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By PSTB at 3:40 pm, Sep 14, 2022

DBS&A
Daniel B. Stephens & Associates, Inc.
a Geo-Logic Company

September 14, 2022

Mr. Corey Dimond
New Mexico Environment Department
Petroleum Storage Tank Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Re: Final Remediation Plan Implementation Letter Report
Leonard's Conoco UST Site, Santa Rosa, New Mexico
Facility #29084, Release ID #755, WPID #4265, Contract #22-667-3200-0006

Dear Mr. Dimond:

Daniel B. Stephens & Associates, Inc. (DBS&A) is pleased to submit this letter report documenting implementation of the approved final remediation plan (FRP) at the subject site (Figure 1). DBS&A contracted with Regenesis of San Clemente, California and Vista Geoscience, Inc. (Vista) of Golden, Colorado to develop a site-specific treatment design.

Amendment Injection Activities

DBS&A and Vista mobilized to the site on August 30, 2022 to begin injection activities. The selected amendment material was PetroFix™, a micron-scale (1 to 2 microns) activated carbon emulsion that removes dissolved-phase hydrocarbon contaminants by adsorption to the carbon media, combined with inorganic electron acceptors (nitrate and sulfate) to facilitate anaerobic biodegradation. Vista mobilized a remediation trailer and a Geoprobe brand direct-push drill rig to the site. The amendment was injected bottom-up using a 3-foot screen tool from 20 to 10 feet below ground surface (bgs). No surfacing was observed during the injection activities. The Vista report is provided as Attachment 1.

The amendment injection event used a total of 6 borings for application of PetroFix™ (Figure 2). A total of 400 pounds of PetroFix™, 20 pounds of electron acceptor, and 1,455 gallons of water were mixed on-site, and a total of 1,496 gallons of amendment slurry was injected at the 6 borings. Materials were injected based on the Regenesis design summary that was included in the approved DBS&A FRP. All injection points were plugged immediately with bentonite chips. The surface was restored with concrete to match the surrounding surface material.

Field notes and photographs of the work are provided in Attachments 2 and 3, respectively. Daily activities for the amendment injection event are summarized as follows:

- Tuesday, August 30, 2022: Mobilized to the site, secured access to water, completed equipment setup.

- Tuesday, August 30, 2022: Completed drilling and injection activities for 6 injection points (IP-1 through IP-6) (Figure 2).
- Tuesday, August 30, 2022: Restored the surface of the 6 injection points located in asphalt; cleaned and secured the site.

Closing

This letter report constitutes deliverable ID No. 4265-4. DBS&A intends to invoice the full approved amount of $33,311.10 (including NMGRT). If you have any questions or require additional information, please contact us at (505) 822-9400.

