DBS&A
a Geo-Logic Company

October 19, 2023

Mr. Carl Chavez
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505-4225

Re: Semiannual Groundwater Monitoring and O&M Report
January 1 through June 30, 2023
Salty Dog Brine Station, Lea County, New Mexico

Dear Mr. Chavez:

On behalf of PAB Services, Inc., Daniel B. Stephens & Associates, Inc. (DBS&A) is submitting the enclosed groundwater monitoring and operation and maintenance (O&M) report for the Salty Dog brine station located in Lea County, New Mexico. Semiannual groundwater monitoring activities were completed at the site on June 12 and 13, 2023.

Please call us at (505) 822-9400 if you have any questions or require additional information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

John Ayarbe, P.G.
Senior Hydrogeologist

JA/rpf
Enclosure
cc: Pieter Bergstein, PAB Services, Inc.

First Semiannual 2023 Groundwater Monitoring and Operation and Maintenance Report

Salty Dog Brine Station
Lea County, New Mexico

Prepared for

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

Prepared by

DBS&A
a Geo-Logic Company

6020 Academy NE, Suite 100
Albuquerque, New Mexico 87109
www.dbstephens.com
DB19.1198

October 19, 2023

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1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this groundwater monitoring and operation and maintenance (O&M) report for submission to the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (OCD) Environmental Bureau on behalf of PAB Services, Inc. (PAB) for the Salty Dog brine station (the site) located in Lea County, New Mexico (Figure 1). The report summarizes activities conducted at the site during the reporting period of January 1 through June 30, 2023. Groundwater monitoring and O&M during the reporting period was conducted in accordance with discharge permit BW-8 (DP-BW-8), which was last renewed on May 17, 2019 (NMEMNRD OCD, 2019).

The site consists of a northern portion, where the brine pond was located prior to closure in October 2008, and a southern portion, where the brine well is located. The brine pond area and the brine well area are separated by approximately 2,500 feet, joined by a dirt road (Figure 1). Injection water for the brine well comes from two fresh water supply wells (FWS-1 and FWS-2) and from remedial pumping at a recovery well in the brine well area (RW-2). FWS-2 is an auxiliary supply well that is used when FWS-1 and RW-2 are being serviced or when additional fresh water is needed.

Brine that is produced for sale is stored at a tank battery on the southern boundary of the former brine pond area. The tank battery consists of six 750-barrel aboveground storage tanks (ASTs) surrounded by a berm (Figure 1). A concrete truck loading pad with two brine filling stations is located north of the tank battery. An operations shed is located adjacent to the loading pad to the west.

The former brine pond area has 6 monitor wells (PMW-1, DBS-1R, and DBS-2 through DBS-5), 1 nested well (NW-1), 1 fresh water supply well (FWS-1), and a former recovery well (RW-1). The brine well area has 10 monitor wells (MW-2 through MW-6, DBS-6 through DBS-10), 1 nested well (NW-2), 1 fresh water supply well (FWS-2), and 1 recovery well (RW-2) (Figure 1).

In April 2012, DBS&A installed groundwater extraction systems at the site to provide hydraulic containment and removal of chloride-impacted groundwater in the former brine pond and brine well areas (DBS&A, 2009a and 2009b). The extraction systems consist of wells, submersible pumps, conveyance lines, electrical power, and controls to extract impacted groundwater. Extracted groundwater is conveyed to the on-site ASTs for reinjection at the brine well. Although groundwater extraction at well RW-1 was stopped in 2015, pumping at well FWS-1

provides hydraulic containment and removal of chloride-impacted groundwater in the former brine pond area; well FWS-1 is located approximately 50 feet southeast of RW-1. Extraction at RW-1 was stopped because the water level at the well had declined and was near the bottom of the well. Pumping at RW-2 provides hydraulic containment and removal of chloride-impacted groundwater in the brine well area.

2. Scope of Work

The scope of work for semiannual groundwater monitoring conducted in June 2023 consisted of (1) measuring groundwater levels in and collecting groundwater samples from 12 monitor wells and (2) performing maintenance on the groundwater extraction systems, as necessary. Groundwater samples were submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for chloride analysis using U.S. Environmental Protection Agency (EPA) method 300.0. Section 2A.1 of DP-BW-8 requires that PAB collect one groundwater sample to be analyzed for general chemistry and other inorganic constituents, in addition to chloride. In consultation with Carl Chavez (OCD), DBS&A selected monitor well MW-3 for these additional analyses.

The monitor wells included in the sampling program were selected in October 2010 in consultation with Jim Griswold, the OCD Project Manager for the site at that time. The sampled monitor wells are shown in Figures 2 through 5.

3. Monitoring Activities

The following subsections describe the groundwater monitoring activities conducted in June 2023. The laboratory report and chain of custody documentation are provided in Appendix A. Field notes recorded during groundwater monitoring activities are provided in Appendix B. Historical groundwater monitoring data are provided in Appendix C.

3.1 Fluid Level Measurement

On June 12, 2023, DBS&A measured water levels in monitor wells DBS-1R, DBS-2 through DBS-5, and PMW-1 in the former brine pond area (Figure 2) and in wells DBS-6, DBS-8 through DBS-10, MW-3, and MW-5 in the brine well area (Figure 3) using a properly decontaminated

electronic water level meter. Table 1 reports the water level measurements and groundwater elevations. Appendix C provides historical groundwater level data.

Table 1. Fluid Level Measurements, June 12, 2023

Monitor Well	Screen Interval (feet bgs)	Top of Casing Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
DBS-1R	58.0–78.0	3,817.00	73.62	3,743.38
DBS-2	58.0–78.0	3,820.50	Dry	NA
DBS-3	56.0–76.72	3,816.66	71.74	3,744.92
DBS-4	56.0–76.0	3,820.37	76.97	3,743.40
DBS-5	56.9–76.9	3,820.66	74.31	3,746.35
DBS-6	56.7–76.7	3,812.65	70.63	3,742.02
DBS-8	55.2–75.2	3,810.70	68.58	3,742.12
DBS-9	48.0–68.0	3,806.26	62.58	3,743.68
DBS-10	57.2–77.2	3,807.48	68.23	3,739.25
PMW-1	63–78	3,821.17	77.20	3,743.97
MW-3	NA	3,812.05	69.96	3,742.09
MW-5	112–132	3,808.96	68.06	3,740.90

bgs = Below ground surface
msl = Above mean sea level
btoc = Below top of casing
NA = Not available

During this reporting period, the average depths to water beneath the former brine pond area and brine well area were 74.77 feet below top of casing (btoc) and 68.01 feet btoc, respectively. Water levels in the former brine pond area declined relative to those of the last monitoring event in December 2022, declining on average by 0.33 foot. Water levels in the brine well area also declined—by 0.16 foot on average.

Figures 2 and 3 present potentiometric surface maps for the former brine pond area and the brine well area, respectively. The direction of groundwater flow beneath the former brine pond area remains to the southeast; the hydraulic gradient was approximately 0.0041 foot per foot (ft/ft) this reporting period (Figure 2). The direction of groundwater flow beneath the brine well area also remains to the southeast; the hydraulic gradient in this area was approximately 0.0031 ft/ft during this reporting period (Figure 3).

3.2 Groundwater Sampling

On June 12 and 13, 2023, groundwater samples were collected from monitor wells DBS-1R, DBS-3, DBS-4, DBS-6, DBS-8 through DBS-10, MW-3, MW-5, and PMW-1. Samples were not collected from wells DBS-2, DBS-5 and PMW-1 because there was insufficient water to sample. The samples were collected following standard sampling procedures developed from EPA guidance. Before sampling, each well was purged of a minimum of three casing volumes of water using a dedicated bailer to ensure that a representative groundwater sample was collected. While purging, DBS&A measured water quality field parameters consisting of temperature, specific conductance, and pH. Sample containers were filled, labeled, and placed in an ice-filled cooler. Groundwater samples were submitted under chain of custody to HEAL for analysis.

Samples of the injection water and produced brine were also collected to meet requirements under DP-BW-8. Analytical results of this sample will be presented in the 2023 annual Class III well report.

4. Analytical Results

Table 2 reports the chloride analytical results for the groundwater samples. Figures 4 and 5 show the distribution of chloride in groundwater beneath the former brine pond area and the brine well area, respectively. The complete laboratory report and chain of custody documentation are provided in Appendix A. Field notes recorded during groundwater monitoring activities are provided in Appendix B. Historical groundwater quality data are provided in Appendix C.

4.1 Former Brine Pond Area Wells

Well PMW-1, located just upgradient of pumping well FWS-1, was nearly dry during the June 2023 sampling event, precluding collection of a water quality sample. The chloride concentration at PMW-1 has historically been above the New Mexico Water Quality Control Commission (NMWQCC) standard of 250 milligrams per liter (mg/L), and was 12,000 mg/L when it was last sampled in December 2022 (Appendix C).

