BW-8

PAB Services
Salty Dog Brine Station

Monitor Well Installation
&
Groundwater Monitoring Report

September 18, 2009

September 18, 2009

Mr. Jim Griswold
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Monitor Well Installation and Groundwater Monitoring Report

Dear Mr. Griswold:

On behalf of PAB Services, Inc., Daniel B. Stephens & Associates, Inc. (DBS&A) is pleased to submit the enclosed Monitor Well Installation and Groundwater Monitoring Report for the Salty Dog brine station located in Lea County, New Mexico. The report documents field investigation activities conducted at the site in March and April 2009 in partial fulfillment of the requirements set forth in Section 15 of the New Mexico Oil Conservation Division (OCD) Settlement Agreement & Stipulated Revised Final Order (Order), dated August 6, 2008.

Please don't hesitate to call me at (505) 353-9130 if you have any questions or require additional information.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.

Michael D. McVey
Senior Hydrogeologist

Enclosures

cc: James Millett, PAB Services Inc.

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Monitoring Well Installation and Groundwater Monitoring Report
Salty Dog Brine Station
Lea County, New Mexico

Prepared for New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, Environmental Bureau

September 18, 2009

Daniel B. Stephens & Associates, Inc.

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1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this monitor well installation and groundwater monitoring report for submission to the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (OCD) on behalf of PAB Services, Inc. (PAB) for the Salty Dog brine station (Site). The Site is located in Lea County in southeastern New Mexico, approximately 12 miles west of Hobbs on the south side of the Hobbs/Carlsbad Highway (Figure 1). Formally, the Site is located in the in the J Unit of Section 5, Township 19 South, Range 36 East. This report summarizes field investigation activities conducted at the Site in March and April 2009.

1.1 Background

On May 18, 2008, OCD issued Administrative Compliance Order (ACO), NM-OCD-2008-02, to Mr. Peter Bergstein (d/b/a "Salty Dog, Inc.") (OCD, 2008a). After issuance of the ACO, OCD and Mr. Bergstein engaged in settlement discussions to resolve the outstanding issues addressed by the ACO. The OCD and Mr. Bergstein agreed to a Settlement Agreement & Stipulated Revised Final Order (Order), NM-OCD 2008-2A (OCD, 2008b), for the purpose of resolving the violations outlined in the ACO.

The Order requires Mr. Bergstein to complete certain actions to address environmental compliance-related issues at the Site in accordance with milestone deliverable dates agreed upon by the OCD and PAB. Specifically, among other things, the Order requires PAB to address contamination resulting from documented releases in 1999, 2002, and 2005, as well as releases at the brine loading/unloading area.

The ACO provides a description of each of these releases, which are summarized here. The 1999 release was caused by a hole in the casing of the Salty Dog brine well and resulted in contamination of the fresh water well on "Snyder Ranches," adjacent to the Site. The 2002 release was caused by a leaking tank in the vicinity of the brine well, and the 2005 release was caused by a rupture in the brine supply pipeline. The 2002 and 2005 releases were noted to have entered a fresh water playa located just north of the brine well.

1.2 Previous Work Conducted by DBS&A at the Site

To date, DBS&A has performed the following activities under contract to PAB: (1) preparation of a Comprehensive Site Plan, (2) groundwater monitoring, and (3) removal of the brine pond. Each of these activities is summarized below.

1.2.1 Comprehensive Site Plan

In September 2008, DBS&A submitted a Comprehensive Site Plan (Plan) to OCD addressing the requirements set forth in Section 15 of the Order (DBS&A, 2008). The Plan presented a proposed project schedule and individual specifications/proposals for addressing the environmental compliance-related issues at the Site. The Plan formed the basis for future investigation, characterization, and remediation of the Site.

1.2.2 Groundwater Monitoring

In June 2008, DBS&A completed groundwater monitoring at the Site. Groundwater samples were collected from existing monitor wells PMW-1, MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6, and from the ranch headquarters water supply well and the brine station fresh water supply (Figure 2). A groundwater sample was not collected from the mobile home located west of the brine well because the mobile home and the ranch headquarters use the same water supply well.

Prior to sampling, the depth to water was measured in each of the seven monitor wells listed above. Water levels were not measured in the ranch headquarters water supply well and the brine station fresh water supply well because of the presence of permanent submersible downhole pumps that blocked access to the wells. DBS&A could not determine groundwater elevations in the existing site wells nor could a potentiometric surface map be developed because an official survey from a New Mexico licensed land surveyor had not been completed at the Site. However, based on regional groundwater data and information contained in previous reports provided by PAB, DBS&A assumed that the direction of groundwater flow beneath the Site is to the southeast.

Laboratory results showed that chloride concentrations increased in six of the seven existing groundwater monitor wells (PMW-1, MW-1, MW-2, MW-3, MW-4, and MW-5) and in the brine station fresh water well since the wells were last sampled by employees of Salty Dog in May

2008. In six of the nine samples collected (PMW-1, MW-2, MW-3, MW-4, MW-5, and the brine station fresh water supply well), chloride concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard of 250 mg/L (Figure 2).

The groundwater monitoring results indicated that the extent of the chloride groundwater plume in the vicinity of the brine pond has not been delineated. To the south, in the area of the brine well, the chloride groundwater plume extends from the brine well downgradient to monitor wells MW-4 and MW-5. Assuming a southeasterly groundwater flow direction, the plume is bounded downgradient by monitor well MW-6. The cross-gradient extent of the plume, however, has not been delineated (Figure 2).

Based on the findings, DBS&A recommended that the extent of the chloride groundwater plume in the vicinity of the brine pond be delineated, and that the cross-gradient extent of the chloride groundwater plume downgradient of the brine well be delineated.

1.2.3 Brine Pond Removal

In October 2008, the brine pond was removed in accordance with the OCD Order. Employees of Salty Dog pumped all of the aqueous brine from the pond into aboveground frac tanks located on-site. A trackhoe was then used to excavate the accumulated salt from the interior of the pond. The excavated salt was loaded into sealed bins and dump trucks and transported to Sundance Services, Inc. (Sundance) in Eunice, New Mexico for disposal. After the salt was removed from the pond interior, the underlying liner was removed and an additional six inches of the clay beneath the liner was excavated. The liner and soil excavated from beneath the liner were transported to Sundance for disposal. A total of 2,128 cubic yards of salt and contaminated soil were hauled to Sundance for disposal.

DBS&A completed soil sampling beneath the former brine pond and in the former brine loading area located on east side of the pond in November 2008. A 30-foot by 30-foot grid was laid out over an area measuring 180 feet (north-south) by 240 feet (east-west). The gridded area encompassed: (1) the entire extent of the former brine pond (including the berms and a distance of approximately 10 feet outside of the berms) and (2) the former brine loading area. A total of 76 composite soil samples were submitted for laboratory analysis. At each sample location, a backhoe was used to excavate soil to the maximum attainable depth. Sixty-one soil samples

were collected from depths of 4 feet below ground surface (ft bgs) or less and 15 samples were collected from depths greater than 4 ft bgs. Excavation to depths greater than 3 to 4 ft bgs was limited in most cases by the presence of caliche in the shallow subsurface.

Soil samples collected from the bucket of the backhoe during excavation were composited in a stainless steel bowl and then placed in laboratory-provided four-ounce glass jars. The samples were submitted to the laboratory for chloride analysis using U.S. Environmental Protection Agency (EPA) method 300.0.

Laboratory results showed significant concentrations of chloride in the shallow interval (0 to 4 ft bgs) beneath the former brine pond and brine loading area. Although the number of samples collected at greater depths (i.e., greater than 4 ft bgs) were limited due to the presence of caliche in the shallow subsurface at the site, the results from the samples that were collected in this deeper interval indicated that there is not a noticeable difference in chloride concentration from 0 to 4 ft bgs and 4 to 8 ft bgs. It is anticipated, based on the concentrations of chloride observed in the soils beneath the former pond and loading area, that these concentrations do not decrease significantly in the vadose zone and that the concentrations exceed the OCD standard of 500 mg/kg (site with groundwater less than 100 ft bgs) throughout the vadose zone to the water table at approximately 60 ft bgs. This conclusion was supported by the June 2008 sampling of monitor well PMW-1, located at the southeast corner (downgradient) of the brine pond, where the chloride concentration in groundwater was 12,700 mg/L.

Based on the findings, DBS&A recommended that the chloride-contaminated soils be left in place, but the potential for leaching and migration of chloride to the water table be reduced by limiting the infiltration of surface water and precipitation in the source area. To accomplish this, DBS&A and PAB propose to level the entire extent of the former brine pond and brine loading area, backfill and compact the former brine pond to grade, and cover the entire area with concrete. A new brine tank battery, brine loading area, and truck turnaround will then be constructed in this area as detailed in Section 3.6 of the Comprehensive Site Plan.

DBS&A also recommended that the extent of the chloride groundwater plume in the vicinity of the former brine pond and brine loading area be delineated as detailed in Sections 3.1.1.1 and 3.1.1.2

of the Plan by installing five groundwater monitor wells, one nested well, and ongoing quarterly groundwater monitoring and reporting.

1.3 Purpose

The purpose of the field investigation was to determine the magnitude and extent of impacts to soil and groundwater from the 1999, 2002, 2005, and the brine loading/unloading releases. The investigation was performed in accordance with the requirements of the Order and Sections 3.1, 3.2, and 3.3 of the Plan, approved by the OCD on September 17, 2008.

This report constitutes the first of three milestone deliverables: (1) Monitor Well Installation and Ground Water Monitoring report, (2) Recovery Well Installation and Pump Test report, and (3) Conceptual Remedial Design.

1.4 Project Scope

The Order identified three areas of primary concern (AOPC) requiring investigation and/or further delineation of the extent of contamination: (1) the brine loading/unloading area and brine pond, (2) the brine well, and (3) the playa.

To address the AOPCs and groundwater quality at the site, DBS&A completed a field investigation program that included the installation of nine groundwater monitor wells and two nested wells. DBS&A also instituted an analytical program to assess the likely contaminants of concern (COCs) in soil and groundwater at the Site. Finally, DBS&A prepared this report documenting the investigation.

Sections 2 and 3 of this report detail the field investigation and analytical program, respectively. Section 4 presents the results of the investigation, and Section 5 provides DBS&A's summary and conclusions.

2. Field Investigation

Subsurface conditions and groundwater quality were evaluated by the installation of nine monitor wells and two nested wells, and the collection of soil and groundwater samples in each of the three AOPCs. Samples of soil and groundwater were submitted to the selected analytical laboratory for chemical analysis based on the identified COCs. Descriptions of the soil and groundwater field investigation programs are presented below.

2.1 Soil Boring

The soil investigation program included the installation of 11 soil borings, which were later completed as monitor wells to assess groundwater quality. Details of monitor well installation and construction are discussed in Section 2.2 below. The drilling was performed by Peterson Drilling and Testing, Inc. of Amarillo, Texas, a New Mexico licensed drilling company, using air rotary drilling technology. All of the borings were advanced to a total depth of 83 ft bgs. The locations of the borings were predetermined by DBS&A prior to the field investigation (DBS&A, 2008).

All field work was performed under the supervision of a licensed professional geologist. Soil samples were collected during drilling using a split spoon for laboratory analysis. Samples collected for laboratory analysis from the borings were placed in an ice-filled cooler immediately after collection and remained on ice until they were delivered to the analytical laboratory. Chain-of-custody documentation accompanied the samples at all times. Investigation derived waste was stockpiled on visqueen and properly disposed of at a licensed facility after completion of the field investigation.

A description of the field investigation in each of the three AOPCs is provided below.

2.1.1 Brine Pond

Six soil borings, designated DBS-1 through DBS-5 and NW-1, were installed in the vicinity of the brine pond (Figure 3). Soil cuttings and split spoon samples were used during drilling for lithologic description. Soil samples were collected for laboratory analysis at 10-foot intervals

during drilling to quantify the chloride concentration profile with depth. Soil boring logs showing the subsurface geology at each location are provided in Appendix A. Laboratory results from soil samples collected during drilling are summarized in Table 1. Complete laboratory reports for the soil samples are provided in Appendix B.

2.1.2 Brine Well

Four soil borings designated DBS-6 through DBS-8 and NW-2, were installed downgradient of the brine well (Figure 4). Soil samples were collected at 10-foot intervals during drilling for laboratory analysis as described above. Soil cuttings and split spoon samples were used during drilling for lithologic description. Soil boring logs showing the subsurface geology at each location are provided in Appendix A. Laboratory results from soil samples collected during drilling are summarized in Table 1. Complete laboratory reports for the soil samples are provided in Appendix B.

2.1.3 Playa Lake

One soil boring, designated DBS-9, was installed in the fresh water playa lake located just north of the brine well (Figure 4). Soil samples were collected at 10-foot intervals during drilling for laboratory analysis as described above. Soil cuttings and split spoon samples were used during drilling for lithologic description. The soil boring log showing the subsurface geology is provided in Appendix A. Laboratory results of soil samples collected during drilling are summarized in Table 1. Complete laboratory reports for the soil samples are provided in Appendix B.

2.2 Groundwater Investigation

The groundwater investigation included the installation of nine monitor wells and two nested wells, and the collection of groundwater samples for laboratory analysis. The wells were completed at predetermined locations, as specified in Sections 3.1 and 3.2 of the Plan (DBS&A, 2008). The locations specified in the Plan were selected to delineate the extent of the chloride groundwater plume in the vicinity of the brine pond, the cross-gradient extent of the chloride plume resulting from the 1999 release at the brine well, and to determine if groundwater beneath the playa was impacted as a result of the 2002 and 2005 releases. All of the wells

were constructed in accordance with the New Mexico Environment Department Ground Water Quality Bureau Monitoring Well Construction Guidelines, Revision 1.0, dated July 2008.

2.2.1 Monitor Well Installation

2.2.1.1 Brine Pond

Soil borings DBS-1 through DBS-5 were advanced to approximately 20 ft below the water table and completed as 2-inch-diameter groundwater monitor wells (Figure 5). The wells were installed in upgradient, downgradient, and cross-gradient locations to delineate the extent of the chloride plume as follows:

- DBS-1: approximately 200 feet downgradient (southeast) of the brine pond
- DBS-2: approximately 200 feet cross-gradient (east) of the brine pond
- DBS-3: approximately 200 feet cross-gradient (south-southwest) of the brine pond
- DBS-4: approximately 400 feet downgradient (southeast) of the brine pond
- DBS-5: approximately 300 feet upgradient (northwest) of the brine pond

The wells were constructed of 20 feet of 2-inch-diameter, 0.020-inch slot, flush-threaded, machine-cut, Schedule 40 (SCH 40) polyvinyl chloride (PVC) well screen with a 2-foot sump. Blank 2-inch-diameter, SCH 40 PVC casing extended to approximately 2.5 feet above the ground surface. The screens were placed so that approximately five feet would be above the water table and 15 feet below. The filter pack consisted of 8-16 silica sand, placed by a tremie pipe, extending from the bottom of the boring to approximately 3 feet above the well screen. A 3-foot-thick bentonite pellet seal (hydrated) was then placed above the sand pack, and the annular space above the bentonite seal was filled with a cement/bentonite grout to the surface. The wells were completed aboveground with a protective steel well vault and a 3-foot by 3-foot by 4-inch-thick concrete pad and bollards at each corner. The well construction diagrams for DBS-1 through DBS-5 are provided in Appendix A.

Nested well NW-1 was drilled to the red beds (base of the Ogallala Formation) approximately 150 feet downgradient (southeast) of the former brine pond (Figure 5). NW-1 was installed to determine if a chloride density gradient exists with depth in the saturated zone. The well will enable DBS&A to evaluate vertical hydraulic and concentration gradients at a single location to

ensure that future recovery wells are screened properly. The well consists of three 2-inch-diameter monitor wells installed in one 10-inch-diameter soil boring with separate shallow (s), intermediate (m), and deep (d) screens. The screens are separated from each other in the boring by a bentonite seal.

The deep well consists of 20 feet of 2-inch-diameter 0.020-inch slot, flush-threaded, machine-cut, SCH 40 PVC well screen with a 2-foot sump. Blank 2-inch SCH 40 PVC casing extends to approximately 2.5 feet above the ground surface. The screen was placed from approximately 149 ft bgs to 169 ft bgs. The filter pack (8-16 silica sand) was placed by a tremie pipe from the bottom of the boring to approximately 4 feet above the top of the screen. A bentonite pellet seal (hydrated) was then placed above the sand pack.

The middle well consists of 20 feet of 2-inch-diameter 0.020-inch slot, flush-threaded, machine-cut, SCH 40 PVC well screen with a 2-foot sump. Blank 2-inch SCH 40 PVC casing extends to approximately 2.5 feet above the ground surface. The screen was placed from approximately 99 ft bgs to 119 ft bgs. The filter pack (8-16 silica sand) was placed by a tremie pipe from the bottom of the boring to approximately 4 feet above the top of the screen. A bentonite pellet seal (hydrated) was then placed above the sand pack.

The shallow well consists of 20 feet of 2-inch-diameter 0.020-inch slot, flush-threaded, machine-cut, SCH 40 PVC well screen with a 2-foot sump. The well is screened across the water table from approximately 52 ft bgs to 72 ft bgs. Blank 2-inch SCH 40 PVC casing extends to approximately 2.5 feet above the ground surface. The filter pack (8-16 silica sand) was placed by a tremie pipe from the bottom of the boring to approximately 2 feet above the top of the screen. A bentonite pellet seal (hydrated) was then placed above the sand pack. The remaining open annular space above the bentonite seal was then filled with a cement/bentonite grout to the surface.

The well was completed aboveground with a protective steel well vault and a 3-foot by 3-foot by 4-inch-thick concrete pad and bollards at each corner. The well construction diagram for NW-1 is provided in Appendix A.

2.2.1.2 Brine Well

Soil borings DBS-6 through DBS-8 were advanced to approximately 20 ft below the water table and completed as 2-inch-diameter groundwater monitor wells (Figure 6). The wells were installed to delineate the cross-gradient extent of the chloride plume as follows:

- DBS-6: approximately 300 feet north of existing monitor well MW-4
- DBS-7: approximately 200 feet south of existing monitor well MW-4
- DBS-8: approximately 300 feet southwest of existing monitor well MW-4

The wells were constructed as described above in Section 2.2.1.1 for wells DBS-1 through DBS-5. The well construction diagrams for DBS-6 through DBS-8 are provided in Appendix A.

Nested well NW-2 was drilled to the red beds approximately 20 feet upgradient (northwest) of monitor well MW-4 (Figure 6). NW-2, like NW-1, was installed to determine if a chloride density gradient exists with depth in the saturated zone. The well was constructed in similar manner to NW-1 with three 2-inch-diameter monitor wells installed in one 10-inch-diameter soil boring with separate shallow (s), intermediate (m), and deep (d) screens. The well was completed aboveground with a protective steel well vault and a 3-foot by 3-foot by 4-inch-thick concrete pad and bollards at each corner. The well construction diagram for NW-2 is provided in Appendix A.

2.2.1.3 Playa Lake

Soil boring DBS-9 was advanced to approximately 20 ft below the water table and completed as 2-inch-diameter groundwater monitor well (Figure 6). The well was installed to determine if groundwater beneath the playa was impacted from releases which occurred in the past. The well was constructed as described above in Section 2.2.1.1. The well construction diagram for DBS-9 is provided in Appendix A.

After completion, each of the newly installed monitor wells was developed by pumping until temperature, pH, and conductivity stabilized and turbidity was reduced to the extent practicable (Appendix C).

2.2.2 Survey

After drilling and installation of the monitor wells was completed, a survey was completed. Each of the newly installed monitor wells, as well as the existing monitor wells, was surveyed by

Pettigrew & Associates of Hobbs, New Mexico, a licensed New Mexico land surveyor. The top of casing elevations of each of the wells was surveyed to a North American Vertical Datum, 1988 (NAVD88), and the x-y coordinates of each well was surveyed to a North American Datum, 1983 (NAD83) in a state plane coordinate system. Survey results are provided in Appendix D.

2.2.3 Groundwater Sampling

Groundwater samples were collected from each of the newly installed monitor wells and the existing monitor wells for laboratory analysis. Before sampling, fluid levels in each well were gauged using a decontaminated electronic water level meter. After gauging, each well was purged of a minimum of three casing volumes using a pump. Field parameters of pH, specific conductivity, and temperature were monitored during purging to ensure that stagnant water was removed from the well (Appendix C). Groundwater samples were then collected from each well and transferred into laboratory-prepared sample containers. Immediately after the samples were collected, they were placed in an ice-filled cooler and remained on ice until they were delivered to the laboratory for analysis. Chain-of-custody documentation accompanied the samples at all times.

3. Analytical Program

The analytical program included analysis of soil and groundwater media. Samples were submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis. Copies of the soil and groundwater laboratory analytical reports are included in Appendix B.

3.1 Soil Analysis

Soil samples were analyzed for chloride using U.S. Environmental Protection Agency (EPA) method 300.0. A total of 89 soil samples were submitted for laboratory analysis from the eleven soil borings installed during the field investigation. In addition, the samples collected from boring DBS-9 were also analyzed for total petroleum hydrocarbons (TPH) in accordance with EPA method 418.1.

3.2 Groundwater Analysis

Groundwater samples were analyzed for chloride using EPA method 300.0. In addition, samples collected from boring DBS-9 only were analyzed for TPH (gasoline range organics [GRO], diesel range organics [DRO], and motor oil range organics [MRO]) in accordance with EPA method 8015B. A total of 21 groundwater samples were submitted for laboratory analysis. Nine samples from newly installed monitor wells DBS-1 through DBS-9, six from the two newly installed nested wells (NW-1 [s], NW-1 [m], NM-1 [d], NW-2 [s], NW-2 [m], NW-2 [d]), and six from the existing wells (PMW-1, MW-2, MW-3, MW-4, MW-5, and MW-6).

4. Results

4.1 Soil

A summary of chloride concentrations with depth in the soil borings installed during the field investigation is provided in Table 1. TPH results for boring DBS-9 are provided in Table 2. The soil analytical results are also shown graphically on Figures 3 and 4.

