

BW - 8

**UIC CLASS III
BRINE WELL
RENEWAL
APPLICATION**

2023

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised August 1, 2011

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR BRINE EXTRACTION FACILITIES

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal


- I. Facility Name: Salty Dog Brine Station
- II. Operator: PAB Services, Inc. (PAB)
Address: PO Box 2724 Lubbock, TX 79408
Contact Person: Pieter Bergstein Phone: (806) 741-1080
- III. Location: NW /4 SE /4 Section 5 Township 19S Range 36E
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the facility site.
See attached supporting information document.
- V. Attach a description of the types and quantities of fluids at the facility.
See attached supporting information document.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities.
See attached supporting information document.
- VII. Attach a description of underground facilities (i.e. brine extraction well).
See attached supporting information document.
- VIII. Attach a contingency plan for reporting and clean-up of spills or releases.
See attached supporting information document.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water.
See attached supporting information document.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
See attached supporting information document.

XI. CERTIFICATION:

I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Name: Pieter Bergstein

Title: President/Owner

Signature: 

Date: 10/20/23

E-mail Address: pieter@bergsteinenterprises.com

Supporting Information for
Discharge Permit Renewal
Salty Dog Brine Station
Lea County, New Mexico
DP-BW-8, API No. 30-025-26307

Prepared for

New Mexico Energy, Minerals and Natural Resources
Department, Oil Conservation Division
Santa Fe, New Mexico

Prepared by



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DB19.1198

October 16, 2023

Table of Contents

1.	Introduction	1
2.	Facility Name	1
3.	Operator	1
4.	Location of Facility	1
5.	Landowner	2
6.	Types and Quantities of Fluids	2
7.	Description of Fluid Transfer and Storage	3
8.	Description of Brine Extraction Well	4
9.	Contingency Plan for Addressing Spills and Releases	5
10.	Hydrogeologic Site Characteristics	6
11.	Additional Compliance Information	8
	References	9

List of Figures

1	Topographic Map of Facility Area
2	Generalized Brine Well Schematic
3	Monitor and Extraction Well Locations
4	Land Subsidence Survey Monitoring Point Locations

List of Tables

1	Injection Water and Produced Brine Chemical and Physical Characteristics	3
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List of Appendices

- A Property Ownership Map
- B 2022 Monthly Fresh and Brine Water Report Forms
- C Laboratory Analytical Reports for 2022 Semiannual Sampling
- D Mechanical Integrity Test Record
- E Historical Groundwater Level and Groundwater Quality Data

1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared the renewal application for submission to the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (OCD) on behalf of PAB Services, Inc. (PAB). This document provides supporting information associated with the discharge permit renewal application for Salty Dog Brine Station (Salty Dog) in Lea County, New Mexico (Figure 1). Salty Dog is seeking renewal of discharge permit BW-8 (DP BW-8) for Brine Supply Well No. 1. This discharge permit was last renewed on May 17, 2019 (NMEMNRD, 2019). Brine Supply Well No. 1 is permitted as a UIC Class III well (API No. 30-025-26307, OGRID No. 184208).

2. Facility Name

Salty Dog Brine Station

3. Operator

The Salty Dog Brine Station is operated by PAB:

PAB Services, Inc.
P.O. Box 2724
Lubbock, TX 79408
(806) 741-1080

4. Location of Facility

The Salty Dog brine well, Brine Supply Well No.1, is located 1,980 feet from south line (FSL) and 1,980 feet from east line (FEL) (NW ¼, SE ¼, Unit Letter J) in Section 5, Township 19 South, Range 36 East, New Mexico Principal Meridian (NMPM). Figure 1 shows the topography in the area of the Salty Dog facility, which is located approximately 11 miles west of Hobbs, New Mexico.

5. Landowner

Salty Dog facilities are located on private property owned by the following (Appendix A):

- Snyder Ranches, Ltd.
P.O. Box 2158
Hobbs, NM 88241
(575) 393-7544
- Squires, Inc.
P.O. Box 2158
Hobbs, NM 88241
- PAB Services, Inc.
P.O. Box 2724
Lubbock, TX 79408
(806) 741-1080

These properties are shown in Figure 1.

6. Types and Quantities of Fluids

Salty Dog produces and sells both fresh water and brine. Fresh water is obtained from the Ogallala Aquifer. Brine is produced from in situ extraction of salt at the brine well. Fresh water is circulated down the casing annulus of the brine well into the Salado Formation—a Permian-age sedimentary rock unit composed of halite (salt) and other evaporative beds. Fresh water dissolves the salt, and the brine is extracted through the center tubing of the well (Figure 2).

In 2022, monthly fresh water injection volumes ranged from 6,065 to 67,325 barrels (bbl), while monthly brine production ranged from 6,065 to 71,615 bbl (DBS&A, 2023b). Fresh water is metered as it is injected into the brine well, and produced brine is metered as it is pumped from the brine well to brine storage tanks. Fresh water and brine production values are recorded daily on monthly fresh and brine water report forms that are submitted to OCD at the end of each month and in annual Class III well reports. Appendix B provides monthly fresh and brine water report forms for 2022. The latest annual Class III well report was submitted to OCD on May 23, 2023 (DBS&A, 2023b).

Total dissolved solids (TDS) concentrations of the fresh water and produced brine are approximately 1,470 milligrams per liter (mg/L) and 323,000 mg/L, respectively. Water quality samples of the injected fresh water and produced brine are collected semiannually and submitted to a certified laboratory for analysis. Average chemical and physical characteristics of the injection water and produced brine based on 2022 semiannual sampling are shown in Table 1. Appendix C provides laboratory reports associated with 2022 semiannual sampling. Results of the water quality analyses are reported in the annual Class III well reports (DBS&A, 2023a).

Table 1. Injection Water and Produced Brine Chemical and Physical Characteristics

Constituent	Average Concentration (mg/L ^a)	
	Injection Water	Produced Brine
pH (s.u.)	7.57	7.11
Specific gravity (unitless)	0.999	1.196
Chloride	590	175,000
Sodium	300	75,500
Total dissolved solids	1,470	323,000

mg/L = Milligrams per liter
 s.u. = Standard units

7. Description of Fluid Transfer and Storage

Salty Dog is a brine water production and loading station. It consists of fresh water supply wells, a brine production well, and a concrete truck loading pad with two brine filling stations (Figure 1).

Water for brine production comes from two fresh water supply wells (FWS-1 and FWS-2) and one groundwater remediation well (RW-2). Well FWS-1 is the main fresh water supply well. Fresh water from well FWS-1 is pumped to a stainless-steel, 750-bbl aboveground storage tank (AST) located near the north end of the facility and well FWS-1. Water from wells RW-2 and FWS-2 is pumped to tanks located near the brine well.

Produced brine ready for sale is stored in a bermed tank battery consisting of six fiberglass 750-bbl ASTs. The total capacity of the tank battery is 4,500 bbl. Produced brine is conveyed

via a 3-inch-diameter high-density polyethylene (HDPE) pipeline from the brine well to the tank battery. The conveyance pipeline is $\frac{3}{8}$ inch thick and runs along the ground surface (Figure 1), where leaks can easily be identified. The areas of the conveyance pipeline and storage tanks are inspected regularly for signs of leaks and deterioration.

Several monitor wells are located downgradient of the brine well and brine storage and handling facilities, providing a mechanism to detect any potential future release to groundwater. The locations of the monitor wells are shown in Figure 3.

8. Description of Brine Extraction Well

Figure 2 is a generalized schematic of the current configuration of the Salty Dog brine well. The brine well has been in operation since the early 1980s. It is configured for reverse circulation brine recovery, where fresh water is circulated down the casing annulus into the Salado Formation. Fresh water dissolves salt from the Salado Formation, and brine is extracted through the center tubing of the well.

In 2017 and 2018, the brine well was repaired because the well tubing had collapsed. The existing well, which was originally drilled to 2,958 feet below ground surface (bgs), was redrilled and cleaned out to 2,791 feet bgs. New tubing was then installed to a depth of 2,610 feet bgs. The tubing was perforated with 0.20-inch-diameter holes from 2,590 to 2,592 feet bgs (Figure 2). The well was operational again in February 2018 (DBS&A, 2018). Before placing the well back in operation, PAB conducted a mechanical integrity test (MIT) on the well; it passed the test. A record of the MIT is provided in Appendix D, along with documentation of the repairs that were made in 2017 and 2018.

Pursuant to 20.6.2.5204 New Mexico Administrative Code (NMAC), PAB is required to demonstrate mechanical integrity of the brine well at least once every five years. An MIT was last conducted on the brine well on May 26, 2023; it passed the test. The test was conducted in the presence of OCD, and its results will be presented in the 2023 annual Class III well report.

Each year, fresh water injection and brine production data are used to calculate the size of the brine solution cavern caused by salt dissolution from the Salado Formation. These calculations are reported in the annual Class III well reports. In 2022, brine production activities dissolved an estimated 79,270 bbl of Salado Formation (DBS&A, 2023b). The total estimated size of the brine solution cavern is approximately 1,122,402 bbl based on historical and present brine production

data. In 2012, OCD estimated a volume of 1,022,196 bbl for the Salty Dog solution cavern (NMEMNRD, 2012).

In March 2018, Salty Dog installed five survey monuments near the brine well to monitor for potential subsidence associated with brine production (Figure 4) (DBS&A, 2018b). Construction of the subsidence survey monitoring points followed the design presented in the work plan for surface subsidence monitoring and solution cavern characterization (DBS&A, 2014), with the exception of minor design changes to accommodate field conditions. Salty Dog has had each monitoring point surveyed semiannually to at least the nearest 0.1 foot. Survey results are submitted to OCD within 15 days of the survey and included in the annual Class III well reports, and show no evidence of subsidence.

9. Contingency Plan for Addressing Spills and Releases

The Salty Dog facility is manned by an operator during operational hours. Regular duties of the operator include inspection of conveyance pipelines, valves, hoses, and tanks. In addition, the operator monitors tank fluid levels, brine well operating pressures, and flow meters. These inspection and monitoring activities are conducted to prevent spills by identifying any leaks and deterioration of the conveyance and storage equipment.

The truck load pad where brine is sold is constructed of concrete with a sump. Any spillage during truck loading drains to and is captured at the sump. In addition, the tank battery where brine is stored for sale is bermed. If one of the ASTs were to leak, the release would be contained within the bermed area, and the spilled brine would be removed for disposal by a vacuum truck or possibly other appropriate means.

If an accidental spill or release occurs, the following procedure will be followed:

- The facility manager will be contacted immediately by cell.
- If necessary (i.e., the release is at the brine well or from the brine conveyance line), operation of brine well will be stopped.
- Depending on the size of the spill, a vacuum truck contractor, such as Zia Transports, Inc. in Hobbs, New Mexico, will be called to collect and remove the released fluid for proper disposal.

- OCD will be notified in accordance with 19.15.29.9 NMAC.
- The facility manager, in consultation with OCD, will determine if further actions are required (e.g., soil removal).

Salty Dog will report major releases by giving both immediate verbal notices and timely written notices to OCD in accordance with Subsections A and B of 19.15.29.10 NMAC, and will report minor releases by giving timely written notices pursuant to Subsection B of 19.15.29.10 NMAC.

When reporting a release to OCD, the following information will be provided:

- Name, address, and telephone number of the person in charge of the facility, as well as the owner or operator of the facility
- The name and address of the facility
- The date, time, location, and duration of the discharge
- The source or cause of the discharge
- A description of the discharge, including chemical composition
- The estimated volume of the discharge
- A description of any actions taken to mitigate immediate damage from the discharge

Within one week of the release, Salty Dog will send written notification to OCD in Santa Fe, New Mexico and the OCD District I office in Hobbs, New Mexico verifying the oral notification and providing any appropriate additions or corrections to the information provided in the oral notification. Salty Dog will also submit a completed C-141 Release Notification and Corrective Action Form within 15 days of the release.

For releases that endanger public health and/or the environment, Salty Dog will complete a division-approved corrective action.

10. Hydrogeologic Site Characteristics

Salty Dog is addressing groundwater impacts resulting from releases at the brine well and a former brine pond. In 1999, a hole was discovered in the casing of the brine well at 250 feet bgs (Salty Dog, 1999). The hole released brine, impacting groundwater, and was repaired in August 1999 by installing a casing liner (Salty Dog, 1999). In October 2008, the brine pond was removed and impacted soil was excavated and disposed of (DBS&A, 2008).

Two chloride plumes currently exist at the site: one in the area of the brine station (i.e., the former brine pond area) and a second near the brine well. In 2009, PAB initiated groundwater extraction to remove and provide hydraulic containment of brine-impacted groundwater at the brine station and near the brine well (DBS&A, 2009). In May 2008, OCD issued an Administrative Compliance Order (ACO) (ACO-2008-02) to Salty Dog to address chloride-impacted groundwater at the site.

Groundwater monitoring and extraction data are reported and evaluated in reports submitted to OCD. The data include water levels and water quality (i.e., chloride concentrations) at site monitor wells. Site monitor wells are shown in Figure 3; historical water level and chloride data for the wells are provided in Appendix E. Monitoring data show that the systems are effective at providing hydraulic containment of the chloride plumes (DBS&A, 2023a).

To help prevent a future release, Salty Dog continually monitors pressures on the well tubing and on the annulus between the inner tubing and outer casing. These measurements are recorded daily on the monthly fresh and brine water report forms. Appendix B provides monthly fresh and brine water report forms for 2022. In addition, MITs are performed after major brine well repairs and at least once every five years pursuant to 20.6.2.5204 NMAC.

Salty Dog no longer stores brine in a pond. Instead, brine is stored in a bermed tank battery with six ASTs. This method of storage allows for easier detection of leaks and containment of a release if a leak were to occur.

The Ogallala Aquifer is protected from potential water quality impact caused by brine production from the Salado Formation. Figure 2 is a generalized schematic of the brine well showing that brine is produced from the Salado Formation located approximately 1,850 feet below the base of the Ogallala Aquifer. The Ogallala Aquifer and the Salado Formation are separated by the Rustler Formation, which consists of an approximately 1,650-foot sequence of redbeds and 200 feet of anhydrite. The redbeds are composed primarily of low-permeability mudstones. The low permeability and large thickness of the redbeds helps to prevent fluid from moving upward from the Salado Formation to the Ogallala Aquifer. The geology, along with continual monitoring of well tubing and annulus pressures and routine MITs, helps to prevent additional water quality impacts to the Ogallala Aquifer.

