS** Batch ID: **R12286** Test Code: **E300** Units: **mg/L** Analysis Date: **8/7/01 6:00:00 PM** Prep Date:
Client ID: Run ID: **IC 1_010807A** SeqNo: **137090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.03	0.2	2	0.2	91.5	80	120	0			

Sample ID: **0108579-01A MS** Batch ID: **R12372** Test Code: **E300** Units: **mg/L** Analysis Date: **8/10/01** Prep Date:
Client ID: Run ID: **IC 1_010809C** SeqNo: **138320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.02	0.5	2	0	101	80	120	0			
Chloride	19.91	2	20	0	99.6	80	120	0			
Fluoride	2	0.4	2	0	100	80	120	0			
Sulfate	19.95	2	20	0	99.8	80	120	0			

Sample ID: **0108041-02A MS** Batch ID: **R12332** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **8/9/01 8:00:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010809A** SeqNo: **137807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.229	0.02	0.2	0	114	80	120	0			

Sample ID: **0108041-02A MSD** Batch ID: **R12332** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **8/9/01 8:00:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010809A** SeqNo: **137808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.228	0.02	0.2	0	114	80	120	0.229	0.438	10	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00296

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0108230-03A MS** Batch ID: **R12464** Test Code: **E350.3** Units: **mg/L** Analysis Date: **8/14/01 10:00:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010814B** SeqNo: **139419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia-N	9.73	0.5	10	0	97.3	80	120	0			

Sample ID: **0108230-03A MSD** Batch ID: **R12464** Test Code: **E350.3** Units: **mg/L** Analysis Date: **8/14/01 10:00:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010814B** SeqNo: **139421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia-N	9.73	0.5	10	0	97.3	80	120	9.73	0	20	

Sample ID: **0108155-01A MS** Batch ID: **R12274** Test Code: **M4500-P E** Units: **mg/L** Analysis Date: **8/7/01 5:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807F** SeqNo: **136923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	0.587	0.1	0.5	0	117	80	120	0			

Sample ID: **0108206-01A MS** Batch ID: **R12437** Test Code: **M4500-P B** Units: **mg/L** Analysis Date: **8/13/01 1:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010813C** SeqNo: **139116**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus,Total	1.052	0.2	1	0	105	80	120	0			

Sample ID: **0108158-01A MS** Batch ID: **R12264** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **8/7/01 3:00:00 PM** Prep Date:
Client ID: **10COVEWASH09** Run ID: **SPEC 1_010807B** SeqNo: **136795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.52	0.05	0.5	0	104	75	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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ED_004888_00033250-00297

Precision Analytical Laboratories, Inc.

Date: *09-Sep-01*

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 2:25:39 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	22.72	2	21	0	108	85	115	0			
Magnesium	20.86	2	21	0	99.3	85	115	0			
Potassium	19.89	2	20	0	99.5	85	115	0			
Sodium	21.56	2	20	0	108	85	115	0			

Sample ID: **LCS-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/9/01 2:17:10 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010809B** SeqNo: **138216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	20	2	20	0	100	85	115	0			

Sample ID: **LCS-5013** Batch ID: **5013** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/10/01 3:19:27 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010810C** SeqNo: **138690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silica (Silicon dioxide-SiO2)	11.1	0.21	10.7	0	104	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-5017** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/8/01 1:33:14 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010808E** SeqNo: **137616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.106	0.1	2	0	105	85	115	0			
Barium	0.999	0.01	1	0	99.9	85	115	0			
Beryllium	0.9653	0.001	1	0	96.5	85	115	0			
Boron	1.081	0.05	1	0	108	85	115	0			
Chromium	0.9431	0.01	1	0	94.3	85	115	0			
Cobalt	0.9351	0.01	1	0	93.5	85	115	0			
Copper	0.9688	0.01	1	0	96.9	85	115	0			
Nickel	0.9481	0.01	1	0	94.8	85	115	0			
Silver	0.08175	0.01	0.09	0	90.8	85	115	0			
Vanadium	0.9738	0.01	1	0	97.4	85	115	0			
Zinc	0.9846	0.05	1	0	98.5	85	115	0			

Sample ID: **LCS-5017** Batch ID: **5017** Test Code: **E200.7** Units: **mg/L** Analysis Date: **8/14/01 12:47:26 PM** Prep Date: **8/7/01**
Client ID: Run ID: **ICP001_010814C** SeqNo: **139764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.9251	0.001	1	0	92.5	85	115	0			
Molybdenum	0.9731	0.01	1	0	97.3	85	115	0			

Sample ID: **LCS-5014** Batch ID: **5014** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.02185	0.005	0.02	0	109	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

ED_004888_00033250-00299

Precision Analytical Laboratories, Inc.