Table 2. Chloride Groundwater Analytical Data

Monitor Well	Date	Chloride Concentration (mg/L)
	NMWQCC Standard	*250*
DBS-1R	6/12/2023	**970**
DBS-2	NS	—
DBS-3	6/12/2023	65
DBS-4	6/12/2023	42
DBS-5	NS	—
DBS-6	6/13/2023	**340**
DBS-8	6/13/2023	42
DBS-9	6/13/2023	**220**
DBS-10	6/13/2023	**520**
PMW-1	NS	—
MW-3	6/13/2023	**4,800**
MW-5	6/13/2023	**700**

Bold indicates that value equals or exceeds the applicable standard.
All samples analyzed using EPA method 300.0.
NMWQCC = New Mexico Water Quality Control Commission
mg/L = Milligrams per liter
NS = Not sampled due to insufficient water

Well DBS-1R is located downgradient of well PMW-1 and pumping well FWS-1 (Figure 4). In November 2020, the chloride concentration at DBS-1R exceeded the NMWQCC standard for the first time since 2017 (Appendix C). The chloride concentration at DBS-1R remained elevated this reporting period and was 970 mg/L. This concentration is lower than the December 2022 concentration of 1,200 mg/L.

The chloride plume in the former brine pond area remains bounded by the existing monitor well network (Figure 4). The chloride concentration at downgradient monitor well DBS-4 remained stable and below the NMWQCC standard, as did the chloride concentration at cross-gradient monitor well DBS-3 (Appendix C).

4.2 Brine Well Area Wells

Monitor well MW-3 (the well closest to extraction well RW-2) and downgradient monitor wells MW-5 and DBS-10 continue to exhibit chloride concentrations above the NMWQCC standard (Figure 5). The highest chloride concentration is observed at MW-3, where the chloride concentration was 4,800 mg/L this reporting period, decreasing from 5,700 mg/L in December 2022. The chloride concentrations at MW-5 and DBS-10 also decreased. The chloride concentration at MW-5 decreased from 710 mg/L (December 2022) to 700 mg/L (June 2023). The chloride concentration at DBS-10 decreased from 570 mg/L (December 2023) to 520 mg/L (June 2023) (Appendix C).

The chloride concentration at cross-gradient monitor well DBS-6 (340 mg/L), which met the NMWQCC standard between June 2017 and November 2020 (Appendix C), exceeded the NMWQCC standard during this reporting period (Table 2). The chloride concentration at the other cross-gradient monitor well DBS-8 (42 mg/L) was below the NMWQCC standard.

The chloride concentration at upgradient monitor well DBS-9 was 220 mg/L during this reporting period, just below the NMWQCC standard. Chloride concentrations at DBS-9 fluctuate around the standard (Appendix C).

Section 2A.1 of DP-BW-8 requires that PAB collect one groundwater sample to be analyzed for general chemistry and several other groundwater constituents. Monitor well MW-3 was selected for this additional analysis because it is located downgradient of the location of the brine well. Groundwater at MW-3 has historically shown chloride impacts. Analytical results for the MW-3 sample are provided in Table 3.

Table 3. Groundwater Analytical Results, MW-3

Constituent	Concentration (mg/L [a])	
	NMWQCC Standard	MW-3 (6/13/2023)
Alkalinity, total	NS	233.4
Bicarbonate	NS	233.4
Calcium, total	NS	100
Carbonate	NS	ND
Bromide	NS	1.9
Chloride	250	**4,800**
Fluoride	1.6	0.83
Magnesium, total	NS	12
Nitrate + nitrite (as N)	10.0	2.9
Orthophosphate (as P)	NS	<2.5 H
pH (s.u.)	6–9	7.36 H
Potassium, total	NS	3.5
Sodium, total	NS	260
Sulfate	600	290
Total dissolved solids	1,000	**10,100 D**

Bold indicates that value exceeds New Mexico Water Quality Control Commission (NMWQCC) standard.
[a] Unless otherwise noted
NS = No standard
s.u. = Standard units
H = Holding time for preparation or analysis exceeded
D = Sample diluted due to matrix

5. Groundwater Extraction System O&M

Groundwater extraction from fresh water supply well FWS-1 and recovery well RW-2 is intended to provide hydraulic containment and removal of chloride-impacted groundwater in the former brine pond area and the brine well area, respectively. PAB began remedial groundwater extraction in April 2012 (Appendix C). Extracted groundwater is used as injection water at the brine well or is sold as fresh water.

Table 4 shows the average groundwater extraction rates for the two wells during this reporting period. The rates were determined using totalizer flow meter readings.

Table 4. Average Groundwater Extraction Rates

Recovery Well	Date	Average Extraction Rate (gpm)
FWS-1	6/12/2023	2.9 [a]
RW-2	6/12/2023	NM

[a] Average extraction rate at FWS-1 based on totalizer flow meter readings on 12/22/2022 and 6/12/2023.
gpm = Gallons per minute
NM = Not measured; cattle damaged meter

5.1 Former Brine Pond Area

The average pumping rate at well FWS-1 during this reporting period was 2.9 gallons per minute (gpm) (Table 4). The average pumping rate during the previous reporting period was 6.1 gpm (Appendix C).

In the former brine pond area, monitor well DBS-1R was the only well to exhibit a chloride concentration above the NMWQCC standard this reporting period; however, PMW-1, which has historically exhibited the greatest chloride concentration, contained insufficient water for sampling (Figure 4). The chloride concentration at downgradient monitor well DBS-1R decreased this reporting period, from 1,200 mg/L (December 2022) to 970 mg/L (June 2023). Further downgradient, the chloride concentration at well DBS-4 remained stable and below the NMWQCC standard (Figure 4).

DBS&A recommends that PAB increase the pumping rate at FWS-1 in response to the elevated chloride concentration at DBS-1R.

5.2 Brine Well Area

During this reporting period, the totalizer flow meter at extraction well RW-2 was damaged, precluding determination of the well's average pumping rate (Table 4). PAB is aware of the damage to the meter, and is planning to repair it. The average pumping rate in June 2022 was 5.8 gpm (Appendix C).

In the brine well area, monitor wells DBS-6, DBS-10, MW-3, and MW-5 exhibit chloride concentrations above the NMWQCC standard (Figure 5). Groundwater elevation contours of the June 2023 potentiometric surface map show little inflection at extraction well RW-2, suggesting that the well was not pumping during measurement of water levels or that the pumping rate is

too low for effective containment (Figure 3). Nonetheless, the chloride plume remained stable with decreasing chloride concentrations at the four monitor wells this reporting period (Appendix C). For example, the chloride concentration at MW-3 decreased from 5,700 mg/L (December 2022) to 4,800 mg/L (June 2023).

DBS&A recommends that PAB repair the flow meter at extraction well RW-2 and then confirm that it is pumping at a rate comparable to historical levels (e.g., 5 to 10 gpm).

5.3 Facility and Extraction System Maintenance

As noted in Section 5.2, the totalizer flow meter at RW-2 was damaged during this reporting period. PAB is planning to repair it.

On June 13, 2023, Atkins Engineering Associates Inc. surveyed the five surface subsidence monitoring points that were installed at the site in March 2018 (DBS&A, 2018). The survey was conducted in accordance with Condition 2.B.1 of DP-BW-8 (NMEMNRD OCD, 2019). Results of the survey were reported to Carl Chavez on June 23, 2023, and will be included in the 2023 annual Class III well report.

5.4 Future Extraction System Operation

PAB will continue groundwater extraction from the fresh water supply well FWS-1 and recovery well RW-2 to provide hydraulic containment and removal of chloride impacted groundwater.

PAB will continue semiannual groundwater monitoring at the selected wells to collect data used to assess the effectiveness of the remedial groundwater extraction measures.

6. Recommendations

Based on the current groundwater monitoring results and site O&M activities, DBS&A offers the following recommendations:

- Continue groundwater extraction at FWS-1 to provide hydraulic containment and removal of the chloride plume in the former brine pond area, increasing the pumping rate slightly to address the elevated chloride concentration at downgradient monitor well DBS-1R.

- Continue groundwater extraction at RW-2 to provide hydraulic containment and removal of the chloride plume in the brine well area. Repair the flow meter at the extraction well and confirm that it is pumping at a rate comparable to historical levels (e.g., 5 to 10 gpm).
- To the extent practical, attempt to balance groundwater extraction between FWS-1 and RW-2.

