

RECR – 13-6

SOIL ASSESSMENT

DATE:

3/17/11

**Shallow Subsurface Soil Assessment
Newman #1 Well Site, Sheep's Draw
Carlsbad, New Mexico**

Prepared for

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

March 17, 2011



Daniel B. Stephens & Associates, Inc.

6020 Academy NE, Suite 100 • Albuquerque, New Mexico 87109



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Shallow Subsurface Soil Assessment Newman #1 Well Site, Sheep's Draw Carlsbad, New Mexico

1. Introduction

Daniel B. Stephens & Associates, Inc. (DBS&A) has prepared this shallow subsurface soil assessment report for the Newman #1 well site for submission to the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (OCD). The Newman #1 well site is located in Sheep's Draw southwest of Carlsbad, New Mexico (Figure 1). This report summarizes results of the initial shallow soil assessment and provides recommendations for further assessment under a second phase of field investigation.

2. Excavation and Shallow Subsurface Soil Sampling

Site assessment and field investigation activities were performed on January 12 and 13, 2011 by DBS&A and Madron Services, Inc. (Madron). DBS&A contracted with Madron to provide a backhoe and operator to facilitate the collection of soil samples. The backhoe was used to excavate to a depth of 5 feet below ground surface (ft bgs) at 25 sample locations across the Newman #1 well site (Figure 2). Soil samples were then collected from the backhoe bucket at specified depth intervals during excavation for field screening and laboratory analysis. The excavation/sampling locations were distributed across the site to ensure that the approximate 400-foot by 400-foot site was assessed. In addition, selected areas of the site were sampled based on visual signs of impact (i.e., hard pan, soil staining, distressed vegetation, lack of vegetation, etc.) and location relative to the former tank battery and well pad.

Field notes recorded during field activities are included in Appendix A. Photographic documentation is included in Appendix B.



2.1 Chloride Field Screening

Three samples were collected from each excavation for chloride field screening at depths of 0 to 1 ft bgs, 2 to 3 ft bgs, and 4 to 5 ft bgs. A total of 75 soil samples were screened using high-range Hach chloride Quantab[®] test strips. The field screening method provided by Hach is included in Appendix C. Table 1 summarizes the field screening results for each excavation/sampling location.

Field screening indicated that 7 samples contained chloride at concentrations less than 2,870 milligrams per kilogram (mg/kg). The high-range Quantab[®] test strips had a lower range limit of 2,870 mg/kg after factoring in the dilution factor of 10. Because this lower range limit is above the OCD action level of 1,000 mg/kg (action level for groundwater greater than 100 feet beneath the site), DBS&A used laboratory confirmation samples when possible to verify the chloride concentration in the samples.

Overall, field screening indicated that chloride concentrations in the upper 5 feet of soil were predominantly greater than 1,000 mg/kg). Of the 25 excavation/sampling locations, soil samples collected from 17 locations exhibited chloride concentrations exceeding the OCD action level of 1,000 mg/kg. At the remaining 8 sample locations (EX-1, EX-15, EX-16, EX-17, EX-18, EX-22, EX-23, and EX-25), soil samples contained chloride concentrations below 1,000 mg/kg.

The distribution of chloride in shallow soils at 0 to 1 ft bgs, 2 to 3 ft bgs, and 4 to 5 ft bgs is shown in Figures 2 through 4. In the 0 to 1 ft bgs sample interval, chloride concentrations ranged from <2,870 to 12,260 mg/kg. In the 2 to 3 ft bgs sample interval, concentrations ranged from <2,870 to 15,610 mg/kg. In the 4 to 5 ft bgs sample interval, concentrations ranged from <2,870 to 11,300 mg/kg (Table 1).

2.2 Soil Sample Analytical Results

In addition to the chloride field screening samples, soil samples were also collected for laboratory analysis. The samples were submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis of chloride and total petroleum hydrocarbons



(TPH). The samples were analyzed for chloride using U.S. Environmental Protection Agency (EPA) method 300.0 and for TPH (gasoline range organics [GRO], diesel range organics [DRO], and motor oil range organics [MRO]) using EPA method 8015M. The complete laboratory report and chain of custody documentation are provided in Appendix D.

2.2.1 Chloride Confirmation Samples

Chloride confirmation samples were collected from each excavation at 4 to 5 ft bgs. Of the 25 samples collected, 18 were submitted to HEAL for analysis. Table 2 provides a comparison between laboratory analytical results for the confirmation samples and field screening results. Overall, with the exception of samples EX-1 and EX-10, the analytical results for the confirmation samples correlated well with the field screening sample results.

In 6 of the 18 confirmation samples (EX-15, EX-18, EX-20, EX-22, EX-23, and EX-25), laboratory analysis confirmed that chloride concentrations were <2,870 mg/kg (Table 2). In two samples, EX-1 and EX-10, laboratory analysis showed a discrepancy with the field screening result. For EX-1, laboratory results indicated a chloride concentration of 300 mg/kg, while field screening indicated a chloride concentration of 6,130 mg/kg. For EX-10, laboratory results indicated a chloride concentration of 3,400 mg/kg, while field screening indicated a chloride concentration of <2,870 mg/kg. Of the 18 confirmation samples submitted for laboratory analysis, 12 were determined to contain chloride concentrations greater than the OCD action level of 1,000 mg/kg for groundwater greater than 100 feet beneath the site.

2.2.2 Total Petroleum Hydrocarbon Samples

Soil samples were collected from each excavation at 2.5 ft bgs for TPH analysis. Of the 25 samples collected, 18 were submitted to HEAL for analysis from the same excavations as the chloride confirmation samples. Table 3 summarizes TPH analytical results.