CLIENT: EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010809A** SeqNo: **137708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.02209	0.005	0.02	0	110	85	115	0			

Sample ID: **LCS-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/9/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010809A** SeqNo: **137998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.01911	0.005	0.02	0	95.6	85	115	0			

Sample ID: **LCS-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA002_010810A** SeqNo: **138279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0106	0.001	0.01	0	106	85	115	0			

Sample ID: **LCS-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810A** SeqNo: **138624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.02114	0.003	0.02	0	106	85	115	0			

Sample ID: **LCS-5018** Batch ID: **5018** Test Code: **E200.9** Units: **mg/L** Analysis Date: **8/10/01** Prep Date: **8/7/01**
Client ID: Run ID: **GFAA001_010810B** SeqNo: **138964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0214	0.002	0.02	0	107	85	115	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

CLIENT: EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-5048** Batch ID: **5048** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809A** SeqNo: **138103**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00558	0.0002	0.005	0	112	85	115	0			

Sample ID: **LCS-5050** Batch ID: **5050** Test Code: **E245.1** Units: **mg/L** Analysis Date: **8/9/01 4:09:20 PM** Prep Date: **8/9/01**
Client ID: Run ID: **FIMS HG_010809C** SeqNo: **138126**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00522	0.0002	0.005	0	104	85	115	0			

Sample ID: **LCS-R12286** Batch ID: **R12286** Test Code: **E300** Units: **mg/L** Analysis Date: **8/7/01 3:06:00 PM** Prep Date:
Client ID: Run ID: **IC 1_010807A** SeqNo: **137079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.98	0.2	2	0	99	90	110	0			

Sample ID: **LCS-R12372** Batch ID: **R12372** Test Code: **E300** Units: **mg/L** Analysis Date: **8/10/01** Prep Date:
Client ID: Run ID: **IC 1_010809C** SeqNo: **138307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	1.99	0.5	2	0	99.5	90	110	0			
Chloride	19.33	2	20	0	96.6	90	110	0			
Fluoride	1.99	0.4	2	0	99.5	90	110	0			
Sulfate	19.65	2	20	0	98.2	90	110	0			

Sample ID: **LCS-R12311** Batch ID: **R12311** Test Code: **M2320 B** Units: **mg/L CaCO3** Analysis Date: **8/8/01 2:15:00 PM** Prep Date:
Client ID: Run ID: **BURET 1_010808A** SeqNo: **137486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	248	6	250	0	99.2	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

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Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-R12266** Batch ID: **R12266** Test Code: **H8167** Units: **mg/L** Analysis Date: **8/7/01 10:10:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010807C** SeqNo: **136813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorine, Total Residual	1.03	0.05	1	0	103	90	110	0			

Sample ID: **LCS-R12332** Batch ID: **R12332** Test Code: **M4500-CN CE** Units: **mg/L** Analysis Date: **8/9/01 8:00:00 AM** Prep Date:
Client ID: Run ID: **SPEC 1_010809A** SeqNo: **137790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cyanide,Total	0.219	0.02	0.2	0	110	90	110	0			

Sample ID: **LCS-R12464** Batch ID: **R12464** Test Code: **E350.3** Units: **mg/L** Analysis Date: **8/14/01 10:00:00 AM** Prep Date:
Client ID: Run ID: **PH 2_010814B** SeqNo: **139403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ammonia-N	9.87	0.5	10	0	98.7	90	110	0			

Sample ID: **LCS-R12274** Batch ID: **R12274** Test Code: **M4500-P E** Units: **mg/L** Analysis Date: **8/7/01 5:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807F** SeqNo: **136917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Total Orthophosphate (As	0.49	0.1	0.5	0	98	90	110	0			

Sample ID: **LCS-R12437** Batch ID: **R12437** Test Code: **M4500-P B** Units: **mg/L** Analysis Date: **8/13/01 1:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010813C** SeqNo: **139105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus,Total	1.005	0.2	1	0	100	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

ED_004888_00033250-00302

Precision Analytical Laboratories, Inc.