In addition, DBS&A and PAB will complete the following activities at the site in 2023 to meet the requirements of DP-BW-8:

- Continue to conduct semiannual groundwater monitoring and O&M of the extraction systems at the site.
- Conduct semiannual surveys of the surface subsidence survey monitoring points.
- Recalibrate or replace totalizer meters as needed.

References

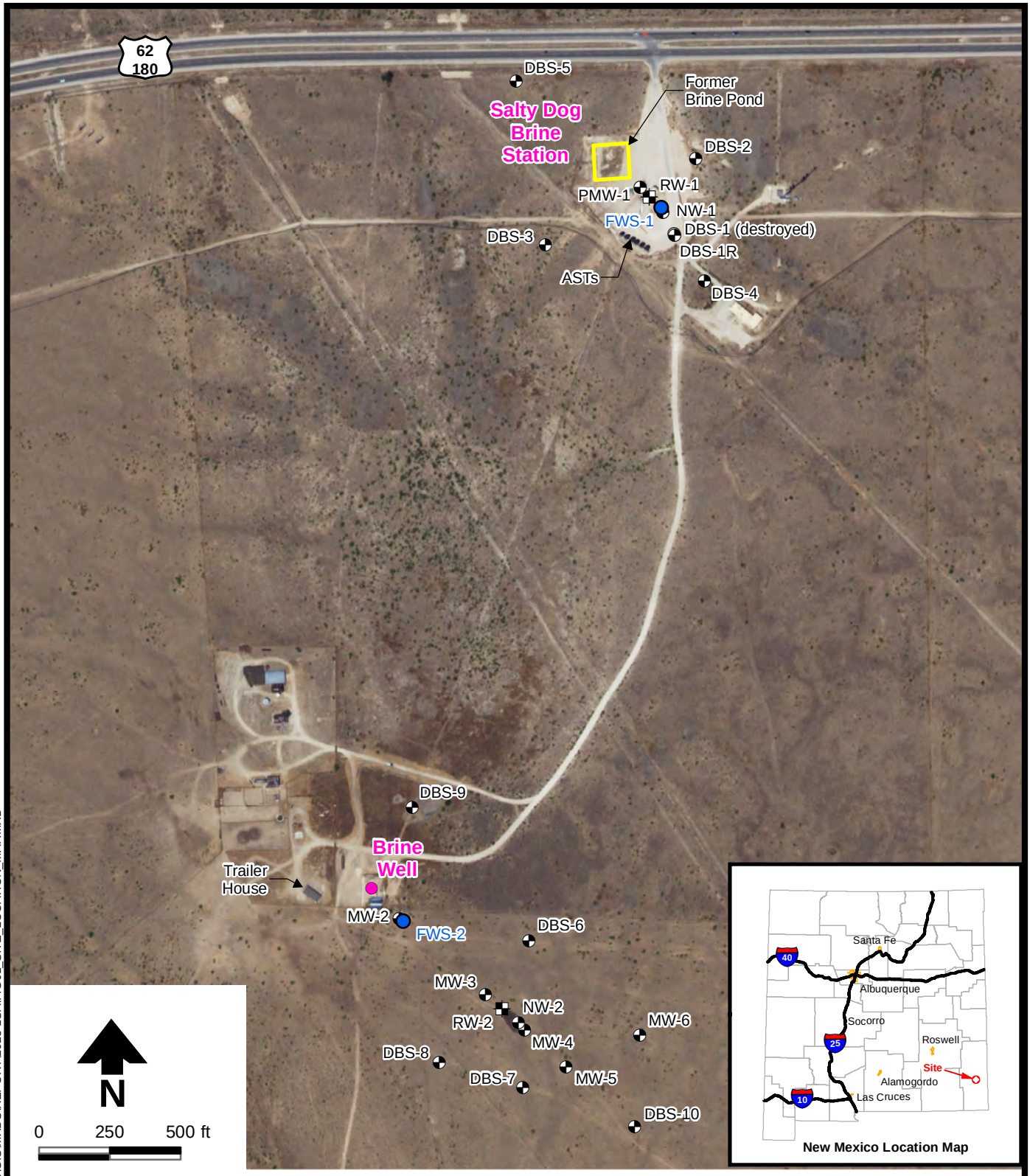
Daniel B. Stephens & Associates (DBS&A). 2009a. *Recovery well installation and pump test report, Salty Dog Brine Station, Lea County, New Mexico*. Prepared for New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division, Environmental Bureau. November 20, 2009.

DBS&A. 2009b. *Preliminary conceptual remedial design report, Salty Dog Brine Station, Lea County, New Mexico*. Prepared for New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division, Environmental Bureau. December 31, 2009.

DBS&A. 2018. Letter report from John Ayarbe and Michael D. McVey to Carl Chavez, New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division, Environmental Bureau, regarding Installation of a monitor well and subsidence survey monitoring points at the Salty Dog Brine Station (API No. 30-025-26307). June 25, 2018.

New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Department (NMEMNRD OCD). 2019. *Discharge Permit (BW-8), Standard Energy, UIC Class III Brine Well Brine Supply Well No.1 API No. 30-025-26307 UL: J Section 5 Township 19 South, Range 36 East, Lea County, New Mexico*. May 17, 2019.

Figures



Explanation

- Fresh water supply well
- Monitor well
- Recovery well
- Well destroyed

Note: AST = Aboveground storage tank

Source: Aerial imagery (NAIP, 2022).

S:\PROJECTS\DB19.1198_SALTY_DOG_2019\GIS\MXDS\REPORT\2023-1SA\FIG01_SITE_LOCATION_MAP.MXD

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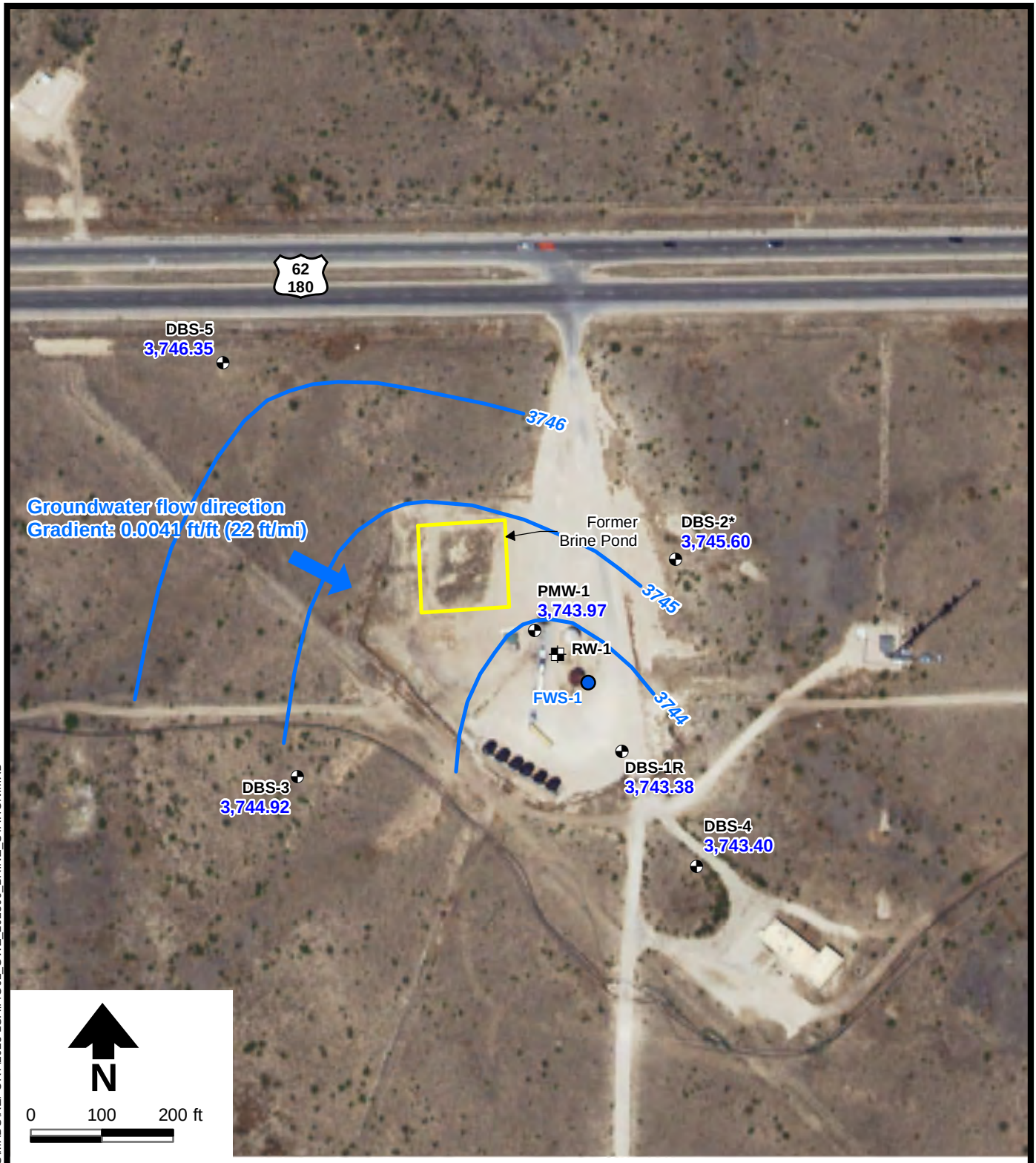
7/25/2023 DB19.1198

SALTY DOG BRINE STATION

Site Location Map

Figure 1



Explanation

DBS-1R Well designation

3,743.38 Groundwater elevation, ft msl

- Monitor well
- Fresh water supply well
- Recovery well
- Potentiometric surface elevation contour (ft msl)
- Groundwater flow direction

Source: Aerial imagery (NAIP, 2022).

