

July 15, 2016

Ms. Jaclynne Drummond  
Compliance Hydrogeologist  
2090 US HWY 70  
Swannanoa, NC 28778

**RE: Avery County C&D Groundwater Resample  
Spruce Pine, NC**

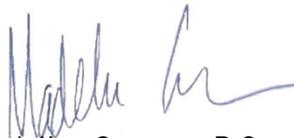
Dear Ms. Drummond:

Smith Gardner, Inc. (S+G) on behalf of Avery County is pleased to present this brief letter report summarizing the resampling of well CDMW-3S at the Avery County C&D Landfill (Permit No. 0603) in Spruce Pine, NC. Based on the reported detection of vinyl chloride at a concentration above its 2L Standard in the sample collected from CDMW-3S during the April sampling event, S+G performed additional sampling at that location on June 28, 2016.

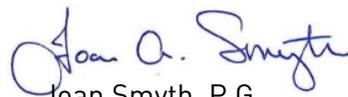
Laboratory results indicated the vinyl chloride concentration in April was not indicative of groundwater conditions at the C&D landfill facility. Vinyl chloride was not detected at the CMDW-3S location in the sample collected in June. Historically vinyl chloride has not been detected at this location. The analytical data for this resampling event is **attached**. We will continue semi-annual detection monitoring at this facility based on this result.

Please contact us with questions or comments at 919-828-0577 or by email below.

Sincerely,  
**SMITH GARDNER, INC.**



Madeline German, P.G.  
Project Geologist  
[madeline@smithgardnerinc.com](mailto:madeline@smithgardnerinc.com)



Joan Smyth, P.G.  
Senior Hydrogeologist  
[joan@smithgardnerinc.com](mailto:joan@smithgardnerinc.com)

Attachment

cc: Eric Foster, Avery County  
File

## Report of Analysis

**Smith Gardner, Inc.**  
14 North Boylan Avenue  
Raleigh, NC 27603  
Attention: Madeline German

Project Name: **Avery County C&D Landfill**

Lot Number: **RF29027**  
Date Completed: **07/01/2016**



**Kelly M. Nance**  
Project Manager



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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

# SHEALY ENVIRONMENTAL SERVICES, INC.

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SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

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## **Case Narrative** **Smith Gardner, Inc.** **Lot Number: RF29027**

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This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

# SHEALY ENVIRONMENTAL SERVICES, INC.

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## Sample Summary Smith Gardner, Inc. Lot Number: RF29027

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	CDMW-3s	Aqueous	06/28/2016 1650	06/29/2016

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(1 sample)

# SHEALY ENVIRONMENTAL SERVICES, INC.

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**Executive Summary**  
**Smith Gardner, Inc.**  
**Lot Number: RF29027**

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Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
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(0 detections)

# Volatile Organic Compounds by GC/MS

Client: <b>Smith Gardner, Inc.</b>	Laboratory ID: <b>RF29027-001</b>
Description: <b>CDMW-3s</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>06/28/2016 1650</b>	
Date Received: <b>06/29/2016</b>	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2016 0452	ECP		16692

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Vinyl chloride	75-01-4	8260B	ND		1.0	0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		83	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      H = Out of holding time  
 ND = Not detected at or above the MDL      J = Estimated result < PQL and ≥ MDL      P = The RPD between two GC columns exceeds 40%      N = Recovery is out of criteria  
 Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

## QC Summary

# Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ16692-001

Matrix: Aqueous

Batch: 16692

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Vinyl chloride	ND		1	1.0	0.50	ug/L	06/30/2016 2124
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		96	70-130				
1,2-Dichloroethane-d4		85	70-130				
Toluene-d8		106	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and  $\geq$  MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

Shealy Environmental Services, Inc.