TPH was detected in 3 of the 18 samples submitted for analysis at concentrations ranging from 12 mg/kg to 186 mg/kg (Table 3). GRO was not detected at concentrations above the laboratory reporting limits in any of the samples. DRO was detected in all three samples (EX-3, EX-10, and EX-14) at concentrations ranging from 12 mg/kg to 76 mg/kg. MRO was detected in only one sample (EX-10) at a concentration of 110 mg/kg. None of the TPH concentrations



detected in the samples exceeded the OCD action level of 500 mg/kg for groundwater greater than 100 feet beneath the site.

3. Conclusions and Recommendations

Shallow subsurface soil sampling was performed at the Newman #1 well site by DBS&A and Madron on January 12 and 13, 2011. Results of the sampling indicate that significant concentrations of chloride exist in the upper 5 feet of soil at the former well site. Samples collected from 0 to 1 ft bgs, 2 to 3 ft bgs, and 4 to 5 ft bgs generally showed similar chloride concentrations, with the majority of samples containing greater than 1,000 mg/kg chloride.

Chloride field screening results and laboratory results from confirmation samples collected at 4 to 5 ft bgs indicate that of the 25 samples collected from excavation locations across the site, only 6 samples (EX-1, EX-15, EX-18, EX-22, EX-23, and EX-25) contained chloride concentrations below the OCD action level of 1,000 mg/kg. The remaining 19 samples contained chloride concentrations greater than 1,000 mg/kg. The field screening and laboratory analytical results confirm that the majority of the chloride impacts in the shallow subsurface at the site occur in the areas of the former tank battery (approximate vicinity of EX-4) and well pad (approximate vicinity of EX-24) (Figure 2). TPH was not detected at concentrations above the OCD action level in any of the samples submitted for laboratory analysis.

DBS&A did not identify the locations of any former pits at the site through either visual observation at the surface or identification of plastic or other debris during excavation. Additionally, field personnel did not note any significant or obvious differences in shallow subsurface geology that might indicate previous excavation at the site.

Based on the findings, DBS&A recommends the following:

- Complete horizontal delineation of chloride impacts to shallow subsurface soils at the site by installing additional excavations to 5 ft bgs and performing additional field screening of soil samples.



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- Determine the vertical extent of chloride impacts to subsurface soils by installing two borings within the approximate vicinity of the former tank battery and the former well pad.
- If groundwater is encountered during installation of the soil borings, monitor wells will be completed and groundwater will be sampled to determine possible chloride impacts.

Figures

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JN ES10.0252

**NEWMAN #1 WELL SITE ASSESSMENT
Site Location Map**

Figure 1

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Explanation

- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg



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**NEWMAN #1 WELL SITE ASSESSMENT
Chloride in Soil, 0-1 ft bgs**

Figure 2

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Explanation

- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg



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**NEWMAN #1 WELL SITE ASSESSMENT
Chloride in Soil, 0-1 ft bgs**

Figure 2

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Explanation

- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg



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**NEWMAN #1 WELL SITE ASSESSMENT
Chloride in Soil, 2-3 ft bgs**

Figure 3

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Explanation

- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg



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**NEWMAN #1 WELL SITE ASSESSMENT
Chloride in Soil, 4-5 ft bgs**

Figure 4

Tables



**Table 1. Field Screening Results for Chloride in Soil
Newman #1 Well, Sheep's Draw, Carlsbad, New Mexico
Page 1 of 3**

Sample Designation	Sample Date	Depth Interval (ft bgs)	Chloride Concentration ^a (mg/kg)
<i>Oil Conservation Division Action Level^b</i>			<i>1,000</i>
EX-1	01/12/11	0-1	7,370
		2-3	5,570
		4-5	6,130
EX-2	01/12/11	0-1	8,060
		2-3	9,570
		4-5	10,410
EX-3	01/12/11	0-1	11,300
		2-3	15,610
		4-5	6,730
EX-4	01/12/11	0-1	7,370
		2-3	4,550
		4-5	5,570
EX-5	01/12/11	0-1	12,260
		2-3	11,300
		4-5	11,300
EX-6	01/12/11	0-1	2,870
		2-3	<2,870
		4-5	2,870
EX-7	01/12/11	0-1	3,250
		2-3	5,570
		4-5	5,040
EX-8	01/12/11	0-1	7,370
		2-3	7,370
		4-5	6,730
EX-9	01/12/11	0-1	8,060
		2-3	5,570
		4-5	4,550
EX-10	01/12/11	0-1	11,300
		2-3	<2,870
		4-5	<2,870

Bold indicates that concentration exceeds the applicable standard.

^a Chloride concentration determined in the field using Hach Quantab[®] test strips (high-range).

^b Action level for groundwater greater than 100 feet beneath the site.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram



**Table 1. Field Screening Results for Chloride in Soil
Newman #1 Well, Sheep's Draw, Carlsbad, New Mexico
Page 2 of 3**

Sample Designation	Sample Date	Depth Interval (ft bgs)	Chloride Concentration ^a (mg/kg)
<i>Oil Conservation Division Action Level^b</i>			<i>1,000</i>
EX-11	01/12/11	0-1	5,040
		2-3	4,080
		4-5	5,570
EX-12	01/12/11	0-1	7,370
		2-3	7,370
		4-5	4,550
EX-13	01/12/11	0-1	4,550
		2-3	3,250
		4-5	3,650
EX-14	01/12/11	0-1	6,130
		2-3	4,080
		4-5	4,080
EX-15	01/12/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870
EX-16	01/12/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870
EX-17	01/13/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870
EX-18	01/13/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870
EX-19	01/13/11	0-1	3,650
		2-3	< 2,870
		4-5	< 2,870
EX-20	01/13/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870

Bold indicates that concentration exceeds the applicable standard.