Sincerely,

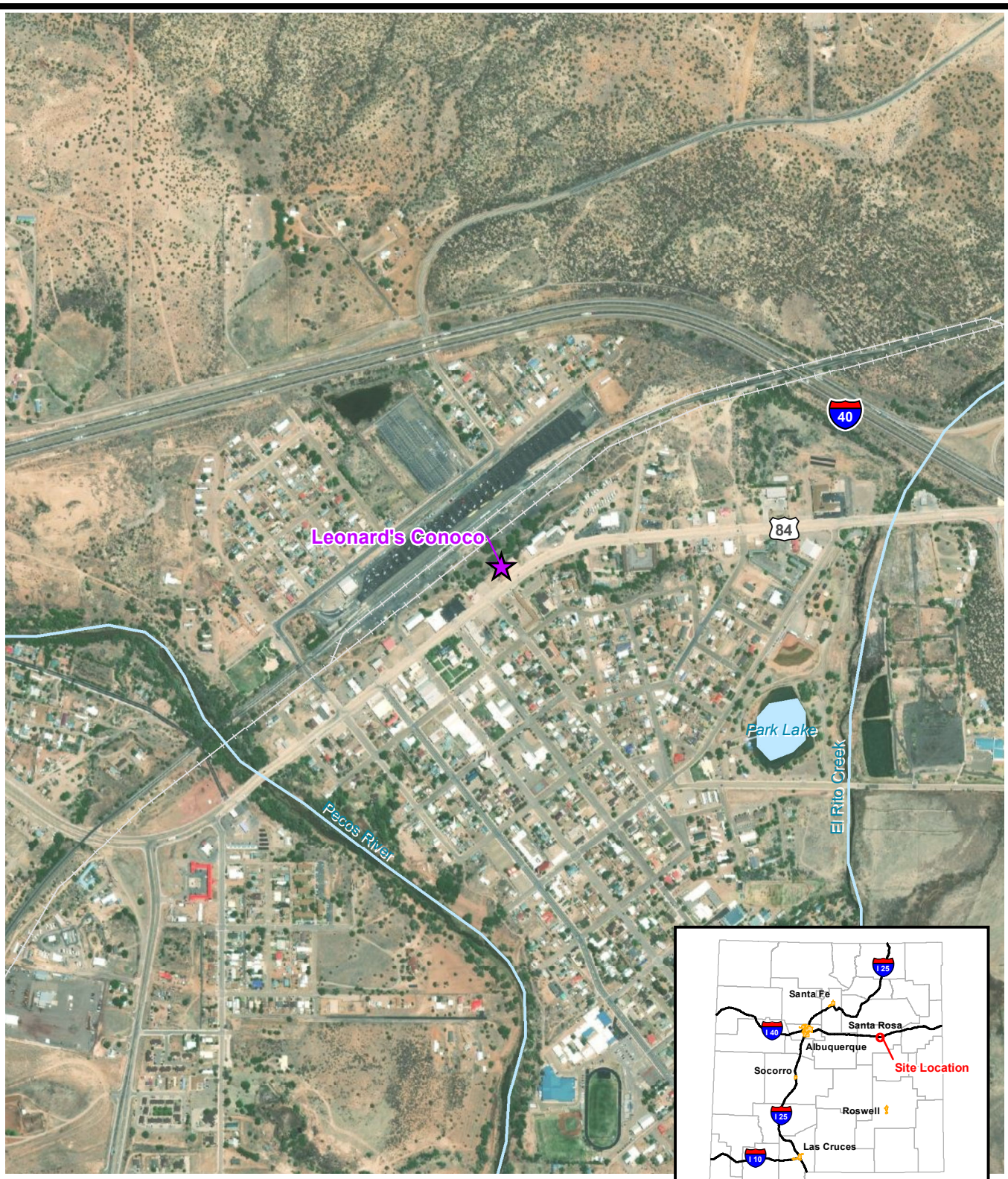
DANIEL B. STEPHENS & ASSOCIATES, INC.

John R. Bunch, P.G.
Senior Scientist

Patrice Feltman, P.G.
Geologist

PNF/JRB/rpf
Attachments

Figures



Source: Aerial image courtesy of ESRI ArcGIS Online and data partners, including imagery from agencies supplied via the Content Sharing Program

N

0 500 1000
Feet

S:\Projects\DB22.1024_Leonards_Conoco_Injection\GIS\MXDs\Fig01_Area_Map.mxd

DBS&A
Daniel B. Stephens & Associates, Inc.
5/4/2022 DB22.1024

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO
Area Map

Figure 1

Aerial image courtesy of Google Earth Pro., 10/9/2017

Explanation

- Monitor well
- PetroFix injection point
- Overhead electric line

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO
Site Map With Injection Points

Figure 2

DBS&A
Daniel B. Stephens & Associates, Inc.
9/13/2022
ES14.0052.10

S:\PROJECTS\ES14.0052_NMED_EMERGENCY_RESPONSE\ES14.0052.10_LEONARD'S CONOCO\GIS\MXDS\SITE_MAPS\FIG02_SITE_MAP_PROPOSED_INJECTION_LOCS_202209.MXD

Attachment 1

Vista Geoscience Report

DBS&A
Daniel B. Stephens & Associates, Inc.

