



Department of Energy

Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
March 31, 2015

Mr. John E. Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87508-6303

Ms. Kathryn Roberts, Director
Resource Protection Division
New Mexico Environment Department
Harold Runnels Building
1190 Saint Francis Drive, Room 4050
Santa Fe, NM 87502-5469

Subject: Monthly Report for the Reporting Period Ending February 28, 2015, as Required by NMED
Administrative Orders dated February 27, 2014, May 12, 2014, and May 20, 2014, as
Amended by NMED Directives dated August 29, 2014 and December 9, 2014

Dear Mr. Kieling and Ms. Roberts:

The purpose of this letter is to transmit the monthly report for the reporting period ending February 28, 2015, as requested by the February 27, 2014, May 12, 2014, and May 20, 2014 Administrative Orders, issued under the authority of the New Mexico Hazardous Waste Act § 74-4-13 from Ryan Flynn to Messrs. Hellstrom, Franco, Cook, and McQuinn, and as amended by the August 29, 2014 and December 9, 2014 directives from Ryan Flynn to Messrs. Franco and McQuinn. This report is enclosed along with a compact disc containing the electronic version of the report.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. George T. Basabilvazo at (575) 234-7488.

Sincerely,

Original Signatures on File

Jose R. Franco, Manager
Carlsbad Field Office

Robert L. McQuinn, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
T. Kliphuis, NMED *ED
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Monthly Status Report for the New Mexico Environment Department Administrative Orders

Reporting Period February 1, 2015, through February 28, 2015

Introduction

On February 5, 2014, a vehicle fire occurred in the Waste Isolation Pilot Plant (WIPP) underground, resulting in normal operations and waste shipments from generator sites being temporarily suspended. On February 14, 2014, while the fire investigation was still underway, a continuous air monitor detected airborne radiation in the WIPP underground facility, causing the ventilation exhaust to automatically realign to high efficiency particulate air (HEPA) filtration mode. The ventilation system has been operating in filtration mode since that time. Entries into Panel 7 in the underground have confirmed that at least one container from a nitrate salt bearing waste stream from Los Alamos National Laboratory has been breached and is most likely the source of the release. Further investigations are currently ongoing as part of Project REACH to collect additional information regarding the release. Shipments of waste to the WIPP facility have been suspended.

The New Mexico Environment Department (NMED) has issued two Administrative Orders (AOs) to address certain activities relative to the WIPP Hazardous Waste Facility Permit (Permit) that cannot be performed because the underground is inaccessible for normal activities. The AOs provide requirements for monitoring and reporting to the NMED concerning the status of recovery from the two events. The first administrative order (AO1) issued on February 27, 2014, addressed above-ground compliance, and required a weekly report to be submitted with regard to surface-related requirements of the Permit. On May 12, 2014, a second administrative order (AO2) was issued to address, in part, Permit-required activities that cannot currently be performed due to restriction on access to the underground. The second administrative order changed the reporting period from weekly to biweekly, with additional information required to supplement the information required by AO1. A directive from the Secretary of the NMED was issued on August 29, 2014, which amended the reporting frequency from biweekly to monthly for reporting required under AO1 and AO2 with the submittal being due to NMED no later than the 15th of the month for activities conducted during the previous month. A new directive from the Secretary of the NMED was issued on December 9, 2014, which amended the submittal frequency for this report. The new due date for the monthly submittal shall be the last day of the subsequent month for activities conducted during the previous month.

This report serves to fulfill the reporting requirements set forth by AO1 and AO2, as amended by the NMED directives dated August 29, 2014, and December 9, 2014. The following sections combine the information required by both orders, as appropriate, and provide references to the applicable paragraphs from AO1 and AO2.

In accordance with Paragraph 17(a) of AO2, and a subsequent letter from the NMED dated September 24, 2014, the Permittees submitted a revised draft of the underground compliance plan (UCP) on October 30, 2014, for NMED's review and comments. Pertinent elements of the WIPP Recovery Plan were integrated into the UCP as these elements pertain to the Permit-

related requirements addressed by the AOs. The monthly reports serve to provide a status of recovery-related activities, as outlined in AO1 and AO2. In accordance with Paragraph 18(a) of AO2, subsequent reports will identify new information since the previous reporting period.