Note: * Indicates dry well.

SALTY DOG BRINE STATION

Former Brine Pond Area
Potentiometric Surface Elevations
June 2023

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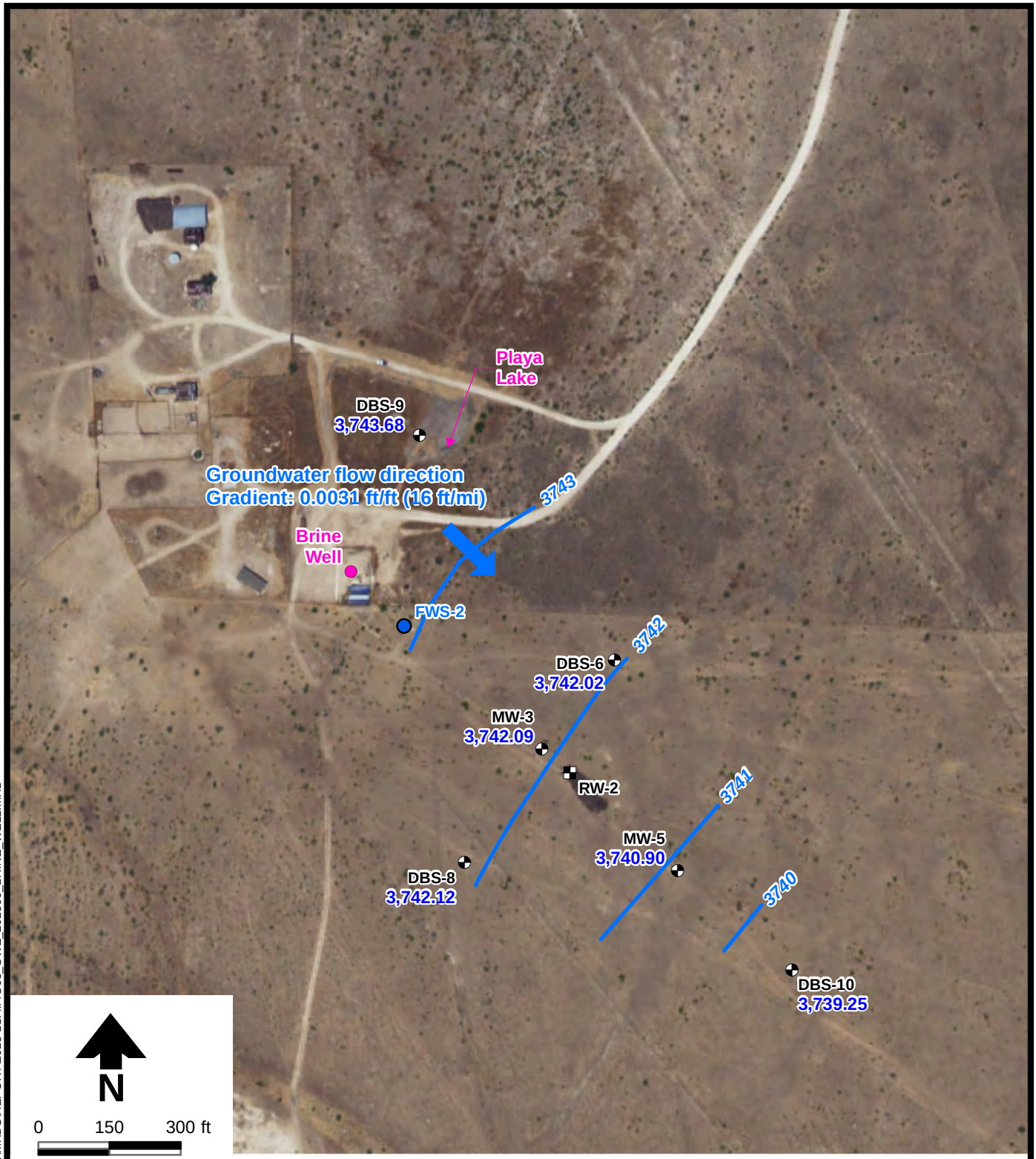
Figure 2

S:\PROJECTS\DB19.1198_SALTY_DOG_2019\GIS\MXDS\REPORT\2023-1SA\FIG02_GWE_202306_BRINE_STATION.MXD



Source: Aerial imagery (NAIP, 2022).

Explanation

MW-3 Well designation

3,742.09 Groundwater elevation, ft msl

- Monitor well
- Fresh water supply well
- Recovery well
- Potentiometric surface elevation contour (ft msl)
- Groundwater flow direction

SALTY DOG BRINE STATION

Playa Lake and Brine Well Area Potentiometric Surface Elevations June 2023

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7/25/2023 DB19.1198

Figure 3

S:\PROJECTS\DB19.1198_SALTY_DOG_2019\GIS\MXDS\REPORT\2023-1SA\FIG03_GWE_202306_BRINE_WELL.MXD

Explanation

DBS-3 Well designation

65 Chloride concentration (mg/L)

Monitor well

Fresh water supply well

Recovery well

Red indicates a concentration greater than or equal to the NMWQCC standard.

Note: * Insufficient water to sample.

Source: Aerial imagery (NAIP, 2022).

S:\PROJECTS\DB19.1198_SALTY_DOG_2019\GIS\MXDS\REPORT\2023-1SA\FIG04_CL_GW_202306_BRINE_STATION.MXD

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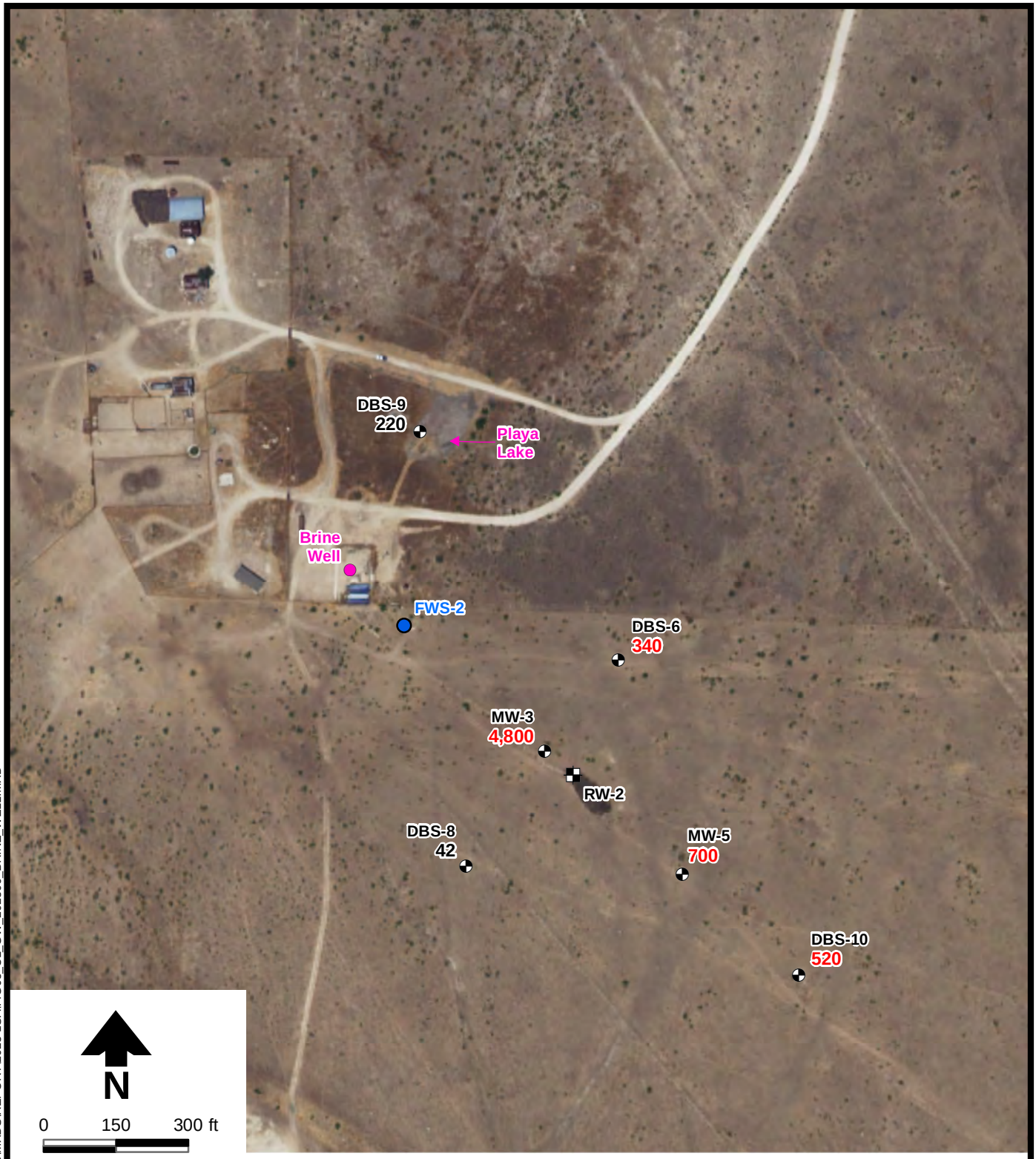
SALTY DOG BRINE STATION