Advanced Site Investigation &
Optimized In-Situ Remediation

September 12, 2022

John Bunch
Daniel B. Stephens & Associates, Inc.
6020 Academy Road NE, Suite 100, Albuquerque, NM 87109

E-Mail: jbunch@geo-logic.com

Re: Vista GeoScience Report No: 21275.01
Application of Regenesis© PetroFix for In-Situ remediation of contaminants at the Leonard's Conoco site located at 1633 U.S. Rte 66, Santa Rosa, NM 88435

Dear John:

Attached is our summary report of the Regenesis PetroFix in-situ remediation services at the above-referenced address. Please feel free to call us if you have any questions.

Regards,

David Fontana
dfontana@vistageoscience.com
Field Operations Manager
Direct Imaging Specialist

Vista GeoScience Project No: 21275.01

In-Situ Remediation Application of Regenesis© PetroFix at: Leonard's Conoco 1633 U.S. Rte 66, Santa Rosa, NM 88435

Prepared for:

DBS&A
Daniel B. Stephens & Associates, Inc.

September 12, 2022

Contents

1 OVERVIEW

Vista Geoscience (Vista) completed an in-situ remediation injection event at the property at 1633 U.S. Rte 66, Santa Rosa, NM 88435 to treat petroleum contaminants in the soil and groundwater. The design, provided by Regenesis, consisted of one area with a total of 400 lbs of PetroFix to be injected at a total of six locations. The 6 locations were spaced and distributed across the site at the discrepancy of Daniel B. Stephens & Associates (DBSA) personnel. The vertical treatment thickness was 10 feet for all locations and was placed between 10' and 20' bgs. Area 1 was to utilize 1,455 gallons of water, combined with 400 lbs of PetroFix, for a total slurry volume of 1,496 gallons to be injected. Twenty pounds of electron acceptor was also mixed in with the slurry and evenly distributed throughout the mixture. A 1.5" OD 2' sliding drill rod with 2' of perforated inner rod was utilized as the injection tool for the entirety of the injection event. As such, a bottom-up injection method was utilized for the entirety of the injection event.

Originally, the design proposed by Regenesis utilized a total of 1,600 lbs of PetroFix and a total of 25 injection locations. While the overall slurry volume, PetroFix volume, and number of locations were changed from the time of the initial design to the time of the injection event, the vertical treatment thickness and treatment depths did not change.

1.1 Site Map

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1.2 Treatment Application Tables

Below is the original design, provided by Regenesis, that called for 1,600 lbs of PetroFix distributed across 25 locations.

REGENESIS

Injection Grid Application Summary

Leonards Conoco
MW-1A

PetroFIX Remediation Fluid

PetroFix Amount	1,600 lb
Treatment Surface Area	900.0 ft²
Delivery Points	25
Point Spacing	6.0 ft
Top of Treatment Interval	10.0 ft bgs
Bottom of Treatment Interval	20.0 ft bgs
Vertical Treatment Interval Thickness	10.0 ft
Treatment Volume	333 yd³
PetroFix Dose	4.8 lb/yd³

Total Volume	6,732 gal
Product Volume	164 gal
Water Volume	6,569 gal
Injection Volume/Point	269 gal
Inject Volume/Vertical ft	27 gal
Product/Point	6.6 gal
Water/Point	262.7 gal
Soil Type	Mix of coarse and fine
Effective Pore Volume Fill %	50%

Mix Tank Volume*	275.0 gal
Dilution Factor*	41.11
PetroFix per Mix Tank	7 gal
Water per Mix Tank	268 gal
Electron Acceptor per Mix Tank	3 lb
Total Batches Required	24.48

Specific Area Notes
Native Soil Type: Mix of coarse and fine

Reported Ground Water Concentrations (µg/L)

Benzene	430	Naphthalenes	203
Toluene	0	MTBE	0
Ethylbenzene	0	TPH-GRO	1,075
Xylenes	0	TPH-DRO	0
Trimethylbenzenes	0	**Sum of Dissolved Concentrations:**	**1,278**

http://design.petrofix.com/results/area/2886/print 10/12/2021

2 INJECTION EVENT

2.1 Equipment Used

- Clean-Inject Injection System designed with two D35 high pressure Hydra-Cell pumps.
- Mixing Tank: One 275-gallon mixing tank.
- Power: 70kW pull behind generator.
- Cleanup Supplies: 16 gallon Rigid wet/dry shop vacuum.
- Injection Hoses: 1" ID 2,500 psi working pressure equipped with 1" quick disconnect fittings.
- Injection Monitoring: Digital pressure and digital flow gauge with graphs.
- Water Procurement: Hose for water supply was provided on site.
- Drill Rig: Track mounted Geoprobe, 7822DT series DPT/auger combination.
- Injection Tooling: 1.5" OD 2' sliding drill rod with 2' of perforated inner rod.