11. Additional Compliance Information

Salty Dog has maintained compliance with its existing discharge permit (DP BW-8) and is meeting ACO requirements. On May 2, 2018, DBS&A submitted a letter to OCD on behalf of Salty Dog (DBS&A, 2018a) in response to a February 16, 2018 letter from OCD requesting a review of the DP BW-8 administrative record. As part of this review, several existing documents were uploaded to the OCD website. All documents required under DP BW-8 are now available online as part of the DP BW-8 administrative record.

Salty Dog is operating groundwater extraction systems at the site to provide hydraulic containment and removal of chloride-impacted groundwater in both the former brine pond area and brine well area. Groundwater levels and groundwater quality are currently monitored semiannually at several monitor wells to assess the effectiveness of the extraction systems. Monitoring data show that the systems are effective at providing hydraulic containment of the chloride plumes (DBS&A, 2023a).

Salty Dog submits annual Class III well reports to OCD by June 1 of each year. The annual Class III well reports are based on brine well operational activities from the previous year, and include fresh water injection and brine production volumes, tubing and casing pressure readings, chemical and physical properties of the fresh water and produced brine, descriptions of any deviation from normal operations and any leaks or spills, and results of an area of review survey and any MITs. Also reported in the annual Class III well reports are the amount of halite (salt) dissolved from the Salado Formation for the year and the estimated total size of the brine solution cavern. The total estimated size of the brine solution cavern is approximately 1,122,402 bbl (DBS&A, 2023b).

On May 26, 2023, PAB performed an MIT at the brine well. Pressure was applied to the annulus between the inner tubing and outer casing. Gary Robinson from the OCD District 1 office was present during the test. The annulus held pressure, and the brine well passed the test (Appendix D). Pursuant to 20.6.2.5204 NMAC, MITs are performed after major brine well repairs and at least once every five years.

In March 2018, Salty Dog installed five permanent subsidence monitoring points in the vicinity of the brine well (DBS&A, 2018b). The elevations of the subsidence monitoring points are surveyed on a semiannual basis as required by DP BW-8. If subsidence is measured at or greater than 0.1 foot at any of the subsidence monitoring points, Salty Dog will suspend

operations at the brine well and conduct an analysis to determine the cause of the movement and integrity of the brine solution cavern.

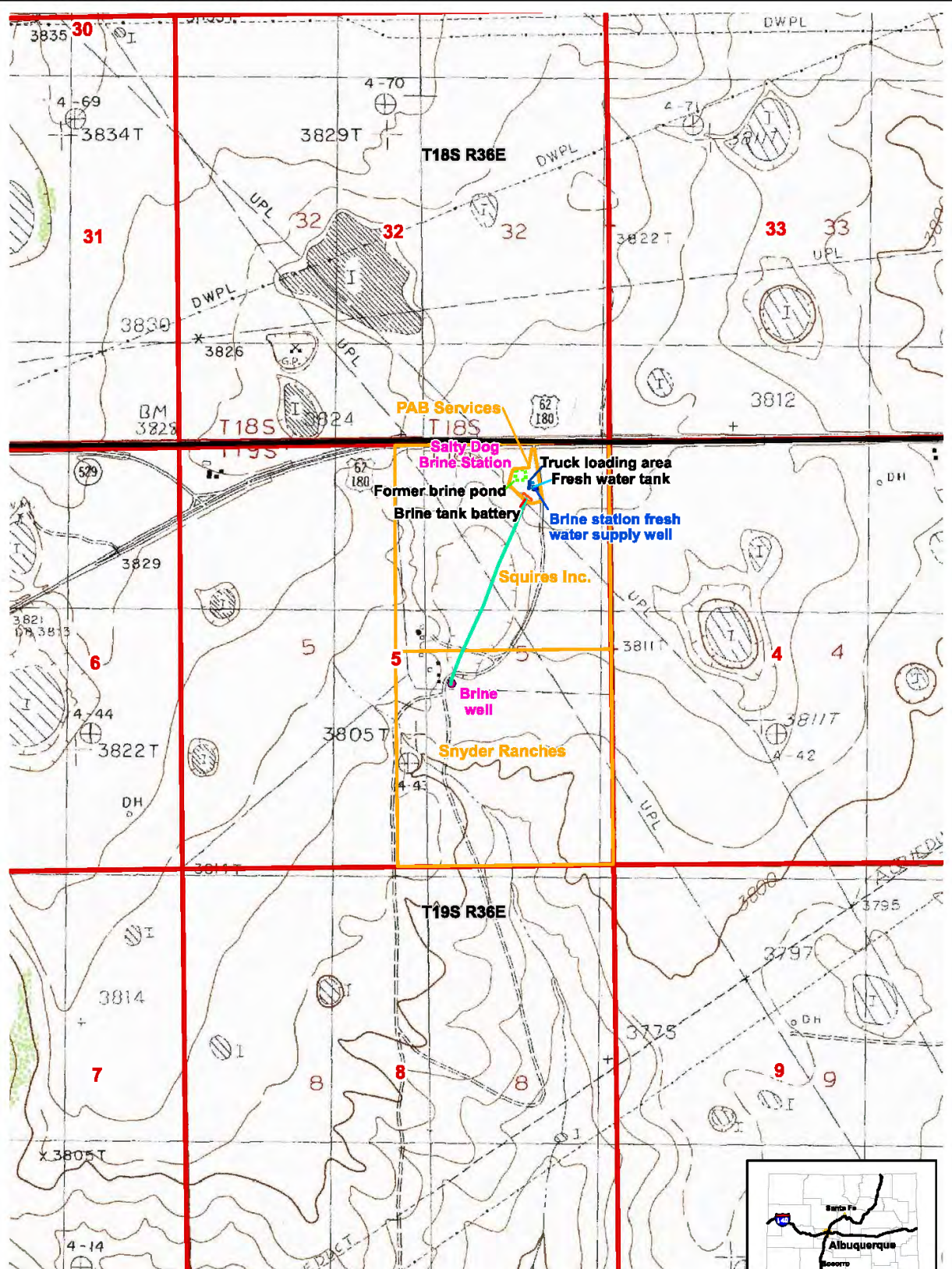
References

- Daniel B. Stephens & Associates, Inc. (DBS&A). 2008. *Closure report, Brine pond and loading area, Salty Dog Brine Station, Lea County, New Mexico*. Prepared for the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, Santa Fe, New Mexico. December 3, 2008.
- DBS&A. 2014. *Work plan for surface subsidence monitoring and solution cavern characterization, Salty Dog Brine Station*. Prepared for the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division. September 17, 2014.
- DBS&A. 2018a. Letter from DBS&A to Carl Chavez, New Mexico OCD, regarding Response to OCD letter requesting review of administrative record (BW-8) and submittal of required and/or missing information, discharge permit (BW-8) Standard Energy, UIC Class III Brine Well, API No. 30-025-26307. May 2, 2018.
- DBS&A. 2018b. Letter report from DBS&A to Carl Chavez, New Mexico OCD, regarding Installation of monitor well and subsidence survey monitoring points, Salty Dog Brine Station (API No. 30-025-26307). June 25, 2018.
- DBS&A. 2023a. *Semiannual groundwater monitoring and O&M report, July 1 through December 31, 2022, Salty Dog Brine Station, Lea County, New Mexico*. Prepared for the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, Santa Fe, New Mexico. April 7, 2023.
- DBS&A. 2023b. *2022 annual Class III Well Report, Salty Dog Brine Station, DP BW-8, API No. 30-025-26307, Lea County, New Mexico*. Prepared for the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division, Santa Fe, New Mexico. May 23, 2023.
- New Mexico Energy, Minerals and Natural Resources Department (NMEMNRD). 2012. Presentation from pre-proposal conference, Request for professional & technical services, I&W Brine Cavern project, Carlsbad, New Mexico. May 9, 2012.

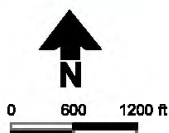
NMEMNRD. 2019. Letter from Adrienne Sandoval to Pieter Bergstein, Salty Dog, Inc., regarding Renewal of discharge permit BW-8 for brine supply well #1 in Unit J of Section 5, Township 19 South, Range 36 East NMPM, Lea County, New Mexico. May 17, 2019.

Salty Dog. 1999. Form C-103 report on Brine supply well #1. Submitted September 8, 1999. Approved by OCD December 1, 1999.

Figures



Source: Topography, USGS topographic maps of the Monument North and Ironhouse Draw 7.5 Minute Quadrangles.

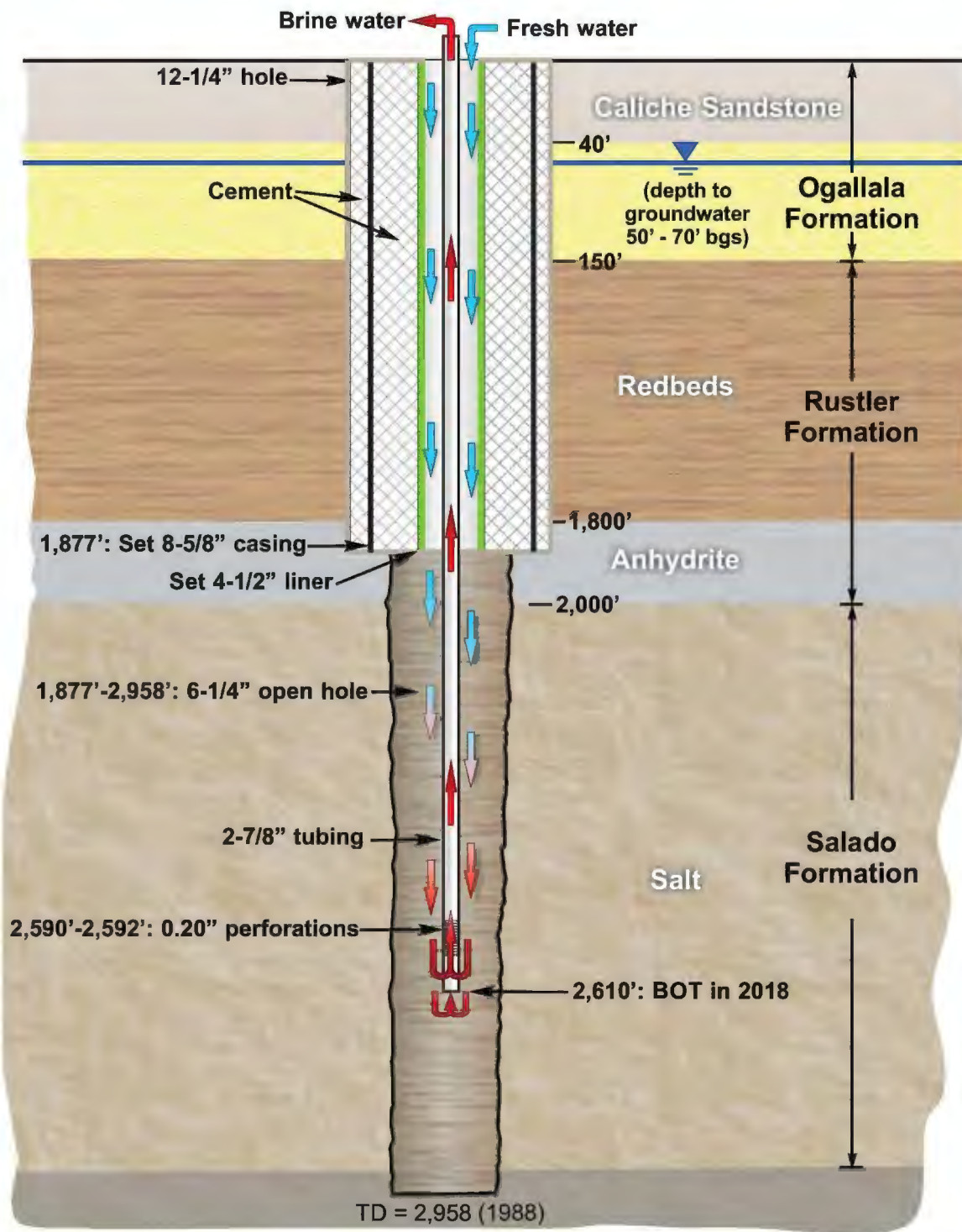


Explanation

- Water supply well
- Brine well
- Fresh water tank
- Aboveground brine pipeline - approximate location
- Property boundary
- Section
- Township and range



Salty Dog Brine Well



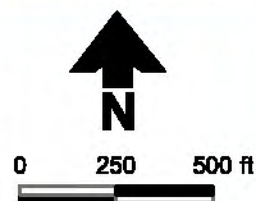
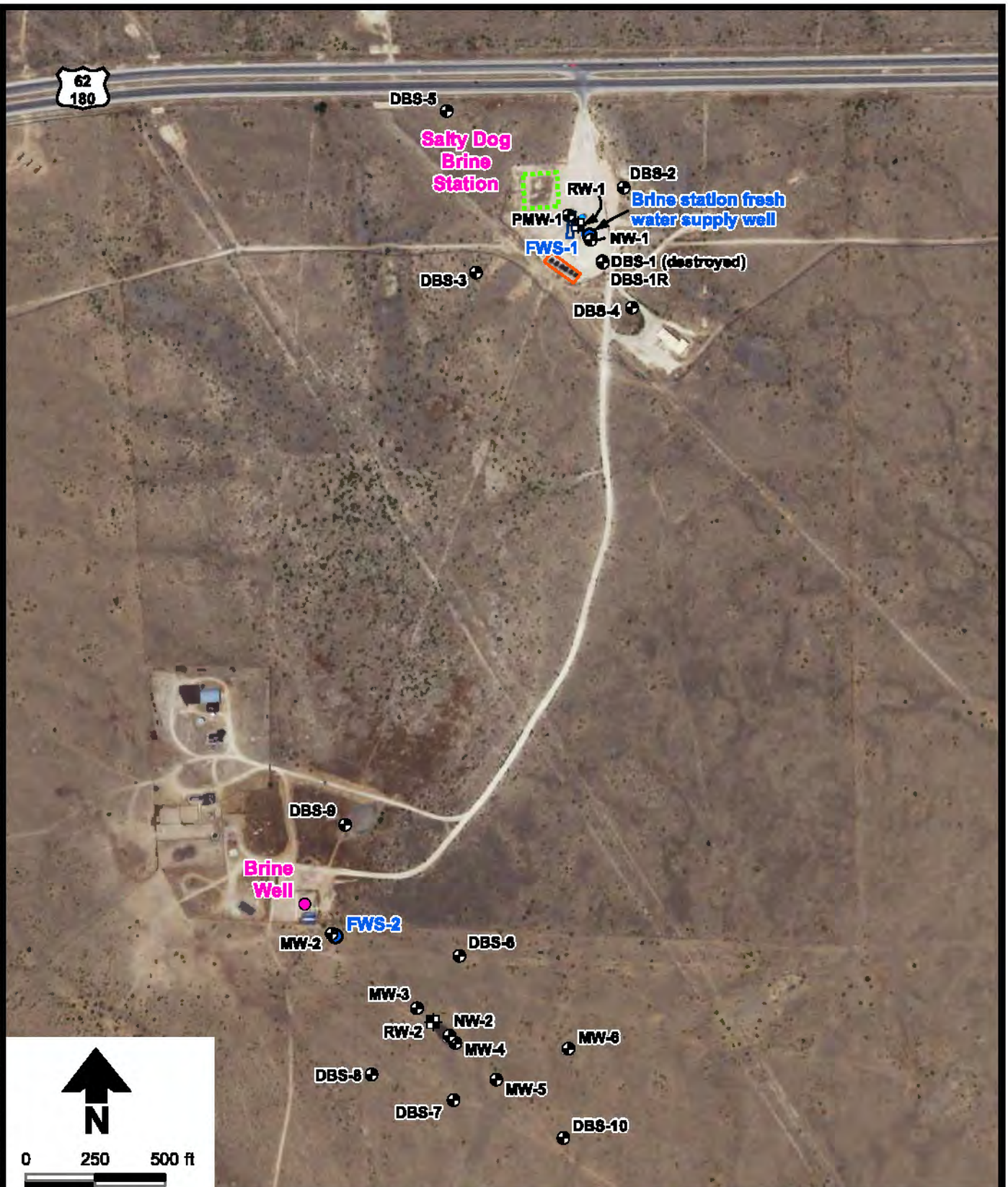
Notes:

1. BOT = Bottom of tubing
2. Figure not to scale

Sources:

1. Completion data based on OCD well reports
2. Lithology from Salty Dog (1988)

S:\PROJECTS\DB19.1198_SALTY DOG_2019\GIS\MODSDP RENEWAL\FIG03_SITE_MONITOR_AND_EXTRACTION_WELL_LOCS.MXD



Explanation

- Fresh water supply well
- Monitor well
- Recovery well
- Well destroyed
- Brine well
- Brine tank battery
- Truck loading area
- Former brine pond

Source: Aerial imagery (NAIP, 2022).