Former Brine Pond Area
Chloride Concentrations in Groundwater
June 2023

Figure 4



Source: Aerial imagery (NAIP, 2022).

Explanation

DBS-8 Well designation

42 Chloride concentration (mg/L)

Monitor well

Fresh water supply well

Recovery well

Red indicates a concentration greater than or equal to the NMWQCC standard.

S:\PROJECTS\DB19.1198_SALTY_DOG_2019\GIS\MXDS\REPORT\2023-1SA\FIG05_CL_GW_202306_BRINE_WELL.MXD

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SALTY DOG BRINE STATION

Playa Lake and Brine Well Area
Chloride Concentrations in Groundwater
June 2023

Figure 5

Appendix A

Laboratory Analytical Report

DBS&A
a Geo-Logic Company

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 14, 2023

John Ayarbe

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

RE: Salty Dog OrderNo.: 2306902

Dear John Ayarbe:

Hall Environmental Analysis Laboratory received 11 sample(s) on 6/16/2023 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-1R
Project: Salty Dog **Collection Date:** 6/12/2023 3:55:00 PM
Lab ID: 2306902-001 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	970	50	*	mg/L	100	6/30/2023 5:37:03 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-3
Project: Salty Dog **Collection Date:** 6/12/2023 6:14:00 PM
Lab ID: 2306902-002 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	65	5.0		mg/L	10	6/30/2023 5:49:23 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-4
Project: Salty Dog **Collection Date:** 6/12/2023 3:20:00 PM
Lab ID: 2306902-003 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	42	5.0		mg/L	10	6/30/2023 6:14:05 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-6
Project: Salty Dog **Collection Date:** 6/13/2023 4:08:00 PM
Lab ID: 2306902-004 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	340	50	*	mg/L	100	6/30/2023 6:51:07 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-8
Project: Salty Dog **Collection Date:** 6/13/2023 3:07:00 PM
Lab ID: 2306902-005 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	42	5.0		mg/L	10	6/30/2023 7:03:27 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-9
Project: Salty Dog **Collection Date:** 6/13/2023 8:54:00 AM
Lab ID: 2306902-006 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	220	50		mg/L	100	6/30/2023 8:05:11 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** DBS-10
Project: Salty Dog **Collection Date:** 6/13/2023 2:17:00 PM
Lab ID: 2306902-007 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	520	50	*	mg/L	100	6/30/2023 8:29:54 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-3
Project: Salty Dog **Collection Date:** 6/13/2023 11:20:00 AM
Lab ID: 2306902-008 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY						Analyst: **CAS**	
Specific Gravity	1.001	0			1	6/26/2023 12:03:00 PM	R97708
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Fluoride	0.83	0.50		mg/L	5	6/30/2023 8:42:13 PM	R97869
Chloride	4800	1000	*	mg/L	2E+	7/3/2023 4:17:54 PM	R97897
Bromide	1.9	0.50		mg/L	5	6/30/2023 8:42:13 PM	R97869
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	7/6/2023 7:45:02 PM	R98006
Sulfate	290	10	*	mg/L	20	6/30/2023 8:54:34 PM	R97869
Nitrate+Nitrite as N	2.9	2.0		mg/L	10	7/11/2023 10:38:35 AM	R98110
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **RBC**	
Conductivity	19000	100		µmhos/c	10	6/21/2023 12:00:51 PM	R97618
SM2320B: ALKALINITY						Analyst: **RBC**	
Bicarbonate (As CaCO3)	233.4	20.00		mg/L Ca	1	6/19/2023 12:48:15 PM	R97557
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/19/2023 12:48:15 PM	R97557
Total Alkalinity (as CaCO3)	233.4	20.00		mg/L Ca	1	6/19/2023 12:48:15 PM	R97557
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**	
Total Dissolved Solids	10100	500	*D	mg/L	1	6/21/2023 2:50:00 PM	75719
SM4500-H+B / 9040C: PH						Analyst: **RBC**	
pH	7.36		H	pH units	1	6/19/2023 12:48:15 PM	R97557
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **VP**	
Calcium	100	5.0		mg/L	5	6/29/2023 3:01:46 PM	75704
Magnesium	12	1.0		mg/L	1	6/20/2023 12:00:06 PM	75704
Potassium	3.5	1.0		mg/L	1	6/20/2023 12:00:06 PM	75704
Sodium	260	5.0		mg/L	5	6/29/2023 3:01:46 PM	75704

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** MW-5
Project: Salty Dog **Collection Date:** 6/13/2023 1:22:00 PM
Lab ID: 2306902-009 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	700	50	*	mg/L	100	6/30/2023 9:19:15 PM	R97869

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306902**
Date Reported: **7/14/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Brine
Project: Salty Dog **Collection Date:** 6/12/2023 5:25:00 PM
Lab ID: 2306902-010 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY						Analyst: **CAS**	
Specific Gravity	1.199	0			1	6/26/2023 12:03:00 PM	R97708
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	190000	5000	*	mg/L	1E+	6/30/2023 10:33:21 PM	A97869
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**	
Total Dissolved Solids	339000	5000	*H	mg/L	1	6/23/2023 2:15:00 PM	75777
SM4500-H+B / 9040C: PH						Analyst: **RBC**	
pH	7.08		H	pH units	1	6/19/2023 12:40:18 PM	R97557
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **VP**	
Sodium	49000	500		mg/L	500	6/20/2023 12:55:38 PM	75704

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 Quanitative 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 **2306902**
Date Reported: **7/14/2023**

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** Injection
Project: Salty Dog **Collection Date:** 6/12/2023 4:18:00 PM
Lab ID: 2306902-011 **Matrix:** GROUNDWA **Received Date:** 6/16/2023 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SPECIFIC GRAVITY						Analyst: **CAS**	
Specific Gravity	1.000	0			1	6/26/2023 12:03:00 PM	R97708
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	380	50	*	mg/L	100	6/30/2023 10:58:02 PM	A97869
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JAG**	
Total Dissolved Solids	1010	50.0	*H	mg/L	1	6/21/2023 2:50:00 PM	75719
SM4500-H+B / 9040C: PH						Analyst: **RBC**	
pH	7.78		H	pH units	1	6/19/2023 12:44:15 PM	R97557
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **VP**	
Sodium	260	5.0		mg/L	5	6/20/2023 12:23:31 PM	75704

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Pace Analytical®

ANALYTICAL REPORT

June 28, 2023

Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1627784
Samples Received:	06/20/2023
Project Number:	
Description:	

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

Entire Report Reviewed By:

John Hawkins
Project Manager

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

TABLE OF CONTENTS

SAMPLE SUMMARY

2306902-008C MW-3 L1627784-01 GW

			Collected by	Collected date/time	Received date/time
				06/13/23 11:20	06/20/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG2083531	1	06/24/23 15:30	06/24/23 15:30	NTG	Mt. Juliet, TN

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

Wet Chemistry by Method 2580

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	mV			date / time	
ORP	145	T8	1	06/24/2023 15:30	WG2083531

L1627784-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1627784-01 06/24/23 15:30 • (DUP) R3942016-3 06/24/23 15:30

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	145	143	1	1.90		20

L1628671-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1628671-01 06/24/23 15:30 • (DUP) R3942016-4 06/24/23 15:30

Analyte	Original Result mV	DUP Result mV	Dilution	DUP Diff mV	DUP Qualifier	DUP Diff Limits mV
ORP	114	112	1	1.40		20

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

(LCS) R3942016-1 06/24/23 15:30 • (LCSD) R3942016-2 06/24/23 15:30

Analyte	Spike Amount mV	LCS Result mV	LCSD Result mV	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	Diff mV	Diff Limits mV
ORP	98.0	92.6	92.2	94.5	94.1	90.0-110			0.400	20

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.