1.0 Status of Permit-related surface and underground inspections for this reporting period, as requested per Paragraph 14(a) of AO1 and Paragraphs 18(c) and 18(e)(iii) of AO2, including the accessibility for personnel performing these Permit-required activities per Paragraph 18(e)(i) of AO2 and the status of recovery activities per Paragraph 18(e)(ii) of AO2:

See Attachment 1, *Surface and Underground Inspections*, for the current status of each Permit-required inspection, including accessibility of underground equipment for personnel performing the inspections. This list is taken from Permit Attachment E, Table E-1. The surface and underground inspections required by Table E-1a related to remote-handled (RH) transuranic (TRU) waste are pre-operational. Because the WIPP facility has not been handling RH TRU waste, and there is no RH TRU waste being stored at the WIPP facility at this time, these pre-operational inspections do not currently apply. Inspections and preventative maintenance (PM) are not required for equipment that is out of service. Prior to commencing RH TRU waste handling operations, PMs and/or inspections will be brought into a current/compliant status.

As indicated in Attachment 1, numerous underground inspections cannot currently be performed due to the inaccessibility to those portions of the underground where inspections are required. Some inspections are being completed in order to facilitate recovery. In accordance with Paragraph 17(a) of AO2 and an NMED letter dated September 24, 2014, the Permittees were required to submit a revised UCP to the NMED by October 30, 2014. The order requires that the UCP shall include a detailed compliance schedule for those requirements described in Paragraph 13 of AO2. The compliance schedule includes a proposed timeline, including dates, for achieving underground recovery and attaining compliance with these Permit-required activities. Before these activities can resume, however, certain prerequisite activities must be performed in order to establish the safety and habitability of the work areas in the underground. The UCP will be updated as information becomes available, and these updates will be provided to the NMED for review and comment prior to being incorporated. Future updates to the UCP, will be reflected in the monthly reports, as required by Paragraph 18(c) of AO2.

2.0 Status of Permit-related monitoring activities for this reporting period, as requested per Paragraph 14(a) of AO1 and Paragraph 18(c) of AO2, including the accessibility for personnel performing these Permit-required activities per Paragraph 18(e)(i) of AO2 and the status of recovery activities per Paragraph 18(e)(ii) of AO2:

In accordance with Paragraph 17(a) of AO2, the draft UCP was submitted to the NMED by June 26, 2014. On September 24, 2014, the NMED notified the Permittees that review of the draft UCP had been suspended pending the release of the WIPP Recovery Plan. Currently, certain monitoring activities cannot be performed due to the inaccessibility to those portions of the underground where monitoring activities occur. The UCP contains a compliance schedule including a proposed timeline, including dates, for achieving underground recovery and attaining compliance with these Permit-required activities. Before these activities can resume, however, certain prerequisite activities must be

performed in order to establish the safety and habitability of the work areas in the underground. A status of these activities, as described in future updates to the UCP, will be reflected in the monthly reports, as required by Paragraph 18(c) of AO2.

Volatile Organic Compound (VOC) Monitoring

Repository VOC monitoring activities (required by Permit Part 4, Section 4.6.2, including Table 4.6.2.3, and associated requirements in Attachment N) are not currently being performed due to the inaccessibility of those portions of the underground required to perform these activities. Additionally, room-based VOC monitoring activities (required by Permit Part 4, Sections 4.4.3 and 4.6.3, Tables 4.4.1 and 4.6.3.2, and associated requirements in Attachment N) cannot currently be performed due to the inaccessibility of those portions of the underground needed to perform these activities.