4.1.1 Brine Pond

Of the six borings installed at the brine pond, only three borings contained concentrations of chloride in excess of the OCD standard of 500 mg/kg.. In boring DBS-1, located approximately 200 ft southeast of the former brine pond, samples collected from the 10-12 ft bgs and 30-32 ft bgs intervals yielded chloride concentrations of 3,600 and 1,400 mg/kg, respectively. Below 32 ft bgs, chloride concentrations decreased from 380 to 18 mg/kg (Table 1, Figure 3).

In boring DBS-2, located approximately 200 feet east of the former brine loading/unloading area, samples collected from the 0-2 ft bgs and 10-12 ft bgs intervals yielded chloride concentrations of 2,000 and 940 mg/kg, respectively. Below 12 ft bgs, chloride concentrations decreased from 42 to 5.8 mg/kg (Table 1, Figure 3).

Soil boring NW-1, located approximately 70 ft southeast of the former brine pond, showed chloride concentrations exceeding the OCD standard of 500 mg/kg in all of the samples collected from the boring. Measured chloride concentrations ranged from 800 to 3,600 mg/kg (Table 1, Figure 3). No notable decrease in chloride concentration occurred with depth.

4.1.2 Brine Well

No chloride concentrations in the soil samples collected from borings DBS-6, DBS-7, DBS-8, and NW-2, installed downgradient of the brine well, exceeded the OCD standard of 500 mg/kg (Table 1, Figure 4). Measured chloride concentrations ranged from 1.8 to 240 mg/kg.

4.1.3 Playa Lake

Soil samples collected from boring DBS-9 showed elevated chloride concentrations in three samples. In samples collected from the 10-12 ft bgs, 20-22 ft bgs, and 40-42 ft bgs intervals, measured chloride concentrations were 4,100, 560, and 550 mg/kg, respectively (Table 1, Figure 4). Below 42 ft bgs, chloride concentrations decreased from 160 to 9.7 mg/kg.

Soil samples from boring DBS-9 were also analyzed for TPH. In samples collected from the 10-12 ft bgs, 20-22 ft bgs, 30-32 ft bgs, 40-42 ft bgs, and 50-52 ft bgs intervals, measured TPH concentrations were 36, 220, 64, 40, and 82 mg/kg, respectively (Table 2). Below 52 ft bgs, TPH concentrations were below the laboratory reporting limit.

4.2 Groundwater

Table 3 provides water level measurements and corresponding groundwater elevations for each of the newly installed and existing monitor wells. These data were used to generate the potentiometric surface maps for the brine pond and brine well/playa lake areas shown on Figures 7 and 8. The groundwater data were combined for the two areas above and a Site potentiometric surface map was generated (Figure 9). The direction of groundwater flow beneath the Site is to the southeast; the average hydraulic gradient beneath the Site is relatively flat at 0.004 foot per foot.

Groundwater analytical results for chloride are provided in Tables 4 and 5 and shown graphically on Figures 5 and 6. Of the 21 groundwater samples submitted for chloride analysis, 12 samples exceeded the NMWQCC Standard of 250 mg/L for chloride. The samples exceeding the standard were: DBS-1 (320 mg/L), DBS-6 (380 mg/L), DBS-7 (570 mg/L), NW-1(s) (630 mg/L), NW-2(s) (410 mg/L), NW-2(m) (570 mg/L), NW-2(d) (4,700 mg/L), PMW-1 (11,000 mg/L), MW-2 (1,200 mg/L), MW-3 (17,000 mg/L), MW-4 (6,600 mg/L), and MW-5 (1,300 mg/L).

Groundwater samples submitted from DBS-9 for TPH GRO, DRO, and MRO analysis were all below the laboratory reporting limits.

5. Summary and Conclusions

5.1 Site Conditions

5.1.1 Soil

Chloride concentrations in soil were generally below the OCD standard of 500 mg/kg. Three exceptions were noted at the brine pond in borings DBS-1, DBS-2, and NW-1. All three of these borings contained chloride concentrations in excess of 500 mg/kg in two or more samples. The chloride concentrations exceeding 500 mg/kg in borings DBS-1 and DBS-2 were limited to the upper 32 ft in DBS-1 and the upper 12 ft in DBS-2. The chloride concentrations in NW-1, however, exceeded 500 mg/kg in all of the soil samples submitted from the boring.

TPH results from soil samples submitted from boring DBS-9 showed concentrations ranging from 36 to 220 mg/kg from 10 ft bgs to 52 ft bgs. Below 52 ft bgs, TPH concentrations were below the laboratory reporting limit. The sample collected from the 20-22 ft bgs interval exceeded the New Mexico Environment Petroleum Storage Tank Bureau action level of 100 mg/kg.

5.1.2 Groundwater

The chloride groundwater plume was delineated during the field investigation at the brine pond and brine well areas. At the brine pond, the highest chloride concentration in groundwater was encountered in monitor well PMW-1 11,000 mg/L, just downgradient of the former brine pond and brine loading/unloading area. Downgradient of PMW-1, the chloride concentration decreases two orders of magnitude in NW-1(s) (630 mg/L) and decreases by half again in DBS-1 (320 mg/L). The downgradient extent of the plume is bounded by monitor well DBS-4 (38 mg/L) and the cross-gradient extent is bounded by monitor wells DBS-2 (14 mg/L) and DBS-3 (36 mg/L). The upgradient monitor well contained a chloride concentration of 65 mg/L.

At the brine well location, the highest chloride concentration (17,000 mg/L) in groundwater was encountered in monitor well MW-3 (17,000 mg/L), located approximately 550 ft downgradient of the brine well. Downgradient of MW-4, the chloride concentration decreases one order of

magnitude in MW-4 (6,600 mg/L) and continues to decrease further downgradient in MW-5 (1,300 mg/L) and DBS-7 (570 mg/L). The downgradient extent of the plume was not delineated, as the farthest downgradient monitor wells, MW-5 and MW-7, contain chloride concentrations exceeding the NMWQCC standard of 250 mg/L. The cross-gradient extent of the plume was bounded to the south by monitor well DBS-8 (58 mg/L), while the cross-gradient extent of the plume was not defined to the north by DBS-6 (380 mg/L).

The groundwater sample collected from DBS-9 located in the playa was below the NMWQCC standard for chloride (210 mg/L), and below the laboratory reporting limits for TPH. GRO, DRO, and MRO.

5.2 Conclusions

Overall, the extent of the chloride groundwater plumes have been delineated at the brine pond, brine well, and playa. Although the chloride plume at the brine well has not been definitively defined by the field investigation, the chloride concentrations in the farthest downgradient and northernmost cross-gradient wells are low enough to suggest that the wells were installed in the outer fringe of the plume.

DBS&A recommends that recovery wells be installed at the brine pond and the brine well areas and that pump tests be performed on the wells so that a remedial approach for the Site can be developed.

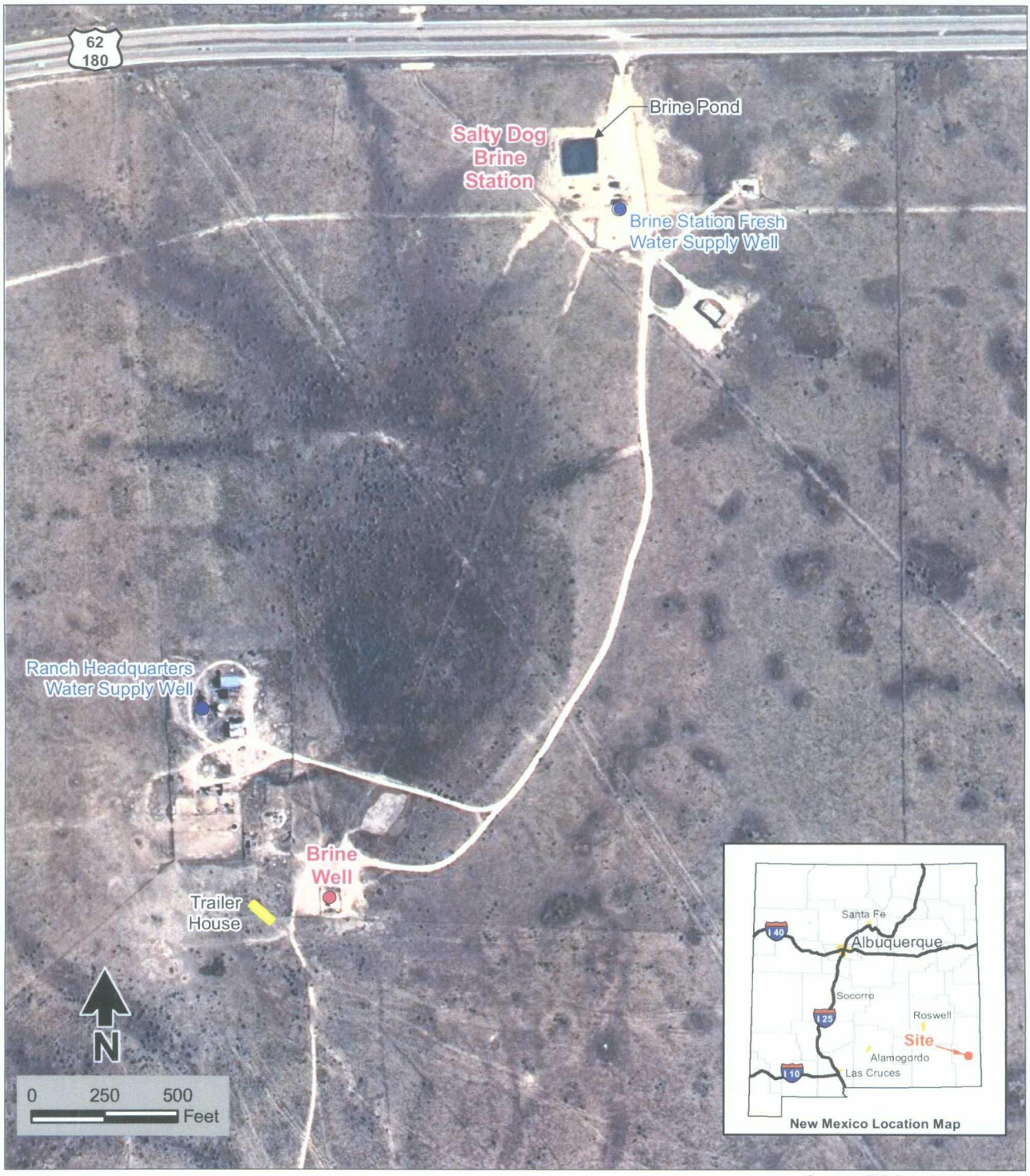
References

DBS&A. 2008. Comprehensive Site Plan, Salty Dog Brine Station, Lea County, New Mexico. Prepared for the New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division, Environmental Bureau, Santa Fe, New Mexico. September 5, 2008.

New Mexico Energy, Minerals and Natural Resources Department. 2008. Notification of Compliance/Enforcement Action-Administrative Compliance Order, ACO 2008-02. Directed to Pieter Bergstein d/b/a Salty Dog, Inc. (OGRID 184208). May 20, 2008.

State of New Mexico New Oil Conservation Division, Constituent Agency of the Water Quality Control Commission In the Matter of Pieter Bergstein d/b/a "Salty Dog, Inc., (OGRID 184208). 2008. Settlement Agreement and Stipulated Revised Final Order NM-OCD 2008-2A. August 6, 2008.

Figures



Explanation

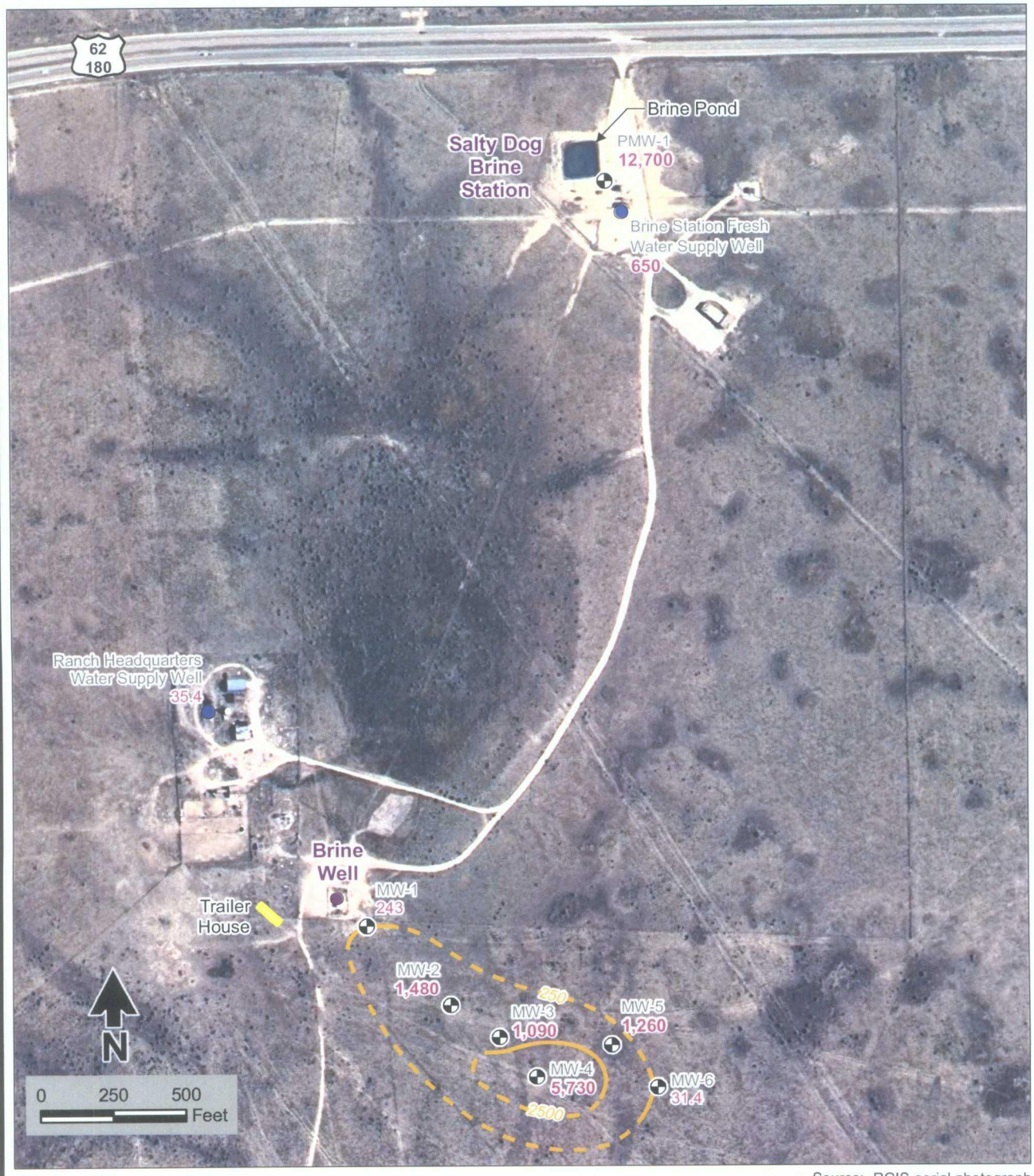
- Water supply well

Source: RGIS aerial photograph dated July 2005

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/COMPREHENSIVE_SITE_PLAN/FIG01-SITE_LOCATION_MAP.MXD 908190

Daniel B. Stephens & Associates, Inc.
09/18/2009
JN ES08.0118.01

SALTY DOG BRINE STATION
Site Location Map
Figure 1



Explanation

MW-4 Well designation

5,730 Chloride concentration (mg/L)

Existing monitor well

Water supply well

Chloride concentration contour (dashed where inferred)

Note: Bold denotes concentration that exceeds the NMWQCC standard

Source: RGIS aerial photograph dated July 2005

SALTY DOG BRINE STATION

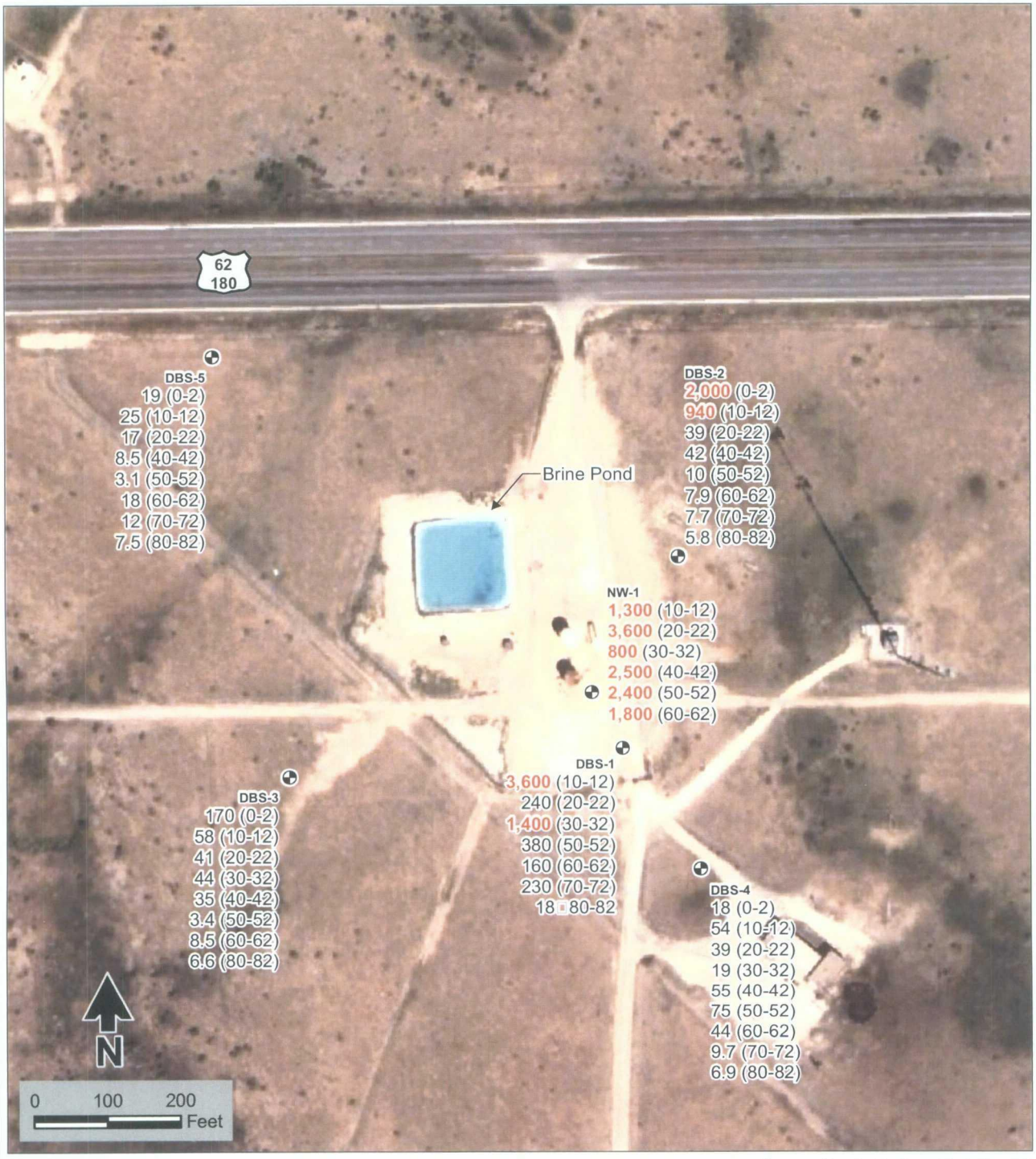
Chloride Concentrations in Groundwater

Daniel B. Stephens & Associates, Inc.

07/09/2008 JN ES08.0118.01

Figure 2

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/GW_CHLORIDE_CONC.MXD 809070



Explanation

DBS-2 Well designation

2,000 Chloride concentration (mg/kg)

(0-2) Sample depth (ft bgs)

Monitor well location

BOLD indicates concentration equal to or greater than the applicable OCD standard.