CLIENT: Navajo Nation EPA Water Quality Program
Work Order: 0108158
Project: 305(b)

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS-R12272** Batch ID: **R12272** Test Code: **E150.1** Units: **pH units** Analysis Date: **8/7/01 7:15:00 PM** Prep Date:
Client ID: Run ID: **PH 1_010807A** SeqNo: **136898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.01	2	7	0	100	90	110	0			

Sample ID: **LCS-R12264** Batch ID: **R12264** Test Code: **M4500-S D** Units: **mg/L** Analysis Date: **8/7/01 3:00:00 PM** Prep Date:
Client ID: Run ID: **SPEC 1_010807B** SeqNo: **136788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfide	0.479	0.05	0.5	0	95.8	80	120	0			

Sample ID: **LCS-R12288** Batch ID: **R12288** Test Code: **E160.2** Units: **mg/L** Analysis Date: **8/7/01 12:45:00 PM** Prep Date:
Client ID: Run ID: **BL002_010807B** SeqNo: **137093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Suspended Solids (Residue, Non-Filter	232	10	240	0	96.7	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

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Precision Analytical Laboratories, Inc.

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[ ] North Phoenix- 2020 West Lone Cactus Drive, Phoenix, AZ 85027 (623) 780-4800 FAX (623) 780-7695
[ ] Tucson- 4455 South Park Avenue, Ste.110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

LAB ID NUMBER: 0-108-158

Page 1 of 1

Client:	Navajo EPA Water Quality Program
Address:	P.O. Box 1999
City, State, Zip:	Shiprock, NM 87420
Contact:	Steve Austin
Phone:	505-368-1037
Fax:	505-368-1916
Sampler:	F.J.
P.O. Number:	P180672

E-Mail Address: [illegible]
Fax Results: Y N
E-Mail Results: Y N

TAT Request

24 Hours 48 Hours
72 Hours 5 Day
Laboratory Approval Required for RUSH Analyses Surcharges May Apply
Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty	200.7 - Dissolved Metals (Listed Below)	245.1 - Dissolved Mercury	200.9 - Dissolved Sb, As, Pb, Se, Tl	Dissolved Hex Chromium, Diss Cr III	Total Mercury 245.1, Total Selenium 200.9 Total Ca, Mg, K, Na, SiO2- 200.7	T. Residual Chlorine, Nitrate, pH	Orthophosphate	Cyanide	Sulfide	Ammonia, T. Phosphorus	Alk, Br, Cl, F, SO4, TDS, TSS	Cation Anion Balance	Ca Hardness	Gross Alpha, Radium 226, Tritium	Uranium (as metal)
01	H_2O	10COVEWASH09	08/06/01	1230	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Project Name: 305(b)
Project Number:

Instructions/Special Requirements: NNEPA Inorganic Suite F
200.7 - Dissolved Metals: Al,Ba,Be,B,Cd,Cr,Co,Cu,Mo,Ni,Ag,V,Zn "Report J flags"
Dissolved Constituents are Field Filtered

Date	Time	Relinquished By:	Company	Received By:	Company
08/06/01	1400	Tom [illegible]	NNEPA	[illegible]	NNEPA
8/6/01	1700	[illegible]	NNEPA	[illegible]	
8/7/01	0925	Fed X		[illegible]	PAL

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. · CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Precision Analytical Laboratories, Inc.
1725 West 17th Street
Tempe, AZ 85281

Sample Received: August 7, 2001
Analysis Completed: August 21, 2001

Sample ID	Gross Alpha Activity method 600/00-02 (pCi/L)	Uranium Activity method 00-07 (pCi/L)	Adjusted Gross Alpha (pCi/L)	Radium 226 Activity method 903.1 (pCi/L)	Radium 228 Activity method 904 (pCi/L)	Total Radium (pCi/L)	Tritium Activity method 906 (pCi/L)
0-108-158-01	40.0 ± 4.0	---	---	0.5 ± 0.1	< 0.4	0.5 ± 0.1	< 348

Robert L. Metzger, Ph.D., C.H.P.

