

# 2014 Semiannual Groundwater Monitoring Report

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Prepared for  
Owens Corning  
Anderson, South Carolina  
July 30, 2014

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## List of Abbreviations

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1,1-DCA	1,1-dichloroethane	TCE	trichloroethene
1,2-DCA	1,2-dichloroethane	trans-1,2-DCE	trans-1,2-dichloroethene
1,1-DCE	1,1-dichloroethene	U.S. EPA	United States Environmental Protection Agency
1,1,1-TCA	1,1,1-trichloroethane	VOC	volatile organic compound
AES	Analytical Environmental Services, Inc.	Waterloo	Solinst Waterloo Multilevel Groundwater Monitoring System
bgs	below ground surface		
btoc	below top of casing		
cis-1,2-DCE	cis-1,2-dichloroethene		
COC	constituent of concern		
DO	dissolved oxygen		
EISOP/QAM	Environmental Investigations Standard Operating Procedures and Quality Assurance Manual		
EB	equipment blank		
ft	feet or foot		
gpm	gallons per minute		
µg/L	micrograms per liter		
MCL	maximum contaminant level		
NAVD88	North American Vertical Datum of 1988		
ORP	oxidation-reduction potential		
PCE	tetrachloroethene		
QA/QC	quality assurance/quality control		
RCRA	Resource Recovery and Conservation Act		
RFI	RCRA Facility Investigation		
RL	reporting limit		
SCDHEC	South Carolina Department of Health and Environmental Control		
SESDPROC	Science and Ecosystem Support Division Groundwater Sampling Procedure		
SWMU	Solid Waste Management Unit		

# Professional Geologist Certification

The 2014 Semiannual Groundwater Monitoring Report has been prepared under the direction and supervision of a qualified, State of South Carolina licensed, Professional Geologist. Mr. Reinhard Ruhmke, P.G., of Brown and Caldwell was responsible for the overall preparation of the report.



Reinhard Ruhmke, P.G.  
Managing Geologist  
South Carolina Professional Geologist #2469

July 30, 2014

Date



## Section 1

# Introduction

This 2014 Semiannual Groundwater Monitoring Report (Report) was prepared by Brown and Caldwell on behalf of the Owens Corning Anderson (Owens Corning), South Carolina facility for submittal to the United States Environmental Protection Agency (U.S. EPA) in accordance with the October 1989 Consent Order (89-34-R) with the U.S. EPA under Section 3008(h) of the Resource Recovery and Conservation Act (RCRA). This Report summarizes the February and May 2014 quarterly groundwater monitoring events and the May 2014 semiannual residential well monitoring event. The Consent Order requires that Owens Corning perform annual groundwater monitoring, and in 2005, the EPA required that quarterly groundwater monitoring be conducted for select bedrock wells located in the Northeast Area (MW-15, MW-22, and MW-29R). Since that time, additional bedrock monitoring wells (MW-35, MW-36, MW-37, MW-38, MW-39, MW-41, MW-42, MW-43 and MW-44) have been installed and were included in the two quarterly monitoring events reported herein. In 2009, EPA required Owens Corning to conduct semiannual monitoring of select residential wells located northeast of the Site.

Section 1 of this Report presents an introduction and Section 2 summarizes the groundwater monitoring activities. Section 3 provides and discusses the analytical results and Section 4 provides conclusions. Appendices to this document contain the groundwater sampling field forms, laboratory analytical reports and historical groundwater data.

The Owens Corning facility is situated on approximately 160 acres of land located at 4837 Highway 81 South in Starr, South Carolina within Anderson County (Site). As shown on Figure 1, the property is bounded to the west by Highway 81 South, True Temper Road to the north, Keys Street to the east, and Harry Drive to the south. Over time Owens Corning has acquired additional properties located adjacent to or near the northeast corner of the original plant property. These properties are also shown on Figure 1 and include the northwest and southeastern corners of the intersection of Keys Street and True Temper Road, and the former Hall Property located to the north of True Temper Road and along Betsy Creek. The facility is located approximately 4 miles south of the town of Anderson.

The facility began its composite systems business operations in 1951 and since then has engaged in the production of glass fiber reinforcements and similar materials for composite systems. Historical manufacturing processes involved a variety of chemicals, including acids and solvents, some of which were inadvertently released to the environment and resulted in significant Site investigation work that has been reported to the U.S. EPA and the South Carolina Department of Health and Environmental Control (SCDHEC).



## Section 2

# Groundwater Assessment

Brown and Caldwell personnel performed the first and second quarter groundwater monitoring events between February 24 and 28, 2014, and May 19 and 22, 2014, respectively. Section 2 provides an overview of these events and includes detailed information on Site hydrogeology and aquifer characteristics, groundwater sampling locations, sampling procedures and analytical methods.

## 2.1 Subsurface Geology

The Owens Corning Site is located within the Inner Piedmont Belt of the Piedmont Geologic Physiographic Province that is characterized by moderate to high-grade metamorphic rocks of Precambrian to early Paleozoic age. The bedrock in the vicinity of the Site is granitic gneiss which is overlain by overburden comprised of clay and silt soil, and saprolite. The saprolite exhibits some structural characteristics of the parent rock material such as foliation and fracturing. The thickness of the soil and saprolite unit beneath the Site ranges from approximately 5 to 100 feet. The primary lineaments and fracture zones beneath the Site trend in a northeast and southwest orientation (LeGrand and Furcron, 1956). A more detailed description of the subsurface geology beneath the Site can be found in the *Supplemental RCRA Facility Investigation (RFI) Report* (Brown and Caldwell, 2009), which was prepared by Brown and Caldwell on behalf of Owens Corning for submittal to the U.S. EPA.

## 2.2 Aquifer Characteristics

At the Site, groundwater is present in both the overburden/saprolite unit and the bedrock unit. Water level measurements were collected from 35 wells during each of the quarterly monitoring events in February and May 2014 as identified in Tables 1 and 2, respectively. Refer to the Site Map as Figure 1 to identify well locations. This information was used to calculate groundwater elevations and prepare potentiometric maps for the overburden and bedrock aquifers for the February (Figures 2 through 6) and May (Figures 7 through 11) 2014 monitoring events. Ground surface and top of casing elevations are provided in Table 3 and depth to water and groundwater elevations are provided in Tables 1 and 2.

Based on the monitoring well measurements from February 2014, groundwater levels in the overburden aquifer ranged from 4.24 (MW-11) to 23.41 (TW-46) feet below top of casing (btoc) and from 775.98 to 793.17 feet in elevation [North American Vertical Datum of 1988 (NAVD88)]. Measurements from the same time period taken from wells in the bedrock aquifer exhibit heads ranging from 0.15 foot above the top of the casing (MW-38 Zone 2) to 48.37 feet btoc (MW-39 Zone 3) and from 757.83 to 771.33 feet in elevation (NAVD88). In May 2014, the groundwater levels in the overburden aquifer ranged from 4.74 (MW-11) to 23.23 (TW-46) feet btoc and from 775.48 to 793.35 feet in elevation (NAVD88). Measurements from wells in the bedrock aquifer exhibit hydraulic heads ranging from 0.06 foot above top of casing (MW-38 Zone 2) to 49.26 feet btoc (MW-39 Zone 3) and from 771.24 to 756.94 feet in elevation (NAVD88). The variation in head in the bedrock aquifer is highly dependent on both the elevation and fractures present in the wells' screened interval.

Based on the February 2014 data, groundwater onsite in both the overburden and bedrock aquifers flows toward the fracture zones associated with Betsy Creek, giving an east-northeasterly gradient. This is consistent with the historical groundwater flow direction with the exception that groundwater from solid waste management unit (SWMU)-9 was previously shown flowing more to the north than the northeast.

Measurements from the bedrock aquifer wells offsite indicate that flow direction continues to align with Betsy Creek as the stream turns toward the north-northeast in the area of MW-35. The magnitude of the horizontal gradient onsite varies depending on the aquifer and fracture zone. Based on the May 2014 data, calculated horizontal gradients are as follows: 0.0157 feet/foot (ft/ft) in the overburden (calculated between MW-21 and MW-23); 0.0149 ft/ft in the bedrock aquifer in the 699 to 740 feet (NAVD88) zone (calculated between MW-27 and MW-41 Zone 1); 0.0250 ft/ft in the bedrock aquifer in the 632 to 699 feet (NAVD88) zone (calculated between MW-15 and MW-22); 0.0120 ft/ft in the bedrock aquifer in the 574 to 630 feet (NAVD88) zone (calculated between MW-19 and MW-41 Zone 2); 0.0077 ft/ft in the and bedrock aquifer in the 430 to 530 feet (NAVD88) zone (calculated between MW-37 Zone 3 and MW-41 Zone 3). The following vertical gradients were also observed: a downward gradient of 0.0322 ft/ft across the overburden/bedrock aquifer (calculated between MW-12 and MW-19); and an upward gradient of 0.0151 ft/ft at the intersection of Keys Street and True Temper Road across the overburden/bedrock aquifer (calculated between MW-21 and MW-38 Zone 2).

The interim corrective measures bedrock hydraulic containment system started up on November 3, 2011. The system currently pumps groundwater from one (EW-1) of two bedrock extraction wells. EW-1 is located approximately 250 feet north of the intersection between Keys Street and True Temper Road (Figure 1) and has total depth of 450 feet below ground surface (bgs). The pump intake is at 425 feet bgs and currently withdraws groundwater at a rate of approximately 27 gallons per minute (gpm). The hydraulic containment system was active during the February and May groundwater sampling events, which affected the February and May 2014 potentiometric surfaces in all bedrock zones (Figures 3 through 6 and 8 through 11). Additional information regarding the interim corrective measures system was reported in the *Q1 2014 – Interim Corrective Measures Performance Monitoring Report* that was submitted to the U.S. EPA and SCDHEC in June 2014. At some point the second extraction well, EW-2, may be used depending on the performance of extraction well EW-1.

Based on the May 2014 data, groundwater flow in the overburden aquifer was consistent with previous sampling events flowing towards the fracture zones associated with Betsy Creek, giving an east-northeasterly gradient. The overburden aquifer was unaffected by the active pumping of extraction well EW-1 as a surface casing was installed. Groundwater flow in the bedrock aquifer generally follows the same east-northeasterly gradient along the Betsy Creek fracture zones. However, due to the pumping associated with the hydraulic containment system, varying amounts of drawdown were observed in bedrock wells in the vicinity of EW-1. The amount of drawdown is dependent on the interconnectivity between the fracture system in the bedrock zone in which the wells are screened and the fracture system in the open borehole extraction well, EW-1. The distribution of drawdown within the bedrock system was used to aid in developing the bedrock groundwater potentiometric surfaces presented on Figures 8 through 11.

## 2.3 Groundwater Monitoring Wells

The quarterly groundwater monitoring program includes 12 bedrock monitoring wells (MW-15, MW-22, MW-29R, MW-35, MW-36, MW-37, MW-38, MW-39, MW-41, MW-42, MW-43, and MW-44) and is sufficient to monitor for any changes in the plume. As previously discussed, MW-33 has been removed from the quarterly and annual groundwater monitoring program because it was converted to one of the groundwater extraction wells (EW-1) for the ICM hydraulic containment system and MW-34 is no longer operational and therefore, is not part of the quarterly and annual groundwater monitoring program. Refer to Table 3 for the well construction details and monitoring frequency of each of the wells, and Figure 1 for the well locations. Multiple water-bearing zones were gauged and sampled in bedrock wells MW-29R, MW-36, MW-37, MW-38, MW-39, MW-41, MW-42 and MW-43 (Tables 1 and 2).

## 2.4 Groundwater Sampling Procedures

On February 24 and May 19, 2014, depth to groundwater measurements were collected from the 12 bedrock monitoring wells of which eight have multiple water bearing zones. Water levels were also measured in monitoring wells: MW-3, MW-4, MW-6, MW-11 through MW-14, MW-16, MW-19, MW-21, MW-23, MW-25, MW-26, MW-27, P1, P2, Alloy, TW-40, TW-41, TW-42, TW-43, TW-44, and TW-46. The water level meter was decontaminated between wells with an Alconox® solution and rinsed with distilled water.

Sampling procedures were performed in the same manner as the previous monitoring events. Prior to collecting groundwater samples from the wells, the wells were purged using a low-flow submersible electric pump and/or bladder pump. The Solinst Waterloo Multilevel Groundwater Monitoring System (Waterloo) monitoring zones were purged and sampled using their dedicated compressed air driven stainless steel double valve pumps. Groundwater was pumped at an approximate rate of 0.25 gpm through new or dedicated polyethylene tubing equipped with a field-calibrated, in-line YSI® 556 meter to measure field parameters: pH, temperature, specific conductance, oxidation-reduction potential (ORP), and dissolved oxygen (DO). Turbidity was measured using a HF® Scientific DRT-15CE turbidity meter. Purging was considered complete when at least three of the field parameters had stabilized. Groundwater samples were collected when pH, temperature and specific conductance had stabilized as defined in U.S. EPA's Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOP/QAM), November 2001 and Science and U.S. EPA's Ecosystem Support Division Groundwater Sampling Procedure (SESDPROC-301-RO), February 2007. Groundwater sampling field data sheets documenting the purging activities are included as Appendix A.

Groundwater samples were collected from the wells using the same low-flow pump that was used for purging. The pump was decontaminated between sample locations using an Alconox® solution and rinsed with distilled water. The groundwater samples were labeled, containerized, documented, placed into a cooler containing ice and chilled to approximately 4 degrees Celsius (temperatures verified by laboratory and are reported in the laboratory analytical report in Appendix B). Clean sample containers were provided by the analytical laboratory. Monitoring wells were sampled from least contaminated to most contaminated, based on previous groundwater monitoring data, to minimize the potential for carryover and cross-contamination between wells.

## 2.5 Residential Well Sampling Procedures

During the May 2014 quarterly sampling event, 11 residential wells were sampled (Figure 12). The residential wells were sampled in accordance with methods described in U.S. EPA's Field Branches Quality System and Technical Procedures. The residential wells located at 335 Elrod Road and 605 Clinkscapes Road were not sampled due to inoperable pumps. Wells that pumped into a holding tank were purged of at least one tank volume (generally 15 to 20 gallons) prior to sampling. After purging, the samples were collected at a low flow rate from the spigot connected to the holding tank. Wells that did not utilize a holding tank were also purged of approximately 15 to 20 gallons and sampled directly from the well head. Water quality parameters such as pH, conductivity, temperature, DO, ORP, and turbidity were measured during purging and recorded on groundwater sampling forms which are included in Appendix A. The groundwater samples were labeled, containerized, documented, placed into a cooler containing ice and chilled to about 4 degrees Celsius (temperatures verified by laboratory and are reported in the laboratory analytical report in Appendix B).

Following laboratory analysis, data validation was performed by BC to ensure that the generated data were of acceptable quality such that appropriate decisions could be made. Data validation included a quality control review of the field and laboratory generated data and intended to answer questions such as:

- Were field procedures, including sample collection, handling and storage properly followed?
- Do the reported data include all requested analytical results for all samples collected?
- Were the correct analytical methods used and reported?
- Are there any anomalous results?
- Were results for QA/QC samples acceptable?

Validation for the groundwater data was performed and included a review of field notes, sample holding times, blank contamination, spike recoveries, and duplicate precision; it also included qualifying the data, if problems were found. According to the data validation process, all groundwater data are usable. Estimated values are identified in data tables by the appropriate qualifiers.

Once the analytical data were validated, a letter documenting the results for each well owner was prepared and mailed to each well owner by Brown and Caldwell.

## 2.6 Analytical Procedures

Groundwater and residential well samples were submitted to Analytical Environmental Services, Inc. (AES) of Atlanta, Georgia for analysis of the focused list of volatile organic compounds (VOCs) using U.S. EPA Method 8260B. The focused list of VOCs included tetrachloroethene (PCE); trichloroethene (TCE); 1,1,1-trichloroethane (1,1,1-TCA); 1,1-dichloroethane (1,1-DCA); 1,2-dichloroethane (1,2-DCA); 1,1-dichloroethene (1,1-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); vinyl chloride; carbon tetrachloride; chloroform; methylene chloride; benzene; toluene; ethylbenzene and xylenes.

## 2.7 Quality Assurance/Quality Control

The groundwater sampling was performed in accordance with U.S. EPA's EISOP/QAM, November 2001 and U.S. EPA's SESDPROC-301-RO, February 2007. To assess the quality of the sampling program, duplicate samples were collected (approximately one sample for every 20 samples) and analyzed for the focused list of VOCs. Two duplicate samples were collected during the February sampling event and three during the May sampling event. An evaluation of the analytical results for the duplicate samples showed that the reported constituents and concentrations were similar. Three equipment blanks (EBs) were collected during both the February and May sampling to determine the efficacy of non-dedicated equipment decontamination activities. The EB samples were obtained by collecting distilled water passed through or over decontaminated equipment. Trip blanks, provided by AES, were in all coolers and were submitted for analysis with the groundwater samples. The EB and trip blank samples were analyzed for the same constituents as the groundwater samples. No detections were found in any of the EB or trip blank samples. The analytical reports for these samples are provided in Appendix B.

Validation for the groundwater data was performed and included a review of field notes, sample holding times, blank contamination, spike recoveries, and duplicate precision; it also included qualifying the data, if problems were found. According to the data validation process, all groundwater data are usable. Estimated values are identified in data tables by the appropriate qualifiers.

## Section 3

# Analytical Results

The following section includes the results for the February and May 2014 quarterly groundwater events and the May 2014 residential well monitoring event. The quarterly events included collecting groundwater samples from nine bedrock wells located on the northeast portion of the Owens Corning property (including MW-15, MW-22, MW-29R, MW-35, MW-36, MW-37, MW-38, MW-39 and MW-44 ), and three offsite bedrock wells (MW-41, MW-42 and MW-43). During the May 2014 sampling event, groundwater samples were collected from 12 residential wells.

The February and May 2014 groundwater analytical results are summarized in Tables 4 and 5, respectively. The May 2014 residential well analytical results are summarized in Table 6. Historical groundwater analytical data can be found in previous reports submitted to U.S. EPA and summaries of this information can be found in Appendix C of this report. Laboratory analytical reports that include method detection limits and quality assurance/quality control (QA/QC) information are provided in Appendix B.

Based on historical and recent Site monitoring data, 1,1-DCE is the primary constituents detected in groundwater. One analytical parameter, 1,1-DCE, was selected for presentation on isoconcentration contour maps for the February and May events as shown on Figures 13 through 20. This analyte was selected because it is the most prevalent and widespread analyte detected in the bedrock wells.

### 3.1 Groundwater Analytical Results

To understand the distribution of 1,1-DCE, isoconcentration maps were created for multiple vertical intervals within the fractured bedrock. The projected distribution of 1,1-DCE over the vertical intervals from 699 feet to 740 feet, 632 feet to 699 feet, 574 feet to 630 feet, and 430 feet to 530 feet (NAVD88) for the February and May 2014 events is presented on Figures 13 through 16 and Figures 17 through 20, respectively. Assuming that 1,1-DCE entered the top of bedrock near SWMU-9, the axis of the plume, consistent with the groundwater flow direction and local bedrock fracture patterns as identified in the Bedrock Geologic Map of the Little Mountain Area Anderson South Quadrangle (Soricelli et al., 2003) is oriented to the north-northeast. Refer to the *Supplemental RCRA Facility Investigation Report* (Brown and Caldwell, 2009) for a more detailed review of these figures.

In February and May 2014, the concentration of 1,1-DCE in well MW-15 were relatively similar with detections of 170 micrograms per liter ( $\mu\text{g/L}$ ) and 180  $\mu\text{g/L}$ , respectively. In well MW-22, the 1,1-DCE concentration in May (310  $\mu\text{g/L}$ ) was relatively similar with February (270  $\mu\text{g/L}$ ) (Tables 4 and 5).

Concentrations of 1,1-DCE in well MW-29R Zone 3 and Zone 4 were showed slight increases over the first two quarterly monitoring events conducted in 2014. In Zone 3, the 1,1-DCE concentration was 240  $\mu\text{g/L}$  in February and 280  $\mu\text{g/L}$  in May. In Zone 4, the concentration was 240  $\mu\text{g/L}$  in February and 260  $\mu\text{g/L}$  in May. Farther downgradient (north) of MW-29R, 1,1-DCE has not been detected in groundwater above maximum contaminant levels (MCLs) in any of the three MW-36 zones during the quarterly monitoring events since it was installed in 2008.

During February and May 2014, the 1,1-DCE concentration in MW-37 Zone 1 increased from 69  $\mu\text{g/L}$  to 90  $\mu\text{g/L}$ . Concentrations of 1,1-DCE in Zone 2 were relatively similar in May (250  $\mu\text{g/L}$ ) and February (230  $\mu\text{g/L}$ ). The 1,1-DCE concentration in MW-37 Zone 3 were below the laboratory reporting limit (RL) in February and May. Bedrock well MW-39 was installed during the summer of 2010 southeast of MW-37 to

laterally delineate 1,1-DCE. No VOCs, including 1,1-DCE, were detected above laboratory RLs during the February and May monitoring events in groundwater collected from MW-39 (Tables 4 and 5). Accordingly, delineation of the south edge of the plume is complete; this has been the case since MW-39 was installed in 2010.

MW-35, located northeast of the intersection of True Temper Road and Keys Streets, were relatively similar, with the 1,1-DCE concentration in May (95 µg/L) compared to February (99 µg/L). Bedrock wells MW-41 and MW-42 were installed during the summer of 2010 to delineate 1,1-DCE in the Northeast Area and added to the monitoring program. Both wells consist of nested wells, such that three independent zones could be sampled. For MW-41, the 1,1-DCE concentrations from February to May in Zone 1 decreased (150 µg/L and 77 µg/L), Zone 2 concentrations were 160 µg/L and 240 µg/L and Zone 3 concentrations were 37 µg/L and 35 µg/L. Bedrock wells MW-42 and MW-43 are currently the farthest wells from the Site in the northeast direction. MW-42 is located northeast of MW-35 and MW-43 is located due north of MW-35. During the February and May monitoring events, no VOCs were detected above MCLs in groundwater collected from these two wells. Therefore, the plume has been delineated to the northeast; this has been the case since MW-43 was installed in 2011.

The only other constituent of concern (COC) detected above its MCL (5 µg/L) in the bedrock wells was carbon tetrachloride. This COC has been detected previously and was detected in MW-22, MW-29R Zones 3 and 4 and MW-37 Zone 2 during the February and May monitoring events. The maximum detected concentration of carbon tetrachloride in bedrock wells was in MW-22 at 18 µg/L in May. No other parameters from the focused list of VOCs were detected above MCLs in the bedrock well samples.

## 3.2 Residential Well Analytical Results

None of the parameters from the focused list of VOCs were detected above RLs in the residential well samples. All residential well analytical results are included in Table 6. Locations of the residential wells are provided on Figure 12, with the corresponding well location map ID's provided in Table 7. Laboratory analytical reports that include method detection limits and QA/QC information are provided in Appendix B.

## Section 4

# Summary and Conclusions

The first and second quarterly groundwater monitoring events for 2014 were conducted at the Owens Corning Site in February and May 2014, respectively. Samples were collected from 12 bedrock wells during the February and May events and from 11 residential wells during the May event. The samples were analyzed for the focused list of VOCs. Multiple water-bearing zones were sampled in bedrock wells MW-29R, MW-36, MW-37, MW-38, MW-39, MW-41, MW-42 and MW-43.

The following conclusions were developed based on the data collected during the quarterly monitoring events summarized in this report:

- Based on historical and recent Site monitoring data 1,1-DCE and 1,1,1-TCA are the primary constituents in groundwater, though 1,1-DCE is the primary constituent that persists beyond SWMU-9 and the Site property boundary, though beyond the Site property boundary it is only found within the bedrock aquifer and not the overburden aquifer. 1,1,1-TCA was not detected in any of the sampled wells.
- Concentration data obtained from the Northeast Area bedrock wells MW-15, MW-22, MW-29R, MW-37 and MW-41 reveal that the 1,1-DCE plume in this area has been relatively stable since early 2010.
- In bedrock well MW-35, the 1,1-DCE concentration decreased from 580 µg/L in August 2010 to 95 µg/L in May 2014.
- The 1,1-DCE concentration in bedrock well MW-41 Zone 2 has decreased from 530 µg/L in November 2010 to 240 µg/L in May 2014.
- During the February and May monitoring events, no VOCs were detected above MCLs in groundwater collected from the bedrock wells, MW-36, MW-38, MW-39, MW-42, and MW-43. Monitoring well MW-42 and MW-43 are the farthest monitoring wells located to the north-northeast, and monitoring well MW-39 is the farthest to the southeast. The absence of Site COCs in these wells indicates that delineation remains intact.
- The only other VOC detected in bedrock groundwater samples above its MCL was carbon tetrachloride. Concentrations have generally been below 25 µg/L since early 2010, with the exception of MW-22 where the concentration was 31 µg/L in February 2013. Carbon tetrachloride is being captured by the bedrock hydraulic containment system and it is effectively removed from the groundwater during treatment and prior to discharge into Betsy Creek.
- The 1,1-DCE plume has been delineated and is relatively stable. Since startup of the ICM system in November 2011, significant reduction has occurred in the 1,1-DCE concentrations in the Northeast Area, specifically in wells MW-35 and MW-41 Zone 2.

The next quarterly monitoring event is planned for August 2014, followed by the annual monitoring event in November 2014.

## Section 5

# Limitations

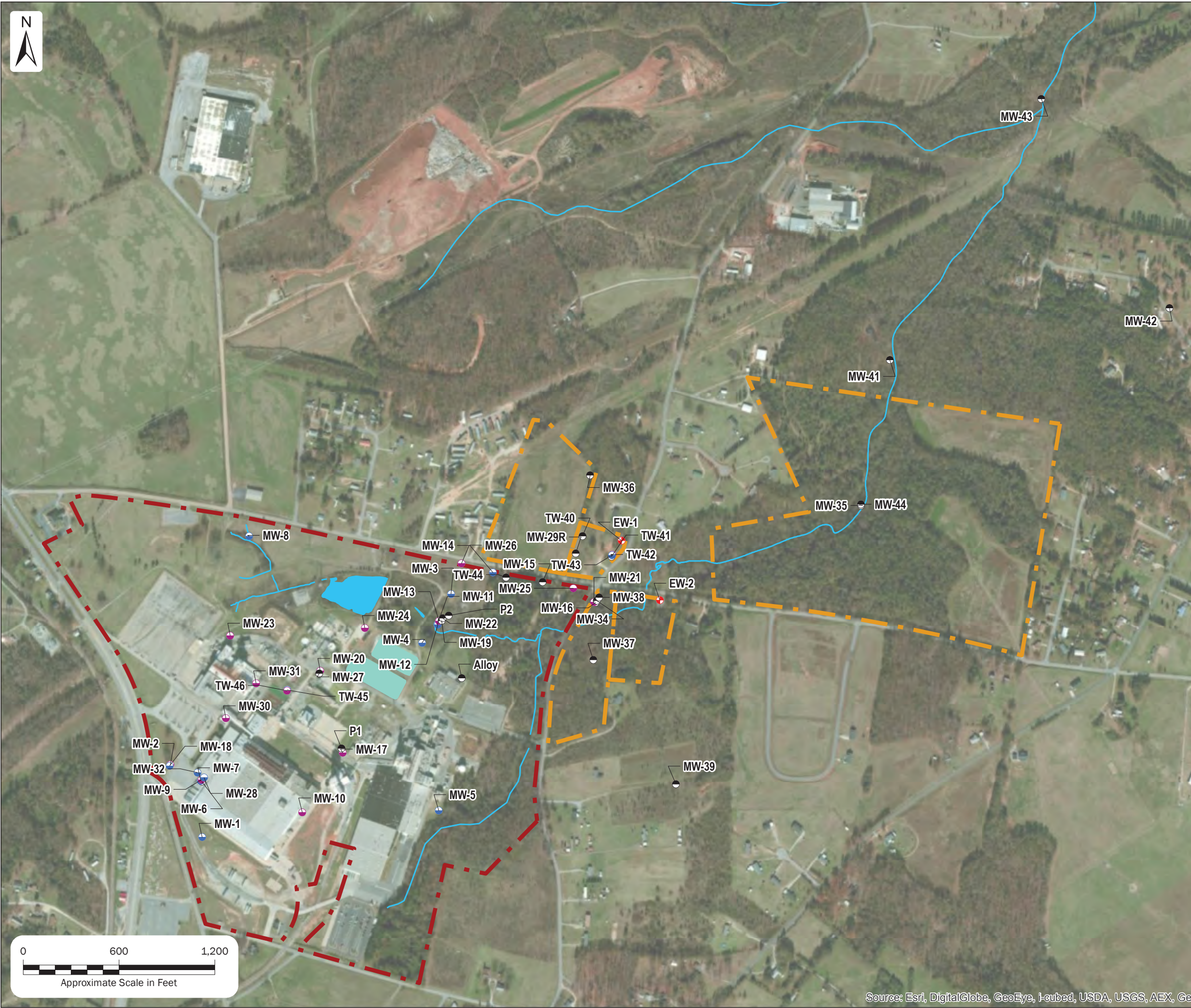
This document was prepared solely for Owens Corning in accordance with professional standards at the time the services were performed and in accordance with the contract between Owens Corning and Brown and Caldwell dated January 24, 2014. This document is governed by the specific scope of work authorized by Owens Corning; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Owens Corning and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.



## Section 6

# References

- Brown and Caldwell. 2009. *Supplemental Resource Conservation and Recovery (RCRA) Facility Investigation (RFI) Report*. Owens Corning – Starr Plant, Anderson, South Carolina.
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**LEGEND**

- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

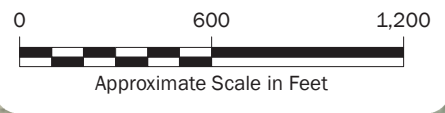
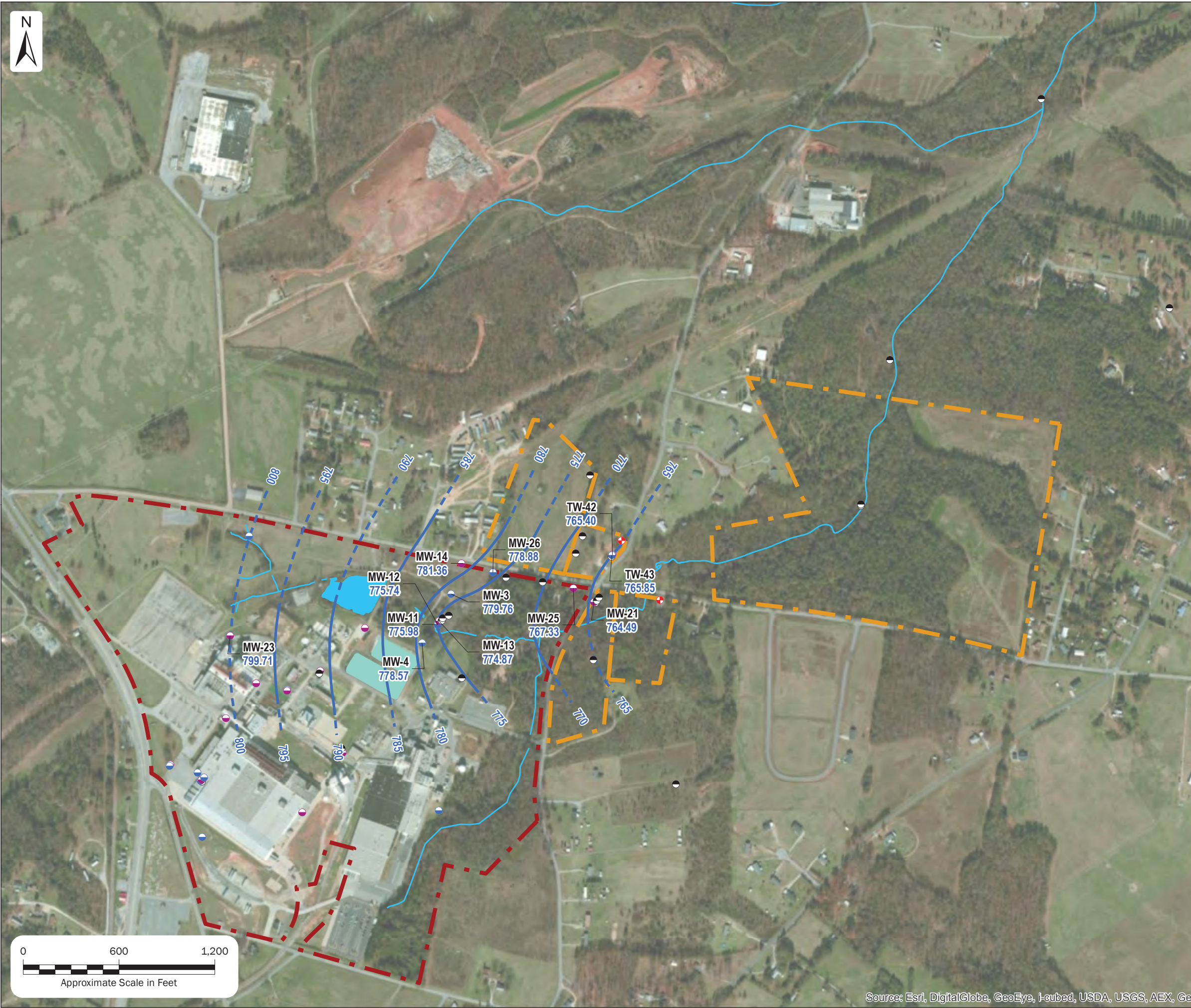
Figure 1  
Site Map

Anderson, Anderson County, South Carolina



PREPARED FOR:  
**Owens Corning**

DATE:	06/16/2014
SCALE:	AS SHOWN
DRAWN BY:	GS4
CHECKED BY:	TCB
PROJECT #:	145492



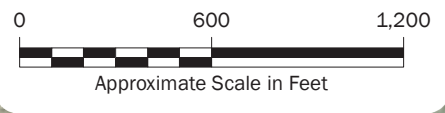
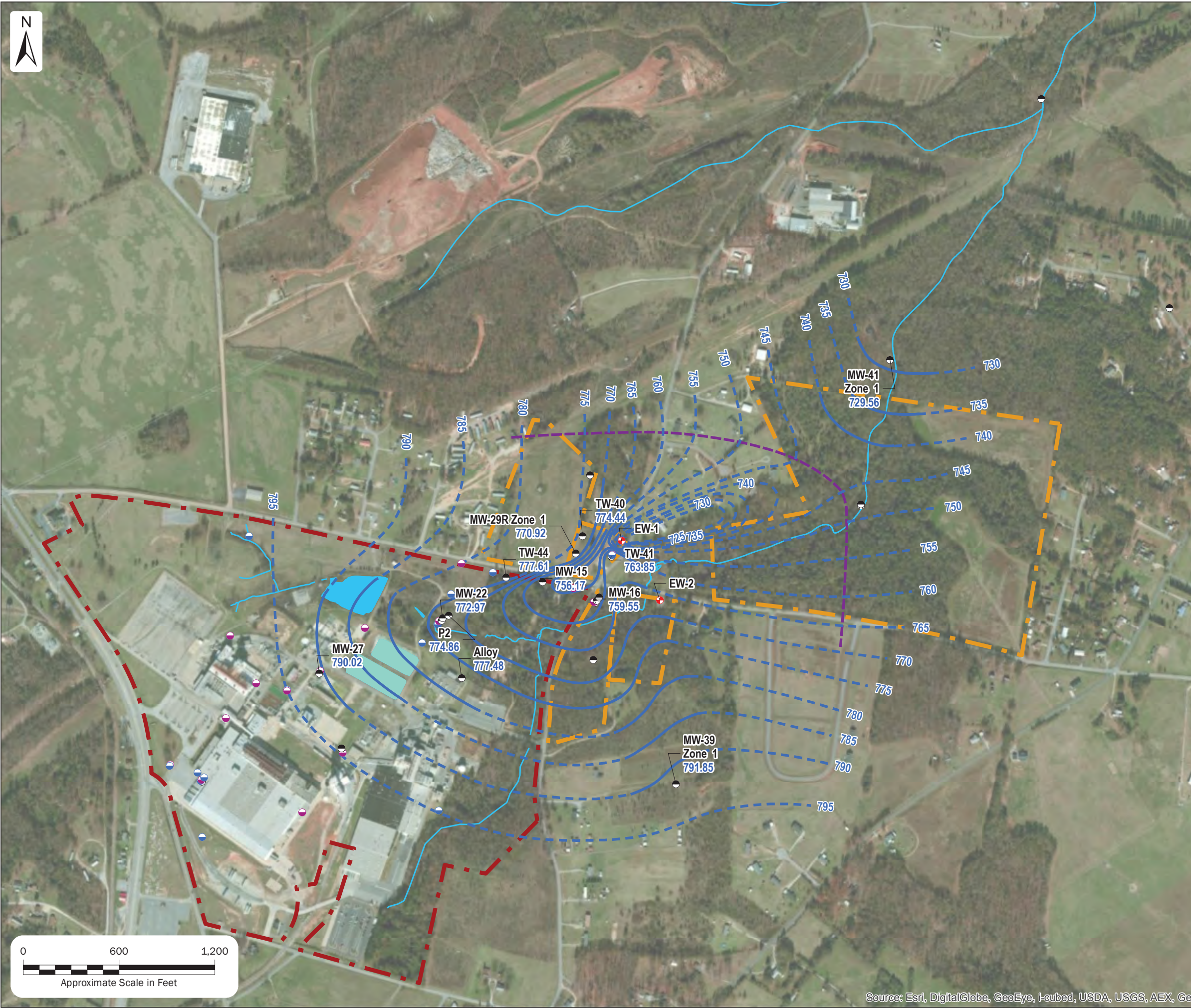
**LEGEND**

- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 2**  
 Overburden / Saprolite  
 Potentiometric Surface Map  
 February 24, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	BAS
	CHECKED BY:	TCB
	PROJECT #:	145492



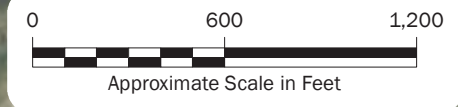
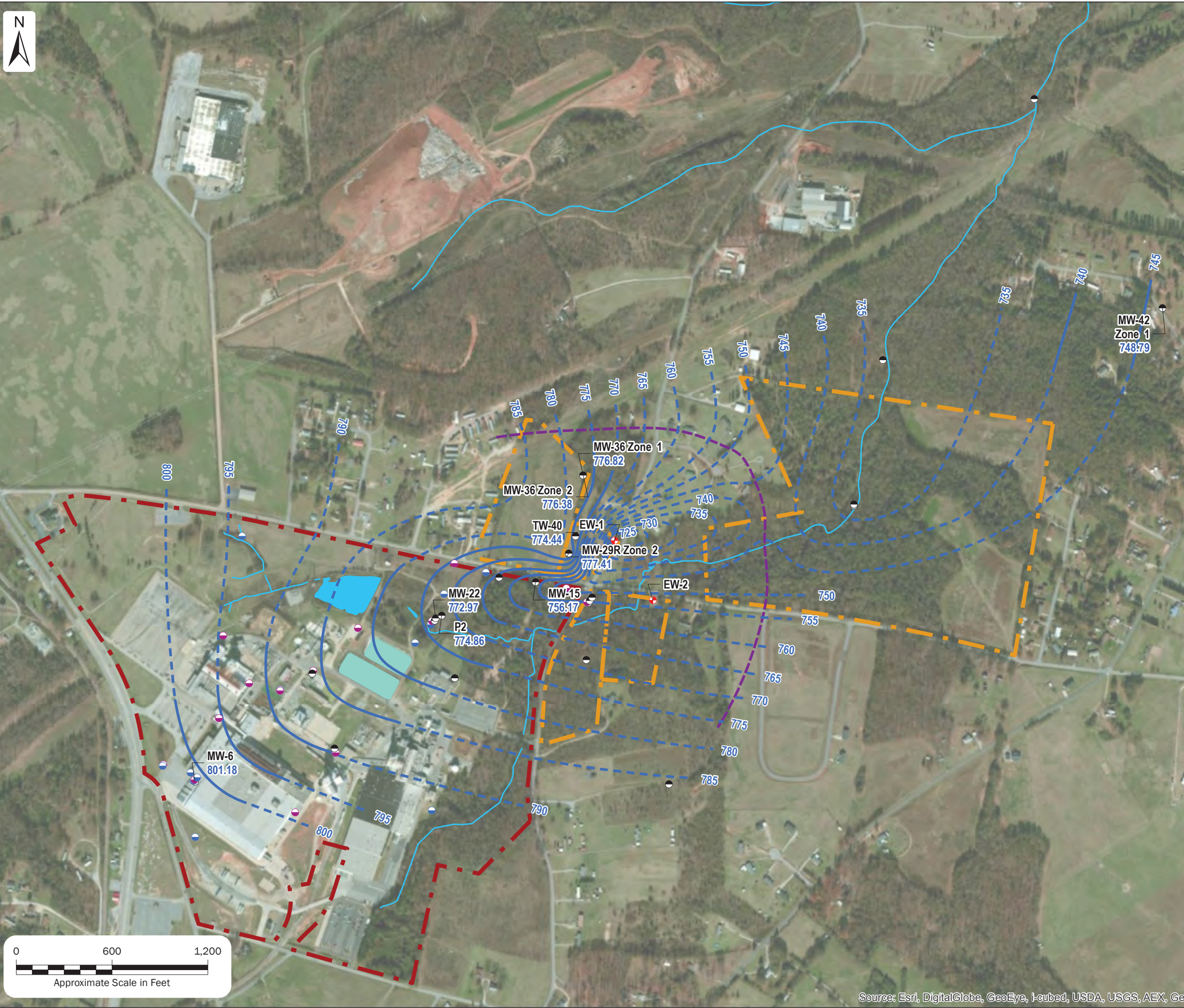
**LEGEND**

- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 3**  
 Bedrock Aquifer  
 Zone 699 to 740 Feet NAVD88  
 Potentiometric Surface Map  
 February 24, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	BAS
	CHECKED BY:	TCB
PROJECT #:	145492	



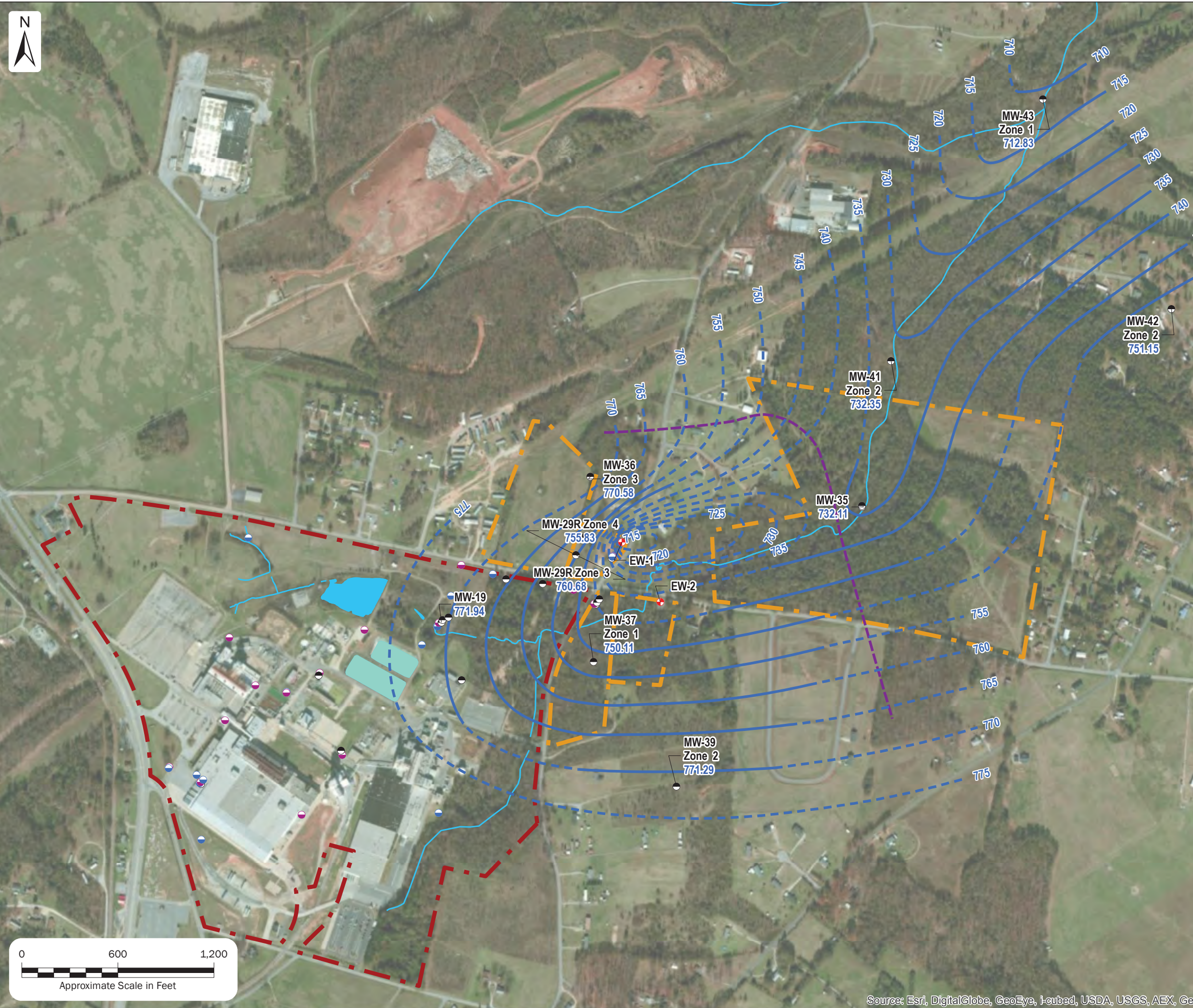
**LEGEND**

- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 4**  
 Bedrock Aquifer  
 Zone 632 to 699 Feet NAVD88  
 Potentiometric Surface Map  
 February 24, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	BAS
	CHECKED BY:	TCB
	PROJECT #:	145492



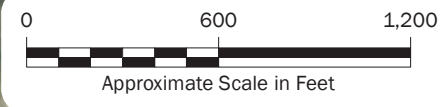
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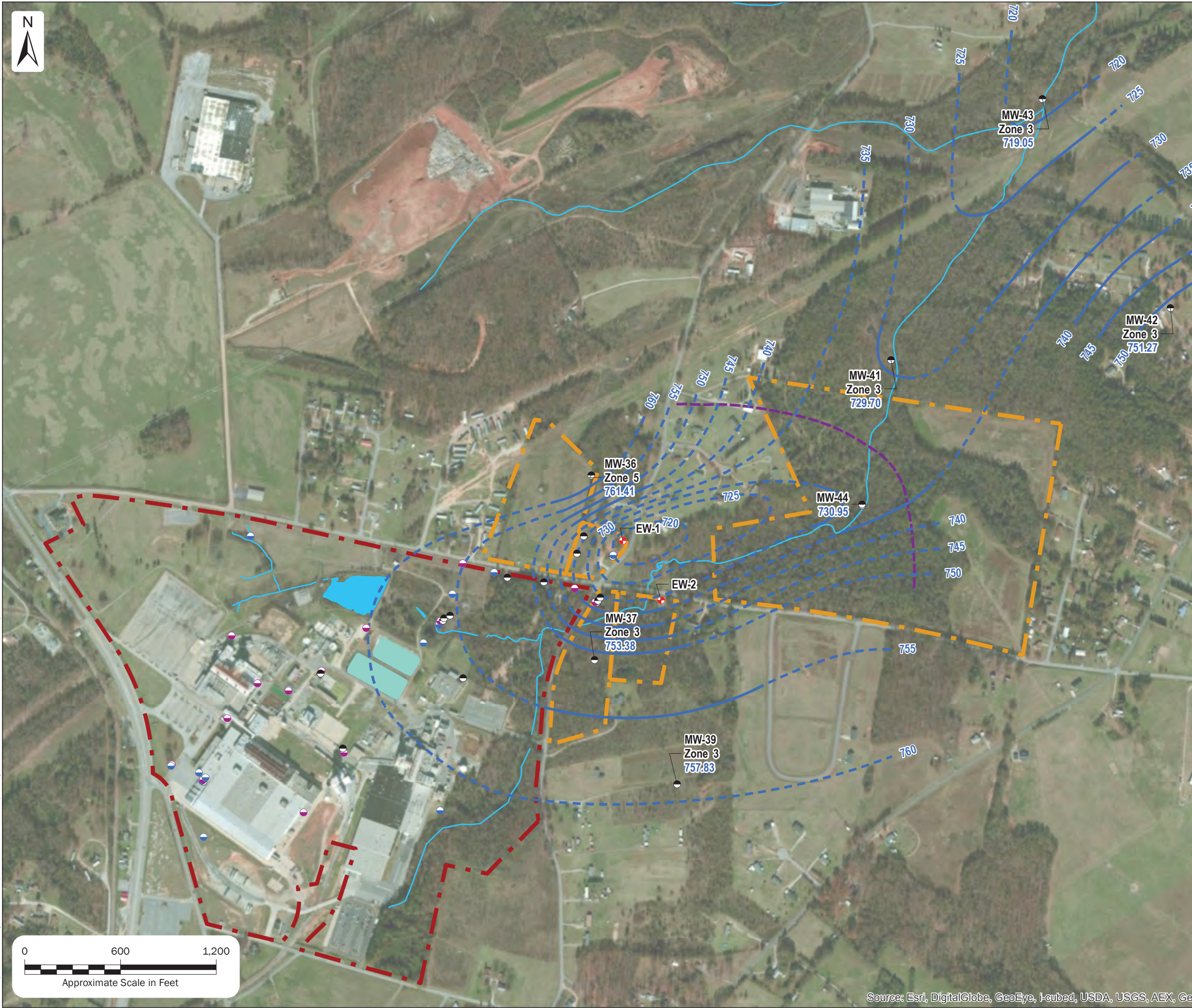
- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- - - Estimated Groundwater Elevation Contour
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle with dot] Overburden Monitoring Well
- [Pink circle with dot] Top of Rock Monitoring Well
- [Black circle with dot] Bedrock Monitoring Well
- [Red circle with cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Green area] Backwash Storage Ponds

**Figure 5**  
 Bedrock Aquifer  
 Zone 574 to 630 Feet NAVD88  
 Potentiometric Surface Map  
 February 24, 2014

Anderson, Anderson County, South Carolina

PREPARED FOR:	Owens Corning	DATE:	06/20/2014
SCALE:	AS SHOWN	DRAWN BY:	BAS
CHECKED BY:	TCB	PROJECT #:	145492





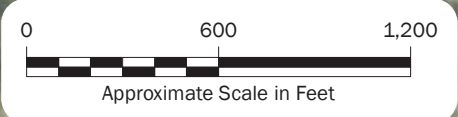
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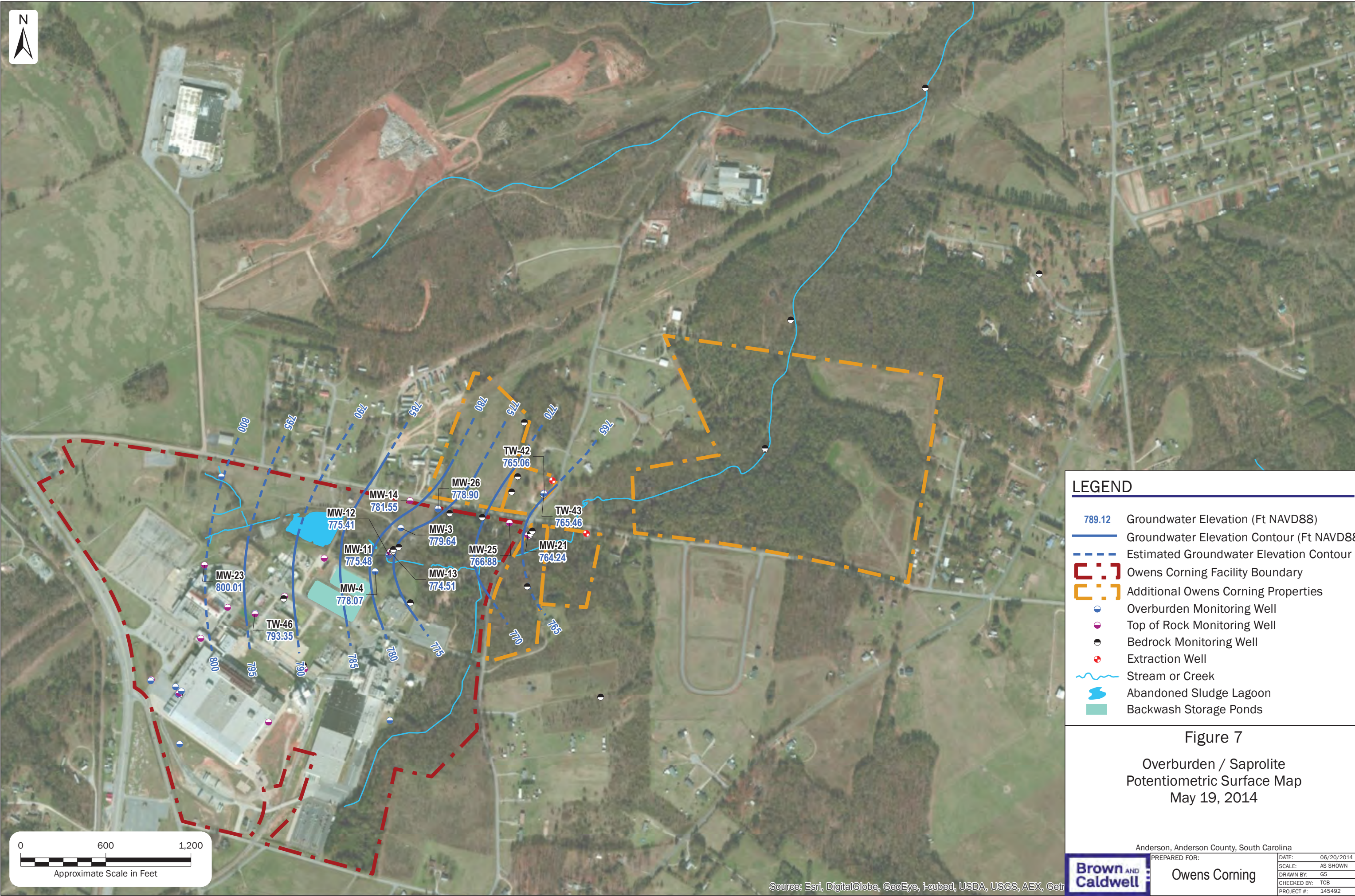
- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 6**  
 Bedrock Aquifer  
 Zone 430 to 530 Feet NAVD88  
 Potentiometric Surface Map  
 February 24, 2014

Anderson, Anderson County, South Carolina

PREPARED FOR:	Owens Corning	DATE:	06/20/2014
SCALE:	AS SHOWN	DRAWN BY:	BAS
CHECKED BY:	TCB	PROJECT #:	145492





**LEGEND**

- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 7**  
 Overburden / Saprolite  
 Potentiometric Surface Map  
 May 19, 2014

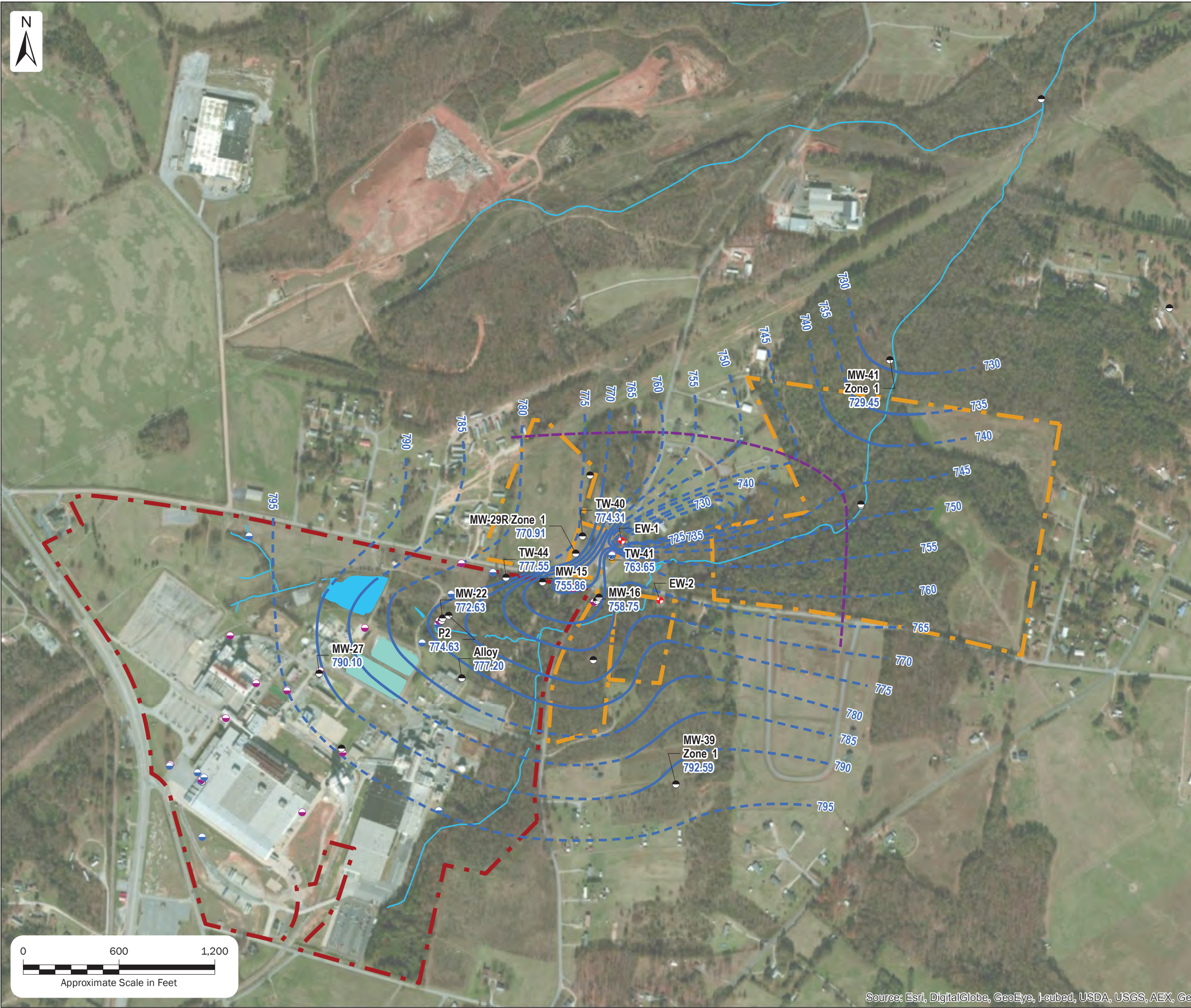
Anderson, Anderson County, South Carolina



PREPARED FOR: **Owens Corning**

DATE:	06/20/2014
SCALE:	AS SHOWN
DRAWN BY:	GS
CHECKED BY:	TCB
PROJECT #:	145492





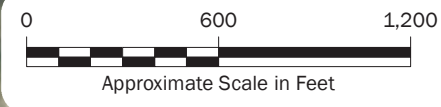
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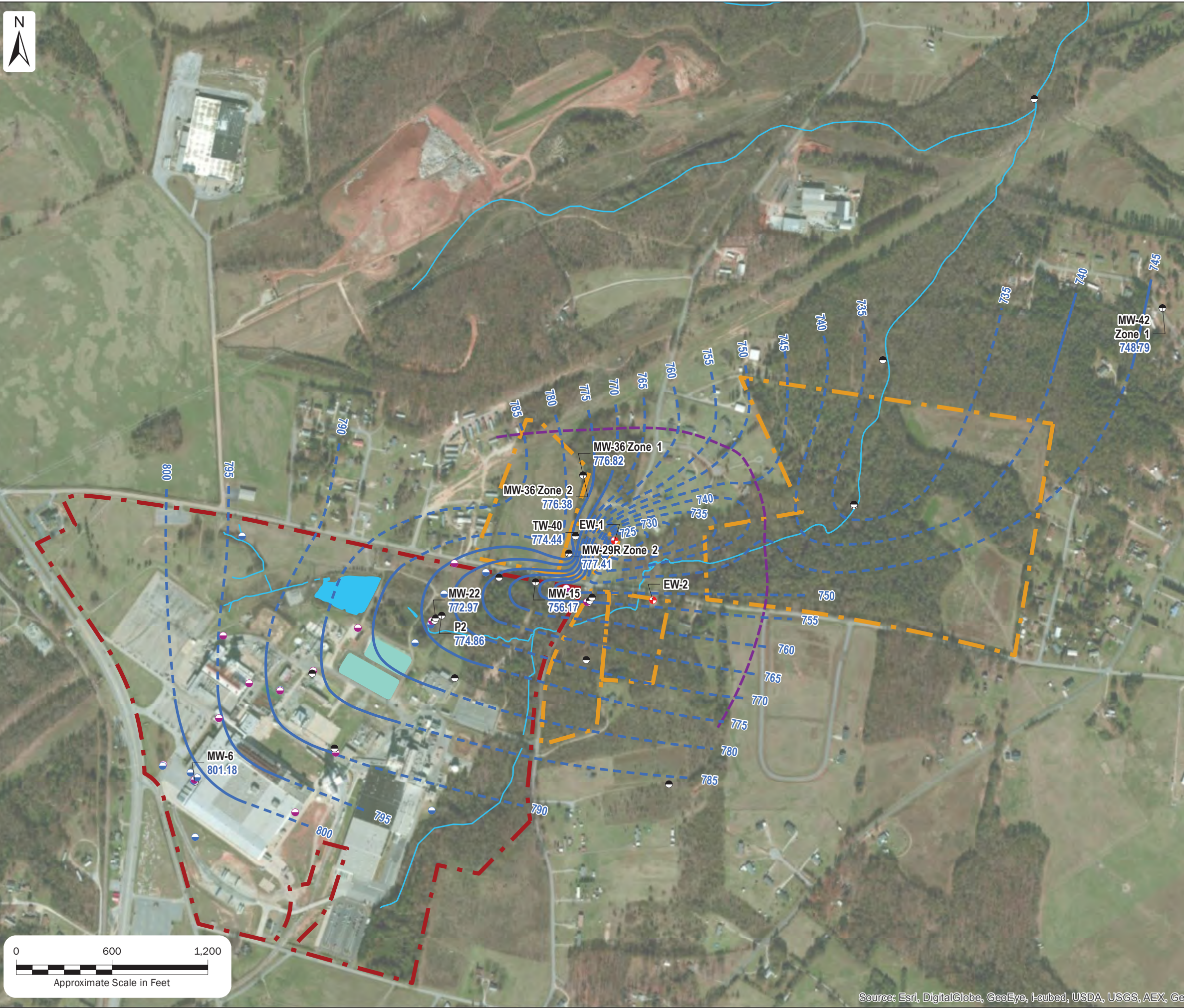
- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- - - Estimated Groundwater Elevation Contour
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle with dot] Overburden Monitoring Well
- [Pink circle with dot] Top of Rock Monitoring Well
- [Black circle with dot] Bedrock Monitoring Well
- [Red circle with cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Green area] Backwash Storage Ponds

**Figure 8**  
 Bedrock Aquifer  
 Zone 699 to 740 Feet NAVD88  
 Potentiometric Surface Map  
 May 19, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS
	CHECKED BY:	TCB
	PROJECT #:	145492





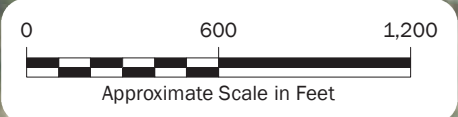
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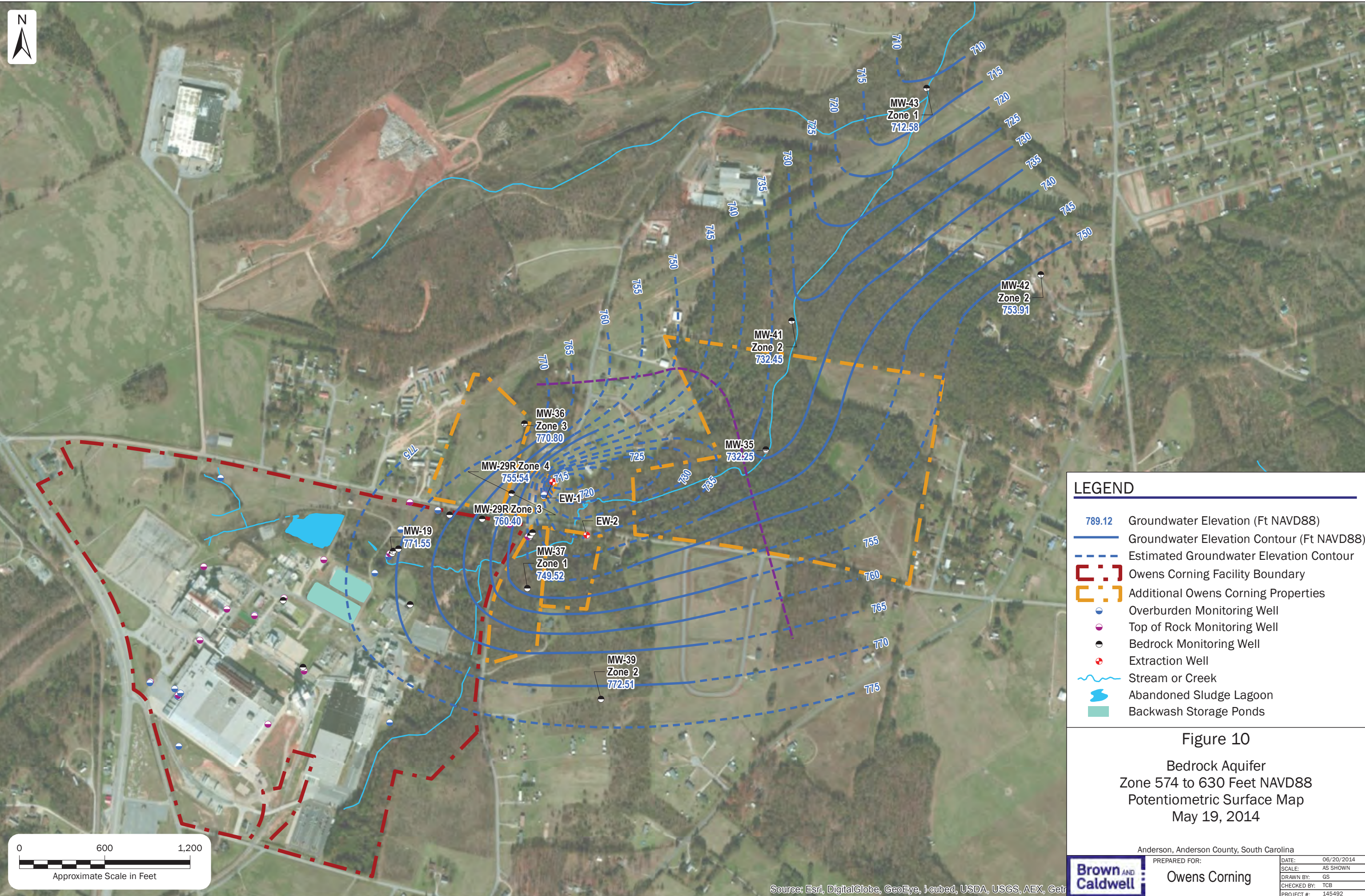
- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 9**  
 Bedrock Aquifer  
 Zone 632 to 699 Feet NAVD88  
 Potentiometric Surface Map  
 May 19, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS
	CHECKED BY:	TCB
	PROJECT #:	145492





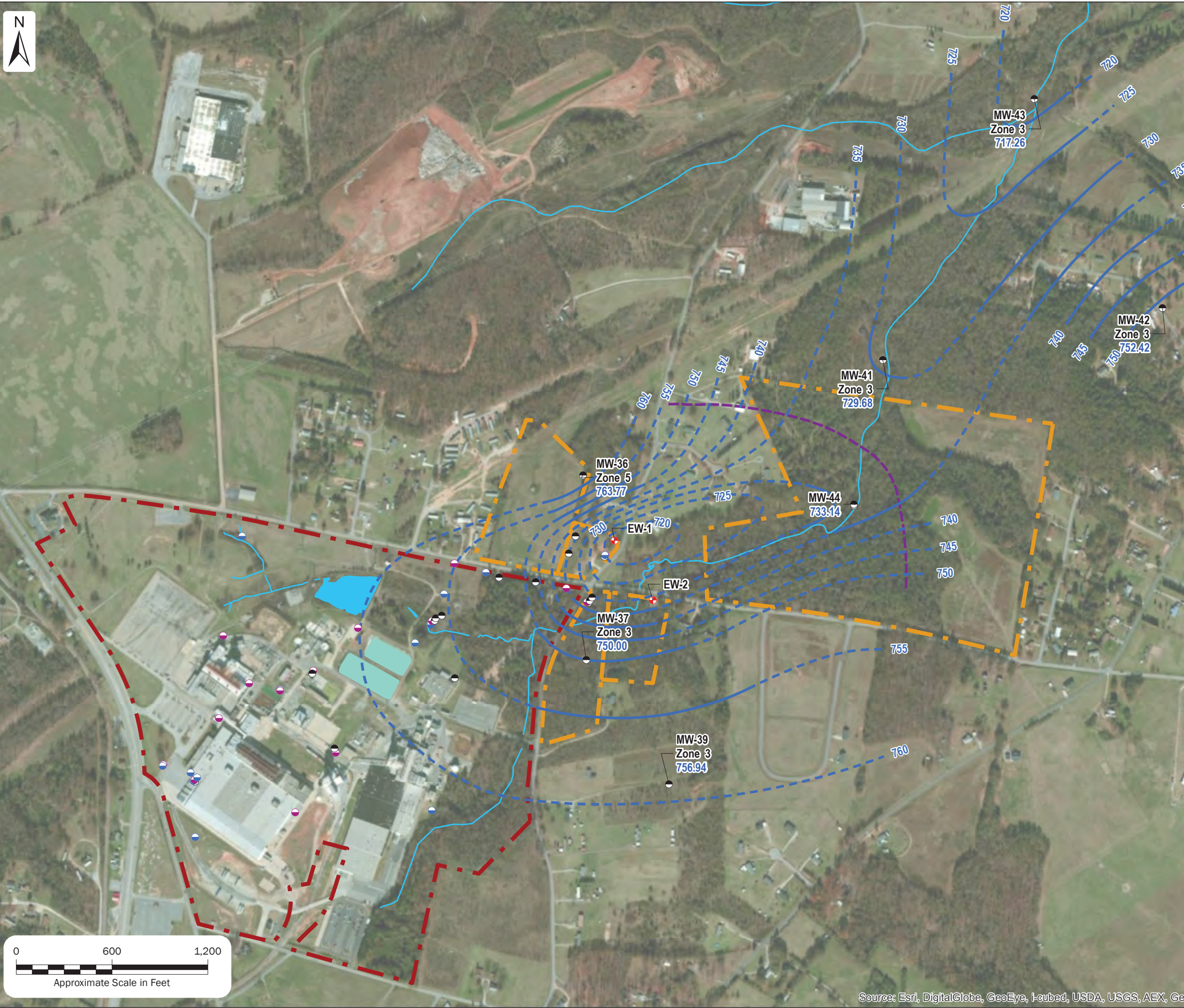
**LEGEND**

- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- Estimated Groundwater Elevation Contour
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds

**Figure 10**  
 Bedrock Aquifer  
 Zone 574 to 630 Feet NAVD88  
 Potentiometric Surface Map  
 May 19, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS
	CHECKED BY:	TCB
	PROJECT #:	145492



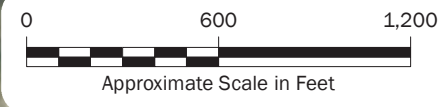
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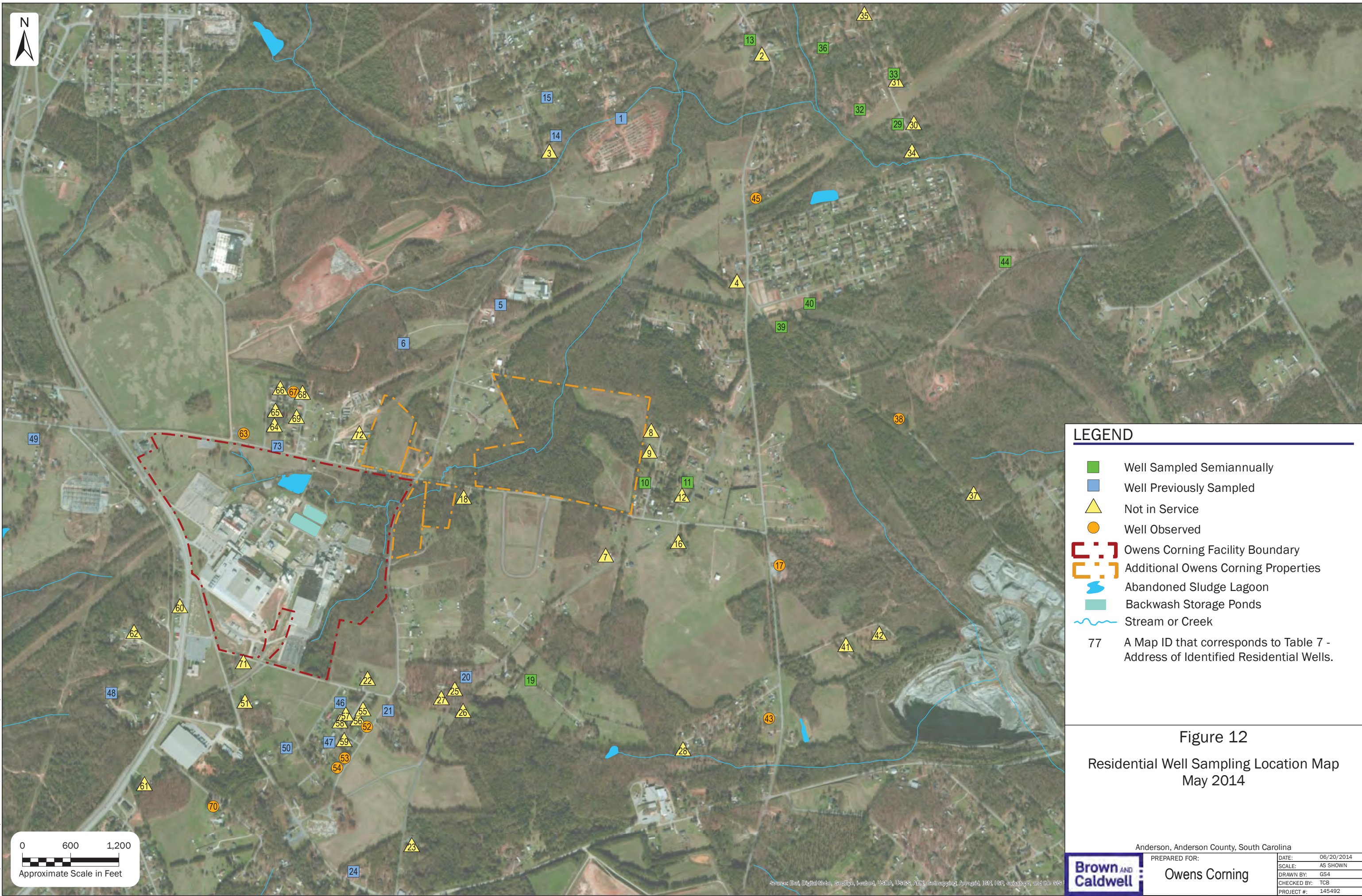
- 789.12 Groundwater Elevation (Ft NAVD88)
- Groundwater Elevation Contour (Ft NAVD88)
- - - Estimated Groundwater Elevation Contour
- [Red Dashed Box] Owens Corning Facility Boundary
- [Orange Dashed Box] Additional Owens Corning Properties
- [Blue Circle] Overburden Monitoring Well
- [Pink Circle] Top of Rock Monitoring Well
- [Black Circle] Bedrock Monitoring Well
- [Red Circle] Extraction Well
- [Blue Wavy Line] Stream or Creek
- [Light Blue Area] Abandoned Sludge Lagoon
- [Green Area] Backwash Storage Ponds

**Figure 11**  
 Bedrock Aquifer  
 Zone 430 to 530 Feet NAVD88  
 Potentiometric Surface Map  
 May 19, 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS
	CHECKED BY:	TCB
PROJECT #:	145492	





**LEGEND**

- Well Sampled Semiannually
- Well Previously Sampled
- ▲ Not in Service
- Well Observed
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Abandoned Sludge Lagoon
- Backwash Storage Ponds
- Stream or Creek

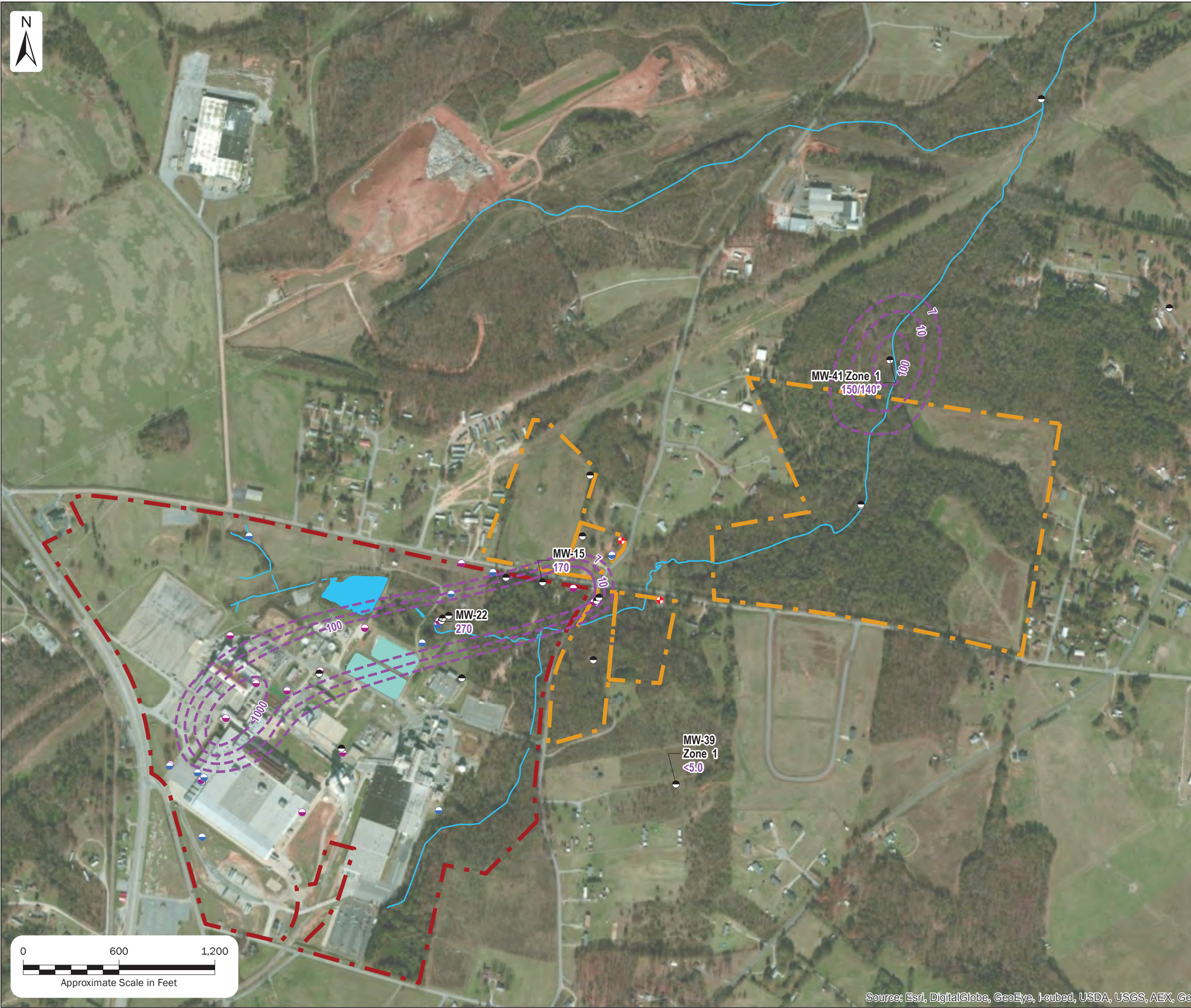
77 A Map ID that corresponds to Table 7 - Address of Identified Residential Wells.