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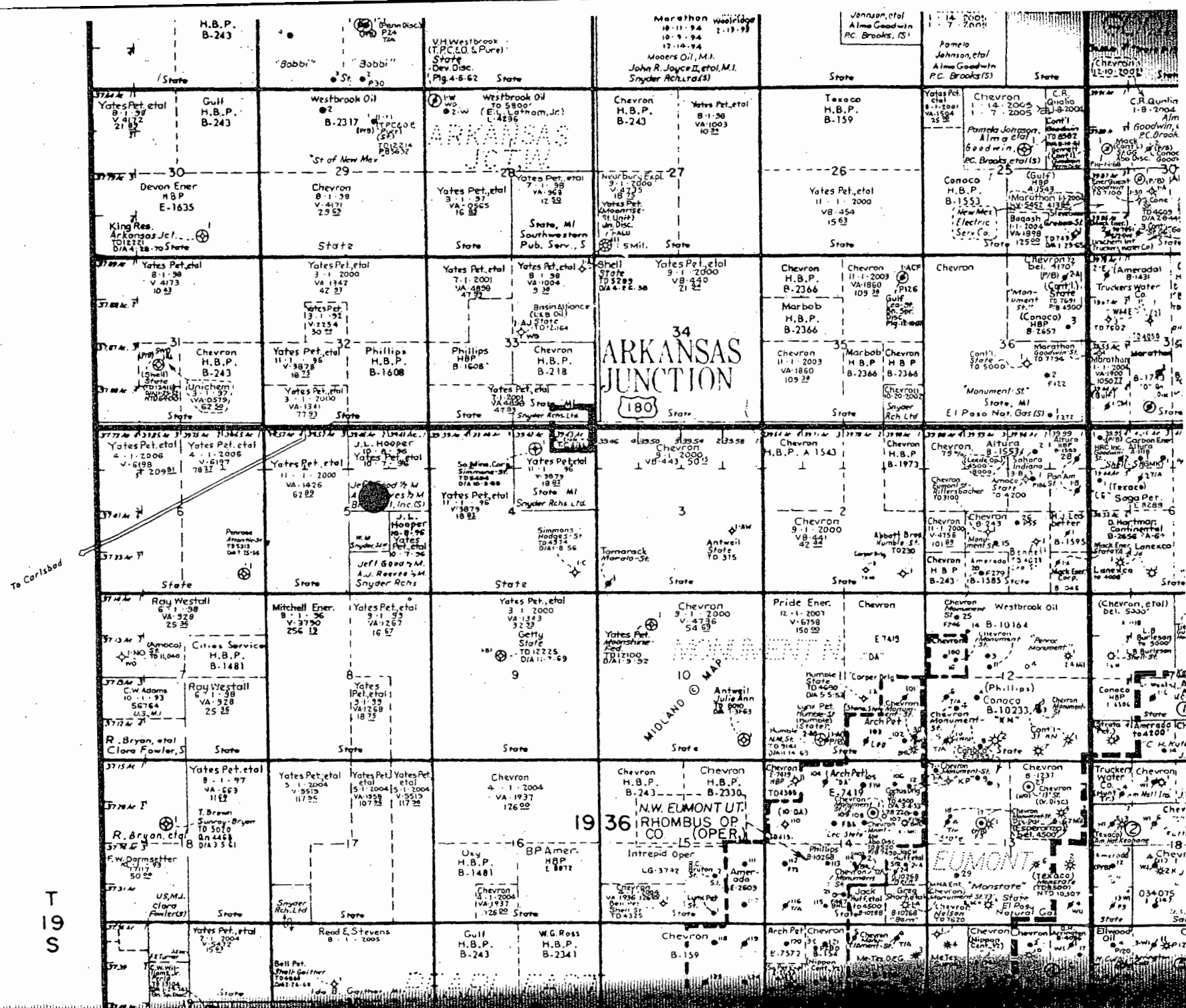
Source: Aerial imagery (NAIP, 2022).

Explanation

◆ Survey monument

Appendix A

Property Ownership Map



Appendix B

2022 Monthly Fresh and Brine Water Report Forms

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Jan 2022

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLs	BBLs SOLD	PSI	PSI	SOLD
1	0	0	60	250	100
2	0	0	60	250	0
3	600	600	60	250	50
4	160	160	60	250	50
5	450	450	60	250	110
6	800	800	60	250	225
7	600	600	60	250	50
8	450	450	60	250	0
9	0	0	85	250	0
10	1000	1000	85	250	0
11	450	450	85	250	75
12	450	450	85	250	45
13	750	750	85	250	150
14	560	560	85	250	75
15	1100	1100	85	250	120
16	0	0	85	250	0
17	840	840	85	250	0
18	450	450	85	250	0
19	650	650	85	250	50
20	930	930	85	250	100
21	1300	1300	85	250	100
22	0	0	85	250	0
23	0	0	85	250	0
24	1000	1000	85	250	150
25	1400	1400	85	250	70
26	540	540	85	250	125
27	1230	1230	85	250	45
28	850	850	85	250	0
29	500	500	85	250	0
30	0	0	85	250	0
31	0	0	85	250	0
TOTALS	17060	17060	--	--	1690

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Feb 2022

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLs	BBLs SOLD	PSI	PSI	
1	670	670	85	250	
2	0	0	85	250	
3	0	0	85	250	
4	720	720	85	250	
5	300	300	85	250	
6	0	0	85	250	
7	0	0	85	250	
8	0	0	85	250	
9	100	100	85	250	
10	90	90	85	250	
11	100	100	85	250	
12	100	100	85	250	
13	0	0	85	250	
14	300	300	85	250	
15	780	780	85	250	
16	1300	1300	85	250	
17	600	600	95	250	
18	425	425	110	250	
19	0	0	60	250	
20	0	0	60	250	
21	0	0	60	250	
22	0	0	60	250	
23	0	0	60	250	
24	0	0	60	250	
25	580	580	125	250	
26	0	0	--	250	
27	0	0	--	250	
28	0	0	--	250	
29					
30					
31					
TOTALS	6065	6065	--	--	0

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Mar-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLs	BBLs SOLD	PSI	PSI	SOLD
1	0	0	--	250	150
2	0	0	--	250	190
3	0	0	--	250	0
4	0	0	--	250	0
5	0	0	--	250	92
6	0	0	--	250	0
7	0	0	--	250	8
8	0	0	--	250	455
9	0	0	--	250	145
10	0	0	--	250	160
11	0	0	--	250	0
12	0	0	--	250	0
13	0	0	--	250	0
14	0	0	--	250	0
15	1050	1000	100	350	300
16	1000	950	100	280	70
17	0	0	--	280	220
18	0	310	280	280	70
19	0	100	280	280	12
20	0	170	280	280	0
21	2000	580	340	340	25
22	500	355	60 (flowing)	340	70
23	500	480	--	360	95
24	500	1600	--	360	100
25	500	510	60	340	115
26	1000	200	60	340	0
27	500	100	--	360	70
28	500	1580	60	360	0
29	1000	800	60	360	0
30	1300	1290	60	360	0
31	1000	1260	60	360	170
TOTALS	11350	11285	--	--	2517

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Apr-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLS	BBLS SOLD	PSI	PSI	SOLD
1	650	650	60	340	210
2	960	960	60	340	0
3	300	300	40	280	0
4	300	300	60	360	225
5	940	940	70	340	33
6	750	780	60	340	250
7	1425	1425	60	340	140
8	800	800	60	340	140
9	1400	1400	60	340	0
10	700	700	60	340	0
11	500	500	60	340	215
12	850	850	60	340	25
13	450	450	60	340	70
14	2440	2440	60	340	200
15	2210	2210	60	340	0
16	700	700	60	340	0
17	400	400	60	340	0
18	1100	1100	60	340	0
19	500	500	60	340	70
20	470	470	60	340	240
21	1250	1250	60	340	150
22	2820	2820	60	340	190
23	1220	1220	60	340	178
24	2500	2500	60	340	452
25	200	200	60	340	225
26	500	600	60	340	195
27	520	520	60	340	120
28	400	400	60	340	50
29	1060	1060	60	340	100
30	1340	1340	60	340	90
31					
TOTALS	29655	29785	--	--	3568

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	May-22

DATE	AMOUNT OF FRESH WATER PUMPED DOWN	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER
	HOLE BBLs	BBLs SOLD	PSI	PSI	SOLD
1	2250	2300	62	342	540
2	3650	3630	64	344	515
3	1330	1330	62	344	270
4	900	930	65	342	190
5	3200	3185	65	340	145
6	4150	4110	66	342	0
7	1200	1270	64	342	0
8	1050	1000	65	340	0
9	1600	1500	62	341	0
10	2300	2320	61	344	0
11	1800	1850	63	344	0
12	2200	2090	65	342	70
13	1000	985	64	342	25
14	1600	1790	64	344	0
15	1550	1550	62	346	0
16	850	840	62	345	25
17	4350	4290	64	345	270
18	3150	3240	65	345	490
19	2390	2390	65	346	200
20	2500	2590	66	344	0
21	1600	1450	64	344	190
22	0	230	64	342	0
23	1300	1140	62	330	70
24	1650	1600	64	340	0
25	2000	1800	68	347	70
26	1580	1580	69	350	70
27	2210	2210	67	349	12
28	2650	2600	66	345	100
29	725	700	64	342	25
30	800	800	66	345	100
31	1300	1320	68	346	25
TOTAL	58835	58620	--	--	3402

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Jun-22

DATE	AMOUNT OF FRESH WATER PUMPED DOWN HOLE BBLs	AMOUNT OF BRINE WATER OUT OF HOLE BBLs SOLD	DAILY TUBING PRESSURES PSI	DAILY CASING PRESSURES PSI	FRESH WATER SOLD
1	3695	3705	67	345	570
2	1800	1840	65	343	120
3	2000	2430	66	346	355
4	3500	3800	100	350	0
5	550	585	97	340	0
6	1600	1610	105	360	120
7	2500	2540	102	355	0
8	3100	3130	104	354	0
9	2200	2340	104	352	0
10	2750	2820	102	350	70
11	600	650	100	350	0
12	1850	1970	104	352	0
13	2150	2340	102	350	0
14	2400	2440	102	350	0
15	1150	1200	104	352	120
16	2950	3000	103	352	25
17	2480	2515	102	354	120
18	2625	2700	103	352	0
19	1225	1300	104	350	0
20	2590	2630	102	352	165
21	1200	1250	106	354	0
22	1900	1960	102	352	0
23	2240	2300	105	350	120
24	1640	1700	104	352	0
25	1250	1330	105	350	0
26	1950	2090	104	348	315
27	1100	1350	102	342	30
28	4150	4240	104	340	120
29	1980	2050	102	335	70
30	2150	2210	102	330	120
31					
TOTAL	63275	66025	--	--	2440

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Jul-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLS	BBLS SOLD	PSI	PSI	SOLD
1	1550	1565	101	347	70
2	1000	1020	100	350	120
3	2200	2260	101	351	0
4	1450	1590	103	350	25
5	1000	1085	101	350	220
6	1038	1060	103	349	0
7	2710	2890	100	350	70
8	1059	1050	98	348	120
9	95	100	101	354	0
10	1700	1730	101	351	0
11	1310	1290	99	350	0
12	1900	1935	100	352	100
13	2200	2245	100	350	0
14	2050	2130	98	348	0
15	1750	1790	100	352	0
16	980	1000	101	351	0
17	950	1000	100	348	0
18	1400	1430	100	351	0
19	1750	1850	101	354	0
20	150	1030	102	350	0
21	1600	1650	100	349	0
22	650	700	100	350	0
23	1200	1260	101	351	0
24	1650	1745	103	349	0
25	900	920	101	350	0
26	400	1730	101	348	0
27	1350	1360	100	349	0
28	1500	1820	102	350	0
29	2550	2690	102	349	0
30	1800	1850	101	347	125
31	1500	1530	100	348	0
TOTALS	43342	47305	--	--	850

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Aug-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLS	BBLS SOLD	PSI	PSI	SOLD
1	1150	1200	101	348	0
2	2950	3020	100	349	0
3	2300	2360	99	348	0
4	4500	4540	101	347	0
5	3500	3540	102	350	0
6	1750	1760	100	351	0
7	1650	1665	101	350	0
8	1300	1310	100	349	0
9	4550	4620	101	350	0
10	2500	2530	101	349	0
11	2050	2100	100	347	0
12	1850	1900	100	347	0
13	500	1560	101	348	0
14	1100	1120	102	350	0
15	2250	2300	101	349	0
16	800	1182	100	350	0
17	1200	2640	100	350	0
18	1850	2460	100	348	0
19	775	800	101	349	0
20	1150	1200	100	347	0
21	1750	1900	101	347	0
22	2450	2500	101	349	0
23	950	1000	102	348	0
24	1500	1580	100	347	0
25	925	3730	100	347	0
26	1450	1460	102	351	0
27	2700	2720	99	349	0
28	2700	2730	100	350	0
29	500	530	100	347	0
30	1500	1520	101	349	0
31	1050	1150	101	349	0
TOTALS	57150	64627	--	--	0