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

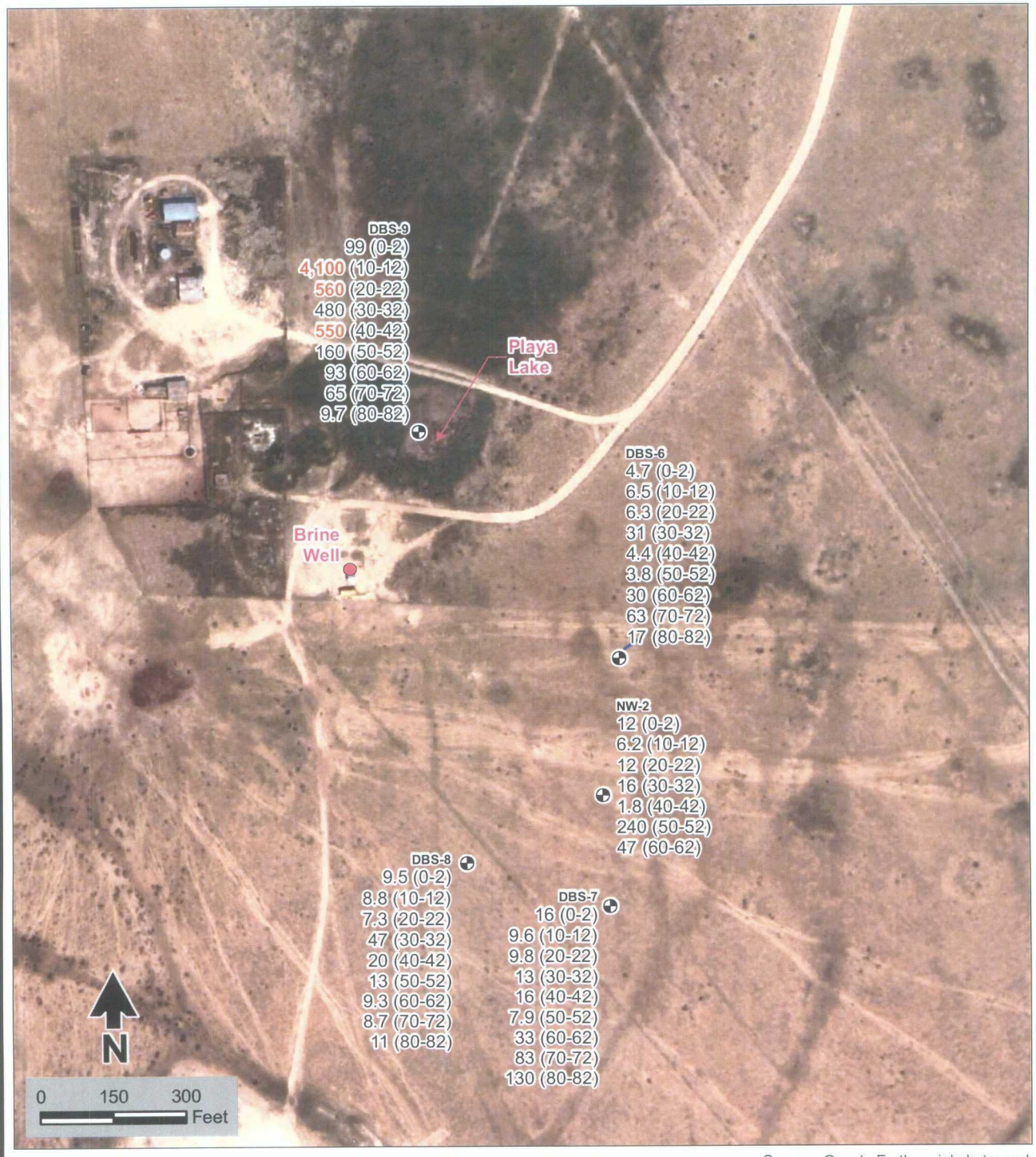
Brine Pond Area
Chloride Concentrations in Soil
March 23, 24, 25, and 31, 2009

Daniel B. Stephens & Associates, Inc.

09/18/2009 JN ES08.0118.01

Figure 3

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/ANALYTICAL_RESULTS/CL_SO_20090408_BRINE_STATION.MXD 908190



Explanation

DBS-9 Well designation

4,100 Chloride concentration (mg/kg)

(0-2) Sample depth (ft bgs)

⊕ Monitor well location

BOLD indicates concentration equal to or greater than the applicable OCD standard.

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

Playa Lake and Brine Well Area Chloride Concentrations in Soil March 26, 27, 30, and April 1, 2009

Daniel B. Stephens & Associates, Inc.

09/18/2009

JN ES08.0118.01

Figure 4

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/ANALYTICAL_RESULTS/CL_SO_20090408_BRINE_WELL.MXD 908190

Explanation

DBS-1 Well designation

320 Chloride concentration (mg/L)

Monitor well location

BOLD indicates concentration equal to or greater than the NMWQCC standard.

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

Brine Pond Area

Chloride Concentrations in Groundwater

April 8, 2009

Daniel B. Stephens & Associates, Inc.

09/18/2009 JN ES08.0118.01

Figure 5

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/ANALYTICAL_RESULTS/CL_GW_20090408_BRINE_STATION.MXD 908190

Explanation

MW-2 Well designation

1,200 Chloride concentration (mg/L)

Monitor well location

BOLD indicates concentration equal to or greater than the NMWQCC standard.

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

Playa Lake and Brine Well Area Chloride Concentrations in Groundwater April 7 and 8, 2009

Daniel B. Stephens & Associates, Inc.

09/18/2009 JN ES08.0118.01

Figure 6

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/ANALYTICAL_RESULTS/CL_GW_20090408_BRINE_WELL.MXD 908190

Explanation

DBS-1 Well designation

3754.71 Groundwater elevation, ft msl

● Groundwater elevation (ft msl)

Potentiometric surface elevation contour (ft msl)

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

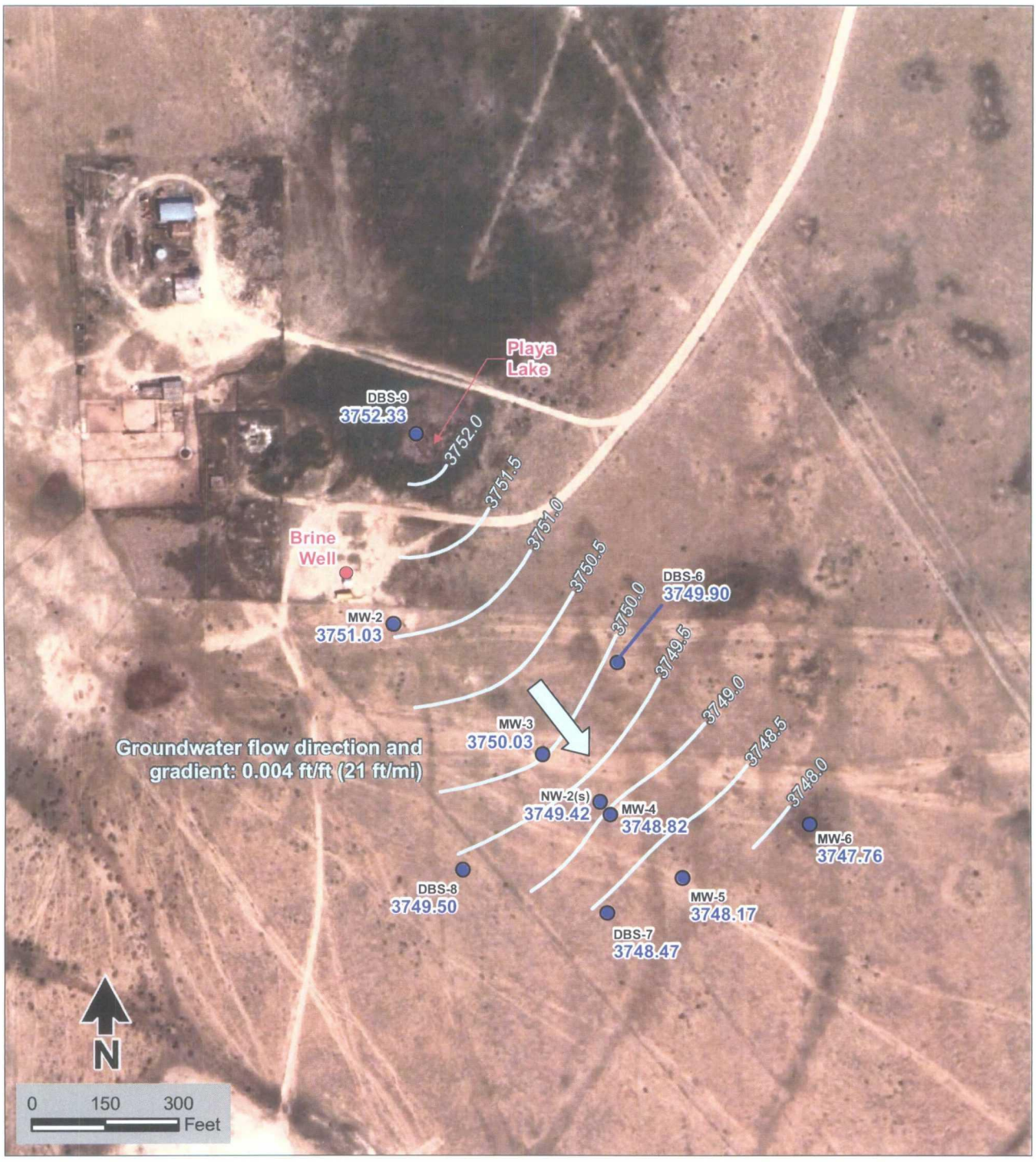
Brine Pond Area
Potentiometric Surface Elevations
April 8, 2009

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/FLUID_LEVELS/GWE_20090408_BRINE_STATION.MXD 908190

Daniel B. Stephens & Associates, Inc.

09/18/2009 JN ES08.0118.01

Figure 7



Explanation

MW-2 Well designation

3751.03 Groundwater elevation, ft msl

Groundwater elevation (ft msl)

Potentiometric surface elevation contour (ft msl)

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

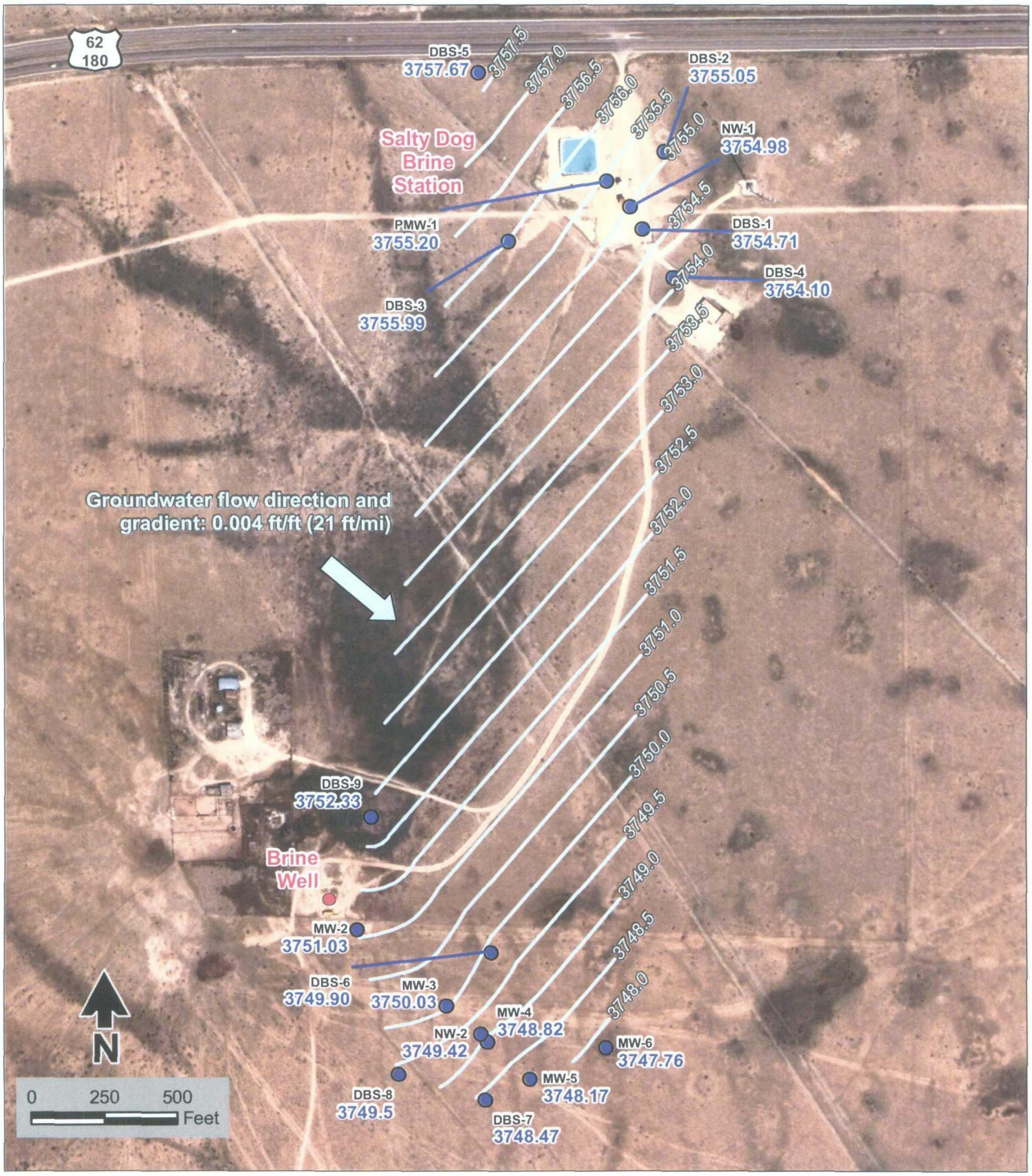
Playa Lake and Brine Well Area Potentiometric Surface Elevations April 7 and 8, 2009

Daniel B. Stephens & Associates, Inc.

05/20/2009 JN ES08.0118.01

Figure 8

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/FLUID_LEVELS/GWE_20090408_BRINE_WELL.MXD 900250



Explanation

DBS-6 Well designation

3749.90 Groundwater elevation, ft msl

Groundwater elevation (ft msl)

Potentiometric surface elevation contour (ft msl)

Source: Google Earth aerial photograph dated September 2002

SALTY DOG BRINE STATION

Potentiometric Surface Elevations April 7 and 8, 2009

Daniel B. Stephens & Associates, Inc.

05/28/2009

JN ES08.0118.01

Figure 9

S:/PROJECTS/ES08.0118.01_SALTY_DOG_INC/GIS/MXDS/FLUID_LEVELS/GWE_20090408.MXD 908250

Tables

Table 1. Summary of Chloride Soil Analytical Data
Salty Dog Brine Station, Lea County, New Mexico
Page 1 of 3

Monitor Well	Sample Date	Depth Interval (ft bgs)	Chloride Concentration (mg/kg) [a]
Oil Conservation Division Soil Standard [b]			*500*
DBS-1	03/25/09	10-12	**3600**
		20-22	240
		30-32	**1400**
		50-52	380
		60-62	160
		70-72	230
		80-82	18
DBS-2	03/24/09	0-2	**2000**
		10-12	**940**
		20-22	39
		40-42	42
		50-52	10
		60-62	7.9
		70-72	7.7
		80-82	5.8
DBS-3	03/24/09	0-2	170
		10-12	58
		20-22	41
		30-32	44
		40-42	35
		50-52	3.4
		60-62	8.5
		80-82	6.6
DBS-4	03/25/09	0-2	18
		10-12	54
		20-22	39
		30-32	19
		40-42	55
		50-52	75
		60-62	44
		70-72	9.7
		80-82	6.9
DBS-5	03/23/09	0-2	19
		10-12	25

Bold indicates concentrations that exceed the applicable standard.

[a] All samples analyzed in accordance with EPA method 300.0, unless otherwise noted.

[b] OCD standard for a site with groundwater less than 100 feet below ground surface.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

Table 1. Summary of Chloride Soil Analytical Data
Salty Dog Brine Station, Lea County, New Mexico
Page 2 of 3

Monitor Well	Sample Date	Depth Interval (ft bgs)	Chloride Concentration (mg/kg) [a]
Oil Conservation Division Soil Standard [b]			*500*
DBS-5 (cont.)	03/23/09	20-22	17
		40-42	8.5
		50-52	3.1
		60-62	18
		70-72	12
		80-82	7.5
DBS-6	03/26/09	0-2	4.7
		10-12	6.5
		20-22	6.3
		30-32	31
		40-42	4.4
		50-52	3.8
		60-62	30
		70-72	63
		80-82	17
DBS-7	03/26/09	0-2	16
		10-12	9.6
		20-22	9.8
		30-32	13
		40-42	16
		50-52	7.9
		60-62	33
		70-72	83
		80-82	130
DBS-8	03/26/09	0-2	9.5
		10-12	8.8
		20-22	7.3
		30-32	47
		40-42	20
		50-52	13
		60-62	9.3
		70-72	8.7
		80-82	11
DBS-9	03/30/09	0-2	99

Bold indicates concentrations that exceed the applicable standard.

[a] All samples analyzed in accordance with EPA method 300.0, unless otherwise noted.

[b] OCD standard for a site with groundwater less than 100 feet below ground surface.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

Table 1. Summary of Chloride Soil Analytical Data
Salty Dog Brine Station, Lea County, New Mexico
Page 3 of 3

Monitor Well	Sample Date	Depth Interval (ft bgs)	Chloride Concentration (mg/kg) [a]
Oil Conservation Division Soil Standard [b]			*500*
DBS-9 (cont.)	03/30/09	10-12	**4100**
		20-22	**560**
		30-32	480
		40-42	**550**
		50-52	160
		60-62	93
		70-72	65
		80-82	9.7
DBS NW-1	03/31/09	10-12	**1300**
		20-22	**3600**
		30-32	**800**
		40-42	**2500**
		50-52	**2400**
		60-62	**1800**
DBS NW-2	04/01/09	0-2	12
		10-12	6.2
		20-22	12
		30-32	16
		40-42	1.8
		50-52	240
		60-62	47

Bold indicates concentrations that exceed the applicable standard.

[a] All samples analyzed in accordance with EPA method 300.0, unless otherwise noted.

[b] OCD standard for a site with groundwater less than 100 feet below ground surface.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

Table 2. Summary of DBS-9 Total Petroleum Hydrocarbons Soil Analytical Data Salty Dog Brine Station, Lea County, New Mexico

Monitor Well	Sample Date	Depth Interval (ft bgs)	TPH Concentration (mg/kg) [a]
NMED PSTB Action Level			*100*
DBS-9	03/30/09	0-2	<6.0
		10-12	36
		20-22	**220**
		30-32	64
		40-42	40
		50-52	82
		60-62	<20
		70-72	<20
		80-82	<20

Bold indicates concentrations that exceed the NMED PSTB action level.

[a] All samples analyzed in accordance with EPA method 418.1

NMED PSTB = New Mexico Environment Department Petroleum Storage Tank Bureau
TPH = Total petroleum hydrocarbons
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram

Table 3. Summary of Historical Fluid Level Measurements
Salty Dog Brine Station, Lea County, New Mexico
Page 1 of 1

Monitor Well	Screen Interval (ft bgs)	Top of Casing Elevation [a] (ft msl)	Date Measured	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
DBS-1	56.0-76.0	3817.09	04/08/09	62.38	3754.71
DBS-2	58.0-78.0	3820.50	04/08/09	65.45	3755.05
DBS-3	56.0-76.72	3816.66	04/08/09	60.67	3755.99
DBS-4	56.0-76.0	3820.37	04/08/09	66.27	3754.10
DBS-5	56.9-76.9	3820.37	04/08/09	62.99	3757.67
DBS-6	56.7-76.7	3812.65	04/07/09	62.75	3749.90
DBS-7	55.1-75.1	3810.21	04/07/09	61.74	3748.47
DBS-8	55.2-75.2	3810.70	04/07/09	61.20	3749.50
DBS-9	48.0-68.0	3806.26	04/08/09	53.93	3752.33
NW-1(s)	52.95-72.95	3817.33	04/08/09	62.35	3754.98
NW-1 (m)	99.31-119.31	3817.35	04/08/09	62.25	3755.10
NW-1 (d)	149.45-169.45	3817.35	04/08/09	62.04	3755.31
NW-2 (s)	53.35-73.35	3812.50	04/08/09	63.08	3749.42
NW-2 (m)	93.72-113.72	3812.45	04/08/09	63.27	3749.18
NW-2 (d)	126.87-146.87	3812.46	04/08/09	66.41	3746.05
PMW-1	63-78	3821.17	06/23/08	67.51	3753.66
			04/08/09	65.97	3755.20
MW-1	120-140	NA	06/23/08	59.90	NA
MW-2	127-147	3812.68	06/23/08	61.42	3751.26
			04/07/09	61.65	3751.03
MW-3	NA	3812.50	06/23/08	62.06	3750.44
			04/07/09	62.02	3750.03
MW-4	111-131	3811.33	06/23/08	62.12	3749.21
			04/07/09	62.51	3748.82
MW-5	112-132	3808.96	06/23/08	60.60	3748.36
			04/07/09	60.79	3748.17
MW-6	NA	3810.17	06/23/08	62.17	3748.00
			04/07/09	62.41	3747.76

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

ft bgs = Feet below ground surface
ft msl = Feet above mean sea level
ft btoc = Feet below top of casing
NA = Not available

Table 4. Summary of Chloride Groundwater Analytical Data
Salty Dog Brine Station, Lea County, New Mexico
Page 1 of 2

Monitor Well	Date	Chloride Concentration (mg/L) [a]
New Mexico Water Quality Control Commission Standard		*250*
DBS-1	04/08/09	**320**
DBS-2	04/08/09	14
DBS-3	04/08/09	36
DBS-4	04/08/09	38
DBS-5	04/08/09	65
DBS-6	04/07/09	**380**
DBS-7	04/07/08	**570**
DBS-8	04/07/09	58
DBS-9	04/08/09	210
NW-1 (s)	04/08/09	**630**
NW-1 (m)	04/08/09	57
NW-1 (d)	04/08/09	38
NW-2 (s)	04/08/09	**410**
NW-2 (m)	04/08/09	**570**
NW-2 (d)	04/08/09	**4,700**
Brine Pit Well (PMW-1)	02/27/08	**9,500** [b]
	05/30/08	**8,600** [b]
	06/23/08	**12,700**
	04/08/09	**11,000**
MW-1	05/30/08	75 [b]
	06/23/08	243
MW-2	02/27/08	120 [b]
	05/30/08	80 [b]
	06/23/08	**1,480**
	04/07/09	**1,200**
MW-3	02/27/08	**348** [b]
	05/30/08	**360** [b]
	06/23/08	**1,090**
	04/07/09	**17,000**
MW-4	02/27/08	**476** [b]
	05/30/08	**512** [b]
	06/23/08	**5,730**

Bold indicates concentrations that exceed the applicable standard.

[a] All samples analyzed in accordance to EPA method 300.0, unless otherwise noted.

[b] Samples analyzed in accordance to Standard Method 4500-Cl B.

mg/L = Milligrams per liter

Table 4. Summary of Chloride Groundwater Analytical Data
Salty Dog Brine Station, Lea County, New Mexico
Page 2 of 2

Monitor Well	Date	Chloride Concentration (mg/L) [a]
New Mexico Water Quality Control Commission Standard		*250*
MW-4 (cont.)	04/07/09	**6,600**
MW-5	02/27/08	**1,280** [b]
	05/30/08	**1,220** [b]
	06/23/08	**1,260**
	04/07/09	**1,300**
MW-6	02/27/08	32 [b]
	05/30/08	36 [b]
	06/23/08	31.4
	04/07/09	25
Ranch Headquarters Water Supply Well	06/23/08	35.4
Brine Station Fresh Water Supply Well	02/27/08	**630** [b]
	05/30/08	**590** [b]
	06/23/08	**650**

Bold indicates concentrations that exceed the applicable standard.