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	LAO000356
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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

SUB CONTRATOR: 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					

L1627784

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2306902-008C	MW-3	125HDP	Groundwater	6/13/2023 11:20:00 AM	1	ORP- Oxidation Reduction Potential -01

H137

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 — NSAT 1.5+0=1.5
Sufficient volume sent: ✓ Y__N
RAD Screen <0.5 mR/hr: ✓ Y__N — 6426 8305 4304

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: 6/16/2023	Time: 11:09 AM	Received By: Eli Dossett	Date: 6-20-23	Time: 915
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☒ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY

Temp of samples _____ °C Attempt to Cool ? _____

Comments: _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306902**

14-Jul-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: **R97869**	RunNo: **97869**
Prep Date:	Analysis Date: **6/30/2023**	SeqNo: **3560123** 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: **R97869**	RunNo: **97869**
Prep Date:	Analysis Date: **6/30/2023**	SeqNo: **3560124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.6	90	110			
Chloride	4.6	0.50	5.000	0	92.7	90	110			
Bromide	2.4	0.10	2.500	0	94.7	90	110			
Sulfate	9.4	0.50	10.00	0	94.5	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A97869**	RunNo: **97869**
Prep Date:	Analysis Date: **6/30/2023**	SeqNo: **3560177** 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: **A97869**	RunNo: **97869**
Prep Date:	Analysis Date: **6/30/2023**	SeqNo: **3560178** 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	93.2	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R97897**	RunNo: **97897**
Prep Date:	Analysis Date: **7/3/2023**	SeqNo: **3561706** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

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 Quanitative 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#: **2306902**

14-Jul-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: **R97897**	RunNo: **97897**							
Prep Date:	Analysis Date: **7/3/2023**	SeqNo: **3561712**	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	96.2	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R98006**	RunNo: **98006**							
Prep Date:	Analysis Date: **7/6/2023**	SeqNo: **3565980**	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: **R98006**	RunNo: **98006**							
Prep Date:	Analysis Date: **7/6/2023**	SeqNo: **3565981**	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	94.2	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R98110**	RunNo: **98110**							
Prep Date:	Analysis Date: **7/11/2023**	SeqNo: **3570137**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R98110**	RunNo: **98110**							
Prep Date:	Analysis Date: **7/11/2023**	SeqNo: **3570138**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.1	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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID:	**lcs-1 99.3uS eC**	SampType:	**LCS**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**LCSW**	Batch ID:	**R97618**	RunNo:	**97618**					
Prep Date:		Analysis Date:	**6/21/2023**	SeqNo:	**3549517**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	99.30	0	105	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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: **MB-75704**	SampType: **MBLK**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **PBW**	Batch ID: **75704**	RunNo: **97575**
Prep Date: **6/19/2023**	Analysis Date: **6/20/2023**	SeqNo: **3547301** 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-75704**	SampType: **LCS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **LCSW**	Batch ID: **75704**	RunNo: **97575**
Prep Date: **6/19/2023**	Analysis Date: **6/20/2023**	SeqNo: **3547303** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.7	80	120			
Magnesium	49	1.0	50.00	0	98.4	80	120			
Potassium	48	1.0	50.00	0	96.3	80	120			
Sodium	49	1.0	50.00	0	98.0	80	120			

Sample ID: **2306902-008BMS**	SampType: **MS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-3**	Batch ID: **75704**	RunNo: **97575**
Prep Date: **6/19/2023**	Analysis Date: **6/20/2023**	SeqNo: **3547309** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	61	1.0	50.00	12.01	97.8	75	125			
Potassium	52	1.0	50.00	3.485	96.9	75	125			

Sample ID: **2306902-008BMSD**	SampType: **MSD**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-3**	Batch ID: **75704**	RunNo: **97575**
Prep Date: **6/19/2023**	Analysis Date: **6/20/2023**	SeqNo: **3547310** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	61	1.0	50.00	12.01	98.3	75	125	0.387	20	
Potassium	52	1.0	50.00	3.485	97.1	75	125	0.158	20	

Sample ID: **2306902-008BMS**	SampType: **MS**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-3**	Batch ID: **75704**	RunNo: **97824**
Prep Date: **6/19/2023**	Analysis Date: **6/29/2023**	SeqNo: **3558208** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	150	5.0	50.00	103.5	95.5	75	125			
Sodium	300	5.0	50.00	255.7	78.9	75	125			

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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: **2306902-008BMSD**	SampType: **MSD**	TestCode: **EPA 6010B: Total Recoverable Metals**
Client ID: **MW-3**	Batch ID: **75704**	RunNo: **97824**
Prep Date: **6/19/2023**	Analysis Date: **6/29/2023**	SeqNo: **3558209** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	160	5.0	50.00	103.5	113	75	125	5.66	20	
Sodium	310	5.0	50.00	255.7	118	75	125	6.36	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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID:	**2306902-008ADUP**	SampType:	**DUP**	TestCode:	**SM4500-H+B / 9040C: pH**					
Client ID:	**MW-3**	Batch ID:	**R97557**	RunNo:	**97557**					
Prep Date:		Analysis Date:	**6/19/2023**	SeqNo:	**3545950**	Units:	**pH units**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.35									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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R97557**	RunNo: **97557**							
Prep Date:	Analysis Date: **6/19/2023**	SeqNo: **3545923**	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: **R97557**	RunNo: **97557**							
Prep Date:	Analysis Date: **6/19/2023**	SeqNo: **3545924**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.04	20.00	80.00	0	98.8	90	110			

Sample ID: **2306902-008ADUP**	SampType: **DUP**	TestCode: **SM2320B: Alkalinity**							
Client ID: **MW-3**	Batch ID: **R97557**	RunNo: **97557**							
Prep Date:	Analysis Date: **6/19/2023**	SeqNo: **3545926**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	233.3	20.00						0.0343	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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID:	**2306902-008ADUP**	SampType:	**DUP**	TestCode:	**Specific Gravity**					
Client ID:	**MW-3**	Batch ID:	**R97708**	RunNo:	**97708**					
Prep Date:		Analysis Date:	**6/26/2023**	SeqNo:	**3553472**	Units:				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Specific Gravity	1.004	0						0.329	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 Quanitative 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#: **2306902**

14-Jul-23

Client: Daniel B. Stephens & Assoc.

Project: Salty Dog

Sample ID: **MB-75719**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **75719**	RunNo: **97614**
Prep Date: **6/20/2023**	Analysis Date: **6/21/2023**	SeqNo: **3549236** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-75719**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **75719**	RunNo: **97614**
Prep Date: **6/20/2023**	Analysis Date: **6/21/2023**	SeqNo: **3549237** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	50.0	1000	0	103	80	120			

Sample ID: **MB-75777**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **75777**	RunNo: **97673**
Prep Date: **6/22/2023**	Analysis Date: **6/23/2023**	SeqNo: **3552098** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-75777**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **75777**	RunNo: **97673**
Prep Date: **6/22/2023**	Analysis Date: **6/23/2023**	SeqNo: **3552099** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	50.0	1000	0	101	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 Quanitative 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

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: 2306902 | RcptNo: 1

Received By: Juan Rojas 6/16/2023 9:15:00 AM

Completed By: Desiree Dominguez 6/16/2023 10:45:42 AM

Reviewed By: JN 6/16/23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° 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: 4 (<2 or >12 unless noted)

pH strip lot# 538534 6/16/23

Adjusted? No

Checked by: JN 6/16/23

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: Dave B. Stephens & Associates

Mailing Address: ABQ office

Phone #: 505-822-9400

email or Fax#: JAyarbe@geo-logic.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Salty Dog

Project #: DB19.1198 Ph.10

Project Manager: John Ayarbe

Sampler: K. Morgan

On Ice: ☐ Yes ☐ No

# of Coolers: 1 Yogi

Cooler Temp (Including CF): 3.8-0.1=3.7 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2306902	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 Cl only 300.0	Cl, F, Br, NO_3, NO_2, PO_4, SO_4 All 300.0	8260 (VOA)	8270 (Semi-VOA) ORP	Total Coliform (Present/Absent)	Specific gravity, TDS pH	Na 6010B	Ca, Mg, K, Na 6010B	Specific Conductance	Bicarbonate, Carbonate	Total Alkalinity
6-12-23	15:55	GW	DBS-1R	1 plastic	None	-001						X										
↓	18:14		DBS-3			-002						X										
↓	15:20		DBS-4			-003						X										
6-13-23	16:08		DBS-6			-004						X										
↓	15:07		DBS-8			-005						X										
↓	08:54		DBS-9			-006						X										
↓	14:17		DBS-10			-007						X										
↓	11:20		MW-3	4 plastic	Varies	-008							X		X		X		X	X	X	X
↓	13:22		MW-5	1 plastic	None	-009						X										
6-12-23	17:25		Brine	2 plastic	Varies	-010						X					X	X				
↓	16:18	↓	Injection	2 plastic	Varies	-011						X					X	X				

Remarks:

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/14/23	0900		UPS		6/16/23	9:15
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

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.