^a Chloride concentration determined in the field using Hach Quantab[®] test strips (high-range).

^b Action level for groundwater greater than 100 feet beneath the site.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram



**Table 1. Field Screening Results for Chloride in Soil
Newman #1 Well, Sheep's Draw, Carlsbad, New Mexico
Page 3 of 3**

Sample Designation	Sample Date	Depth Interval (ft bgs)	Chloride Concentration ^a (mg/kg)
<i>Oil Conservation Division Action Level^b</i>			<i>1,000</i>
EX-21	01/13/11	0-1	6,730
		2-3	4,550
		4-5	4,550
EX-22	01/13/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870
EX-23	01/13/11	0-1	9,570
		2-3	< 2,870
		4-5	< 2,870
EX-24	01/13/11	0-1	9,570
		2-3	6,730
		4-5	11,300
EX-25	01/13/11	0-1	< 2,870
		2-3	< 2,870
		4-5	< 2,870

Bold indicates that concentration exceeds the applicable standard.

^a Chloride concentration determined in the field using Hach Quantab[®] test strips (high-range).

^b Action level for groundwater greater than 100 feet beneath the site.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram



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Table 2. Comparison of Analytical and Field Screening Results for Chloride in Soil Newman #1 Well, Sheep's Draw, Carlsbad, New Mexico

Sample Designation	Sample Date	Sample Depth (ft bgs)	Chloride Concentration (mg/kg)	
			Laboratory ^a	Field Screening
<i>Oil Conservation Division Action Level ^b</i>			<i>1,000</i>	
EX-1	01/12/11	4-5	300	6,130
EX-2	01/12/11	4-5	12,000	10,410
EX-3	01/12/11	4-5	6,100	6,730
EX-4	01/12/11	4-5	5,800	5,570
EX-5	01/12/11	4-5	13,000	11,300
EX-6	01/12/11	4-5	2,100	2,870
EX-7	01/12/11	4-5	5,800	5,040
EX-10	01/12/11	4-5	3,400	<2,870
EX-11	01/12/11	4-5	6,800	5,570
EX-13	01/12/11	4-5	3,400	3,650
EX-14	01/12/11	4-5	3,800	4,080
EX-15	01/12/11	4-5	750	<2,870
EX-18	01/13/11	4-5	770	<2,870
EX-20	01/13/11	4-5	1,700	<2,870
EX-22	01/13/11	4-5	590	<2,870
EX-23	01/13/11	4-5	520	<2,870
EX-24	01/13/11	4-5	13,000	11,300
EX-25	01/13/11	4-5	160	<2,870

Bold indicates that concentration exceeds the action level.

^a All samples analyzed using U.S. Environmental Protection Agency (EPA) method 300.0.

^b Action level for groundwater greater than 100 feet beneath site.

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram



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**Table 3. Analytical Results for TPH in Soil
Newman #1 Well, Sheep's Draw, Carlsbad, New Mexico**

Sample Designation	Sample Date	Sample Depth (ft bgs)	TPH (mg/kg) ^a		
			GRO	DRO	MRO
<i>Oil Conservation Division Action Level ^b</i>			500		
EX-1	01/12/11	2.5	<5.0	<10	<50
EX-2	01/12/11	2.5	<5.0	<10	<50
EX-3	01/12/11	2.5	<5.0	18	<50
EX-4	01/12/11	2.5	<5.0	<10	<50
EX-5	01/12/11	2.5	<5.0	<10	<50
EX-6	01/12/11	2.5	<5.0	<10	<50
EX-7	01/12/11	2.5	<5.0	<10	<50
EX-10	01/12/11	2.5	<5.0	76	110
EX-11	01/12/11	2.5	<5.0	<10	<50
EX-13	01/12/11	2.5	<5.0	<10	<50
EX-14	01/12/11	2.5	<5.0	12	<50
EX-15	01/12/11	2.5	<5.0	<10	<50
EX-18	01/13/11	2.5	<5.0	<10	<50
EX-20	01/13/11	2.5	<5.0	<10	<50
EX-22	01/13/11	2.5	<5.0	<10	<50
EX-23	01/13/11	2.5	<5.0	<10	<50
EX-24	01/13/11	2.5	<5.0	<10	<50
EX-25	01/13/11	2.5	<5.0	<10	<50

^a Analyzed using U.S. Environmental Protection Agency (EPA) method 8015M.

^b Action level for groundwater greater than 100 feet below the site.

TPH = Total petroleum hydrocarbons (GRO + DRO + MRO)

ft bgs = Feet below ground surface

mg/kg = Milligrams per kilogram

DRO = Diesel-range organics

GRO = Gasoline-range organics

MRO = Motor oil-range organics

Appendix A

Field Notes

C. NGAM
J. BUNCH

6/12/10

0936 ON SITE @ NEWMAN #2 WELL SITE,
CARLSBAD. BACKHOE ALREADY ON SITE
MET BACKHOE OPERATOR (JOHN)
FROM MADRON SERVICE INC. JOHN
BUNCH INTRODUCED HIM TO ME.

0937 LOCATED SAMPLE LOCATIONS W/ JOHN
BUNCH. JOHN B. LEFT SITE TO WORK
ON ANOTHER PROJECT. WILL RETURN ON SITE
SOMETIME IN THE AFTERNOON.