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Sep-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLS	BBLS SOLD	PSI	PSI	SOLD
1	3450	3560	99	348	0
2	1550	1620	100	349	0
3	down	down	down	down	0
4	250	280	101	350	0
5	100	100	100	350	0
6	195	1210	100	351	0
7	1150	1200	99	350	0
8	875	900	100	349	0
9	2000	2060	100	350	0
10	1725	1740	101	351	0
11	2300	2320	100	350	0
12	1950	1980	99	350	0
13	1450	1490	100	349	0
14	2550	2580	101	348	0
15	1000	1030	101	347	0
16	1650	1665	100	348	0
17	1000	1020	98	349	0
18	1275	1300	99	350	0
19	800	810	99	351	0
20	1650	1670	101	349	0
21	1650	1690	100	347	0
22	3775	3800	100	348	0
23	1850	1870	99	349	0
24	1625	1630	101	350	0
25	1425	1500	100	349	0
26	1350	3400	100	349	0
27	1250	1280	101	350	0
28	2100	2120	101	351	0
29	1200	1245	100	349	0
30	1415	1420	99	348	0
31					
TOTALS	44560	48490	--	--	0

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Oct-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLs	BBLs SOLD	PSI	PSI	SOLD
1	1700	1730	100	349	0
2	1715	1720	101	347	0
3	1690	1700	99	349	0
4	1400	1410	99	349	0
5	1500	1540	100	347	0
6	2950	2980	99	347	0
7	2525	2575	101	349	0
8	1200	1235	101	347	0
9	500	540	99	348	0
10	0	1770	DOWN	DOWN	0
11	0	200	DOWN	DOWN	0
12	0	0	DOWN	DOWN	0
13	0	400	DOWN	DOWN	0
14	0	100	DOWN	DOWN	0
15	0	500	DOWN	DOWN	0
16	0	700	DOWN	DOWN	0
17	0	490	DOWN	DOWN	0
18	0	760	DOWN	DOWN	0
19	0	0	DOWN	DOWN	0
20	0	280	DOWN	DOWN	0
21	600	610	101	342	0
22	0	0	100	346	0
23	175	200	100	347	0
24	825	830	101	349	0
25	2100	2170	101	348	0
26	3100	3150	100	346	0
27	1800	1830	99	347	0
28	2000	2080	100	349	0
29	750	770	101	347	0
30	1200	1280	100	349	0
31	2800	2820	99	347	0
TOTALS	30530	36370	--	--	0

EXISTING WATER IN TANKS

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Nov-22

	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD
DATE	BBLS	BBLS SOLD	PSI	PSI	SOLD
1	2200	2260	100	349	0
2	1500	1540	99	350	0
3	2200	2220	101	348	25
4	1550	1570	100	348	25
5	2475	2500	100	347	0
6	2200	2230	99	349	0
7	1700	1710	100	350	0
8	1050	1100	99	349	20
9	2300	2380	99	350	25
10	2750	2780	101	349	120
11	3250	3295	100	350	0
12	2925	2950	99	347	0
13	2350	2360	100	347	0
14	3700	3760	100	349	0
15	3660	3710	99	347	0
16	850	890	99	350	0
17	4550	4600	100	349	0
18	2580	2600	97	347	0
19	3250	3280	99	349	0
20	2610	2640	98	347	60
21	2400	2440	99	349	0
22	3150	3200	99	348	0
23	2550	2670	100	349	0
24	3400	3515	98	347	0
25	1450	1500	99	350	0
26	POWER OUTAGE	0	--	--	0
27	POWER OUTAGE	0	--	--	0
28	3100	3180	100	349	0
29	BUSTED PIPE	1595	99	350	0
30	1625	3140	99	349	0
31					
TOTALS	67325	71615	--	--	275

MONTHLY FRESH & BRINE WATER REPORT

FACILITY /LOCATION:	Salty Dog
MONTH/YEAR :	Dec-22

DATE	AMOUNT OF FRESH WATER PUMPED DOWN HOLE	AMOUNT OF BRINE WATER OUT OF HOLE	DAILY TUBING PRESSURES	DAILY CASING PRESSURES	FRESH WATER SOLD	
	BBLS	BBLS SOLD	PSI	PSI		
1	1775	1800	99	349	0	
2	2050	2100	98	347	0	
3	1950	1990	99	347	0	
4	2600	2635	97	349	0	
5	3350	3370	97	347	0	
6	1250	1720	99	349	0	
7	0	0	--	--	0	DOWN FOR BROKEN PIPE
8	950	960	97	350	0	
9	0	0	--	--	0	DOWN FOR BROKEN PIPE
10	290	300	96	349	0	
11	0	0	--	--	0	
12	300	330	97	347	0	
13	2850	2890	99	349	0	BACK IN SERVICE
14	3300	3330	100	350	0	
15	1200	1250	99	349	0	
16	1175	1200	100	348	0	
17	375	400	99	347	0	
18	200	220	97	347	0	
19	1225	1230	98	349	0	
20	1800	1835	96	347	0	
21	2100	2140	98	349	0	
22	2425	2430	97	348	0	
23	3315	3340	98	349	0	
24	1200	1215	98	347	0	
25	900	910	97	347	0	
26	1750	1765	96	349	0	
27	2925	2980	97	348	0	
28	2200	2250	97	347	0	
29	2110	2140	98	346	0	
30	2000	2010	99	347	0	
31	2005	2010	99	347	0	
TOTALS	49570	50750	--	--	0	

Appendix C

Laboratory Analytical
Reports for
2022 Semiannual Sampling



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

July 14, 2022

John Ayarbe

Daniel B. Stephens & Assoc.

6020 Academy NE Suite 100

Albuquerque, NM 87109

TEL:

FAX:

RE: Salty Dog

OrderNo.: 2206811

Dear John Ayarbe:

Hall Environmental Analysis Laboratory received 14 sample(s) on 6/15/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-1R

Project: Salty Dog

Collection Date: 6/9/2022 4:08:00 PM

Lab ID: 2206811-001

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	940	50	*	mg/L	100	6/15/2022 6:21:58 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-3

Project: Salty Dog

Collection Date: 6/9/2022 3:24:00 PM

Lab ID: 2206811-002

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	57	5.0		mg/L	10	6/15/2022 6:34:51 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-4

Project: Salty Dog

Collection Date: 6/9/2022 2:42:00 PM

Lab ID: 2206811-003

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	44	5.0		mg/L	10	6/15/2022 7:26:17 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-5

Project: Salty Dog

Collection Date: 6/9/2022 4:45:00 PM

Lab ID: 2206811-004

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	200	5.0		mg/L	10	6/15/2022 7:52:01 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-6

Project: Salty Dog

Collection Date: 6/9/2022 6:44:00 PM

Lab ID: 2206811-005

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	290	50	*	mg/L	100	6/15/2022 8:30:35 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Estimated value
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-8

Project: Salty Dog

Collection Date: 6/9/2022 6:16:00 PM

Lab ID: 2206811-006

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	37	5.0		mg/L	10	6/15/2022 8:43:27 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-9

Project: Salty Dog

Collection Date: 6/9/2022 5:40:00 PM

Lab ID: 2206811-007

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	350	50	*	mg/L	100	6/15/2022 9:22:01 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Estimated value
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-10

Project: Salty Dog

Collection Date: 6/9/2022 7:25:00 PM

Lab ID: 2206811-008

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	530	50	*	mg/L	100	6/15/2022 10:13:28 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Estimated value
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-5

Project: Salty Dog

Collection Date: 6/10/2022 3:35:00 PM

Lab ID: 2206811-009

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	590	50	*	mg/L	100	6/15/2022 10:39:11 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: PMW-1

Project: Salty Dog

Collection Date: 6/9/2022 8:24:00 PM

Lab ID: 2206811-010

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JTT
Chloride	13000	500	*	mg/L	1E+	6/27/2022 12:11:08 PM	R89065

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: Ranch Well

Project: Salty Dog

Collection Date: 6/10/2022 10:27:00 AM

Lab ID: 2206811-011

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	54	5.0		mg/L	10	6/15/2022 11:17:45 PM	R88776

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-3

Project: Salty Dog

Collection Date: 6/10/2022 1:38:00 PM

Lab ID: 2206811-012

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY							Analyst: CAS
Specific Gravity	1.000	0			1	6/30/2022 3:28:00 PM	R89169
EPA METHOD 300.0: ANIONS							Analyst: JMT
Fluoride	ND	1.0		mg/L	10	6/16/2022 12:34:56 AM	R88776
Chloride	5100	250	*	mg/L	500	6/27/2022 12:24:00 PM	R89065
Bromide	2.0	1.0		mg/L	10	6/16/2022 12:34:56 AM	R88776
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	6/16/2022 12:34:56 AM	R88776
Sulfate	250	5.0		mg/L	10	6/16/2022 12:34:56 AM	R88776
Nitrate+Nitrite as N	ND	4.0		mg/L	20	6/27/2022 2:58:28 PM	R89065
SM2510B: SPECIFIC CONDUCTANCE							Analyst: CAS
Conductivity	17000	100		µmhos/c	10	6/20/2022 1:03:46 PM	R88891
SM2320B: ALKALINITY							Analyst: CAS
Bicarbonate (As CaCO ₃)	195.9	20.00		mg/L Ca	1	6/16/2022 2:16:25 PM	R88821
Carbonate (As CaCO ₃)	ND	2.000		mg/L Ca	1	6/16/2022 2:16:25 PM	R88821
Total Alkalinity (as CaCO ₃)	195.9	20.00		mg/L Ca	1	6/16/2022 2:16:25 PM	R88821
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	10800	200	*D	mg/L	1	6/20/2022 12:44:00 PM	68166
SM4500-H+B / 9040C: PH							Analyst: CAS
pH	7.48		H	pH units	1	6/16/2022 2:16:25 PM	R88821
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: JRR
Calcium	680	100		mg/L	100	6/16/2022 12:41:23 PM	68150
Magnesium	110	100		mg/L	100	6/16/2022 12:41:23 PM	68150
Potassium	12	1.0		mg/L	1	6/16/2022 12:22:17 PM	68150
Sodium	2400	100		mg/L	100	6/16/2022 12:41:23 PM	68150

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: Brine

Project: Salty Dog

Collection Date: 6/10/2022 3:58:00 PM

Lab ID: 2206811-013

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY							Analyst: CAS
Specific Gravity	1.200	0			1	6/30/2022 3:28:00 PM	R89169
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	170000	10000	*	mg/L	2E+	6/16/2022 1:13:30 AM	R88776
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	326000	2000	*D	mg/L	1	6/20/2022 12:44:00 PM	68166
SM4500-H+B / 9040C: PH							Analyst: CAS
pH	7.13		H	pH units	1	6/16/2022 12:07:45 PM	R88821
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: JRR
Sodium	56000	1000		mg/L	1E+	6/16/2022 12:43:36 PM	68150

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2206811

Date Reported: 7/14/2022

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: Injection

Project: Salty Dog

Collection Date: 6/10/2022 4:50:00 PM

Lab ID: 2206811-014

Matrix: GROUNDWA

Received Date: 6/15/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY							Analyst: CAS
Specific Gravity	0.9959	0			1	6/30/2022 3:28:00 PM	R89169
EPA METHOD 300.0: ANIONS							Analyst: JMT
Chloride	590	50	*	mg/L	100	6/16/2022 1:39:12 AM	R88776
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	1470	20.0	*	mg/L	1	6/20/2022 12:44:00 PM	68166
SM4500-H+B / 9040C: PH							Analyst: CAS
pH	7.57		H	pH units	1	6/16/2022 12:12:18 PM	R88821
EPA 6010B: TOTAL RECOVERABLE METALS							Analyst: JRR
Sodium	300	100		mg/L	100	6/16/2022 12:47:59 PM	68150

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

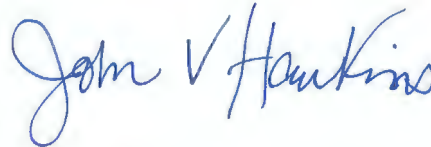
B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1505736
Samples Received: 06/16/2022
Project Number:
Description:

Report To: Andy Freeman
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

2206811-012C MW-3 L1505736-01 5

Qc: Quality Control Summary 6

Wet Chemistry by Method 2580 6

Gl: Glossary of Terms 7

Al: Accreditations & Locations 8

Sc: Sample Chain of Custody 9

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SAMPLE SUMMARY

2206811-012C MW-3 L1505736-01 GW

Collected by

Collected date/time

Received date/time

06/10/22 13:38

06/16/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG1891794	1	07/13/22 13:16	07/13/22 13:16	ARD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

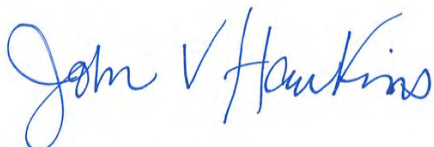
⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	176	T8	1	07/13/2022 13:16	WG1891794

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1505736-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1505736-01 07/13/22 13:16 • (DUP) R3814296-3 07/13/22 13:16

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	176	176	1	0.700		20

L1508843-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1508843-02 07/13/22 13:16 • (DUP) R3814296-4 07/13/22 13:16

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	198	197	1	1.00		20

L1510492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1510492-01 07/13/22 13:16 • (DUP) R3814296-5 07/13/22 13:16

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	-83.5	-82.3	1	0.000		20

L1512255-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1512255-02 07/13/22 13:16 • (DUP) R3814296-6 07/13/22 13:16

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	166	166	1	0.500		20

L1512255-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1512255-03 07/13/22 13:16 • (DUP) R3814296-7 07/13/22 13:16

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	93.6	91.3	1	2.30		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3814296-1 07/13/22 13:16 • (LCSD) R3814296-2 07/13/22 13:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff	Diff Limits
	mV	mV	mV	%	%	%			mV	mV
ORP	108	107	110	99.2	102	90.0-110			2.70	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

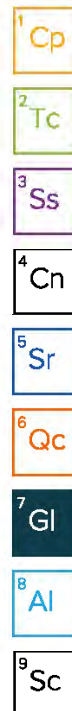
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

T8	Sample(s) received past/too close to holding time expiration.
----	---------------------------------------------------------------