**Figure 12**  
Residential Well Sampling Location Map  
May 2014

Anderson, Anderson County, South Carolina

<b>Brown AND Caldwell</b>	PREPARED FOR:	DATE: 06/20/2014
	Owens Corning	SCALE: AS SHOWN
		DRAWN BY: GS4
		CHECKED BY: TCB
		PROJECT #: 145492

Source: Esri, DigitalGlobe, GeoEye, Iacubus, USA, USGS, Aero, GeoMapping, AeroGRID, IGN, ERT, swisstopo, and the GIS User Community

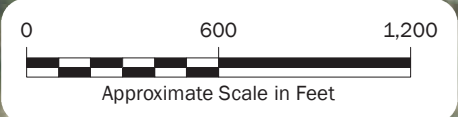


**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- Owens Corning Facility Boundary
- Additional Owens Corning Properties
- Overburden Monitoring Well
- Top of Rock Monitoring Well
- Bedrock Monitoring Well
- Extraction Well
- Stream or Creek
- Abandoned Sludge Lagoon
- Backwash Storage Ponds
- \* Duplicate sample

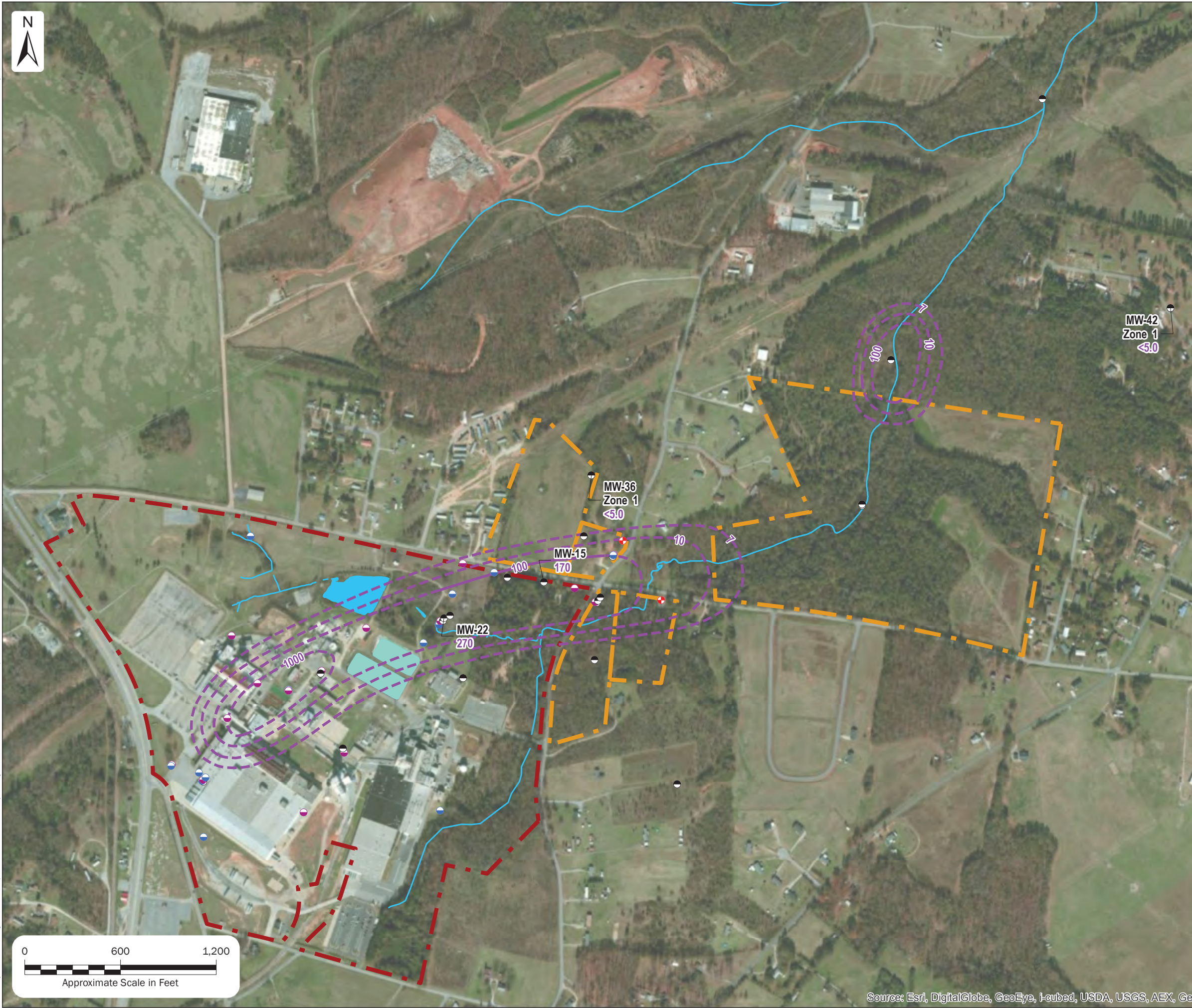
The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 13**  
 Bedrock Aquifer  
 Zone 699 to 740 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 February 2014



Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS4
	CHECKED BY:	TCB
	PROJECT #:	145492

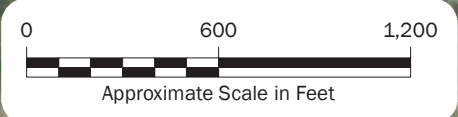


**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle with dot] Overburden Monitoring Well
- [Pink circle with dot] Top of Rock Monitoring Well
- [Black circle with dot] Bedrock Monitoring Well
- [Red circle with cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Light green area] Backwash Storage Ponds
- [\*] Duplicate sample

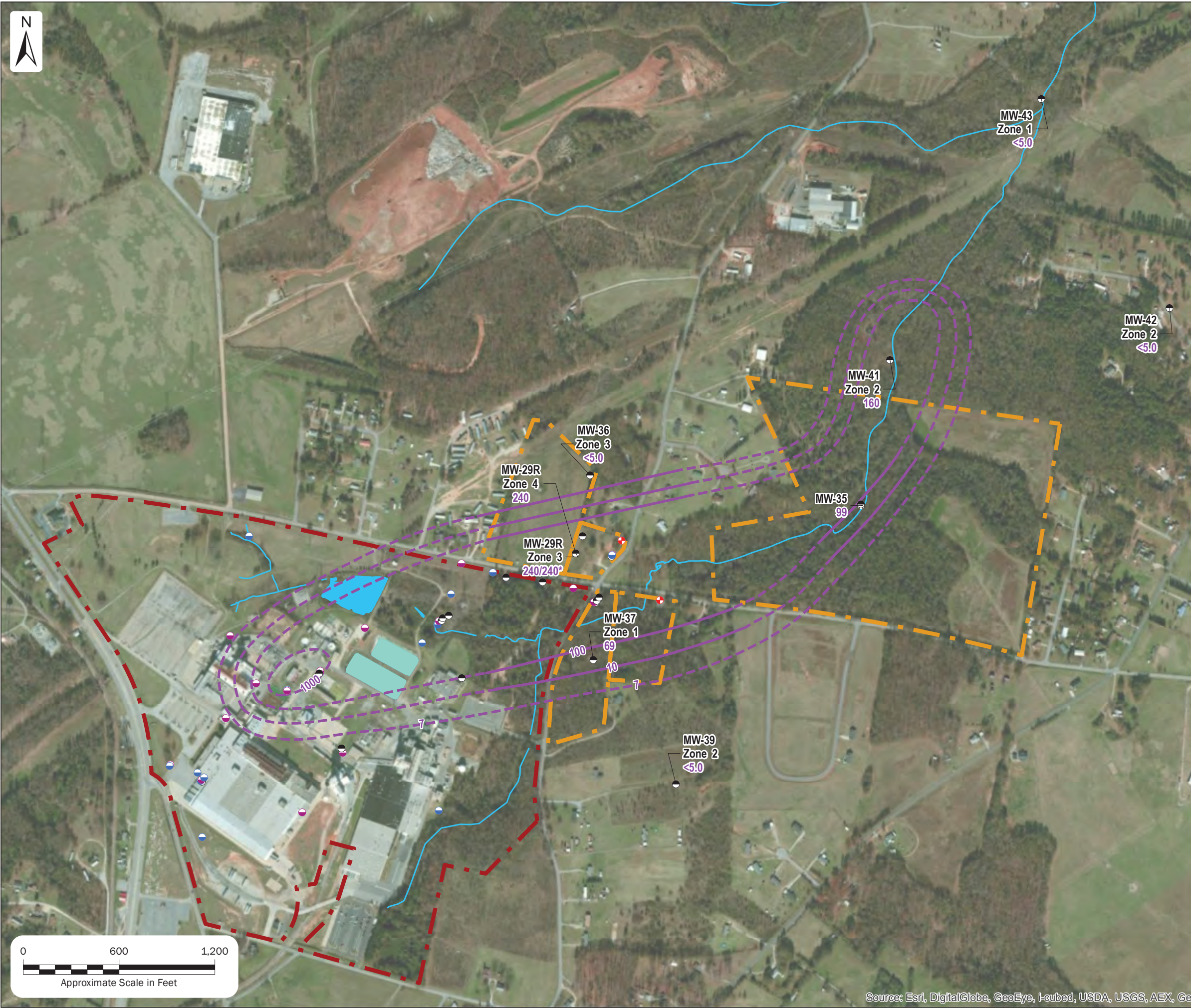
The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 14**  
 Bedrock Aquifer  
 Zone 632 to 699 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 February 2014



Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning	DATE:	06/20/2014
	SCALE:	AS SHOWN	DRAWN BY:	GS4
	CHECKED BY:	TCB	PROJECT #:	145496



**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <math>\le 5.0</math> Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- - - Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle with dot] Overburden Monitoring Well
- [Pink circle with dot] Top of Rock Monitoring Well
- [Black circle with dot] Bedrock Monitoring Well
- [Red circle with cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Teal area] Backwash Storage Ponds
- \*

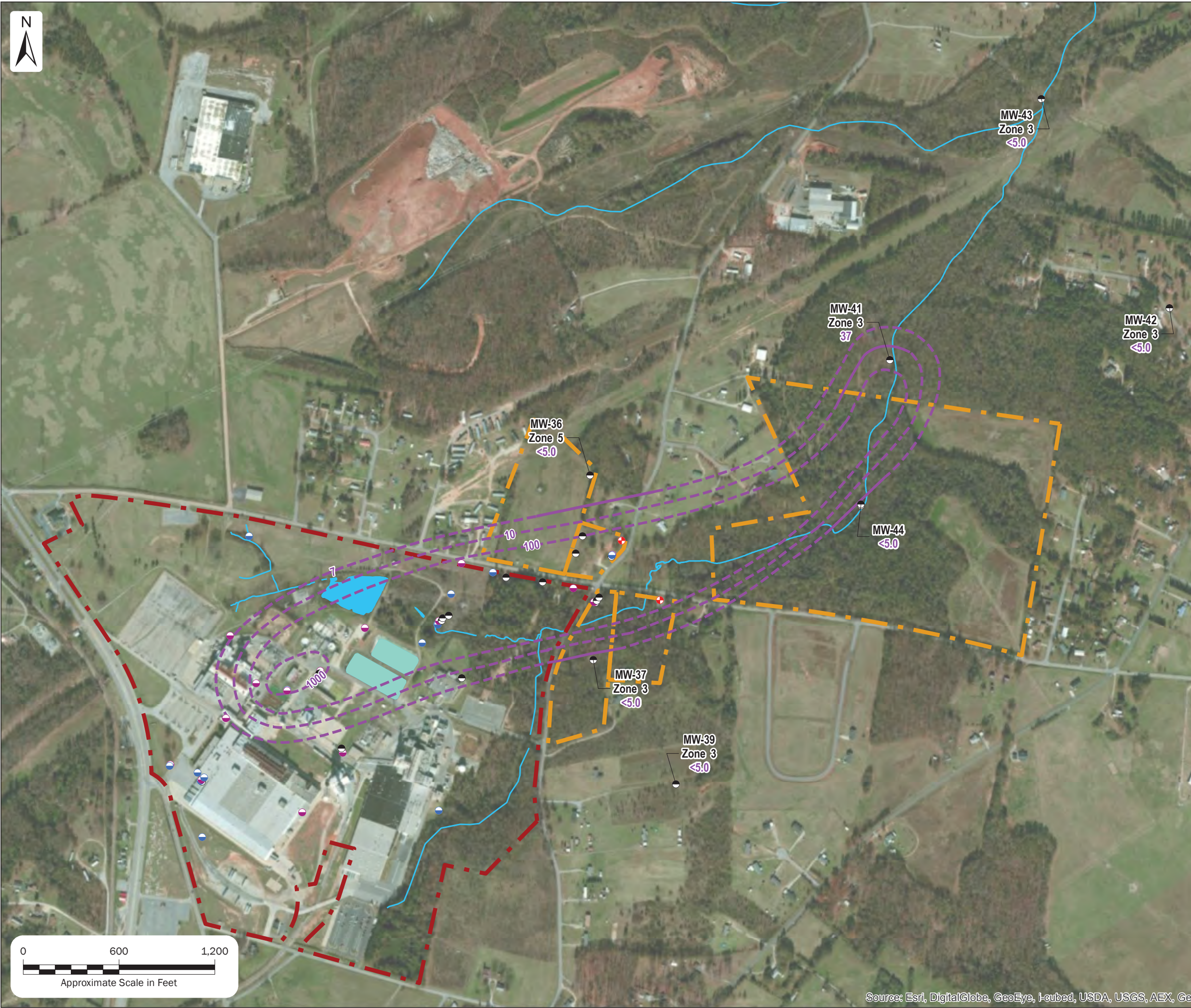
The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 15**  
 Bedrock Aquifer  
 Zone 574 to 630 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 February 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS4
	CHECKED BY:	TCB
	PROJECT #:	145492



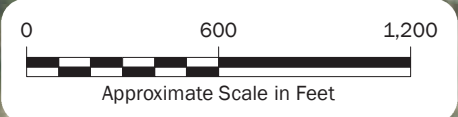


**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- - - Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle with dot] Overburden Monitoring Well
- [Purple circle with dot] Top of Rock Monitoring Well
- [Black circle with dot] Bedrock Monitoring Well
- [Red cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Green area] Backwash Storage Ponds
- \*

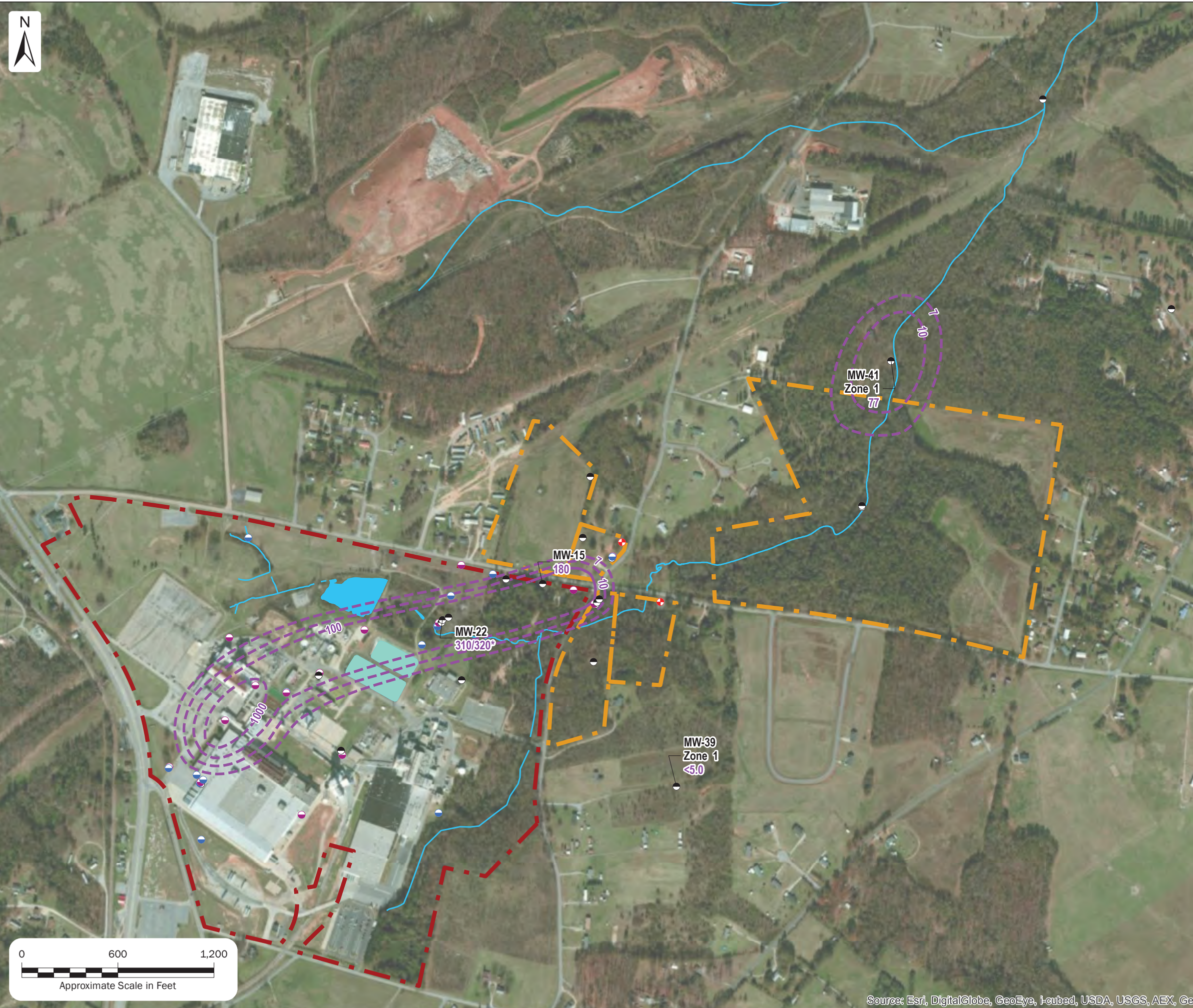
The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 16**  
 Bedrock Aquifer  
 Zone 430 to 530 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 February 2014



Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS4
	CHECKED BY:	TCB
	PROJECT #:	145492

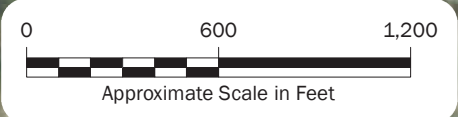


**LEGEND**

- 21 1,1-Dichloroethene Concentration ( $\mu\text{g/L}$ )
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour ( $\mu\text{g/L}$ )
- - - Estimated 1,1-Dichloroethene Iso-Contour ( $\mu\text{g/L}$ )
- [Red Dashed Line] Owens Corning Facility Boundary
- [Orange Dashed Line] Additional Owens Corning Properties
- [Blue Circle] Overburden Monitoring Well
- [Pink Circle] Top of Rock Monitoring Well
- [Black Circle] Bedrock Monitoring Well
- [Red Circle] Extraction Well
- [Blue Wavy Line] Stream or Creek
- [Light Blue Area] Abandoned Sludge Lagoon
- [Light Green Area] Backwash Storage Ponds
- \*

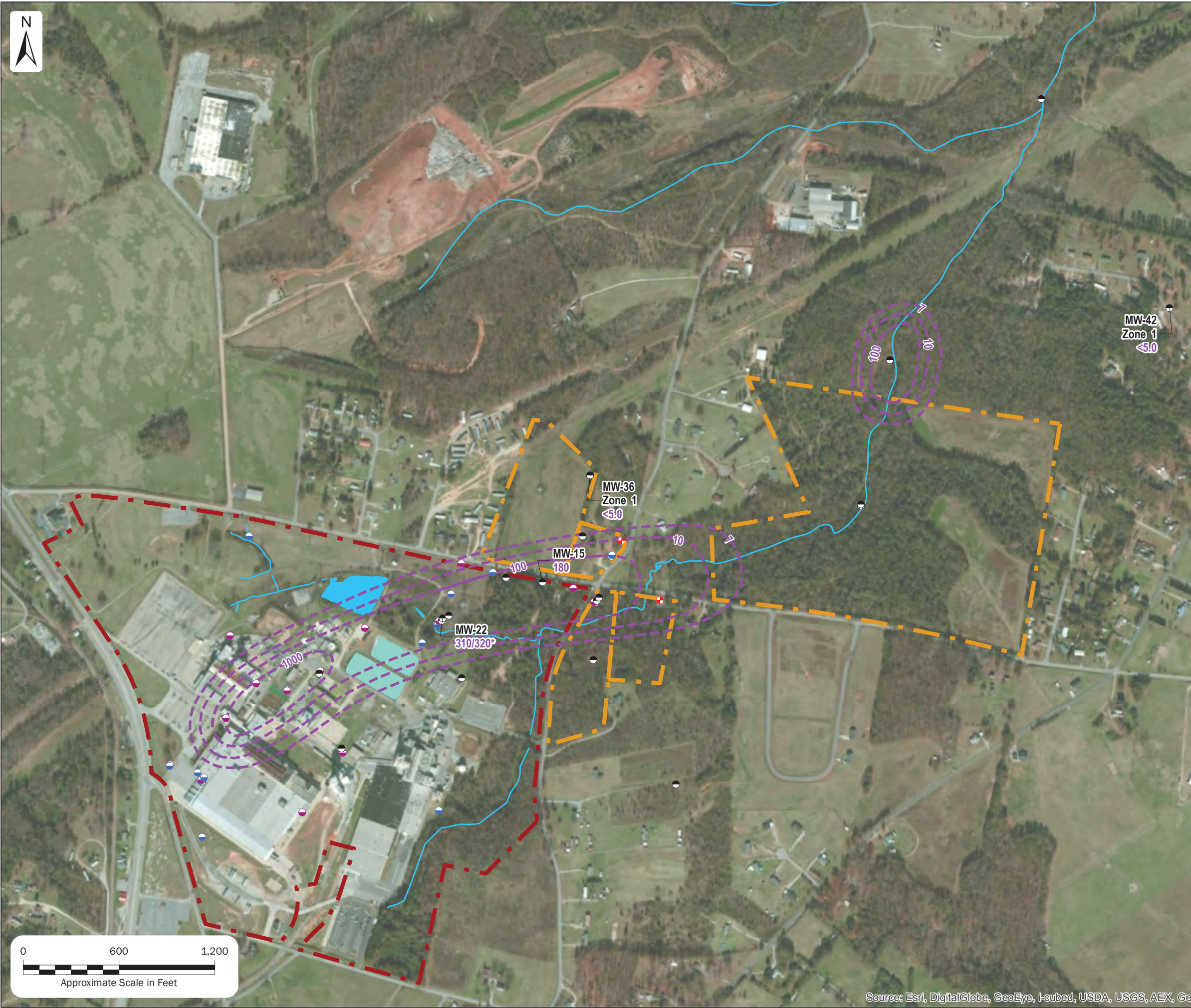
The 7  $\mu\text{g/L}$  isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 17**  
 Bedrock Aquifer  
 Zone 699 to 740 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 May 2014



Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning
	DATE:	06/20/2014
	SCALE:	AS SHOWN
	DRAWN BY:	GS4
	CHECKED BY:	TCB
	PROJECT #:	145492



**LEGEND**

- 21 1,1-Dichloroethene Concentration ( $\mu\text{g/L}$ )
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour ( $\mu\text{g/L}$ )
- - - Estimated 1,1-Dichloroethene Iso-Contour ( $\mu\text{g/L}$ )
- [Red Dashed Line] Owens Corning Facility Boundary
- [Orange Dashed Line] Additional Owens Corning Properties
- [Blue Circle] Overburden Monitoring Well
- [Pink Circle] Top of Rock Monitoring Well
- [Black Circle] Bedrock Monitoring Well
- [Red Circle] Extraction Well
- [Blue Wavy Line] Stream or Creek
- [Light Blue Area] Abandoned Sludge Lagoon
- [Teal Area] Backwash Storage Ponds
- \*

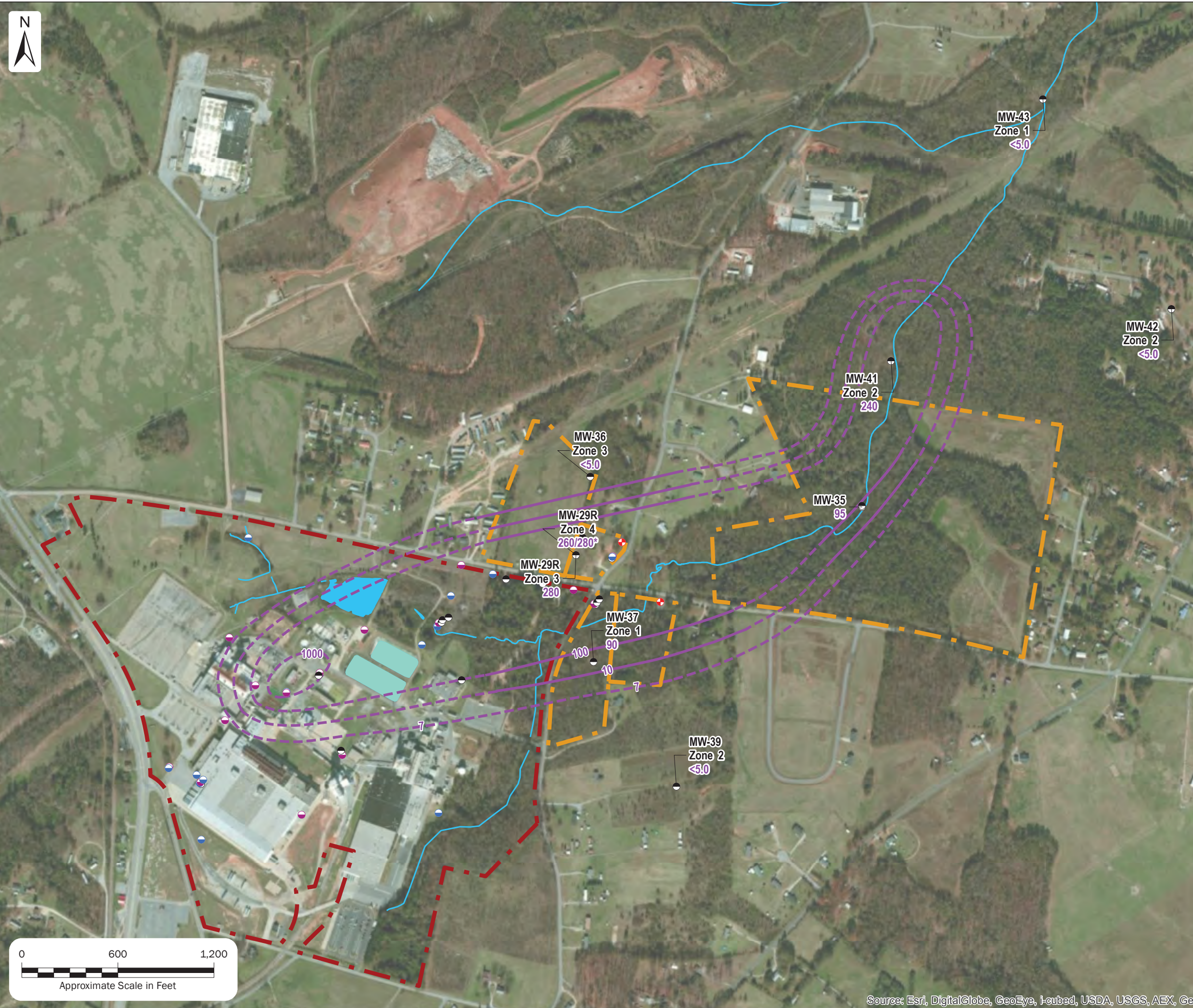
The 7  $\mu\text{g/L}$  isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 18**  
 Bedrock Aquifer  
 Zone 632 to 699 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 May 2014

Anderson, Anderson County, South Carolina  
 PREPARED FOR: Owens Corning



DATE:	06/20/2014
SCALE:	AS SHOWN
DRAWN BY:	GS4
CHECKED BY:	TCB
PROJECT #:	145496

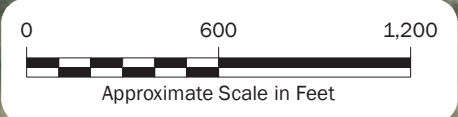


**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <math>\le 5.0</math> Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- - - Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- [Red dashed line] Owens Corning Facility Boundary
- [Orange dashed line] Additional Owens Corning Properties
- [Blue circle] Overburden Monitoring Well
- [Pink circle] Top of Rock Monitoring Well
- [Black circle] Bedrock Monitoring Well
- [Red circle with cross] Extraction Well
- [Blue wavy line] Stream or Creek
- [Light blue area] Abandoned Sludge Lagoon
- [Light green area] Backwash Storage Ponds
- \*

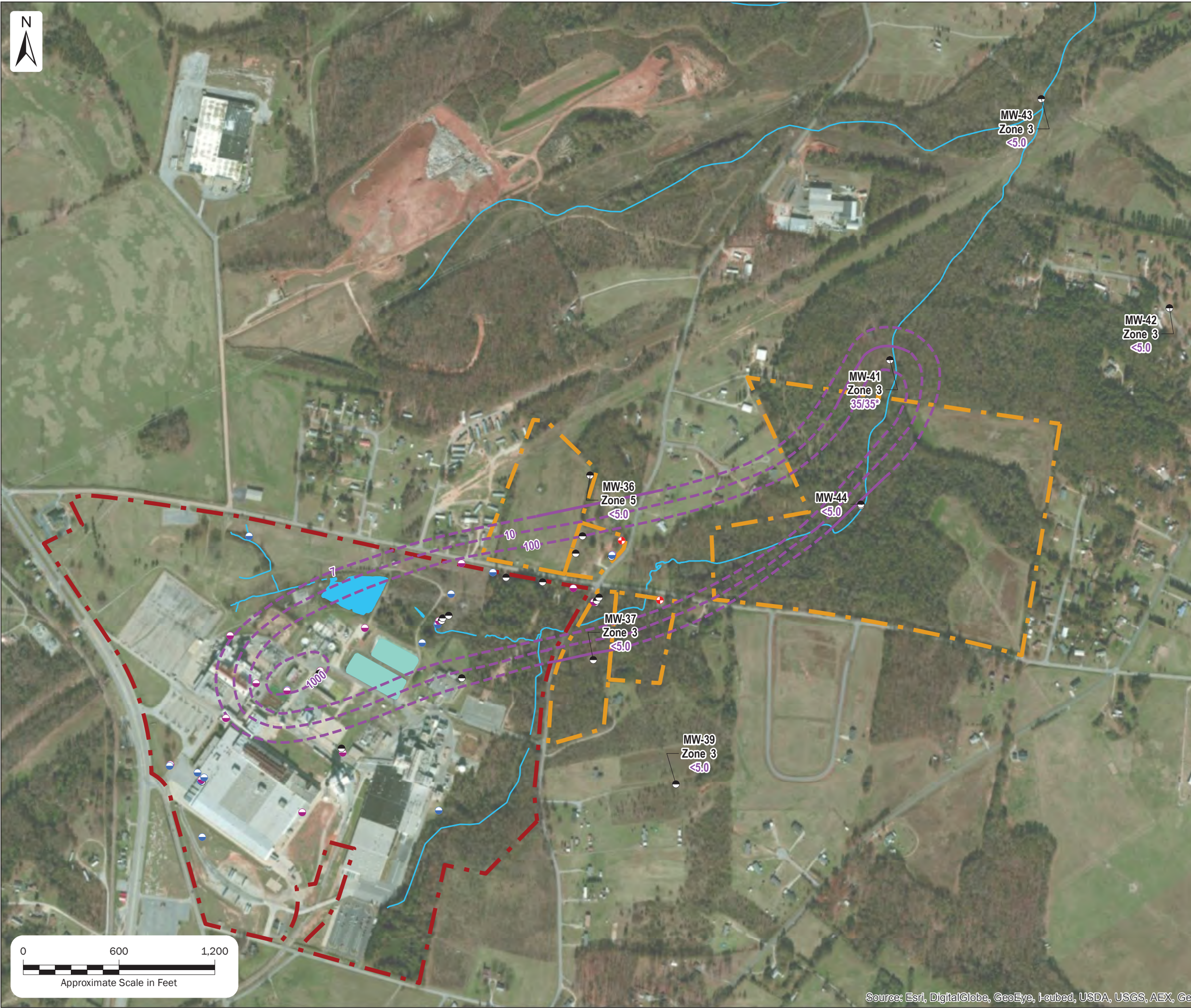
The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 19**  
 Bedrock Aquifer  
 Zone 574 to 630 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 May 2014



Anderson, Anderson County, South Carolina

<b>Brown AND Caldwell</b>	PREPARED FOR:	Owens Corning	DATE:	06/20/2014
	SCALE:	AS SHOWN	DRAWN BY:	GS4
	CHECKED BY:	TCB	PROJECT #:	145492



**LEGEND**

- 21 1,1-Dichloroethene Concentration (µg/L)
- <5.0 Concentration Below Detection Limit
- 1,1-Dichloroethene Iso-Contour (µg/L)
- - - Estimated 1,1-Dichloroethene Iso-Contour (µg/L)
- [Red Dashed Line] Owens Corning Facility Boundary
- [Orange Dashed Line] Additional Owens Corning Properties
- [Blue Circle] Overburden Monitoring Well
- [Pink Circle] Top of Rock Monitoring Well
- [Black Circle] Bedrock Monitoring Well
- [Red Circle] Extraction Well
- [Blue Wavy Line] Stream or Creek
- [Light Blue Area] Abandoned Sludge Lagoon
- [Light Green Area] Backwash Storage Ponds
- [\*] Duplicate sample

The 7 µg/L isocontour is used to represent the maximum contaminant level of 1,1-DCE.

**Figure 20**  
 Bedrock Aquifer  
 Zone 430 to 530 Feet NAVD88  
 1,1-Dichloroethene Isoconcentration Map  
 May 2014

Anderson, Anderson County, South Carolina

	PREPARED FOR:	Owens Corning	DATE:	06/20/2014
	SCALE:	AS SHOWN	DRAWN BY:	GS4
	CHECKED BY:	TCB	PROJECT #:	145492

**Table 1. Quarterly Sampling Groundwater Elevation Data - February 24, 2014**  
**Owens Corning - Anderson, SC**

Monitoring Well	Screen Interval (ft bgs)	Screened Interval Location	Surface Elevation (ft NAVD88)	TOC Elevation (ft NAVD88)	Static Depth to Water (ft Below TOC) 2/24/2014	Static Water Elevation, (ft NAVD88) 2/24/2014
MW-3	13-28	O	795.61	796.76	17.00	779.76
MW-4	14.7-29.7	O	796.72	798.38	19.81	778.57
MW-6	123.6-133.6	BR	819.82	819.69	18.51	801.18
MW-11	6.0-16.0	O	778.32	780.22	4.24	775.98
MW-12	23-33	O	778.42	780.95	5.21	775.74
MW-13	67-72	TOR	779.20	782.22	7.35	774.87
MW-14	69.2-74.2	TOR	796.39	798.45	17.09	781.36
MW-15	69.5-99.5	BR	777.11	779.45	23.28	756.17
MW-16	49-59	BR	768.14	770.37	10.82	759.55
MW-19	154-169	BR	779.69	781.81	9.87	771.94
MW-21	6.5-16.5	TOR	768.63	771.15	6.66	764.49
MW-22	78-116	BR	780.45	782.65	9.68	772.97
MW-23	83-93	TOR	808.97	811.47	11.76	799.71
MW-25	40-50	TOR	774.40	776.71	9.38	767.33
MW-26	56.7-66.7	O	790.40	793.09	14.21	778.88
MW-27	69-99	BR	808.93	811.13	21.11	790.02
MW-29R Zone 1	56.7-69.8	BR	784.90	787.03	16.10	770.93
MW-29R Zone 2	127.3-139.5	BR	784.90	787.03	9.62	777.41
MW-29R Zone 3	154.5-169.6	BR	784.90	787.03	26.35	760.68
MW-29R Zone 4	177.6-202.2	BR	784.90	787.03	31.20	755.83
MW-35 <sup>a</sup>	152-162	BR	740.90	743.73	11.62	732.11
MW-36 Zone 1	99.1-116	BR	783.00	785.63	8.81	776.82
MW-36 Zone 2	139.5-150.7	BR	783.00	785.63	9.24	776.39
MW-36 Zone 3	180.2-192.7	BR	783.00	785.63	15.04	770.59
MW-36 Zone 4	225.6-239.2	BR	783.00	785.63	17.13	768.50
MW-36 Zone 5	269.9-275	BR	783.00	785.63	24.21	761.42
MW-37 Zone 1	185-195	BR	780.20	782.92	32.81	750.11
MW-37 Zone 2	222-232	BR	780.20	782.84	28.52	754.32
MW-37 Zone 3	257-272	BR	780.20	782.79	29.41	753.38
MW-38 Zone 1	415-430	BR	768.10	771.23	9.98	761.25
MW-38 Zone 2 <sup>a,b</sup>	479.6-499.6	BR	768.10	771.18	-0.15	771.33
MW-39 Zone 1	95-105	BR	804.10	806.20	14.35	791.85
MW-39 Zone 2	195-215	BR	804.10	806.20	34.91	771.29
MW-39 Zone 3	280-300	BR	804.10	806.20	48.37	757.83
MW-41 Zone 1	17-32	BR	733.40	736.56	7.00	729.56
MW-41 Zone 2 <sup>a</sup>	109-129	BR	733.40	736.79	4.44	732.35
MW-41 Zone 3	279-299	BR	733.40	736.77	7.07	729.70
MW-42 Zone 1	114-129	BR	785.50	785.44	36.65	748.79
MW-42 Zone 2	202-222	BR	785.50	785.42	34.27	751.15
MW-42 Zone 3	265-285	BR	785.50	785.40	34.13	751.27
MW-43 Zone 1	91.8 - 111.8	BR	716.15	719.19	6.36	712.83
MW-43 Zone 2	149.57 - 179.57	BR	716.15	719.20	3.54	715.66
MW-43 Zone 3	261.8 - 281.8	BR	716.15	719.17	0.11	719.06
MW-44	280-300	BR	741.00	743.95	13.00	730.95
P1	24.5-39.5	BR	813.10	815.42	21.91	793.51
P2	53-115	BR	783.93	785.65	10.79	774.86
Alloy	56-61	BR	789.56	791.69	14.21	777.48
TW-40	84-94	BR	785.81	788.63	14.19	774.44
TW-41	50.3-55.3	BR	775.50	778.84	14.99	763.85
TW-42	21-26	TOR	775.86	778.09	12.69	765.40
TW-43	8.6-18.6	O	775.82	778.15	12.30	765.85
TW-44	64-74	BR	782.68	785.52	7.91	777.61
TW-45 <sup>c</sup>	18.8-28.8	O	816.70	816.76	NG	NG
TW-46	83.3-88.3	TOR	816.72	816.58	23.41	793.17

bgs - below ground surface

BR - bedrock

NG - not gauged

O - overburden

TOR - top of rock

TOC - top of casing

NAVD88 - North American Vertical Datum of 1988

ft bgs - feet below ground surface

<sup>a</sup> MW-35, MW-38 Zone 2, MW-41 Zone 2 TOC elevation has been adjusted by adding couplings and ball valve to surveyed elevation at top of casing.

<sup>b</sup> Static depth to water readings at artesian well (MW-38 Zone 2) were measured by using a ruler to measure the height of flow coming from the flow valve.

<sup>c</sup> Water level was not measured due to collapse of well.