Appendix B

Field Notes

Daniel B. Stephens & Associates, Inc.

GROUNDWATER ELEVATION DATA SHEET

Project Name: Salty Dog Sampler: V. Morgan

Project #: DB19.1198 Sample Date: 6-12-23

Project Manager: John Ayarbe Sheet # 1 of 1

Time	Well ID	previous (06/22)	Depth to Water	Total Depth	Comments: (well dia., sampled, condition)
15:32	DBS-1R	72.80	73.62	~~74.42~~ 74.58	6-12-23 15:55 ✓
14:30	DBS-2	74.89	Dry	~~75.35~~ 74.91	No Sample - dry —
17:47	DBS-3	69.57	71.74	~~74.76~~ 75.10	6-12-23 1814 ✓
14:50	DBS-4	75.30	76.97	~~78.81~~ 78.15	6-12-23 15:20 ✓
17:35	DBS-5	71.99	74.31	~~75.38~~ 74.45	No Sample Low Volume —
1904	DBS-6	69.79	70.63	~~76.02~~ 75.31	6-13-23 16:08 ✓
1919	DBS-7	68.29	69.04	—	WL only —
1915	DBS-8	67.84	68.58	~~69.91~~ 69.71	6-13-23 1507 ✓
1823	DBS-9	60.95	62.58	~~67.55~~ 65.29	6-13-23 0854 ✓
1854	DBS-10	67.28	68.23	~~78.11~~ 77.88	6-13-23 1417 ✓
1910 ~~1904~~	MW-2	68.46	69.47	—	WL only —
1833	MW-3	70.60	69.96 (4m)	~~147.13~~ 142.72	4 containers 6-13-23 11:20 ✓
1846	MW-4	70.44	69.82	—	WL only —
1852	MW-5	67.59	68.06	~~128.78~~ 128.48	6-13-23 1322 ✓
1900	MW-6	69.04	69.96 (4m)	—	WL only —
16:32	PMW-1	~~75.97~~ ~~77.25~~	~~77.28~~ 77.20	~~77.73~~ 77.25	No Sample Low volume —

16:00 Comments: "FWS-1 Totalizer = 5949603 bbl, 0.0 GPM @ 16:00

16:18 "Injection" Sample (Fresh water) collected @ valve near FWS-1 - 1618 6-12-23 ✓

17:25 ~~16:48~~ "Brine" sample @ ~~Fill port~~ @ Station @ secondary Containment 6-12-23 ✓

FWS-2 - No pump, No totalizer

RW-2 No pump, Totalizer lying on ground, Flashing illegible #s

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: Y. Morgan

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: 15:55

Well #: DBS-1R

Well Diameter: 2" (inches) Height of Water Column: 0.96 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: 0.15 (gal)

Depth to Water: 73.62 (feet btoc) Purge Volume: 0.5 (gal)

Total Depth of Well: ~~74.42~~ 74.58 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Time	Casing Volume	pH	Temp (°C)	SP Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
15:38	Initial	7.08	22.7	3202	155.2	4.29	Very
15:43	1	7.17	20.6	3186	150.9	5.23	"
15:48	2	7.17	20.4	3169	148.4	5.38	Moderate
15:55	3	7.16	19.5	3330	147.3	6.36	"

Sample Description: 1 poly. Moderate turbidity, brown

Physical Observations: Short Water column recovery between bailers & moderate speed

Analytical Method(s): Chloride

T:\Admin\Field Forms\Att 1.5-1_GROUNDWATER MONITORING DATA SHEET_rev1.pdf

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: YR

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: N/A

Well #: DBS-2

Well Diameter: 2" (inches) Height of Water Column: — (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: — (gal)

Depth to Water: Dry (feet btoc) Purge Volume: — (gal)

Total Depth of Well: ~~75.35~~ 74.91 (feet) Purge Method: ~~Grab~~

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°F)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial						
1	N/A					
2						
3						

Sample Description: ~~1 poly~~ N/A

Physical Observations: No Samp6

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe
Sampler: Y Morgan
Sample Date: 6-12-23
Sample Time: 1814

Well #: DBS-3
Well Diameter: 2" (inches) Height of Water Column: 3.36 (feet)
Depth to NAPL: --- (feet btoc) Casing Volume: 0.54 (gal)
Depth to Water: 71.74 (feet btoc) Purge Volume: 1.6 (gal)
Total Depth of Well: ~~74.76~~ 75.10 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp (°F) °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1800	Initial	7.47	19.9	646	146.2	7.09	Moderate
1805	1	7.26	19.8	638	147.2	7.44	High
1809	2	7.24	19.6	633	147.3	6.91	High
1814	3	7.24	19.6	632	147.5	6.92	High

Sample Description: 1 poly – Turbid Brown

Physical Observations: WC is short but recovers quickly (~3')

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: Y. Mayan

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: 1520

Well #: DBS-4

Well Diameter: 2" (inches) Height of Water Column: 1.18 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: 0.18 (gal)

Depth to Water: 76.97 (feet btoc) Purge Volume: ~~0.60~~ 6.4 (gal)

Total Depth of Well: ~~78.81~~ 78.15 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp (@) °C	Conductivity (µS/cm) SC	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
15:00	Initial	7.52	21.5	694	136.0	3.97	very
15:05	1	7.46	20.7	602	135.9	4.09	"
15:09	2	7.40	20.1	601	137.5	4.31	"
—	3	Dry					

Sample Description: 1 poly - very turbid, brown

Physical Observations: Short water column - going dry after each bailer - slow recovery. Sampled after 2 well volumes purged

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: YA

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: N/A

Well #: DBS-5

Well Diameter: 2" (inches) Height of Water Column: 0.14 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: N/A (gal)

Depth to Water: 14.31 (feet btoc) Purge Volume: (gal)

Total Depth of Well: ~~75.38~~ 14.45 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°F)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	N/A					
1						
2						
3						

Sample Description: ~~1 poly~~ No Sample

Physical Observations: ~0.1' of slurry in bailer - No Sample

Analytical Method(s): ~~Chloride~~ N/A

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe
Sampler: V. Morgan
Sample Date: 6-13-23
Sample Time: 1608

Well #: DBS-6
Well Diameter: 2" (inches)
Depth to NAPL: --- (feet btoc)
Depth to Water: 70.63 (feet btoc)
Total Depth of Well: ~~76.02~~ 75.31 (feet)
Height of Water Column: 4.68 (feet)
Casing Volume: 0.75 (gal)
Purge Volume: 2.25 (gal)
Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp (°F) °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
15:40	Initial	6.89	20.0	1656	192.9	5.87	None
15:49	1	6.85	19.5	1625	189.4	5.94	moderate
1557	2	6.95	20.1	1629	175.9	5.60	High
1608	3	6.92	19.7	1639	173.0	5.73	High

Sample Description: 1 poly

Physical Observations: very turbid, light brown

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: V. Morgan

Project #: DB19.1198.00 Sample Date: 6-13-23

Project Manager: John Ayarbe Sample Time: 1507

Well #: DBS-8

Well Diameter: 2" (inches) Height of Water Column: 1.13 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: 0.18 (gal)

Depth to Water: 68.58 (feet btoc) Purge Volume: 0.55 (gal)

Total Depth of Well: ~~69.81~~ 69.71 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1431	Initial	6.81	21.2	657	169.8	6.32	None
1457	1	7.06	20.5	643	157.5	6.82	High
1502	2	7.05	21.1	639	156.0	~~6.56~~ 5.56	High
1507	3	7.05	20.5	641	164.8	5.64	Moderate

Sample Description: 1 poly

Physical Observations: Moderately turbid, short water column recovers fairly quickly

Analytical Method(s): Chloride

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe
Sampler: Y. Morgan
Sample Date: 6-13-23
Sample Time: 0854

Well #: DBS-9
Well Diameter: 2" (inches)
Depth to NAPL: --- (feet btoc)
Depth to Water: 62.58 (feet btoc)
Total Depth of Well: ~~67.55~~ 65.29 (feet)
Height of Water Column: 2.71 (feet)
Casing Volume: 0.43 (gal)
Purge Volume: ~~1.5~~ 1.3 (gal)
Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial (0838)	6.96	19.0	2147	166.1	5.50	slight
1 (0844)	7.00	19.1	1726	158.6	5.81	High
2 (0848)	7.01	19.2	1445	~~16~~ 153.9	5.69	High
3 (0854)	6.99	19.3	1347	154.0	5.61	"

Sample Description: 1 poly
Light brown, turbid

Physical Observations: Short WC recovers quickly during bailing.