0938 BEGAN EXCAVATING
BEGAN COLLECTING SCREENING SAMPLES,
TPH & CHLORIDE SAMPLES.

SCREENING SAMPLES	DEPTH (ft)	CL CONCENTRATION/ COMMENTS (ppm)
EX-1	0-1	7370 NO CALICHE ENCOUNTERED
	2-3	5570 @ 5' & NO HC ODOR
	4-5	6130 "
EX-2	0-1	8040 CALICHE @ 5'
	2-3	9570 NO HC ODOR
	4-5	10410 "
EX-3	0-1	11300 SLIGHT HC ODOR
	2-3	15610 CALICHE @ 5'
	4-5	6730 "
EX-4	0-1	7370 CALICHE @ 5'
	2-3	4550 NO HC ODOR
	4-5	5570 "

01/12/2011

C. NGAM

C. NGAM

01/12/11

SCREENING
SAMPLES

DEPTH (ft)

CL-CONT
(ppm)

COMMENTS

DISTURBANCE

EX-1

EX-2

EX-3

EX-4

EX-5

EX-6

EX-7

EX-8

EX-9

EX-10

EX-11

EX-12

EX-13

EX-14

EX-15

EX-16

EX-17

EX-18

EX-19

EX-20

EX-21

EX-22

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EX-84

EX-85

EX-86

EX-87

EX-88

EX-89

EX-90

EX-91

EX-92

EX-93

EX-94

EX-95

EX-96

EX-97

EX-98

EX-99

EX-100

EX-5 0-1 12260 ENCOUNTERED

2-3 11300 CALICHE @ 5'

4-5 11300 No HC COOR

EX-6 0-1 2870

2-3 <2870

4-5 2870

EX-7 0-1 3250

2-3 5570

4-5 5040

EX-8 0-1 ~~5870~~ 7370

2-3 7370

4-5 6730

EX-9 0-1 8060

2-3 5570

4-5 4550

EX-10 0-1 11300 TOP SOIL IS GRAY

2-3 <2870 IN COLOR (STAINING)

4-5 <2870 CALICHE @

EX-11 0-1 5040 CALICHE @ 5'

2-3 4080 No HC COOR

4-5 5570

EX-12 0-1 7370

2-3 7370

4-5 4550

EX-2

EX-3 (GPS LOC)

01/12/11

SCREENING SAMPLES	DEPTH (ft)	CL CONC (ppm)	COMMENTS
EX-12	0-1	7370	CALICHE @
EX-13	2-3	7370	5', No Hc COOR
EX-14	4-5	4550	"
EX-13	0-1	4550	"
EX-16	2-3	3250	"
	4-5	3650	"
EX-14	0-1	6130	"
	2-3	4080	"
	4-5	4080	"
EX-15	0-1	<2870	TOP SOIL IS GRAY IN COLOR
	2-3	<2870	"
	4-5	<2870	"
EX-16	0-1	<2870	TOP SOIL APPEARS GRAY
	2-3	<2870	"
	4-5	<2870	"

1308 McVEY ONSITE - SURVEYED AREA FOR POSSIBLE PRODUCTION PITS.
 1635 SECURED SITE - OFFSITE

C. NGAM
 01/12/11

C. NGAM

01/13/11

SCREENING SAMPLES	DEPTH (ft)	CL CONC (ppm)	COMMENTS
EX-17	0-1	<2870	CALICHE @ 5'
	2-3	<2870	No Hc COOR
	4-5	<2870	"
EX-18	0-1	<2870	"
	2-3	<2870	"
	4-5	<2870	"
EX-19	0-1	3650	ENCOUNTERED
	2-3	<2870	CALICHE @ 8'
	5-6	<2870	No Hc COOR
	7-8		
EX-20	0-1	<2870	CALICHE @ 5'
	2-3	<2870	No Hc COOR
	4-5	<2870	"
EX-21	0-1	6730	"
	2-3	4550	"
	4-5	4550	"
EX-22	0-1	<2870	"
	2-3	<2870	"
	4-5	<2870	"
EX-23	0-1	9570	"
	2-3	<2870	"
	4-5	<2870	"
EX-24	0-1	9570	"
	2-3	6730	"
	4-5	11300	"

01/13/11

DEPTH(ft) CL CONC
 SCREENING CL CONC (ppm) COMMENTS
 Ex-25 0-1 <2870
 2-3 <2870
 4-5 <2870

C. NGAM

SAMPLE TIME

LAB SAMPLES

DEPTH

WAY POINTS

01/14/11

DEPTH	LAB SAMPLES	DEPTH	WAY POINTS
0951	EX-1	2.5'	32.31294
1000		5.0	104.33215
1025	EX-2	2.5	32.31300
1035		5.0	104.33224
1053	EX-3	2.5	32.31304
1100		5.0	104.33201
1117	EX-4	2.5	32.31305
1126		5.0	104.33208
1150	EX-5	2.5	32.31311
1156		5.0	104.33221
1211	EX-6	2.5	32.31315
1218		5.0	104.33234
1234	EX-7	2.5	32.31316
1240		5.0	104.33195
*1300	EX-8	2.5	32.31318
1305		5.0	104.33217
*1340	EX-9	2.5	32.31327
1345		5.0	104.33214
1358	EX-10	2.5	32.31330
1405		5.0	104.33225
1416	EX-11	2.5	32.31335
1424		5.0	104.33197
*1442	EX-12	2.5	32.31338
1450		5.0	104.33211