**Table 2. Quarterly Sampling Groundwater Elevation Data - May 19, 2014**  
**Owens Corning - Anderson, SC**

Monitoring Well	Screen Interval (ft bgs)	Screened Interval Location	Surface Elevation (ft NAVD88)	TOC Elevation (ft NAVD88)	Static Depth to Water (ft Below TOC) 5/19/2014	Static Water Elevation, (ft NAVD88) 5/19/2014
MW-3	13-28	O	795.61	796.76	17.12	779.64
MW-4	14.7-29.7	O	796.72	798.38	20.31	778.07
MW-6	123.6-133.6	BR	819.82	819.69	18.72	800.97
MW-11	6.0-16.0	O	778.32	780.22	4.74	775.48
MW-12	23-33	O	778.42	780.95	5.54	775.41
MW-13	67-72	TOR	779.20	782.22	7.71	774.51
MW-14	69.2-74.2	TOR	796.39	798.45	16.90	781.55
MW-15	69.5-99.5	BR	777.11	779.45	23.59	755.86
MW-16	49-59	BR	768.14	770.37	11.62	758.75
MW-19	154-169	BR	779.69	781.81	10.26	771.55
MW-21	6.5-16.5	TOR	768.63	771.15	6.91	764.24
MW-22	78-116	BR	780.45	782.65	10.02	772.63
MW-23	83-93	TOR	808.97	811.47	11.46	800.01
MW-25	40-50	TOR	774.40	776.71	9.83	766.88
MW-26	56.7-66.7	O	790.40	793.09	14.19	778.90
MW-27	69-99	BR	808.93	811.13	21.03	790.10
MW-29R Zone 1	56.7-69.8	BR	784.90	787.03	16.12	770.91
MW-29R Zone 2	127.3-139.5	BR	784.90	787.03	9.57	777.46
MW-29R Zone 3	154.5-169.6	BR	784.90	787.03	26.63	760.40
MW-29R Zone 4	177.6-202.2	BR	784.90	787.03	31.49	755.54
MW-35 <sup>a</sup>	152-162	BR	740.90	743.73	11.48	732.25
MW-36 Zone 1	99.1-116	BR	783.00	785.63	8.68	776.95
MW-36 Zone 2	139.5-150.7	BR	783.00	785.63	9.09	776.54
MW-36 Zone 3	180.2-192.7	BR	783.00	785.63	14.83	770.80
MW-36 Zone 4	225.6-239.2	BR	783.00	785.63	16.53	769.10
MW-36 Zone 5	269.9-275	BR	783.00	785.63	21.86	763.77
MW-37 Zone 1	185-195	BR	780.20	782.92	33.40	749.52
MW-37 Zone 2	222-232	BR	780.20	782.84	28.83	754.01
MW-37 Zone 3	257-272	BR	780.20	782.79	32.79	750.00
MW-38 Zone 1	415-430	BR	768.10	771.23	9.43	761.80
MW-38 Zone 2 <sup>a,b</sup>	479.6-499.6	BR	768.10	771.18	-0.06	771.24
MW-39 Zone 1	95-105	BR	804.10	806.20	13.61	792.59
MW-39 Zone 2	195-215	BR	804.10	806.20	33.69	772.51
MW-39 Zone 3	280-300	BR	804.10	806.20	49.26	756.94
MW-41 Zone 1	17-32	BR	733.40	736.56	7.11	729.45
MW-41 Zone 2 <sup>a</sup>	109-129	BR	733.40	736.79	4.34	732.45
MW-41 Zone 3	279-299	BR	733.40	736.77	7.09	729.68
MW-42 Zone 1	114-129	BR	785.50	785.44	33.16	752.28
MW-42 Zone 2	202-222	BR	785.50	785.42	31.51	753.91
MW-42 Zone 3	265-285	BR	785.50	785.40	32.98	752.42
MW-43 Zone 1	91.8 - 111.8	BR	716.15	719.19	6.61	712.58
MW-43 Zone 2	149.57 - 179.57	BR	716.15	719.20	3.86	715.34
MW-43 Zone 3	261.8 - 281.8	BR	716.15	719.17	1.91	717.26
MW-44	280-300	BR	741.00	743.95	10.81	733.14
P1	24.5-39.5	BR	813.10	815.42	22.09	793.33
P2	53-115	BR	783.93	785.65	11.02	774.63
Alloy	56-61	BR	789.56	791.69	14.49	777.20
TW-40	84-94	BR	785.81	788.63	14.32	774.31
TW-41	50.3-55.3	BR	775.50	778.84	15.19	763.65
TW-42	21-26	TOR	775.86	778.09	13.03	765.06
TW-43	8.6-18.6	O	775.82	778.15	12.69	765.46
TW-44	64-74	BR	782.68	785.52	7.97	777.55
TW-45 <sup>c</sup>	18.8-28.8	O	816.70	816.76	NG	NG
TW-46	83.3-88.3	TOR	816.72	816.58	23.23	793.35

bgs - below ground surface

BR - bedrock

NG - not gauged

O - overburden

TOR - top of rock

TOC - top of casing

NAVD88 - North American Vertical Datum of 1988

ft bgs - feet below ground surface

<sup>a</sup> MW-35, MW-38 Zone 2, MW-41 Zone 2 TOC elevation has been adjusted by adding couplings and ball valve to surveyed elevation at top of casing.

<sup>b</sup> Static depth to water readings at artesian well (MW-38 Zone 2) were measured by using a ruler to measure the height of flow coming from the flow valve.

<sup>c</sup> Water level was not measured due to collapse of well.









Table 6. Residential Well Analytical Results - May 2014

Owens Corning - Anderson, SC

Sample ID	MCL (ug/L)	628 Airline Road	412 Kaye Drive	117 Faye Dr.	303 Kaye Drive	200 Kaye Drive	1303 Clinkscales Rd	119 Cloverhill Dr	115 Elrod Rd	721 Clinkscales Rd.	200 Friendship Ln	408 Clinkscales Rd
Sample Date		5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14	5/19/14
<b>Volatile Organic Compounds</b>												
1,1,1-Trichloroethane	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon tetrachloride	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform <sup>2</sup>	80	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	700	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Xylenes, total	10,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
<b>Field Parameters</b>												
pH (s.u.)	-	6.42	6.62	7.08	6.36	6.63	6.63	6.49	6.11	5.84	6.33	7.98
Temperature (degrees C)	-	15.38	18.25	17.21	21.27	17.28	17.40	16.38	16.39	17.57	16.88	18.90
Specific Conductance (uS/cm)	-	0.086	0.043	0.240	0.116	0.091	0.055	0.040	0.035	0.062	0.138	0.067
Eh (mV)	-	197.2	172.5	176.1	183.6	192.8	184.4	188.0	200.2	212.7	181.4	191.1
Dissolved Oxygen (mg/L)	-	6.90	7.01	7.12	7.12	6.77	8.57	9.01	8.73	8.27	4.80	8.75
Turbidity (NTU)	-	1.57	12.50	0.34	0.61	0.71	0.48	1.13	0.80	0.47	6.79	0.89

MCL - Maximum Contaminant Level

ug/L - micrograms per liter

mg/L - milligrams per liter

uS/cm - microsiemens per centimeter

mV - millivolts

NTU - nephelometric turbidity units

NA - not applicable

s.u. - standard units

<sup>1</sup> MCL listed for Chloroform is for Total Trihalomethanes.**Bold** VOC results indicate concentration above the MCL.

**Table 7. Residential Well Location Map ID  
Owens Corning - Anderson, SC**

Map ID*	Location	Map ID*	Location
1	3715 Mabry Street	38	215 Elrod Road
2	634 Airline Road	39	115 Elrod Road
3	3735 Keys Street	40	119 Cloverhill Drive
4	1100 Airline Road	41	122 Kayle Drive
5	3721 Keys Street	42	138 Kayle Drive
6	4004 Keys Street	43	1802 Airline Road
7	605 Clinkscales Road	44	1303 Clinkscales Road
8	134 Friendship Lane	45	815 Airline Road
9	138 Friendship Lane	46	300 Jones Road
10	200 Friendship Lane	47	5104 Johnson Street
11	721 Clinkscales Road	48	104 Herbs Lane
12	711 Clinkscales Road	49	203 Travis Road
13	628 Airline Road	50	107 Jones Road
14	3731 Keys Street	51	303 Flat Rock Road
15	3713 Keys Street	52	4518 Keys Street
16	624 True Temper Road	53	4608 Keys Street
17	1501 Airline Road	54	4610 Keys Street
18	420 True Temper Road	55	5005 Johnson Street
19	408 Clinkscales Road	56	5009 Johnson Street
20	401 Clinkscales Road	57	5010 Johnson Street
21	4515 Keys Street	58	5014 Johnson Street
22	305 Harry Drive	59	5101 Johnson Street
23	150 Clinkscales Road	60	4906 Highway 81 South
24	943 Flat Rock Road	61	5305 Highway 81 South
25	325 Clinkscales Road	62	116 Young Road
26	322 Clinkscales Road	63	201 True Temper Road
27	321 Clinkscales Road	64	106 Pickens Circle
28	137 Knowlandwood Circle	65	110 Pickens Circle
29	412 Kaye Drive	66	123 Pickens Circle
30	413 Kaye Drive	67	127 Pickens Circle
31	311 Kaye Drive	68	131 Pickens Circle
32	117 Faye Drive	69	136 Pickens Circle
33	303 Kaye Drive	70	206 Wesley Court
34	End of Kaye Drive	71	104 Harry Drive
35	217 Kaye Drive	72	299 True Temper Road
36	200 Kaye Drive	73	119 True Temper Road
37	335 Elrod Road		

\* Map ID corresponds to Figure 12 - Residential Well Sampling Location Map - May 2014

## **Appendix A: Groundwater Sampling Field Data Sheets**

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# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-15

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: border of OC property  
 Client: Owens Corning Personnel: M  
 Project Location: Anderson, South Carolina Weather: overcast

**2. WELL DATA** Date Measured: 2-24-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 99.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 33.28 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 76.55 feet Well Volume: 12.72 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 0830 Time: 2-25-14 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
0855	3.0	6.84	15.87	.196	65.6	1.97	0.96	33.20	
0900	5.0	6.82	15.92	.191	64.2	2.13	1.08	33.25	
0905	7.0	6.82	15.94	.192	64.1	2.21	1.96	35.28	
0910	9.0	6.82	15.99	.190	63.9	2.18	1.68	36.91	
0915	12.0	6.82	15.98	.190	64.1	2.17	1.23	38.04	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056-MW-15 Sample Date: 2-25-14 Sample Time: 0915 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

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Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: Merge Ncala

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-22

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: [Signature]  
 Project Location: Anderson, South Carolina Weather: ~60° Sunny

**2. WELL DATA**

Date Measured: 2-24-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 8 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 8 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 116 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 9.68 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 106.32 feet Well Volume: 17.75 gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2-24-14 Time: 1500 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min

1. YSI
  2. Lamotte
  3. Geosub
  4. \_\_\_\_\_
- Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1505	3.0	5.65	17.20	.137	112.4	2.83	1.04	9.71	
1510	7.0	5.63	17.22	.136	125.1	2.85	.84	9.72	
1515	11.0	5.62	17.20	.135	135.4	2.84	1.91	9.72	
1520	15.0	5.61	17.20	.136	142.7	2.84	0.86	9.72	
1525	20.0	5.61	17.19	.135	146.3	2.89	0.54	9.73	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14055 MW-22 Sample Date: 2-24-14 Sample Time: 1525 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

[Signature]  
 Signature



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-29R Zone 3-Waterloo

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: ~60° Sunny

## 2. WELL DATA

Date Measured: 2-24-14 Time: 4M Temporary Well:  Yes  No

Casing Diameter: 2 inches  
 Screen Diameter: 6 inches  
 Sampling Interval: 154.5-169.6 feet  
 Depth to Static Water: 6917 Dg  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet  
 Well Volume: \_\_\_\_\_ gal  
 Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

Length of water column calculation:  
 $(9094 - \text{Current Dg reading}) \times 0.02775 \times 2.3108 = \text{Length of water column (ft)}$   
 Well Vol. calculation:  
 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water in tubing(1/4")  
 = [22.18 gal - 2.52 gal] + (0.0102 gal/ft x length of water column)

## 3. PURGE DATA

Date Purged: 2-25-14 Time: 1225 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1230	.1	6.13	15.26	.157	125.4	7.08	1.80	6918	
1235	.2	5.92	15.57	.170	95.7	5.64	2.00	6918	
1240	.3	5.75	15.60	.171	109.9	5.56	1.91	6918	
1245	.4	5.72	15.60	.169	118.7	5.55	2.38	6918	
1250	.5	5.72	15.71	.169	123.0	5.58	2.11	6918	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056 MW-29R33 Sample Date: 2-25-14 Sample Time: 1250 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 14056-Dup # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Dup

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature MJ





# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-29R Zone 4-Waterloo

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MM  
 Project Location: Anderson, South Carolina Weather: ~60° Sunny

**2. WELL DATA** Date Measured: 2-24-14 Time: 4m Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 Screen Diameter: 6 inches (8932.8-Current Dg reading)\*0.02724)\*2.3108) = Length of water column (ft)  
 Sampling Interval: 177.6-202.2 feet Well Vol. calculation:  
 Depth to Static Water: 627.6 feet 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2") + vol of water intubing(1/4")  
 Depth to Product: \_\_\_\_\_ feet = [36.14 gal - 4.11 gal] + (0.0102 gal/ft x length of water column)  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 2-25-14 Time: 1300 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1305	1.1	6.23	15.76	140	114.2	4.76	2.50	627.5	
1310	2	5.83	15.76	145	114.1	1.14	1.39	627.5	
1315	3	5.71	15.73	146	119.3	1.28	2.10	627.5	
1320	4	5.69	15.70	146	122.6	1.41	2.61	627.5	
1325	5	5.69	15.71	146	124.8	1.43	2.22	627.5	
1330	6	5.67		146	126.1	1.43	0.97		Purge data continued on next sheet? <input type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No

Sample ID: 14056 MW-29R-24 Sample Date: 2-25-14 Sample Time: 1330 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 1  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 1

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature MM



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-35

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: Emr Devalped land  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: ~60° sunny

## 2. WELL DATA

Date Measured: 2-24-14 Time: PM Temporary Well:  Yes  No

Casing Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 162 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 11.62 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 150.38 feet Well Volume: 25.11 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-24-14 Time: 1255 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. LaMotte
3. Geosub
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1300	3.0	9.76	14.83	.142	46.7	2.89	1.11	14.23	
1305	6.0	9.78	14.99	.142	43.9	2.96	0.98	18.62	
1310	9.0	9.78	15.10	.142	41.2	2.84	0.96	19.11	
1315	12.0	9.83	15.04	.142	36.2	1.71	.00	21.23	
1320	15.0	9.83	15.10	.142	34.9	1.44	.00	22.08	
1325	18.0	9.83	15.13	.142	36.8	1.31	.00		

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14055-MW-35 Sample Date: 2-24-14 Sample Time: 1325 # of Containers: \_\_\_\_\_  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: George J. Galt



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-36 Zone 1-Waterloo

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: ~50° overcast

## 2. WELL DATA

Date Measured: 2-28-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 Screen Diameter: 6 inches (8558.7-Current Dg reading)\*0.01797)\*2.3108) = Length of water column (ft)  
 Sampling Interval: 99.1-116 feet Well Vol. calculation:  
 Depth to Static Water: 6159.5 Dg 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of tubing(1/4")  
 Depth to Product: \_\_\_\_\_ feet = [24.83 gal - 2.82 gal] + (0.0102 gal/ft x length of water column)  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-25-14 Time: 1130 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. LaMotte
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1130	.1	6.19	15.51	110	24.1	6.54	4.20	6162	
1140	.2	6.17	15.61	107	69.7	6.69	2.31	6165	
1150	.3	6.16	15.63	106	85.8	6.48	1.07	6168	
1200	.4	6.16	15.67	106	104.2	6.50	2.33	6162	
1210	.5	6.16	15.67	106	116.2	6.50	1.96	6162	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 1456-MW-36-21 Sample Date: 2-25-14 Sample Time: 1210 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: Marge Skala

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-36 Zone 3-Waterloo

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: M  
 Project Location: Anderson, South Carolina Weather: ~60° overcast

**2. WELL DATA**

Date Measured: 2-25-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 Screen Diameter: 6 inches (9093.1-Current Dg reading)\*0.02725)\*2.3108) = Length of water column (ft)  
 Sampling Interval: 180.2-192.7 feet Well Vol. calculation:  
 Depth to Static Water: 6418.5 feet 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water in tubing(1/4")  
 Depth to Product: \_\_\_\_\_ feet = [18.36 gal - 2.09 gal] + (0.0102 x length of water column)  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2-25-14 Time: 1000 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_ 1. YSI  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_ 2. CamOx  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_ 3. \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable 4. \_\_\_\_\_  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments	
1010	.05	7.38	12.53	1.442	-17.4	7.35	4.32	6888	1 CPM	
1020	.10	7.23	11.09	1.393	-29.0	9.33	3.97	8343		
1030	.15	7.21	10.62	.868	-32.4	9.52	-	-		
				DRY at 1030, will let recharge						
1450				Recharged, Sample						

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056-MW-36-23 Sample Date: 2-25-14 Sample Time: 1450 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-36 Zone 5-Waterloo

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: ~60° overcast!

## 2. WELL DATA

Date Measured: 2-24-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 (8843.2-Current Dg reading)\*0.03897\*2.3108 = Length of water column (ft)  
 Screen Diameter: 6 inches Well Vol. calculation:  
 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water in tubing(1/4")  
 = [7.49 gal - 0.85 gal] + (0.0102 x length of water column)  
 Sampling Interval: 269.9-275 feet  
 Depth to Static Water: 6086.2 feet  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-25-14 Time: 1035 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. LaMotte
3. Air Compressor
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1045	.1	7.61	13.44	3.393	-64.7	8.43	13.92	6632	
1055	.2	7.61	12.16	3.414	-64.9	7.61	11.90	6948	water dripping out
1105	.3	7.59	11.64	3.439	-66.6	7.58	10.00	7878	
1115	.4	7.58	11.35	3.486	-69.5	7.49	9.78	7688	
1125	.5	7.58	11.41	3.491	-71.3	7.36	-	-	STOP no water discharging

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056-MW-36 Z5 Sample Date: 2-25-14 Sample Time: 1510 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

1125 - no water discharging, will let recharge

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature Morgan Akala

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-37 Zone 1

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Menez  
 Project Location: Anderson, South Carolina Weather: cloudy, drizzle 40°

**2. WELL DATA**

Date Measured: 2/26/14 Time: 0900 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 195 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 32.81 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 162.2 feet Well Volume: 6.6 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/26/14 Time: 0930 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 19.9 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. VSI
2. water level
3. MP-50
4. turbidity meter

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
0945	0	7.03	13.74	0.792	-108.9	0.95	0.65	32.19	
0955	0.2	7.44	14.24	0.795	-162.6	0.82	0.77	40.27	
1005	0.4	7.49	13.53	0.794	-180.9	0.97	1.02	44.67	
1015	0.6	7.50	12.88	0.799	-167.3	1.57	0.79	47.51	
1025	0.8	7.55	12.84	0.796	-159.3	1.98	0.74	49.11	

Purge data continued on next sheet?

**4. SAMPLING DATA**


Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 62.67 Field Filtered?  Yes  No  
 Sample ID: 14057-MW-3720n81 Sample Date: 2/26/14 Sample Time: 11:45 # of Containers: \_\_\_\_\_  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

  
Signature

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-37 Zone 1

3. PURGE DATA (continued from page <u>1</u> )									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1035	1.0	7.55	12.42	0.796	-150.8	2.22	0.73	51.39	
1045	1.2	7.54	12.11	0.788	-149.2	1.51	0.66	52.59	
1055	1.4	7.53	11.86	0.792	-148.8	2.27	0.74	53.92	
1105	1.6	7.50	11.83	0.794	-139.5	8.88	1.06	55.01	
1115	1.8	7.59	13.15	0.795	-146.6	8.32	1.23	57.48	
1125	2.0	7.53	12.88	0.794	-142.8	8.59	1.70	59.42	
1135	2.2	7.53	12.63	0.793	-142.5	8.73	2.28	61.10	
1145	2.4	7.53	12.45	0.793	-145.5	8.77	2.16	62.42	

Purge data continued on next sheet?

Signature 



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-37 Zone 2

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Perez  
 Project Location: Anderson, South Carolina Weather: cloudy 60°

## 2. WELL DATA

Date Measured: 2/26/14 Time: 1700 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 232 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 28.52 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 203.5 feet Well Volume: 8.3 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2/26/14 Time: 1220 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 25.0 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1220	0	8.55	14.93	0.162	-213.3	0.64	2.56	28.62	
1230	0.4	10.27	15.13	0.220	-292.4	0.55	1.50	28.62	
1240	0.8	11.12	15.35	0.398	-319.8	0.48	1.86	28.70	
1250	1.2	11.17	15.45	0.427	-328.8	0.44	1.21	28.70	
1300	1.6	11.21	15.47	0.443	-327.6	0.51	1.15	28.70	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14057-MW-37zone2 Sample Date: 2/26/14 Sample Time: 1400 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

pH is reading higher than usual

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

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**GROUNDWATER SAMPLING FIELD DATA SHEET**

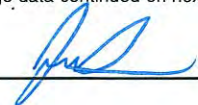
WELL ID:         MW-37 Zone 2        

**3. PURGE DATA** (continued from page  1 )

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1310	2.00	11.24	15.49	0.456	-331.7	0.43	1.30	28.70	
1320	2.40	11.29	15.53	0.541	-299.5	0.44	0.56	28.70	
1330	2.80	11.40	15.70	0.613	-288.1	0.42	0.61	28.70	
1340	3.20	11.38	15.55	0.625	-283.7	0.43	0.54	28.70	
1350	3.40	11.40	15.52	0.624	-283.1	0.47	1.40	28.70	
1400	4.00	11.38	15.49	0.620	-281.0	0.43	1.01	28.70	

Purge data continued on next sheet?

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Signature 



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-37 Zone 3

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 200.001 Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Dunbar  
 Project Location: Anderson, South Carolina Weather: Sunny 60°

## 2. WELL DATA

Date Measured: 2/26/14 Time: 1425 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 272 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 29.41 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 242.6 feet Well Volume: 9.9 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in, well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2/26/14 Time: 1430 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 29.8 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- YSI
- turbidity meter
- MP-50
- water level

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
<u>1425</u>	<u>0</u>	<u>8.59</u>	<u>16.09</u>	<u>0.467</u>	<u>-184.7</u>	<u>0.95</u>	<u>0.68</u>	<u>29.88</u>	
<u>1435</u>	<u>0.25</u>	<u>7.97</u>	<u>15.86</u>	<u>0.467</u>	<u>-193.8</u>	<u>0.54</u>	<u>1.18</u>	<u>31.89</u>	
<u>1445</u>	<u>0.50</u>	<u>7.71</u>	<u>15.74</u>	<u>0.467</u>	<u>-184.7</u>	<u>0.50</u>	<u>1.11</u>	<u>38.16</u>	
<u>1455</u>	<u>0.75</u>	<u>7.56</u>	<u>15.20</u>	<u>0.469</u>	<u>-169.3</u>	<u>0.55</u>	<u>0.99</u>	<u>40.64</u>	
<u>1505</u>	<u>1.00</u>	<u>7.50</u>	<u>15.41</u>	<u>0.467</u>	<u>-163.0</u>	<u>0.60</u>	<u>0.91</u>	<u>42.31</u>	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 50.55 Field Filtered?  Yes  No  
 Sample ID: 14057-MW-37 Zone 3 Sample Date: 2/26/14 Sample Time: 1535 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: =  
 Equipment Blank Collected?  Yes  No ID: - # of Containers: =

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

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 Signature: Juan Dunbar

GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-37 Zone 3

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1515	1.26	7.46	14.62	0.469	-153.0	0.70	2.50	43.59	
1525	1.50	7.49	15.85	0.466	-156.3	0.88	1.13	46.62	
1535	1.75	7.43	15.99	0.468	749.6	0.91	1.00	49.05	

Purge data continued on next sheet?

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# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-38 Zone 1

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: ~50° slight rain

## 2. WELL DATA

Date Measured: 2-24-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 430 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 9.98 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 420.02 feet Well Volume: 17.72 gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-26-14 Time: 0840 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min

Equipment Model(s)  
 1. YSI  
 2. LaMotte  
 3. 9108  
 4. \_\_\_\_\_  
 Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0845</u>	<u>.05</u>	<u>7.44</u>	<u>13.34</u>	<u>455</u>	<u>-84.1</u>	<u>2.55</u>	<u>.43</u>	<u>10.02</u>	
<u>0855</u>	<u>.15</u>	<u>7.75</u>	<u>13.99</u>	<u>373</u>	<u>-71.1</u>	<u>9.06</u>	<u>.66</u>	<u>11.02</u>	
<u>0905</u>	<u>.25</u>	<u>7.65</u>	<u>12.57</u>	<u>360</u>	<u>-58.7</u>	<u>9.01</u>	<u>.77</u>	<u>11.04</u>	
<u>0915</u>	<u>.35</u>	<u>7.53</u>	<u>12.04</u>	<u>353</u>	<u>-49.6</u>	<u>7.63</u>	<u>1.09</u>	<u>11.21</u>	
<u>0925</u>	<u>.45</u>	<u>7.48</u>	<u>12.00</u>	<u>350</u>	<u>-36.3</u>	<u>7.61</u>	<u>1.21</u>	<u>11.33</u>	
<u>0935</u>	<u>.55</u>	<u>7.48</u>	<u>11.97</u>	<u>350</u>	<u>-26.8</u>	<u>7.60</u>	<u>.97</u>		Purge data continued on next sheet? <input checked="" type="checkbox"/>

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14057-MW-38Z1 Sample Date: 2-26-14 Sample Time: 0945 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**WELL ID:         MW-38 Zone 1        

3. PURGE DATA (continued from page ___)									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
0945	.65	7.49	11.93	351	-23.8	7.61	1.09	11.97	

Purge data continued on next sheet?



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-38 Zone 2

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: MJ  
 Project Location: Anderson, South Carolina Weather: -60° Sunny

## 2. WELL DATA

Date Measured: 2-24-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 499.6 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 4.15 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 499.74 feet Well Volume: 20.84 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-25-14 Time: 1340 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: Artesian  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or 5.66 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1345	.2	7.98	13.24	.184	-45.9	1.67	1.88	—	artesian
1355	1.5	8.06	14.70	.184	-146.9	.60	.90	—	"
1405	2.0	8.09	14.61	.184	-119.6	1.10	1.41	—	"
1410	2.2	8.07	14.30	.182	-139.6	.72	2.19	—	"
1415	2.5	8.09	14.19	.182	-153.8	.70	2.21	—	"
1420	2.7	8.11	14.18	.180	-163.0	.68			

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: artesian  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056-MW-38-2 Sample Date: 2-25-14 Sample Time: 1425 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature MJ



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID:       MW-38 Zone 2      

### 3. PURGE DATA (continued from page \_\_\_\_)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1425	3.0	8.09	19.23	.180	-168.5	.69	1.84	~	

Purge data continued on next sheet?



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-39 Zone 1

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: cloudy 45°

## 2. WELL DATA

Date Measured: 2/25/14 Time: 0915 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 105 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 14.35 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 90.65 feet Well Volume: 3.8 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2/25/14 Time: 0950 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 11.1 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. turbidity meter
3. water level
4. HP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0950</u>	<u>0</u>	<u>5.34</u>	<u>15.03</u>	<u>0.095</u>	<u>165.1</u>	<u>3.70</u>	<u>0.38</u>	<u>14.68</u>	
<u>1000</u>	<u>0.25</u>	<u>6.45</u>	<u>15.63</u>	<u>0.089</u>	<u>77.1</u>	<u>3.65</u>	<u>0.48</u>	<u>14.90</u>	
<u>1010</u>	<u>0.80</u>	<u>6.77</u>	<u>15.78</u>	<u>0.098</u>	<u>79.9</u>	<u>4.17</u>	<u>0.44</u>	<u>14.92</u>	
<u>1020</u>	<u>1.25</u>	<u>6.93</u>	<u>15.84</u>	<u>0.100</u>	<u>71.4</u>	<u>4.26</u>	<u>0.47</u>	<u>14.92</u>	
<u>1030</u>	<u>1.75</u>	<u>7.01</u>	<u>15.84</u>	<u>0.099</u>	<u>63.3</u>	<u>4.25</u>	<u>0.72</u>	<u>14.95</u>	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 14.95 Field Filtered?  Yes  No  
 Sample ID: 14056-MW-39 Zone 1 Sample Date: 2/25/14 Sample Time: 1100 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: 14056-EB # of Containers: 2

### Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

14056-EB taken at 1120

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID:       MW-39 Zone 1      

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1040	2.1	7.06	15.90	0.0999	62.0	4.20	0.78	14.95	
1050	2.5	7.08	15.81	0.1000	58.3	4.21	1.02	14.95	
1100	2.9	7.02	16.17	0.1000	62.9	4.12	1.50	14.95	

Purge data continued on next sheet?

*Jul*  
Signature



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-39 Zone 2

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Ponce  
 Project Location: Anderson, South Carolina Weather: Sunny 70°

## 2. WELL DATA

Date Measured: 2/25/14 Time: 1300 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 215 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 39.41 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 175.6 feet Well Volume: 7.2 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2/25/14 Time: 1330 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 21.6 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. turbidity meter
3. Water level
4. HP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1335</u>	<u>0</u>	<u>7.07</u>	<u>17.11</u>	<u>0.540</u>	<u>-80.1</u>	<u>2.51</u>	<u>1.49</u>	<u>32.88</u>	
<u>1345</u>	<u>0.20</u>	<u>7.23</u>	<u>16.76</u>	<u>0.540</u>	<u>-106.4</u>	<u>9.53</u>	<u>2.56</u>	<u>43.71</u>	
<u>1355</u>	<u>0.40</u>	<u>7.35</u>	<u>16.99</u>	<u>0.541</u>	<u>-116.3</u>	<u>9.48</u>	<u>1.57</u>	<u>48.35</u>	
<u>1405</u>	<u>0.60</u>	<u>7.44</u>	<u>17.39</u>	<u>0.542</u>	<u>-118.6</u>	<u>9.46</u>	<u>1.77</u>	<u>50.86</u>	
<u>1415</u>	<u>0.80</u>	<u>7.44</u>	<u>17.57</u>	<u>0.541</u>	<u>-113.2</u>	<u>9.39</u>	<u>2.40</u>	<u>52.88</u>	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 54.04 Field Filtered?  Yes  No  
 Sample ID: 14056-MW-39 Zone 2 Sample Date: 2/25/14 Sample Time: 1415 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 1425 # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

### Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:       MW-39 Zone 2      

3. PURGE DATA (continued from page <u>1</u> )									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1425	1.00	7.41	13.66	0.542	709.1	9.28	1.81	54.23	

Purge data continued on next sheet?

Signature 

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-39 Zone 3

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Munoz  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 2/25/14 Time: 1450 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 300 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 48.37 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 251.6 feet Well Volume: 103 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/25/14 Time: 1500 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 30.9 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. turbidity meter
3. HP-50
4. water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1505	0	6.79	17.67	0.223	-96.8	2.53	1.59	—	
1515	0.05	6.59	16.94	0.223	-107.6	1.38	3.22	—	
1525	0.10	6.77	16.81	0.222	-116.5	1.31	3.10	—	
1535	0.15	6.90	17.02	0.222	-115.2	1.60	2.04	—	
1545	0.20	6.83	16.77	0.220	-108.7	1.92	2.71	—	
<del>1555</del>	<del>0.25</del>	<del>6.92</del>	<del>16.95</del>	<del>0.218</del>	<del>-105.9</del>	<del>2.18</del>	<del>5.47</del>		

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14056-MW-3920083 Sample Date: 2/25/14 Sample Time: 1615 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Unable to lower water level pass 47.5'

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature Juan Munoz

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-39 Zone 3

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1555	0.25	6.92	16.95	0.218	-105.9	2.18	5.42	←	
1605	0.30	6.92	16.80	0.216	-103.6	2.33	3.01	←	
1615	0.35	6.93	16.55	0.218	-101.4	2.10	2.16	←	

Purge data continued on next sheet?

2/2

Signature [Handwritten Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 1

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: M  
 Project Location: Anderson, South Carolina Weather: 64 Sunny

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129.31 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 7.00 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 25.00 feet Well Volume: 1.025 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2-27-14 Time: 0855 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): this well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0900</u>	<u>1</u>	<u>7.77</u>	<u>11.06</u>	<u>135</u>	<u>-83.3</u>	<u>8.41</u>	<u>632</u>	<u>7.09</u>	<u>Water is black</u>
<u>0915</u>									<u>Problem w/ pump MP-50</u>
<u>0925</u>	<u>2</u>	<u>7.87</u>	<u>11.16</u>	<u>126</u>	<u>-28.7</u>	<u>9.31</u>	<u>41.39</u>	<u>7.80</u>	
<u>0935</u>	<u>3</u>	<u>7.90</u>	<u>10.91</u>	<u>231</u>	<u>-27.1</u>	<u>7.82</u>	<u>14.53</u>	<u>7.80</u>	
<u>0945</u>	<u>4</u>	<u>7.90</u>	<u>10.72</u>	<u>223</u>	<u>-35.4</u>	<u>7.70</u>	<u>8.41</u>	<u>7.80</u>	
<u>0955</u>	<u>5</u>	<u>7.87</u>	<u>11.62</u>	<u>241</u>	<u>-25.4</u>	<u>7.32</u>			

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14058-MW-41Z1 Sample Date: 2-27-14 Sample Time: 1125 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 14058-Dup # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:           MW-41 Zone 1          

**3. PURGE DATA (continued from page   1  )**

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1005	.6	7.87	12.59	235	-48.7	7.84	4.92	7.56	
1015	.7	7.88	12.33	228	-45.3	7.12	4.15	7.56	
1025	.8	7.83	12.29	232	-45.1	7.34	4.88	7.63	
1035	1.0	7.83	12.45	210	-26.2	2.83	.12	7.63	
1045	1.2	7.83	12.55	210	-20.9	2.90	1.68	7.63	
1055	1.3	7.83	12.55	210	-17.1	2.49	1.31	7.63	
1105	1.5	7.83	12.84	209	-12.2	2.41	1.24	7.63	
1115	1.7	7.84	13.05	209	-9.1	2.24	.96	7.63	
1125	2.0	7.85	12.96	212	-9.5	2.18	.86	7.63	

1125

Purge data continued on next sheet?

Signature \_\_\_\_\_

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 2

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: Sunny 55°

**2. WELL DATA**

Date Measured: 2/27/14 Time: 1120 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 4.04 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 124.9 feet Well Volume: 5.1 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/27/14 Time: 1125 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 15.4 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<del>1130</del> <u>1135</u>	<u>0</u>	<u>7.89</u>	<u>14.76</u>	<u>0.231</u>	<u>-115.2</u>	<u>0.75</u>	<u>0.56</u>	<u>4.63</u>	
<u>1135</u>	<u>0.5</u>	<u>7.90</u>	<u>15.09</u>	<u>0.231</u>	<u>-118.8</u>	<u>0.46</u>	<u>0.15</u>	<u>4.67</u>	
<u>1145</u>	<u>1.0</u>	<u>7.88</u>	<u>15.15</u>	<u>0.232</u>	<u>-117.7</u>	<u>0.40</u>	<u>0.17</u>	<u>4.67</u>	
<u>1155</u>	<u>1.5</u>	<u>7.88</u>	<u>15.17</u>	<u>0.232</u>	<u>-118.7</u>	<u>0.36</u>	<u>0.03</u>	<u>4.67</u>	
<u>1205</u>	<u>2.0</u>	<u>7.87</u>	<u>15.21</u>	<u>0.232</u>	<u>-122.7</u>	<u>0.34</u>	<u>0.00</u>	<u>4.67</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 4.67 Field Filtered?  Yes  No  
 Sample ID: 14058-MW-4120182 Sample Date: 2/27/14 Sample Time: 1215 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.





# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-41 ~~Zone 1~~ Zone 2

3. PURGE DATA (continued from page <u>1</u> )									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
12:15	25	7.88	15.29	0.231	121.3	0.33 <del>0.07</del>	0.01 <del>4.67</del>	4.67	

Purge data continued on next sheet?

  
Signature

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 3

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Jan Nung  
 Project Location: Anderson, South Carolina Weather: Sunny 40°

**2. WELL DATA**

Date Measured: 2/27/14 Time: 0900 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 299 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 7.07 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/27/14 Time: 0910 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. MP50
3. turbidity meter
4. water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0945</u>	<u>0</u>	<u>8.58</u>	<u>10.11</u>	<u>0.357</u>	<u>-144.9</u>	<u>8.84</u>	<u>49.3</u>	<u>18.39</u>	
<u>0955</u>	<u>150.15</u>	<u>8.83</u>	<u>11.28</u>	<u>0.369</u>	<u>-158.0</u>	<u>8.53</u>	<u>53.3</u>	<u>20.84</u>	
<u>1005</u>	<u>300.3</u>	<u>8.76</u>	<u>11.10</u>	<u>0.367</u>	<u>-156.4</u>	<u>8.50</u>	<u>53.7</u>	<u>22.51</u>	
<u>1015</u>	<u>450.45</u>	<u>8.83</u>	<u>12.00</u>	<u>0.371</u>	<u>-157.6</u>	<u>1.71</u>	<u>55.5</u>	<u>23.29</u>	
<u>1025</u>	<u>600.6</u>	<u>8.84</u>	<u>12.98</u>	<u>0.369</u>	<u>-163.5</u>	<u>1.18</u>	<u>53.9</u>	<u>25.46</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14058-MW-41 Zone 3 Sample Date: 2/27/14 Sample Time: 1045 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: 14058-EB # of Containers: 2

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

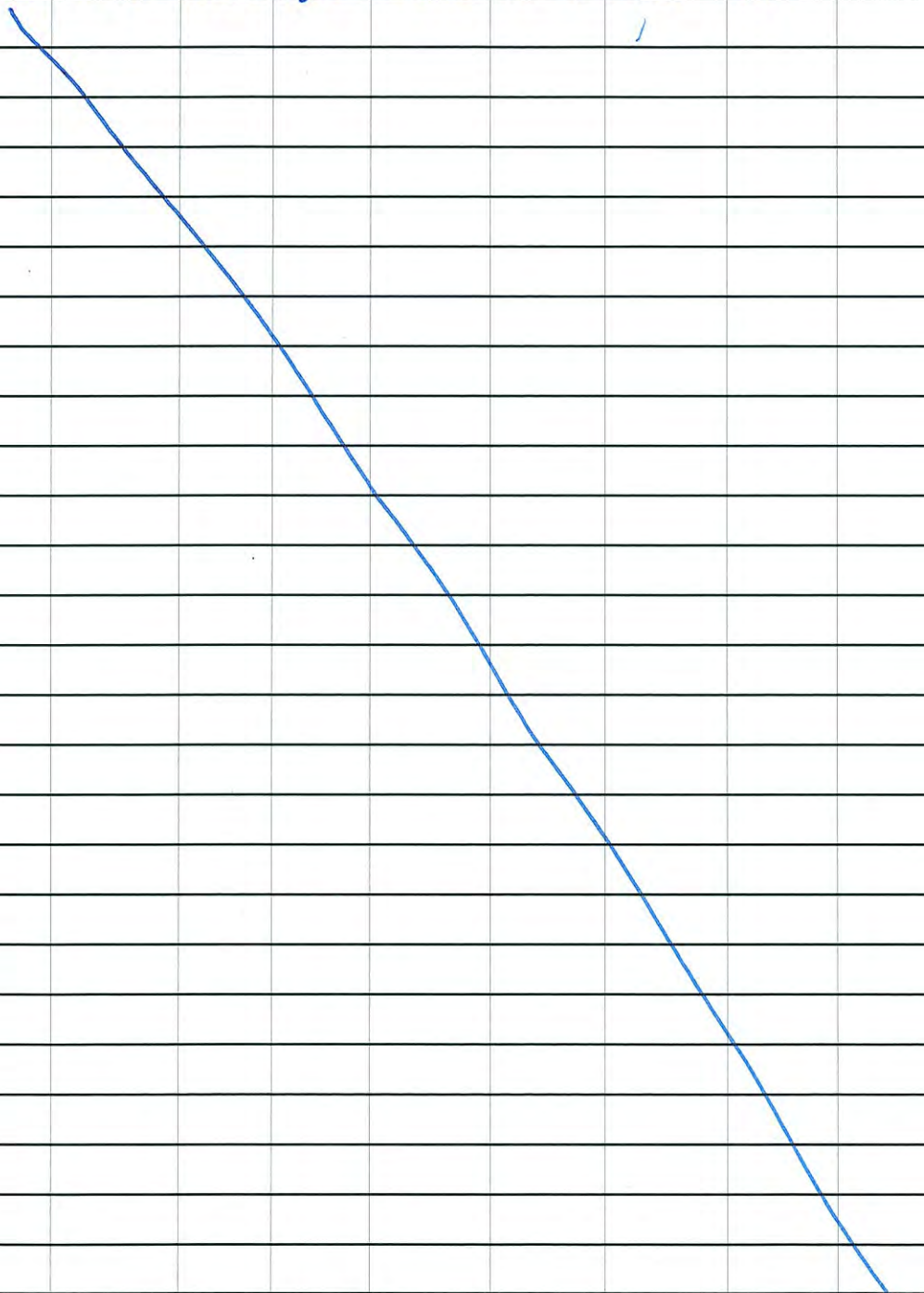
EB taken at collected at 1105

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

WELL ID:          MW-41 Zone 3         

**3. PURGE DATA** (continued from page  1 )

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1035	7.5075	8.82	13.38	0.370	-164.7	1.14	53.3	26.15	
1045	0.90	8.85	13.44	0.370	-163.4	1.25	55.9	—	



Purge data continued on next sheet?