Surface VOC monitoring is being conducted in lieu of underground monitoring during re-entry and recovery operations utilizing portable passive air sampling kits. Surface monitoring is being performed to assure that the Permit environmental performance standards (i.e., carcinogenic and non-carcinogenic risk due to VOC emissions from the disposed waste) for surface-based non-waste workers are met. Samples are being collected twice each week at three locations on-site and one location off-site. These samples are 24-hour VOC samples collected on the surface southeast (Training Building), west (Building 489 Intake), and north of the Training Building (Building 489 North Air Intake), with an off-site location approximately a mile southeast of the Training Building at location WQSP-4. These samples are used to quantify VOC exposure to a receptor in the Training Building. The samples on-site and at location WQSP-4 are used to quantify background VOC concentrations in the ambient air. Acquisitions in both Full-Scan and SIM (Selective Ion Monitoring) GC/MS (Gas Chromatography/Mass Spectroscopy) mode are acquired to ensure a good mapping. Scan parameters, as seen in SIM mode, provide more averages over a smaller peak width, resulting in superior spectra and less noise; therefore better compound detection and sensitivity with results in parts per trillion (ppt). Full-scan mode monitors the tentatively identified compounds (TIC) over a range of masses and is required for confidence and confirmation of results in parts per billion (ppb). Both modes of GC/MS results are provided (Full-Scan and SIM). In accordance with Paragraph 19 of AO2, the Permittees began monitoring for trichloroethylene as a target analyte on May 12, 2014.

Disposal room VOC monitoring is not being conducted in the underground as stated above. This does not pose a threat to underground waste workers because waste handling is not underway in the underground, and no emplacement rooms are active. Disposal room monitoring will be restarted prior to resuming waste emplacement activities.

Geomechanical Monitoring

The purpose of geomechanical monitoring is to confirm the structural integrity of the underground repository. Geomechanical monitoring data is transmitted electronically via remote instruments located in Rooms 6 and 7 of Panel 7 in accordance with Permit Part 4, Section 4.6.1, associated requirements in Attachment A2-5b(2), and Attachment E, Table E-2. Not all geomechanical monitoring activities that require the manual reading of underground equipment can be performed due to inaccessible portions of the underground. However, visual inspections of the underground areas during recent re-

entries have provided information regarding the stability of the underground and identified those areas that require bolting. Bolting has resumed as part of recovery activities in the underground.

Hydrogen and Methane Monitoring

Hydrogen and methane monitoring activities (required by Permit Part 4, Section 4.6.5 and associated requirements in Attachment N1) cannot currently be performed due to the inaccessibility of those portions of the underground where these activities are performed. This does not pose a threat to underground waste workers because underground activities are not underway in the vicinity of Panels 3 and 4. Hydrogen and methane monitoring will be restarted during recovery.

Mine Ventilation Rate Monitoring

Mine ventilation rate monitoring activities (required by Permit Part 4, Section 4.6.4 and associated requirements of Attachment O) are currently being performed. However, due to reduced air flow in the underground because of operating in filtration mode, the minimum running annual average ventilation rate set forth by the Permit cannot be maintained. The ventilation system has been operating in filtration mode since February 14, 2014, with a flow rate of approximately 60,000 standard cubic feet per minute (SCFM). During this reporting period, the calculated running annual average ventilation flow rate was approximately 59,957 SCFM. Surface VOC monitoring is being used to ensure the reduced flow rate does not pose a threat to the surface non-waste worker.

3.0 Summary of waste shipment information and any other relevant records that document the site of origin, volumes and receipt dates of TRU waste that is currently located at the facility WHB and parking area unit, as requested per Paragraph 14(c) of AO1, and information specifying the deadlines for each individual waste assembly as it relates to AO1, as requested per Paragraph 14(d) of AO1:

Waste is currently being stored in the Waste Handling Building (WHB). Since the submittal of the last monthly report, there has been no additional waste placed in storage in the WHB, and there were no changes to the storage deadlines during this reporting period. Therefore, Attachment 2, *TRU Mixed Waste Currently in Storage at the WIPP Facility*, is currently reserved.

4.0 Location of any environmental monitoring equipment, including the identification of whether they are stationary, mobile, or permanent. This includes, but is not limited to, VOC monitoring stations, radiological monitoring stations, meteorological monitoring, surface water monitoring, vegetation sampling. The reports shall include dates of deployment and sampling, and all data that has been produced by these monitoring stations for his reporting period, as requested per Paragraph 14(f) of AO1:

See Attachment 3, *Environmental Monitoring*, which includes tables with the locations of environmental monitoring equipment (including identification whether they are stationary, mobile, or permanent) and new data for this reporting period. Aerial photos and diagrams

displaying monitoring locations are included. The following briefly describes the monitoring information in Attachment 3, *Environmental Monitoring*.