C. NGAM

01/13/11

01/12/11

C. NGAM

01/13/11

SAMPLE TIME	LAB SAMPLES	DEPTH (ft)	WAYPOINTS	SAMPLE TIME	LAB SAMPLES	DEPTH (ft)	WAYPOINTS
1504	EX-13	2.5	32-31340	0812	EX-17	2.5	32-31359
1510		5.0	104-33220	0818		5.0	104-33231
1529	EX-14	2.5	32-31340	0831	EX-18	2.5	32-31359
1534		5.0	104-33179	0837		5.0	104-33242
1549	EX-15	2.5	32-31357	0858	EX-19	2.5 (TPH)	32-31357
1558		5.0	104-33204	0911		4-5 (TPH)	104-33174
*1613	EX-16	2.5	32-31359	0922		8.0 (CL)	32-31370
1620		5.0	104-33220	0932	EX-20	2.5	104-33262 32-31370
				0937		5.0	104-33262
				0948	EX-21	2.5	32-31369
				0953		4-5	104-33217
				1001	EX-22	2.5	32-31366
				1005		5.0	104-33227
				1019	EX-23	2.5	32-31366
				1023		5.0	104-33158
				1030	EX-24	2.5	32-31369
				1034		5.0	104-33180
				1042	EX-25	2.5	32-31382
				1048		5.0	104-33180

@ 2.5' SAMPLE WILL BE ANALYZED FOR TPH (8015m) AND @ 5.0' SAMPLE WILL BE TESTED FOR CL (EPA 300.0)

1110 Jim GRISWOLD WITH OCA ONSITE.
 - GAVE HIM AN UPDATE OF ACTIVITIES ONSITE. HE SHOWED ME A COUPLE OF OTHER ^{PROJECT} SITES THAT DBSA WILL BE

9/13/11

C. NGAM

COLLECTING SOIL SAMPLES FROM

1130 SECURED SITE - OPPOSITE

~~C. NGAM~~

~~9/13/11~~

Appendix B
Photographs

S:\PROJECTS\ES10.0252_OCD_ASSESSMENT\GIS\MXD\NEWMAN-1\ANALYTICAL_RESULTS\SOIL_CL_2_3_FT.MXD 117030



Explanation

- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg

Figure 3

S:\PROJECTS\ES10.0252_OCD_ASSESSMENT\GIS\MXD\NEWMAN-1\ANALYTICAL_RESULTS\SOIL_CL_4_5_FT.MXD 117030



Explanation

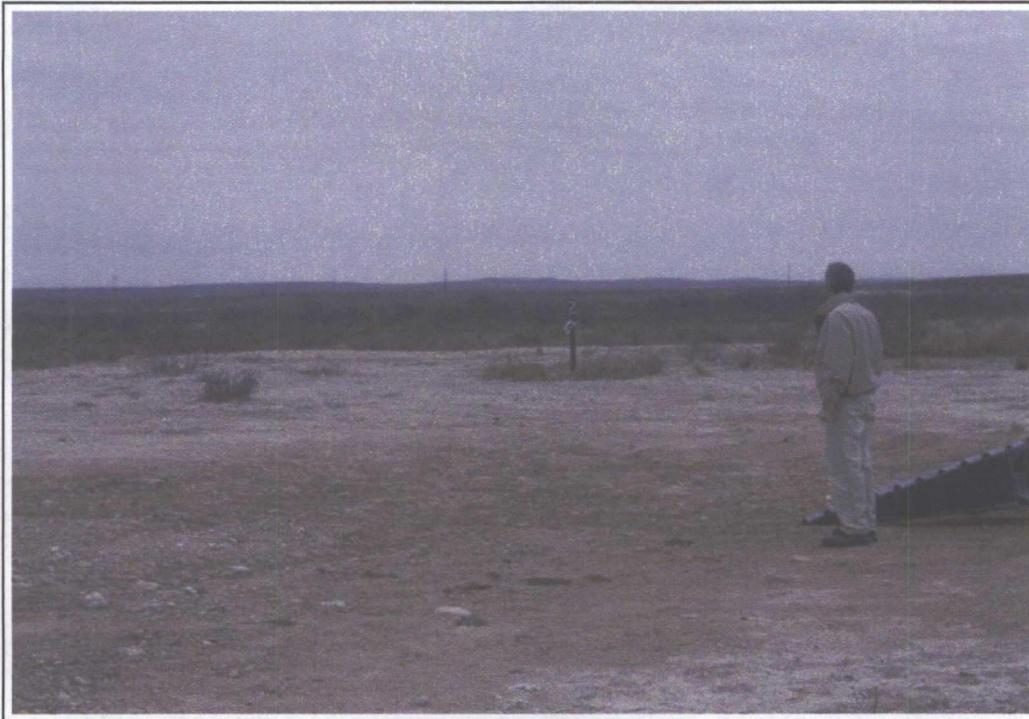
- Ex-1 Excavation/sampling location
- Chloride concentration <1,000 mg/kg
- Chloride concentration >1,000 mg/kg



Daniel B. Stephens & Associates, Inc.
03/07/2011 JN ES10.0252

**NEWMAN #1 WELL SITE ASSESSMENT
Chloride in Soil, 4-5 ft bgs**

Figure 4



1. Newman #1 well marker and area of former well pad (view to the northwest).



2. Approximate location of former tank battery in left foreground (view to the northwest).





3. Excavation/sampling locations premarked with pin flags (view to the west).



4. Madron Services, Inc. located in Carlsbad, New Mexico provided a backhoe and operator to facilitate soil sampling (view to the west).





5. A total of 25 excavations to 5 ft bgs were sampled across the former Newman #1 Well site (view to the southwest).



6. Soil samples were collected from the backhoe bucket at specified depth intervals during excavation (view to the west).