Signature [Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 1

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 2/24/14 Time: 1500 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 36.65 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 92.35 feet Well Volume: 3.8 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/24/14 Time: 1505 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 11.3 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. turbidity meter
3. MP-50
4. water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1510	0	9.26	17.79	0.138	-137.8	1.81	1.73	37.02	
1520	0.25	9.52	17.55	0.139	-145.8	1.05	1.17	37.02	
1530	0.50	9.78	17.48	0.146	-156.1	0.77	0.94	37.02	
1540	0.75	10.62	17.40	0.241	-168.9	0.41	0.87	37.02	
1550	1.00	10.93	17.39	0.381	-158.3	2.10	1.00	37.02	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 37.02 Field Filtered?  Yes  No  
 Sample ID: 14055-MW-42 Zone 1 Sample Date: 2/24/14 Sample Time: 1610 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**


WELL ID: MW-42 Zone 1

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1600	1.25	10.98	17.37	0.358	-147.4	2.88	1.69	37.02	
1610	1.50	10.91	17.39	0.305	-139.1	2.35	0.71	37.08	

Purge data continued on next sheet?

2/2

Signature 



**BROWN AND CALDWELL**

# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-42 Zone 2

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Perez  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

## 2. WELL DATA

Date Measured: 2/24/14 Time: 1340 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 222 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 34.27 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 187.23 feet Well Volume: 7.8 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2/24/14 Time: 1345

Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

1. YSI
2. turbidity meter
3. TP-50
4. water level

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 3 well volumes or 23.1 gallons

Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min

Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1345	0	7.84	17.75	0.612	-104.8	1.42	3.00	—	
1355	0.25	7.79	17.65	0.608	-109.3	0.94	2.19	—	
1405	0.50	7.74	17.54	0.598	-121.0	0.86	2.40	—	
1415	0.75	7.75	17.41	0.567	-139.5	0.87	1.57	—	
1425	1.00	7.80	17.39	0.517	-161.9	0.90	2.86	—	

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No

Sample ID: 14055-MW-42-0982 Sample Date: 2/24/14 Sample Time: 1445 # of Containers: 2

Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

### Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L

DO: \_\_\_\_\_ mg/L

Nitrate: \_\_\_\_\_ mg/L

Sulfate: \_\_\_\_\_ mg/L

Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Unable to lower water level pass 36'

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:           MW-42 Zone 2          

**3. PURGE DATA** (continued from page   1   )

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1435	1.25	7.87	17.24	0.476	-174.1	0.95	7.4	—	
1445	1.50	7.91	17.13	0.493	-176.9	0.97	4.36	—	

Purge data continued on next sheet?

Signature



2/2

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 3

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: Sunny 260°

**2. WELL DATA**

Date Measured: 2/24/14 Time: 1100 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 285 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 34.13 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: 250.87 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 259.87 feet Well Volume: 10.3 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 2/24/14 Time: \_\_\_\_\_ Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_ 1. YSI  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_ 2. Turbidity meter  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable 3. HP 50  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_ 4. Water level  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 30.8 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1140	0	9.10	18.45	0.206	100.0	9.44	6.08	41.02	
1145	0.25	9.33	18.60	0.208	67.7	7.51	4.80	44.81	
1155	0.50	9.78	18.51	0.215	19.0	12.28	4.52	50.04	
1205	<del>1.0</del> <sup>0.75</sup>	10.07	18.64	0.221	-10.6	4.09	7.41	54.38	
1215	1.0	10.14	18.88	0.219	-58.1	4.21	9.55	55.76	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 64.87 Field Filtered?  Yes  No  
 Sample ID: 14055-MW-42 Zone 3 Sample Date: 2/24/14 Sample Time: 1305 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

*Juan Nunez*  
Signature







# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-43 Zone 1

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: M  
 Project Location: Anderson, South Carolina Weather: ~80 overcast

**2. WELL DATA** Date Measured: 2-29-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 112.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 6.36 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 6.36 feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 2-26-14 Time: 10:20 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hrs well volumes or stability gallons

Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1035	.1	7.21	10.67	.103	26.3	9.15	2.44	6.55	air bubble on DO
1035	.2	7.19	9.38	.103	32.2	10.32	8.53	6.61	see field book
1045	.3	7.19	11.28	.100	32.4	8.81	7.98	7.05	
1055	.4	7.00	10.35	.096	41.8	5.66	1.05	7.11	
1105	.5	6.96	10.69	.096	49.0	4.63	.88	7.14	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No

Sample ID: 14057-MW-43-21 Sample Date: 2-26-14 Sample Time: 11:35 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature





# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-43 Zone 2

**1. PROJECT INFORMATION**

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: M  
 Project Location: Anderson, South Carolina Weather: ~50 overcast

**2. WELL DATA** Date Measured: 2-24-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 180 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Static Water: 3.54 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Length of Water Column: 176.46 feet Well Volume: 7.23 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 2-26-14 Time: 1150 Equipment Model(s):  
 Purge Method:  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1155	.05	7.51	10.86	.208	-14.3	3.16	1.32	4.11	
1205	.15	7.61	11.12	.209	-51.0	1.98	1.69	4.20	
1215	.25	7.77	13.04	.207	-66.3	4.71	1.79	4.24	
1225	.35	7.94	13.64	.207	-63.1	6.32	.64	4.27	
1235	.45	8.00	13.76	.206	-60.3	5.79	.51	4.00	
1245	.55	8.01	13.48	.205	-59.0	5.68	1.54		Purge data continued on next sheet? <input checked="" type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14057-MW-43 Z2 Sample Date: 2/26/14 Sample Time: 1255 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: M/Ka IF



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-43 Zone 3

**1. PROJECT INFORMATION**

Project Number: 145492 \_\_\_\_\_ Task Number: 100-xxx \_\_\_\_\_ Area of Concern: \_\_\_\_\_  
 Client: Owens Corning \_\_\_\_\_ Personnel: M \_\_\_\_\_  
 Project Location: Anderson, South Carolina \_\_\_\_\_ Weather: 26° overcast \_\_\_\_\_

**2. WELL DATA** Date Measured: 2-24-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 282.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Static Water: 0.11 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Length of Water Column: 282.39 feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 2-26-14 Time: 1315 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hrs well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1320	.1	7.94	13.66	.315	-60.9	8.76	.34	17.91	slowed to 1CPM,
1335	.2	7.91	13.09	.137	-35.7	9.15	.34	17.68	reset pump
									HAD to reset, pump not bringing up water
1355	.25	7.90	12.29	.312	-43.5	8.43	0.00	23.01	
1405	.30	7.84	12.47	.314	-57.3	8.25	0.21	25.39	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14057-MW-43-23 Sample Date: 2/26/14 Sample Time: 1455 # of Containers: 1  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: 14057-EB # of Containers: 2

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.





# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-44  
MW-42 Zone 1

## 1. PROJECT INFORMATION

Project Number: 145492 Task Number: 100-xxx Area of Concern: \_\_\_\_\_  
Client: Owens Corning Personnel: MJ  
Project Location: Anderson, South Carolina Weather: 60° Sunny

## 2. WELL DATA

Date Measured: 2-24-14 Time: PM Temporary Well:  Yes  No

Casing Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
Screen Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
Total Depth of Well: 729.300 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
Depth to Static Water: 13.00 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
Length of Water Column: 287 feet Well Volume: 47.93 gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 2-24-14 Time: 1340 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
Volume to Purge (minimum): 2 hrs well volumes or Stability gallons  
Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- 1. YSI
- 2. Carnate
- 3. GeoSub
- 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1345	3.0	9.32	14.90	.217	35.7	1.19	.87	13.00	
1350	6.0	9.37	15.01	.218	14.8	.70	.76	13.10	
1355	9.0	9.38	15.03	.218	-5.0	.64	.69	13.21	
1400	12.0	9.39	15.28	.217	-25.4	.54	.00	13.23	
1405	15.0	9.39	15.38	.216	-42.1	.49	.14	13.25	
1410	18.0	9.39	15.38	.216	-83.0	.47	.00		Purge data continued on next sheet? <input type="checkbox"/>

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
Sample ID: 14055-MW-44 Sample Date: 2-24-14 Sample Time: 1410 # of Containers: 2  
Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
Ferrous Iron: \_\_\_\_\_ mg/L  
DO: \_\_\_\_\_ mg/L  
Nitrate: \_\_\_\_\_ mg/L  
Sulfate: \_\_\_\_\_ mg/L  
Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Stability

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

George Asla



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-15

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SKals  
 Project Location: Anderson, South Carolina Weather: ~70° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 99.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 23.59 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 75.91 feet Well Volume: 12.67 gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-19-14 Time: 1355 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min

- Equipment Model(s)  
 1. YSI  
 2. LaMotte  
 3. Geosw  
 4. \_\_\_\_\_  
 Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1400	1.5	7.50	16.97	.251	37.4	.30	2.95	24.12	
1405	4.0	7.29	17.04	.213	29.2	.30	2.89	24.12	
1410	7.0	7.09	17.07	.199	29.5	.28	1.50	24.36	
1415	10.0	6.97	17.09	.196	34.0	.29	1.40	27.18	
1420	13.0	6.95	17.12	.197	35.2	.32	1.33	29.19	
1425	16.0	6.92	17.13	.193	38.7	.32	1.06		Purge data continued on next sheet? <input type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-MW-15 Sample Date: 5-19-14 Sample Time: 1425 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability of pH, Spec Cond, ORP, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature SKals

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-22

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: ~800 sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 8 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 8 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 116 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 23.59 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-19-14 Time: 1500 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Lamotte
3. Geosub
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
<u>1505</u>	<u>1.5</u>	<u>5.82</u>	<u>18.05</u>	<u>.138</u>	<u>123.7</u>	<u>3.10</u>	<u>0.37</u>	<u>24.01</u>	
<u>1510</u>	<u>5.0</u>	<u>5.81</u>	<u>18.02</u>	<u>.137</u>	<u>154.1</u>	<u>3.16</u>	<u>0.93</u>	<u>24.01</u>	
<u>1515</u>	<u>8.5</u>	<u>5.83</u>	<u>18.03</u>	<u>.137</u>	<u>176.1</u>	<u>3.17</u>	<u>0.15</u>	<u>24.01</u>	
<u>1520</u>	<u>12.0</u>	<u>5.84</u>	<u>18.11</u>	<u>.137</u>	<u>192.2</u>	<u>3.15</u>	<u>0.08</u>	<u>24.01</u>	
<u>1525</u>	<u>16.0</u>	<u>5.82</u>	<u>18.13</u>	<u>.137</u>	<u>193.8</u>	<u>3.15</u>	<u>0.00</u>	<u>24.01</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-MW-22 Sample Date: 5-19-14 Sample Time: 1525 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 14139-Dup # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability pH, spec cond, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-29R Zone 3-Waterloo

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Jo Sunny  
 Project Location: Anderson, South Carolina Weather: Skala

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches  
 Screen Diameter: 6 inches  
 Sampling Interval: 154.5-169.6 feet  
 Depth to Static Water: 6921 Dg  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet  
 Well Volume: \_\_\_\_\_ gal  
 Screened Interval (from GS): \_\_\_\_\_  
 Length of water column calculation:  
 (9094-Current Dg reading)\*0.02775)\*2.3108) = Length of water column (ft)  
 Well Vol. calculation:  
 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water in tubing(1/4")  
 = [22.18 gal - 2.52 gal] + (0.0102 gal/ft x length of water column)  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 110 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. LaMotte
3. mp-si
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1115</u>	<u>.3</u>	<u>6.00</u>	<u>17.05</u>	<u>.158</u>	<u>90.8</u>	<u>4.98</u>	<u>1.48</u>	<u>6921</u>	<u>2 rpm 40 psi</u>
<u>1120</u>	<u>.6</u>	<u>5.57</u>	<u>17.12</u>	<u>.173</u>	<u>111.2</u>	<u>5.57</u>	<u>2.09</u>	<u>6921</u>	
<u>1125</u>	<u>1.0</u>	<u>5.63</u>	<u>17.09</u>	<u>.169</u>	<u>131.5</u>	<u>4.88</u>	<u>1.11</u>	<u>6923</u>	
<u>1130</u>	<u>1.3</u>	<u>5.65</u>	<u>17.04</u>	<u>.166</u>	<u>145.2</u>	<u>4.86</u>	<u>0.78</u>	<u>6923</u>	
<u>1135</u>	<u>1.75</u>	<u>5.64</u>	<u>17.13</u>	<u>.166</u>	<u>154.2</u>	<u>4.88</u>	<u>0.54</u>	<u>6923</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 19140-MW-29R-23 Sample Date: 5/20/14 Sample Time: 1135 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability pH, Spec Cond, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature Skala

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-29R Zone 4-Waterloo

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: ~70° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 Screen Diameter: 6 inches (8932.8-Current Dg reading)\*0.02724)\*2.3108) = Length of water column (ft)  
 Sampling Interval: 177.6-202.2 feet Well Vol. calculation:  
 Depth to Static Water: 6280.3 feet 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water intubing(1/4")  
 Depth to Product: \_\_\_\_\_ feet = [36.14 gal - 4.11 gal] + (0.0102 gal/ft x length of water column)  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 1150 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- Equipment Model(s)  
 1. VSI  
 2. LaMotte  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1155	.15	5.55	17.11	.147	151.3	5.15	0.87	6280	
1200	.30	5.60	17.30	.147	163.0	6.00	0.29	6280	
1205	.45	5.61	17.27	.147	168.4	5.88	0.34	6280	
1210	.60	5.61	17.17	.147	175.7	5.88	.39	6280	
1215	.75	5.61	17.19	.147	180.5	5.86	.41	6280	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14140-MW-29R-24 Sample Date: 5-20-14 Sample Time: 1215 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 14140-DUP # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferric Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

stability of pH, Spec Cond, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-35

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SKG  
 Project Location: Anderson, South Carolina Weather: ~700 Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 2 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 162 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 11.49 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 150.52 feet Well Volume: 25.13 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-19-14 Time: 1235 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hrs well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- Equipment Model(s)  
 1. YSI  
 2. LaMotte  
 3. Cross  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1240	1.5	9.72	15.81	.183	24.7	2.11	2.43	12.61	
1245	4.0	9.84	15.96	.183	20.0	2.03	2.90	12.13	
1250	8.0	9.89	16.03	.183	17.3	1.98	2.22	12.17	
1255	11.0	9.83	16.10	.183	12.2	1.83	1.73	12.19	
1300	14.0	9.83	16.14	.183	12.1	1.86	0.98	12.19	
1305	17.0	9.81	16.16	.183	12.6	1.85	0.97		Purge data continued on next sheet? <input type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-MW35 Sample Date: 5-19-14 Sample Time: 1305 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability of DO, Spec, pH, ORP

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-36 Zone 1-Waterloo

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: ~60° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches  
 Screen Diameter: 6 inches  
 Sampling Interval: 99.1-116 feet  
 Depth to Static Water: 6156 Dg  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet

Length of water column calculation:  
 (8558.7-Current Dg reading)\*0.01797\*2.3108 = Length of water column (ft)  
 Well Vol. calculation:  
 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of tubing(1/4")  
 = [24.83 gal - 2.82 gal] + (0.0102 gal/ft x length of water column)

Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 1005 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: waterloo

1. 1/51
2. Lamotte
3. \_\_\_\_\_
4. \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hours well volumes or Stability gallons

Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1010	.20	6.12	17.10	.114	40.5	5.83	10.31	6157	2 cpm
1020	.35	6.09	17.08	.105	69.9	6.02	8.31	6164	
1030	.75	6.08	17.11	.106	90.5	6.01	6.15	6176	
1040	1.00	6.07	17.12	.105	103.3	6.01	5.41	6179	
1050	1.25	6.08	17.16	1.05	112.8	6.01	3.28	6179	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: waterloo

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No

Sample ID: 14140-MW-36-21 Sample Date: 5-20-14 Sample Time: 1005C # of Containers: 2

Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

~~Geochemical Analyses~~  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability pH Spec DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature Skala

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-36 Zone 3-Waterloo

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-XXX Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SKsla  
 Project Location: Anderson, South Carolina Weather: ~600 Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: 0830 AM Temporary Well:  Yes  No

Casing Diameter: 2 inches  
 Screen Diameter: 6 inches  
 Sampling Interval: 180.2-192.7 feet  
 Depth to Static Water: 6415 feet  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet

Length of water column calculation:  
 $(9093.1 - \text{Current Dg reading}) * 0.02725 * 2.3108 = \text{Length of water column (ft)}$   
 Well Vol. calculation:  
 1 well vol. = [vol sand interval(6") - vol of waterloo casing (2")] + vol of water in tubing(1/4")  
 = [18.36 gal - 2.09 gal] + (0.0102 x length of water column)

Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 0830 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: Waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- Equipment Model(s)
- YSI
  - LaMotte
  - \_\_\_\_\_
  - \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0835</u>	<u>.1</u>	<u>7.10</u>	<u>15.68</u>	<u>1.417</u>	<u>-42.8</u>	<u>8.64</u>	<u>2.05</u>	<u>6808</u>	
<u>0845</u>	<u>.15</u>	<u>7.12</u>	<u>15.70</u>	<u>1.472</u>	<u>-45.0</u>	<u>8.58</u>	<u>3.19</u>	<u>7013</u>	
<u>0855</u>	<u>.20</u>	<u>7.13</u>	<u>15.96</u>	<u>1.459</u>	<u>-45.6</u>	<u>9.17</u>	<u>2.63</u>	<u>8976</u>	
<u>0905</u>	<u>.25</u>	<u>7.15</u>	<u>16.21</u>	<u>1.415</u>	<u>-39.8</u>	<u>9.02</u>	<u>-</u>	<u>-</u>	
			<u>DRY</u>	<u>at</u>	<u>0905</u>				

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: Waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14140-MW-36-73 Sample Date: 5/20/14 Sample Time: 1615 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

~~Geochemical Analyses~~

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

SKsla

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-36 Zone 5-Waterloo

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: S/kala  
 Project Location: Anderson, South Carolina Weather: 60° Sunny

**2. WELL DATA**

Date Measured: 5/16/14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 2 inches Length of water column calculation:  
 (8843.2-Current Dg reading)\*0.03897)\*2.3108) = Length of water column (ft)  
 Screen Diameter: 6 inches Well Vol. calculation:  
 1 well vol. = [vol sand interval(6" - vol of waterloo casing (2")) + vol of water in tubing(1/4")  
 = [7.49 gal - 0.85 gal] + (0.0102 x length of water column)  
 Sampling Interval: 269.9-275 feet  
 Depth to Static Water: 606 feet  
 Depth to Product: \_\_\_\_\_ feet  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/20/14 Time: 0910 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: Waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Equipment Model(s)  
 1. YSI  
 2. LaMotte  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
0915	.1	7.51	16.55	3.055	-88.7	8.90	8.93	7506	1 CPM
0925	.2	7.47	16.58	3.222	-100.5	8.90	9.10	7707	
0935	.3	7.47	16.77	3.299	-104.0	7.77	6.89	7717	no 8.85
0945	.4	7.48	17.03	3.344	-104.1	8.74	5.91	7889	
0955	.5	7.49	17.25	3.371	-102.0	8.64	—	—	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: Waterloo  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14140-MW-36-35 Sample Date: 5/20/14 Sample Time: 1555 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

~~Geochemical Analyses~~  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Unable to get PSI high enough to pump water at 0955. well allow to recharge then sample

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-37 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SN  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 5/20/14 Time: 1448 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 195 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 33.40 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: - feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 161.6 feet Well Volume: 6.6 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/20/14 Time: 1150 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 19.9 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1450	0	7.61	18.18	0.767	-131.7	1.26	0.11	38.92	
1500	0.30	7.59	17.15	0.765	-170.8	0.77	0.26	38.92	
1510	0.60	7.59	17.86	0.764	-177.3	0.82	0.18	43.15	
1520	0.90	7.60	18.63	0.769	-177.8	0.87	0.42	46.15	
1530	1.20	7.60	18.87	0.767	-174.3	0.95	0.67	48.24	
1540	1.50	7.59	20.18	0.767	-171.1	0.87	1.16	50.74	

1540 data continued on next sheet?

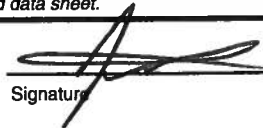
**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 50.74 Field Filtered?  Yes  No  
 Sample ID: 1440-MW-3721 Sample Date: 5/20/14 Sample Time: 1540 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: - # of Containers: -

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: 

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-37 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 5/21/14 Time: 0930 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 232 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 28.83 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 203.17 feet Well Volume: 8.3 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/21/14 Time: 105-0955 Equipment Model(s):

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 25.0 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YST
2. Turbiditymeter
3. Water level
4. HP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>0955</u>	<u>0</u>	<u>9.29</u>	<u>16.63</u>	<u>0.385</u>	<u>136.4</u>	<u>2.09</u>	<u>3.02</u>	<u>29.14</u>	
<u>1005</u>	<u>0.50</u>	<u>9.77</u>	<u>16.15</u>	<u>0.170</u>	<u>107.0</u>	<u>1.19</u>	<u>0.72</u>	<u>29.16</u>	
<u>1015</u>	<u>1.00</u>	<u>9.87</u>	<u>16.18</u>	<u>0.171</u>	<u>94.0</u>	<u>1.29</u>	<u>0.33</u>	<u>29.16</u>	
<u>1025</u>	<u>1.50</u>	<u>9.97</u>	<u>16.16</u>	<u>0.174</u>	<u>78.9</u>	<u>0.63</u>	<u>0.85</u>	<u>29.20</u>	
<u>1035</u>	<u>2.00</u>	<u>10.10</u>	<u>16.13</u>	<u>0.182</u>	<u>67.8</u>	<u>0.60</u>	<u>0.35</u>	<u>29.20</u>	

1.75

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 29.20 Field Filtered?  Yes  No  
 Sample ID: 14141-MW-37-2 Sample Date: 5/21/14 Sample Time: 1135 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:         MW-37 Zone 2        

**3. PURGE DATA (continued from page 1 )**

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1045	2.00 <del>2.5</del>	10.21	16.22	0.194	58.5	0.59	2.064	29.20	
1055	2.40	10.87	16.17	0.372	40.4	0.59	0.11	29.20	
<del>1085</del>	2.80	11.01	16.23	0.421	19.0	0.59	0.19	29.20	
1115	3.20	11.08	16.24	0.437	4.0	0.58	0.01	29.20	
1125	3.60	11.10	16.29	0.437	-5.8	0.57	1.38	29.20	
1135	4.00	11.09	16.75	0.429	-14.4	0.58	0.43	29.20	

Purge data continued on next sheet?

2/2

Signature 

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-37 Zone 3

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200.001 Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Perez  
 Project Location: Anderson, South Carolina Weather: Sunny 70

**2. WELL DATA**

Date Measured: 5/21/14 Time: 1140 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 272 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 327.9 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: - feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 139.2 feet Well Volume: 9.8 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/21/14 Time: 1150 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 29.4 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YST
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1150	0.0	7.66	17.35	0.470	-118.7	0.96	1.02	31.03	
1200	0.25	7.45	17.04	0.469	-157.6	0.69	1.21	37.31	
1210	0.50	7.43	17.35	0.470	-165.4	0.70	2.32	41.33	
1220	0.75	7.42	18.23	0.472	-164.3	0.71	2.03	44.00	
1230	1.00	7.42	18.35	0.471	-163.0	0.71	2.46	46.26	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 46.26 Field Filtered?  Yes  No  
 Sample ID: 14141-MW-3723 Sample Date: 5/21/14 Sample Time: 1230 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: - # of Containers: -

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-38 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: 80° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: 4m Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 430 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 9.43 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 1310 1305 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1310	.05	7.75	17.06	.629	-174.8	.46	4.35	9.79	
1320	.20	8.00	16.95	.625	-219.6	.51	3.23	10.12	
1330	.45	8.08	17.31	.626	-222.6	.56	1.93	10.23	
1340	.75	8.05	17.77	.621	-228.8	.93	1.54	10.37	
1350	1.00	7.93	17.72	.626	-206.4	.85	0.69	11.03	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 1414-EB-38 Sample Date: 5-20-14 Sample Time: 1415 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 1414-EB # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

EB at 1430

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

## GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-38 Zone 1

3. PURGE DATA (continued from page _____)									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1400	1.20	7.85	17.83	.626	.95	-191.9	1.93	12.17	
1410	1.35	7.82	17.62	.626	-180.3	.97	2.01	12.24	
1415	1.50	7.82	17.84	.626	-177.0	.96	0.90	13.01	
			1415 Sample	pH, DO, Spec Cond					

Purge data continued on next sheet?

  
 \_\_\_\_\_  
 Signature

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-38 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 499.6 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 4.06 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-20-14 Time: 1420 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_ LiMotte  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_ 2. YSI  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_ 3.  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable 4.  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1425	1.0	7.80	16.63	.178	-139.7	.52	15.9	artesian	
1435	2.0	8.00	16.02	.180	-164.7	.88	3.29	artesian	pH = 7.86
1445	3.0	8.03	16.57	.181	-177.5	.60	1.60	artesian	
1455	3.5	8.03	16.45	.179	-200.4	.79	0.88	artesian	
1509	4.25	8.03	16.51	.181	-186.4	.75	1.19	artesian	
1516	5.0	8.06	16.69	.181	-213.6	.75	0.76		Purge data continued on next sheet? <input type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14140-MW-38-23 Sample Date: 5-20-14 Sample Time: 1515 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Sample pH, Spec Cond, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: [Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-39 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JN  
 Project Location: Anderson, South Carolina Weather: Sunny 60°

**2. WELL DATA**

Date Measured: 5/20/14 Time: 0900 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 105 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 13.61 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 91.29 feet Well Volume: 3.7 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/20/14 Time: 0910 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 11.2 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
0910	0	6.61	16.39	0.108	171.7	4.41	1.84	14.02	
0920	0.25	6.64	16.33	0.089	169.5	4.77	0.50	14.61	
0930	0.50	6.72	16.41	0.090	148.8	5.62	0.52	14.17	
0940	0.75	6.76	16.53	0.091	140.2	5.47	0.25	14.17	
0950	1.00	6.77	16.51	0.092	135.0	5.52	0.28	14.17	
1000	1.25	6.78	16.62	0.092	131.7	5.51	0.38	14.17	data continued on next sheet? <input type="checkbox"/>

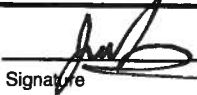
**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 14.17 Field Filtered?  Yes  No  
 Sample ID: 14140-MW-39-21 Sample Date: 5/20/14 Sample Time: 10:00 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: 



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-39 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JN  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 5/20/14 Time: 1010 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 215 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 33.69 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 181.3 feet Well Volume: 7.4 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/20/14 Time: 1015 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 21.3 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1015	0	7.47	18.26	0.522	-34.1	1.37	1.03	33.95	
1025	0.25	7.49	17.73	0.529	-88.0	0.92	0.81	38.25	
1035	0.50	7.50	18.18	0.531	-104.4	1.11	0.95	43.21	
1045	0.75	7.50	18.87	0.531	-103.2	1.23	0.77	47.22	
1055	1.00	7.50	19.64	0.533	-99.1	1.42	0.95	50.04	
1105	1.25	7.49	19.67	0.533	-95.7	1.47	0.76	52.07	data continued on next sheet? <input type="checkbox"/>

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 52.07 Field Filtered?  Yes  No  
 Sample ID: 1140-MW-39 22 Sample Date: 5/20/14 Sample Time: 1105 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature: [Handwritten Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-39 Zone 3

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JP  
 Project Location: Anderson, South Carolina Weather: Sunny 65°

**2. WELL DATA**

Date Measured: 5/20/14 Time: 1115 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 300 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 49.26 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 150.74 feet Well Volume: 10.2 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/20/14 Time: 1120 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_ 1. YSJ  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_ 2. Turbidity meter  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_ 3. MP-50  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable 4. Water level  
 Volume to Purge (minimum): 3 well volumes or 30.8 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1120	0	7.14	18.83	0.244	-97.9	2.08	0.87	50.22	
1130	0.20	7.12	19.05	0.241	-129.0	1.50	0.79	53.71	
1140	0.40	7.12	20.07	0.241	-131.0	1.51	1.04	55.74	
1150	0.60	7.09	20.44	0.236	-120.3	1.76	2.36	59.12	
1200	0.80	7.04	19.55	0.230	-120.0	1.92	0.78	60.77	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 72.42 Field Filtered?  Yes  No  
14140 - MW-39 23  
 Sample ID: \_\_\_\_\_ Sample Date: 5/20/14 Sample Time: 1240 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

*JP*



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-39 Zone 3

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1210	1.00	7.02	19.59	0.225	704.4	2.16	0.72	63.28	
1220	1.20	7.00	20.62	0.225	-86.6	2.31	0.55	66.32	
1230	1.40	6.97	20.48	0.219	-77.1	2.47	0.13	68.61	
1240	1.60	7.02	17.87	0.219	-83.4	2.40	0.61	872.42	

1/2

Purge data continued on next sheet?

1/2

Signature JCS

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: ~60

**2. WELL DATA**

Date Measured: 5-22-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 7.11 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-22-14 Time: 0805

Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

1. YSI
2. Camotte
3. \_\_\_\_\_
4. \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum) 2 hours well volumes or stability gallons

Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
0810	.1	7.12	15.78	.204	18.1	8.12	3.01	7.29	
0820	.3	7.23	15.66	.200	26.5	6.29	2.17	7.33	
0830	.5	7.25	15.65	.185	31.3	6.60	1.75	7.41	
0840	.8	7.18	15.76	.172	39.0	6.83	1.21	7.56	
0850	1.2	7.13	15.74	.165	43.7	6.68	1.18	7.81	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No

Sample ID: 14142-MW-41-21 Sample Date: 5-22-14 Sample Time: \_\_\_\_\_ # of Containers: 1

Duplicate Sample Collected?  Yes  No ID: - # of Containers: -

Equipment Blank Collected?  Yes  No ID: - # of Containers: -

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L

DO: \_\_\_\_\_ mg/L

Nitrate: \_\_\_\_\_ mg/L

Sulfate: \_\_\_\_\_ mg/L

Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

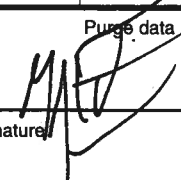
# GROUNDWATER SAMPLING FIELD DATA SHEET

**BROWN AND  
CALDWELL**

WELL ID: MW-41 Zone 1

3. PURGE DATA (continued from page <u>1</u> )									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
0900	1.6	7.11	15.80	.166	47.9	6.53	0.59	7.93	
0910	2.0	7.09	15.76	.157	51.0	6.44	0.76	8.01	
0920	2.3	7.08	15.73	.157	53.0	6.47	0.56	8.12	
			0920 sample,	PH, Spec Cond, ORP, DO					

Purge data continued on next sheet?

  
 Signature \_\_\_\_\_

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skals  
 Project Location: Anderson, South Carolina Weather: ~90° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 4.34 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-21-14 Time: 1410 Equipment Model(s):

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI  
 2. LaMotte  
 3. GeoSub  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1415</u>	<u>.1</u>	<u>7.67</u>	<u>18.04</u>	<u>.239</u>	<u>-52.2</u>	<u>.39</u>	<u>.83</u>	<u>6.17</u>	
<u>1425</u>	<u>.4</u>	<u>7.80</u>	<u>17.59</u>	<u>.242</u>	<u>-64.5</u>	<u>.32</u>	<u>.61</u>	<u>6.17</u>	
<u>1435</u>	<u>.8</u>	<u>7.88</u>	<u>17.41</u>	<u>.241</u>	<u>-73.7</u>	<u>.28</u>	<u>.13</u>	<u>6.17</u>	
<u>1445</u>	<u>1.2</u>	<u>7.84</u>	<u>17.23</u>	<u>.240</u>	<u>-72.9</u>	<u>.27</u>	<u>1.19</u>	<u>6.17</u>	
<u>1455</u>	<u>1.6</u>	<u>7.90</u>	<u>17.19</u>	<u>.240</u>	<u>-76.5</u>	<u>.61</u>	<u>3.29</u>	<u>6.17</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14141-MW-41-23 Sample Date: 5/21/14 Sample Time: 1515 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:         MW-41 Zone 1        

3. PURGE DATA (continued from page <u>  1  </u> )									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1505	2.0	7.91	17.07	.240	-76.0	.99	4.25	G.17	
1515	2.4	7.91	16.96	.240	-77.3	1.21	0.76	G.17	
			Sample						
			pH, Spec Cond, ORP						

Purge data continued on next sheet?

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 3

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: Sunny 90°

**2. WELL DATA**

Date Measured: 5/21/14 Time: 1320 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 299 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 7.09 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: - feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 291.9 feet Well Volume: 12.0 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/21/14 Time: 1325 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 36 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. MP-50
4. Water level

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1325</u>	<u>0.0</u>	<u>7.87</u>	<u>19.92</u>	<u>0.361</u>	<u>-42.0</u>	<u>5.54</u>	<u>11.96</u>	<u>38.7</u>	
<u>1335</u>	<u>0.25</u>	<u>8.71</u>	<u>17.32</u>	<u>0.382</u>	<u>-58.0</u>	<u>0.50</u>	<u>14.76</u>	<u>39.2</u>	
<u>1345</u>	<u>0.50</u>	<u>8.80</u>	<u>17.54</u>	<u>0.382</u>	<u>-94.4</u>	<u>0.64</u>	<u>37.9</u>	<u>20.76</u>	
<u>1355</u>	<u>0.75</u>	<u>8.79</u>	<u>18.49</u>	<u>0.383</u>	<u>-98.0</u>	<u>0.76</u>	<u>37.4</u>	<u>25.35</u>	
<u>1405</u>	<u>1.00</u>	<u>8.75</u>	<u>18.75</u>	<u>0.384</u>	<u>-107.9</u>	<u>0.88</u>	<u>38.0</u>	<u>30.77</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14141-MW-41E3 Sample Date: 5/21/14 Sample Time: 1435 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 14141-FDUP # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: 14141-EB # of Containers: 2

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

FD 14141-FDUP @ 1200  
14141-EB @ 1455

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

42  
 Signature Juan Nunez



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-41 Zone 3

**3. PURGE DATA** (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1415	1:05	8.70	20.46	0.385	-119.0	0.89	38.5	35.19	
1425	1:50	8.65	22.65	0.386	-119.0	0.84	39.8	37.98	
1435	1:75	8.66	24.14	0.386	-119.9	0.86	38.6	39.70	

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Purge data continued on next sheet?

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: OC  
 Client: Owens Corning Personnel: Juan Nunez  
 Project Location: Anderson, South Carolina Weather: cloudy, 85.3°

**2. WELL DATA**

Date Measured: 5/19/14 Time: 0900 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 129 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: ~~39.28~~ 33.16 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: ~~89.92~~ 95.84 feet Well Volume: 3.7 3.9 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1020 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 11.8 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSJ
2. Water level
3. turbidity meter
4. NP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1020	0	9.31	16.84	0.173	72.6	2.47	2.05	33.16	
1030	0.50	10.27	16.88	0.1708	51.8	1.15	5.09	33.73	
1040	1.00	11.05	16.84	0.472	13.0	2.48	9.19	33.42	
1050	1.50	10.86	16.88	0.330	1.0	3.47	8.45	33.42	
1100	2.00	10.50	16.90	0.240	3.9	3.49	7.13	33.42	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 33.42 Field Filtered?  Yes  No  
 Sample ID: 14139-MW-42 B1 Sample Date: 5/19/14 Sample Time: 1150 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: 14139-EB # of Containers: 2  
05130

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

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**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 1

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
1110	2.5	9.97	16.87	0.183	20.8	3.61	5.31	33.42	
1120	3.0	9.82	16.92	0.173	28.7	3.62	11.4	33.42	
1130	3.5	9.66	16.93	0.166	38.4	3.62	7.98	33.42	
1140	4.0	9.57	16.94	0.162	42.7	3.64	5.51	33.42	
1150	4.5	9.50	16.90	0.158	50.6	3.63	6.38	33.42	
/									

Purge data continued on next sheet?

Signature 

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JN  
 Project Location: Anderson, South Carolina Weather: Sunny 270°

**2. WELL DATA**

Date Measured: 5/19/14 Time: 1430 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 285 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: 31.51 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1440 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. Water level
4. MP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1440	0	7.82	18.19	0.695	-100.7	0.91	0.99	31.51	
1450	0.25	7.89	18.02	0.568	-147.2	1.20	2.92	43.15	
1500	0.50	8.08	18.77	0.429	-148.9	1.25	1.82	50.00	
1510	0.75	8.17	19.28	0.399	-143.5	1.65	1.70	54.06	
1520	1.00	8.47	19.80	0.360	-131.6	2.27	2.02	57.75	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 62.21 Field Filtered?  Yes  No  
14189-110-422002  
 Sample ID: \_\_\_\_\_ Sample Date: \_\_\_\_\_ Sample Time: 1600 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

1/2



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:           MW-42 Zone X 2          

**3. PURGE DATA (continued from page 2)**

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		$\pm 0.1$ su	$\pm 2^{\circ}\text{C}$	> of $\pm 3\%$ or $\pm 10 \mu\text{S/cm}$	> of $\pm 10\%$ or $\pm 20 \text{ mV}$	> of $\pm 10\%$ or $\pm 0.2 \text{ mg/L}$	$\leq 10$ NTU		
1530	1.25	8.75	22.70	0.341	-119.3	2.77	2.08	59.94	
1540	1.50	9.01	22.02	0.301	-113.8	3.30	3.23	62.02	
1550	1.75	9.10	22.36	0.295	-109.2	3.48	1.99	63.81	
1600	2.00	9.18	22.27	0.288	-96.1	3.54	1.63	65.21	

Purge data continued on next sheet?

2/10

Signature \_\_\_\_\_

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 3

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SP  
 Project Location: Anderson, South Carolina Weather: Sunny & 70°

**2. WELL DATA**

Date Measured: 5/19/14 Time: 1330 Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 222 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: — feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: 32.98 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 189.02 feet Well Volume: 2.7 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1330 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 3 well volumes or 23.2 gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. XSI
2. Turbidity meter
3. Water level
4. MP-50

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1327	0	8.85	18.90	0.244	-86.7	1.75	2.49	32.98	
1337	0.25	8.65	18.15	0.241	-111.7	6.90	1.60	47.70	
1347	0.50	8.57	18.35	0.240	-113.9	3.22	1.98	52.24	
1357	0.75	8.72	18.32	0.237	-127.3	2.67	1.37	55.13	
1407	1.0	8.75	18.90	0.235	-127.2	2.77	1.68	57.16	
1417	1.26	8.74	18.25	0.233	-128.0	2.61	1.92	58.84	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-MW-42-2 Sample Date: 5/19/14 Sample Time: 1417 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

Geochemical Analyses  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-43 Zone 1

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: 60°F

**2. WELL DATA** Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 112.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 6.61 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 5-21-14 Time: 0830 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hours well volumes or Stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
0835	.1	5.74	16.22	.116	170.2	4.15	2.39	6.63	
0845	.2	6.16	16.25	.080	149.9	4.07	2.43	6.65	
0855	.5	6.34	16.29	.081	142.3	3.90	5.69	6.96	
0905	.75	6.40	16.35	.082	140.8	3.77	3.11	6.99	
0915	1.00	6.41	16.33	.083	140.5	3.63	1.69	7.11	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailor, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailor  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No 2  
 Sample ID: 14141-MW-43 Z1 Sample Date: 5/21/14 Sample Time: 0955 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

*Skala*

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID:           MW-43 Zone 1          

3. PURGE DATA (continued from page ____)									
Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		$\pm 0.1$ su	$\pm 2^{\circ}\text{C}$	> of $\pm 3\%$ or $\pm 10 \mu\text{S/cm}$	> of $\pm 10\%$ or $\pm 20 \text{ mV}$	> of $\pm 10\%$ or $\pm 0.2 \text{ mg/L}$	$\leq 10 \text{ NTU}$		
0925	1.25	6.49	16.41	.085	140.0	3.37	3.70	6.91	
0935	1.50	6.53	16.54	.088	139.3	3.16	2.11	6.91	
0945	1.75	6.59	16.55	.090	139.1	2.93	1.74	6.91	
0955	2.00	6.61	16.53	.090	139.4	2.82	3.01	6.93	
Sample				0955 pH, ORP, Spec Cond					

Purge data continued on next sheet?