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: Y Morgan

Project #: DB19.1198.00 Sample Date: 6-13-23

Project Manager: John Ayarbe Sample Time: 1417

Well #: DBS-10

Well Diameter: 2" (inches) Height of Water Column: 9.65 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: 1.5 (gal)

Depth to Water: 68.73 (feet btoc) Purge Volume: 4.6 (gal)

Total Depth of Well: ~~78.11~~ 77.38 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
1350	Initial	6.70	20.1	2228	219.4	6.82	Slight
1358	1	6.97	20.2	2193	194.0	5.42	High
1407	2	6.96	19.9	2209	185.7	5.15	High
1417	3	6.97	20.0	2224	182.0	5.17	High

Sample Description: 1 poly

Physical Observations: Turbid

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe

Sampler: Y. Morga
Sample Date: 6-13-23
Sample Time: 1120

Well #: MW-3
Well Diameter: 2" (inches)
Depth to NAPL: --- (feet btoc)
Depth to Water: 69.96 (feet btoc)
Total Depth of Well: ~~147.43~~ 142.72 (feet)

Height of Water Column: 72.76 (feet)
Casing Volume: 11.64 (gal)
Purge Volume: 35 (gal)
Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

	Casing Volume	pH	Temp ~~(°F)~~ °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
0910	Initial	7.18	19.5	2791	183.3	4.73	None
0947	1	7.18	19.6	3107	152.1	4.14	None
1031	2	6.74	18.8	14512	162.0	3.58	Slight
1120	3	6.84	19.0	15616	158.2	3.58	Slight

Sample Description: 4 poly (unpreserved Chloride), Water Quality Suite

Physical Observations: slightly turbid

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe

Sampler: V. Morgan
Sample Date: 6/13-23
Sample Time: 1322

Well #: MW-5
Well Diameter: 2" (inches)
Depth to NAPL: --- (feet btoc)
Depth to Water: 68.86 (feet btoc)
Total Depth of Well: ~~128.78~~ 128.48 (feet)

Height of Water Column: 60.42 (feet)
Casing Volume: 9.67 (gal)
Purge Volume: 29 (gal)
Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°C)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial (1132)	6.76	20.0	3038	188.4	4.48	None
1 (1214)	6.80	20.3	2407	164.7	4.63	"
2 (1248)	6.75	19.3	2757	160.8	4.86	"
3 (1322)	6.59	19.5	2787	155.4	4.93	Slight

Sample Description: 1 poly

Physical Observations: Slightly turbid

Analytical Method(s): Chloride

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: VM

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: N/A

Well #: PMW-1

Well Diameter: 2" (inches) Height of Water Column: 0.05 (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: N/A (gal)

Depth to Water: 77.20 (feet btoc) Purge Volume: N/A (gal)

Total Depth of Well: ~~77.73~~ 77.25 (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp (°F)	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	N/A					
1						
2						
3						

Sample Description: ~~1 poly~~ No Sample

Physical Observations: only saturated Sand in Sample, short WC, Not enough to Sample

Analytical Method(s): ~~Chloride~~ N/A

Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog
Project #: DB19.1198.00
Project Manager: John Ayarbe

Sampler: YP
Sample Date: 6-12-23
Sample Time: ~~10:48~~ 17:25

Well #: Brine
Well Diameter: ~~6~~ (inches) Height of Water Column: — (feet)
Depth to NAPL: --- (feet btoc) Casing Volume: — (gal)
Depth to Water: — (feet btoc) Purge Volume: 100 (gal)
Total Depth of Well: — (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	6.51	26.5	242452	141.8	0.86	Slight
1						
2						
3						

Sample Description: ~~2~~ poly - Lab said 2 containers is sufficient collected @ ~~port~~ Fill Station like in December at Brine tanks Secondary containment - Full due to leak

Physical Observations: at Plumbing to tanks. Power out - lightning so ~~did~~ not able to sample @ ports

Analytical Method(s): Sodium, Chloride, TDS, Spec Gravity, pH

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Daniel B. Stephens & Associates, Inc.

GROUNDWATER MONITORING DATA SHEET

Project Name: Salty Dog Sampler: M. Morgan

Project #: DB19.1198.00 Sample Date: 6-12-23

Project Manager: John Ayarbe Sample Time: 1618

Well #: Injection (Fresh Water Station)

Well Diameter: ~~2"~~ (inches) Height of Water Column: — (feet)

Depth to NAPL: --- (feet btoc) Casing Volume: — (gal)

Depth to Water: — (feet btoc) Purge Volume: ~~AC~~ ~100 (gal)

Total Depth of Well: — (feet) Purge Method: Grab

Note:
One casing volume (SCH 40 PVC): 2.0" ID casing = 0.16 gal/ft; 4.0" = 0.65 gal/ft; 6.0" = 1.47 gal/ft

Groundwater Parameters:

Casing Volume	pH	Temp °C	Conductivity (µS/cm)	ORP (mv)	D.O. (mg/L)	Turbidity (NTU)
Initial	7.26	23.7	1749	122.9	3.39	None
1						
2						
3						

Sample Description: 2 poly - Lab Said 2 containers Sufficient

Physical Observations: From FWS pipe next to FWS-1 - E. of 2 XL brown tanks. Main valve already open per Monty. Broken in open position. Must open 3rd valve nearer tanks

Analytical Method(s): Chloride, TDS, Spec Gravity, pH, and Na

Daniel B. Stephens & Associates, Inc.

GROUNDWATER METER CALIBRATION SHEET

Project Name: Salty Dog
Project #: DBS 11978
Project Manager: J. Ayuso

Sampler: YR
Date: 6-12-23

pH	Temp (°C)	Comments
(4)		
(7) 7.06	30.4	No Cal needed
(10)		
SpCon (µs/cm)	Temp (°C)	Comments
1390 → 1413 (1413)	31.1	
ORP (mv)	Temp (°C)	Comments
209.2 → 220	XS 31.3	
Dissolved O_2	Temp (°C)	Comments
(%)		
(mg/L) 0.80	27.2	
Pressure	Temp (°C)	Comments
(mmHg) 658.8	24.5	

Comments: YSI Pro Plus

Appendix C

Historical Data

Table C-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 C-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 (cont.)	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 C-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 C-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 C-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 C-1. Historical Fluid Level Measurements
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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 C-1. Historical Fluid Level Measurements
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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

Notes are provided at the end of the table.

Table C-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	12/22/2022	68.55	3,742.15
			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 C-1. Historical Fluid Level Measurements
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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 C-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 C-1. Historical Fluid Level Measurements
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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 C-1. Historical Fluid Level Measurements
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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 C-1. Historical Fluid Level Measurements
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[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 C-2. Historical Chloride Groundwater Analytical Data
Page 1 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 2 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 3 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 6 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 8 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 10 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
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Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-2. Historical Chloride Groundwater Analytical Data
Page 13 of 13

Monitor Well	Date	Chloride Concentration (mg/L) [a]
	NMWQCC Standard	*250*
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 C-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	—

[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

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

COMMENTS

Operator: SALTY DOG INC P.O. Box 513 Hobbs, NM 88240	OGRID: 184208
	Action Number: 321214
	Action Type: [UF-DP] Brine Facility Discharge Plan (DISCHARGE PLAN BRINE EXTRACTION)

COMMENTS

Created By	Comment	Comment Date
cchavez	Environmental Semi-Annual Monitor Report Jan - Jun 2023	2/26/2025

Sante Fe Main Office
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: SALTY DOG INC P.O. Box 513 Hobbs, NM 88240	OGRID: 184208
	Action Number: 321214
	Action Type: [UF-DP] Brine Facility Discharge Plan (DISCHARGE PLAN BRINE EXTRACTION)

CONDITIONS

Created By	Condition	Condition Date
cchavez	Conditions of approval: 1. Continue to implement recommendations and corrective action measures outlined in Section 6. 2. Deepen all dry well locations to add at least 10 feet of well screen. Several monitoring locations cannot be sampled. 3. Consider switching to low-flow sampling from bailing 3-casing volumes based on the decreasing water levels at the site.	2/26/2025