Appendix C

Hach Field Screening Method

Subject: "Salt" Analysis for Soil
Issue Date: 24 July 1996
Revision Number: 01
Revision Date: 14 July 1998

1. Add 90 ml of hot water (RO/DI) to 10 g of the finely ground sample in a 200 ml beaker.
2. Stir vigorously for 30 seconds, wait one minute, stir again for 30 seconds.
3. Place filter paper, folded into a cone-shaped cup, point first into the beaker.*
4. Place the lower end of the Quantab® into the filtrate (the solution which has seeped through the filter paper) being sure not to submerge the titrator more than 1.0 inch.
5. 30 seconds after the moisture sensitive signal string at the top of the titrator turns dark, record the Quantab® reading to the nearest 0.1 units on the titrator scale at the tip of the yellow-white peak.
6. Convert the Quantab® reading to percent sodium chloride (NaCl) or to ppm chloride (Cl⁻) using the calibration chart located on the label.
Each lot of Quantab® has been individually calibrated by our QA department. Be sure to use the calibration chart on the bottle from which the titrators you are using.
7. Multiply the result by the dilution factor 10 to obtain the actual salt concentration in the sample.

* If Quantab does not form an even ^ shaped peak, the sample may need to be cooled to 20 - 25°C before testing.

Appendix D
Laboratory Results



COVER LETTER

Friday, February 04, 2011

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

TEL: (505) 822-9400

FAX (505) 822-8877

RE: Newman Well #1 Soil Sampling, Carlsbad

Order No.: 1101460

Dear Mike McVey:

Hall Environmental Analysis Laboratory, Inc. received 36 sample(s) on 1/14/2011 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.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-1(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 9:51:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-01	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 3:43:30 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 3:43:30 PM
Surr: DNOP	105	81.8-129		%REC	1	1/19/2011 3:43:30 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 11:27:13 AM
Surr: BFB	103	89.7-125		%REC	1	1/18/2011 11:27:13 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-1(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 10:00:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-02	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	5900	300		mg/Kg	200	1/26/2011 5:13:56 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-2(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 10:25:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-03	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 5:25:35 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 5:25:35 PM
Surr: DNOP	102	81.8-129		%REC	1	1/19/2011 5:25:35 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 11:56:05 AM
Surr: BFB	103	89.7-125		%REC	1	1/18/2011 11:56:05 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-2(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 10:35:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-04	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	12000	750		mg/Kg	500	1/25/2011 12:41:43 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-3(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 10:53:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-05	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	18	10		mg/Kg	1	1/19/2011 6:33:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 6:33:48 PM
Surr: DNOP	107	81.8-129		%REC	1	1/19/2011 6:33:48 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 12:25:00 PM
Surr: BFB	103	89.7-125		%REC	1	1/18/2011 12:25:00 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-3(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 11:00:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-06	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	6100	300		mg/Kg	200	1/25/2011 12:59:08 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-4(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 11:17:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-07	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 7:07:56 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 7:07:56 PM
Surr: DNOP	109	81.8-129		%REC	1	1/19/2011 7:07:56 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 12:53:53 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 12:53:53 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-4(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 11:26:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-08	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	5800	300		mg/Kg	200	1/25/2011 1:16:33 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** EX-5(2.5)
Lab Order: 1101460 **Collection Date:** 1/12/2011 11:50:00 AM
Project: Newman Well #1 Soil Sampling, Carlsbad **Date Received:** 1/14/2011
Lab ID: 1101460-09 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 7:41:47 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 7:41:47 PM
Surr: DNOP	110	81.8-129		%REC	1	1/19/2011 7:41:47 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 1:22:44 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 1:22:44 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-5(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 11:56:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-10	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	13000	750		mg/Kg	500	1/25/2011 1:33:57 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-6(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 12:11:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-11	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 8:15:38 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 8:15:38 PM
Surr: DNOP	119	81.8-129		%REC	1	1/19/2011 8:15:38 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 1:51:34 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 1:51:34 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-6(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 12:18:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-12	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	2100	75		mg/Kg	50	1/26/2011 5:48:46 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
 E Estimated value
 J Analyte detected below quantitation limits
 NC Non-Chlorinated
 PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 MCL Maximum Contaminant Level
 ND Not Detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-7(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 12:34:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-13	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 8:49:28 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 8:49:28 PM
Surr: DNOP	102	81.8-129		%REC	1	1/19/2011 8:49:28 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 2:20:30 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 2:20:30 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-7(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 12:40:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-14	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	5800	300		mg/Kg	200	1/25/2011 2:08:47 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** EX-10(2.5)
Lab Order: 1101460 **Collection Date:** 1/12/2011 1:58:00 PM
Project: Newman Well #1 Soil Sampling, Carlsbad **Date Received:** 1/14/2011
Lab ID: 1101460-15 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	76	10		mg/Kg	1	1/19/2011 9:23:20 PM
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	1/19/2011 9:23:20 PM
Surr: DNOP	107	81.8-129		%REC	1	1/19/2011 9:23:20 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 2:49:27 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 2:49:27 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT: Daniel B. Stephens & Assoc.	Client Sample ID: EX-10(5.0)
Lab Order: 1101460	Collection Date: 1/12/2011 2:05:00 PM
Project: Newman Well #1 Soil Sampling, Carlsbad	Date Received: 1/14/2011
Lab ID: 1101460-16	Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	3400	150		mg/Kg	100	1/25/2011 2:26:12 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-11(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 2:16:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-17	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 9:57:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 9:57:12 PM
Surr: DNOP	104	81.8-129		%REC	1	1/19/2011 9:57:12 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 3:18:21 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 3:18:21 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-11(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 2:24:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-18	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	6800	300		mg/Kg	200	1/25/2011 2:43:37 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT: Daniel B. Stephens & Assoc. **Client Sample ID:** EX-13(2.5)
Lab Order: 1101460 **Collection Date:** 1/12/2011 3:04:00 PM
Project: Newman Well #1 Soil Sampling, Carlsbad **Date Received:** 1/14/2011
Lab ID: 1101460-19 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 10:31:05 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 10:31:05 PM
Surr: DNOP	105	81.8-129		%REC	1	1/19/2011 10:31:05 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 3:47:17 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 3:47:17 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-13(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 3:10:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-20	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	3400	150		mg/Kg	100	1/25/2011 3:01:01 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
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-14(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 3:29:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-21	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	12	10		mg/Kg	1	1/19/2011 11:04:56 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 11:04:56 PM
Surr: DNOP	99.2	81.8-129		%REC	1	1/19/2011 11:04:56 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 4:16:12 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 4:16:12 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-14(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 3:34:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-22	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	3800	150		mg/Kg	100	1/25/2011 3:53:15 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-15(2.5)
Lab Order:	1101460	Collection Date:	1/12/2011 3:49:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-23	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/19/2011 11:38:31 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/19/2011 11:38:31 PM
Surr: DNOP	101	81.8-129		%REC	1	1/19/2011 11:38:31 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 4:45:06 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 4:45:06 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-15(5.0)
Lab Order:	1101460	Collection Date:	1/12/2011 3:58:00 PM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-24	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	750	30		mg/Kg	20	1/25/2011 3:05:13 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-18(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 8:31:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-25	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 12:45:45 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 12:45:45 AM
Surr: DNOP	108	81.8-129		%REC	1	1/20/2011 12:45:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 5:13:58 PM
Surr: BFB	101	89.7-125		%REC	1	1/18/2011 5:13:58 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-18(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 8:37:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-26	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	770	30		mg/Kg	20	1/25/2011 3:40:01 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-20(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 9:32:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-27	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 1:19:20 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 1:19:20 AM
Surr: DNOP	108	81.8-129		%REC	1	1/20/2011 1:19:20 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 5:42:51 PM
Surr: BFB	103	89.7-125		%REC	1	1/18/2011 5:42:51 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-20(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 9:37:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-28	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	1700	75		mg/Kg	50	1/26/2011 6:08:11 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-22(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 10:01:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-29	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 1:52:56 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 1:52:56 AM
Surr: DNOP	117	81.8-129		%REC	1	1/20/2011 1:52:56 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 6:11:50 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 6:11:50 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-22(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 10:05:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-30	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	590	30		mg/Kg	20	1/25/2011 5:24:28 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-23(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 10:19:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-31	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 2:26:33 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 2:26:33 AM
Surr: DNOP	102	81.8-129		%REC	1	1/20/2011 2:26:33 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 6:40:50 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 6:40:50 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-23(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 10:23:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-32	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	520	30		mg/Kg	20	1/25/2011 5:59:17 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-24(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 10:30:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-33	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 3:00:23 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 3:00:23 AM
Surr: DNOP	103	81.8-129		%REC	1	1/20/2011 3:00:23 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 11:00:11 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 11:00:11 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-24(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 10:34:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-34	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	13000	750		mg/Kg	500	1/25/2011 4:28:04 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-25(2.5)
Lab Order:	1101460	Collection Date:	1/13/2011 10:42:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-35	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	1/20/2011 3:34:31 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	1/20/2011 3:34:31 AM
Surr: DNOP	103	81.8-129		%REC	1	1/20/2011 3:34:31 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/18/2011 11:29:00 PM
Surr: BFB	102	89.7-125		%REC	1	1/18/2011 11:29:00 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