Signature \_\_\_\_\_





# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-43 Zone 2

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SLG/L  
 Project Location: Anderson, South Carolina Weather: ~70° Sunny

**2. WELL DATA** Date Measured: 5-19-14 Time: AM Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 180 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Static Water: 3.86 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA** Date Purged: 5-21-14 Time: 1010 Equipment Model(s): \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1015	.1	7.55	16.82	.206	-56.4	.97	6.57	4.11	
1025	.35	7.82	16.79	.206	-718.4	.41	5.11	4.13	
1035	.50	7.95	16.78	.207	-121.4	.40	0.91	5.12	
1045	.60	7.99	16.73	.207	-120.0	.41	0.93	5.78	
1055	.80	8.08	16.79	.206	-122.6	.39	0.86	6.11	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_

Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14141-MW-43-23 Sample Date: 5/21/14 Sample Time: 1125 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

**Geochemical Analyses**  
 Ferrus Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-43 Zone 3

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: Skala  
 Project Location: Anderson, South Carolina Weather: ~80° Sunny

**2. WELL DATA**

Date Measured: 5-14-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 782.5 feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing   
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-21-14 Time: 1135 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): 2 hours well volumes or stability gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes

1. LaMotte  
 2. YSI  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1140</u>	<u>.1</u>	<u>7.62</u>	<u>17.81</u>	<u>.326</u>	<u>-132.3</u>	<u>0.49</u>	<u>4.29</u>	<u>11.01</u>	
<u>1150</u>	<u>.2</u>	<u>7.67</u>	<u>17.79</u>	<u>.178</u>	<u>-139.4</u>	<u>8.81</u>	<u>3.08</u>	<u>13.26</u>	
<u>1200</u>	<u>.50</u>	<u>7.71</u>	<u>18.34</u>	<u>.177</u>	<u>-140.3</u>	<u>9.15</u>	<u>5.73</u>	<u>15.15</u>	
<u>1210</u>	<u>.75</u>	<u>7.65</u>	<u>19.67</u>	<u>.177</u>	<u>-126.4</u>	<u>9.58</u>	<u>4.11</u>	<u>16.17</u>	<u>move cell to shg Lc</u>
<u>1220</u>	<u>1.0</u>	<u>7.59</u>	<u>19.73</u>	<u>.178</u>	<u>-112.3</u>	<u>9.65</u>	<u>5.12</u>	<u>17.01</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 1414-MW-43-33 Sample Date: 5/21/14 Sample Time: 1310 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-43 Zone 3

3. PURGE DATA (continued from page 1)

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1230	1.15	7.55	20.62	.176	-97.2	8.84	3.03	17.13	
1246	1.30	7.39	19.51	.176	-76.6	9.12	5.23	17.29	
1250	1.45	7.48	20.33	.176	-67.8	7.80	5.38	18.13	particles in
1300	1.70	7.46	20.23	.176	-59.1	7.80	7.89	20.08	water
1310	1.80	7.45	20.31	.176	-57.9	7.79	8.11	21.28	
			1310 Sample						
			DO, pH, Spec Cond, ORP						

Purge data continued on next sheet?

Signature \_\_\_\_\_

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: MW-42 Zone 3

MW-44

**1. PROJECT INFORMATION**

Project Number: 143825 Task Number: 200-xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: 60° Sunny

**2. WELL DATA**

Date Measured: 5-19-14 Time: Am Temporary Well:  Yes  No

Casing Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: 1 inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: 285.300 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: 10.81 feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: 289.4 feet Well Volume: 4829 gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5-19-14 Time: 1150 Equipment Model(s) \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): Stability well volumes or 2 hours gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

- Equipment Model(s)  
 1. YSI  
 2. LaMotte  
 3. Grosb  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
1155	1.5	8.66	16.01	.214	100.4	1.63	1.19	10.93	
1200	4.0	9.07	16.17	.215	75.9	.76	.94	10.93	
1205	7.0	9.21	16.31	.216	55.0	.40	1.01	10.95	
1210	10.5	9.24	16.39	.216	36.4	.19	0.88	11.07	
1215	14.0	9.24	16.43	.216	31.6	.18	0.69	11.18	
1220	18.0	9.26	16.48	.215	11.0	.18	0.91		

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-MW-44 Sample Date: 5-19-14 Sample Time: 1220 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: - # of Containers: -

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Stability of pH, Spec Cond, DO

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature [Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 200 Kaye Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1800 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1800</u>	<u>510</u>	<u>6.63</u>	<u>A.28</u>	<u>0.091</u>	<u>192.8</u>	<u>6.77</u>	<u>0.71</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
1439-200 Kaye Dr  
 Sample ID: \_\_\_\_\_ Sample Date: 5/19/14 Sample Time: 1800 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: <sup>135</sup> ~~335~~ Elrod Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JM, QS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: 5/19/14 Time: 1705 Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1705 Equipment Model(s):

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI  
 2. Turbidity  
 3. meter  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
<u>1705</u>	<u>5</u>	<u>6.11</u>	<u>16.39</u>	<u>0.035</u>	<u>200.2</u>	<u>8.73</u>	<u>0.80</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 142376-135 Elrod Rd Sample Date: 5/19/14 Sample Time: 1705 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: -

Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

well has been repaired

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

  
 Signature



# GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: 115 Elrod Road

## 1. PROJECT INFORMATION

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JV / GS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

## 2. WELL DATA

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

## 3. PURGE DATA

Date Purged: 5/19/14 Time: 1700 Equipment Model(s) \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1700</u>									
									<u>Out of order, meter is broken no flow!</u>

Purge data continued on next sheet?

## 4. SAMPLING DATA

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: \_\_\_\_\_ Sample Date: \_\_\_\_\_ Sample Time: \_\_\_\_\_ # of Containers: \_\_\_\_\_  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 1  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

### Geochemical Analyses

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

## 5. COMMENTS

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

1/1



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 119 Cloverhill Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JP, BS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal. Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1715 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable

1. YSI  
 2. Turbidity meter  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1715</u>	<u>5</u>	<u>6.49</u>	<u>16.38</u>	<u>0.040</u>	<u>188.0</u>	<u>9.01</u>	<u>1.13</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

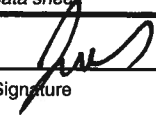
Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 19139-119 Cloverhill Dr Sample Date: 5/19/14 Sample Time: 1715 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet

1/1

Signature 

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 1303 Clinkscales Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.XXX Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1810 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons

1. YSI  
 2. Turbidity meter  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1810</u>	<u>5</u>	<u>6.63</u>	<u>17.40</u>	<u>0.055</u>	<u>184.4</u>	<u>8.57</u>	<u>0.18</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 142376-Clinkscales Rd Sample Date: 5/19/14 Sample Time: 1810 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: -

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_  
 \_\_\_\_\_  
 Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature [Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 605 Clinkscales Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: SP, GS  
 Project Location: Anderson, South Carolina Weather: Sunny

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 6/19/14 Time: 1630

Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. Turbidity meter  
 2. YSI  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
									Well out of operation, fuse is blown according to land owner

Purge data continued on next sheet?

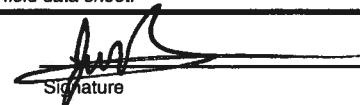
**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: \_\_\_\_\_ Sample Date: \_\_\_\_\_ Sample Time: \_\_\_\_\_ # of Containers: 0  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 0  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: 0

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

  
 Signature

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 200 Friendship Lane

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JP, CS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: 5/19/14 Time: 1650 Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casir g  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1650 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1650</u>	<u>5.0</u>	<u>6.33</u>	<u>16.88</u>	<u>0138</u>	<u>181.4</u>	<u>4.80</u>	<u>6.79</u>	—	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: 1650 Field Filtered?  Yes  No  
1439-200 Friendship Ln  
 Sample ID: \_\_\_\_\_ Sample Date: 5/19/14 Sample Time: 1650 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 721 Clinkscales Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: 5/19/14 Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_  
 Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1820 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YES
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1820</u>	<u>9.0</u>	<u>5.84</u>	<u>17.57</u>	<u>0.062</u>	<u>212.7</u>	<u>8.7</u>	<u>0.47</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 142376-721clinkscales RD Sample Date: 5/19/14 Sample Time: 1820 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID:   # of Containers:    
 Equipment Blank Collected?  Yes  No ID:   # of Containers:  

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature [Signature]

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 628 Airline Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JN, OS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: \_\_\_\_\_ Equipment Model(s) \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSI  
 2. Turbidity meter  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1725</u>	<u>5.0</u>	<u>6.42</u>	<u>15.38</u>	<u>0.086</u>	<u>197.2</u>	<u>6.90</u>	<u>1.57</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 14139-628 Airline Rd Sample Date: 5/19/14 Sample Time: 1725 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: -

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 408 Clinkscales Road

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JW GS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1635

Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSJ
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1635</u>	<u>5</u>	<u>7.98</u>	<u>18.90</u>	<u>0.067</u>	<u>191.1</u>	<u>8.75</u>	<u>0.89</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 142376-408Clinkscales RJ Sample Date: 5/19/14 Sample Time: 1635 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: 2 # of Containers: 2  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 412 Kaye Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1750 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSJ
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH	Temp	Spec. Cond.	ORP	DO	Turbidity	Water Level	Comments
		±0.1 su	±2°C	> of ±3% or ±10 µS/cm	> of ±10% or ±20 mV	> of ±10% or ±0.2 mg/L	≤ 10 NTU		
<u>1750</u>	<u>5</u>	<u>6.62</u>	<u>18.25</u>	<u>0043</u>	<u>172.5</u>	<u>7.01</u>	<u>125</u>	<u>=</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
1439-412 Kaye Drive  
 Sample ID: \_\_\_\_\_ Sample Date: 5/19/14 Sample Time: 1750 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: - # of Containers: -  
 Equipment Blank Collected?  Yes  No ID: - # of Containers: \_\_\_\_\_

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

1/1



**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 311 Kaye Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/9/14 Time: \_\_\_\_\_ Equipment Model(s) \_\_\_\_\_

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
									Out of order

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: \_\_\_\_\_ Sample Date: \_\_\_\_\_ Sample Time: \_\_\_\_\_ # of Containers: —  
 Duplicate Sample Collected?  Yes  No ID: — # of Containers: —  
 Equipment Blank Collected?  Yes  No ID: — # of Containers: —

**Geochemical Analyses**  
 Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

\_\_\_\_\_

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

[Signature]  
 Signature

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 117 Faye Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.XXX Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: JM, GS  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1740 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YS7
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1740</u>	<u>5</u>	<u>7.08</u>	<u>17.2</u>	<u>0.240</u>	<u>176.1</u>	<u>7.12</u>	<u>0.34</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
142376 - 117 Faye Drive  
 Sample ID: \_\_\_\_\_ Sample Date: 5/19/14 Sample Time: 1740 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: =  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

**GROUNDWATER SAMPLING FIELD DATA SHEET**

WELL ID: 303 Kaye Drive

**1. PROJECT INFORMATION**

Project Number: 142376 Task Number: 200.xxx Area of Concern: \_\_\_\_\_  
 Client: Owens Corning Personnel: \_\_\_\_\_  
 Project Location: Anderson, South Carolina Weather: \_\_\_\_\_

**2. WELL DATA**

Date Measured: \_\_\_\_\_ Time: \_\_\_\_\_ Temporary Well:  Yes  No

Casing Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Screen Diameter: \_\_\_\_\_ inches Type:  PVC  Stainless  Galv. Steel  Teflon®  Other: \_\_\_\_\_  
 Total Depth of Well: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Static Water: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Depth to Product: \_\_\_\_\_ feet From:  Top of Well Casing (TOC)  Top of Protective Casing  Other: \_\_\_\_\_  
 Length of Water Column: \_\_\_\_\_ feet Well Volume: \_\_\_\_\_ gal Screened Interval (from GS): \_\_\_\_\_

Note: 1-in well = 0.041 gal/ft 2-in well = 0.167 gal/ft 4-in well = 0.667 gal/ft 6-in well = 1.469 gal/ft

**3. PURGE DATA**

Date Purged: 5/19/14 Time: 1735 Equipment Model(s)

Purge Method:  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Rope/Tubing  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Volume to Purge (minimum): \_\_\_\_\_ well volumes or \_\_\_\_\_ gallons  
 Was well purged dry?  Yes  No Pumping Rate: \_\_\_\_\_ gal/min Calibrated?  Yes  No

1. YSJ
2. Turbidity meter
3. \_\_\_\_\_
4. \_\_\_\_\_

Time	Cum. Gallons Removed (gal)	pH ±0.1 su	Temp ±2°C	Spec. Cond. > of ±3% or ±10 µS/cm	ORP > of ±10% or ±20 mV	DO > of ±10% or ±0.2 mg/L	Turbidity ≤ 10 NTU	Water Level	Comments
<u>1735</u>	<u>5</u>	<u>6.36</u>	<u>21.27</u>	<u>0.116</u>	<u>183.6</u>	<u>7.12</u>	<u>0.61</u>	<u>-</u>	

Purge data continued on next sheet?

**4. SAMPLING DATA**

Method(s):  Bailer, Size: \_\_\_\_\_  Bladder Pump  2" Sub. Pump  4" Sub. Pump  
 Centrifugal Pump  Peristaltic Pump  Inertial Lift Pump  Other: \_\_\_\_\_  
 Materials: Pump/Bailer  Polyethylene  Stainless  PVC  Teflon®  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Materials: Tubing/Rope  Polyethylene  Polypropylene  Teflon®  Nylon  Other: \_\_\_\_\_  
 Dedicated  Prepared Off-Site  Field-Cleaned  Disposable  
 Depth to Water at Time of Sampling: \_\_\_\_\_ Field Filtered?  Yes  No  
 Sample ID: 142376-303 Kaye Dr Sample Date: 5/19/14 Sample Time: 1735 # of Containers: 2  
 Duplicate Sample Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: =  
 Equipment Blank Collected?  Yes  No ID: \_\_\_\_\_ # of Containers: \_\_\_\_\_

**Geochemical Analyses**

Ferrous Iron: \_\_\_\_\_ mg/L  
 DO: \_\_\_\_\_ mg/L  
 Nitrate: \_\_\_\_\_ mg/L  
 Sulfate: \_\_\_\_\_ mg/L  
 Alkalinity: \_\_\_\_\_ mg/L

**5. COMMENTS**

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

## Appendix B: Laboratory Analytical Reports

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## 1. PROJECT INFORMATION

Today's Date: 3/10/14Project Number: 145492Project Name/Client: Owens CorningProject Manager: T. BerrymanSampled By: G. Skala, J. NunezLaboratory: AESOrder No.: 1402N49

## 2. SAMPLE INFORMATION

Purpose of sampling: Quarterly groundwater monitoringTotal number of samples: 34 Groundwater: 28     Soil: \_\_\_\_\_     Soil Gas: \_\_\_\_\_     Trip Blank: 2 Surface water: \_\_\_\_\_     Sediment: \_\_\_\_\_     Other: \_\_\_\_\_     Field Blank: \_\_\_\_\_ Drinking water: \_\_\_\_\_     Air: \_\_\_\_\_     Other: \_\_\_\_\_     Equip Blank: 4Analyses requested: VOCs - focused listMethod detection limits (MDLs) or reporting limits (RLs) requested: NADuplicates: 14056-Dup = MW-29R Zone 3 and 14058-Dup = MW-71 Zone 1

## 3. DATA VERIFICATION

Check yes or no. Refer to applicable Data Verification Guidelines to determine appropriate action.

 Yes  No  NA Was the Chain of Custody intact?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were custody seals intact on samples bottles and/or coolers as necessary?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were cooler temperatures within the acceptable range of 0-6°C?If no: Notes: 3.1°C Yes  No  NA Were samples physically and chemically preserved properly (i.e. no bubbles in VOC vials)?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Was the case narrative of the analytical report free of any quality issues, discrepancies, etc.?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were all samples labeled, analyzed, and reported correctly? (no samples held, no wrong analyses, etc.)If no: If within holding time, call lab immediately. Notes: See comments Yes  No  NA Were all samples analyzed within holding time?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were appropriate analytes reported?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were soil and/or sediment concentrations reported appropriately? (DW vs WW)

If no: Call lab immediately to verify. Notes: \_\_\_\_\_

 Yes  No  NA If analyzed for the following parameters, was the following true for all analytes? Yes  No  NA Total metals  $\geq$  Dissolved metals Yes  No  NA TKN > Organic nitrogen Yes  No  NA TKN > Ammonia (NH<sub>3</sub>) Yes  No  NA COD > TOC Yes  No  NA COD > BOD

If no: Report to project manager and contact lab's QA/QC manager if needed. Notes: \_\_\_\_\_

 Yes  No  NA Were method detection limits (MDL), reporting limits (RLs), and/or dilution factors appropriate?

If no: Report to project manager and contact lab if needed. Notes: \_\_\_\_\_

 Yes  No  NA Were surrogate % recoveries within the acceptable range of  $LCL \leq x \leq UCL$ ?

If no: Notes: \_\_\_\_\_

 Yes  No  NA Were target analytes detected in any field, equipment, and/or laboratory blanks?

If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any target analytes detected below practical quantitation limits (PQLs)?

If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any sample duplicates collected?

If yes: Notes: ② See comments

Yes  No  NA Were any laboratory duplicates reported for project samples?

If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any matrix spikes reported for project samples?

If yes: Notes: No issues to report

Yes  No  NA Were any laboratory control samples reported?

If yes: Notes: No issues to report

Yes  No  NA Were calibration standards reported?

If yes: Notes: \_\_\_\_\_

4. COMMENTS & SUMMARY OF ACTIONS TAKEN (Attach additional pages if necessary)

① The sample ID for - 018 is in correct and should be corrected to "14056-MW-39-Zone1" as on the COC. Action required - Contact lab. ✓

② See attached sheet for a detailed duplicate comparison. All calculated Relative Percent Differences (RPDs) were within acceptable control limits. No further action required

① Cont'd / Follow up  
3/10/14 - Lab was contacted and a revised report has been received. No further actions required.



**LABORATORY DATA VERIFICATION**  
Sample Duplicate Comparison

**PROJECT INFORMATION**

Project Number: 145492      Project Name: Owens Corning      Task/Purpose of Sampling: Quarterly Sampling  
 Project Manager: T. Berryman      Client: Owens Corning  
 Laboratory: AES      Data Report: 1402N49

**DUPLICATE INFORMATION**

Parent Sample ID: 14056-MW-29R Zone 3      Date/Time:      Matrix: Groundwater  
 Duplicate Sample ID: 14056-Dup      Date/Time:      Matrix: Groundwater

Analytes (Units)	Analytical Results <sup>a</sup>		Relative Percent Difference (RPD) Comparison		Reporting Limit (RL) Comparison (If Needed)			Actions Required
	14056-MW-29R Zone 3	14056-Dup	RPD	Inorg: RPD > 20%? Org: RPD > 30%?	14056-MW-29R Zone 3 RL	14056-Dup RL	2x RL 2x RL	
1,1-Dichloroethene (ug/L)	240	240	0%	NO				No further action required.
Chloroform	8.5	8.6	1%	NO				No further action required.
Carbon tetrachloride	12	13	8%	NO				No further action required.

**DUPLICATE INFORMATION**

Parent Sample ID: 14058-MW-41 Zone 1      Date/Time:      Matrix: Groundwater  
 Duplicate Sample ID: 14058-Dup      Date/Time:      Matrix: Groundwater

Analytes (Units)	Analytical Results <sup>a</sup>		Relative Percent Difference (RPD) Comparison		Reporting Limit (RL) Comparison (If Needed)			Actions Required
	14058-MW-41 Zone 1	14058-Dup	RPD	Inorg: RPD > 20%? Org: RPD > 30%?	14058-MW-41 Zone 1 RL	14058-Dup RL	2x RL 2x RL	
1,1-Dichloroethene (ug/L)	150	140	7%	NO				No further action required.

<sup>a</sup> Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:

$$RPD = \left| \frac{x_1 - x_2}{(x_1 + x_2) / 2} \right| \times 100$$



**ANALYTICAL ENVIRONMENTAL SERVICES, INC.**

March 06, 2014

Tamara Berryman  
BROWN AND CALDWELL  
990 Hammond Drive  
Atlanta GA 30328

TEL: (770) 673-3678  
FAX: (770) 396-9495

RE: Owens Corning

Dear Tamara Berryman:

Order No: 1402N49

Analytical Environmental Services, Inc. received 34 samples on 2/27/2014 3:05:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Tara Esbeck  
Project Manager





ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704

AFS TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 14021049

Date:

Page 1 of 3

COMPANY: Brown + Caldwell		ADDRESS: 990 Hammond Drive Ste 400 Atlanta Ga 30328		FAX:		SIGNATURE: <i>George Skala</i>		SIGNATURE: <i>Michael ID</i>		No # of Containers	
PHONE:		SAMPLED BY: <i>George Skala</i>		DATE		TIME		Grab		ANALYSIS REQUESTED	
#		SAMPLE ID		DATE		TIME		Grab		PRESERVATION (See codes)	
1		14055-EB BRL		2-24-14		1230		X		VOCs	
2		14055-MW-35		2-24-14		1325		Y		HT	
3		14055-MW-44		2-24-14		1410		Y		X	
4		14055-MW-22		2-24-14		1525		Y		GW	
5		14056-MW-15		2-25-14		0915		Y			
6		14056-MW-36-Z1		2-25-14		1210		Y			
7		14056-MW-36-Z3		2-25-14		1450		Y			
8		14056-MW-36-Z5		2-25-14		1910		Y			
9		14056-MW-38-Z3		2-25-14		1250		Y			
10		14056-MW-38-Z4		2-25-14		1330		Y			
11		14056-Dup		2-25-14		1200		Y			
12		14056-MW-38-Z2		2-25-14		1425		Y			
13		14057-MW-38-Z1		2-26-14		0945		Y			
14		14059-MW-43-Z1		2-26-14		1135		Y			
RELINQUISHED BY: <i>George Skala</i>		DATE/TIME: 2/27/14 14:00		RECEIVED BY: <i>[Signature]</i>		DATE/TIME: 2-27-14 9:05		PROJECT NAME: Owens-Corning		PROJECT INFORMATION	
SPECIAL INSTRUCTIONS/COMMENTS: VOC focus list only for Owens-Corning		SHIPMENT METHOD: CLIENT		SHIPMENT METHOD: VIA		SHIPMENT METHOD: VIA		SEND REPORT TO: T.Berryman@berwinstal.com		RECEIPT	
DATE/TIME: 2/27/14 14:00		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		PROJECT #:		Total # of Containers	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		SITE ADDRESS:		Turnaround Time Request	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		SEND REPORT TO:		Standard 5 Business Days	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		INVOICE TO:		2 Business Day Rush	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		(IF DIFFERENT FROM ABOVE)		Next Business Day Rush	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		QUOTE #:		Same Day Rush (auth req.)	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		PO#:		Other	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		STATE PROGRAM (if any):		E-mail? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATA PACKAGE: I II III IV		Fax? <input type="checkbox"/> Y / <input type="checkbox"/> N	
DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		DATE/TIME: 2-27-14 9:05		SAMPLER RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AFS WILL PROCEED WITH STANDARD TAT OF SAMPLES.		SAMPLER RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AFS WILL PROCEED WITH STANDARD TAT OF SAMPLES.	

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice 1 = Ice only N = Nitric acid S+I = Sulfuric acid + ice SM+I = Sodium Bisulfate/Methanol - ice O = Other (specify) NA = None

White Copy - Original: Yellow Copy - Client

Work Order: 1402499

CHAIN OF CUSTODY

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3785 Presidential Parkway, Atlanta GA 30340-3704  
 A.E.S. TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Date: 2/25/14 Page 2 of 3

COMPANY		ADDRESS:		PHONE:		FAX:		SIGNATURE:		SAMPLING		MATRIX		ANALYSIS REQUESTED		REMARKS		No # of Containers		
Brown and Caldwell		990 Hammond Dr, suit 400 Atlanta, GA 30328						<i>Juan Perez</i>		DATE	TIME	Grab	Composite	Matrix	PRESERVATION (See codes)		Visit our website <a href="http://www.aesatlanta.com">www.aesatlanta.com</a> to check on the status of your results, place bottle orders, etc.			
#	SAMPLE ID	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	
1	14055-MW-42 Zone 1	✓	2/24/14	1610	X		GW												2	
2	14055-MW-42 Zone 2	✓	2/24/14	1445	X		GW												2	
3	14055-MW-42 Zone 3	✓	2/24/14	1305	X		GW												2	
4	14056-MW-39 Zone 1	✓	2/25/14	1100	X		GW												2	
5	14056-EB BRLs	✓	2/25/14	1120	X		GW												2	
6	14056-MW-39 Zone 2	✓	2/25/14	1445	X		GW												2	
7	14056-MW-39 Zone 3	✓	2/25/14	1615	X		GW												2	
8	14057-MW-37 Zone 1	✓	2/26/14	1145	X		GN												2	
9	14057-MW-37 Zone 2	✓	2/26/14	1400	X		GN												2	
10	14057-MW-37 Zone 3	✓	2/26/14	1535	X		GN												2	
11	Trip Blank	✓																	2	
12	14058-MW-HI Zone 2	✓	2/27/14	1045	X		GW												2	
13	14058-MW-HI Zone 3	✓	2/27/14	1215	X		GW												2	
14	14058-EB BRLs	✓	2/27/14	1105	X		GW												2	
RELINQUISHED BY: George Alcala IV 2/27/14 1605		DATE/TIME	RECEIVED BY: <i>John</i>	DATE/TIME	SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER	
1: Owens Corning		PROJECT NAME:	PROJECT #:	145492	SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER	
2: 1832 Highway 81 South, Starr, SC 291684		SITE ADDRESS:	SEND REPORT TO: <a href="mailto:hberrymann@berrymann.com">hberrymann@berrymann.com</a>		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER	
3: See focus list of VOC's for OC.		SPECIAL INSTRUCTIONS/COMMENTS:			SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER	
RECEIPT		PROJECT INFORMATION		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		
Total # of Containers: 28		Turnaround Time Request: Standard 5 Business Days 2 Business Day Rush Next Business Day Rush Same Day Rush (auth req.) Other		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		
STATE PROGRAM (if any):		E-mail? <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		
DATA PACKAGE: I II III IV		QUOTE #:		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		SHIPMENT METHOD		OUT / / / VIA:		IN <input checked="" type="checkbox"/> CLIENT / / / VIA:		GREYHOUND OTHER		

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.  
 SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.  
 MATRIX CODES: A = Air G/V = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water  
 PRESERVATIVE CODES: HH = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S+H+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None  
 White Copy - Original; Yellow Copy - Client

Work Order: 14021049

CHAIN OF CUSTODY

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704  
 TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Date: \_\_\_\_\_ Page 3 of 3

#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)	SIGNED BY	SIGNED	ANALYSIS REQUESTED	REMARKS	No # of Containers
1	14057-MW-43-22 ✓	2-26-14	1255	X		GW	George Akala	1505	HT		
2	14057-MW-43-23 ✓	2-26-14	1455	X		W					
3	14057-EB-BRLS ✓	2-26-14	1515	X		GW					
4	14058-DUP ✓	2-27-14	1200	X		GW					
5	14058-MW-41-21 ✓	2-27-14	1125	X		W					
6	Temp Blanks										
7											
8											
9											
10											
11											
12											
13											
14											

COMPANY: Brown & Caldwell  
 ADDRESS: 990 Hammond Dr, Ste 400  
 Atlanta, Ga 30328  
 PHONE: \_\_\_\_\_  
 FAX: \_\_\_\_\_

SIGNED BY: George Akala  
 SIGNATURE: *George Akala*  
 DATE/TIME RECEIVED BY: *Jul* 2-27-14 3-05

ANALYSIS REQUESTED: VOCs  
 PRESERVATION (See codes): HT

Visit our website [www.aesatlanta.com](http://www.aesatlanta.com)  
 to check on the status of your results, place bottle orders, etc.

PROJECT INFORMATION

PROJECT NAME: Owens Corning

PROJECT #: \_\_\_\_\_

SITE ADDRESS: \_\_\_\_\_

SEND REPORT TO: Barryman@browns.com

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: \_\_\_\_\_ PO#: \_\_\_\_\_

RECEIPT

Total # of Containers: 00000

Turnaround Time Request: Standard 5 Business Days  
 2 Business Day Rush  
 Next Business Day Rush  
 Same Day Rush (auth req.)  
 Other

STATE PROGRAM (if any): \_\_\_\_\_  
 E-mail?  N. Fax?  Y /  N  
 DATA PACKAGE: I  II  III  IV

SPECIAL INSTRUCTIONS/COMMENTS

Focus list of VOCs for Owens Corning only

SHIPMENT METHOD: \_\_\_\_\_  
 OUT / / VIA:  
 IN (CLIENT) Fedex UPS MAIL COURIER  
 GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.  
 SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water  
 PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 12:30:00 PM ✓
<b>Lab ID:</b> 1402N49-001	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 01:34	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 01:34	GK
Surr: 4-Bromofluorobenzene	98.9	66.2-120		%REC	187817	1	03/04/2014 01:34	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187817	1	03/04/2014 01:34	GK
Surr: Toluene-d8	99.8	77-117		%REC	187817	1	03/04/2014 01:34	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-35
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 1:25:00 PM ✓
<b>Lab ID:</b> 1402N49-002	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 02:01	GK
1,1-Dichloroethene	99	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 02:01	GK
Surr: 4-Bromofluorobenzene	99	66.2-120		%REC	187817	1	03/04/2014 02:01	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187817	1	03/04/2014 02:01	GK
Surr: Toluene-d8	98.6	77-117		%REC	187817	1	03/04/2014 02:01	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-44
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 2:10:00 PM ✓
<b>Lab ID:</b> 1402N49-003	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 02:28	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 02:28	GK
Surr: 4-Bromofluorobenzene	98.6	66.2-120		%REC	187817	1	03/04/2014 02:28	GK
Surr: Dibromofluoromethane	✓ 104	79.5-121		%REC	187817	1	03/04/2014 02:28	GK
Surr: Toluene-d8	99.5	77-117		%REC	187817	1	03/04/2014 02:28	GK

<b>Qualifiers:</b>	• Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-22
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 3:25:00 PM
<b>Lab ID:</b> 1402N49-004	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/03/2014 23:45	GK
1,1-Dichloroethene	270	50		ug/L	187817	10	03/04/2014 01:06	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Chloroform	8.8	5.0		ug/L	187817	1	03/03/2014 23:45	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Carbon tetrachloride	16	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Benzene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Toluene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/03/2014 23:45	GK
Surr: 4-Bromofluorobenzene	99	66.2-120		%REC	187817	1	03/03/2014 23:45	GK
Surr: 4-Bromofluorobenzene	99.2	66.2-120		%REC	187817	10	03/04/2014 01:06	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	187817	10	03/04/2014 01:06	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187817	1	03/03/2014 23:45	GK
Surr: Toluene-d8	98.4	77-117		%REC	187817	1	03/03/2014 23:45	GK
Surr: Toluene-d8	98.3	77-117		%REC	187817	10	03/04/2014 01:06	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-15
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 9:15:00 AM
<b>Lab ID:</b> 1402N49-005	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 02:55	GK
1,1-Dichloroethene	170	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 02:55	GK
Surr: 4-Bromofluorobenzene	97.2	66.2-120		%REC	187817	1	03/04/2014 02:55	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187817	1	03/04/2014 02:55	GK
Surr: Toluene-d8	98.3	77-117		%REC	187817	1	03/04/2014 02:55	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-36-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 12:10:00 PM
<b>Lab ID:</b> 1402N49-006	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 03:23	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 03:23	GK
Surr: 4-Bromofluorobenzene	97.7	66.2-120		%REC	187817	1	03/04/2014 03:23	GK
Surr: Dibromofluoromethane	✓ 100	79.5-121		%REC	187817	1	03/04/2014 03:23	GK
Surr: Toluene-d8	✓ 98.7	77-117		%REC	187817	1	03/04/2014 03:23	GK

**Qualifiers:**

- Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-36-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 2:50:00 PM
<b>Lab ID:</b> 1402N49-007	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 03:50	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 03:50	GK
Surr: 4-Bromofluorobenzene	99.2	66.2-120		%REC	187817	1	03/04/2014 03:50	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187817	1	03/04/2014 03:50	GK
Surr: Toluene-d8	99.1	77-117		%REC	187817	1	03/04/2014 03:50	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-36-Z5
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 3:10:00 PM
<b>Lab ID:</b> 1402N49-008	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 04:17	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 04:17	GK
Surr: 4-Bromofluorobenzene	99.8	66.2-120		%REC	187817	1	03/04/2014 04:17	GK
Surr: Dibromofluoromethane	102	79.5-121		%REC	187817	1	03/04/2014 04:17	GK
Surr: Toluene-d8	99.5	77-117		%REC	187817	1	03/04/2014 04:17	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-29R-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 12:50:00 PM
<b>Lab ID:</b> 1402N49-009	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 04:44	GK
1,1-Dichloroethene	240	50		ug/L	187817	10	03/05/2014 06:34	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Chloroform	8.5	5.0		ug/L	187817	1	03/04/2014 04:44	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Carbon tetrachloride	12	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 04:44	GK
Surr: 4-Bromofluorobenzene	95.6	66.2-120		%REC	187817	1	03/04/2014 04:44	GK
Surr: 4-Bromofluorobenzene	97.8	66.2-120		%REC	187817	10	03/05/2014 06:34	GK
Surr: Dibromofluoromethane	99.6	79.5-121		%REC	187817	10	03/05/2014 06:34	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187817	1	03/04/2014 04:44	GK
Surr: Toluene-d8	98.6	77-117		%REC	187817	1	03/04/2014 04:44	GK
Surr: Toluene-d8	98.2	77-117		%REC	187817	10	03/05/2014 06:34	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-29R-Z4
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 1:30:00 PM
<b>Lab ID:</b> 1402N49-010	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 05:11	GK
1,1-Dichloroethene	240	50		ug/L	187817	10	03/05/2014 07:02	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Chloroform	8.8	5.0		ug/L	187817	1	03/04/2014 05:11	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Carbon tetrachloride	12	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 05:11	GK
Surr: 4-Bromofluorobenzene	97.8	66.2-120		%REC	187817	1	03/04/2014 05:11	GK
Surr: 4-Bromofluorobenzene	96.5	66.2-120		%REC	187817	10	03/05/2014 07:02	GK
Surr: Dibromofluoromethane	101	79.5-121		%REC	187817	10	03/05/2014 07:02	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187817	1	03/04/2014 05:11	GK
Surr: Toluene-d8	97.2	77-117		%REC	187817	10	03/05/2014 07:02	GK
Surr: Toluene-d8	99.1	77-117		%REC	187817	1	03/04/2014 05:11	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-DUP
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 12:00:00 PM
<b>Lab ID:</b> 1402N49-011	<b>Matrix:</b> Groundwater

Parent = 14056-mw-29R 23

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 05:39	GK
1,1-Dichloroethene	240	50		ug/L	187817	10	03/05/2014 07:29	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Chloroform	8.6	5.0		ug/L	187817	1	03/04/2014 05:39	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Carbon tetrachloride	13	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 05:39	GK
Surr: 4-Bromofluorobenzene	94.7	66.2-120		%REC	187817	10	03/05/2014 07:29	GK
Surr: 4-Bromofluorobenzene	97.9	66.2-120		%REC	187817	1	03/04/2014 05:39	GK
Surr: Dibromofluoromethane	99.3	79.5-121		%REC	187817	10	03/05/2014 07:29	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187817	1	03/04/2014 05:39	GK
Surr: Toluene-d8	97.9	77-117		%REC	187817	10	03/05/2014 07:29	GK
Surr: Toluene-d8	99.8	77-117		%REC	187817	1	03/04/2014 05:39	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-38-Z2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 2:25:00 PM
<b>Lab ID:</b> 1402N49-012	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/04/2014 06:06	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Benzene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Toluene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/04/2014 06:06	GK
Surr: 4-Bromofluorobenzene	99.2	66.2-120		%REC	187817	1	03/04/2014 06:06	GK
Surr: Dibromofluoromethane	✓ 102	79.5-121		%REC	187817	1	03/04/2014 06:06	GK
Surr: Toluene-d8	98.1	77-117		%REC	187817	1	03/04/2014 06:06	GK

**Qualifiers:**

- Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-38-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 9:45:00 AM
<b>Lab ID:</b> 1402N49-013	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 07:56	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 07:56	GK
Surr: 4-Bromofluorobenzene	96.1	66.2-120		%REC	187817	1	03/05/2014 07:56	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187817	1	03/05/2014 07:56	GK
Surr: Toluene-d8	97.4	77-117		%REC	187817	1	03/05/2014 07:56	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-43-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 11:35:00 AM
<b>Lab ID:</b> 1402N49-014	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 08:23	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 08:23	GK
Surr: 4-Bromofluorobenzene	94.2	66.2-120		%REC	187817	1	03/05/2014 08:23	GK
Surr: Dibromofluoromethane	✓ 101	79.5-121		%REC	187817	1	03/05/2014 08:23	GK
Surr: Toluene-d8	97.8	77-117		%REC	187817	1	03/05/2014 08:23	GK

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-42-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 4:10:00 PM
<b>Lab ID:</b> 1402N49-015	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 08:50	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 08:50	GK
Surr: 4-Bromofluorobenzene	96.1	66.2-120		%REC	187817	1	03/05/2014 08:50	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187817	1	03/05/2014 08:50	GK
Surr: Toluene-d8	98.3	77-117		%REC	187817	1	03/05/2014 08:50	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-42-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 2:45:00 PM
<b>Lab ID:</b> 1402N49-016	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 09:18	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 09:18	GK
Surr: 4-Bromofluorobenzene	97.7	66.2-120		%REC	187817	1	03/05/2014 09:18	GK
Surr: Dibromofluoromethane	✓ 104	79.5-121		%REC	187817	1	03/05/2014 09:18	GK
Surr: Toluene-d8	97.2	77-117		%REC	187817	1	03/05/2014 09:18	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-42-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/24/2014 1:05:00 PM
<b>Lab ID:</b> 1402N49-017	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 11:34	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 11:34	GK
Surr: 4-Bromofluorobenzene	96.2	66.2-120		%REC	187817	1	03/05/2014 11:34	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187817	1	03/05/2014 11:34	GK
Surr: Toluene-d8	98.9	77-117		%REC	187817	1	03/05/2014 11:34	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 6-Mar-14

Sample ID

1405B

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14055-MW-39-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 11:00:00 AM
<b>Lab ID:</b> 1402N49-018	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 12:02	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 12:02	GK
Surr: 4-Bromofluorobenzene	96	66.2-120		%REC	187817	1	03/05/2014 12:02	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187817	1	03/05/2014 12:02	GK
Surr: Toluene-d8	97.5	77-117		%REC	187817	1	03/05/2014 12:02	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 11:20:00 AM
<b>Lab ID:</b> 1402N49-019	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 12:29	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Benzene	✓ BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 12:29	GK
Surr: 4-Bromofluorobenzene	94.3	66.2-120		%REC	187817	1	03/05/2014 12:29	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187817	1	03/05/2014 12:29	GK
Surr: Toluene-d8	✓ 98	77-117		%REC	187817	1	03/05/2014 12:29	GK

