

December 10, 2013

Jaclynne Drummond  
Compliance Hydrogeologist  
Solid Waste Section  
Division of Waste Management  
1646 Mail Service Center  
Raleigh, NC 27699-1646

Re: **Landfill Gas Migration Corrective Action – Gas Vent Installation  
Town of Kernersville Landfill (#34-04)  
Forsyth County, NC**

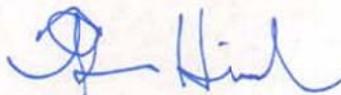
Dear Ms. Drummond:

On behalf of The Town of Kernersville, Joyce Engineering Inc. (JOYCE), is submitting this installation report for installation of three passive gas vents, GV-1, GV-2 and GV-3, completed on November 20-21, 2013. Vents were installed in accordance with the Landfill Gas Migration Corrective Action Plan submitted to you on September 9, 2013 and approved by you on October 21, 2013.

Borings for the three vents were advanced through refuse and soil to depths of 22 feet, 33 feet and 17 feet, respectively, using a 36-inch diameter bucket auger. Depth to bottom of refuse was 20 feet, 30 feet and 13 feet respectively. Six-inch PVC gas vents were assembled in each of the three borings. Boring logs and vent construction descriptions are provided on the attached logs. Approximate vent locations (pending survey) are shown on the attached site map. GV-3 had been proposed approximately 100 feet to the east of the final location, however, no refuse was encountered at that location.

Please feel free to contact me at (336) 323-0092 if you have any questions regarding this submittal.

Sincerely,  
**JOYCE ENGINEERING**



Larry Hinline, P.G.  
Technical Consultant

Attachments: Boring Logs for GV-1, GV-2 and GV-3  
Town of Kernersville Landfill Site Map

Cc: Thad Buck, Town of Kernersville  
Doran Maltba, Town of Kernersville

Kernersville closed landfill  
Kernersville, NC

JOYCE Project No. 838.1301.12 Task 06

Date Started : 11/20/13  
Date Completed : 11/20/13  
Hole Diameter : 36 inches  
Drilling Method : Bucket Augers

Drilling Company : Kellett's Well Boring Inc.  
Logged By : Dan Girdner

Depth in Feet	Surf. Elev.	Blow Count	% Rec.	USCS	DESCRIPTION	Well: GV-1 TOC Elev.:	Well Construction Information
0					top-soil, light, medium, and dry		<b>WELL CONSTRUCTION</b> Rig Type : Cat/IMT10 tracked Date Compl. : 11/20/13 Hole Diameter : 36 inches Drilling Method : Bucket Auger Company Rep. : Jason Childres  <b>WELL CASING</b> Material : Schedule 80 PVC Diameter : 6 inches Joints : Bell-glue and screws Approx. Csg. Stickup : 5-feet  <b>WELL SCREEN</b> Material : Schedule 80 PVC Diameter : 6-inch Opening : 0.50 inch  <b>GRAVEL PACK</b> Type : #57 Stone  <b>WELL SCREEN SEAL</b> Type : Bentonite  <b>ANNULUS SEAL</b> Type : Pipe Skirt  <b>PROTECTIVE CSG.</b> Type : n/a  <b>WELL PAD</b> Type : n/a
					soil cover, red clay and brown fill		
					msw, paper, and plastic		
5					msw, wood, and dark		
					msw, lumber		
10					msw, fabric		
15					msw		
20					msw dissentegrating rock, PWR, and sandy silt		
					total depth 21.5'		

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Logged By : Dan Girdner

JOYCE Project No. 838.1301.12 Task 06

Depth in Feet	Surf. Elev.	Blow Count	% Rec.	USCS	DESCRIPTION	Well: GV-2 TOC Elev.:	Well Construction Information
0					top-soil		<b>WELL CONSTRUCTION</b> Date Compl. : 11/20/13 Hole Diameter(s) : 36 inches Drilling Method(s) : Bucket Auger Company Rep. : Jason Childres  <b>WELL CASING</b> Material : Schedule 80 PVC Diameter : 6 inches Joints : Bell-glug and screws Approx. Csg. Stickup : 4.5-feet  <b>WELL SCREEN</b> Material : Schedule 80 PVC Diameter : 6-inch Opening : 0.50 inch  <b>GRAVEL PACK</b> Type : #57 stone  <b>WELL SCREEN SEAL</b> Type : Bentonite  <b>ANNULUS SEAL</b> Type : Pipe Skirt  <b>PROTECTIVE CSG.</b> Type : n/a  <b>WELL PAD</b> Type : n/a
					soil cover		
					msw, black paper, and plastic bits		
5							
					brown-grey silty clay soil		
					older msw dark grey soil with paper, plastic, and wood		
					red-brown clay fill		
					older msw plastic and paper		
20							
					msw, paper, fabric, and plastic		
					msw 30.0' - 32.9' PWR or stiff silty sand		
					total depth 33.0'		
35							