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

D176

SUB CONTRACTOR: Pace TN		COMPANY: PACE TN		PHONE: (800) 767-5859		FAX: (615) 758-5859	
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: Mt. Juliet, TN 37122							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2206811-012C	MW-3	125HDP	Groundw	6/10/2022 1:38:00 PM	1	4505736 ORP CNC 6/15/22 -01

5755 8089 3826
Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N If Applicable
COC Signed/Accurate: ☒ Y ☐ N VOA Zero Headspace: ☐ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N Pres. Correct/Check: ☐ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N
DRAFT 2.7 + 0 = 2.7

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: Cmc	Date: 6/15/2022	Time: 11:00 AM	Received By: [Signature]	Date: 6/16/22	Time: 0900	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Temp of samples _____ °C Attempt to Cool? _____	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						Comments: _____	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R88776	RunNo: 88776								
Prep Date:	Analysis Date: 6/15/2022	SeqNo: 3151883 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R88776	RunNo: 88776								
Prep Date:	Analysis Date: 6/15/2022	SeqNo: 3151884 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.7	0.50	5.000	0	94.9	90	110			
Bromide	2.5	0.10	2.500	0	99.6	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.0	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID: 2206811-001AMS	SampType: ms	TestCode: EPA Method 300.0: Anions								
Client ID: DBS-1R	Batch ID: R88776	RunNo: 88776								
Prep Date:	Analysis Date: 6/15/2022	SeqNo: 3151886 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.8	1.0	5.000	0.9770	95.9	79.7	110			
Bromide	25	1.0	25.00	0.6060	99.0	91.2	106			
Sulfate	170	5.0	100.0	62.38	104	90.5	112			

Sample ID: 2206811-001AMSD	SampType: msd	TestCode: EPA Method 300.0: Anions								
Client ID: DBS-1R	Batch ID: R88776	RunNo: 88776								
Prep Date:	Analysis Date: 6/15/2022	SeqNo: 3151887 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.8	1.0	5.000	0.9770	96.0	79.7	110	0.0866	20	
Bromide	25	1.0	25.00	0.6060	98.8	91.2	106	0.162	20	
Sulfate	170	5.0	100.0	62.38	104	90.5	112	0.0673	20	

Sample ID: 2206811-011AMS	SampType: ms	TestCode: EPA Method 300.0: Anions								
Client ID: Ranch Well	Batch ID: R88776	RunNo: 88776								
Prep Date:	Analysis Date: 6/15/2022	SeqNo: 3151912 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: 2206811-011AMS		SampType: ms		TestCode: EPA Method 300.0: Anions						
Client ID: Ranch Well		Batch ID: R88776		RunNo: 88776						
Prep Date:		Analysis Date: 6/15/2022		SeqNo: 3151912		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.4	1.0	5.000	0.6930	94.9	79.7	110			
Chloride	100	5.0	50.00	53.87	97.8	86.3	114			
Bromide	24	1.0	25.00	0	97.2	91.2	106			
Sulfate	160	5.0	100.0	60.34	101	90.5	112			

Sample ID: 2206811-011AMSD		SampType: msd		TestCode: EPA Method 300.0: Anions						
Client ID: Ranch Well		Batch ID: R88776		RunNo: 88776						
Prep Date:		Analysis Date: 6/15/2022		SeqNo: 3151913		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.5	1.0	5.000	0.6930	96.1	79.7	110	1.17	20	
Chloride	100	5.0	50.00	53.87	99.5	86.3	114	0.855	20	
Bromide	24	1.0	25.00	0	98.0	91.2	106	0.762	20	
Sulfate	160	5.0	100.0	60.34	103	90.5	112	1.01	20	

Sample ID: MB		SampType: mblk		TestCode: EPA Method 300.0: Anions						
Client ID: PBW		Batch ID: R89065		RunNo: 89065						
Prep Date:		Analysis Date: 6/27/2022		SeqNo: 3163601		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: LCS		SampType: lcs		TestCode: EPA Method 300.0: Anions						
Client ID: LCSW		Batch ID: R89065		RunNo: 89065						
Prep Date:		Analysis Date: 6/27/2022		SeqNo: 3163602		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.9	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: lcs-1 99.6uS eC	SampType: lcs		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R88891		RunNo: 88891							
Prep Date:	Analysis Date: 6/20/2022		SeqNo: 3156279		Units: umhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.60	0	103	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB-68150	SampType: MBLK	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: PBW	Batch ID: 68150	RunNo: 88834								
Prep Date: 6/15/2022	Analysis Date: 6/16/2022	SeqNo: 3154017 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCS-68150	SampType: LCS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: LCSW	Batch ID: 68150	RunNo: 88834								
Prep Date: 6/15/2022	Analysis Date: 6/16/2022	SeqNo: 3154019 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	100	80	120			
Magnesium	50	1.0	50.00	0	99.0	80	120			
Potassium	49	1.0	50.00	0	97.0	80	120			
Sodium	47	1.0	50.00	0	94.1	80	120			

Sample ID: 2206811-012BMS	SampType: MS	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: MW-3	Batch ID: 68150	RunNo: 88834								
Prep Date: 6/15/2022	Analysis Date: 6/16/2022	SeqNo: 3154026 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	62	1.0	50.00	12.40	99.4	75	125			

Sample ID: 2206811-012BMSD	SampType: MSD	TestCode: EPA 6010B: Total Recoverable Metals								
Client ID: MW-3	Batch ID: 68150	RunNo: 88834								
Prep Date: 6/15/2022	Analysis Date: 6/16/2022	SeqNo: 3154030 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	62	1.0	50.00	12.40	99.8	75	125	0.353	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R88821	RunNo: 88821								
Prep Date:	Analysis Date: 6/16/2022	SeqNo: 3153402	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R88821	RunNo: 88821								
Prep Date:	Analysis Date: 6/16/2022	SeqNo: 3153403	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	75.00	20.00	80.00	0	93.8	90	110			

Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R88821	RunNo: 88821								
Prep Date:	Analysis Date: 6/16/2022	SeqNo: 3153425	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R88821	RunNo: 88821								
Prep Date:	Analysis Date: 6/16/2022	SeqNo: 3153426	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	75.16	20.00	80.00	0	93.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: 2206811-012ADUP		SampType: DUP		TestCode: Specific Gravity						
Client ID: MW-3		Batch ID: R89169		RunNo: 89169						
Prep Date:		Analysis Date: 6/30/2022		SeqNo: 3169253		Units:				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Specific Gravity	1.000	0						0.0300	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206811

14-Jul-22

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB-68166	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 68166	RunNo: 88869								
Prep Date: 6/17/2022	Analysis Date: 6/20/2022	SeqNo: 3155242 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-68166	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 68166	RunNo: 88869								
Prep Date: 6/17/2022	Analysis Date: 6/20/2022	SeqNo: 3155243 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	0	104	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank
E Estimated value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Daniel B. Stephens & Assoc.

Work Order Number: 2206811

RcptNo: 1

Received By: Cheyenne Cason 6/15/2022 10:30:00 AM

Completed By: Cheyenne Cason 6/15/2022 10:36:32 AM

Reviewed By: KDH 6.15.22

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? UPS

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4$ " for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH: 11
(2 or >12 unless noted)

Adjusted? no

Checked by: CMC 6/15/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			

Chain-of-Custody Record

Client: DBS+A

Mailing Address:

Phone #: 505.822.9400

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Project #:

Project Manager:

Sampler: V. Morgan

On Ice: ☒ Yes ☐ No

of Coolers: 1

Cooler Temp (including CF): 4.1-0=4.1 (°C)

Container Type and # Preservative Type HEAL No.

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
6-10-22	13:38	GW	MW-3	✓ 4 poly	Varies	012
↓	15:58	↓	Brine	✓ 3 poly	↓	013
↓	16:50	↓	Injection	✓ 3 poly	↓	014

Y. Morgan

Date: 6-14-22 Time: 1315 Relinquished by: [Signature]

Date: Time: Relinquished by: Received by: Via: Date Time

Received by: CM Via: UPS Date: 6/15/22 Time: 1030

Received by: Via: Date Time



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals <u>300.0</u>	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA) <u>ORP</u>	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Specific Gravity, TDS, PH	Specific Conductance	Total Bicarbonate Carbonate, Alkalinity	Ca, Mg, K, NA - 6010B	NA - 6010B	CI-only 300.0
						X	X			X	X	X	X		
										X				X	X
										X				X	X

Remarks:

Page 2 of 2



*Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com*

January 20, 2023

John Ayarbe

Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109
TEL:
FAX:

RE: Salty Dog

OrderNo.: 2212E17

Dear John Ayarbe:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/28/2022 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 18, 2023.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-1R

Project: Salty Dog

Collection Date: 12/23/2022 1:11:00 PM

Lab ID: 2212E17-001

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	1200	50	*	mg/L	100	12/30/2022 6:06:57 PM	R93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-3

Project: Salty Dog

Collection Date: 12/23/2022 10:52:00 AM

Lab ID: 2212E17-002

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	68	5.0		mg/L	10	12/30/2022 6:19:48 PM	R93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-4

Project: Salty Dog

Collection Date: 12/23/2022 12:07:00 PM

Lab ID: 2212E17-003

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	47	5.0		mg/L	10	12/30/2022 7:11:17 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-5

Project: Salty Dog

Collection Date: 12/23/2022 11:34:00 AM

Lab ID: 2212E17-004

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	230	50		mg/L	100	12/30/2022 8:41:24 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-6

Project: Salty Dog

Collection Date: 12/22/2022 3:23:00 PM

Lab ID: 2212E17-005

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	360	50	*	mg/L	100	12/30/2022 9:07:06 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-8

Project: Salty Dog

Collection Date: 12/22/2022 2:50:00 PM

Lab ID: 2212E17-006

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	43	5.0		mg/L	10	12/30/2022 9:19:58 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-9

Project: Salty Dog

Collection Date: 12/23/2022 9:56:00 AM

Lab ID: 2212E17-007

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	400	50	*	mg/L	100	12/30/2022 9:58:34 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: DBS-10

Project: Salty Dog

Collection Date: 12/22/2022 11:40:00 AM

Lab ID: 2212E17-008

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	570	50	*	mg/L	100	12/30/2022 10:50:03 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-5

Project: Salty Dog

Collection Date: 12/22/2022 1:48:00 PM

Lab ID: 2212E17-009

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	710	50	*	mg/L	100	12/30/2022 11:15:46 PM	A93667

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: PMW-1

Project: Salty Dog

Collection Date: 12/23/2022 1:55:00 PM

Lab ID: 2212E17-010

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	12000	500	*	mg/L	1E+	1/5/2023 2:59:27 AM	A93728

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: MW-3

Project: Salty Dog

Collection Date: 12/22/2022 5:32:00 PM

Lab ID: 2212E17-011

Matrix: GROUNDWA

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY							Analyst: CAS
Specific Gravity	1.003	0			1	12/30/2022 5:04:00 PM	R93653
EPA METHOD 300.0: ANIONS							Analyst: NAI
Fluoride	ND	1.0		mg/L	10	12/30/2022 11:54:21 PM	A93667
Chloride	5700	250	*	mg/L	500	1/5/2023 3:12:19 AM	A93728
Bromide	2.4	1.0		mg/L	10	12/30/2022 11:54:21 PM	A93667
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	1/7/2023 1:18:49 AM	A93791
Sulfate	330	5.0	*	mg/L	10	12/30/2022 11:54:21 PM	A93667
Nitrate+Nitrite as N	ND	4.0		mg/L	20	1/10/2023 11:07:42 PM	A93860
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JTT
Conductivity	21000	100		µmhos/c	10	1/4/2023 11:58:38 AM	R93716
SM2320B: ALKALINITY							Analyst: SNS
Bicarbonate (As CaCO3)	192.8	20.00		mg/L Ca	1	12/28/2022 7:21:11 PM	A93608
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/28/2022 7:21:11 PM	A93608
Total Alkalinity (as CaCO3)	192.8	20.00		mg/L Ca	1	12/28/2022 7:21:11 PM	A93608
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: SNS
Total Dissolved Solids	11200	200	*D	mg/L	1	12/30/2022 4:07:00 PM	72374
SM4500-H+B / 9040C: PH							Analyst: SNS
pH	7.56		H	pH units	1	12/28/2022 7:21:11 PM	R93608
EPA METHOD 200.7: TOTAL METALS							Analyst: VP
Calcium	910	10		mg/L	10	1/9/2023 6:49:07 PM	72387
Magnesium	130	5.0		mg/L	5	1/9/2023 6:45:40 PM	72387
Potassium	17	1.0		mg/L	1	1/3/2023 3:02:27 PM	72387
Sodium	2400	50		mg/L	50	1/12/2023 1:19:00 PM	72387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2212E17

Date Reported: 1/20/2023

CLIENT: Daniel B. Stephens & Assoc.