<b>Qualifiers:</b>	• Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-39-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 2:25:00 PM ✓
<b>Lab ID:</b> 1402N49-020	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187817	1	03/05/2014 12:57	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Methylene chloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Chloroform	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Carbon tetrachloride	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Benzene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Trichloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Toluene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Tetrachloroethene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Ethylbenzene	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Xylenes, Total	BRL	5.0		ug/L	187817	1	03/05/2014 12:57	GK
Surr: 4-Bromofluorobenzene	✓ 96.2	66.2-120		%REC	187817	1	03/05/2014 12:57	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187817	1	03/05/2014 12:57	GK
Surr: Toluene-d8	98	77-117		%REC	187817	1	03/05/2014 12:57	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14056-MW-39-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/25/2014 4:15:00 PM
<b>Lab ID:</b> 1402N49-021	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 00:40	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 00:40	GK
Surr: 4-Bromofluorobenzene	95.8	66.2-120		%REC	187819	1	03/05/2014 00:40	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187819	1	03/05/2014 00:40	GK
Surr: Toluene-d8	✓ 97.1	77-117		%REC	187819	1	03/05/2014 00:40	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-37-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 11:45:00 AM
<b>Lab ID:</b> 1402N49-022	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 01:07	GK
1,1-Dichloroethene	69	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 01:07	GK
Surr: 4-Bromofluorobenzene	95.6	66.2-120		%REC	187819	1	03/05/2014 01:07	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187819	1	03/05/2014 01:07	GK
Surr: Toluene-d8	97.4	77-117		%REC	187819	1	03/05/2014 01:07	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 6-Mar-14

Client:	BROWN AND CALDWELL	Client Sample ID:	14057-MW-37-ZONE 2
Project Name:	Owens Corning	Collection Date:	2/26/2014 2:00:00 PM
Lab ID:	1402N49-023	Matrix:	Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 01:34	GK
1,1-Dichloroethene	230	50		ug/L	187819	10	03/05/2014 13:24	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Chloroform	7.2	5.0		ug/L	187819	1	03/05/2014 01:34	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Carbon tetrachloride	10	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 01:34	GK
Surr: 4-Bromofluorobenzene	94.6	66.2-120		%REC	187819	10	03/05/2014 13:24	GK
Surr: 4-Bromofluorobenzene	97.8	66.2-120		%REC	187819	1	03/05/2014 01:34	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	187819	10	03/05/2014 13:24	GK
Surr: Dibromofluoromethane	105	79.5-121		%REC	187819	1	03/05/2014 01:34	GK
Surr: Toluene-d8	98.4	77-117		%REC	187819	1	03/05/2014 01:34	GK
Surr: Toluene-d8	98.5	77-117		%REC	187819	10	03/05/2014 13:24	GK

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-37-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 3:35:00 PM
<b>Lab ID:</b> 1402N49-024	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 02:01	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 02:01	GK
Surr: 4-Bromofluorobenzene	95.6	66.2-120		%REC	187819	1	03/05/2014 02:01	GK
Surr: Dibromofluoromethane	103	79.5-121		%REC	187819	1	03/05/2014 02:01	GK
Surr: Toluene-d8	97.7	77-117		%REC	187819	1	03/05/2014 02:01	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client:	BROWN AND CALDWELL	Client Sample ID:	TRIP BLANK
Project Name:	Owens Corning	Collection Date:	2/27/2014
Lab ID:	1402N49-025	Matrix:	Aqueous ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 02:29	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
1,2-Dichloroethane	✓ BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 02:29	GK
Surr: 4-Bromofluorobenzene	✓ 96.9	66.2-120		%REC	187819	1	03/05/2014 02:29	GK
Surr: Dibromofluoromethane	✓ 104	79.5-121		%REC	187819	1	03/05/2014 02:29	GK
Surr: Toluene-d8	97.5	77-117		%REC	187819	1	03/05/2014 02:29	GK

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14058-MW-41-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014 10:45:00 AM ✓
<b>Lab ID:</b> 1402N49-026	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/04/2014 22:51	GK
1,1-Dichloroethene	160	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Benzene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Toluene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/04/2014 22:51	GK
Surr: 4-Bromofluorobenzene	96.3	66.2-120		%REC	187819	1	03/04/2014 22:51	GK
Surr: Dibromofluoromethane	✓ 101	79.5-121		%REC	187819	1	03/04/2014 22:51	GK
Surr: Toluene-d8	97	77-117		%REC	187819	1	03/04/2014 22:51	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14058-MW-41-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014 12:15:00 PM
<b>Lab ID:</b> 1402N49-027	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 02:56	GK
1,1-Dichloroethene	37	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 02:56	GK
Surr: 4-Bromofluorobenzene	96.9	66.2-120		%REC	187819	1	03/05/2014 02:56	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187819	1	03/05/2014 02:56	GK
Surr: Toluene-d8	97.3	77-117		%REC	187819	1	03/05/2014 02:56	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14058-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014 11:05:00 AM
<b>Lab ID:</b> 1402N49-028	<b>Matrix:</b> Aqueous ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 03:24	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Trichloroethene	✓ BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 03:24	GK
Surr: 4-Bromofluorobenzene	96.2	66.2-120		%REC	187819	1	03/05/2014 03:24	GK
Surr: Dibromofluoromethane	✓ 102	79.5-121		%REC	187819	1	03/05/2014 03:24	GK
Surr: Toluene-d8	✓ 97.2	77-117		%REC	187819	1	03/05/2014 03:24	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-43-Z2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 12:55:00 PM
<b>Lab ID:</b> 1402N49-029	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 03:51	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 03:51	GK
Surr: 4-Bromofluorobenzene	96.8	66.2-120		%REC	187819	1	03/05/2014 03:51	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187819	1	03/05/2014 03:51	GK
Surr: Toluene-d8	98.9	77-117		%REC	187819	1	03/05/2014 03:51	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-MW-43-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 2:55:00 PM ✓
<b>Lab ID:</b> 1402N49-030	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 04:18	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 04:18	GK
Surr: 4-Bromofluorobenzene	97.5	66.2-120		%REC	187819	1	03/05/2014 04:18	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187819	1	03/05/2014 04:18	GK
Surr: Toluene-d8	98.2	77-117		%REC	187819	1	03/05/2014 04:18	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14057-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/26/2014 3:15:00 PM
<b>Lab ID:</b> 1402N49-031	<b>Matrix:</b> Aqueous ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 04:45	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
1,2-Dichloroethane	✓ BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 04:45	GK
Surr: 4-Bromofluorobenzene	96.9	66.2-120		%REC	187819	1	03/05/2014 04:45	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187819	1	03/05/2014 04:45	GK
Surr: Toluene-d8	98.2	77-117		%REC	187819	1	03/05/2014 04:45	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14058-DUP
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014 12:00:00 PM ✓
<b>Lab ID:</b> 1402N49-032	<b>Matrix:</b> Groundwater

Parent = 14058-mw-4120-ne1

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>		<b>(SW5030B)</b>						
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 05:13	GK
1,1-Dichloroethene	140	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 05:13	GK
Surr: 4-Bromofluorobenzene	96.8	66.2-120		%REC	187819	1	03/05/2014 05:13	GK
Surr: Dibromofluoromethane	✓ 103	79.5-121		%REC	187819	1	03/05/2014 05:13	GK
Surr: Toluene-d8	97.3	77-117		%REC	187819	1	03/05/2014 05:13	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 6-Mar-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14058-MW-41-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014 11:25:00 AM
<b>Lab ID:</b> 1402N49-033	<b>Matrix:</b> Groundwater ✓

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 05:40	GK
1,1-Dichloroethene	150	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 05:40	GK
Surr: 4-Bromofluorobenzene	96	66.2-120		%REC	187819	1	03/05/2014 05:40	GK
Surr: Dibromofluoromethane	✓ 104	79.5-121		%REC	187819	1	03/05/2014 05:40	GK
Surr: Toluene-d8	98.2	77-117		%REC	187819	1	03/05/2014 05:40	GK

Qualifiers: \* Value exceeds maximum contaminant level  
 BRL Below reporting limit  
 H Holding times for preparation or analysis exceeded  
 N Analyte not NELAC certified  
 B Analyte detected in the associated method blank  
 > Greater than Result value

E Estimated (value above quantitation range)  
 S Spike Recovery outside limits due to matrix  
 Narr See case narrative  
 NC Not confirmed  
 < Less than Result value  
 J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> TRIP BLANK
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 2/27/2014
<b>Lab ID:</b> 1402N49-034	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B</b>				<b>(SW5030B)</b>				
Vinyl chloride	BRL	2.0		ug/L	187819	1	03/05/2014 06:07	GK
1,1-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Methylene chloride	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
1,1-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Chloroform	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Carbon tetrachloride	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Benzene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
1,2-Dichloroethane	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Trichloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Toluene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Tetrachloroethene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Ethylbenzene	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Xylenes, Total	BRL	5.0		ug/L	187819	1	03/05/2014 06:07	GK
Surr: 4-Bromofluorobenzene	94.8	66.2-120		%REC	187819	1	03/05/2014 06:07	GK
Surr: Dibromofluoromethane	104	79.5-121		%REC	187819	1	03/05/2014 06:07	GK
Surr: Toluene-d8	98.1	77-117		%REC	187819	1	03/05/2014 06:07	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Brown & Calder

Work Order Number 1402W49

Checklist completed by [Signature] Date 2/27/14

Carrier name: FedEx  UPS  Courier  Client  US Mail  Other

Shipping container/cooler in good condition? Yes  No  Not Present

Custody seals intact on shipping container/cooler? Yes  No  Not Present

Custody seals intact on sample bottles? Yes  No  Not Present

Container/Temp Blank temperature in compliance? (4°C±2)\* Yes  No

Cooler #1 3.1 ✓ Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler #5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

Proceed with Standard TAT as per project history? Yes  No  Not Applicable

Water - VOA vials have zero headspace? No VOA vials submitted Yes  No

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Sample Condition: Good  Adjusted? \_\_\_\_\_ Other(Explain) \_\_\_\_\_ Checked by \_\_\_\_\_

(For diffusive samples or AIHA lead) Is a known blank included? Yes  No

See Case Narrative for resolution of the Non-Conformance.

\* Samples do not have to comply with the given range for certain parameters.

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

Client: BROWN AND CALDWELL  
 Project Name: Owens Corning  
 Workorder: 1402N49

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187817

Sample ID: MB-187817	Client ID:	Units: ug/L	Prep Date: 03/03/2014	Run No: 262365							
Sample Type: MBLK	Test Code: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187817	Analysis Date: 03/03/2014	Seq No: 5517655							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Benzene	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Methylene chloride	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	49.18	0	50.00			98.4	66.2	120			
Surr: Dibromofluoromethane	51.25	0	50.00			102	79.5	121			
Surr: Toluene-d8	49.27	0	50.00			98.5	77	117			

Sample ID: LCS-187817	Client ID:	Units: ug/L	Prep Date: 03/03/2014	Run No: 262365							
Sample Type: LCS	Test Code: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187817	Analysis Date: 03/03/2014	Seq No: 5517654							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	44.72	5.0	50.00			89.4	63.1	140			
Benzene	45.95	5.0	50.00			91.9	74.2	129			
Toluene	46.20	5.0	50.00			92.4	74.2	129			

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL		Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim		Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: BROWN AND CALDWELL  
 Project Name: Owens Corning  
 Workorder: 1402N49

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187817

Sample ID: LCS-187817	Client ID:	Units: ug/L	Prep Date: 03/03/2014	Run No: 262365							
Sample Type: LCS	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187817	Analysis Date: 03/03/2014	Seq No: 5517654							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Trichloroethene	46.92	5.0	50.00	50.00	93.8	71.2	135				
Surr: 4-Bromofluorobenzene	50.11	0	50.00	50.00	100	66.2	120				
Surr: Dibromofluoromethane	52.20	0	50.00	50.00	104	79.5	121				
Surr: Toluene-d8	49.85	0	50.00	50.00	99.7	77	117				

Sample ID: 1402N49-004AMS	Client ID: 14055-MW-22	Units: ug/L	Prep Date: 03/03/2014	Run No: 262365							
Sample Type: MS	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187817	Analysis Date: 03/04/2014	Seq No: 5517657							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	833.7	50	500.0	273.1	112	60.2	159				
Benzene	487.1	50	500.0	500.0	97.4	70.2	138				
Toluene	492.6	50	500.0	500.0	98.5	70	139				
Trichloroethene	506.7	50	500.0	500.0	101	70.1	144				
Surr: 4-Bromofluorobenzene	515.1	0	500.0	500.0	103	66.2	120				
Surr: Dibromofluoromethane	534.9	0	500.0	500.0	107	79.5	121				
Surr: Toluene-d8	506.7	0	500.0	500.0	101	77	117				

Sample ID: 1402N49-004AMSD	Client ID: 14055-MW-22	Units: ug/L	Prep Date: 03/03/2014	Run No: 262365							
Sample Type: MSD	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187817	Analysis Date: 03/04/2014	Seq No: 5517658							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	823.1	50	500.0	273.1	110	60.2	159	833.7	1.28	19.2	
Benzene	481.8	50	500.0	500.0	96.4	70.2	138	487.1	1.09	20	
Toluene	500.5	50	500.0	500.0	100	70	139	492.6	1.59	20	
Trichloroethene	500.4	50	500.0	500.0	100	70.1	144	506.7	1.25	20	
Surr: 4-Bromofluorobenzene	507.9	0	500.0	500.0	102	66.2	120	515.1	0	0	
Surr: Dibromofluoromethane	513.1	0	500.0	500.0	103	79.5	121	534.9	0	0	
Surr: Toluene-d8	501.7	0	500.0	500.0	100	77	117	506.7	0	0	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
	J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
	Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		



**Analytical Environmental Services, Inc**

Date: 6-Mar-14

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1402N49

**ANALYTICAL QC SUMMARY REPORT**

**BatchID:** 187819

<b>Sample ID:</b> MB-187819	<b>Client ID:</b>	<b>Units:</b> ug/L	<b>Prep Date:</b> 03/04/2014	<b>Run No:</b> 262473							
<b>Sample Type:</b> MBLK	<b>Test Code:</b> Volatile Organic Compounds by GC/MS SW8260B	<b>BatchID:</b> 187819	<b>Analysis Date:</b> 03/04/2014	<b>Seq No:</b> 5519985							
<b>Analyte</b>	<b>Result</b>	<b>RPT Limit</b>	<b>SPK value</b>	<b>SPK Ref Val</b>	<b>%REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPD Ref Val</b>	<b>%RPD</b>	<b>RPD Limit</b>	<b>Qual</b>

1,1,1-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Benzene	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Methylene chloride	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	47.95	0	50.00		95.9	66.2	120				
Surr: Dibromofluoromethane	49.67	0	50.00		99.3	79.5	121				
Surr: Toluene-d8	47.75	0	50.00		95.5	77	117				

<b>Sample ID:</b> MB-187819	<b>Client ID:</b>	<b>Units:</b> ug/L	<b>Prep Date:</b> 03/04/2014	<b>Run No:</b> 262509							
<b>Sample Type:</b> MBLK	<b>Test Code:</b> Volatile Organic Compounds by GC/MS SW8260B	<b>BatchID:</b> 187819	<b>Analysis Date:</b> 03/05/2014	<b>Seq No:</b> 5519984							
<b>Analyte</b>	<b>Result</b>	<b>RPT Limit</b>	<b>SPK value</b>	<b>SPK Ref Val</b>	<b>%REC</b>	<b>Low Limit</b>	<b>High Limit</b>	<b>RPD Ref Val</b>	<b>%RPD</b>	<b>RPD Limit</b>	<b>Qual</b>

Surr: 4-Bromofluorobenzene	53.94	0	50.00		108	66.2	120				
Surr: Dibromofluoromethane	53.94	0	50.00		✓ 108	79.5	121				
Surr: Toluene-d8	50.73	0	50.00		101	77	117				

<b>Qualifiers:</b>	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL		Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J		Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim		Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1402N49

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187819**

Sample ID: LCS-187819	Client ID:	Units: ug/L	Prep Date: 03/04/2014	Run No: 262473							
Sample Type: LCS	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187819	Analysis Date: 03/04/2014	Seq No: 5518982							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	44.29	5.0	50.00	50.00	88.6	63.1	140				
Benzene	45.92	5.0	50.00	50.00	91.8	74.2	129				
Toluene	45.80	5.0	50.00	50.00	91.6	74.2	129				
Trichloroethene	48.12	5.0	50.00	50.00	96.2	71.2	135				
Surr: 4-Bromofluorobenzene	49.69	0	50.00	50.00	99.4	66.2	120				
Surr: Dibromofluoromethane	51.15	0	50.00	50.00	102	79.5	121				
Surr: Toluene-d8	48.96	0	50.00	50.00	97.9	77	117				

Sample ID: 1402N49-026AMS	Client ID: 14058-MW-41-ZONE 2	Units: ug/L	Prep Date: 03/04/2014	Run No: 262473							
Sample Type: MS	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187819	Analysis Date: 03/04/2014	Seq No: 5518989							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	704.8	50	500.0	197.6	101	60.2	159				
Benzene	468.1	50	500.0	500.0	93.6	70.2	138				
Toluene	476.5	50	500.0	500.0	95.3	70	139				
Trichloroethene	497.0	50	500.0	500.0	99.4	70.1	144				
Surr: 4-Bromofluorobenzene	499.8	0	500.0	500.0	100.0	66.2	120				
Surr: Dibromofluoromethane	521.3	0	500.0	500.0	104	79.5	121				
Surr: Toluene-d8	491.3	0	500.0	500.0	98.3	77	117				

Sample ID: 1402N49-026AMSD	Client ID: 14058-MW-41-ZONE 2	Units: ug/L	Prep Date: 03/04/2014	Run No: 262473							
Sample Type: MSD	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187819	Analysis Date: 03/04/2014	Seq No: 5518991							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	703.0	50	500.0	197.6	101	60.2	159	704.8	0.256	19.2	
Benzene	461.4	50	500.0	500.0	92.3	70.2	138	468.1	1.44	20	
Toluene	467.3	50	500.0	500.0	93.5	70	139	476.5	1.95	20	
Trichloroethene	476.8	50	500.0	500.0	95.4	70.1	144	497.0	4.15	20	

<b>Qualifiers:</b>	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
	BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
	J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
	Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Analytical Environmental Services, Inc**

Date: 6-Mar-14

Client: BROWN AND CALDWELL  
 Project Name: Owens Corning  
 Workorder: 1402N49

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187819

Sample ID: 1402N49-026AMSD	Client ID: 14058-MW-41-ZONE 2	Units: ug/L	Prep Date: 03/04/2014	Run No: 262473
SampleType: MSD	TestCode: Volatile Organic Compounds by GC/MS SW8260B	BatchID: 187819	Analysis Date: 03/04/2014	Seq No: 5518991

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Surr: 4-Bromofluorobenzene	500.6	0	500.0		100	66.2	120	499.8	0	0	
Surr: Dibromofluoromethane	522.1	0	500.0		104	79.5	121	521.3	0	0	
Surr: Toluene-d8	486.8	0	500.0		97.4	77	117	491.3	0	0	

Qualifiers:	>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit		E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit		N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit		S	Spike Recovery outside limits due to matrix		



# LABORATORY DATA VERIFICATION FORM

## 1. PROJECT INFORMATION

Today's Date: 6/5/14

Project Number: 145492 Project Name/Client: Owens Corning  
 Project Manager: T. Berryman Sampled By: G. Skala and J. Nunez  
 Laboratory: AES Order No.: 1405K56

## 2. SAMPLE INFORMATION

Purpose of sampling: May quarterly groundwater monitoring

Total number of samples: 44

Groundwater: 40  Soil: \_\_\_\_\_  Soil Gas: \_\_\_\_\_  Trip Blank: 1

Surface water: \_\_\_\_\_  Sediment: \_\_\_\_\_  Other: \_\_\_\_\_  Field Blank: \_\_\_\_\_

Drinking water: \_\_\_\_\_  Air: \_\_\_\_\_  Other: \_\_\_\_\_  Equip Blank: 3

Analyses requested: Volatile Organic Compounds (project specific list)

Method detection limits (MDLs) or reporting limits (RLs) requested: NA

Duplicates: 14139-Dup = 14139-MW-22; 14140-Dup = 14140-MW-29R-Z4; 14141-fDup = 14141-MW-41-Zone 3

## 3. DATA VERIFICATION

Check yes or no. Refer to applicable Data Verification Guidelines to determine appropriate action.

Yes  No  NA Was the Chain of Custody intact?

If no: Notes: \_\_\_\_\_

Yes  No  NA Were custody seals intact on samples bottles and/or coolers as necessary?

If no: Notes: Custody seals were intact on cooler

Yes  No  NA Were cooler temperatures within the acceptable range of 0-6°C?

If no: Notes: 3.1

Yes  No  NA Were samples physically and chemically preserved properly (i.e. no bubbles in VOC vials)

If no: Notes: \_\_\_\_\_

Yes  No  NA Was the case narrative of the analytical report free of any quality issues, discrepancies, etc.?

If no: Notes: Refer to Comment No. 1

Yes  No  NA Were all samples labeled, analyzed, and reported correctly? (no samples held, no wrong analyses, etc.)

If no: If within holding time, call lab immediately. Notes: Refer to Comment No. 1

Yes  No  NA Were all samples analyzed within holding time?

If no: Notes: \_\_\_\_\_

Yes  No  NA Were appropriate analytes reported?

If no: Notes: \_\_\_\_\_

Yes  No  NA Were soil and/or sediment concentrations reported appropriately? (DW vs WW)

If no: Call lab immediately to verify. Notes: \_\_\_\_\_

Yes  No  NA If analyzed for the following parameters, was the following true for all analytes?

Yes  No  NA Total metals ≥ Dissolved metals

Yes  No  NA TKN > Organic nitrogen

Yes  No  NA TKN > Ammonia (NH<sub>3</sub>)

Yes  No  NA COD > TOC

Yes  No  NA COD > BOD

If no: Report to project manager and contact lab's QA/QC manager if needed. Notes: \_\_\_\_\_

Yes  No  NA Were method detection limits (MDL), reporting limits (RLs), and/or dilution factors appropriate?

If no: Report to project manager and contact lab if needed. Notes: \_\_\_\_\_

Yes  No  NA Were surrogate % recoveries within the acceptable range of LCL ≤ x ≤ UCL?

If no: Notes: \_\_\_\_\_

Yes  No  NA Were target analytes detected in any field, equipment, and/or laboratory blanks?

If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any target analytes detected below practical quantitation limits (PQLs)?  
 If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any sample duplicates collected?  
 If yes: Notes: Refer to Comment No. 2

Yes  No  NA Were any laboratory duplicates reported for project samples?  
 If yes: Notes: \_\_\_\_\_

Yes  No  NA Were any matrix spikes reported for project samples?  
 If yes: Notes: No issues to report

Yes  No  NA Were any laboratory control samples reported?  
 If yes: Notes: No issues to report

Yes  No  NA Were calibration standards reported?  
 If yes: Notes: \_\_\_\_\_

**4. COMMENTS & SUMMARY OF ACTIONS TAKEN** (Attach additional pages if necessary)

Comment No. 1: The sample ID on the bottle for -043 was "14142-MW-41-Z1", which did not agree with the COC; lab logged according to the COC. **Action Required:** Contact lab and have this sample ID corrected to "14142-MW-41-Z1".

Comment No. 2: The following field duplicates were collected:  
 14139-Dup = 14139-MW-22  
 14140-Dup = 14140-MW-29R-Z4  
 14141-fDup = 14141-MW-41-Zone 3

Refer to the attached sheet for a detailed duplicate comparison and relative percent difference (RPD) calculations. All RPDs are within acceptable control limits. No further action required.

*Sarah E Jones*  
 \_\_\_\_\_  
 Signature of Data Verifier



**LABORATORY DATA VERIFICATION**  
Sample Duplicate Comparison

**PROJECT INFORMATION**

Project Number: 145492      Project Name: Owens Corning      Task/Purpose of Sampling: May quarterly sampling  
 Project Manager: T. Berryman      Client: Owens Corning  
 Laboratory: AES      Data Report: 1405K56

**DUPLICATE INFORMATION**

Parent Sample ID: 14139-MW-22      Date/Time: 5/19/2014 1525      Matrix: Groundwater  
 Duplicate Sample ID: 14139-Dup      Date/Time: 5/19/2014      Matrix: Groundwater

Analytes (Units)	Analytical Results <sup>a</sup>		Relative Percent Difference (RPD) Comparison	Reporting Limit (RL) Comparison (if Needed)				Actions Required
	14139-MW-22	14139-Dup		14139-MW-22	14139-Dup	Either Sample Conc. ≥ 2X RLS?	2X RLS?	
1,1-Dichloroethene (ug/L)	310	320	Inorg: RPD > 20%? Org: RPD > 30%?	2x RL	2x RL			No further action required.
Chloroform	9.2	9.2		RL	RL			No further action required.
Carbon Tetrachloride	18	19						No further action required.

**DUPLICATE INFORMATION**

Parent Sample ID: 14140-MW-29R-Z4      Date/Time: 5/20/2014 1215      Matrix: Groundwater  
 Duplicate Sample ID: 14140-Dup      Date/Time: 5/20/2014      Matrix: Groundwater

Analytes (Units)	Analytical Results <sup>a</sup>		Relative Percent Difference (RPD) Comparison	Reporting Limit (RL) Comparison (if Needed)				Actions Required
	14140-MW-29R-Z4	14140-Dup		14140-MW-29R-Z4	14140-Dup	Either Sample Conc. ≥ 2X RLS?	2X RL	
1,1-Dichloroethene (ug/L)	260	280	Inorg: RPD > 20%? Org: RPD > 30%?	2x RL	2x RL			No further action required.
Chloroform	9	9.1		RL	RL			No further action required.
Carbon Tetrachloride	11	14						No further action required.



## LABORATORY DATA VERIFICATION Sample Duplicate Comparison

### PROJECT INFORMATION

Project Number: 145492      Project Name: Owens Corning      Task/Purpose of Sampling: May quarterly sampling  
 Project Manager: T. Berryman      Client: Owens Corning  
 Laboratory: AES      Data Report: 1405K56

### DUPLICATE INFORMATION

Parent Sample ID: 14141-MW-41-Zone 3      Date/Time: 5/21/2014 1435      Matrix: Groundwater  
 Duplicate Sample ID: 14141-fDup      Date/Time: 5/21/2014      Matrix: Groundwater

Analytes (Units)	Analytical Results <sup>a</sup>	Relative Percent Difference (RPD) Comparison	Reporting Limit (RL) Comparison (If Needed)		Actions Required
			14141-MW-41-Zone 3 RL	14141-fDup RL	
1,1-Dichloroethene (ug/L)	35      35	RPD      Inorg: RPD > 20%? Org: RPD > 30%?  0%      NO	2x RL	2x RL	No further action required.

<sup>a</sup> Results in red text and italics were below reporting limits. Values are reporting limits for comparison purposes only.

**Relative Percent Difference (RPD)** is a quantitative indicator of quality assurance and quality control (QA/QC) for repeated measurements (i.e. duplicates) where the outcome is expected to be the same. It is calculated using the following equation:
 
$$RPD = \frac{|x_1 - x_2|}{(x_1 + x_2) / 2} \times 100$$



June 09, 2014

Tamara Berryman  
BROWN AND CALDWELL  
990 Hammond Drive  
Atlanta GA 30328

TEL: (770) 673-3678  
FAX: (770) 396-9495

RE: Owens Corning

Dear Tamara Berryman:

Order No: 1405K56

Analytical Environmental Services, Inc. received 44 samples on 5/22/2014 12:20:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

These results relate only to the items tested. This report may only be reproduced in full.

If you have any questions regarding these test results, please feel free to call.

Tara Esbeck  
Project Manager

**Revision** 6/9/2014



CHAIN OF CUSTODY

ANALYTICAL ENVIRONMENTAL SERVICES, INC  
3080 Presidential Drive, Atlanta GA 30340-3704  
TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME	SAMPLE ID	SAMPLED	DATE	TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED	REMARKS	No # of Containers
<p>COMPANY: Brown + Caldwell ADDRESS: 990 Hammond Drive Ste 400, Atlanta, Ga 30328 PHONE: FAX: SIGNATURE: <i>[Signature]</i></p>													
<p>SAMPLED BY: <i>[Signature]</i> # 2</p>													
				14139-MW-44	X	5-19-14	1220	X		GW			
				14139-MW-35	X	5-19-14	1305	X		GW			
				14139-MW-15	X	5-19-14	1425	X		GW			
				14139-MW-23	X	5-19-14	1525	X		GW			
				14139-DUP	Y	5-19-14	1200			GW			
				14140-MW-36-Z1	X	5-20-14	1050	X		GW			
				14140-MW-36-Z3	X	5-20-14	1615	X		GW			
				14140-MW-36-Z5	Y	5-20-14	1555			GW			
				14140-MW-29R-Z3	X	5-20-14	1135	X		(H)			
				14140-MW-29R-Z4	X	5-20-14	1215	X		GW			
				14140-DUP	X	5-20-14	1200	X		GW			
				14140-MW-38-Z1	X	5-20-14	1415	X		GW			
				14140-MW-38-Z2	X	5-20-14	1515	X		GW			
				14140-FB	Y	5-20-14	1430	X		W			
<p>1: <i>[Signature]</i> 5/22/14 1220 2: <i>[Signature]</i> 5/22/14 12:20 3:</p>													
<p>SPECIAL INSTRUCTIONS/COMMENTS: <i>Owens-Corning focus list of VOCs only</i></p>													
<p>SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.</p>													
<p>MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+M+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None</p>													

Visit our website [www.aesatlanta.com](http://www.aesatlanta.com) to check on the status of your results, place bottle orders, etc.

Turnaround Time Request  
 Standard 5 Business Days  
 2 Business Day Rush  
 Next Business Day Rush  
 Same Day Rush (auth req)  
 Other

STATE PROGRAM (if any):  
 E-mail?  / N; Fax?  Y / N  
 DATA PACKAGE:  I  III  IV

PROJECT NAME: Owens-Corning  
 PROJECT #:   
 SITE ADDRESS:   
 SEND REPORT TO: *[Signature]* @ [bernyman@owens-corning.com](mailto:bernyman@owens-corning.com)  
 INVOICE TO: (IF DIFFERENT FROM ABOVE)  
 SHIPMENT METHOD:   
 OUT / / VIA:   
 IN  FedEx  UPS  MAIL  COURIER  GREYHOUND  OTHER

QUOTE #:   
 PO#:   
 Total # of Containers



**ANALYTICAL ENVIRONMENTAL SERVICES, INC**  
 3080 Presidential Drive, Atlanta GA 30340-3704  
**AES** TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

**CHAIN OF CUSTODY**

Work Order: 1408K56

Date: 5/22/14 Page 2 of 1

COMPANY: <b>Brown &amp; Caldwell</b>		ADDRESS: <b>990 Hammond Dr, Ste 400 Atlanta, Ga 30328</b>	
PHONE:	FAX:		
SAMPLED BY: <b>Skala + Nunez</b>	SIGNATURE: <i>[Signature]</i>		
#	SAMPLE ID	SAMPLED	
		DATE	TIME
1	14139-200 Friendship Lane	5/19/14	1650
2	14139-721 LinkScales Road	5/19/14	1820
3	14139-628 Airline Road	5/19/14	1725
4	14139-408 LinkScales Road	5/19/14	1635
5	14139-412 Kaye Drive	5/19/14	1750
6	14139-117 Faye Drive	5/19/14	1740
7	14139-305 Kaye Drive	5/19/14	1735
8	14139-200 Kaye Drive	5/19/14	1800
9	14139-135 - Elred Road	5/19/14	1705
10	14139-119 - Claverhill Drive	5/19/14	1715
11	14139-1303 LinkScales Road	5/19/14	1810
12	14141-MW-43-Z1	5/21/14	0955
13	14141-MW-43-Z2	5/21/14	1125
14	14141-MW-43-Z3	5/21/14	1310
RELINQUISHED BY: <i>[Signature]</i>	DATE/TIME	RECEIVED BY: <i>[Signature]</i>	DATE/TIME
1: <i>[Signature]</i>	5/22/14 12:20	2: <i>[Signature]</i>	5/22/14 12:20
SPECIAL INSTRUCTIONS/COMMENTS: <b>Chwells-Corning focus list of VOCs only</b>			
SHIPPING METHOD		VIA:	
OUT	IN	CLIENT	UPS MAIL COURIER
SHIPMENT METHOD			
SEND REPORT TO: <b>Bredman@brownca.com</b>			
INVOICE TO: (IF DIFFERENT FROM ABOVE)			
PROJECT NAME: <b>Owens-Corning</b>			
PROJECT #:			
SITE ADDRESS:			
PROJECT INFORMATION			
RECEIPT			
Total # of Containers			
Turnaround Time Request			
<input type="radio"/> Standard 5 Business Days			
<input type="radio"/> 2 Business Day Rush			
<input type="radio"/> Next Business Day Rush			
<input type="radio"/> Same Day Rush (auth req.)			
<input type="radio"/> Other			
STATE PROGRAM (if any):			
E-mail? <input type="radio"/> /N; Fax? <input type="radio"/> Y /N			
DATA PACKAGE: <input type="radio"/> I <input checked="" type="radio"/> III <input type="radio"/> IV			
QUOTE #:			
PO#:			
NO # of Containers			
REMARKS			
PRESERVATION (Sec codes)			
ANALYSIS REQUESTED			
Visit our website <b>www.aesatlanta.com</b> to check on the status of your results, place bottle orders, etc.			

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.  
 SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.  
 MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water  
 PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice SM+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Date: 5/20/14 Page 3 of 4

#	SAMPLE ID	DATE	TIME	SAMPLING		Grab	Composite	Matrix (See codes)	REMARKS	ANALYSIS REQUESTED	No # of Containers
				DATE	TIME						
1	14139-MW-42 Zone 1	5/19/14	1150			✓		GW			2
2	14139-MW-42 Zone 3	5/19/14	1417			✓		GW			2
3	14139-MW-42 Zone 2	5/19/14	1600			✓		GW			2
4	14139-EB	5/19/14	0930			✓		W			2
5	14140-MW-39 Zone 1	5/20/14	1000			✓		GW			2
6	14140-MW-39 Zone 2	5/20/14	1105			✓		GW			2
7	14140-MW-39 Zone 3	5/20/14	1240			✓		GW			2
8	14140-MW-37 Zone 1	5/20/14	1540			✓		GW			2
9	14141-MW-37 Zone 2	5/21/14	1135			✓		GW			2
10	14141-MW-37 Zone 3	5/21/14	1230			✓		GW			2
11	14141-MW-41 Zone 3	5/21/14	1435			✓		GW			2
12	14141-FDUP	5/21/14	1200			✓		GW			2
13	14141-EB	5/21/14	1455			✓		W			2
14											

RELINQUISHED BY: <i>Mark D</i>	DATE/TIME: 5/14/14	RECEIVED BY: <i>Category R</i>	DATE/TIME: 5/22/14 (2:20pm)
PROJECT NAME: Owens Corning		PROJECT #:	
SITE ADDRESS:		PROJECT INFORMATION:	
SEND REPORT TO: <i>Berryman Environmental.com</i>		INVOICE TO: (IF DIFFERENT FROM ABOVE)	
STATE PROGRAM (if any):		E-mail? Y/N: Fax? Y/N	
Turnaround Time Request: Standard 5 Business Days		DATA PACKAGE: I II III IV	
2 Business Day Rush		Same Day Rush (auth req.)	
Next Business Day Rush		Other	
Total # of Containers: 26		Turnaround Time Request: <input checked="" type="radio"/> Standard 5 Business Days	
		<input type="radio"/> 2 Business Day Rush	
		<input type="radio"/> Next Business Day Rush	
		<input type="radio"/> Same Day Rush (auth req.)	
		<input type="radio"/> Other	

COMPANY: Brown + Caldwell	ADDRESS: 970 Hammond Dr, Ste 400 Atlanta, GA 30328
PHONE:	FAX:
SAMPLED BY: <i>George Skala</i>	SIGNATURE: <i>George Skala</i>
SPECIAL INSTRUCTIONS/COMMENTS: Owens Corning focus list of VOCs only	

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water  
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice SM+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

SHIPMENT METHOD: CLIENT  FedEx  UPS  MAIL  COURIER  GREYHOUND  OTHER

VIA:  AIR  GROUND  WATER

White Copy - Original; Yellow Copy - Client

CHAIN OF CUSTODY

ANALYTICAL ENVIRONMENTAL SERVICES, INC  
 3080 Presidential Drive, Atlanta GA 30340-3704  
 AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

#	SAMPLE ID	SIGNED BY: <i>Miguel A. Hernandez</i>	SAMPLED		Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED	REMARKS	No # of Containers
			DATE	TIME						
1	14141-MW-41-22	<i>Miguel A. Hernandez</i>	5-21-14	1515	Y		GW			
2	14142-MW-41-2		5-22-14	0920	Y		GW			
3	Tap blanks				X		W			
4	Tap blanks				X		W			
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

COMPANY: <b>Brown &amp; Caldwell</b>	ADDRESS: <b>990 Hammons Dr, Ste 400 Atlanta, GA 30328</b>
PHONE:	FAX:
SIGNED BY: <i>Miguel A. Hernandez</i>	SIGNATURE: <i>Miguel A. Hernandez</i>
RELINQUISHED BY: <i>Miguel A. Hernandez</i>	DATE/TIME: <b>5-22-14 12:20p</b>
RECEIVED BY: <i>Miguel A. Hernandez</i>	DATE/TIME: <b>5-22-14 12:20p</b>
PROJECT NAME: <b>OWNS-COR-NY</b>	PROJECT #:
SITE ADDRESS:	SEND REPORT TO: <b>iberrymond@browncl.com</b>
INVOICE TO: <b>(IF DIFFERENT FROM ABOVE)</b>	QUOTE #:
SHIPMENT METHOD: <b>OUT IN</b>	VIA: <b>CLIENT</b>
SPECIAL INSTRUCTIONS/COMMENTS: <b>Focus list of VDLs for OWNS-COR-NY only</b>	SHIPMENT METHOD: <b>OUT IN</b>
SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES. SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.	