Radiation Safety

Precision Analytical Laboratories, Inc.

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[ ] Tucson- 4455 South Park Avenue, Ste.110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

LAB ID NUMBER:

Page ____ of ____

Client: PAL	E-Mail Address:
Address:	Fax Results: Y N
City, State, Zip:	E-Mail Results: Y N
Contact: Marcia Smith	
Phone:	
Fax:	
Sampler:	
P.O. Number:	

TAT Request

24 Hours 48 Hours
72 Hours 5 Day
Laboratory Approval Required for RUSH Analyses
Surcharges May Apply
Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty	Gross Alpha	Radium 226	Radium 228	Thorium									
	Water	10Cove Wash09	8/6/01	1330		X	X	X	X			(0-108-158-01)						
		Bay																

Project Name: 0-108-158	Instructions/Special Requirements:
Project Number:	

Date	Time	Relinquished By:	Company	Received By:	Company
8/13/01		[signature]	PAL	[signature]	RSA

ED_004888_00033250-00306

WEST COAST
ANALYTICAL
SERVICE, INC.
Analytical Chemists

August 13, 2001

Precision Analytical Laboratories
1725 West 17th Street
Tempe, AZ 85281

Attn: Marcia Smith

Job No: 54028 DL

LABORATORY REPORT

Samples Received: One (1) Sample
Date Received: 08/08/2001
Purchase Order No: 0-108-158

The sample was analyzed as follows:

Analysis	Page
Uranium by ICPMS	2 - 3

D.J. Northington, Ph.D. Quality Assurance Officer	Charles Jacks, Ph.D. Senior Staff Chemist

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ED_004888_00033250-00307

WEST COAST ANALYTICAL SERVICE, INC.

Precision Analytical Laboratories
Attn: Marcia Smith

Job No: 54028
August 13, 2001

Uranium
Quantitative Analysis Report
Inductively Coupled Plasma-Mass Spectrometry

Parts Per Million (mg/L)

Sample ID	Uranium
10CoveWash09	0.056
Detection Limit:	0.0001

Date Analyzed: 08-09-01

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WEST COAST ANALYTICAL SERVICE, INC.

Precision Analytical Laboratories
Attn: Marcia Smith

Job No: 54028
August 13, 2001

Quality Control Summary

Sample: Batch QC
Matrix: Water

Parts Per Million (mg/L)

	Uranium
Sample:	0.0031
Spike Conc:	0.050
MS Result:	0.058
% Recovery	110
MS Result:	0.058
% Recovery	110
Sample RPD:	0.0

Date Analyzed: 08-07-01

Sample: Laboratory Fortified Blank (LFB)

Parts Per Million (mg/L)

Element	Blank	Spike Conc.	LFB	% Recovery
Uranium	ND	0.050	0.054	108

Date Analyzed: 08-07-01

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WCAS

West Coast Analytical

Precision Analytical Laboratories, Inc.

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www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

LAB ID NUMBER:

Page ____ of ____

Client: PAL	E-Mail Address:
Address:	Fax Results: Y N
City, State, Zip:	E-Mail Results: Y N
Contact: Marcia Smith	**TAT Request**
Phone:	24 Hours 48 Hours
Fax:	72 Hours 5 Day
Sampler:	Laboratory Approval Required for RUSH Analyses Surcharges May Apply
P.O. Number:	Standard 10 Day

Sample Information

Lab #	Sample Type	Sample Identification	Date	Time	Qty	Uranium (as metal)
~	Water	10CoveWash09	8/6/01	1230		(0-108-158-01)

Project Name: (0-108-158)

Project Number:

Instructions/Special Requirements:

Date	Time	Relinquished By:	Company	Received By:	Company
8/7/01	00	[illegible]		Fed Ex	
		FedEx		Louis Albanese 8/8/01 10:26am	WCAS

ED_004888_00033250-00310