106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Page: 7 of 8

# Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ16692-002

Matrix: Aqueous

Batch: 16692

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Vinyl chloride	50	45		1	90	70-130	06/30/2016 2024
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		96	70-130				
1,2-Dichloroethane-d4		80	70-130				
Toluene-d8		105	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and  $\geq$  MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

**Chain of Custody  
and  
Miscellaneous Documents**

# SHEALY ENVIRONMENTAL SERVICES, INC.

**SHEALY ENVIRONMENTAL SERVICES, INC.**  
 106 Vantage Point Drive • West Columbia, SC 29172  
 Telephone No. 803-791-9700 Fax No. 803-791-9111  
 www.shealylab.com

Number **62023**

## Chain of Custody Record

Client <b>S + G</b>	Report to Contact <b>Madeline German</b>	Telephone No. / E-mail <b>Madeline Smith of American Lab</b>	Quote No. <b>COM</b>																				
Address <b>614 off Rd</b>	Sampler's Signature <i>[Signature]</i>	Analysis (Attach list if more space is needed)																					
City <b>Cola</b>	Printed Name <b>Britt Ransom</b>	Page <b>1</b> of <b>1</b>																					
State <b>SC</b>	Zip Code <b>29205</b>	 <b>RF29027</b> Residual/Dealer I.D.																					
Project Name <b>Avery County NC</b>	Project No. <b>Avery CID Landfill</b>																						
Sample ID / Description <b>CID MW - 35</b>	Date <b>6/28</b>	<b>Rept Vidyl chloride only</b>																					
(Containers for each sample may be combined on one line.)	Time <b>16:50 GV</b>																						
Matrix: <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> </table>		MS	MS	MS	MS	MS	MS	MS	MS	MS	MS	No. of Containers by Preservative Type: <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> <tr><td>MS</td><td>MS</td></tr> </table>		MS									
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Turn Around Time Required (Prior lab approval required for expedited MAT.) <input type="checkbox"/> Standard <input type="checkbox"/> Rush (Specify)		Possible Hazard Identification: <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown																					
1. Relinquished by <b>Britt Ransom</b> Date <b>6/27/16</b> Time <b>12:50</b>		1. Received by Date Time																					
2. Relinquished by		2. Received by Date Time																					
3. Relinquished by		3. Received by Date Time																					
4. Relinquished by		4. Laboratory received by <b>Young Dadd</b> Date <b>6/29/16</b> Time <b>12:50</b>																					
Note: All samples are retained for four weeks from receipt unless other arrangements are made.																							
LAB USE ONLY Received on lab (Circle) <b>Yes</b> No <input type="checkbox"/>		Receipt Temp. <b>8.6</b> °C																					

# SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.  
Document Number: ME0018C-04

Page 1 of 1  
Effective Date: 02/05/2016  
Expiry Date: 02/05/2021

## Sample Receipt Checklist (SRC)

Client: S+G Cooler Inspected by/date: JAZ 16/29/16 Lot #: RF29027

Means of receipt: <input type="checkbox"/> SESI <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other		
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	1. Were custody seals present on the cooler?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	2. If custody seals were present, were they intact and unbroken?
pH strip ID: <u>NA</u> CI strip ID: <u>NA</u>		
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: <u>18.6/18.6</u> °C / / °C / / °C / / °C		
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: <u>6</u> IR Gun Correction Factor: <u>0</u> °C		
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> Dry Ice <input type="checkbox"/> None		
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM was notified by: phone (email) face-to-face (circle one). <u>*</u>
Yes <input type="checkbox"/>	No <input type="checkbox"/>	4. Is the commercial courier's packing slip attached to this form?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	5. Were proper custody procedures (relinquished/received) followed?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	6. Were sample IDs listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	7. Were sample IDs listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	8. Was collection date & time listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	9. Was collection date & time listed on all sample containers?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	10. Did all container label information (ID, date, time) agree with the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	11. Were tests to be performed listed on the COC?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	13. Was adequate sample volume available?
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	15. Were any samples containers missing/excess (circle one) samples not listed on COC?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	16. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	20. Were collection temperatures documented on the COC for NC samples?
Yes <input type="checkbox"/>	No <input type="checkbox"/>	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	22. Was the quote number used taken from the container label?
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub> , HCl, NaOH) using SR # _____.		
Sample(s) _____ were received with bubbles >6 mm in diameter.		
Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: _____.		
SC Drinking Water Project Sample(s) pH verified to be ≥2 by _____ Date: _____		
Sample(s) _____ were not received at a pH of <2 and were adjusted accordingly using SR# _____		
Sample labels applied by: <u>JAZ</u> Verified by: _____ Date: <u>6/29/16</u>		

Comments: \*Client notified - proceed w/ analysis. KUN