[a] All samples analyzed in accordance with EPA method 300.0, unless otherwise noted.

[b] Samples analyzed in accordance with Standard Method 4500-Cl B.

mg/L = Milligrams per liter

Table 5. Summary of DBS-9 Total Petroleum Hydrocarbons Groundwater Analytical Data Salty Dog Brine Station, Lea County, New Mexico Page 1 of 1

TPH	Sample Date	Concentration (mg/L) [a]
NMWQCC Standard		*None*
DRO	04/08/09	<1.0
MRO	04/08/09	<5.0
GRO	04/08/09	<0.05

[a] All samples analyzed in accordance with EPA method 8015B.

TPH = Total petroleum hydrocarbon
mg/L = Milligrams per liter
NMWQCC = New Mexico Water Quality Control Commission
DRO = Diesel Range Organics
MRO = Motor Oil Range Organics
GRO = Gasoline Range Organics

Appendices

Appendix A

Soil Boring Logs and Well Completion Diagrams

CMB Environmental & Geological Services, Inc.

PO Box 2304 Roswell, NM 88202-2304

cmbenviro@dfn.com

(505) 622-2012 Fax (505) 625-0538

FIELD BOREHOLE LOG

BOREHOLE NO.: **DBS-1**

TOTAL DEPTH: **78.50'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/25/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling

▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Hard Packed Caliche Pad Area of SW Disposal Plant. No Sample.	0'-2'	N/A		Cement	
-10		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche	10'-12'	0.3		Bentonite 53.0' - 5' BG Surface	
-15		SW		20'-22'	0.5			
-20		SS	SANDSTONE: Hard					
-25		SW	SW: Tan brown, 7.5YR 8/3 medium to fine grained, well sorted, sugar sand. No Odor or staining.	30'-32'	0.3		Bentonite	
-30		SS	SANDSTONE: Hard cemented tan brown SS.	40'-42'	N/A			
-35		SW	SW: Tan brown, 2.5YR 8/3 to 7 YR 5/4, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 62.38' from TOC	50'-52'	0.5		8 /16 Sand 78.50' - 53.0'	
-40		SW		60'-62'	1.0		Screen 0.02 Slot 76'-56'	
-45		SW		70'-72'	2.0		2' foot. Sump @ 76'-78'	
-50		SW		80'-82'	2.0		T.D. 78.50', drilled to 83'	
-55								
-60								
-65								
-70								
-75								
-80								

CMB Environmental & Geological Services, Inc.
PO Box 2304 Roswell, NM 88202-2304
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FIELD BOREHOLE LOG

BOREHOLE NO.: DBS-2
TOTAL DEPTH: 79.80'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/24/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Brown Silt, Sand, Caliche mixture. Hard Caprock	0'-2'	0.3		Cement	
-10				10'-12'	0.2		Bentonite 52.8' - 5' BG	
-15		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche				Surface	
-20				20'-22'	0.3			
-25		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted. 5YR 8/4					
-30		SS		30'-32'	N/A		Bentonite	
-35								
-40				40'-42'	Grab			
-45		SW	SW: Tan brown, 7.5YR 6/3					
		SS	SANDSTONE: Hard					
-50		SW	SW: Tan brown, 7.5 YR 6/3, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 65.45' from TOC	50'-52'	0.5			
-55		SW						8 /16 Sand 79.80' - 52.8'
-60				60'-62'	2.0			Screen 0.02 Slot 78'-58'
-65		SW						
-70				70'-72'	2.0			2' foot. Sump @ 78'-80'
-75		SW						T.D. 79.80', drilled to 83'
-80				80'-82'	2.0			

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FIELD BOREHOLE LOG

BOREHOLE NO.: DBS-5
TOTAL DEPTH: 78.90'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/23/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Tan White Caliche mixed with brown silt. Caprock material. @ 6' Sand 7.5YR 8/2	0'-2'	0.4		Cement	Cement
-10							Bentonite	Bentonite 53.0' - 5' BG Surface
-15		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche	10'-12'	0.5			
-20		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted. 5YR 8/4	20'-22'	0.3			
-25								
-30				30'-32'	N/A			Bentonite
-35		SS						
-40		SW	SW: Tan brown, 2.5YR 8/3 to 7 YR 5/4, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 62.99' from TOC	40'-42'	0.4			
-45		SW						
-50				50'-52'	0.4			
-55		SW						8 /16 Sand 78.90' - 53.0' Screen 0.02 Slot 76.9'-56.9'
-60				60'-62'	0.5			
-65		SW						
-70				70'-72'	1.0			2' foot. Sump @ 76.9'-78'.9 T.D. 78.90', drilled to 83'
-75		SW						
-80				80'-82'	2.0			

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FIELD BOREHOLE LOG

BOREHOLE NO.: **DBS-3**
TOTAL DEPTH: **78.72'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/24/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Brown Silt, 7.5YR 4/4,Sand,Caliche mixture. Hard Caprock	0'-2'	0.3		Cement	Cement
-10		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche	10'-12'	0.3		Bentonite 53.0' - 5' BG	Bentonite 53.0' - 5' BG
-15		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted.	20'-22'	0.4		Surface	Surface
-20		SW	SW: Tan Fine grained sand, well sorted, 7.5YR 8/2	30'-32'	0.6		Bentonite	Bentonite
-25		SS	SANDSTONE: Hard Sandstone Layer					
-30		SW	SW: Tan brown, 7.5 YR 6/3, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS.Measured Water at 60.67' from TOC	40'-42'	0.6		8 /16 Sand 78.72' - 53.0'	8 /16 Sand 78.72' - 53.0'
-35		SW		50'-52'	1.0.		Screen 0.02 Slot 76.72'-56'	Screen 0.02 Slot 76.72'-56'
-40		SW		60'-62'	2.0			
-45		SW		70'-72'	N/A		2' foot. Sump @ 76.72'-78.72'	2' foot. Sump @ 76.72'-78.72'
-50		SW		80'-82'	2.0		T.D. 78.72', drilled to 83'	T.D. 78.72', drilled to 83'
-55								
-60								
-65								

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FIELD BOREHOLE LOG

BOREHOLE NO.: **DBS-4**
TOTAL DEPTH: **80.15'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/25/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Brown Silt, 7.5YR 4/4,Sand,Caliche mixture. Hard Caprock	0'-2'	0.6			Cement
-10								Bentonite 52.4' - 5' BG
-15		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche	10'-12'	N/A			Surface
-20		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr.,well sorted. 5YR 8/4	20'-22'	N/A			
-25		SS		30'-32'	N/A			Bentonite
-30		SW	SW: Tan brown, 7.5 YR 6/3, to 8/2 medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS.Measured Water at 66.27' from TOC	40'-42'	0.6			
-35		SW		50'-52'	1.0.			
-40		SW		60'-62'	1.0			8 /16 Sand 80.15' - 52.4' Screen 0.02 Slot 76'-56'
-45		SW		70'-72'	1.0			2' foot. Sump @ 78'-80'
-50		SW		80'-82'	2.0			T.D. 80.15', drilled to 83'
-55								
-60								
-65								
-70								
-75								
-80								

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FIELD BOREHOLE LOG

BOREHOLE NO.: DBS-6
TOTAL DEPTH: 78.70'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/26/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Tan White Caliche mixed with brown silt. Caprock material. @ 6' Sand 7.5YR 8/2	0'-2'	0.3		Cement	Cement
-10		SW	SW: Tan 7.5 YR 8/2 Fine Grained Sand, well sorted,	10'-12'	0.5		Bentonite 51.9' - 5' BG	Bentonite 51.9' - 5' BG
-15		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted. 7.5YR 8/2	20'-22'	Grab		Surface	Surface
-20		SS						
-25		SS		30'-32'	1.0			Bentonite
-30		SW	SW: Tan brown, 7.5YR 8/4 to 7 YR 5/4, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 62'-64' BGS. Measured Water at 62.75' from TOC	40'-42'	1.0			
-35		SW						
-40		SW		50'-52'	0.5			8 /16 Sand 78.70' - 51.9'
-45		SW						
-50		SW		60'-62'	0.5			Screen 0.02 Slot 76.70'-56.70'
-55		SW						
-60		SW		70'-72'	2.0			2' foot. Sump @ 76.7'-78'.7
-65		SW		80'-82'	2.0			T.D. 78.70', drilled to 83'
-70								
-75								
-80								

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FIELD BOREHOLE LOG

BOREHOLE NO.: **DBS-7**
TOTAL DEPTH: **77.10'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/26/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Brown Silt, 5YR 5/6, Sand,Caliche mixture.Hard Caprock	0'-2'	0.3		Cement	
-10								Bentonite 52.0' - 5' BG Surface
-15		SW	SW: Tan 5 YR 8/3 Fine Grained Sand, well sorted, minor caliche	10'-12'	0.5			
-20				20'-22'	1.0			
-25								
-30		SS	SANDSTONE: Hard	30'-32'	Grab			Bentonite
-35		SW	SW: Tan brown, 5YR 6/6 to 7.5 YR 8/3, medium to fine grained, well sorted, sugar sand. No Odor or staining. Capillary Fringe 60'-62' BGS.Measured Water at 61.74' from TOC					
-40				40'-42'	1.0			
-45		SW						
-50				50'-52'	1.0.			
-55		SW						8 /16 Sand 77.10' - 52.0' Screen 0.02 Slot 75.10'-55.10'
-60				60'-62'	2.0			
-65		SW						
-70				70'-72'	2.0			2' foot. Sump @ 75.10'-77.10'
-75		SW						T.D. 77.10', drilled to 83'
-80				80'-82'	2.0			

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FIELD BOREHOLE LOG

BOREHOLE NO.: DBS-8
TOTAL DEPTH: 77.20'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.011S.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/26/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		GM	GM: Brown Silt, 5YR 5/3 to 8/2, Sand, Caliche mixture. Hard Caprock	0'-2'	0.3		Cement	Cement
-10		GM		10'-12'	0.5			Bentonite 52.5' - 5' BG
-15								Surface
-20		SS	SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted. 7.5YR 8/2	20'-22'	Grab			
-25		SW	SW: Tan brown, 5YR 6/6 to 7.5 YR 7/3 - 8/3, medium to fine grained, well sorted, sugarsand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 61.20' from TOC	30'-32'	1.0			Bentonite
-30		SW		40'-42'	1.0			
-35		SW		50'-52'	2.0			
-40		SW		60'-62'	2.0			8 /16 Sand 77.20' - 52.5' Screen 0.02 Slot 75.20'- 55.20'
-45		SW		70'-72'	2.0			2' foot. Sump @ 75.20'-77.20'
-50		SW		80'-82'	2.0			T.D. 77.20', drilled to 83'
-55								
-60								
-65								
-70								
-75								
-80								

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FIELD BOREHOLE LOG

BOREHOLE NO.: **DBS-9**
TOTAL DEPTH: **70.85'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/30/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
-5		SM	SM: Gray Black - Brown Silty Sand, clay , silt	0'-2'	0.3		Cement	
-10		SW	SW: Tan brown, 7.5YR 6/4 medium to fine grained, well sorted, sugarsand. No Odor or staining.	10'-12'	0.5		Bentonite 42.5' - 5' BG	Surface
-15		SS	SANDSTONE: Hard					
-20		SW	SW: Tan brown, 10YR 8/3, medium to fine grained, well sorted, sugarsand. No Odor or staining. @52' BGS softer drilling. Capillary fringe @ 50' BGS? @ 53' BGS saturated to total drillled depth of 83'	20'-22'	0.5			
-30				30'-32'	1.0			Bentonite
-35		SW						
-40				40'-42'	1.0			
-45		SS	SANDSTONE: Hard					
-50		SW	SW: Tan brown, 7.5YR 6/4 medium to fine grained, well sorted, sugarsand. No Odor or staining. Water at 53.93' from TOC	50'-52'	2.0			
-55		SW						8 /16 Sand 70.85'-42.5'
-60				60'-62'	1.0			Screen 0.02 Slot 68'-48'
-65		SW						
-70				70'-72'	2.0			2' foot. Sump @ 68'-70'
-75		SW		80'-82'	2.0			T.D. 70.85', drilled to 83'
-80								

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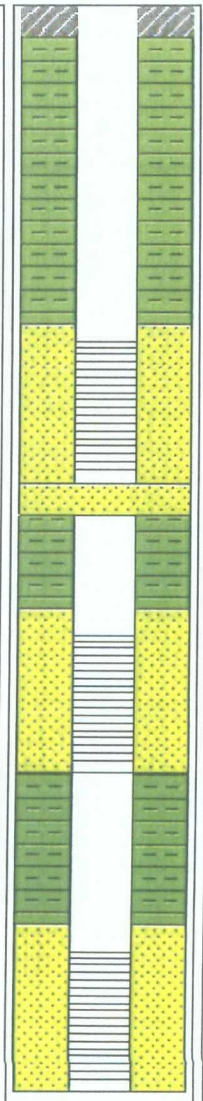
FIELD BOREHOLE LOG

BOREHOLE NO.: NW-1
TOTAL DEPTH: 74.95',121.31',171.45'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03/31/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
5 -10 15 20 -25 -30 35 40 -45 50 55 -60 65 70 -75 -80 85 90 -95 -100 105 -110 115 120 -125 -130 135 140 -145 150 155 -160 -165 170 175 -180		GM SW SS SS SW SW SW SW SW SW Red Bed /	GM: Brown Silt, 5YR 5/3 to 8/2, Sand, Caliche mixture. SW: Tan brown, 5YR 6/6 to 7.5 YR 7/3 - 8/3, SANDSTONE: Hard cemented tan brown SS. Fn. to med. gr., well sorted. SW: Tan brown, 5YR 6/6 - 7/4 to 7.5 YR 7/3 - 8/3, medium to fine grained, well sorted, sugarsand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 62.35' from TOC NW-1 Shallow; 62.25' NW-1 Middle; 62.04' NW-1 Deep. Three Nested wells placed in one large 9" inch Soil boring. All wells are cased to surface, but separated and isolated by different bentonite seals, 8/16 sand filter packs, and 20 foot screened intervals at different depths. Soil Boring was split spoon sampled from ground surface at 10 foot intervals to 60'-62' BGS. After 60', all sample descriptions were from cuttings from mud rotary drilling. CL: Red Bed formation: Maroon siltstone /	0'-2' 10'-12' 20'-22' 30'-32' 40'-42' 50'-52' 60'-62'	N/A 1.0 1.0 Grab 1.0 1.0 2.0			NW-1 Shallow: DTW = 62.35' TOC, T.D. = 74.95' Cement: 0'-5' Bentonite Seal 5'-50', 8/16 Sand Pack: 50'-74.95' 0.020 Slot Screen: 52.95'-72.95' Sump and Screen Cap: 72.95'-74.95' NW-1 Middle DTW = 62.25' TOC T.D. = 121.31' Bentonite Seal: 80'-95' 8/16 Sand pack 95' - 121.31' 0.020 Slot Screen: 99.31' - 119.31' Sump and Screen Cap 119.31' - 121.31' NW-1 Deep DTW = 62.04' TOC T.D. = 171.45' Bentonite Seal: 122' - 145' 8/16 Sand pack 145' - 171.45' 0.020 Slot Screen: 149.45' - 169.45' Sump and Screen

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FIELD BOREHOLE LOG

BOREHOLE NO.: NW-2

TOTAL DEPTH: 75.35',115.72',148.87'

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	ES08.0118.01.00004	DRILLING CO.:	Peterson Drilling Co.
SITE LOCATION:	Lea Co., NM	DRILLER:	Charles Johnson
JOB NO.:	Salty Dog	RIG TYPE:	Ingersoll-Rand TH-60
LOGGED BY:	CM Barnhill, PG	METHOD OF DRILLING:	Air Rotary 6 1/4"
PROJECT MANAGER:	Mike McVey, PG	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	04/01/09	HAMMER WT./DROP	N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

▽ Water level during drilling

▼ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH	BORING COMPLETION	WELL DESCRIPTION
5 -10 15 20 -25 -30 35 40 -45 50 55 -60 65 70 -75 -80 85 90 -95 100 105 -110 115 120 -125 -130 135 140 -145 150 155 -160 -165 170 175 -180		GM	GM: Brown Silt, 5YR 5/3 to 8/2, Sand, Caliche mixture.	0'-2'	0.3			NW-2 Shallow: DTW = 63.08' TOC, T.D. = 75.35' Cement: 0'-5' Bentonite Seal 5'-50', 8/16 Sand Pack: 50'-75.35' 0.020 Slot Screen: 53.35'-73.35' Sump and Screen Cap: 73.35'-75.35'
		SW	SW: Tan brown, 5YR 6/6 to 7.5 YR 7/3 - 8/3,	10'-12'	1.0			
		SS	SANDSTONE: Hard cemented tan brown SS.	20'-22'	Grab			
		SW	SW: Tan brown, 5YR 6/6 - 7/4 to 7.5 YR 7/3 - 8/3, medium to fine grained, well sorted, sugarsand. No Odor or staining. Capillary Fringe 60'-62' BGS. Measured Water at 63.08' from TOC NW-2 Shallow; 63.27' NW-2 Middle; 66.41' NW-2 Deep. Three Nested wells placed in one large 9" inch Soil boring. All wells are cased to surface, but separated and isolated by different bentonite seals, 8/16 sand filter packs, and 20 foot screened intervals at different depths. Soil	30'-32'	0.5			
		SW		40'-42'	1.0			
		SW		50'-52'	2.0			
		SW		60'-62'	0.5			
		SC	SC: @ 115' BGS Clayey Sand, fine grained sand / clay mixture 2.5 YR 5/8					NM-2 Middle DTW = 63.27' TOC T.D. = 115.72' Bentonite Seal: 80'-90' 8/16 Sand pack 90' - 115.72' 0.020 Slot Screen: 93.72' - 113.72' Sump and Screen Cap 113.72' - 115.72'
		SC						
		CL	CL: Red Bed formation: @ 150' BGS Maroon siltstone / mudstone 2.5 YR 3/2					NM-2 Deep DTW = 66.41' TOC T.D. = 148.87' Bentonite Seal: 115' - 125' 8/16 Sand pack 125' - 148.87' 0.020 Slot Screen: 126.87' - 146.87' Sump and Screen
		CL						

Appendix B

Laboratory Reports

Soil

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, April 17, 2009

Mike McVey
Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109

TEL: (505) 822-9400
FAX (505) 822-8877

RE: Salty Dog

Order No.: 0903463

Dear Mike McVey:

Hall Environmental Analysis Laboratory, Inc. received 67 sample(s) on 3/30/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-01 **Collection Date:** 3/25/2009 8:45:00 AM
Client Sample ID: DBS-1 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	3600	15		mg/Kg	50	4/13/2009 7:09:37 PM

Lab ID: 0903463-02 **Collection Date:** 3/25/2009 9:00:00 AM
Client Sample ID: DBS-1 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	240	3.0		mg/Kg	10	4/13/2009 7:27:02 PM

Lab ID: 0903463-03 **Collection Date:** 3/25/2009 9:15:00 AM
Client Sample ID: DBS-1 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	1400	6.0		mg/Kg	20	4/13/2009 7:44:27 PM

Lab ID: 0903463-04 **Collection Date:** 3/25/2009 9:50:00 AM
Client Sample ID: DBS-1 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	380	3.0		mg/Kg	10	4/13/2009 8:01:52 PM

Lab ID: 0903463-05 **Collection Date:** 3/25/2009 10:10:00 AM
Client Sample ID: DBS-1 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	160	3.0		mg/Kg	10	4/13/2009 8:19:16 PM

Lab ID: 0903463-06 **Collection Date:** 3/25/2009 10:30:00 AM
Client Sample ID: DBS-1 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	230	3.0		mg/Kg	10	4/13/2009 8:36:41 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-07 **Collection Date:** 3/25/2009 12:05:00 PM
Client Sample ID: DBS-1 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	18	0.30		mg/Kg	1	4/13/2009 10:03:42 PM

Lab ID: 0903463-08 **Collection Date:** 3/24/2009 4:05:00 PM
Client Sample ID: DBS-2 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	2000	6.0		mg/Kg	20	4/13/2009 10:21:07 PM

Lab ID: 0903463-09 **Collection Date:** 3/24/2009 4:15:00 PM
Client Sample ID: DBS-2 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	940	3.0		mg/Kg	10	4/13/2009 10:38:32 PM

Lab ID: 0903463-10 **Collection Date:** 3/24/2009 4:25:00 PM
Client Sample ID: DBS-2 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	39	0.30		mg/Kg	1	4/13/2009 10:55:56 PM

Lab ID: 0903463-11 **Collection Date:** 3/24/2009 4:45:00 PM
Client Sample ID: DBS-2 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	42	0.30		mg/Kg	1	4/13/2009 11:13:21 PM

Lab ID: 0903463-12 **Collection Date:** 3/24/2009 5:10:00 PM
Client Sample ID: DBS-2 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	10	0.30		mg/Kg	1	4/13/2009 11:30:45 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-13 **Collection Date:** 3/24/2009 5:20:00 PM
Client Sample ID: DBS-2 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	7.9	0.30		mg/Kg	1	4/13/2009 11:48:10 PM

Lab ID: 0903463-14 **Collection Date:** 3/24/2009 5:45:00 PM
Client Sample ID: DBS-2 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	7.7	3.0		mg/Kg	10	4/10/2009 2:56:20 AM

Lab ID: 0903463-15 **Collection Date:** 3/24/2009 6:10:00 PM
Client Sample ID: DBS-2 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	5.8	3.0		mg/Kg	10	4/10/2009 3:13:45 AM

Lab ID: 0903463-16 **Collection Date:** 3/24/2009 12:45:00 PM
Client Sample ID: DBS-3 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	170	3.0		mg/Kg	10	4/10/2009 3:31:10 AM

Lab ID: 0903463-17 **Collection Date:** 3/24/2009 1:00:00 PM
Client Sample ID: DBS-3 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	58	3.0		mg/Kg	10	4/10/2009 3:48:34 AM