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Logged By : Dan Girdner

JOYCE Project No. 838.1301.12 Task 06

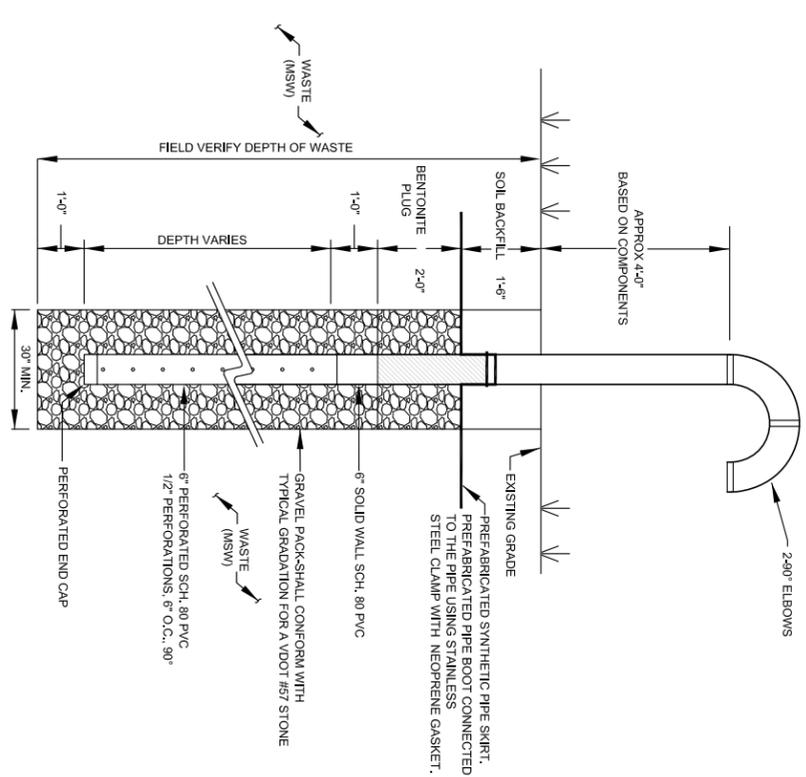
Depth in Feet	Surf. Elev.	Blow Count	% Rec.	USCS	DESCRIPTION	Well: GV-3 TOC Elev.:	Well Construction Information
0							<p><b>WELL CONSTRUCTION</b></p> <p>Rig Type : Cat IMT10 tracked Date Compl. : 11/20/13 Hole Diameter : 36 inches Drilling Method : Bucket Auger Company Rep. : Jason Childres</p> <p><b>WELL CASING</b></p> <p>Material : Schedule 80 PVC Diameter : 6 inches Joints : Bell-giue and screws Approx. Csg. Stickup : 4.5-feet</p> <p><b>WELL SCREEN</b></p> <p>Material : Schedule 80 PVC Diameter : 6-inch Opening : 0.50 inch</p> <p><b>GRAVEL PACK</b></p> <p>Type : #57 Stone</p> <p><b>WELL SCREEN SEAL</b></p> <p>Type : Bentonite</p> <p><b>ANNULUS SEAL</b></p> <p>Type : Pipe Skirt</p> <p><b>PROTECTIVE CSG.</b></p> <p>Type : n/a</p> <p><b>WELL PAD</b></p> <p>Type : n/a</p>
1							
2							
3					soil cover light brown sandy silt/fill		
4							
5					msw		
6							
7							
8							
9							
10							
11							
12					grey soil and trash		
13					more gray soil than msw plus gravel/old road		
14					red clay layer, intermediate layer		
15					red-orange sandy silt w/ abundant mica		
16							
17					total depth 17.0'		
18							



**LEGEND**

— 1130 —	EXISTING 10' TOPOGRAPHIC CONTOUR
— 773.55 —	EXISTING 2' TOPOGRAPHIC CONTOUR
---	PROPERTY LINE
---	EXISTING ROAD
---	APPROXIMATE LIMITS OF WASTE
---	CENTERLINE OF STREAM
○ SW-1	APPROXIMATE SURFACE WATER SAMPLING POINT LOCATION AND IDENTIFICATION
● MW-1	MONITORING WELL IDENTIFICATION AND WATER LEVEL READING
▲ GW-1	EXISTING LANDFILL GAS WELL
◇ GP-1	WASTE MANAGEMENT LANDFILL GAS PROBE
▼ GV-1	LANDFILL PASSIVE GAS VENT

- NOTES:**
1. SURVEY DATA FOR GUILFORD COUNTY DATED SEPTEMBER 2009, AND MARCH 2010.
  2. SURVEY DATA FOR FORSYTH COUNTY DATED OCTOBER, 2010.
  3. ALL SURVEY DATA OBTAINED FROM COUNTY GIS FILES.
  4. LIMITS OF WASTE ARE APPROXIMATE.



**LFG PASSIVE VENT**  
NOTES:

PROJECT NO. <b>838.1301.12</b> SCALE <b>AS SHOWN</b> DRAWING NO. <b>1</b>	TOWN OF KERNERSVILLE LANDFILL FORSYTH COUNTY, NORTH CAROLINA  <b>PASSIVE GAS VENT LOCATIONS</b>	 2211 W. MEADOWVIEW ROAD GREENSBORO, NC 27407 PHONE: (336) 323-0092 NC CORP LIC: C-0782	DESIGNED: TLH DRAWN: RWH CHECKED: TLH APPROVED: TLH DATE: 08/14/13  © 2013 Joyce Engineering, Inc. All rights reserved.	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISIONS AND RECORD OF ISSUE</th> <th>NO</th> <th>BY</th> <th>CK</th> <th>APP</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP						
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