Client Sample ID: Brine

Project: Salty Dog

Collection Date: 12/23/2022 1:55:00 PM

Lab ID: 2212E17-012

Matrix: AQUEOUS

Received Date: 12/28/2022 9:31:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY							Analyst: CAS
Specific Gravity	1.192	0			1	12/30/2022 5:04:00 PM	R93653
EPA METHOD 300.0: ANIONS							Analyst: NAI
Chloride	180000	5000	*	mg/L	1E+	1/5/2023 3:25:11 AM	A93728
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: SNS
Total Dissolved Solids	320000	2000	*D	mg/L	1	12/30/2022 4:07:00 PM	72374
SM4500-H+B / 9040C: PH							Analyst: SNS
pH	7.09		H	pH units	1	12/28/2022 7:43:49 PM	R93608
EPA METHOD 200.7: TOTAL METALS							Analyst: VP
Sodium	95000	1000		mg/L	1E+	1/13/2023 11:14:02 AM	72387

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

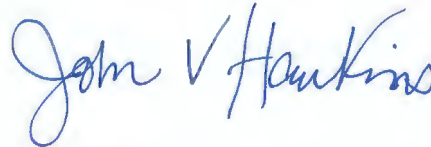
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1571472
Samples Received: 12/29/2022
Project Number:
Description:

Report To: Andy Freeman
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



John Hawkins
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 4

Sr: Sample Results 5

2212E17-011C L1571472-01 5

Qc: Quality Control Summary 6

Wet Chemistry by Method 2580 6

Gl: Glossary of Terms 7

Al: Accreditations & Locations 8

Sc: Sample Chain of Custody 9

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

SAMPLE SUMMARY

2212E17-011C L1571472-01 GW

Collected by

Collected date/time

Received date/time

12/22/22 17:32

12/29/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG1983561	1	01/05/23 13:51	01/05/23 13:51	ARD	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

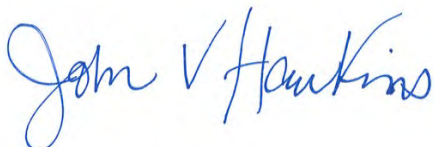
⁷Gl

⁸Al

⁹Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

2212E17-011C

Collected date/time: 12/22/22 17:32

SAMPLE RESULTS - 01

L1571472

Wet Chemistry by Method 2580

Analyte	Result mV	Qualifier	Dilution	Analysis date / time	Batch
ORP	300	T8	1	01/05/2023 13:51	WG1983561

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1570777-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1570777-15 01/05/23 13:51 • (DUP) R3878319-3 01/05/23 13:51

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	372	369	1	3.00		20

L1570777-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1570777-16 01/05/23 13:51 • (DUP) R3878319-4 01/05/23 13:51

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	371	371	1	0.000		20

L1571472-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1571472-01 01/05/23 13:51 • (DUP) R3878319-5 01/05/23 13:51

Analyte	Original Result	DUP Result	Dilution	DUP Diff	<u>DUP Qualifier</u>	DUP Diff Limits
	mV	mV		mV		mV
ORP	300	301	1	0.200		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3878319-1 01/05/23 13:51 • (LCSD) R3878319-2 01/05/23 13:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	Diff	Diff Limits
	mV	mV	mV	%	%	%			mV	mV
ORP	98.0	99.4	94.1	101	96.0	90.0-110			5.30	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

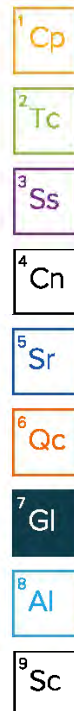
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

T8	Sample(s) received past/too close to holding time expiration.
----	---------------------------------------------------------------



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

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

¹ Cp

² Tc

³ Ss

⁴ Cn

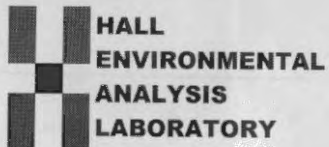
⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

J037

SUB CONTRACTOR: Pace TN		COMPANY: PACE TN		PHONE: (800) 767-5859		FAX: (615) 758-5859	
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: Mt. Juliet, TN 37122							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2212E17-011C	MW-3	125HDP	Groundwater	12/22/2022 5:32:00 PM	1	Oxidation Reduction Potential

L1571472

Sample Receipt Checklist

COC Seal Present/Intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	If Applicable	
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	VOA Zero Headspace:	<input type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Pres. Correct/Check:	<input type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		

0201 7708 9777 3873

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 12/28/2022	Time: 10:23 AM	Received By:	Date: 12/29/22	Time: 0900
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
TAT: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH <input type="checkbox"/> Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD					

REPORT TRANSMITTAL DESIRED:	
<input type="checkbox"/> HARDCOPY (extra cost)	<input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE
FOR LAB USE ONLY	
Temp of samples 25.0-25.5 °C	Attempt to Cool ?
Comments:	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB-72387	SampType: MBLK	TestCode: EPA Method 200.7: Total Metals								
Client ID: PBW	Batch ID: 72387	RunNo: 93679								
Prep Date: 12/30/2022	Analysis Date: 1/3/2023	SeqNo: 3381321 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCSLL-72387	SampType: LCSLL	TestCode: EPA Method 200.7: Total Metals								
Client ID: BatchQC	Batch ID: 72387	RunNo: 93679								
Prep Date: 12/30/2022	Analysis Date: 1/3/2023	SeqNo: 3381322 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	103	50	150			
Magnesium	ND	1.0	0.5000	0	107	50	150			
Potassium	ND	1.0	0.5000	0	103	50	150			
Sodium	ND	1.0	0.5000	0	106	50	150			

Sample ID: LCS-72387	SampType: LCS	TestCode: EPA Method 200.7: Total Metals								
Client ID: LCSW	Batch ID: 72387	RunNo: 93679								
Prep Date: 12/30/2022	Analysis Date: 1/3/2023	SeqNo: 3381323 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R93667	RunNo: 93667								
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380579 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R93667	RunNo: 93667								
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380580 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	100	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A93667	RunNo: 93667								
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380620 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A93667	RunNo: 93667								
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380621 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	5.1	0.50	5.000	0	102	90	110			
Bromide	2.6	0.10	2.500	0	104	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID: 2212E17-004AMS	SampType: ms	TestCode: EPA Method 300.0: Anions								
Client ID: DBS-5	Batch ID: A93667	RunNo: 93667								
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380627 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	5.4	1.0	5.000	0	109	78.6	114			
Bromide	28	1.0	25.00	1.422	105	89.4	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: 2212E17-004AMSD	SampType: msd	TestCode: EPA Method 300.0: Anions
Client ID: DBS-5	Batch ID: A93667	RunNo: 93667
Prep Date:	Analysis Date: 12/30/2022	SeqNo: 3380628 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Fluoride	5.4	1.0 5.000 0 109 78.6 114 0.147 20
Bromide	28	1.0 25.00 1.422 105 89.4 110 0.0254 20

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: A93728	RunNo: 93728
Prep Date:	Analysis Date: 1/4/2023	SeqNo: 3383396 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND	0.50

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: A93728	RunNo: 93728
Prep Date:	Analysis Date: 1/4/2023	SeqNo: 3383397 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	4.8	0.50 5.000 0 96.0 90 110

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: A93791	RunNo: 93791
Prep Date:	Analysis Date: 1/6/2023	SeqNo: 3386005 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phosphorus, Orthophosphate (As P)	ND	0.50

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions
Client ID: LCSW	Batch ID: A93791	RunNo: 93791
Prep Date:	Analysis Date: 1/6/2023	SeqNo: 3386006 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Phosphorus, Orthophosphate (As P)	4.7	0.50 5.000 0 93.2 90 110

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
Client ID: PBW	Batch ID: A93860	RunNo: 93860
Prep Date:	Analysis Date: 1/10/2023	SeqNo: 3388320 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Nitrate+Nitrite as N	ND	0.20

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A93860	RunNo: 93860								
Prep Date:	Analysis Date: 1/10/2023	SeqNo: 3388321 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.3	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: lcs-1 99.4uS eC	SampType: LCS		TestCode: SM2510B: Specific Conductance							
Client ID: LCSW	Batch ID: R93716		RunNo: 93716							
Prep Date:	Analysis Date: 1/4/2023		SeqNo: 3382829		Units: µmhos/cm					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.40	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: 2212E17-011A DUP		SampType: dup		TestCode: SM4500-H+B / 9040C: pH						
Client ID: MW-3		Batch ID: R93608		RunNo: 93608						
Prep Date:		Analysis Date: 12/28/2022		SeqNo: 3377830		Units: pH units				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.54							0.265		H

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: mb-2 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: A93608	RunNo: 93608								
Prep Date:	Analysis Date: 12/28/2022	SeqNo: 3377798 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-2 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: A93608	RunNo: 93608								
Prep Date:	Analysis Date: 12/28/2022	SeqNo: 3377799 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.88	20.00	80.00	0	98.6	90	110			

Sample ID: 2212E17-011A DUP	SampType: dup	TestCode: SM2320B: Alkalinity								
Client ID: MW-3	Batch ID: A93608	RunNo: 93608								
Prep Date:	Analysis Date: 12/28/2022	SeqNo: 3377807 Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	193.1	20.00						0.166	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2212E17

20-Jan-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: MB-72374	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 72374	RunNo: 93734								
Prep Date: 12/29/2022	Analysis Date: 12/30/2022	SeqNo: 3383491			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-72374	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 72374	RunNo: 93734								
Prep Date: 12/29/2022	Analysis Date: 12/30/2022	SeqNo: 3383492			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	992	20.0	1000	0	99.2	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank
E Above Quantitation Range/Estimated Value
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Daniel B. Stephens & Assoc.

Work Order Number: 2212E17

RcptNo: 1

Received By: Cheyenne Cason

12/28/2022 9:31:00 AM

Handwritten signature

Completed By: Tracy Casarrubias

12/28/2022 10:01:28 AM

Reviewed By: *Handwritten signature* 12/28/22

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? UPS

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved bottles checked for pH:

Handwritten: 4

Handwritten: (<2 or >12 unless noted)

Adjusted? *Handwritten: NO*

Checked by: *Handwritten: Jm 12/28/22*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☒ No ☐ NA ☐

Person Notified: John Ayarbe

Date: 12/28/2022

By Whom: Tracy Casarrubias

Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person

Regarding: Anion Analysis on sample 011.

Client Instructions: I did not get a response. Voice mail was left.

16. Additional remarks:

COC incomplete. Address not filled in correctly. - TMC 12/28/22

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Client: DBS+A

Mailing Address: _____

Phone #: _____

email or Fax#: _____

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other _____

☐ EDD (Type) _____

☐ Standard ☒ **Rush**

Project #: Sally Dog

J Ayerbe	
Sampler:	Y Maza
On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
# of Coolers:	1 FR Yea

Cooler Temp (including CF): $1.0 - 0 = 1.0$ ($^{\circ}\text{C}$)

Container Type and #	Preservative Type	HEAL No. 2212 E17
-------------------------	----------------------	----------------------

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Date: 12/22	Time: 610	Relinquished by: [Signature]	Received by: [Signature] Via: Store	Date: 12/23	Time: 1035
Date:	Time:	Relinquished by:	Received by: [Signature] Via: [Signature]	Date: 12/28/14	Time: 0931

Remarks: Page 2 of 2

Appendix D

Mechanical Integrity Test Record

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division Hobbs District Office

BRADENHEAD TEST REPORT

Operator Name SALTY Dog		API Number 30-025-26307	
Property Name BRINE Supply Well		Well No. #1	

Surface Location									
UL - Lot J	Section 5	Township 19S	Range 36E	Feet from 1980	N/S Line S	Feet From 1980	E/W Line E	County LETT	

Well Status										
TA'D WELL YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		SHUT-IN YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		INJECTOR INJ		SWD		PRODUCER OIL <input type="checkbox"/> GAS <input type="checkbox"/>		DATE 5-26-23

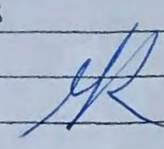
BRINE Well

OBSERVED DATA

	(A)Surface	(B)Interm(1)	(C)Interm(2)	(D)Prod Csg	(E)Tubing
Pressure	Cemented			320	320
Flow Characteristics					
Puff	Y / N	Y / N	Y / N	Y / N	CO2
Steady Flow	Y / N	Y / N	Y / N	Y / N	WTR
Surges	Y / N	Y / N	Y / N	Y / N	GAS
Down to nothing	Y / N	Y / N	Y / N	Y / N	Type of fluid Isolated for waterflood if applicable
Gas or Oil	Y / N	Y / N	Y / N	Y / N	
Water	Y / N	Y / N	Y / N	Y / N	

Remarks - Please state for each string (A,B,C,D,E) pertinent information regarding bleed down or continuous build up if applies.

BRINE Well BHT

Signature:		OIL CONSERVATION DIVISION	
Printed name:		Entered into RBDMS	
Title:		Re-test	
E-mail Address:			
Date:	Phone:		
Witness: Guy Rolinson			

INSTRUCTIONS ON BACK OF THIS FORM

PRINTED IN U.S.A.

2

3

4

5

6 PM

7

8

9

10

MIDNIGHT

NOON

11

10

6

8

7

6 AM

Dulacell
1000 N. French Dr.
P.O. Box 11733

CHART NO. MC MP-1000-150F
Graphic Controls Inc.
METER
CHART PUT ON
LOCATION
REMARKS
5-26-23
TAKEN OFF

54R BRINE
CAVEN/CSG TEST

SALT DOG
BRINE Supply Well #1

30-025-26307
5-5-195 36E

cal date 5-24-23
500 # 202A-0402 W.C.
12 Hr.

Start 7:30 AM
End 8:15 AM

255 minutes
4 1/4 hrs

Long Robinson - OLD

Bobby Yearling - STANDARD

START
2:30 AM
319 #

500 #
319 #
319 #

D.C. Meter Service

PO Box 869 Plains Hwy.

Denver City, TX 79323

806-592-2106

806-592-2107 fax

To: Standard

Date: 5/24/23

This is to certify that:

I Breneuyn Diaz, meter technician for D.C. Meter

Service, have checked the calibration on the following instrument:

12" Chart Recorder 1000 PSI

Serial Number: 202A-04108 WC at the following points:

0 - 25%✓

0 - 50%✓

0 - 75%✓

0 - 100%✓

Signed: Breneuyn Diaz

Remarks:

Appendix E

Historical Groundwater Level and Groundwater Quality Data

Table E-1. Historical Fluid Level Measurements
Page 1 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-1	56.0–76.0	3,817.09	4/8/2009	62.38	3,754.71
			5/11/2011	64.70	3,752.39
			10/4/2011	Well destroyed	
DBS-1R	58.0–78.0	3,817.00 ^b	4/30/2012	63.60	3,753.40
			9/10/2012	65.65	3,751.35
			6/23/2013	64.40	3,752.60
			1/9/2014	67.23	3,749.77
			4/7/2014	66.36	3,750.64
			3/20/2015	67.17	3,749.83
			7/1/2015	67.92	3,749.08
			9/29/2015	67.07	3,749.93
			12/16/2015	67.54	3,749.46
			3/22/2016	66.61	3,750.39
			6/8/2016	66.23	3,750.77
			9/13/2016	67.43	3,749.57
			12/1/2016	67.31	3,749.69
			6/20/2017	69.60	3,747.40
			12/19/2017	67.80	3,749.20
			6/18/2018	67.45	3,749.55
			11/7/2018	68.71	3,748.29
			6/3/2019	68.25	3,748.75
			12/17/2019	70.41	3,746.59
			6/23/2020	68.66	3,748.34
			11/21/2020	68.94	3,748.06
			6/2/2021	69.95	3,747.05
			11/28/2021	70.06	3,746.94
			6/9/2022	72.80	3,744.20
			12/22/2022	73.65	3,743.35
			6/12/2023	73.62	3,743.38