- VOC monitoring stations – Portable surface monitoring equipment has been deployed since February 25, 2014. Samples are being collected twice each week at the locations indicated in Attachment 3. The results are included in Attachment 3, *Environmental Monitoring*.
- Radiological monitoring – During this reporting period, monitoring results were below minimum concentrations. The results are included in Attachment 3, *Environmental Monitoring*.
 - Surface water samples – surface water samples were obtained on the dates and at the locations shown in Attachment 3.
 - Biota samples – Biota samples were obtained on the dates shown in Attachment 3.

5.0 Updates on activities performed pursuant to the Underground Derived Waste Storage Plan, including a description of any surface and underground derived waste produced, whether the derived waste is mixed or non-mixed, the contents, container type, container location, total container count, and approximate volume of derived waste per container, as requested per Paragraph 14(i) of AO1 and Paragraph 18(d) of AO2:

In accordance with Paragraph 17(b) of AO2, the draft *Underground Derived Waste Storage Plan (UDWSP)* was submitted to the NMED by June 26, 2014 for review and comment. On December 2, 2014, NMED provided comments on the UDWSP and notified the Permittees that the draft UDWSP had been approved. The Permittees addressed the comments, incorporated changes and resubmitted the UDWSP to NMED on January 6, 2015. During this reporting period, no additional derived waste was generated. As recovery efforts progress, any derived waste produced will be reported in Attachment 4, *Surface and Underground Derived Waste Currently in Storage at the WIPP Facility*, which is currently reserved.

6.0 The current status of activities required by the RCRA Contingency Plan, Permit Attachment D, including identification of applicable sections of the Contingency Plan, the schedule for actions required under the Contingency Plan, and any deviations from any Contingency Plan requirements, as requested per Paragraph 18(b) of AO2. Non-applicable sections shall also be identified and explanations shall be provided as to why such sections do not apply:

There has been no change in the status of the RCRA Contingency Plan implementation since the submittal of the last monthly report. Accordingly, Attachment 5, *Status of RCRA Contingency Plan Required Activities*, is currently reserved.

7.0 The monthly report shall include the submission of a list containing all additional requirements placed upon the WIPP by any state or federal agency relating to corrective actions or recovery and as a result of the incidents referenced in Paragraphs 8 and 9 of the May 12, 2014, Administrative Order, including requirements by other segments of DOE, as requested by Paragraph 18(f) of AO2:

During this reporting period, no additional requirements were placed upon the Permittees by any other state or federal agency relating to corrective actions or recovery and as a result of the incidents referenced in Paragraphs 8 and 9 of AO2, including requirements by other segments of the U.S. Department of Energy (DOE). As additional Judgments of Need are identified as a result of the completion of subsequent phases of the Accident Investigation Board radiological release event investigation, they will be provided in Attachment 6, *Corrective Actions Required for Recovery*, which is currently reserved.

Two reports, Office of Enterprise Assessments Review of the Waste Isolation Pilot Plant Recovery Plan for Operating Diesel Equipment with Available Underground Airflows and Office of Enterprise Assessments Review of the Waste Isolation Pilot Plant Conduct of Maintenance Recovery Plan, were released by the DOE's Offices of Nuclear Safety and Environmental Assessments; Environment, Safety and Health Assessments; and Enterprise Assessments (EA) in December 2014. Since the Office of Enterprise Assessment reviews, CBFO and NWP have begun addressing the findings and opportunities for improvements. The WIPP Mine Ventilation Plan has been revised to address several of the finding and opportunities for improvements in the Office of Enterprise Assessments Review of the Waste Isolation Pilot Plant Recovery Plan for Operating Diesel Equipment with Available Underground Airflows. Plans are being developed to address the remaining items in this report and the items in the Office of Enterprise Assessments Review of the Waste Isolation Pilot Plant Conduct of Maintenance Recovery Plan.