Lab ID: 0903463-18 **Collection Date:** 3/24/2009 1:10:00 PM
Client Sample ID: DBS-3 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	41	3.0		mg/Kg	10	4/10/2009 4:05:59 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-19 **Collection Date:** 3/24/2009 1:25:00 PM
Client Sample ID: DBS-3 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	44	0.30		mg/Kg	1	4/10/2009 4:23:24 AM

Lab ID: 0903463-20 **Collection Date:** 3/24/2009 1:45:00 PM
Client Sample ID: DBS-3 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	35	0.30		mg/Kg	1	4/14/2009 10:26:44 AM

Lab ID: 0903463-21 **Collection Date:** 3/24/2009 2:00:00 PM
Client Sample ID: DBS-3 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	3.4	0.30		mg/Kg	1	4/14/2009 11:18:58 AM

Lab ID: 0903463-22 **Collection Date:** 3/24/2009 2:15:00 PM
Client Sample ID: DBS-3 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	8.5	0.30		mg/Kg	1	4/14/2009 11:36:23 AM

Lab ID: 0903463-23 **Collection Date:** 3/24/2009 3:00:00 PM
Client Sample ID: DBS-3 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	6.6	0.30		mg/Kg	1	4/14/2009 11:53:47 AM

Lab ID: 0903463-24 **Collection Date:** 3/25/2009 1:45:00 PM
Client Sample ID: DBS-4 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	18	0.30		mg/Kg	1	4/14/2009 1:03:25 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-25 **Collection Date:** 3/25/2009 1:50:00 PM
Client Sample ID: DBS-4 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	54	0.30		mg/Kg	1	4/14/2009 1:20:49 PM

Lab ID: 0903463-26 **Collection Date:** 3/25/2009 2:00:00 PM
Client Sample ID: DBS-4 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	39	0.30		mg/Kg	1	4/14/2009 1:38:14 PM

Lab ID: 0903463-27 **Collection Date:** 3/25/2009 2:10:00 PM
Client Sample ID: DBS-4 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	19	0.30		mg/Kg	1	4/14/2009 1:55:38 PM

Lab ID: 0903463-28 **Collection Date:** 3/25/2009 2:20:00 PM
Client Sample ID: DBS-4 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	55	0.30		mg/Kg	1	4/14/2009 2:13:03 PM

Lab ID: 0903463-29 **Collection Date:** 3/25/2009 2:40:00 PM
Client Sample ID: DBS-4 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	75	0.30		mg/Kg	1	4/14/2009 2:30:27 PM

Lab ID: 0903463-30 **Collection Date:** 3/25/2009 3:00:00 PM
Client Sample ID: DBS-4 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	44	0.30		mg/Kg	1	4/14/2009 2:47:52 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-31 **Collection Date:** 3/25/2009 3:20:00 PM
Client Sample ID: DBS-4 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	9.7	0.30		mg/Kg	1	4/14/2009 3:05:16 PM

Lab ID: 0903463-32 **Collection Date:** 3/25/2009 3:55:00 PM
Client Sample ID: DBS-4 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	6.9	0.30		mg/Kg	1	4/14/2009 3:22:41 PM

Lab ID: 0903463-33 **Collection Date:** 3/23/2009 3:40:00 PM
Client Sample ID: DBS-5 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	19	0.30		mg/Kg	1	4/14/2009 4:32:19 PM

Lab ID: 0903463-34 **Collection Date:** 3/23/2009 4:00:00 PM
Client Sample ID: DBS-5 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	25	0.30		mg/Kg	1	4/14/2009 4:49:44 PM

Lab ID: 0903463-35 **Collection Date:** 3/23/2009 4:20:00 PM
Client Sample ID: DBS-5 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	17	0.30		mg/Kg	1	4/14/2009 5:07:09 PM

Lab ID: 0903463-36 **Collection Date:** 3/23/2009 5:20:00 PM
Client Sample ID: DBS-5 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	8.5	0.30		mg/Kg	1	4/14/2009 5:24:34 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-37 **Collection Date:** 3/24/2009 7:50:00 AM
Client Sample ID: DBS-5 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	3.1	0.30		mg/Kg	1	4/14/2009 5:41:58 PM

Lab ID: 0903463-38 **Collection Date:** 3/24/2009 8:10:00 AM
Client Sample ID: DBS-5 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	18	0.30		mg/Kg	1	4/14/2009 5:59:23 PM

Lab ID: 0903463-39 **Collection Date:** 3/24/2009 8:45:00 AM
Client Sample ID: DBS-5 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	12	0.30		mg/Kg	1	4/14/2009 6:51:36 PM

Lab ID: 0903463-40 **Collection Date:** 3/24/2009 9:20:00 AM
Client Sample ID: DBS-5 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	7.5	1.5		mg/Kg	5	4/11/2009 5:04:35 PM

Lab ID: 0903463-41 **Collection Date:** 3/26/2009 8:20:00 AM
Client Sample ID: DBS-6 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	4.7	1.5		mg/Kg	5	4/11/2009 6:14:13 PM

Lab ID: 0903463-42 **Collection Date:** 3/26/2009 8:35:00 AM
Client Sample ID: DBS-6 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	6.5	1.5		mg/Kg	5	4/12/2009 2:21:39 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-43 **Collection Date:** 3/26/2009 8:45:00 AM
Client Sample ID: DBS-6 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	6.3	1.5		mg/Kg	5	4/12/2009 2:56:27 AM

Lab ID: 0903463-44 **Collection Date:** 3/26/2009 9:00:00 AM
Client Sample ID: DBS-6 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	31	1.5		mg/Kg	5	4/12/2009 3:31:16 AM

Lab ID: 0903463-45 **Collection Date:** 3/26/2009 9:15:00 AM
Client Sample ID: DBS-6 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	4.4	1.5		mg/Kg	5	4/12/2009 4:06:04 AM

Lab ID: 0903463-46 **Collection Date:** 3/26/2009 9:40:00 AM
Client Sample ID: DBS-6 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	3.8	1.5		mg/Kg	5	4/12/2009 4:40:53 AM

Lab ID: 0903463-47 **Collection Date:** 3/26/2009 10:00:00 AM
Client Sample ID: DBS-6 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	30	1.5		mg/Kg	5	4/12/2009 5:50:31 AM

Lab ID: 0903463-48 **Collection Date:** 3/26/2009 10:15:00 AM
Client Sample ID: DBS-6 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	63	1.5		mg/Kg	5	4/12/2009 6:25:20 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-49 **Collection Date:** 3/26/2009 10:45:00 AM
Client Sample ID: DBS-6 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	17	1.5		mg/Kg	5	4/12/2009 7:34:57 AM

Lab ID: 0903463-50 **Collection Date:** 3/26/2009 1:00:00 PM
Client Sample ID: DBS-7 0'-2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	16	1.5		mg/Kg	5	4/14/2009 8:36:03 PM

Lab ID: 0903463-51 **Collection Date:** 3/26/2009 1:10:00 PM
Client Sample ID: DBS-7 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	9.6	0.30		mg/Kg	1	4/14/2009 8:53:28 PM

Lab ID: 0903463-52 **Collection Date:** 3/26/2009 1:20:00 PM
Client Sample ID: DBS-7 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	9.8	0.30		mg/Kg	1	4/14/2009 9:45:42 PM

Lab ID: 0903463-53 **Collection Date:** 3/26/2009 1:30:00 PM
Client Sample ID: DBS-7 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	13	0.30		mg/Kg	1	4/14/2009 10:03:07 PM

Lab ID: 0903463-54 **Collection Date:** 3/26/2009 1:45:00 PM
Client Sample ID: DBS-7 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	16	1.5		mg/Kg	5	4/14/2009 10:20:32 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-55 **Collection Date:** 3/26/2009 2:00:00 PM
Client Sample ID: DBS-7 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	7.9	1.5		mg/Kg	5	4/14/2009 11:30:09 PM

Lab ID: 0903463-56 **Collection Date:** 3/26/2009 2:15:00 PM
Client Sample ID: DBS-7 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	33	1.5		mg/Kg	5	4/14/2009 11:47:35 PM

Lab ID: 0903463-57 **Collection Date:** 3/26/2009 2:30:00 PM
Client Sample ID: DBS-7 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	83	0.30		mg/Kg	1	4/15/2009 12:04:59 AM

Lab ID: 0903463-58 **Collection Date:** 3/26/2009 3:00:00 PM
Client Sample ID: DBS-7 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	130	1.5		mg/Kg	5	4/16/2009 1:02:12 AM

Lab ID: 0903463-59 **Collection Date:** 3/26/2009 4:40:00 PM
Client Sample ID: DBS-8 0'2' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	9.5	1.5		mg/Kg	5	4/15/2009 12:39:49 AM

Lab ID: 0903463-60 **Collection Date:** 3/26/2009 4:55:00 PM
Client Sample ID: DBS-8 10'-12' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	8.8	0.30		mg/Kg	1	4/15/2009 12:57:13 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-61 **Collection Date:** 3/26/2009 5:13:00 PM
Client Sample ID: DBS-8 20'-22' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	7.3	0.30		mg/Kg	1	4/15/2009 1:14:37 AM

Lab ID: 0903463-62 **Collection Date:** 3/26/2009 5:25:00 PM
Client Sample ID: DBS-8 30'-32' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	47	0.30		mg/Kg	1	4/15/2009 2:59:05 AM

Lab ID: 0903463-63 **Collection Date:** 3/26/2009 5:40:00 PM
Client Sample ID: DBS-8 40'-42' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	20	1.5		mg/Kg	5	4/15/2009 3:16:30 AM

Lab ID: 0903463-64 **Collection Date:** 3/26/2009 5:55:00 PM
Client Sample ID: DBS-8 50'-52' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	13	1.5		mg/Kg	5	4/15/2009 3:33:54 AM

Lab ID: 0903463-65 **Collection Date:** 3/27/2009 8:30:00 AM
Client Sample ID: DBS-8 60'-62' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	9.3	0.30		mg/Kg	1	4/15/2009 3:51:18 AM

Lab ID: 0903463-66 **Collection Date:** 3/27/2009 8:45:00 AM
Client Sample ID: DBS-8 70'-72' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	8.7	1.5		mg/Kg	5	4/15/2009 4:08:43 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0903463
Project: Salty Dog

Lab ID: 0903463-67 **Collection Date:** 3/27/2009 9:25:00 AM
Client Sample ID: DBS-8 80'-82' **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	11	1.5		mg/Kg	5	4/15/2009 4:26:08 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Daniel B. Stephens & Assoc.
Project: Salty Dog Work Order: 0903463

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0903463-19AMSD		*MSD*			**Batch ID: 18770**		**Analysis Date: 4/10/2009 5:15:36 AM**		
Chloride	60.43	mg/Kg	0.30	112	75	125	2.13	20	
Sample ID: 0903463-38AMSD		*MSD*			**Batch ID: 18798**		**Analysis Date: 4/11/2009 4:28:19 AM**		
Chloride	31.40	mg/Kg	0.30	94.2	75	125	2.17	20	
Sample ID: 0903463-40AMSD		*MSD*			**Batch ID: 18807**		**Analysis Date: 4/11/2009 5:39:23 PM**		
Chloride	22.33	mg/Kg	1.5	99.2	75	125	0.411	20	
Sample ID: 0903463-48AMSD		*MSD*			**Batch ID: 18807**		**Analysis Date: 4/12/2009 7:17:33 AM**		
Chloride	82.67	mg/Kg	1.5	128	75	125	9.33	20	S
Sample ID: 0903463-20AMSD		*MSD*			**Batch ID: 18798**		**Analysis Date: 4/14/2009 11:01:34 AM**		
Chloride	50.63	mg/Kg	0.30	103	75	125	3.79	20	
Sample ID: 0903463-51AMSD		*MSD*			**Batch ID: 18810**		**Analysis Date: 4/14/2009 9:28:17 PM**		
Chloride	25.35	mg/Kg	0.30	105	75	125	1.57	20	
Sample ID: 0903463-61AMSD		*MSD*			**Batch ID: 18810**		**Analysis Date: 4/15/2009 1:49:27 AM**		
Chloride	22.21	mg/Kg	0.30	99.4	75	125	0.417	20	
Sample ID: MB-18770		*MBLK*			**Batch ID: 18770**		**Analysis Date: 4/9/2009 8:33:21 PM**		
Chloride	ND	mg/Kg	0.30						
Sample ID: MB-18798		*MBLK*			**Batch ID: 18798**		**Analysis Date: 4/10/2009 7:46:02 PM**		
Chloride	ND	mg/Kg	0.30						
Sample ID: MB-18807		*MBLK*			**Batch ID: 18807**		**Analysis Date: 4/11/2009 4:29:46 PM**		
Chloride	ND	mg/Kg	0.30						
Sample ID: MB-18810		*MBLK*			**Batch ID: 18810**		**Analysis Date: 4/14/2009 8:01:14 PM**		
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-18770		*LCS*			**Batch ID: 18770**		**Analysis Date: 4/9/2009 8:50:46 PM**		
Chloride	13.87	mg/Kg	0.30	92.5	90	110			
Sample ID: LCS-18770		*LCS*			**Batch ID: 18770**		**Analysis Date: 4/10/2009 2:50:06 PM**		
Chloride	14.13	mg/Kg	0.30	94.2	90	110			
Sample ID: LCS-18798		*LCS*			**Batch ID: 18798**		**Analysis Date: 4/10/2009 8:03:27 PM**		
Chloride	15.05	mg/Kg	0.30	100	90	110			
Sample ID: LCS-18807		*LCS*			**Batch ID: 18807**		**Analysis Date: 4/11/2009 4:47:10 PM**		
Chloride	15.49	mg/Kg	0.30	103	90	110			
Sample ID: LCS-18798		*LCS*			**Batch ID: 18798**		**Analysis Date: 4/14/2009 10:09:19 AM**		
Chloride	15.30	mg/Kg	0.30	102	90	110			
Sample ID: LCS-18810		*LCS*			**Batch ID: 18810**		**Analysis Date: 4/14/2009 8:18:39 PM**		
Chloride	15.75	mg/Kg	0.30	105	90	110			
Sample ID: 0903463-19AMS		*MS*			**Batch ID: 18770**		**Analysis Date: 4/10/2009 4:58:12 AM**		
Chloride	61.73	mg/Kg	0.30	121	75	125			
Sample ID: 0903463-38AMS		*MS*			**Batch ID: 18798**		**Analysis Date: 4/11/2009 4:10:54 AM**		
Chloride	30.73	mg/Kg	0.30	89.7	75	125			
Sample ID: 0903463-40AMS		*MS*			**Batch ID: 18807**		**Analysis Date: 4/11/2009 5:21:59 PM**		
Chloride	22.24	mg/Kg	1.5	98.6	75	125			

Qualifiers:

J	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Daniel B. Stephens & Assoc.
Project: Salty Dog **Work Order:** 0903463

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0903463-48AMS		*MS*			Batch ID: **18807**		Analysis Date:	4/12/2009 7:00:09 AM	
Chloride	75.30	mg/Kg	1.5	79.2	75	125			
Sample ID: 0903463-20AMS		*MS*			Batch ID: **18798**		Analysis Date:	4/14/2009 10:44:09 AM	
Chloride	48.74	mg/Kg	0.30	90.8	75	125			
Sample ID: 0903463-51AMS		*MS*			Batch ID: **18810**		Analysis Date:	4/14/2009 9:10:53 PM	
Chloride	24.95	mg/Kg	0.30	102	75	125			
Sample ID: 0903463-61AMS		*MS*			Batch ID: **18810**		Analysis Date:	4/15/2009 1:32:02 AM	
Chloride	22.30	mg/Kg	0.30	100	75	125			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name DBS | Date Received: 3/30/2009

Work Order Number 0903463 | Received by: ARS

Sample ID labels checked by: TS (Initials)

Checklist completed by: _____ (Signature) 3/30/09 (Date)

Matrix: | Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

_____

_____

Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy Road NE Ste. 100, Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Salty Dog

Project #: E508.0118.01.00004

Project Manager: Mike McVey, PE

Sampler: CM Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
*No Sample		Soil	DBS-1 0'-2' - No Sample	1402/6/Jar	None	0903463
03/25/09	0845	Soil	DBS-1 10'-12'			1
03/25/09	0900	Soil	DBS-1 20'-22'			2
03/25/09	0915	Soil	DBS-1 30'-32'			3
No Sample			DBS-1 40'-42'			4
03/25/09	0950	Soil	DBS-1 50'-52'			5
03/25/09	10:10	Soil	DBS-1 60'-62'			6
03/25/09	10:30	Soil	DBS-1 70'-72'			7
03/25/09	12:05	Soil	DBS-1 80'-82'			8

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
03/29/09	1200			3/30/09	9:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy Road NE Ste 100, Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Salty Dog

Project #: ES08.0118.01.00004

Project Manager: Mike McVey, PE.

Sampler: Cm Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
~~03/24/09~~	~~1605~~	~~Soil~~				0903463
03/24/09	1605	Soil	DBS-2 0'-2'	1x 402/6 Jar	None	8
03/24/09	1615	Soil	DBS-2 10'-12'			9
03/24/09	1625	Soil	DBS-2 20'-22'			10
No Sample			DBS-2 30'-32'			12
03/24/09	1645	Soil	DBS-2 40'-42'			11
03/24/09	1710	Soil	DBS-2 50'-52'			12
03/24/09	1720	Soil	DBS-2 60'-62'			13
03/24/09	1745	Soil	DBS-2 70'-72'			14
03/24/09	1810	Soil	DBS-2 80'-82'			15

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
											X				N/A

Date:	Time:	Relinquished by:	Received by:	Date	Time
03/29/09	1200			3/30/09	9:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy Rd. NE Ste 100, Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Soltz Pad

Project #: ES08.0118.01.00004

Project Manager: Mike McVey, PE

Sampler: Cm Barnhill PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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 Request ID	Container Type and #	Preservative Type	HEAL No. 0903463	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chlorine & IR 300.0				Air Bubbles (Y or N)
03/24/09	1245	Soil	DBS-3 0'-2'	1402/16 Jar	None	18 16												X				N/A
03/24/09	1300	Soil	DBS-3 10'-12'			19 17																
03/24/09	1310	Soil	DBS-3 20'-22'			20 18																
03/24/09	1325	Soil	DBS-3 30'-32'			21 19																
03/24/09	1345	Soil	DBS-3 40'-42'			22 20																
03/24/09	1400	Soil	DBS-3 50'-52'			23 21																
03/24/09	1415	Soil	DBS-3 60'-62'			24 22																
No Sample			DBS-3 70'-72'			25																
03/24/09	1500	Soil	DBS-3 80'-82'			26 23																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
03/29/09	1200			3/30/09	9:45	Any Questions Please Call Mike McVey @ 505-822-9400
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy Rd. NE STE 100, Albuquerque NM 87109

Phone #: 505-822-9400 877

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: Salty Dog

Project #: ES08.0118.01.00004

Project Manager: Mike McVey, PE

Sampler: CM Burghill, PE

On Ice: ☑ Yes ☐ No

Sample Temperature: 3

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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
03/25/09	1345	Soil	DBS-4 0'-2'	1x 4oz/6 Jar	None	0903463 27 24												X				N/A
03/25/09	1350	Soil	DBS-4 10'-12'			28 25																
03/25/09	1400	Soil	DBS-4 20'-22'			29 26																
03/25/09	1410	Soil	DBS-4 30'-32'			30 27																
03/25/09	1420	Soil	DBS-4 40'-42'			31 28																
03/25/09	1440	Soil	DBS-4 50'-52'			32 29																
03/25/09	1500	Soil	DBS-4 60'-62'			33 30																
03/25/09	1520	Soil	DBS-4 70'-72'			34 31																
03/25/09	1555	Soil	DBS-4 80'-82'			35 32																

Date: 03/29/09 Time: 1200 Relinquished by: _____ Received by: _____ Date Time: 9:45 3/30/09

Date: _____ Time: _____ Relinquished by: _____ Received by: _____ Date Time: _____

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

Client: DBS&A

ATTN: Mike McVey

Mailing Address: 6020 Academy RD NE Ste 100, Albuquerque NM 87109

Phone #: 505-822-9400 87109

email or Fax#: 505 822-8877

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name: Salty Dog

Project #: ES08.0118.01.00004

Project Manager: MIKE McVEY, PE.

Sampler: CM Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE EPA 300.0				Air Bubbles (Y or N)
03/23/09	15:40	Soil	DBS-5-0'-2'	1x 4oz G/Jar	None	0903463 36 33												X				N/A
03/23/09	16:00	Soil	DBS-5-10'-12'			37 34																
03/23/09	16:20	Soil	DBS-5-20'-22'			38 35																
03/23/09	17:20	Soil	DBS-5-40'-42'			39 36																
03/24/09	0750	Soil	DBS-5-56'-52'			40 37																
03/24/09	0810	Soil	DBS-5-60'-62'			41 38																
03/24/09	0845	Soil	DBS-5-70'-72'			42 39																
03/24/09	0920	Soil	DBS-5-80'-82'			43 40																

Date:	Time:	Relinquished by:	Received by:	Date	Time
03/29/09	1200			9:45 3/30/09	
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: ANY QUESTIONS? Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

Turn-Around Time:

☒ Standard ☐ Rush

Client: DBS&A

ATTN: Mike McVey

Mailing Address: 6020 Academy RD, N.E.

STE 100 Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Project Name: Salty Dog

Project #: ES08.0118.01.00004

Project Manager: Mike McVey, PE.