2.2 PPE and Safety

Each morning Daniel B. Stephens & Associates and Vista personnel conducted a tailgate safety meeting before work began. Any site hazards or unsafe working conditions were discussed and either mitigated or corrected. To enter the exclusion zone, qualified personnel was required to have a minimum of level D personal protective equipment (PPE). This included a hard hat, hearing protection, Z87+ eye protection, adequate gloves, full length pants, and steel toe boots.

2.3 Injection Event

Vista personnel arrived on site and began injecting on August 30,' 2022. All injection locations were completed by the end of the day on August 30, 2022. Injection refusal due to formation pressures was not experienced at any of the locations. Minor surfacing occurred at most of the locations. Which locations experienced surfacing and approximate quantities are noted in the notes section of the injection logs in Section 3 of this report. In cases of uncontrollable or unavoidable surfacing, the injection was halted, and adjustments to injection volumes and product placement were made, if necessary. Any changes to volume placement of the PetroFix are detailed in Section 3 of this report in the injection log notes. In some cases, product volumes were adjusted to minimize product surfacing by decreasing the injection volume at the location or intervals that experienced surfacing and subsequently increasing the injection volume at other locations or intervals.

The injection intervals consisted of 2' vertical intervals, starting at the bottom most interval and subsequently injecting into every 2 feet above the last, deeper interval for the entirety of each injection location. This method in injection is commonly referred to as a bottom-up injection method. At one location, injection location 05, the inner rod broke at an unknown depth while advancing the injection tooling, prior to any slurry being injected at that location, and the injection rod became clogged with soil. As a result, the injection pump initially experienced injection refusal, but the refusal was a result of the rod being clogged with soil and not a result of tight subsurface formations. To remedy the situation, the injection crew offset the injection location and re-drilled with new tooling to the target depths

according to the injection design, after which the injection event occurred as recorded in the injection logs in Section 3 of this report.

All injection boreholes were backfilled with Bentonite crumbles and patched to match the existing ground surface after each injection borehole was completed.

After the injection was completed, Vista personnel cleaned the site using a pressure washer and wet/dry shop vacuum.

3 INJECTION LOGS

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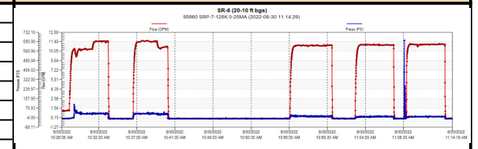
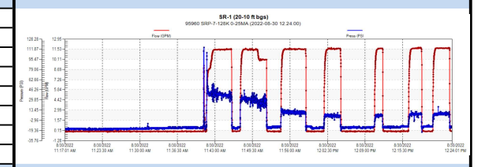
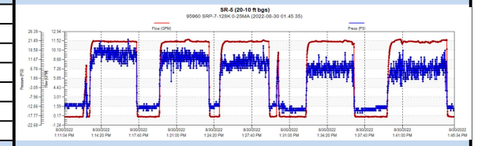
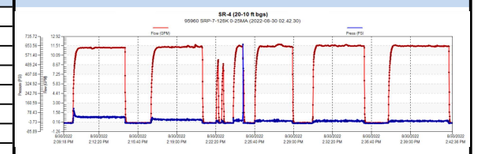
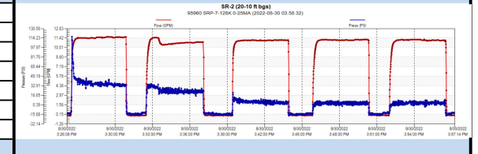
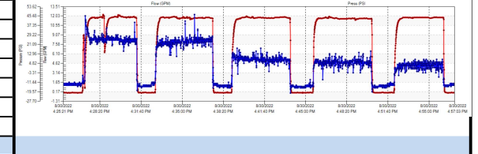
Injection Log