8.0 The Permittees shall provide documentation of the "as found" condition of Panel 7, including relevant photographs of the waste, as requested per Paragraph 18(i) of AO2:

Attachment 7, *As-Found Condition of Panel 7*, was provided to the NMED on June 13, 2014. During this reporting period, team members worked to obtain video of waste emplaced in Panel 7, Room 7, where the radiological release occurred. A remotely operated video camera collected photographic evidence of the event. Attachment 7, *As-Found Condition of Panel 7*, provides photographs illustrating the Project Reach Team obtaining video of emplaced waste and the 90-foot boom positioned over the top of the waste containers remotely collecting photographic evidence in Panel 7, Room 7. Panel 7, Room 7, restrictions that were in place to support the Accident Investigation Board evaluation have been lifted with the release of Panel 7. Additional images of Panel 7 conditions are still pending the issuance of the Accident Investigation Board Phase II report.

9.0 The Permittees shall provide documentation of the "as found" condition of Panel 6 partial closure system, including relevant photographs, as requested per Paragraph 18(j) of AO2:

Geotechnical surveys were performed in the area of the Panel 6 entrance. Radiological rollback has been performed at the entrance of Panel 6 and it has been determined that

the area can be characterized as a Contaminated Area and Airborne Radioactive Area. Bolting continues in contaminated areas between the W-30 and W-170 drifts toward the Panel 6 closure location. In addition, the fans to be used for ventilation to support Panel 6 initial closure activities have been downloaded to the underground. There have been no photographs taken in Panel 6 since the February 2014 incidents.

10.0 The Permittees shall provide a status of recovery-related activities relative to the underground per Paragraph 18(e)(ii) of AO2 and a summary of recovery-related work performed in Panel 7, including relevant photographs, as requested per Paragraph 18(k) of AO2:

Consistent with the WIPP Recovery Plan, the focus of underground entries has been on radiological characterization and rollback, geotechnical evaluation, habitability surveys, clean up, electrical and mechanical evaluation of systems, and equipment and repairs as needed to support bolting and installation of the initial closures in Panel 6. Radiological contamination assessments of the underground have been completed. Based upon these assessments, the north end of the underground starting at S-1950 with the exception of the E-300 is posted as a controlled area. The E-300 drift north of S-1950, the S-2180 drift, and Panel 7 are posted as high contaminated areas and airborne radioactive areas. In addition, all areas south of S-1950 are posted as contamination area and airborne radioactivity area. Activities in contaminated areas will be performed using separate equipment and personal protective equipment. Attachment 8, *Panel 7 Recovery-Related Work*, provides a map of the current status of the WIPP underground rollback areas during this reporting period.

In Panel 7, radiological mitigation activities are underway. Decontamination activities commenced in the E-140 and W-70 drift en-route to Panels 6 and 7. Previous testing was performed in Panel 7, in which a water mist and paint application techniques proved effective in fixing decontamination. Current decontamination activities, using a water sprayer, have been completed in the E-140/S-3080 intersection and the W-30 drift between S-2050 and S-2620. The water wash applied in these areas has proven very effective, resulting in radiological levels below minimum detectable activity.

Priorities continue to include resumption of bolting and the initial closure of Panel 6. Bolting in un-contaminated areas continued through this reporting period. Bolting activities are prioritized based on geotechnical inspections and surveys. The number of pieces of diesel equipment that can be operated for roof bolting is limited by the available ventilation in the work area and the minimum ventilation flow rate assigned to each piece of equipment based on Mine Safety and Health Administration air quality requirements. Due to these limitations, ventilation adjustments will have to be made as a prerequisite in each location where bolting equipment will operate to ensure equipment airflow requirements are met.

The interim ventilation system, consisting of two skid mounted fan and high efficiency particulate air (HEPA) filter units, is progressing. Fabrication of the interim ventilation fans has been completed and the fans have been shipped to the vendor for installation on HEPA skids.

During this reporting period, all underground eyewash stations, permanently located fire extinguishers, and first aid stations were inspected, refurbished, and replaced as needed and returned to service. Habitability activities have been completed in the underground

via the E-140, W-30, and W-170 drifts to provide access to Panel 6 to support Panel 6 initial closure activities.