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 2 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-2	58.0–78.0	3,820.50	4/8/2009	65.45	3,755.05
			5/11/2011	66.80	3,753.70
			10/4/2011	65.87	3,754.63
			2/8/2012	65.96	3,754.54
			4/30/2012	66.26	3,754.24
			9/10/2012	67.45	3,753.05
			6/23/2013	67.03	3,753.47
			1/9/2014	69.08	3,751.42
			4/7/2014	68.67	3,751.83
			3/20/2015	69.32	3,751.18
			6/30/2015	69.29	3,751.21
			9/29/2015	69.41	3,751.09
			12/16/2015	69.71	3,750.79
			3/22/2016	69.13	3,751.37
			6/8/2016	68.91	3,751.59
			9/13/2016	69.76	3,750.74
			12/1/2016	69.73	3,750.77
			6/20/2017	71.33	3,749.17
			12/19/2017	70.42	3,750.08
			6/18/2018	70.25	3,750.25
			11/7/2018	71.07	3,749.43
			6/03/2019	70.94	3,749.56
			12/17/2019	72.43	3,748.07
			6/23/2020	71.54	3,748.96
			11/21/2020	71.57	3,748.93
			6/2/2021	72.43	3,748.07
			11/28/2021	72.81	3,747.69
			6/9/2022	74.89	3,745.61
			12/22/2022	74.95	3,745.55
			6/12/2023	Dry	NA

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 3 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-3	56.0–76.72	3,816.66	4/8/2009	60.67	3,755.99
			5/11/2011	61.25	3,755.41
			10/4/2011	61.25	3,755.41
			2/8/2012	61.11	3,755.55
			4/30/2012	61.41	3,755.25
			9/10/2012	61.81	3,754.85
			6/23/2013	62.08	3,754.58
			1/9/2014	63.30	3,753.36
			4/7/2014	63.43	3,753.23
			3/20/2015	63.93	3,752.73
			6/30/2015	63.99	3,752.67
			9/29/2015	64.17	3,752.49
			12/16/2015	64.41	3,752.25
			3/22/2016	63.88	3,752.78
			6/8/2016	63.92	3,752.74
			9/13/2016	64.56	3,752.10
			12/1/2016	64.59	3,752.07
			6/20/2017	65.52	3,751.14
			12/19/2017	65.54	3,751.12
			6/18/2018	65.60	3,751.06
			11/7/2018	66.11	3,750.55
			6/3/2019	66.10	3,750.56
			12/17/2019	66.96	3,749.70
			6/23/2020	66.81	3,749.85
			11/21/2020	66.67	3,749.99
			6/2/2021	67.50	3,749.16
			11/28/2021	68.12	3,748.54
			6/9/2022	69.57	3,747.09
			12/22/2022	70.95	3,745.71
			6/12/2023	71.74	3,744.92

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 4 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-4	56.0–76.0	3,820.37	4/8/2009	66.27	3,754.10
			5/11/2011	67.23	3,753.14
			10/4/2011	66.67	3,753.70
			2/8/2012	66.76	3,753.61
			4/30/2012	67.02	3,753.35
			9/10/2012	67.78	3,752.59
			6/23/2013	67.70	3,752.67
			1/9/2014	69.37	3,751.00
			4/7/2014	69.23	3,751.14
			3/20/2015	69.81	3,750.56
			6/30/2015	69.85	3,750.52
			9/29/2015	70.00	3,750.37
			12/16/2015	70.25	3,750.12
			3/22/2016	69.74	3,750.63
			6/8/2016	69.62	3,750.75
			9/13/2016	70.35	3,750.02
			12/1/2016	70.38	3,749.99
			6/20/2017	71.67	3,748.70
			12/19/2017	71.08	3,749.29
			6/18/2018	70.98	3,749.39
			11/7/2018	71.61	3,748.76
			6/3/2019	71.66	3,748.71
			12/17/2019	72.90	3,747.47
			6/23/2020	72.36	3,748.01
			11/21/2020	72.33	3,748.04
			6/2/2021	73.05	3,747.32
			11/28/2021	73.57	3,746.80
			6/9/2022	75.30	3,745.07
			12/22/2022	76.42	3,743.95
			6/12/2023	76.97	3,743.40

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 5 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-5	56.9–76.9	3,820.66	4/8/2009	62.99	3,757.67
			5/11/2011	63.45	3,757.21
			10/4/2011	63.41	3,757.25
			2/8/2012	63.46	3,757.20
			4/30/2012	63.70	3,756.96
			9/10/2012	63.92	3,756.74
			6/23/2013	64.30	3,756.36
			1/9/2014	65.28	3,755.38
			4/7/2014	65.48	3,755.18
			3/20/2015	65.90	3,754.76
			7/1/2015	66.18	3,754.48
			9/29/2015	66.25	3,754.41
			12/16/2015	66.47	3,754.19
			3/22/2016	66.08	3,754.58
			6/8/2016	66.16	3,754.50
			9/13/2016	66.64	3,754.02
			12/1/2016	66.72	3,753.94
			6/20/2017	67.60	3,753.06
			12/19/2017	67.88	3,752.78
			6/18/2018	68.04	3,752.62
			11/7/2018	68.47	3,752.19
			6/3/2019	68.44	3,752.22
			12/17/2019	69.13	3,751.53
			6/23/2020	66.26	3,754.40
			11/21/2020	69.08	3,751.58
			6/2/2021	69.88	3,750.78
			11/28/2021	70.60	3,750.06
			6/9/2022	71.99	3,748.67
			12/22/2022	73.50	3,747.16
			6/12/2023	74.31	3,746.35

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 6 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-6	56.7–76.7	3,812.65	4/7/2009	62.75	3,749.90
			5/11/2011	63.11	3,749.54
			10/4/2011	63.16	3,749.49
			2/8/2012	63.20	3,749.45
			4/30/2012	63.43	3,749.22
			9/10/2012	63.60	3,749.05
			6/23/2013	63.74	3,748.91
			1/9/2014	64.00	3,748.65
			4/7/2014	64.22	3,748.43
			3/19/2015	64.78	3,747.87
			7/01/2015	64.81	3,747.84
			9/29/2015	65.48	3,747.17
			12/16/2015	65.26	3,747.39
			3/22/2016	65.38	3,747.27
			6/8/2016	65.37	3,747.28
			9/13/2016	65.51	3,747.14
			12/1/2016	65.51	3,747.14
			6/20/2017	65.81	3,746.84
			12/19/2017	66.29	3,746.36
			6/18/2018	66.45	3,746.20
			11/7/2018	66.62	3,746.03
			6/3/2019	67.24	3,745.41
			12/17/2019	67.95	3,744.70
			6/23/2020	68.29	3,744.36
			11/21/2020	68.38	3,743.27
			6/2/2021	68.72	3,743.93
			11/28/2021	69.27	3,743.38
			6/9/2022	69.79	3,742.86
			12/22/2022	70.64	3,742.01
			6/12/2023	70.63	3,742.02

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 7 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-7	55.1–75.1	3,810.21	4/7/2009	61.74	3,748.47
DBS-8	55.2–75.2	3,810.70	4/7/2009	61.20	3,749.50
			5/11/2011	61.67	3,749.03
			10/4/2011	61.71	3,748.99
			2/8/2012	61.77	3,748.93
			4/30/2012	62.00	3,748.70
			9/10/2012	62.15	3,748.55
			6/23/2013	62.28	3,748.42
			1/9/2014	62.47	3,748.23
			4/7/2014	62.67	3,748.03
			3/19/2015	63.19	3,747.51
			6/30/2015	63.25	3,747.45
			9/29/2015	63.82	3,746.88
			12/16/2015	63.58	3,747.12
			3/22/2016	63.76	3,746.94
			6/8/2016	63.72	3,746.98
			9/13/2016	63.83	3,746.87
			12/1/2016	63.79	3,746.91
			6/20/2017	64.09	3,746.61
			12/19/2017	64.53	3,746.17
			6/18/2018	64.70	3,746.00
			11/7/2018	64.82	3,745.88
			6/3/2019	65.52	3,745.18
			12/17/2019	66.12	3,744.58
			6/23/2020	66.42	3,744.28
			11/21/2020	66.55	3,744.15
			6/2/2021	66.91	3,743.79
			11/28/2021	67.33	3,743.37
			6/9/2022	67.84	3,742.86
			12/22/2022	68.55	3,742.15

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 8 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-8 (cont.)	55.2–75.2	3,810.70	6/12/2023	68.58	3,742.12
DBS-9	48.0–68.0	3,806.26	4/8/2009	53.93	3,752.33
			5/11/2011	54.39	3,751.87
			10/4/2011	54.59	3,751.67
			2/8/2012	54.53	3,751.73
			4/30/2012	54.68	3,751.58
			9/10/2012	54.77	3,751.49
			6/23/2013	55.04	3,751.22
			1/9/2014	55.27	3,750.99
			4/7/2014	55.56	3,750.70
			3/19/2015	55.95	3,750.31
			7/1/2015	56.14	3,750.12
			9/29/2015	56.49	3,749.77
			12/16/2015	56.52	3,749.74
			3/22/2016	56.51	3,749.75
			6/8/2016	56.64	3,749.62
			9/13/2016	56.81	3,749.45
			12/1/2016	56.88	3,749.38
			6/20/2017	57.28	3,748.98
			12/19/2017	57.67	3,748.59
			6/18/2018	57.98	3,748.28
			11/7/2018	58.22	3,748.04
			6/3/2019	58.53	3,747.73
			12/17/2019	59.25	3,747.01
			6/23/2020	59.55	3,746.71
			11/21/2020	59.64	3,746.62
			6/2/2021	59.95	3,746.31
			11/28/2021	60.48	3,745.78
			6/9/2022	60.95	3,745.31

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 9 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-9 (cont.)	48.0–68.0	3,806.26	12/22/2022	61.89	3,744.37
			6/12/2023	62.58	3,743.68
DBS-10	57.2–77.2	3,807.48	6/18/2018	64.46	3,743.02
			11/7/2018	64.66	3,742.82
			6/3/2019	65.11	3,742.37
			12/17/2019	65.80	3,741.68
			6/23/2020	66.03	3,807.48
			11/21/2020	66.23	3,741.25
			6/2/2021	66.52	3,740.96
			11/28/2021	67.03	3,740.45
			6/9/2022	67.28	3,740.20
			12/22/2022	68.08	3,739.42
			6/12/2023	68.23	3,739.25
NW-1s	52.95–72.95	3,817.33	4/8/2009	62.35	3,754.98
NW-1m	99.31–119.31	3,817.35	4/8/2009	62.25	3,755.10
NW-1d	149.45–169.45	3,817.35	4/8/2009	62.04	3,755.31
NW-2s	53.35–73.35	3,812.50	4/8/2009	63.08	3,749.42
NW-2m	93.72–113.72	3,812.45	4/8/2009	63.27	3,749.18
NW-2d	126.87–146.87	3,812.46	4/8/2009	66.41	3,746.05
PMW-1	63–78	3,821.17	6/23/2008	67.51	3,753.66
			4/8/2009	65.97	3,755.20
			5/11/2011	68.70	3,752.47
			10/4/2011	66.95	3,754.22
			2/8/2012	66.69	3,754.48
			4/30/2012	67.27	3,753.90
			9/10/2012	69.77	3,751.40
			6/23/2013	68.40	3,752.77
			1/9/2014	71.24	3,749.93
			4/7/2014	69.97	3,751.20
			3/20/2015	70.78	3,750.39

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 10 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
PMW-1 (cont.)	63–78	3,821.17	7/1/2015	71.41	3,749.76
			9/29/2015	70.76	3,750.41
			12/16/2015	71.03	3,750.14
			3/22/2016	70.30	3,750.87
			6/8/2016	69.65	3,751.52
			9/13/2016	71.08	3,750.09
			12/1/2016	70.97	3,750.20
			6/20/2017	73.06	3,748.11
			12/19/2017	71.19	3,749.98
			6/18/2018	70.97	3,750.20
			11/7/2018	72.52	3,748.65
			6/3/2019	71.76	3,749.41
			12/17/2019	76.25	3,744.92
			6/23/2020	72.03	3,749.14
			11/21/2020	72.19	3,748.98
			6/2/2021	73.10	3,748.07
			11/28/2021	73.49	3,747.68
			6/9/2022	75.97	3,745.20
			12/22/2022	77.15	3,744.02
			6/12/2023	77.20	3,743.97
MW-1	120–140	NA	6/23/2008	59.90	NA
MW-2	127–147	3,812.68	6/23/2008	61.42	3,751.26
			4/7/2009	61.65	3,751.03
MW-3	NA	3,812.05	6/23/2008	62.06	3,749.99
			4/7/2009	62.02	3,750.03
			5/11/2011	62.91	3,749.14
			10/4/2011	62.91	3,749.14
			2/8/2012	62.95	3,749.10
			4/30/2012	63.39	3,748.66
			9/10/2012	63.50	3,748.55

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 11 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
MW-3 (cont.)	NA	3,812.05	6/23/2013	63.36	3,748.69
			1/9/2014	63.55	3,748.50
			4/7/2014	63.88	3,748.17
			3/19/2015	64.27	3,747.78
			7/1/2015	64.34	3,747.71
			9/29/2015	67.94	3,744.11
			12/16/2015	64.75	3,747.30
			3/22/2016	64.84	3,747.21
			6/8/2016	64.89	3,747.16
			9/13/2016	66.33	3,745.72
			12/1/2016	66.66	3,745.39
			6/20/2017	65.56	3,746.49
			12/19/2017	65.70	3,746.35
			6/18/2018	66.52	3,745.53
			11/7/2018	66.09	3,745.96
			6/3/2019	68.18	3,743.87
			12/17/2019	67.38	3,744.67
			6/23/2020	69.16	3,742.89
			11/21/2020	67.73	3,744.32
			6/2/2021	69.83	3,742.22
			11/28/2021	68.62	3,743.43
			6/9/2022	70.60	3,741.45
			12/22/2022	69.92	3,742.13
			6/12/2023	69.96	3,742.09
MW-4	111–131	3,811.33	6/23/2008	62.12	3,749.21
			4/7/2009	62.51	3,748.82
MW-5	112–132	3,808.96	6/23/2008	60.60	3,748.36
			4/7/2009	60.79	3,748.17
			5/11/2011	61.17	3,747.79
			10/4/2011	61.72	3,747.24

Notes are provided at the end of the table.

Table E-1. Historical Fluid Level Measurements
Page 12 of 13

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation ^a (feet msl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
MW-5 (cont.)	112–132	3,808.96	2/8/2012	61.23	3,747.73
			4/30/2012	61.50	3,747.46
			9/10/2012	61.65	3,747.31
			6/23/2013	61.75	3,747.21
			1/9/2014	61.90	3,747.06
			4/7/2014	62.18	3,746.78
			3/19/2015	62.96	3,746.00
			6/30/2015	62.71	3,746.25
			9/29/2015	63.92	3,745.04
			12/16/2015	63.02	3,745.94
			3/22/2016	63.14	3,745.82
			6/8/2016	63.47	3,745.49
			9/13/2016	63.66	3,745.30
			12/1/2016	63.70	3,745.26
			6/21/2017	63.62	3,745.34
			12/19/2017	65.02	3,743.94
			6/18/2018	64.32	3,744.64
			11/7/2018	64.34	3,744.62
			06/3/2019	65.30	3,743.66
			12/17/2019	65.57	3,743.39
			6/23/2020	66.26	3,742.70
			11/21/2020	66.00	3,742.96
			6/2/2021	66.70	3,742.26
			11/28/2021	66.85	3,742.11
			6/9/2022	67.59	3,741.37
			12/22/2022	68.02	3,740.94
			6/12/2023	68.06	3,740.90
MW-6	NA	3,810.17	6/23/2008	62.17	3,748.00
			4/7/2009	62.41	3,747.76

Notes are provided on the next page.