Sampler: CM Barnhill, PE

On Ice: ☒ Yes ☐ No

Sample Temperature: 3

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 Request ID	Container Type and #	Preservative Type	HEAL No. 0903463	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA) EDB Chloride 300.0	Air Bubbles (Y or N)
03/26/09	0820	Soil	DBS-6 0'-2'	1x 4oz Jar	None	41											X	N
03/26/09	0835	Soil	DBS-6 10'-12'			42												
03/26/09	0845	Soil	DBS-6 20'-22'			43												
03/26/09	0900	Soil	DBS-6 30'-32'			44												
03/26/09	0915	Soil	DBS-6 40'-42'			45												
03/26/09	0940	Soil	DBS-6 50'-52'			46												
03/26/09	1000	Soil	DBS-6 60'-62'			47												
03/26/09	1015	Soil	DBS-6 70'-72'			48												
03/26/09	1045	Soil	DBS-6 80'-82'			49												

Date:	Time:	Relinquished by:	Received by:	Date	Time
03/29/09	1200			3/30/09	9:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: ANY Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy RD, NE. STE. 100 Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

QA/QC Package:

☑ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

☑ Standard ☐ Rush

Project Name: Salty Dog

Project #: E508.0118.01.00004

Project Manager: Mike McVey, PE.

Sampler: CM Burnhill, PE

On Ice: ☑ Yes ☐ No

Sample Temperature: 3

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride 300.0				Air Bubbles (Y or N)
03/26/09	1300	SOIL	DBS-7 0'-2'	1x4oz/6 Jar	None	0903463 53 50												X				N/A
03/26/09	1310	SOIL	DBS-7 10'-12'			54 51																
03/26/09	1320	SOIL	DBS-7 20'-22'			55 52																
03/26/09	1330	SOIL	DBS-7 30'-32'			3/30 56 53																
03/26/09	1345	SOIL	DBS-7 40'-42'			57 54																
03/26/09	1400	SOIL	DBS-7 50'-52'			58 55																
03/26/09	1415	SOIL	DBS-7 60'-62'			59 56																
03/26/09	1430	SOIL	DBS-7 70'-72'			60 57																
03/26/09	1500	SOIL	DBS-7 80'-82'			61 58																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
03/29/09	1200			3/30/09	9:45	Any Questions Please Call Mike McVey @ 505-822-9400
Date:	Time:	Relinquished by:	Received by:	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.

Chain-of-Custody Record

Client: DBS & A
'ATTN: Mike McVey
Mailing Address: 6020 Academy RD, NE. STE 100, Albuquerque, NM 871[illegible]
Phone #: 505-822-9400
email or Fax#: 505-822-8677
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)
Accreditation ☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ **Rush**
Project Name: Salty Dog
Project #: E508.0118.01.00004
Project Manager: Mike McVey, PE
Sampler: CM Barnhill, PG
On Ice: ☒ Yes ☐ No
Sample Temperature: 3

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 Request ID	Container Type and #	Preservative Type	HEAL No. 0903463	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
03/26/09	1640	Soil	DBS-8 0'-2'	1x4oz G Jar	None	~~62~~ 59												X				N/A
03/26/09	1655	Soil	DBS-8 10'-12'	↓	↓	~~63~~ 60												↓				↓
03/26/09	1713	Soil	DBS-8 20'-22'	↓	↓	~~64~~ 61												↓				↓
03/26/09	1725	Soil	DBS-8 30'-32'	↓	↓	~~65~~ 62												↓				↓
03/26/09	1740	Soil	DBS-8 40'-42'	↓	↓	~~66~~ 63												↓				↓
03/26/09	1755	Soil	DBS-8 50'-52'	↓	↓	~~67~~ 64												↓				↓
03/27/09	0830	Soil	DBS-8 60'-62'	↓	↓	~~68~~ 65												↓				↓
03/27/09	0845	Soil	DBS-8 70'-72'	↓	↓	69 66												↓				↓
03/27/09	0925	Soil	DBS-8 80'-82'	↓	↓	~~70~~ 67												↓				↓

(HEAL No. correction initialed 3/30)

Date: 03/29/09 Time: 1200 Relinquished by: [signature]
Received by: [signature] Date Time 9:45 3/30/09

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

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, April 17, 2009

Mike McVey
Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109

TEL: (505) 822-9400
FAX (505) 822-8877

RE: Salty Dog

Order No.: 0904064

Dear Mike McVey:

Hall Environmental Analysis Laboratory, Inc. received 22 sample(s) on 4/3/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 10'-12'
Lab Order:	0904064	**Collection Date:**	3/31/2009 10:20:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	1300	6.0		mg/Kg	20	4/16/2009 1:19:37 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 20'-22'
Lab Order:	0904064	**Collection Date:**	3/31/2009 10:30:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	3600	15		mg/Kg	50	4/16/2009 1:37:02 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 30'-32'
Lab Order:	0904064	**Collection Date:**	3/31/2009 10:45:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	800	6.0		mg/Kg	20	4/16/2009 1:54:27 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 40'-42'
Lab Order:	0904064	**Collection Date:**	3/31/2009 11:00:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	2500	15		mg/Kg	50	4/16/2009 2:11:51 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 50'-52'
Lab Order:	0904064	**Collection Date:**	3/31/2009 11:15:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	2400	15		mg/Kg	50	4/16/2009 3:21:29 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-1 60'-62'
Lab Order:	0904064	**Collection Date:**	3/31/2009 11:30:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	1800	6.0		mg/Kg	20	4/16/2009 3:38:53 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 0'-2'
Lab Order:	0904064	**Collection Date:**	4/1/2009 10:10:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	12	0.30		mg/Kg	1	4/15/2009 11:52:35 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 10'-12'
Lab Order:	0904064	**Collection Date:**	4/1/2009 10:25:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	6.2	0.30		mg/Kg	1	4/16/2009 12:10:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 20'-22'
Lab Order:	0904064	**Collection Date:**	4/1/2009 10:30:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	12	0.30		mg/Kg	1	4/16/2009 12:27:24 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 30'-32'
Lab Order:	0904064	**Collection Date:**	4/1/2009 10:45:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	16	0.30		mg/Kg	1	4/16/2009 12:44:48 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 40'-42'
Lab Order:	0904064	**Collection Date:**	4/1/2009 11:00:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	1.8	0.30		mg/Kg	1	4/16/2009 6:32:58 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 50'-52'
Lab Order:	0904064	**Collection Date:**	4/1/2009 11:15:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-12	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	240	6.0		mg/Kg	20	4/15/2009 3:10:18 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	DBS NW-2 60'-62'
Lab Order:	0904064	**Collection Date:**	4/1/2009 11:30:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-13	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	47	6.0		mg/Kg	20	4/15/2009 8:58:28 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 0'-2'
Lab Order:	0904064	**Collection Date:**	3/30/2009 10:50:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-14	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	99	6.0		mg/Kg	20	4/15/2009 9:15:53 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 10'-12'
Lab Order:	0904064	**Collection Date:**	3/30/2009 11:05:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-15	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Chloride	4100	15		mg/Kg	50	4/16/2009 6:24:02 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	36	20		mg/Kg	1	4/8/2009

Qualifiers:	*	*Value exceeds Maximum Contaminant Level*	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 20'-22'
Lab Order:	0904064	**Collection Date:**	3/30/2009 11:15:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-16	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	560	6.0		mg/Kg	20	4/15/2009 9:50:42 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	220	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 30'-32'
Lab Order:	0904064	**Collection Date:**	3/30/2009 11:30:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-17	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: RAGS
Chloride	480	6.0		mg/Kg	20	4/15/2009 10:08:07 PM
EPA METHOD 418.1: TPH						Analyst: LRW
Petroleum Hydrocarbons, TR	64	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 40'-42'
Lab Order:	0904064	**Collection Date:**	3/30/2009 11:45:00 AM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-18	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	550	6.0		mg/Kg	20	4/15/2009 10:25:31 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	40	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 50'-52'
Lab Order:	0904064	**Collection Date:**	3/30/2009 1:00:00 PM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-19	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	160	6.0		mg/Kg	20	4/15/2009 10:42:56 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	82	20		mg/Kg	1	4/8/2009

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 60'-62'
Lab Order:	0904064	**Collection Date:**	3/30/2009 1:20:00 PM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-20	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	93	0.30		mg/Kg	1	4/16/2009 4:13:42 AM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 70'-72'
Lab Order:	0904064	**Collection Date:**	3/30/2009 1:40:00 PM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-21	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	65	3.0		mg/Kg	10	4/16/2009 5:05:55 AM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/8/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Apr-09*

CLIENT:	Daniel B. Stephens & Assoc.	**Client Sample ID:**	SB-1/DBS-9 80'-82'
Lab Order:	0904064	**Collection Date:**	3/30/2009 2:00:00 PM
Project:	Salty Dog	**Date Received:**	4/3/2009
Lab ID:	0904064-22	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Chloride	9.7	3.0		mg/Kg	10	4/16/2009 5:23:19 AM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	4/8/2009

Qualifiers:

*	*Value exceeds Maximum Contaminant Level*
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

QA/QC SUMMARY REPORT

Client: Daniel B. Stephens & Assoc.
Project: Salty Dog **Work Order:** 0904064

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB-18826		*MBLK*			Batch ID: **18826**		Analysis Date:	4/15/2009 5:53:11 AM	
Chloride	ND	mg/Kg	0.30						
Sample ID: MB-18837		*MBLK*			Batch ID: **18837**		Analysis Date:	4/15/2009 8:23:40 PM	
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-18826		*LCS*			Batch ID: **18826**		Analysis Date:	4/15/2009 6:10:36 AM	
Chloride	15.39	mg/Kg	0.30	103	90	110			
Sample ID: LCS-18837		*LCS*			Batch ID: **18837**		Analysis Date:	4/15/2009 8:41:04 PM	
Chloride	15.66	mg/Kg	0.30	104	90	110			
Method: EPA Method 418.1: TPH									
Sample ID: MB-18766		*MBLK*			Batch ID: **18766**		Analysis Date:	4/8/2009	
Petroleum Hydrocarbons, TR	ND	mg/Kg	20						
Sample ID: LCS-18766		*LCS*			Batch ID: **18766**		Analysis Date:	4/8/2009	
Petroleum Hydrocarbons, TR	103.7	mg/Kg	20	104	82	114			
Sample ID: LCSD-18766		*LCSD*			Batch ID: **18766**		Analysis Date:	4/8/2009	
Petroleum Hydrocarbons, TR	105.1	mg/Kg	20	105	82	114	1.32	20	

Qualifiers:

	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name DBS | Date Received: 4/3/2009

Work Order Number 0904064 | Received by: AT

Checklist completed by: _____ 4/3/09 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name: Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☐	Not Shipped ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	6°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Turn-Around Time:

☑ Standard ☐ Rush

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client:	DBS & A
	ATTN: Mike McVey
Mailing Address:	6020 Academy Road NE
	STE 100, Albuquerque NM 87109
Phone #:	505 - 822 - 9400
email or Fax#:	505 - 822 - 8877
QA/QC Package:	
	☑ Standard ☐ Level 4 (Full Validation)
Accreditation	
	☐ NELAP ☐ Other
☐ EDD (Type)	

Project Name:	Salty Dog
Project #:	ES08.0118.01.0004
Project Manager:	Mike McVey, PE.
Sampler:	Cam Barnhill, PE
On Ice:	☑ Yes ☐ No
Sample Temperature:	6°

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0904064	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride 300.0				Air Bubbles (Y or N)
NO Sample			DBS NW-1 0'-2'	1x 4oz G/Jar	None	1												X				N/A
03/31/09	10:20	Soil	DBS NW-1 10'-12'			2																
03/31/09	10:30	Soil	DBS NW-1 20'-22'			3																
03/31/09	10:45	Soil	DBS NW-1 30'-32'			4																
03/31/09	11:00	Soil	DBS NW-1 40'-42'			5																
03/31/09	11:15	Soil	DBS NW-1 50'-52'			6																
03/31/09	11:30	Soil	DBS NW-1 60'-62'			7																

Date:	Time:	Relinquished by:	Received by:	Date Time
04/01/09	1600			4/1/09 1310
Date:	Time:	Relinquished by:	Received by:	Date Time

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

Turn-Around Time: ☒ Standard ☐ Rush

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: DBS & A	Project Name: Salty Dog
ATTN: Mike McVey	
Mailing Address: 6020 Academy Road NE Ste 100, Albuquerque NM 87109	Project #: ES08.0118.01.0004
Phone #: 575-822-9400	
email or Fax#: 505-822-8877	Project Manager: Mike McVey, PE
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	Sampler: CM Barnhill PE
☐ Other	On Ice: ☒ Yes ☐ No
☐ EDD (Type)	Sample Temperature: 6

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
04/01/09	10:10	SOIL	DBS NW-2 0'-2'	11/402/C-Jar	None	0904064 8 7
04/01/09	10:25	SOIL	DBS NW-2 10'-12'			9 8
04/01/09	10:30	SOIL	DBS NW-2 20'-22'			10 9
04/01/09	10:45	SOIL	DBS NW-2 30'-32'			11 10
04/01/09	11:00	SOIL	DBS NW-2 40'-42'			12 11
04/01/09	11:15	SOIL	DBS NW-2 50'-52'			13 12
04/01/09	1130	SOIL	DBS NW-2 60'-62'			14 13

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	X Chloride 300.0				Air Bubbles (Y or N)
											X				N/A

Date:	Time:	Relinquished by:	Received by:	Date	Time
04/02/09	1600			4/3/09	1310
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy NE Road NE STE 100 Albuquerque, NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: Salty Dog

Project #: ES08.018.01.00004

Project Manager: Mike McVey, PE

Sampler: CM Barnhill, PE

On Ice: ☑ Yes ☐ No

Sample Temperature: 6°

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 Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride 300.0				Air Bubbles (Y or N)
						0904064																
03/30/09	1050	Soil	SB-1/DBS-9 0'-2'	8oz Jar	None	14				X								X				N/A
03/30/09	1105	Soil	SB-1/DBS-9 10'-12'			15																
03/30/09	1115	Soil	SB-1/DBS-9 20'-22'			16																
03/30/09	1130	Soil	SB-1/DBS-9 30'-32'			17																
03/30/09	1145	Soil	SB-1/DBS-9 40'-42'			18																
03/30/09	1300	Soil	SB-1/DBS-9 50'-52'			19																
03/30/09	1320	Soil	SB-1/DBS-9 60'-62'			20																
03/30/09	1340	Soil	SB-1/DBS-9 70'-72'			21																
03/31/09	1400	Soil	SB-1/DBS-9 80'-82'			22																

Date:	Time:	Relinquished by:	Received by:	Date	Time
04/01/09	1600			4/3/09	
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Groundwater

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 22, 2009

Mike McVey
Daniel B. Stephens & Assoc.
6020 Academy NE Suite 100
Albuquerque, NM 87109

TEL: (505) 822-9400
FAX (505) 822-8877

RE: Salty Dog Brine Station

Order No.: 0904165

Dear Mike McVey:

Hall Environmental Analysis Laboratory, Inc. received 21 sample(s) on 4/10/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0904165
Project: Salty Dog Brine Station

Lab ID: 0904165-01 **Collection Date:** 4/8/2009 2:57:00 PM
Client Sample ID: PMW-1 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	11000	50		mg/L	500	4/21/2009 1:27:50 PM

Lab ID: 0904165-02 **Collection Date:** 4/7/2009 1:18:00 PM
Client Sample ID: MW-2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	1200	5.0		mg/L	50	4/22/2009 2:31:16 AM

Lab ID: 0904165-03 **Collection Date:** 4/7/2009 2:13:00 PM
Client Sample ID: MW-3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	17000	50		mg/L	500	4/21/2009 2:02:39 PM

Lab ID: 0904165-04 **Collection Date:** 4/7/2009 3:00:00 PM
Client Sample ID: MW-4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	6600	50		mg/L	500	4/22/2009 2:13:52 AM

Lab ID: 0904165-05 **Collection Date:** 4/7/2009 3:45:00 PM
Client Sample ID: MW-5 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	1300	5.0		mg/L	50	4/22/2009 3:23:30 AM

Lab ID: 0904165-06 **Collection Date:** 4/7/2009 4:23:00 PM
Client Sample ID: MW-6 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	25	0.10		mg/L	1	4/21/2009 2:54:52 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0904165
Project: Salty Dog Brine Station

Lab ID: 0904165-07 **Collection Date:** 4/8/2009 10:55:00 AM
Client Sample ID: DBS-1 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	320	1.0		mg/L	10	4/21/2009 3:12:17 PM

Lab ID: 0904165-08 **Collection Date:** 4/8/2009 10:13:00 AM
Client Sample ID: DBS-2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	14	0.10		mg/L	1	4/21/2009 3:29:41 PM

Lab ID: 0904165-09 **Collection Date:** 4/8/2009 8:44:00 AM
Client Sample ID: DBS-3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	36	0.10		mg/L	1	4/21/2009 3:47:05 PM

Lab ID: 0904165-10 **Collection Date:** 4/8/2009 9:28:00 AM
Client Sample ID: DBS-4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	38	0.10		mg/L	1	4/21/2009 4:04:30 PM

Lab ID: 0904165-11 **Collection Date:** 4/8/2009 7:58:00 AM
Client Sample ID: DBS-5 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	65	1.0		mg/L	10	4/21/2009 6:06:22 PM

Lab ID: 0904165-12 **Collection Date:** 4/7/2009 6:32:00 PM
Client Sample ID: DBS-6 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	380	2.0		mg/L	20	4/21/2009 6:23:46 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0904165
Project: Salty Dog Brine Station

Lab ID: 0904165-13 **Collection Date:** 4/7/2009 5:07:00 PM
Client Sample ID: DBS-7 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Chloride	570	5.0		mg/L	50	4/21/2009 6:41:10 PM

Lab ID: 0904165-14 **Collection Date:** 4/7/2009 5:52:00 PM
Client Sample ID: DBS-8 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Chloride	58	1.0		mg/L	10	4/21/2009 6:58:34 PM

Lab ID: 0904165-15 **Collection Date:** 4/8/2009 6:01:00 PM
Client Sample ID: DBS-9 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/13/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/13/2009
Surr: DNOP	115	58-140		%REC	1	4/13/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	4/15/2009 2:17:54 AM
Surr: BFB	89.1	59.9-122		%REC	1	4/15/2009 2:17:54 AM
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Chloride	210	10		mg/L	100	4/21/2009 7:15:59 PM

Lab ID: 0904165-16 **Collection Date:** 4/8/2009 12:56:00 PM
Client Sample ID: NW-1 Shallow **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Chloride	630	5.0		mg/L	50	4/21/2009 7:33:24 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Apr-09*

CLIENT: Daniel B. Stephens & Assoc. **Lab Order:** 0904165
Project: Salty Dog Brine Station

Lab ID: 0904165-17 **Collection Date:** 4/8/2009 12:31:00 PM
Client Sample ID: NW-1 Middle **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	57	1.0		mg/L	10	4/21/2009 8:25:37 PM

Lab ID: 0904165-18 **Collection Date:** 4/8/2009 12:00:00 PM
Client Sample ID: NW-1 Deep **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	38	0.10		mg/L	1	4/21/2009 8:43:02 PM

Lab ID: 0904165-19 **Collection Date:** 4/8/2009 5:07:00 PM
Client Sample ID: NW-2 Shallow **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	410	5.0		mg/L	50	4/21/2009 9:00:26 PM

Lab ID: 0904165-20 **Collection Date:** 4/8/2009 4:51:00 PM
Client Sample ID: NW-2 Middle **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	570	2.0		mg/L	20	4/22/2009 11:06:09 AM

Lab ID: 0904165-21 **Collection Date:** 4/8/2009 4:19:00 PM
Client Sample ID: NW-2 Deep **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TAF
Chloride	4700	20		mg/L	200	4/21/2009 9:35:16 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
S	Spike recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
MCL	Maximum Contaminant Level
RL	Reporting Limit

QA/QC SUMMARY REPORT

Client: Daniel B. Stephens & Assoc.
Project: Salty Dog Brine Station **Work Order:** 0904165

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0904165-08AMSD		*MSD*			**Batch ID: R33344**		Analysis Date:		4/21/2009 5:14:09 PM
Chloride	18.72	mg/L	0.10	87.9	75	125	1.09	20	
Sample ID: MB		*MBLK*			**Batch ID: R33344**		Analysis Date:		4/21/2009 12:53:01 PM
Chloride	ND	mg/L	0.10						
Sample ID: MB		*MBLK*			**Batch ID: R33358**		Analysis Date:		4/22/2009 10:31:19 AM
Chloride	ND	mg/L	0.10						
Sample ID: LCS		*LCS*			**Batch ID: R33344**		Analysis Date:		4/21/2009 1:10:25 PM
Chloride	5.075	mg/L	0.10	101	90	110			
Sample ID: LCS		*LCS*			**Batch ID: R33358**		Analysis Date:		4/22/2009 10:48:44 AM
Chloride	4.969	mg/L	0.10	99.4	90	110			
Sample ID: 0904165-08AMS		*MS*			**Batch ID: R33344**		Analysis Date:		4/21/2009 4:56:44 PM
Chloride	18.92	mg/L	0.10	92.0	75	125			
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-18809		*MBLK*			**Batch ID: 18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-18809		*LCS*			**Batch ID: 18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.228	mg/L	1.0	105	74	157			
Sample ID: LCSD-18809		*LCSD*			**Batch ID: 18809**		Analysis Date:		4/13/2009
Diesel Range Organics (DRO)	5.455	mg/L	1.0	109	74	157	4.25	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			**Batch ID: R33239**		Analysis Date:		4/14/2009 9:30:26 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			**Batch ID: R33239**		Analysis Date:		4/14/2009 6:38:55 PM
Gasoline Range Organics (GRO)	0.5620	mg/L	0.050	112	80	115			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name DBS | Date Received: 4/10/2009

Work Order Number 0904165 | Received by: TLS

Checklist completed by: _____ 4/10/09 | Sample ID labels checked by: TS

Signature | Date | Initials

Matrix: | Carrier name: UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	2°	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: DBS & A

ATTN: Mike McVey

Mailing Address: 6020 Academy Road NE Ste 100 Albuquerque NM 87109

Phone #: 505-822-9400

email or Fax#: 505-822-8877

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Salty Dog Brine Station

Project #: ES08.0118.01.0004

Project Manager: Mike McVey, PE.

Sampler: Jim Barnhill, PG.