STATE PROGRAM (if any):  
 E-mail?  N; Fax? Y / N  
 DATA PACKAGE: I  II  III  IV  
 MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water  
 PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S+M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None  
 White Copy - Original; Yellow Copy - Client

**Client:** BROWN AND CALDWELL

**Project:** Owens Corning

**Lab ID:** 1405K56

**Case Narrative**

Client listed Trip Blank twice on the COC but only received 1 set of Trip Blank. Sample 1405K56-043A had 14142-MW-41-Z1 on sample label

The sample ID for sample 1405K56-023 was changed to 14139-115 Elrod Road per Tamara Berryman email 6/9/14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-44
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 12:20:00 PM
<b>Lab ID:</b> 1405K56-001	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 19:53	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 19:53	NP
Surr: 4-Bromofluorobenzene	92.5	66.2-120		%REC	191647	1	05/27/2014 19:53	NP
Surr: Dibromofluoromethane	96.5	79.5-121		%REC	191647	1	05/27/2014 19:53	NP
Surr: Toluene-d8	93.6	77-117		%REC	191647	1	05/27/2014 19:53	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-35
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 1:05:00 PM
<b>Lab ID:</b> 1405K56-002	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 20:17	NP
1,1-Dichloroethene	95	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 20:17	NP
Surr: 4-Bromofluorobenzene	91.8	66.2-120		%REC	191647	1	05/27/2014 20:17	NP
Surr: Dibromofluoromethane	97.3	79.5-121		%REC	191647	1	05/27/2014 20:17	NP
Surr: Toluene-d8	95.3	77-117		%REC	191647	1	05/27/2014 20:17	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-15
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 2:25:00 PM
<b>Lab ID:</b> 1405K56-003	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 21:39	NP
1,1-Dichloroethene	180	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 21:39	NP
Surr: 4-Bromofluorobenzene	94.5	66.2-120		%REC	191647	1	05/27/2014 21:39	NP
Surr: Dibromofluoromethane	99.2	79.5-121		%REC	191647	1	05/27/2014 21:39	NP
Surr: Toluene-d8	95.7	77-117		%REC	191647	1	05/27/2014 21:39	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-22
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 3:25:00 PM
<b>Lab ID:</b> 1405K56-004	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/28/2014 00:57	NP
1,1-Dichloroethene	310	50		ug/L	191647	10	05/27/2014 16:32	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Chloroform	9.2	5.0		ug/L	191647	1	05/28/2014 00:57	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Carbon tetrachloride	18	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Benzene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Toluene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/28/2014 00:57	NP
Surr: 4-Bromofluorobenzene	89.4	66.2-120		%REC	191647	10	05/27/2014 16:32	NP
Surr: 4-Bromofluorobenzene	95.9	66.2-120		%REC	191647	1	05/28/2014 00:57	NP
Surr: Dibromofluoromethane	92.1	79.5-121		%REC	191647	10	05/27/2014 16:32	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191647	1	05/28/2014 00:57	NP
Surr: Toluene-d8	93.5	77-117		%REC	191647	10	05/27/2014 16:32	NP
Surr: Toluene-d8	94.3	77-117		%REC	191647	1	05/28/2014 00:57	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-DUP
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 12:00:00 PM
<b>Lab ID:</b> 1405K56-005	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 23:42	NP
1,1-Dichloroethene	320	50		ug/L	191647	10	05/28/2014 10:56	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Chloroform	9.2	5.0		ug/L	191647	1	05/27/2014 23:42	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Carbon tetrachloride	19	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 23:42	NP
Surr: 4-Bromofluorobenzene	93.3	66.2-120		%REC	191647	1	05/27/2014 23:42	NP
Surr: 4-Bromofluorobenzene	95.3	66.2-120		%REC	191647	10	05/28/2014 10:56	NP
Surr: Dibromofluoromethane	98.7	79.5-121		%REC	191647	10	05/28/2014 10:56	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191647	1	05/27/2014 23:42	NP
Surr: Toluene-d8	95.5	77-117		%REC	191647	1	05/27/2014 23:42	NP
Surr: Toluene-d8	94.6	77-117		%REC	191647	10	05/28/2014 10:56	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-36-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 10:50:00 AM
<b>Lab ID:</b> 1405K56-006	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 22:03	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 22:03	NP
Surr: 4-Bromofluorobenzene	93.7	66.2-120		%REC	191647	1	05/27/2014 22:03	NP
Surr: Dibromofluoromethane	99	79.5-121		%REC	191647	1	05/27/2014 22:03	NP
Surr: Toluene-d8	95	77-117		%REC	191647	1	05/27/2014 22:03	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-36-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 4:15:00 PM
<b>Lab ID:</b> 1405K56-007	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 22:28	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 22:28	NP
Surr: 4-Bromofluorobenzene	94.2	66.2-120		%REC	191647	1	05/27/2014 22:28	NP
Surr: Dibromofluoromethane	100	79.5-121		%REC	191647	1	05/27/2014 22:28	NP
Surr: Toluene-d8	97.1	77-117		%REC	191647	1	05/27/2014 22:28	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-36-Z5
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 3:55:00 PM
<b>Lab ID:</b> 1405K56-008	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 22:53	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 22:53	NP
Surr: 4-Bromofluorobenzene	96.7	66.2-120		%REC	191647	1	05/27/2014 22:53	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191647	1	05/27/2014 22:53	NP
Surr: Toluene-d8	96.2	77-117		%REC	191647	1	05/27/2014 22:53	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-29R-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 11:35:00 AM
<b>Lab ID:</b> 1405K56-009	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/28/2014 01:21	NP
1,1-Dichloroethene	280	50		ug/L	191647	10	05/27/2014 16:58	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Chloroform	9.2	5.0		ug/L	191647	1	05/28/2014 01:21	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Carbon tetrachloride	13	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Benzene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Toluene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/28/2014 01:21	NP
Surr: 4-Bromofluorobenzene	91.4	66.2-120		%REC	191647	10	05/27/2014 16:58	NP
Surr: 4-Bromofluorobenzene	95.1	66.2-120		%REC	191647	1	05/28/2014 01:21	NP
Surr: Dibromofluoromethane	91.5	79.5-121		%REC	191647	10	05/27/2014 16:58	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191647	1	05/28/2014 01:21	NP
Surr: Toluene-d8	94.8	77-117		%REC	191647	1	05/28/2014 01:21	NP
Surr: Toluene-d8	94.4	77-117		%REC	191647	10	05/27/2014 16:58	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-29R-Z4
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 12:15:00 PM
<b>Lab ID:</b> 1405K56-010	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/28/2014 01:46	NP
1,1-Dichloroethene	260	50		ug/L	191647	10	05/27/2014 17:22	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Chloroform	9.0	5.0		ug/L	191647	1	05/28/2014 01:46	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Carbon tetrachloride	11	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Benzene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Toluene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/28/2014 01:46	NP
Surr: 4-Bromofluorobenzene	90.7	66.2-120		%REC	191647	10	05/27/2014 17:22	NP
Surr: 4-Bromofluorobenzene	95.4	66.2-120		%REC	191647	1	05/28/2014 01:46	NP
Surr: Dibromofluoromethane	91.6	79.5-121		%REC	191647	10	05/27/2014 17:22	NP
Surr: Dibromofluoromethane	99.5	79.5-121		%REC	191647	1	05/28/2014 01:46	NP
Surr: Toluene-d8	91.8	77-117		%REC	191647	10	05/27/2014 17:22	NP
Surr: Toluene-d8	93.3	77-117		%REC	191647	1	05/28/2014 01:46	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-DUP
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 12:00:00 PM
<b>Lab ID:</b> 1405K56-011	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/28/2014 00:07	NP
1,1-Dichloroethene	280	50		ug/L	191647	10	05/28/2014 11:21	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Chloroform	9.1	5.0		ug/L	191647	1	05/28/2014 00:07	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Carbon tetrachloride	14	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Benzene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Toluene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/28/2014 00:07	NP
Surr: 4-Bromofluorobenzene	94.8	66.2-120		%REC	191647	1	05/28/2014 00:07	NP
Surr: 4-Bromofluorobenzene	95.2	66.2-120		%REC	191647	10	05/28/2014 11:21	NP
Surr: Dibromofluoromethane	98.4	79.5-121		%REC	191647	1	05/28/2014 00:07	NP
Surr: Dibromofluoromethane	99.9	79.5-121		%REC	191647	10	05/28/2014 11:21	NP
Surr: Toluene-d8	94	77-117		%REC	191647	1	05/28/2014 00:07	NP
Surr: Toluene-d8	95.6	77-117		%REC	191647	10	05/28/2014 11:21	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-38-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 2:15:00 PM
<b>Lab ID:</b> 1405K56-012	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191647	1	05/27/2014 23:17	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Methylene chloride	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Chloroform	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Carbon tetrachloride	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Benzene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Trichloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Toluene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Tetrachloroethene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Ethylbenzene	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Xylenes, Total	BRL	5.0		ug/L	191647	1	05/27/2014 23:17	NP
Surr: 4-Bromofluorobenzene	96.6	66.2-120		%REC	191647	1	05/27/2014 23:17	NP
Surr: Dibromofluoromethane	98.5	79.5-121		%REC	191647	1	05/27/2014 23:17	NP
Surr: Toluene-d8	95.3	77-117		%REC	191647	1	05/27/2014 23:17	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-38-Z2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 3:15:00 PM
<b>Lab ID:</b> 1405K56-013	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 01:04	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 01:04	GK
Surr: 4-Bromofluorobenzene	89.9	66.2-120		%REC	191656	1	05/28/2014 01:04	GK
Surr: Dibromofluoromethane	96.3	79.5-121		%REC	191656	1	05/28/2014 01:04	GK
Surr: Toluene-d8	97.9	77-117		%REC	191656	1	05/28/2014 01:04	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 2:30:00 PM
<b>Lab ID:</b> 1405K56-014	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 02:24	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 02:24	GK
Surr: 4-Bromofluorobenzene	90.6	66.2-120		%REC	191656	1	05/28/2014 02:24	GK
Surr: Dibromofluoromethane	97.9	79.5-121		%REC	191656	1	05/28/2014 02:24	GK
Surr: Toluene-d8	100	77-117		%REC	191656	1	05/28/2014 02:24	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-200 FRIENDSHIP LANE
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 4:50:00 PM
<b>Lab ID:</b> 1405K56-015	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 03:18	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 03:18	GK
Surr: 4-Bromofluorobenzene	88	66.2-120		%REC	191656	1	05/28/2014 03:18	GK
Surr: Dibromofluoromethane	97.5	79.5-121		%REC	191656	1	05/28/2014 03:18	GK
Surr: Toluene-d8	101	77-117		%REC	191656	1	05/28/2014 03:18	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-721 CLINKSCALES ROA
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 6:20:00 PM
<b>Lab ID:</b> 1405K56-016	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 03:45	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 03:45	GK
Surr: 4-Bromofluorobenzene	89	66.2-120		%REC	191656	1	05/28/2014 03:45	GK
Surr: Dibromofluoromethane	96.7	79.5-121		%REC	191656	1	05/28/2014 03:45	GK
Surr: Toluene-d8	100	77-117		%REC	191656	1	05/28/2014 03:45	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-628 AIRLINE ROAD
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:25:00 PM
<b>Lab ID:</b> 1405K56-017	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 04:12	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 04:12	GK
Surr: 4-Bromofluorobenzene	90.5	66.2-120		%REC	191656	1	05/28/2014 04:12	GK
Surr: Dibromofluoromethane	97	79.5-121		%REC	191656	1	05/28/2014 04:12	GK
Surr: Toluene-d8	99.3	77-117		%REC	191656	1	05/28/2014 04:12	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-408 CLINKSCALES ROA
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 4:35:00 PM
<b>Lab ID:</b> 1405K56-018	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 04:39	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 04:39	GK
Surr: 4-Bromofluorobenzene	88.6	66.2-120		%REC	191656	1	05/28/2014 04:39	GK
Surr: Dibromofluoromethane	95.8	79.5-121		%REC	191656	1	05/28/2014 04:39	GK
Surr: Toluene-d8	99.7	77-117		%REC	191656	1	05/28/2014 04:39	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-412 KAYE DRIVE
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:50:00 PM
<b>Lab ID:</b> 1405K56-019	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 05:05	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 05:05	GK
Surr: 4-Bromofluorobenzene	91.2	66.2-120		%REC	191656	1	05/28/2014 05:05	GK
Surr: Dibromofluoromethane	101	79.5-121		%REC	191656	1	05/28/2014 05:05	GK
Surr: Toluene-d8	97.5	77-117		%REC	191656	1	05/28/2014 05:05	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-117 FAYE DRIVE
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:40:00 PM
<b>Lab ID:</b> 1405K56-020	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 05:32	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 05:32	GK
Surr: 4-Bromofluorobenzene	89.1	66.2-120		%REC	191656	1	05/28/2014 05:32	GK
Surr: Dibromofluoromethane	98.2	79.5-121		%REC	191656	1	05/28/2014 05:32	GK
Surr: Toluene-d8	99.4	77-117		%REC	191656	1	05/28/2014 05:32	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-303 KAYE DRIVE
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:35:00 PM
<b>Lab ID:</b> 1405K56-021	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 05:59	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 05:59	GK
Surr: 4-Bromofluorobenzene	87.7	66.2-120		%REC	191656	1	05/28/2014 05:59	GK
Surr: Dibromofluoromethane	97	79.5-121		%REC	191656	1	05/28/2014 05:59	GK
Surr: Toluene-d8	98.7	77-117		%REC	191656	1	05/28/2014 05:59	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 9-Jun-14

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-200 KAYE DRIVE
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 6:00:00 PM
<b>Lab ID:</b> 1405K56-022	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 06:26	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 06:26	GK
Surr: 4-Bromofluorobenzene	87.9	66.2-120		%REC	191656	1	05/28/2014 06:26	GK
Surr: Dibromofluoromethane	96.3	79.5-121		%REC	191656	1	05/28/2014 06:26	GK
Surr: Toluene-d8	99.8	77-117		%REC	191656	1	05/28/2014 06:26	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-115 ELROD ROAD
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:05:00 PM
<b>Lab ID:</b> 1405K56-023	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 06:53	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 06:53	GK
Surr: 4-Bromofluorobenzene	89.1	66.2-120		%REC	191656	1	05/28/2014 06:53	GK
Surr: Dibromofluoromethane	97.8	79.5-121		%REC	191656	1	05/28/2014 06:53	GK
Surr: Toluene-d8	101	77-117		%REC	191656	1	05/28/2014 06:53	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-119 CLOVERHILL DRIV
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 5:15:00 PM
<b>Lab ID:</b> 1405K56-024	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 07:19	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 07:19	GK
Surr: 4-Bromofluorobenzene	87.3	66.2-120		%REC	191656	1	05/28/2014 07:19	GK
Surr: Dibromofluoromethane	97.5	79.5-121		%REC	191656	1	05/28/2014 07:19	GK
Surr: Toluene-d8	97.9	77-117		%REC	191656	1	05/28/2014 07:19	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-1303 CLINKSCALES RO
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 6:10:00 PM
<b>Lab ID:</b> 1405K56-025	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 07:46	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 07:46	GK
Surr: 4-Bromofluorobenzene	88.9	66.2-120		%REC	191656	1	05/28/2014 07:46	GK
Surr: Dibromofluoromethane	98.2	79.5-121		%REC	191656	1	05/28/2014 07:46	GK
Surr: Toluene-d8	99	77-117		%REC	191656	1	05/28/2014 07:46	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-43-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 9:55:00 AM
<b>Lab ID:</b> 1405K56-026	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 08:12	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 08:12	GK
Surr: 4-Bromofluorobenzene	89.3	66.2-120		%REC	191656	1	05/28/2014 08:12	GK
Surr: Dibromofluoromethane	97.3	79.5-121		%REC	191656	1	05/28/2014 08:12	GK
Surr: Toluene-d8	99.8	77-117		%REC	191656	1	05/28/2014 08:12	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-43-Z2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 11:25:00 AM
<b>Lab ID:</b> 1405K56-027	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 08:39	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 08:39	GK
Surr: 4-Bromofluorobenzene	88.1	66.2-120		%REC	191656	1	05/28/2014 08:39	GK
Surr: Dibromofluoromethane	98	79.5-121		%REC	191656	1	05/28/2014 08:39	GK
Surr: Toluene-d8	100	77-117		%REC	191656	1	05/28/2014 08:39	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-43-Z3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 1:10:00 PM
<b>Lab ID:</b> 1405K56-028	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 09:06	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 09:06	GK
Surr: 4-Bromofluorobenzene	88.9	66.2-120		%REC	191656	1	05/28/2014 09:06	GK
Surr: Dibromofluoromethane	97	79.5-121		%REC	191656	1	05/28/2014 09:06	GK
Surr: Toluene-d8	99.9	77-117		%REC	191656	1	05/28/2014 09:06	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-42-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 11:50:00 AM
<b>Lab ID:</b> 1405K56-029	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 09:33	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 09:33	GK
Surr: 4-Bromofluorobenzene	87.4	66.2-120		%REC	191656	1	05/28/2014 09:33	GK
Surr: Dibromofluoromethane	98.5	79.5-121		%REC	191656	1	05/28/2014 09:33	GK
Surr: Toluene-d8	100	77-117		%REC	191656	1	05/28/2014 09:33	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-42-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 2:17:00 PM
<b>Lab ID:</b> 1405K56-030	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 13:01	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 13:01	GK
Surr: 4-Bromofluorobenzene	92.3	66.2-120		%REC	191656	1	05/28/2014 13:01	GK
Surr: Dibromofluoromethane	96.3	79.5-121		%REC	191656	1	05/28/2014 13:01	GK
Surr: Toluene-d8	99	77-117		%REC	191656	1	05/28/2014 13:01	GK

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-MW-42-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 4:00:00 PM
<b>Lab ID:</b> 1405K56-031	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 13:28	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 13:28	GK
Surr: 4-Bromofluorobenzene	90.3	66.2-120		%REC	191656	1	05/28/2014 13:28	GK
Surr: Dibromofluoromethane	98.5	79.5-121		%REC	191656	1	05/28/2014 13:28	GK
Surr: Toluene-d8	99.1	77-117		%REC	191656	1	05/28/2014 13:28	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14139-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/19/2014 9:30:00 AM
<b>Lab ID:</b> 1405K56-032	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191656	1	05/28/2014 02:50	GK
1,1-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Methylene chloride	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
1,1-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Chloroform	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
1,1,1-Trichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Carbon tetrachloride	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Benzene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
1,2-Dichloroethane	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Trichloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Toluene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Tetrachloroethene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Ethylbenzene	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Xylenes, Total	BRL	5.0		ug/L	191656	1	05/28/2014 02:50	GK
Surr: 4-Bromofluorobenzene	92.3	66.2-120		%REC	191656	1	05/28/2014 02:50	GK
Surr: Dibromofluoromethane	100	79.5-121		%REC	191656	1	05/28/2014 02:50	GK
Surr: Toluene-d8	98	77-117		%REC	191656	1	05/28/2014 02:50	GK

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-39-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 10:00:00 AM
<b>Lab ID:</b> 1405K56-033	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 14:17	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 14:17	NP
Surr: 4-Bromofluorobenzene	95.5	66.2-120		%REC	191668	1	05/28/2014 14:17	NP
Surr: Dibromofluoromethane	102	79.5-121		%REC	191668	1	05/28/2014 14:17	NP
Surr: Toluene-d8	96.4	77-117		%REC	191668	1	05/28/2014 14:17	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-39-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 11:05:00 AM
<b>Lab ID:</b> 1405K56-034	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 15:56	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 15:56	NP
Surr: 4-Bromofluorobenzene	95.1	66.2-120		%REC	191668	1	05/28/2014 15:56	NP
Surr: Dibromofluoromethane	98.6	79.5-121		%REC	191668	1	05/28/2014 15:56	NP
Surr: Toluene-d8	94	77-117		%REC	191668	1	05/28/2014 15:56	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-39-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 12:40:00 PM
<b>Lab ID:</b> 1405K56-035	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 16:21	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 16:21	NP
Surr: 4-Bromofluorobenzene	93.9	66.2-120		%REC	191668	1	05/28/2014 16:21	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	1	05/28/2014 16:21	NP
Surr: Toluene-d8	94.7	77-117		%REC	191668	1	05/28/2014 16:21	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14140-MW-37-ZONE 1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/20/2014 3:40:00 PM
<b>Lab ID:</b> 1405K56-036	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 17:11	NP
1,1-Dichloroethene	90	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 17:11	NP
Surr: 4-Bromofluorobenzene	95.6	66.2-120		%REC	191668	1	05/28/2014 17:11	NP
Surr: Dibromofluoromethane	99.6	79.5-121		%REC	191668	1	05/28/2014 17:11	NP
Surr: Toluene-d8	95.8	77-117		%REC	191668	1	05/28/2014 17:11	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-37-ZONE 2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 11:35:00 AM
<b>Lab ID:</b> 1405K56-037	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 19:39	NP
1,1-Dichloroethene	250	50		ug/L	191668	10	05/28/2014 15:31	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Chloroform	7.4	5.0		ug/L	191668	1	05/28/2014 19:39	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Carbon tetrachloride	7.1	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 19:39	NP
Surr: 4-Bromofluorobenzene	94.9	66.2-120		%REC	191668	1	05/28/2014 19:39	NP
Surr: 4-Bromofluorobenzene	95.4	66.2-120		%REC	191668	10	05/28/2014 15:31	NP
Surr: Dibromofluoromethane	98	79.5-121		%REC	191668	10	05/28/2014 15:31	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	1	05/28/2014 19:39	NP
Surr: Toluene-d8	94	77-117		%REC	191668	10	05/28/2014 15:31	NP
Surr: Toluene-d8	96	77-117		%REC	191668	1	05/28/2014 19:39	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-37-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 12:30:00 PM
<b>Lab ID:</b> 1405K56-038	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 17:35	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 17:35	NP
Surr: 4-Bromofluorobenzene	96.8	66.2-120		%REC	191668	1	05/28/2014 17:35	NP
Surr: Dibromofluoromethane	102	79.5-121		%REC	191668	1	05/28/2014 17:35	NP
Surr: Toluene-d8	97.4	77-117		%REC	191668	1	05/28/2014 17:35	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-41-ZONE 3
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 2:35:00 PM
<b>Lab ID:</b> 1405K56-039	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 18:00	NP
1,1-Dichloroethene	35	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 18:00	NP
Surr: 4-Bromofluorobenzene	96	66.2-120		%REC	191668	1	05/28/2014 18:00	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	1	05/28/2014 18:00	NP
Surr: Toluene-d8	95.8	77-117		%REC	191668	1	05/28/2014 18:00	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-F DUP
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 12:00:00 PM
<b>Lab ID:</b> 1405K56-040	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 19:15	NP
1,1-Dichloroethene	35	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 19:15	NP
Surr: 4-Bromofluorobenzene	95.6	66.2-120		%REC	191668	1	05/28/2014 19:15	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	1	05/28/2014 19:15	NP
Surr: Toluene-d8	94.5	77-117		%REC	191668	1	05/28/2014 19:15	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-EB
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 2:55:00 PM
<b>Lab ID:</b> 1405K56-041	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 13:53	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 13:53	NP
Surr: 4-Bromofluorobenzene	94.5	66.2-120		%REC	191668	1	05/28/2014 13:53	NP
Surr: Dibromofluoromethane	103	79.5-121		%REC	191668	1	05/28/2014 13:53	NP
Surr: Toluene-d8	94.7	77-117		%REC	191668	1	05/28/2014 13:53	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14141-MW-41-Z2
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/21/2014 3:15:00 PM
<b>Lab ID:</b> 1405K56-042	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 18:25	NP
1,1-Dichloroethene	240	50		ug/L	191668	10	05/29/2014 13:17	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 18:25	NP
Surr: 4-Bromofluorobenzene	95.9	66.2-120		%REC	191668	1	05/28/2014 18:25	NP
Surr: 4-Bromofluorobenzene	95.2	66.2-120		%REC	191668	10	05/29/2014 13:17	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	1	05/28/2014 18:25	NP
Surr: Dibromofluoromethane	101	79.5-121		%REC	191668	10	05/29/2014 13:17	NP
Surr: Toluene-d8	95.2	77-117		%REC	191668	1	05/28/2014 18:25	NP
Surr: Toluene-d8	94.9	77-117		%REC	191668	10	05/29/2014 13:17	NP

<b>Qualifiers:</b>	* Value exceeds maximum contaminant level	E Estimated (value above quantitation range)
	BRL Below reporting limit	S Spike Recovery outside limits due to matrix
	H Holding times for preparation or analysis exceeded	Narr See case narrative
	N Analyte not NELAC certified	NC Not confirmed
	B Analyte detected in the associated method blank	< Less than Result value
	> Greater than Result value	J Estimated value detected below Reporting Limit

<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> 14142-MW-41-Z1
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/22/2014 9:20:00 AM
<b>Lab ID:</b> 1405K56-043	<b>Matrix:</b> Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 18:50	NP
1,1-Dichloroethene	77	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 18:50	NP
Surr: 4-Bromofluorobenzene	94.7	66.2-120		%REC	191668	1	05/28/2014 18:50	NP
Surr: Dibromofluoromethane	99.8	79.5-121		%REC	191668	1	05/28/2014 18:50	NP
Surr: Toluene-d8	96.6	77-117		%REC	191668	1	05/28/2014 18:50	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit



<b>Client:</b> BROWN AND CALDWELL	<b>Client Sample ID:</b> TRIP BLANKS
<b>Project Name:</b> Owens Corning	<b>Collection Date:</b> 5/22/2014
<b>Lab ID:</b> 1405K56-044	<b>Matrix:</b> Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
<b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>								
Vinyl chloride	BRL	2.0		ug/L	191668	1	05/28/2014 13:28	NP
1,1-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Methylene chloride	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
1,1-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Chloroform	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
1,1,1-Trichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Carbon tetrachloride	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Benzene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
1,2-Dichloroethane	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Trichloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Toluene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Tetrachloroethene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Ethylbenzene	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Xylenes, Total	BRL	5.0		ug/L	191668	1	05/28/2014 13:28	NP
Surr: 4-Bromofluorobenzene	95.4	66.2-120		%REC	191668	1	05/28/2014 13:28	NP
Surr: Dibromofluoromethane	100	79.5-121		%REC	191668	1	05/28/2014 13:28	NP
Surr: Toluene-d8	94.8	77-117		%REC	191668	1	05/28/2014 13:28	NP

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client Brae & G

Work Order Number 14051150

Checklist completed by [Signature] 5/26/19  
Signature Date

Carrier name: FedEx  UPS  Courier  Client  US Mail  Other

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Container/Temp Blank temperature in compliance? (4°C±2)\* Yes  No

Cooler #1 3-1 Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler #5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Was TAT marked on the COC? Yes  No
- Proceed with Standard TAT as per project history? Yes  No  Not Applicable
- Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Sample Condition: Good  Other(Explain) \_\_\_\_\_  
(For diffusive samples or AIHA lead) Is a known blank included? Yes  No

See Case Narrative for resolution of the Non-Conformance.

\* Samples do not have to comply with the given range for certain parameters.

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191647**

Sample ID: <b>MB-191647</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/27/2014</b>	Run No: <b>268387</b>							
SampleType: <b>MBLK</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191647</b>	Analysis Date: <b>05/27/2014</b>	Seq No: <b>5662527</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Benzene	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Methylene chloride	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.23	0	50.00		92.5	66.2	120				
Surr: Dibromofluoromethane	48.83	0	50.00		97.7	79.5	121				
Surr: Toluene-d8	47.53	0	50.00		95.1	77	117				

Sample ID: <b>LCS-191647</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/27/2014</b>	Run No: <b>268387</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191647</b>	Analysis Date: <b>05/27/2014</b>	Seq No: <b>5662526</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	55.09	5.0	50.00		110	63.1	140				
Benzene	49.99	5.0	50.00		100.0	74.2	129				
Toluene	49.99	5.0	50.00		100.0	74.2	129				

**Qualifiers:**

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191647**

Sample ID: <b>LCS-191647</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/27/2014</b>	Run No: <b>268387</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191647</b>	Analysis Date: <b>05/27/2014</b>	Seq No: <b>5662526</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Trichloroethene	53.50	5.0	50.00		107	71.2	135				
Surr: 4-Bromofluorobenzene	48.37	0	50.00		96.7	66.2	120				
Surr: Dibromofluoromethane	47.35	0	50.00		94.7	79.5	121				
Surr: Toluene-d8	47.81	0	50.00		95.6	77	117				

Sample ID: <b>1405L10-003AMS</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/27/2014</b>	Run No: <b>268501</b>							
SampleType: <b>MS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191647</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662570</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	59.63	5.0	50.00		119	60.2	159				
Benzene	56.06	5.0	50.00		112	70.2	138				
Toluene	56.05	5.0	50.00		112	70	139				
Trichloroethene	60.20	5.0	50.00		120	70.1	144				
Surr: 4-Bromofluorobenzene	52.58	0	50.00		105	66.2	120				
Surr: Dibromofluoromethane	49.68	0	50.00		99.4	79.5	121				
Surr: Toluene-d8	49.22	0	50.00		98.4	77	117				

Sample ID: <b>1405L10-003AMSD</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/27/2014</b>	Run No: <b>268501</b>							
SampleType: <b>MSD</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191647</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662571</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	58.32	5.0	50.00		117	60.2	159	59.63	2.22	19.2	
Benzene	55.59	5.0	50.00		111	70.2	138	56.06	0.842	20	
Toluene	55.71	5.0	50.00		111	70	139	56.05	0.608	20	
Trichloroethene	60.77	5.0	50.00		122	70.1	144	60.20	0.942	20	
Surr: 4-Bromofluorobenzene	51.71	0	50.00		103	66.2	120	52.58	0	0	
Surr: Dibromofluoromethane	49.81	0	50.00		99.6	79.5	121	49.68	0	0	
Surr: Toluene-d8	48.50	0	50.00		97.0	77	117	49.22	0	0	

**Qualifiers:** > Greater than Result value < Less than Result value B Analyte detected in the associated method blank  
 BRL Below reporting limit E Estimated (value above quantitation range) H Holding times for preparation or analysis exceeded  
 J Estimated value detected below Reporting Limit N Analyte not NELAC certified R RPD outside limits due to matrix  
 Rpt Lim Reporting Limit S Spike Recovery outside limits due to matrix

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191656**

Sample ID: <b>MB-191656</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268495</b>							
SampleType: <b>MBLK</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191656</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662659</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Benzene	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Methylene chloride	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.08	0	50.00		92.2	66.2	120				
Surr: Dibromofluoromethane	48.08	0	50.00		96.2	79.5	121				
Surr: Toluene-d8	48.63	0	50.00		97.3	77	117				

Sample ID: <b>LCS-191656</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268495</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191656</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662656</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	43.46	5.0	50.00		86.9	63.1	140				
Benzene	50.79	5.0	50.00		102	74.2	129				
Toluene	51.76	5.0	50.00		104	74.2	129				
Trichloroethene	54.57	5.0	50.00		109	71.2	135				

**Qualifiers:**

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191656**

Sample ID: <b>LCS-191656</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268495</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191656</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662656</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Surr: 4-Bromofluorobenzene	47.33	0	50.00		94.7	66.2	120				
Surr: Dibromofluoromethane	50.55	0	50.00		101	79.5	121				
Surr: Toluene-d8	50.26	0	50.00		101	77	117				

Sample ID: <b>1405K56-013AMS</b>	Client ID: <b>14140-MW-38-Z2</b>	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268495</b>							
SampleType: <b>MS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191656</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662664</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	39.86	5.0	50.00		79.7	60.2	159				
Benzene	51.32	5.0	50.00		103	70.2	138				
Toluene	52.07	5.0	50.00		104	70	139				
Trichloroethene	55.27	5.0	50.00		111	70.1	144				
Surr: 4-Bromofluorobenzene	47.36	0	50.00		94.7	66.2	120				
Surr: Dibromofluoromethane	50.09	0	50.00		100	79.5	121				
Surr: Toluene-d8	50.47	0	50.00		101	77	117				

Sample ID: <b>1405K56-013AMSD</b>	Client ID: <b>14140-MW-38-Z2</b>	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268495</b>							
SampleType: <b>MSD</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191656</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5662674</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	39.86	5.0	50.00		79.7	60.2	159	39.86	0	19.2	
Benzene	50.24	5.0	50.00		100	70.2	138	51.32	2.13	20	
Toluene	51.50	5.0	50.00		103	70	139	52.07	1.10	20	
Trichloroethene	53.01	5.0	50.00		106	70.1	144	55.27	4.17	20	
Surr: 4-Bromofluorobenzene	47.90	0	50.00		95.8	66.2	120	47.36	0	0	
Surr: Dibromofluoromethane	49.92	0	50.00		99.8	79.5	121	50.09	0	0	
Surr: Toluene-d8	50.34	0	50.00		101	77	117	50.47	0	0	

**Qualifiers:**

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191668**

Sample ID: <b>MB-191668</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268508</b>							
SampleType: <b>MBLK</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191668</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5665169</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1,1-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
Benzene	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chloroform	BRL	5.0									
cis-1,2-Dichloroethene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Methylene chloride	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
Trichloroethene	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	46.95	0	50.00		93.9	66.2	120				
Surr: Dibromofluoromethane	49.25	0	50.00		98.5	79.5	121				
Surr: Toluene-d8	47.88	0	50.00		95.8	77	117				

Sample ID: <b>LCS-191668</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268508</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191668</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5665168</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	58.55	5.0	50.00		117	63.1	140				
Benzene	56.34	5.0	50.00		113	74.2	129				
Toluene	57.47	5.0	50.00		115	74.2	129				
Trichloroethene	57.49	5.0	50.00		115	71.2	135				

**Qualifiers:**

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

**Client:** BROWN AND CALDWELL  
**Project Name:** Owens Corning  
**Workorder:** 1405K56

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 191668**

Sample ID: <b>LCS-191668</b>	Client ID:	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268508</b>							
SampleType: <b>LCS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191668</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5665168</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Surr: 4-Bromofluorobenzene	50.13	0	50.00		100	66.2	120				
Surr: Dibromofluoromethane	50.02	0	50.00		100	79.5	121				
Surr: Toluene-d8	49.98	0	50.00		100.0	77	117				

Sample ID: <b>1405K56-033AMS</b>	Client ID: <b>14140-MW-39-ZONE 1</b>	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268508</b>							
SampleType: <b>MS</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191668</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5665176</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	56.14	5.0	50.00		112	60.2	159				
Benzene	55.06	5.0	50.00		110	70.2	138				
Toluene	55.58	5.0	50.00		111	70	139				
Trichloroethene	57.95	5.0	50.00		116	70.1	144				
Surr: 4-Bromofluorobenzene	53.39	0	50.00		107	66.2	120				
Surr: Dibromofluoromethane	50.22	0	50.00		100	79.5	121				
Surr: Toluene-d8	48.32	0	50.00		96.6	77	117				

Sample ID: <b>1405K56-033AMSD</b>	Client ID: <b>14140-MW-39-ZONE 1</b>	Units: <b>ug/L</b>	Prep Date: <b>05/28/2014</b>	Run No: <b>268508</b>							
SampleType: <b>MSD</b>	TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b>	BatchID: <b>191668</b>	Analysis Date: <b>05/28/2014</b>	Seq No: <b>5665177</b>							
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

1,1-Dichloroethene	56.43	5.0	50.00		113	60.2	159	56.14	0.515	19.2	
Benzene	54.39	5.0	50.00		109	70.2	138	55.06	1.22	20	
Toluene	54.50	5.0	50.00		109	70	139	55.58	1.96	20	
Trichloroethene	56.64	5.0	50.00		113	70.1	144	57.95	2.29	20	
Surr: 4-Bromofluorobenzene	52.28	0	50.00		105	66.2	120	53.39	0	0	
Surr: Dibromofluoromethane	49.77	0	50.00		99.5	79.5	121	50.22	0	0	
Surr: Toluene-d8	48.23	0	50.00		96.5	77	117	48.32	0	0	

**Qualifiers:**

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		



## Appendix C: Historical Groundwater Data

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(Excerpted from the *2005 Annual Groundwater and Surface Water Monitoring Report*,  
ARCADIS G&M, Inc., 2006)





Table E-1 Summary of Selected Groundwater Analytical Results for Overburden Wells, Owens Corning, Anderson, South Carolina.

Sample dates	Units	November-90	August 91	August-93	December-95	December-96	November-97	December-98	December-99	December-00	November-01	December-02	December-03	December-04	November-05
<b>MW-5</b>															
<b>Halogenated Alkenes</b>															
Tetrachloroethene	ug/l	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchloroethene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Methanes</b>															
Carbon Tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Ethenes</b>															
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aromatic Hydrocarbons</b>															
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>															
Aluminum	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	ug/l	390	240	174	100	100	100	130	89	140	140	NA	NA	NA	NA
Beryllium	ug/l	NA	1	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
Cadmium	ug/l	ND	16	10	4	2	ND	4	ND	ND	ND	NA	NA	NA	NA
Chromium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	ug/l	ND	7.1	ND	3	ND	1	3	ND	ND	ND	NA	NA	NA	NA
Fluoride	mg/l	NA	ND	NA	31.4	31.4	100	ND	ND	176	ND	NA	NA	NA	NA

ND: Not Detected  
 NA: Not Analyzed  
 Conf: Data is Confirmed

















ARCADIS

Table E-2. Summary of Selected Groundwater Results for the Top of Rock Wells, Owens Corning, Anderson, South Carolina.

Sample dates	Units	MW-21										MW-24													
		August-93	December-95	December-96	November-97	December-98	December-99	December-00	November-01	December-02	December-03	December-04	November-05	September-93	December-95	December-96	November-97	December-98	December-99	December-00	November-01	December-02	December-03	December-04	
<b>Halogenated Alkenes</b>																									
Tetrafluoroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Methanes</b>																									
Carbon Tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Ethanes</b>																									
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aromatic Hydrocarbons</b>																									
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>																									
Arsenic	ug/l	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	ug/l	1200	601	200	100	100	130	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	ug/l	3.3	2.2	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	ug/l	9.5	4	2.8	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ug/l	7.5	31.7	6.7	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	ug/l	ND	5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Fluoride</b>																									
Fluoride	ug/l	NA	ND	44.9	100	ND	ND	180	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ND = Not Detected

NA = Not Analyzed

Quantities are ug/L unless noted



Table E-2. Summary of Selected Groundwater Results for the Top of Rock Wells, Owens Corning, Anderson, South Carolina.

Sample dates	Units	TW-42				TW-46							
		December-02	December-03	December-04	November-05	October-01	November-01	December-02	December-03	December-04	November-05		
<b>Halogenated Alkenes</b>													
Tetrachloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Methanes</b>													
Carbon Tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Ethanes</b>													
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aromatic Hydrocarbons</b>													
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>													
Aluminum	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Fluoride</b>													
	mg/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ND = Not Detected  
 NA = Not Analyzed  
 Squares are Not Labeled





Table E-3. Summary of Selected Groundwater Results for Bedrock Wells, Owens Corning, Anderson, South Carolina.

Parameter	Units	MW-22										MW-27													
		August-93	December-95	December-96	December-98	December-99	December-00	Nov-01	December-02	December-03	December-04	November-05	September-93	December-95	December-96	December-98	December-99	December-00	Nov-01	December-02	December-03	December-04	November-05		
<b>Halogenated Alkenes</b>																									
Tetra chloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ug/l	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Methanes</b>																									
Carbon Tetrachloride	ug/l	18	26	47	21	24	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Chloroform	ug/l	ND	ND	11	12	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Methylene Chloride	ug/l	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Ethanes</b>																									
1,1,1-Trichloroethane	ug/l	ND	ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	5	ND	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
<b>Aromatic Hydrocarbons</b>																									
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>																									
Asbestos	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not Detected  
NA = Not Analyzed



Table E-3. Summary of Selected Groundwater Results for Barrock Wells, Owens Corning, Anderson, South Carolina.

Parameter	Units	MW-29R		Alloy										Gladden						
		December-04	November-05	September-93	December-95	December-96	November-97	December-98	December-99	December-00	Nov-01	December-02	December-03	December-04	November-05	September-93	December-96	November-97	December-98	
<b>Halogenated Alkenes</b>																				
Tetrachloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Trichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	2.0	95	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Vinyl Chloride	ug/l	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND
<b>Halogenated Methanes</b>																				
Carbon Tetrachloride	ug/l	12	3.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	11	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.7
<b>Halogenated Ethanes</b>																				
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aromatic Hydrocarbons</b>																				
Benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>																				
Arsenic	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	ug/l	NA	NA	1100	216	160	50	40	88	65	77	NA	NA	NA	NA	NA	41	43.4	200	40
Beryllium	ug/l	NA	NA	3.1	1.1	1.7	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND
Chromium	ug/l	NA	NA	22	4	3.6	3	2	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	1
Cadmium	ug/l	NA	NA	190	34	25.9	6	6	7.8	5.5	5.2	NA	NA	NA	NA	NA	1.6	6.6	ND	ND
Nickel	ug/l	NA	NA	28	5.6	ND	3	3	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	1	1
<b>Fluoride</b>	ug/l	NA	NA	370	ND	88.3	100	100	100	100	100	100	100	100	100	100	100	100	100	100

NA = Not Analyzed  
 ND = Not Detected

Table E.3 Summary of Selected Groundwater Results for Bedrock Wells, Owens Corning, Anderson, South Carolina.

Parameter	Units	TW-40				TW-41				TW-44					
		October-01	November-01	December-02	December-03	December-04	November-01	December-02	December-03	December-04	November-01	December-02	December-03	December-04	November-05
<b>Halogenated Alkenes</b>															
Tetrachloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Methanes</b>															
Carbon tetrachloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Halogenated Ethanes</b>															
1,1,1-Trichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Aromatic Hydrocarbons</b>															
benzene	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Metals</b>															
Acetone	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
butane	ug/l	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
hexane	ug/l	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	ug/l	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
toluene	ug/l	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
nitrobenzene	ug/l	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Fluoride</b>															
	ug/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND = Not Detected  
 NA = Not Analyzed