Project No.:	21275.01		PetroFix	Inj. Rig:	VGS-43 Enclosed 2-Axle w/ Clean-Inject - Black (Trailer -
Client:	Daniel B. Stephens & Ass.	Injected Products:	Electron Acceptor	Drill Rig:	VGS-38 7822DT Geoprobe
Site Address:	1633 U.S. Rte 66, Santa Rosa, NM			Drill Rig:	
				Date:	8/30/2022
				Crew	BA/FG/JM

Injection location ID	Start Time	End Time:	Interval (Ft. BGS)	PetroFix (gal)	Electron Acceptor (lbs)					Mixed H2O (gal)	Cumulative Injected (gal)	Avg PSI	Avg. Flow Rate (gpm)	Notes/Comments:	Flow & pressure Graphs
SR-6	10:29	10:33	20<18	1.4	0.5					48.6	50	34	11	Pump at 18 Hz	
	10:36	10:41	18<16	1.4	0.5					48.6	50	35	11	surfacing from borehole approx 2 gal, shop vac dead. Go buy new one	
	10:55	11:00	16<14	1.4	0.5					48.6	50	12	11		
	11:02	11:07	14<12	1.4	0.5					48.6	50	8	11		
	11:08	11:13	12<10	1.4	0.5					48.6	50	7	11		
				7	2.5	0	0	0	0	243	250				
SR-1	11:41	11:45	20<18	1.4	0.5					48.6	50	42	11		
	11:47	11:52	18<16	1.4	0.5					48.6	50	36	11		
	11:54	11:58	16<14	1.4	0.5					48.6	50	14	11		
	12:01	12:12	14<12	1.4	0.5					48.6	50	8	11	surfacing from borehole, approx 5 gal, vacuum up and reinject	
	12:15	12:23	12<10	1.4	0.5					48.6	50	11	11	surfacing from borehole, approx 3 gal per 26 injected, stop to empty vacuum	
				7	2.5	0	0	0	0	243	250				
SR-5	13:13	13:17	20<18	1.4	0.5					48.6	50	18	11	screen didn't open, pull rod and try again, screened section broke off. Offset	
	13:19	13:24	18<16	1.4	0.5					48.6	50	15	11		
	13:24	13:29	16<14	1.4	0.5					48.6	50	16	11	surfacing from borehole approx 4 gal	
	13:32	13:36	14<12	1.4	0.5					48.6	50	11	11		
	13:39	13:45	12<10	1.4	0.5					48.6	50	14	11		
				7	2.5	0	0	0	0	243	250				
SR-4	14:10	14:14	20<18	1.4	0.5					48.6	50	44	11		
	14:16	14:21	18<16	1.4	0.5					48.6	50	22	11		
	14:25	14:29	16<14	1.4	0.5					48.6	50	10	11	leaking from joint between rods, pull top rod and start again	
	14:30	14:35	14<12	1.4	0.5					48.6	50	11	11		
	14:37	14:42	12<10	1.4	0.5					48.6	50	9	11		
				7	2.5	0	0	0	0	243	250				
SR-2	15:26	15:31	20<18	1.4	0.5					48.6	50	39	11	Generator went into regen had to stop	
	15:32	15:37	18<16	1.4	0.5					48.6	50	31	10		
	15:39	15:44	16<14	1.4	0.5					48.6	50	11	11		
	15:46	15:50	14<12	1.4	0.5					48.6	50	9	11		
	15:52	15:56	12<10	1.4	0.5					48.6	50	8	11		
				7	2.5	0	0	0	0	243	250				
SR-3	16:27	16:32	20<18	1.4	0.5					48.6	50	31	11		
	16:32	16:37	18<16	1.4	0.5					48.6	50	30	11		
	16:39	16:43	16<14	1.4	0.5					48.6	50	10	11		
	16:45	16:50	14<12	1.4	0.5					48.6	50	12	11		
	16:52	16:56	12<10	1.4	0.5					48.6	50	7	11		
														fresh water flush	
				7	2.5	0	0	0	0	243	250				
6				42.00	20.00	0.00	0.00	0.00	0.00	1458.00	1500.00	18.8333	10.9666667		