On Ice: ☒ Yes ☐ No

Sample Temperature: 2°

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0904165	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
04/06/09	1457	H_2O	PMW-1	1x 125mL plastic	None	1																N/A
04/07/09	1318	H_2O	MW-2			2																
04/07/09	1413	H_2O	MW-3			3																
04/07/09	1500	H_2O	MW-4			4																
04/07/09	1545	H_2O	MW-5			5																
04/07/09	1623	H_2O	MW-6			6																
04/08/09	1055	H_2O	DBS-1			7																
04/08/09	1013	H_2O	DBS-2			8																
04/08/09	0844	H_2O	DBS-3			9																
04/08/09	0928	H_2O	DBS-4			10																
04/08/09	0758	H_2O	DBS-5			11																
04/07/09	1832	H_2O	DBS-6			12																

Date: 04/09/09 Time: 1430 Relinquished by: _____

Received by: _____ Date: 4/10/09 Time: 1000

Date: _____ Time: _____ Relinquished by: _____

Received by: _____ Date: _____ Time: _____

Remarks: Any Questions Please Call Mike McVey @ 505-822-9400

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.

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: DBS & A	Turn-Around Time: ☑ Standard ☐ Rush
ATTN: Mike McVey	Project Name: Salty Dog Brine Station
Mailing Address: 6020 Academy Road NE STE 100, Albuquerque, NM 87109	Project #: ES08.0118.01.00004
Phone #: 505-822-9400	Project Manager: Mike McVey, PE.
email or Fax#: 505-822-8877	Sampler: CM Barnhill, AE
QA/QC Package: ☑ Standard ☐ Level 4 (Full Validation)	On Ice: ☑ Yes ☐ No
Accreditation: ☐ NELAP ☐ Other	Sample Temperature: 2°
☐ EDD (Type)	

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride EPA 300.0				Air Bubbles (Y or N)
						0904165																
04/07/09	1707	H_2O	DBS-7	1x 125 mL plastic	None	13												X				N/A
04/07/09	1752	H_2O	DBS-8	" " "	" "	14												X				N/A
04/08/09	1801	H_2O	DBS-9	1x 250 mL None	None HCl/HNO_3	15			X									X				N/A
				3x Vials	H_2SO_4	15																
				1x 250 g		15																
				1x 250 g																		
04/08/09	1256	H_2O	NW-1 Shallow	1x 125 mL plastic	None	16												X				N/A
04/08/09	1231	H_2O	NW-1 Middle			17																
04/08/09	1200	H_2O	NW-1 Deep			18																
04/08/09	1707	H_2O	NW-2 Shallow			19																
04/08/09	1651	H_2O	NW-2 Middle			20																
04/08/09	1619	H_2O	NW-2 Deep			21																

Date	Time	Relinquished by:	Received by:	Date	Time
04/09/09	1430			4/10/09	1020
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Please call Mike McVey @ 505-822-9400 to discuss any additional analyses needed on sample DBS-9

Appendix C

Well Data Forms

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☑ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-1 Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog Brine Pond Area Lea Co. NM	3. Date 04/08/09
4. Technician CMBarnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) DBS-1

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 10:30	Date: 04/08/09 Time: 11:00	Date: Time:
10. Total Depth of Well (from TOC) 78.50'	15. Total Depth of Well (from TOC) 78.50'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.38'	16. Water Level (from TOC) 62.63'	21. Water Level (from TOC)

12. Water Column Height 16.12'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes 7.73 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	0.16	0.1534	18. 5 Well Volumes 12.89 Gallons
14. Well Volume (gal) (s) w.e. height) 2.576 l	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer
Red. flo 2, 1.8" Submersible Set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? DBS-1, 04/08/09 CMBarnhill @ 10:55

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
10:54	19.99	1.383	8.35	clear	62.63	10 Gallons	1.0 GPM	clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid Initially - Clear @ Sample.

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
10:42	21.53	1.343	8.11	Turbid	62.38'	Initial	4.39	1.0	Turbid
10:45	20.99	1.366	8.27	Turbid	—	2.5	2.37	1.0	Turbid
10:48	20.30	1.394	8.33	Turbid	—	5.0	2.36	1.0	Turbid
10:51	19.72	1.386	8.35	clear	—	7.5	2.67	1.0	clear
10:54	19.99	1.383	8.35	clear	62.63'	10.0	2.71	1.0	clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CMBarnhill PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. / Sheet
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-2 Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Brine Pond Area Lea Co, N.M.	04/08/09
4. Technician: CM Barnhill, PG		
7. Method: (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig: DSR-2001	9. Location of Well (Site, Description): DBS-2

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 0950	Date: 04/08/09 Time: 10:15	Date: Time:
10. Total Depth of Well (from TOC): 79.80'	15. Total Depth of Well (from TOC): 79.60'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC): 65.45'	16. Water Level (from TOC): 66.33	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
14.35'	(2")	0.16	0.1534	6.88 Gallons	Redi-flo 2, 1.8" Submersible Set @ T.D.
13. Well Diameter: 2" SCH 40 PVC MW	4"	0.65	0.5972	18. 5 Well Volumes: 11.48 Gallons	
14. Well Volume (gal) (s) w.e. height): 2.296 gl.	6"	1.47	1.3540	19. Purge Volume: 10 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
10 Gallons	Yes (No)	(No) Yes If yes, source:	(Yes) No If yes, what was the sample number & Date: Sampling Personnel? DBS-2, 04/08/09 CM Barnhill @ 10:13

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
10:12	20.08	0.451	8.24	Almost clear	66.33	10 Gallons	1.0 GPM	Almost clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially - almost clear @ Sample.

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
10:00	21.34	0.696	8.24	Turbid	65.45'	Initial	5.87	1.0	Turbid
10:03	20.79	0.494	8.28	Turbid	—	2.5	4.98	1.0	Turbid
10:06	20.29	0.461	8.24	Turbid	—	5.0	3.89	1.0	Turbid
10:09	20.12	0.452	8.24	Turbid	—	7.5	3.36	1.0	Turbid
10:12	20.08	0.451	8.23	Almost clear	66.33'	10.0	3.61	1.0	Almost clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. DBS-3
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Brine Pond Area	04/08/09
4. Technician		
CM Barnhill, PG	Lea Co; N.M.	

7. Method	8. Manufacturer's Designation of Rig	9. Location of Well (Site, Description)
(Pumping) Surging Air Lift Bailing Other	DSR-2001	DBS-3

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 0820	Date: 04/08/09 Time: 0948	Date: Time:
10. Total Depth of Well (from TOC) 78.72'	15. Total Depth of Well (from TOC) 78.60'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 60.67'	16. Water Level (from TOC) 61.44	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
18.05'				8.66 Gallons	
13. Well Diameter	(2")	(0.16)	0.1534	18. 5 Well Volumes	Rediflo2, 1.81" Submersible Set @ T.D.
2" Sch 40 PVC MW	4"	0.65	0.5972	14.44 Gallons.	
14. Well Volume (gal) (s) w.e. height) 2.88 Gal.	6"	1.47	1.3540	19. Purge Volume 10 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled (Yes) No
10 Gallons.	Yes (No)	(No) Yes If yes, source:	If yes, what was the sample number & Date: Sampling Personnel? DBS-3, 04/09/09 CM Barnhill @ 0844

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
0843	19.53	0.552	7.44	Clear	61.44'	10 Gallons	1.0 GPM	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid Initially - Clear Sample

29. Purgewater disposal method: ON GROUND SURFACE.

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
0831	18.06	0.735	7.89	Turbid	60.67'	Initial	6.44	1.0	Turbid
0834	18.85	0.620	7.68	Turbid	—	2.5	4.56	1.0	Turbid
0837	19.34	0.583	7.52	Turbid	—	5.0	2.66	1.0	Turbid
0840	19.58	0.558	7.48	Turbid	—	7.5	2.55	1.0	Turbid
0843	19.53	0.552	7.44	Clear	61.44'	10.0	2.93	1.0	Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Christopher M Barnhill PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-4 Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog Brine Pond Area	3. Date 04/08/09
4. Technician CMBarnhill, PG	Lea Co, NM	
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) DBS-4

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 0905	Date: 04/08/09 Time: 0935	Date: Time:
10. Total Depth of Well (from TOC) 80.15'	15. Total Depth of Well (from TOC) 80.10'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 66.27'	16. Water Level (from TOC) 66.38'	21. Water Level (from TOC)

12. Water Column Height 13.88'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes 6.66 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 11.10 Gallons
14. Well Volume (gal) (s) w.e. height) 2.2262'	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi-Flo2, 1.81" Submersible Set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled (Yes) No
10 Gallons	Yes (No)	(No) Yes If yes, source:	If yes, what was the sample number & Date: Sampling Personnel? DBS-4, 04/08/09 CMBarnhill 0928

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
0927	20.38	0.520	7.59	Clear	66.38'	10 Gallons	1.0 GPM	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid Initially - Clear @ Sample.

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
0915	19.91	0.819	7.52	Turbid	66.27'	Initial	7.94	1.0	Turbid
0918	20.38	0.595	8.08	Turbid	—	2.5	6.45	1.0	Turbid
0921	20.34	0.540	8.05	Turbid	—	5.0	5.42	1.0	Turbid
0924	20.31	0.523	7.96	Clear	—	7.5	4.97	1.0	@Clear
0927	20.38	0.520	7.59	Clear	66.38'	10.0	4.92	1.0	@Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Clayton McGee PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-5 Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dot Brine Station	2. Project Location Brine Pond Area Salty Dog ~~Playa Lake~~ Shed & ~~Brine Well~~ Lea County, NM.	3. Date 04/08/2009
4. Technician CM Barnhill, PG		
7. Method Pumping Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) DBS-5

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 0730	Date: 04/08/09 Time: 0800	Date: Time:
10. Total Depth of Well (from TOC) 78.90'	15. Total Depth of Well (from TOC) 78.90'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.99'	16. Water Level (from TOC) 63.55	21. Water Level (from TOC)

12. Water Column Height 15.91'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes 7.63 Gallons
13. Well Diameter 2" Sch 40 PVC MW	(2")	0.18	0.1534	18. 5 Well Volumes 12.72 Gallons.
14. Well Volume (gal) (s) w.e. height) 2.54 gal	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of Pump or Bailer: Redi-flo2, 1.8" Submersible set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons	24. Was Well Pumped Dry? Yes ~~No~~	25. Was water added to well? No Yes If yes, source:	26. Was the Groundwater Sampled Yes No If yes, what was the sample number & Date: Sampling Personnel? DBS-5. 04/08/09 CM Barnhill @ 0758

27. Final Parameters

Time	Temp C	Conductivity ms/cm	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
0757	19.60	0.777	7.15	Almost clear	63.55'	10 Gallons	1.0 GPM	Almost clear @ Sample

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid Initially – Almost clear @ Sample

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity ms/cm	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
0745	16.04	0.858	7.39	Turbid	62.99	Initial	5.11	1.0	Turbid
0748	17.89	0.811	7.16	Turbid	—	2.5	4.07	1.0	Turbid
0751	19.09	0.758	7.19	Turbid	—	5.0	4.18	1.0	Turbid
0754	19.57	0.778	7.16	Turbid	—	7.5	4.57	1.0	Turbid
0757	19.60	0.777	7.15	Almost clear	63.55'	10.0	4.96	1.0	Almost clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CM Barnhill PG Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-6 Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog, Playa Lake Shed & Brine well Area Lea Co, N.M.	3. Date 04/07/09
4. Technician CM Barnhill, PG		
7. Method Pumping Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) DBS-6

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 18:15	Date: 04/07/09 Time: 18:36	Date: Time:
10. Total Depth of Well (from TOC) 78.70'	15. Total Depth of Well (from TOC) 78.40'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.75'	16. Water Level (from TOC) 63.70'	21. Water Level (from TOC)

12. Water Column Height 15.95'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes 7.65 Gallons
13. Well Diameter 2" Sch 40 PVC MW	2"	0.16	0.1534	18. 5 Well Volumes 12.76 Gallons
14. Well Volume (gal) (s) w.e. height) 2.556 l.	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of Pump or Bailer: Redi-flo2, 1.8" Submersible @ T.D.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? DBS-6, 04/07/09 CMBarnhill PG 1833

27. Final Parameters

Time	Temp C	Conductivity mS/cm	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
18:32	20.12	1.566	6.95	Almost clear	63.70	10 Gallons	1.0 GPM	Almost clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially - almost clear sample

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity mS/cm	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
18:20	21.49	1.262	7.96	Turbid	62.75'	Initial	7.06	1.0	Turbid
18:23	21.06	1.308	7.37	Turbid	—	2.5	6.85	1.0	Turbid
18:26	20.45	1.434	7.06	Turbid	—	5.0	6.57	1.0	Turbid
1829	20.16	1.545	6.99	Turbid	—	7.5	6.42	1.0	Turbid
1832	20.12	1.566	6.95	Almost clear	63.70	10.0	6.21	1.0	Almost clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-7 Sheet 1 of 1 Sheets
1. Project DBS: A Salty Dog Brine Station	2. Project Location Salty Dog Playa Lake Shed & Brine well Area Lea Co, N.M.	3. Date 04/07/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2000	9. Location of Well (Site, Description) DBS-7

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 16:45	Date: 04/07/09 Time: 17:10	Date: Time:
10. Total Depth of Well (from TOC) 77.10'	15. Total Depth of Well (from TOC) 76.20'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 61.74'	16. Water Level (from TOC) 61.89	21. Water Level (from TOC)

12. Water Column Height 15.36'	Nom Dia	x = gal/ft (Sch 40)	Sch 80	17. 3 Well Volumes 7.37 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 12.28 Gallons
14. Well Volume (gal) (s) w.e. height) 2.45 Gal.	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi-flo2, 1.8" Submersible Set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons.	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? DBS-7, 04/07/09 CM Barnhill PG 1767

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
1706	20.51	1.999	7.03	almost clear.	61.89	10 Gallons	1.0 GPM	Almost Clear @ Sample

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially — almost clear @ Sample.

29. Purgewater disposal method: on Ground Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
16:54	21.79	3.051	7.37	Turbid	61.74'	initial	4.71	1.0 ~~2.5~~	Turbid
16.57	21.16	1.776	7.36	Turbid	—	2.5	4.35	1.0 ~~2.5~~	Turbid
1700	20.83	1.869	7.25	Turbid	—	5.0	5.23	1.0 ~~2.5~~	Turbid
1703	20.69	1.959	7.15	Turbid	—	7.5	4.65	1.0 ~~2.5~~	Turbid
1706	20.51	1.999	7.03	Almost clear	61.89	10.0	4.30	1.0 ~~2.5~~	Almost clear.

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-8 Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog Playa Lake Shell Brine Well Area Lea Co, NM	3. Date 04/07/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) DBS-8

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 17:30	Date: 04/07/09 Time: 17:56	Date: Time:
10. Total Depth of Well (from TOC) 77.20'	15. Total Depth of Well (from TOC) 77.05'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 61.20'	16. Water Level (from TOC) 61.57'	21. Water Level (from TOC)

12. Water Column Height 16.0'	Nom Dia	x = gal/ft (Sch 40)	Sch 80	17. 3 Well Volumes 7.68 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 12.8 Gallons
14. Well Volume (gal) (s) w.e. height) 2.56 Gallons	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Bedi flex, 1.8" Submersible Set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons.	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? DBS-8 04/07/09 CM Barnhill @ 17:52

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
17:51	20.52	0.884	7.52	Turbid	61.57'	10 Gallons	1.0 GPM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid H_2O

29. Purgewater disposal method: On Ground Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
17:39	21.42	2.374	8.62	Turbid	61.20'	Initial	3.91	1.0	Turbid
17:42	20.58	0.974	8.77	Turbid	—	2.5	4.65	1.0	Turbid
17:45	20.41	0.924	8.70	Turbid	—	5.0	4.34	1.0	Turbid
17:48	20.54	0.898	7.94	Turbid	—	7.5	4.37	1.0	Turbid
17:51	20.52	0.884	7.52	Turbid	61.57'	10.0	4.88	1.0	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG. Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. / Sheet
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. DBS-9 Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Playa Lake Shed & Brine Well Area Lea Co. NM	04/08/09
4. Technician: CM Barnhill, PG		
7. Method: (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig: DSR-2001	9. Location of Well (Site, Description): DBS-9

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 17:35	Date: 04/08/09 Time: 18:05	Date: Time:
10. Total Depth of Well (from TOC): 70.75'	15. Total Depth of Well (from TOC): 70.85'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC): 53.93'	16. Water Level (from TOC): 54.12'	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of (Pump) or Bailer
16.82'	(2")	0.16	0.1534	8.07 Gallons	FS-120, 1.6" Submersible Set @ T.D.
13. Well Diameter: 2" SCH 40 PVC MW	4"	0.65	0.5972	18. 5 Well Volumes: 13.45 Gallons	
14. Well Volume (gal) (s) w.e. height): 2.696 gal.	6"	1.47	1.3540	19. Purge Volume: 10 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
10 Gallons	Yes (No)	(No) Yes If yes, source:	(Yes) No If yes, what was the sample number & Date: DBS-9, 04/08/09 Sampling Personnel? CM Barnhill @ 18:01

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
18:00	18.48	1.176	7.12	Turbid	54.12	10 Gallons	1.0 GPM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid H2O

29. Purgewater disposal method: On Ground Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
16:48	18.49	1.358	7.63	Turbid	53.93'	initial	7.05	1.0	Turbid
16:51	18.45	1.217	7.20	Turbid	—	2.5	4.86	1.0	Turbid
16:54	18.35	1.203	7.14	Turbid	—	5.0	4.43	1.0	Turbid
16:57	18.48	1.201	7.13	Turbid	—	7.5	5.08	1.0	Turbid
18:00	18.48	1.176	7.12	Turbid	54.12	10.0	5.59	1.0	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. NW-1 Shallow Sheet 1 of 1 Sheets
1. Project DBS & A Salty Dog Brine Station	2. Project Location Salty Dog Brine Pond Area Lea Co. NM	3. Date 04/08/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2021	9. Location of Well (Site, Description) NW-1 Shallow

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 12:40	Date: 04/08/09 Time: 1300	Date: Time:
10. Total Depth of Well (from TOC) 74.95'	15. Total Depth of Well (from TOC) 74.95	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.35	16. Water Level (from TOC) 62.35	21. Water Level (from TOC)

12. Water Column Height 12.60'	Nom Dia	x = gal/ft (Sch 40)	Sch 80	17. 3 Well Volumes 6.048 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 10.08 Gallons
14. Well Volume (gal) (s) w.e. height) 2.016	4"	0.65	0.5972	19. Purge Volume 10 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi-flo 2, 1.8" Submersible Set a T.P.

Final Field Analysis

23. Total Amount of Water Removed 10 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? NW-1 Shallow, 04/08/09 CM Barnhille 12:56

27. Final Parameters

Time	Temp C	Conductivity	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
12:55	20.36	1.404	7.39	TURBD	62.35	10.0	1.0	TURBID

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: TURBID H2O — Well NOT Well Developed

29. Purgewater disposal method: ON GROUND Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
12:43	21.29	1.255	7.48	TURBID	62.35	initial	3.69	1.0	TURBID
12:45	20.92	1.444	7.47	TURBID	—	2.5	2.08	2.0	TURBID
12:49	20.20	1.393	7.46	TURB		5.0	2.11	1.0	TURBD
12:52	21.0	1.442	7.40	TURBD		7.5	2.09	1.0	TURBD
12:55	20.36	1.404	7.39	TURBD	62.35	10.0	2.08	1.0	TURBD

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CM Barnhill PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. NW-1 middle Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog Brine Pond Area	3. Date 04/08/09
4. Technician CM Barnhill, PG	Lea Co., N.M.	
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) NW-1 Middle

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 12:10	Date: 04/08/09 Time: 12:35	Date: Time:
10. Total Depth of Well (from TOC) 121.31'	15. Total Depth of Well (from TOC) 121.31'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.25'	16. Water Level (from TOC) 62.51	21. Water Level (from TOC)

12. Water Column Height 59.06'	Nom Dia	x = gal/ft (Sch 40)	Sch 80	17.3 Well Volumes 28.34 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	0.16	0.1534	18.5 Well Volumes 47.24 Gallons
14. Well Volume (gal) (s) w.e. height) 9.44 gal.	4"	0.65	0.5972	19. Purge Volume 30 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi-Flo 2, 1.6" submers. Site Set to T.O.

Final Field Analysis

23. Total Amount of Water Removed 30 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? NW-1, middle, 04/08/09 CM Barnhill @ 12:31

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
12:30	20.00	0.638	7.47	Turbid	62.51	30 gal.	2.5 GPM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid H_2O

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
12:18	20.07	0.755	7.61	Turbid	62.25'	Initial	6.17	3.0	Turbid
12:22	19.90	0.735	7.54	Turbid	—	10	2.89	3.5	Turbid
12:26	20.02	0.665	7.48	Turbid	—	20	2.86	2.5	Turbid
12:30	20.00	0.638	7.47	Turbid	62.51	30	3.37	2.5	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Clayton M Barnhill PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. / Sheet
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. NW-1 Deep Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine station	Salty Dog Brine Pond Area	04/08/09
4. Technician		
CM Barnhill, PG	Lea Co, N.M.	
7. Method	8. Manufacturer's Designation of Rig	9. Location of Well (Site, Description)
Pumping Surging Air Lift Bailing Other	DSR-2001	NW-1 Deep

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 11:30	Date: 04/08/09 Time: 12:02	Date: / Time:
10. Total Depth of Well (from TOC) 165.50'	15. Total Depth of Well (from TOC) 171.45'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.04'	16. Water Level (from TOC) 62.60	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
103.46'				49.66 Gal.	
13. Well Diameter	2"	0.16	0.1534	18. 5 Well Volumes	Redi-flo2, 1.5" Submersible Set @ T.D.
2" SCH 40 PVC MW	4"	0.65	0.5972	82.76 Gal.	
14. Well Volume (gal) (s) w.e. height) 16.55 Gal	6"	1.47	1.3540	19. Purge Volume 50 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled
50 Gallons.	Yes ☒ No	☒ No ☐ Yes If yes, source:	☒ Yes ☐ No If yes, what was the sample number & Date: NW-1 Deep, 04/08/09 Sampling Personnel? CM Barnhill 12:00

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
11:55	19.85	0.497	7.44	Clear	62.60	50 Gallons	3.5 GPM	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Initially Turbid - Clear @ Sample.