Hall Environmental Analysis Laboratory, Inc.

Date: 04-Feb-11

CLIENT:	Daniel B. Stephens & Assoc.	Client Sample ID:	EX-25(5.0)
Lab Order:	1101460	Collection Date:	1/13/2011 10:48:00 AM
Project:	Newman Well #1 Soil Sampling, Carlsbad	Date Received:	1/14/2011
Lab ID:	1101460-36	Matrix:	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	160	30		mg/Kg	20	1/25/2011 7:08:55 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 |
| NC Non-Chlorinated | ND Not Detected at the Reporting Limit |
| PQL Practical Quantitation Limit | S Spike recovery outside accepted recovery limits |

QA/QC SUMMARY REPORT

Client: Daniel B. Stephens & Assoc.
 Project: Newman Well #1 Soil Sampling, Carlsbad

Work Order: 1101460

Analyte	Result	Units	PQL	SPK Val	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MBLK-25360		MBLK									
Chloride	ND	mg/Kg	1.5								
Batch ID: 25360											Analysis Date: 1/24/2011 6:05:33 PM
Sample ID: LCS-25360		LCS									
Chloride	13.70	mg/Kg	1.5	15	0	91.3	90	110			
Batch ID: 25360											Analysis Date: 1/24/2011 6:22:57 PM
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: 1101460-01AMSD		MSD									
Diesel Range Organics (DRO)	51.66	mg/Kg	10	50	0	103	57.5	128	0.660	19.7	
Batch ID: 25269											Analysis Date: 1/19/2011 4:51:30 PM
Sample ID: MB-25269		MBLK									
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Batch ID: 25269											Analysis Date: 1/19/2011 2:01:07 PM
Sample ID: LCS-25269		LCS									
Diesel Range Organics (DRO)	48.35	mg/Kg	10	50	0	96.7	66.2	120			
Batch ID: 25269											Analysis Date: 1/19/2011 2:35:15 PM
Sample ID: LCSD-25269		LCSD									
Diesel Range Organics (DRO)	48.51	mg/Kg	10	50	0	97.0	66.2	120	0.322	14.3	
Batch ID: 25269											Analysis Date: 1/19/2011 3:09:22 PM
Sample ID: 1101460-01AMS		MS									
Diesel Range Organics (DRO)	51.32	mg/Kg	10	50	0	103	57.5	128			
Batch ID: 25269											Analysis Date: 1/19/2011 4:17:22 PM
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1101460-01AMSD		MSD									
Gasoline Range Organics (GRO)	28.17	mg/Kg	5.0	25	0	113	69.2	144	9.24	20.5	
Batch ID: 25261											Analysis Date: 1/18/2011 7:38:39 PM
Sample ID: MB-25261		MBLK									
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Batch ID: 25261											Analysis Date: 1/19/2011 4:23:23 AM
Sample ID: MB-25261		MBLK									
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Batch ID: 25261											Analysis Date: 1/18/2011 8:36:13 PM
Sample ID: LCS-25261		LCS									
Gasoline Range Organics (GRO)	25.61	mg/Kg	5.0	25	0	102	95.7	120			
Batch ID: 25261											Analysis Date: 1/19/2011 2:23:01 AM
Sample ID: LCS-25261		LCS									
Gasoline Range Organics (GRO)	24.62	mg/Kg	5.0	25	0	98.5	95.7	120			
Batch ID: 25261											Analysis Date: 1/18/2011 8:07:25 PM
Sample ID: 1101460-01AMS		MS									
Gasoline Range Organics (GRO)	30.90	mg/Kg	5.0	25	0	124	69.2	144			
Batch ID: 25261											Analysis Date: 1/18/2011 7:09:44 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name DBS