Table E-1. Historical Fluid Level Measurements
Page 13 of 13

^a Top of casing elevations surveyed by Pettigrew & Assoc. on May 28, 2009.

^b Top of casing elevation surveyed by Pettigrew & Assoc. on June 13, 2012.

bgs = Below ground surface

btoc = Below top of casing

msl = Above mean sea level

NA = Not available

Table E-2. Historical Chloride Groundwater Analytical Data
Page 1 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-1	4/8/2009	320
	5/12/2011	940
	10/4/2011	Well destroyed
DBS-1R	5/1/2012	3,000
	9/11/2012	3,200
	6/25/2013	3,300
	1/10/2014	1,000
	4/8/2014	1,700
	3/20/2015	1,200
	7/1/2015	860
	9/30/2015	670
	12/17/2015	760
	3/23/2016	560
	6/9/2016	570
	9/14/2016	360
	12/1/2016	360
	6/20/2017	320
	12/20/2017	190
	6/19/2018	190
	11/8/2018	180
	6/3/2019	190
	12/18/2019	210
	6/23/2020	220
	11/21/2020	530
	6/2/2021	2,200
	11/28/2021	2,100
	6/9/2022	940
	12/23/2022	1,200
	6/12/2023	970

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 2 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-2	4/8/2009	14
	5/12/2011	25
	10/5/2011	18
	2/9/2012	22
	5/1/2012	24
	9/11/2012	44
	6/25/2013	36
	1/10/2014	45
	4/8/2014	22
	3/20/2015	29
	6/30/2015	28
	9/30/2015	40
	12/17/2015	35
	3/23/2016	46
	6/9/2016	41
	9/14/2016	41
	12/2/2016	53
	6/20/2017	59
	12/20/2017	37
	6/18/2018	47
	11/8/2018	47
	6/3/2019	42
	12/17/2019	68
	6/24/2020	66
	11/21/2020	81
	6/2/2021	85
	11/28/2021	100
	6/9/2022	NS
	12/23/2022	NS
	6/12/2023	NS

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 3 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-3	4/8/2009	36
	5/12/2011	35
	10/5/2011	34
	2/9/2012	34
	5/1/2012	33
	9/11/2012	34
	6/24/2013	32
	1/10/2014	34
	4/8/2014	32
	3/20/2015	35
	6/30/2015	35
	9/30/2015	34
	12/17/2015	34
	3/23/2016	36
	6/9/2016	35
	9/14/2016	37
	12/2/2016	37
	6/20/2017	39
	12/20/2017	42
	6/18/2018	47
	11/8/2018	46
	6/3/2019	46
	12/17/2019	48
	6/24/2020	50
	11/21/2020	49
	6/3/2021	52
	11/28/2021	53
	6/9/2022	57
	12/23/2022	68
	6/12/2023	65

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 4 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-4	4/8/2009	38
	5/12/2011	33
	10/5/2011	32
	2/9/2012	32
	5/1/2012	31
	9/11/2012	32
	6/25/2013	31
	1/10/2014	32
	4/8/2014	30
	3/20/2015	33
	6/30/2015	31
	9/30/2015	33
	12/17/2015	35
	3/23/2016	38
	6/9/2016	35
	9/14/2016	37
	12/2/2016	41
	6/20/2017	35
	12/20/2017	32
	6/19/2018	39
	11/8/2018	35
	6/3/2019	30
	12/17/2019	35
	6/23/2020	35
	11/21/2020	37
	6/3/2021	39
	11/28/2021	40
	6/9/2022	44
	12/23/2022	47
	6/12/2023	42

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 5 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-5	4/8/2009	65
	5/12/2011	140
	10/5/2011	140
	2/9/2012	140
	4/30/2012	150
	9/11/2012	160
	6/24/2013	160
	1/10/2014	180
	4/8/2014	160
	3/20/2015	140
	7/1/2015	140
	9/30/2015	150
	12/17/2015	160
	3/23/2016	150
	6/9/2016	150
	9/14/2016	170
	12/2/2016	170
	6/20/2017	170
	12/20/2017	170
	6/18/2018	180
	11/8/2018	170
	6/3/2019	280
	12/18/2019	160
	6/24/2020	190
	11/21/2020	190
	6/3/2021	170
	11/28/2021	200
	6/9/2022	200
	12/23/2022	230
	6/12/2023	NS

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 6 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-6	4/7/2009	380
	5/12/2011	410
	10/5/2011	400
	2/9/2012	380
	4/30/2012	400
	9/11/2012	390
	6/24/2013	340
	1/10/2014	390
	4/7/2014	400
	3/19/2015	370
	7/1/2015	360
	9/30/2015	370
	12/17/2015	380
	3/23/2016	310
	6/9/2016	300
	9/14/2016	290
	12/2/2016	300
	6/21/2017	240
	12/19/2017	200
	6/19/2018	210
	11/8/2018	190
	6/3/2019	180
	12/17/2019	220
	6/24/2020	230
	11/21/2020	230
	6/3/2021	250
	11/28/2021	270
	6/9/2022	290
	12/22/2022	360
	6/13/2023	340

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 7 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-7	4/7/2008	570
DBS-8	4/7/2009	58
	5/12/2011	36
	10/5/2011	140
	2/9/2012	41
	4/30/2012	41
	9/10/2012	42
	6/24/2013	45
	1/9/2014	38
	4/7/2014	36
	3/19/2015	36
	7/1/2015	34
	9/30/2015	35
	12/17/2015	33
	3/23/2016	35
	6/9/2016	34
	9/14/2016	34
	12/2/2016	33
	6/21/2017	33
	12/19/2017	28
	6/19/2018	33
	11/8/2018	30
	6/3/2019	35
	12/17/2019	30
	6/24/2020	34
	11/21/2020	34
	6/3/2021	35
	11/28/2021	35
	6/9/2022	37

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 8 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-8 (cont.)	12/22/2022	43
	6/13/2023	42
DBS-9	4/8/2009	210
	5/12/2011	600
	10/5/2011	440
	2/9/2012	290
	4/30/2012	330
	9/11/2012	320
	6/24/2013	200
	1/10/2014	170
	4/7/2014	220
	3/19/2015	260
	7/1/2015	210
	9/30/2015	260
	12/17/2015	230
	3/23/2016	200
	6/9/2016	190
	9/14/2016	190
	12/2/2016	180
	6/21/2017	200
	12/20/2017	230
	6/19/2018	260
	6/3/2019	160
	12/17/2019	220
	6/24/2020	360
	11/21/2020	280
	6/3/2021	290
	11/28/2021	300
	6/9/2022	350

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 9 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
DBS-9 (cont.)	12/23/2022	400
	6/13/2023	220
DBS-10	6/19/2018	690
	11/8/2018	590
	6/3/2019	510
	12/17/2019	540
	6/24/2020	560
	11/21/2020	620
	6/3/2021	560
	11/28/2021	560
	6/9/2022	530
	12/22/2022	570
	6/13/2023	520
NW-1s	4/8/2009	630
NW-1m	4/8/2009	57
NW-1d	4/8/2009	38
NW-2s	4/8/2009	410
NW-2m	4/8/2009	570
NW-2d	4/8/2009	4,700
PMW-1	2/27/2008	9,500^b
	5/30/2008	8,600^b
	6/23/2008	12,700
	4/8/2009	11,000
	5/12/2011	13,000
	10/5/2011	12,000
	2/9/2012	12,000
	5/1/2012	12,000
	9/11/2012	14,000
	6/25/2013	14,000
	1/10/2014	11,000

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 10 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
PMW-1 (cont.)	4/8/2014	12,000
	3/20/2015	8,500
	7/1/2015	8,600
	9/30/2015	9,700
	12/17/2015	9,800
	3/23/2016	8,200
	6/9/2016	8,500
	9/14/2016	9,300
	12/1/2016	8,300
	6/20/2017	13,000
	12/20/2017	12,000
	6/19/2018	9,600
	11/8/2018	10,000
	6/3/2019	11,000
	12/18/2019	3,400
	6/23/2020	11,000
	11/21/2020	8,200
	6/2/2021	6,800
	11/28/2021	9,800
	6/9/2022	13,000
	12/23/2022	12,000
	6/13/2023	NS
MW-1	5/30/2008	75 ^b
	6/23/2008	243
MW-2	2/27/2008	120 ^b
	5/30/2008	80 ^b
	6/23/2008	1,480
	4/7/2009	1,200
	6/19/2018	390

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 11 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
MW-3	2/27/2008	348^b
	5/30/2008	360^b
	6/23/2008	1,090
	4/7/2009	17,000
	5/12/2011	16,000
	10/5/2011	14,000
	2/9/2012	15,000
	4/30/2012	14,000
	9/10/2012	16,000
	6/24/2013	12,000
	1/10/2014	10,000
	4/7/2014	12,000
	3/19/2015	9,700
	7/1/2015	10,000
	9/30/2015	9,600
	12/17/2015	5,100
	3/23/2016	8,200
	6/9/2016	9,400
	9/14/2016	9,100
	12/2/2016	11,000
	6/21/2017	10,000
	12/20/2017	8,300
	6/19/2018	7,300
	11/8/2018	8,000
	6/3/2019	8,000
	12/18/2019	7,400
	6/24/2020	6,400
	11/21/2020	7,100
	6/3/2021	4,400
	11/28/2021	6,100

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 12 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
MW-3 (cont.)	6/10/2022	5,100
	12/22/2022	5,700
	6/13/2023	4,800
MW-4	2/27/2008	476^b
	5/30/2008	512^b
	6/23/2008	5,730
	4/7/2009	6,600
MW-5	2/27/2008	1,280^b
	5/30/2008	1,220^b
	6/23/2008	1,260
	4/7/2009	1,300
	5/12/2011	1,500
	10/5/2011	1,500
	2/9/2012	1,500
	4/30/2012	1,400
	9/10/2012	1,500
	6/24/2013	1,300
	1/10/2014	1,300
	4/7/2014	1,300
	3/19/2015	1,200
	7/1/2015	1,200
	9/30/2015	1,000
	12/17/2015	1,000
	3/23/2016	980
	6/9/2016	970
	9/14/2016	1,000
	12/2/2016	710
	6/21/2017	870
	12/19/2017	850
	6/19/2018	840

Notes are provided at the end of the table.

Table E-2. Historical Chloride Groundwater Analytical Data
Page 13 of 13

Monitor Well	Date	Chloride Concentration (mg/L) ^a
<i>NMWQCC Standard</i>		<i>250</i>
MW-5 (cont.)	11/8/2018	680
	6/3/2019	610
	12/18/2019	550
	6/24/2020	660
	11/21/2020	710
	6/3/2021	640
	11/28/2021	680
	6/10/2022	590
	12/22/2022	710
	6/13/2023	700
MW-6	2/27/2008	32 ^b
	5/30/2008	36 ^b
	6/23/2008	31.4
	4/7/2009	25
Ranch Headquarters Supply Well	6/23/2008	35.4
	6/10/2022	54
Brine Station Fresh Water Supply Well	2/27/2008	630 ^b
	5/30/2008	590 ^b
	6/23/2008	650

Bold indicates that value exceeds the applicable standard.

^a All samples analyzed using EPA method 300.0, unless otherwise noted.

^b Samples analyzed using Standard Method 4500-Cl B.

mg/L = Milligrams per liter

NS = Not sampled

Table E-3. Historical Average Groundwater Extraction Rates
Page 1 of 2

Recovery Well	Date	Average Extraction Rate ^a (gpm)
RW-1	4/7/2012	Groundwater extraction started
	5/1/2012	2.1
	9/11/2012	2.9
	6/25/2013	4.1
	11/15/2013	3.6
	3/20/2015 ^b	2.4
	6/30/2015	—
FWS-1	12/17/2015	—
	3/22/2016	12.8
	6/8/2016	33.9
	9/13/2016	5.4
	12/2/2016	39.7
	6/20/2017	32.7
	12/19/2017	37.3
	6/18/2018	15.4
	11/8/2018	22.4
	6/3/2019 ^c	23.9
	12/18/2019	27.7
	6/23/2020	21.2
	11/21/2020	7.6
	6/2/2021	5.7
	11/28/2021	3.9
	6/9/2022	8.6
	12/22/2022	6.1
	6/12/2023	2.9
RW-2	4/6/2012	Groundwater extraction started
	5/1/2012	2.5
	9/11/2012	4.3
	12/14/2012	3.9
	6/25/2013 ^d	—
	9/21/2013 ^e	2.9
	9/30/2015	68

Notes are provided at the end of the table.

Table C-3. Historical Average Groundwater Extraction Rates
Page 2 of 2

Recovery Well	Date	Average Extraction Rate ^a (gpm)
RW-2 (cont.)	12/17/2015	44
	3/22/2016	32
	6/8/2016	9.0
	9/13/2016	5.7
	12/1/2016 ^f	—
	6/20/2017 ^f	—
	12/19/2017	12.4
	6/19/2018	5.2
	10/10/2018 ^g	3.4
	6/3/2019	7.0
	12/18/2019	14.9
	6/23/2020	16.7
	11/21/2020	3.9
	6/2/2021	11.5
	11/28/2021	17.6
	6/9/2022	5.8
	12/22/2022 ^h	—
	2/13/2023	—0.2
	6/12/2023	—

^a Average extraction rates based on totalizer flow meter readings and/or fresh water production records.

^b Pumping at RW-1 stopped because pumping of FWS-1 lowered groundwater levels at RW-1, precluding groundwater extraction at RW-1. Pumping at FWS-1 provides hydraulic containment and removal of chloride-impacted groundwater in the former brine pond area.

^c New meter on December 3, 2019; well stopped pumping on May 11, 2019.

^d New pump installed in RW-2 and started on June 25, 2013.

^e Meter and pump were removed from RW-2 on approximately September 21, 2013 by facility manager to install a new, larger-capacity pump.

^f Meter was inoperable because it was damaged. Meter was replaced in November 2017.

^g Meter read on November 8, 2018, but well had not been pumped since October 10, 2018; average extraction rate between June 18 and October 10, 2018 is reported.

^h Not measured due to damaged meter.

gpm = Gallons per minute