29. Purgewater disposal method: ON Ground Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons).	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
11:40	20.27	0.603	7.55	Turbid	62.04	Initial	4.92	3.5	Turbid
11:43	20.01	0.532	7.50	Turbid	—	10	3.59	3.5	Turbid
11:46	20.04	0.510	7.48	Turbid	—	20	3.53	3.5	Turbid
11:49	19.80	0.505	7.47	Almost Clear	—	30	3.62	3.5	Almost Clear
11:52	19.94	0.497	7.46	Clear	—	40	3.59	3.5	Clear
11:55	19.85	0.497	7.44	Clear	62.60	50	3.49	3.5	Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Christopher M. Barnhill PG. Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No.
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Sheet 1 of 1 Sheets NW-2 Shallow

1. Project	2. Project Location	3. Date
DBSCA Salty Dog Brine station	Salty Dog Playa Lake Shed & Brine well area Lea Co, NM	04/08/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) NW-2 - Shallow

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 16:45	Date: 04/08/09 Time: 17:15	Date: Time:
10. Total Depth of Well (from TOC) 74.15	15. Total Depth of Well (from TOC) 75.35'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 63.08	16. Water Level (from TOC) 63.68'	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
11.07'				5.31 Gallons	
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 8.8 Gallon	ES 120, 1.8" Submersible Set to T.D.
	4"	0.65	0.5972		
14. Well Volume (gal) (s) w.e. height) 1.77	6"	1.47	1.3540	19. Purge Volume 10 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
10 Gallons	Yes (No)	(No) Yes If yes, source:	~~Yes~~ No If yes, what was the sample number & Date: Sampling Personnel? NW-2 shallow 04/08/09 CM Barnhille 17:07

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
17.06	19.32	1.883	7.33	Turbid	63.68'	10 Gallons	1.0 GPM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid - Poorly Developed Well

29. Purgewater disposal method: On Ground Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
16:55	19.62	1.928	7.37	Turbid	63.08	Initial	5.46	1.0	Turbid
16:57	19.54	1.902	7.42	Turbid	—	2.5	4.22	1.0	Turbid
17:00	19.46	1.866	7.40	Turbid	—	5.0	4.03	1.0	Turbid
17:03	19.40	1.877	7.35	Turbid	—	7.5	4.37	1.0	Turbid
17:06	19.32	1.883	7.33	Turbid	63.68	10.0	4.43	1.0	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG. Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No.
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Sheet 1 of / Sheets NW-2 middle

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Playa Lake Shell Brine Well Area Lea Co, NM.	04/08/09
4. Technician		
CM Barnhill, PG		

7. Method	8. Manufacturer's Designation of Rig	9. Location of Well (Site, Description)
Pumping Surging Air Lift Bailing Other	DSR-2001	NW-2 - middle

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 16:25	Date: 04/08/09 Time: 16:55	Date: Time:
10. Total Depth of Well (from TOC) 104.49	15. Total Depth of Well (from TOC) 115.72	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 63.27	16. Water Level (from TOC) 64.41	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of (Pump) or Bailer
41.22'				19.78 Gallons	
13. Well Diameter	(2")	(0.16)	0.1534	18. 5 Well Volumes	ES 120' 1.8" Submersible Set @ T.P.
	4"	0.65	0.5972	32.95	
	6"	1.47	1.3540		
14. Well Volume (gal) (s) w.e. height) 6.5962'	8"	2.61	2.3720	19. Purge Volume 20 Gallons	

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled (Yes) No
20 Gallons.	Yes (No)	(No) Yes If yes, source:	If yes, what was the sample number & Date: Sampling Personnel? NW-2, middle 04/08/09 CM Barnhill PG 1651

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
16:50	19.04	2.172	7.17	TURBID	64.41	20 Gallons	1.06 PM	TURBID

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: TURBID H2O

29. Purgewater disposal method: ON GROUND SURFACE.

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
16:30	18.69	2.933	7.37	TURBID	63.27	10 (1/2)	5.38	1.0	TURBID
16:40	18.91	2.155	7.36	TURBID	—	10	5.52	1.0	TURBID
16:45	18.76	2.153	7.25	TURBID	—	15	6.52	1.0	TURBID
16:50	19.04	2.172	7.17	TURBID	64.41	20	6.63	1.0	TURBID

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. NW-2 Deep Sheet 1 of 1 Sheets
1. Project DBS&A Salty Dog Brine Station	2. Project Location Salty Dog Playa Lake Shed & Brine Well Area Lea Co, NM	3. Date 04/08/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) NW-2 - Deep

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 15:30	Date: 04/08/09 Time: 16:22	Date: Time:
10. Total Depth of Well (from TOC) 132.20'	15. Total Depth of Well (from TOC) 148.87	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 66.41'	16. Water Level (from TOC) 66.10'	21. Water Level (from TOC)

12. Water Column Height 65.79'	Nom Dia / x = gal/ft: Sch 40 / Sch 80 2" 0.16 0.1534 4" 0.65 0.5972 6" 1.47 1.3540 8" 2.61 2.3720	17. 3 Well Volumes 31.57 Gallons	22. Size and Type of Pump or Bailer
13. Well Diameter 2" SCH 40 PVC MW		18. 5 Well Volumes 52.63 Gallons	ES 120 Set 1.8' Submersible @120' From TOC.
14. Well Volume (gal) (s) w.e. height) 10.52 Gal		19. Purge Volume 40 Gallons	

Final Field Analysis

23. Total Amount of Water Removed 40 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No if yes, what was the sample number & Date: Sampling Personnel? NW-2 Deep 04/08/09 CM Barnhill PG 16:19

27. Final Parameters

Time	Temp C	Conductivity mS/cm	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
16:18	18.82	10.72	6.81	Turbid	66.10	30 Gallons	1.06 PM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid H2O

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity mS/cm	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
15:38	19.15	1.548	7.69	Turbid	66.41	Initial	1.21	1.0	Turbid
15:48	19.86	3.646	7.53	Turbid	—	10	6.55	1.0	Turbid
15:58	18.79	5.694	7.01	Turbid	—	20	6.99	1.0	Turbid
16:08	18.65	8.751	6.88	Turbid	—	30	7.39	1.0	Turbid
16:18	18.82	10.72	6.81	Turbid	66.10	40	6.35	1.0	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No.
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	PMW-1 Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Brine Pond Area	04/08/09
4. Technician		
CM Barnhill, PE	Lea Co, NM	
7. Method (Pumping / Surging / Air Lift / Bailing / Other)	**8. Manufacturer's Designation of Rig**	**9. Location of Well (Site, Description)**
	DSR-2001	PMW-1

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/08/09 Time: 14:35	Date: 04/08/09 Time: 15:00	Date: Time:
10. Total Depth of Well (from TOC): 78.87'	15. Total Depth of Well (from TOC): 79.41'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC): 65.97'	16. Water Level (from TOC): 66.25	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
12.9	2"	0.16	0.1534	6.19 Gallons	
13. Well Diameter: 2" SCH 40 PVC MW	4"	0.65	0.5972	18. 5 Well Volumes: 10.32 Gallons	Redi-flo 2, 1.8" Submersible Set @ T.D.
14. Well Volume (gal) (s) w.e. height: 2.06 Gal	6"	1.47	1.3540	19. Purge Volume: 10 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
10 Gallons	Yes (No)	(No) Yes If yes, source:	(Yes) No If yes, what was the sample number & Date: PMW-1, 04/08/09 Sampling Personnel? CM Barnhill @ 14:57

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
1456	20.49	25.41	6.83	clear	66.25	10 Gallons	1.0 GPM	clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially - clear @ Sample.

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
14:44	22.42	17.24	7.13	Turbid	65.97	Initial	~~8.30~~ 9.88	1.0	Turbid
14:47	21.87	23.02	7.11	Turbid	—	2.5	6.62	1.0	Turbid
1450	21.22	24.56	7.05	Turbid	—	5.0	6.61	1.0	Turbid
1453	20.62	25.25	6.84	Slight Turbid	—	7.5	6.42	1.0	Slight Turbid
1456	20.49	25.41	6.83	clear	66.25	10.0	6.32	1.0	clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CM Barnhill, PE Date: 04/08/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well: ☒ MW ☐ Production ☐ Other _____	Type of Data: ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. MW-2, Sheet 1 of 1 Sheets
1. Project: DB SI A Salty Dog Brine Station	2. Project Location: Salty Dog, Playa Lake shed & Brine area Lea Co, NM. 1 well	3. Date: 04/07/09
4. Technician: CM Barnhill, PE		
7. Method: (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig: DSR-2001	9. Location of Well (Site, Description): MW-2

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 12:00	Date: 04/07/09 Time: 13:22	Date: Time:
10. Total Depth of Well (from TOC): 137.35'	15. Total Depth of Well (from TOC): 137.35'	20. Total Depth of Well (from TOC):
11. Water Level (from TOC): 61.65'	16. Water Level (from TOC): 61.61'	21. Water Level (from TOC):

12. Water Column Height: 75.70'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes: 36 Gallons.
13. Well Diameter: 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes: 60.56 Gallons.
14. Well Volume (gal) (s) w.e. height): 12.11 gal.	4"	0.65	0.5972	19. Purge Volume: 40 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi flo2, 1.8" Submersible Set @ T.O.

Final Field Analysis

23. Total Amount of Water Removed: 40 Gallons	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date: Sampling Personnel? MW-2, 04/07/09 CM Barnhill @ 13:18

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
13:17	19.73	4.492	8.68	Clear	61.61'	40 Gal.	2.5 gpm	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially - Clear @ Sample

29. Purgewater disposal method: ON GROUND Surface.

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
13:02	18.83	2.720	8.19	Turbid	61.65'	initial	4.74	3.33	Turbid
13:05	19.32	4.204	8.47	Clear	—	10	4.16	3.33	Clear
13:09	19.76	4.472	8.66	Clear	—	20	4.04	2.5	Clear
13:13	19.80	4.443	8.68	Clear	—	30	3.80	2.5	Clear
13:17	19.73	4.492	8.68	Clear	61.61'	40	3.73	2.5	Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Clayton M Barnhill, PE Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. / Sheet
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. MW-3 Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine station	Salty Dog, Playa Lake Shed & Brine well Area Lea Co. NM	04/07/09
4. Technician: CM Barnhill, PG		
7. Method: (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig: DSR-2001	9. Location of Well (Site, Description): MONITOR WELL 3

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 13:46	Date: 04/07/09 Time: 14:17	Date: Time:
10. Total Depth of Well (from TOC): 147.02'	15. Total Depth of Well (from TOC): 147.05'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC): 62.02'	16. Water Level (from TOC): 62.68'	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	x = gal/ft Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
85.01'	(2")	(0.16)	0.1534	40.80 Gallons	Red-flo 2, 1.8" Submersible Set @ T.D.
13. Well Diameter: 2" SCH 40 PVC	4"	0.65	0.5972	18. 5 Well Volumes: 68 Gallons	
14. Well Volume (gal) (s) w.e. height): 13.6 Gallons	6"	1.47	1.3540	19. Purge Volume: 41 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
41 Gallons	Yes (No)	(No) Yes If yes, source:	(Yes) No If yes, what was the sample number & Date: MW-3, 04/07/09 Sampling Personnel? CM Barnhill PG 14:13

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
14:12	19.90	36.61	6.39	clear	62.68'	41 Gallons	2.5 GPM	Clear H2O

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Clear H_2O

29. Purgewater disposal method: ON Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
13:55	19.46	24.87	6.67	clear	62.02	Initial	4.87	2.5	clear
13:59	20.05	31.40	6.37	clear	—	10	4.35	2.5	clear
14:03	20.06	35.92	6.37	clear	—	20	4.16	2.5	clear
14:07	19.91	36.48	6.37	clear	—	30	3.93	2.5	clear
14:12	19.90	36.61	6.39	clear	62.68	41	3.18	2.5	clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: [signature] PG — Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. MW-4
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Sheet 1 of 1 Sheets

1. Project DBS&A Salty Dog Brine station	2. Project Location Salty Dog Playa Lake Shed & Brine well Area Lea Co. NM	3. Date 04/07/2009
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) MONITOR WELL # 4

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 14:35	Date: 04/07/09 Time: 15:05	Date: Time:
10. Total Depth of Well (from TOC) ~~62.51'~~ 147.3	15. Total Depth of Well (from TOC) 147.31	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.51'	16. Water Level (from TOC) 62.50	21. Water Level (from TOC)

12. Water Column Height 84.79'	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes 40.69 Gallons	22. Size and Type of (Pump) or Bailer
13. Well Diameter 2" Sch 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 67.83 Gallons	Rel, Flo 2, 1.81 Submersible 50 ft TD
14. Well Volume (gal) (s) w.e. height) 13.56 Gal	4"	0.65	0.5972	19. Purge Volume 41 Gallons	
	6"	1.47	1.3540		
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry? Yes (No)	25. Was water added to well? (No) Yes If yes, source:	26. Was the Groundwater Sampled (Yes) No If yes, what was the sample number & Date; Sampling Personnel?
41 Gallons			MW-4, 04/07/09 CM Barnhill 15:00

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
14:59	19.67	15.58	6.65	Clear	62.50	41 Gallons	2.56pm	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Clear H_2O

29. Purgewater disposal method: ON Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
14:42	19.64	12.68	6.80	clear	~~initial~~	initial	2.42	2.56pm	Clear
14:46	19.76	15.52	6.72	clear	—	10	3.45	2.5	Clear
14:50	19.91	15.80	6.74	Clear	—	20	3.67	2.5	Clear
14:54	19.83	15.72	6.64	clear	—	30	3.89	2.5	Clear
14:59	19.67	15.58	6.65	clear	62.50	41	3.93	2.5	Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CM Barnhill PG. Date: 04/07/2009

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well ☒ MW ☐ Production ☐ Other _____	Type of Data ☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. MW-5 Sheet 1 of 1 Sheets
1. Project DBS: A Salty Dog Brine Station	2. Project Location Salty Dog, Playa Lake Shed & Brine Well Area Lea Co. NM	3. Date 04/07/09
4. Technician CM Barnhill, PG		
7. Method (Pumping) Surging Air Lift Bailing Other	8. Manufacturer's Designation of Rig DSR-2001	9. Location of Well (Site, Description) MONITOR WELL #5

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 15:23	Date: 04/07/09 Time: 15:48	Date: Time:
10. Total Depth of Well (from TOC) 129.78'	15. Total Depth of Well (from TOC) 129.78'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 60.79'	16. Water Level (from TOC) 60.85	21. Water Level (from TOC)

12. Water Column Height 68.99'	Nom Dia	x = gal/ft (Sch 40)	Sch 80	17. 3 Well Volumes 33 Gallons
13. Well Diameter 2" SCH 40 PVC MW	(2")	(0.16)	0.1534	18. 5 Well Volumes 55.19 Gallons.
14. Well Volume (gal) (s) w.e. height) 11 Gallons.	4"	0.65	0.5972	19. Purge Volume 35 Gallons
	6"	1.47	1.3540	
	8"	2.61	2.3720	

22. Size and Type of (Pump) or Bailer: Redi-Flo2, 1.8" Submersible Set @ T.D.

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled?
35 Gallons.	Yes (No)	(No) Yes If yes, source:	(Yes) No If yes, what was the sample number & Date: MW-5, 04/07/09 Sampling Personnel? CM Barnhill 15:45

27. Final Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
15:43	20.07	3.679	6.97	Clear	60.85'	35 Gallons	2.5 GPM	Clear

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid initially - clear @ Sample.

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (mS/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
15:30	20.27	5.210	7.15	Turbid	60.79'	initial	3.40	2.5	Turbid
15:34	20.42	4.117	7.10	Turbid	—	10	3.27	2.5	Turbid
15:38	20.19	3.791	7.03	Slight Turbid	—	20	3.83	2.5	Slight Turbid
15:43	20.07	3.679	6.97	Clear	60.85'	35	3.95	2.5	Clear

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: CM Barnhill PG. Date: 04/07/09

CMB ENVIRONMENTAL & GEOLOGICAL SERVICES, INC. - WELL DATA FORM

Type Well	Type of Data	Well No. / Sheet
☒ MW ☐ Production ☐ Other _____	☐ Development ☒ Sampling ☐ Pump Test ☐ Other _____	Well No. ~~MW-6~~ MW-6 Sheet 1 of 1 Sheets

1. Project	2. Project Location	3. Date
DBS&A Salty Dog Brine Station	Salty Dog Playa Lake Shed & Brine Well Area Lea Co, NM	04/07/09
4. Technician		
CM Barnhill, PG		

7. Method	8. Manufacturer's Designation of Rig	9. Location of Well (Site, Description)
(Pumping) Surging Air Lift Bailing Other	DSR-2001	MONITOR Well #6

Water Levels

Initial	Final	Final + 24 Hours
Date: 04/07/09 Time: 16:00	Date: 04/07/09 Time: 16:30	Date: Time:
10. Total Depth of Well (from TOC) 119.11'	15. Total Depth of Well (from TOC) 119.40'	20. Total Depth of Well (from TOC)
11. Water Level (from TOC) 62.41'	16. Water Level (from TOC) 62.38	21. Water Level (from TOC)

12. Water Column Height	Nom Dia	x = gal/ft Sch 40	Sch 80	17. 3 Well Volumes	22. Size and Type of Pump or Bailer
56.70'				27.21 Gallons	
13. Well Diameter	(2")	(0.16)	0.1534	18. 5 Well Volumes	Redi-flo2, 1.8" Submersible Set @ T.D.
2" SCH 40 PVC MW	4"	0.65	0.5972	45.36 Gallons	
14. Well Volume (gal) (s) w.e. height) 9.0726 gal.	6"	1.47	1.3540	19. Purge Volume 30 Gallons	
	8"	2.61	2.3720		

Final Field Analysis

23. Total Amount of Water Removed	24. Was Well Pumped Dry?	25. Was water added to well?	26. Was the Groundwater Sampled (Yes) No
30 Gallons.	Yes (No)	(No) Yes If yes, source:	If yes, what was the sample number & Date: Sampling Personnel? MW-6, 04/07/09 CM Barnhill 16:23

27. Final Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL	Removed	Flow Rate	Photo Roll #, Observations
	19.92	0.451	7.65	Turbid	62.38	30 gal.	2.5 GPM	Turbid

IF PETROLEUM IS IN THE WELL, DO NOT TAKE pH AND CONDUCTIVITY PARAMETERS

28. Physical Appearance and Remarks: Turbid H2O

29. Purgewater disposal method: On Ground Surface

Sampling / Development Parameters

Time	Temp C	Conductivity (ms/cm)	pH	NTUs	WL (from TOC)	Volume (gallons)	Dissolved Oxygen	Flow Rate (gpm)	Photo #, Observ. (1)
16:10	20.48	1.445	7.73	Turbid	62.41'	Initial	5.96	2.5	Turbid
16:14	20.13	0.486	7.95	Turbid	—	10	5.78	2.5	Turbid
16:18	19.89	0.458	7.77	Slight Turbid	—	20	5.61	2.5	Slight Turbid
16:22	19.92	0.451	7.65	Turbid	62.38	30	5.63	2.5	Turbid

(1) Note volume and physical character of sediments removed.
NTU = Nephelometric turbidity units
WL = Water Level from Top of PVC Casing

Checked By: Christopher M Barnhill PG Date: 04/07/09

Appendix D

Survey Report

WELL	EASTING	NORTHING	CASING_ELEV	CONCRETE_ELEV	NOTE	STICK_UP	Latitude	Longitude
DBS-1	837410.946	617873.964	3817.091	3817.360		-0.269	32.694886	-103.370911
DBS-2	837487.158	618138.347	3820.504	3817.524		2.980	32.69561	-103.370655
DBS-3	836956.004	617833.410	3816.662	3813.953		2.709	32.694786	-103.37239
DBS-4	837516.816	617707.515	3820.374	3817.441		2.933	32.694426	-103.370571
DBS-5	836851.361	618414.069	3820.659	3818.001		2.658	32.696384	-103.372714
DBS-6	836896.578	615374.784	3812.650	3810.213		2.437	32.68803	-103.372656
DBS-7	836875.641	614857.267	3810.210	3807.210		3.000	32.686608	-103.372739
DBS-8	836580.482	614947.540	3810.699	3808.051		2.648	32.686864	-103.373696
DBS-9	836485.585	615847.216	3806.264	3803.460		2.804	32.689339	-103.373978
PMW-1	837289.690	618038.544	3821.167	3818.646		2.521	32.695341	-103.3713
MW-2	836438.049	615454.721	3812.677	3810.259		2.418	32.688261	-103.374144
MW-3	836743.571	615186.298	3812.049	3809.616		2.433	32.687516	-103.373159
MW-4	836882.305	615061.483	3811.325	3808.643		2.682	32.687169	-103.372712
MW-5	837029.110	614930.722	3808.961	3808.058		0.903	32.686806	-103.372238
MW-6	837288.689	615041.326	3810.168	3808.590		1.578	32.687104	-103.371391
NW-1(s)	837369.632	617950.772	3817.325	3817.627	SHALLOW	-0.302	32.695098	-103.371043
NW-1(m)	837369.657	617950.542	3817.351	3817.627	MIDDLE	-0.276	32.695097	-103.371043
NW-1(d)	837369.402	617950.848	3817.352	3817.627	DEEP	-0.275	32.695098	-103.371043
NW-2(s)	836860.966	615088.572	3812.497	3809.156	SHALLOW	3.341	32.687244	-103.37278
NW-2(m)	836861.043	615088.794	3812.452	3809.156	MIDDLE	3.296	32.687245	-103.37278
NW-2(d)	836861.137	615088.531	3812.460	3809.156	DEEP	3.304	32.687244	-103.37278