Rocky Mountain Location:
130 Capital Dr. STE C, Golden, CO 80401
Office: 303.277.1694 Fax: 303.278.0104

Gulf Coast Location:
2800 Broadway STE C #428
Pearland, TX 77581
Office: 281.310.5560 Fax: 281.746.6272

Attachment 2

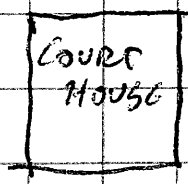
Field Notes

DBS&A
Daniel B. Stephens & Associates, Inc.

8/30/22 J. Fisher

0800 Onsite. Weather is Mild (~70°F), P. Cloudy, Calm. It rained at the site overnight.

0808 Mista (John, Ben, & Francisco) onsite. Set up to begin drilling.



0904 Groundhog onsite.

0925 Begin Drilling Injection Point 6.

0940 Drilled To 21'. Injection Screen is @ 18'-20'. See Form For Details.

1039 Begin Injection. See Form For Details.

1115 1st Inj. Point Done.

1129 Begin Drilling ~~#2~~ #4.

1142 Begin Injection on ~~#4~~.

~~1303~~ 1230 Inj. Complete @ ~~#4~~.

1236 Begin Drilling ~~#5~~ #3

1248 Start Injecting #3.

1350 Start Drilling #2

1445 Inj Complete @ #2.

1455 Begin Drilling #5.

8/30/22

1515	Begin Injection @ #5.
1602	Injection Complete @ #5.
1610	Begin Drilling #6.
1618	Begin Injection @ #6.
1650	Injection Complete @ #6.
1715	Begin Cleanup, Packing up.
1730	Offsite-

8/30/22

Amendment Injection Field Sheet

Project Name: Leonard's Conoco	Date: 8/30/22
Project No.: ES14,0052.10	Contractor: Vista Geo Science
Injection Type: Well ☐ Direct push ☑ Other ☐	Well ID: NA
Injection product: PetroFix	
Static Water Level: ~15'	Observation Wells: NA

Time	Volume (gallons)	Injection Pressure (psi)	Comment
1029	50	35	#1 - 18'-20'
1040	50	35	#1, 16'-18'
1052	50	20	#1, 14'-16'
1100	50	10	#1, 12'-14'
1108	50	<10	#1, 10'-12'
1142	50	35	~~#1~~, 18'-20' #4
1148	50	35	~~#1~~, 16'-18' #4
1154	50	15	~~#1~~, 14'-16' #4
1200	50	<10	~~#1~~, 12'-14' #4
1208	50	<10	~~#1~~, 10'-12' #4
1248	50	35	#3 18-20
1257	50	35	16-18
1310	50	20	14-16
1322	50	10	12-14
1335	50	<10	10-12
1415 ~~1405~~	50	35	#2 18-20
1422	50	35	16-18
1429	50	20	14-16
1435	50	10	12-14
1440	50	<10	10-12
~~1540~~ 1515	50	35	#5 18-20
1526	50	35	16-18
1536	50	20	14-16
1545	50	10	12-14
1555	50	<10	10-12
1618	50	35	#6 18-20
1625	50	35	16-18
1630	50	20	~~14-16~~ ~~14-18~~ 14-16
1635	50	10	12-14 ~~12-16~~

Time	Volume (gallons)	Injection Pressure (psi)	Comment
1640	50	<10	#6, ~~10-12~~ ~~12-14~~
~~1640~~	~~50~~		~~#6, 10-12~~

Notes:

Attachment 3

Photographs

DBS&A
Daniel B. Stephens & Associates, Inc.

1. Vista set up to begin injection at IP-2

2. Vista's injection truck and trailer (view to south)

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO
Photographs

3. Vista personnel preparing PetroFix for injection

4. Geoprobe and trailer (view to southeast)

LEONARD'S CONOCO
SANTA ROSA, NEW MEXICO
Photographs