Date Received:

1/14/2011

Work Order Number 1101460

Received by: MMG

Checklist completed by:

K. A. St.
Signature Date 1/17/10

Sample ID labels checked by:

[Signature]
Initials

Matrix:

Carrier name: Client drop-off

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No	Not Present	
Custody seals intact on shipping container/cooler?	Yes	No	Not Present	Not Shipped <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes	No	N/A	<input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No		
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No		
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No		
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No		
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No		
Water - VOA vials have zero headspace?	No VOA vials submitted <input checked="" type="checkbox"/>	Yes	No	Number of preserved bottles checked for pH:
Water - Preservation labels on bottle and cap match?	Yes <input checked="" type="checkbox"/>	No	N/A	<input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No	N/A	<input checked="" type="checkbox"/>
Container/Temp Blank temperature?	10.0°	<6° C Acceptable If given sufficient time to cool.		

Number of preserved bottles checked for pH:
<2 >12 unless noted below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Chain-of-Custody Record

Client: DBSA

Mailing Address: 6020 ACADEMY NE
SUITE 100, APO, NM 87109

Phone #: 505-822-9400

email or Fax#:

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

Accreditation
 NELAP Other _____

EDD (Type)

Turn-Around Time: _____

Standard Rush

Project Name: NEWMAN #1 WELL
SOIL SAMPLING, CARLSBAD

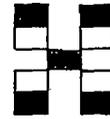
Project #: ES10-0252.00-00001

Project Manager: MIKE McVEY

Sampler: CELESTINE NGAM

On to: _____ E No: _____

Sample Temperature: 10.0°C



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	BEAL 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)	EPA 8015M (TPH, DRP, GRO, MRO)	EPA 300.0 (CC)	Air Bubbles (Y or N)	
12/11	1234	SOIL	EX-7 (2.5)	1oz Jar 1	ICE	13													X		
	1240		EX-7 (5.0)			14													X		
	1308		EX-10 (2.5)			15													X		
	1405		EX-10 (5.0)			16													X		
	1416		EX-11 (2.5)			17													X		
	1424		EX-11 (5.0)			18													X		
	1504		EX-13 (2.5)			19													X		
	1510		EX-13 (5.0)			20													X		
	1529		EX-14 (2.5)			21													X		
	1534		EX-14 (5.0)			22													X		
	1549		EX-15 (2.5)			23													X		
	1558		EX-15 (5.0)			24													X		

CELESTINE NGAM
07/14/11

Date: 11/4/11 Time: 17:14 Relinquished by: CELESTINE NGAM
 Received by: Mike Mcvey Date: 11/4/11 Time: 17:00

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

Remarks: _____

Chain-of-Custody Record

Client: DBSA

Mailing Address: 6020 ACADEMY NE
SUITE 100, APO, NM 87109

Phone #: 505-822-9400

email or Fax#:

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

Accreditation
 NELAP Other _____

EDD (Type) _____

Turn-Around Time:
 Standard Rush

Project Name: NEWMAN #1 WELL
SOIL SAMPLING, GARISBAD

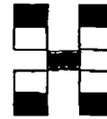
Project #: ESTD-1252.00.00001

Project Manager: MIKE McVEY

Sampler: CELESTINE NGAM

On Ice: Yes No

Sample Temperature: 10.0 C



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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	HEAV 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)	EPA 8015M (TPH DPO, GED, MPO)	EPA 300.0 (CL)	Air Bubbles (Y or N)	
12/11	0831	SOIL	EX-18(2.5)	1oz JAR 1	ICE	25													X		
	0837		EX-18(5.0)			26													X		
	0932		EX-20(2.5)			27													X		
	0937		EX-20(5.0)			28													X		
	1001		EX-22(2.5)			29													X		
	1005		EX-22(5.0)			30													X		
	1019		EX-23(2.5)			31													X		
	1023		EX-23(5.0)			32													X		
	1030		EX-24(2.5)			33													X		
	1034		EX-24(5.0)			34													X		
	1042		EX-25(2.5)			35													X		
	1048		EX-25(5.0)			36													X		

Date: 11/4/11 Time: 1714 Relinquished by: CELESTINE NGAM
 Received by: Michelle Garcia Date: 11/4/11 Time: 17:00

Remarks: CELESTINE NGAM 01/14/11

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.