Ongoing visual checks are being performed to evaluate the extent of soot accumulation on electrical equipment and, if necessary, to clean the equipment. Cleaning and restoring of the equipment in the underground science area has been initiated. As of this reporting period, underground electrical cleaning was approximately 70 percent complete with power being restored to the EXO experiment.

As the Permittees continue to conduct recovery-related activities, additional descriptions will be provided in subsequent reports.

Attachment 1
Surface and Underground Inspections

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use)¹	Comments
Air Intake Shaft Hoist	Underground Operations	Preoperational	WP 04-HO1004 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability in accordance with Mine Safety and Health Administration (MSHA) requirements	Current	2/25/15	N/A	
Exhaust Shaft	Underground Operations	Quarterly	PM041099 Inspecting for Deterioration and Leaks/Spills	Not Current	12/31/13	3/31/15	Shaft is not accessible due to the fire and radiological events, and inspections cannot be performed.
Salt Handling Shaft Hoist	Underground Operations	Preoperational	WP 04-HO1002 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability in accordance with MSHA requirements	Current	2/24/15	N/A	
Self-Rescuers	Underground Operations	Quarterly	WP 04-AU1026 Inspecting for Deterioration and Functionality in accordance with MSHA requirements	Current	12/31/14	N/A	
Underground Openings—Roof Bolts and Travelways	Underground Operations	Weekly	WP 04-AU1007 Inspecting for Deterioration	Current	2/27/15	N/A	
Waste Hoist	Underground Operations	Preoperational	WP 04-HO1003 Inspecting for Deterioration, Safety Equipment, Communication Systems, and Mechanical Operability, Leaks/Spills, in accordance with MSHA requirements	Current	2/23/15	N/A	Hoist is operational for conveyance of equipment and emergency egress.

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use)¹	Comments
Explosion-Isolation Walls	Underground Operations	Quarterly	Integrity and Deterioration of Accessible Areas	Current	2/4/15	N/A	
Bulkhead in Filled Panels	Underground Operations	Monthly	Integrity and Deterioration of Accessible Areas	Current	2/4/15	N/A	
MSHA Air Quality Monitor	Maintenance/ Underground Operations	Daily	WP 12-IH1828 Inspecting for Air Quality Monitoring Equipment Functional Check	Current	2/28/15	N/A	
Ambulances (Surface) and related emergency supplies and equipment	Emergency Services	Weekly	12-FP0030 Inspecting for Mechanical Operability, Deterioration, and Required Equipment	Current	2/28/15	N/A	
Ambulances (Underground) and related emergency supplies and equipment	Emergency Services	Weekly	12-FP0030 Inspecting for Mechanical Operability, Deterioration, and Required Equipment	Current	2/28/15	N/A	
Fire Detection and Alarm System (Underground)	Emergency Services	Semiannually	12-FP0027 Inspecting for Deterioration, Operability of indicator lights and, underground fuel station dry chemical suppression system. Inspection is per NFPA 17	Current	1/8/15	N/A	
Fire Extinguishers (Surface)	Emergency Services	Monthly	12-FP0036 Inspecting for Deterioration, Leaks/Spills, Expiration, seals, fullness, and pressure	Current	2/28/15	N/A	
Fire Extinguishers (Underground)	Emergency Services	Monthly	12-FP0036 Inspecting for Deterioration, Leaks/Spills, Expiration, seals, fullness, and pressure	Current	2/28/15	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Fire Hoses	Emergency Services	Annually (minimum)	12-FP0031 Inspecting for Deterioration and Leaks/Spills	Current	2/28/15	N/A	
Fire Hydrants	Emergency Services	Semiannual/ annually	12-FP0034 Inspecting for Deterioration and Leaks/Spills	Current	7/15/14: (Annual) 8/28/14: (Semiannual)	N/A	
Fire Pumps	Emergency Services	Weekly/ annually	WP 12-FP0026 Inspecting for Deterioration, Leaks/Spills, valves, and panel lights	Current	2/23/15	N/A	
Fire Sprinkler Systems	Emergency Services	Monthly/ quarterly	WP 12-FP0025 Inspecting for Deterioration, Leaks/Spills, static pressures, and removable strainers	Current	2/23/15, 2/24/15, 2/25/15	N/A	A series of building fire sprinkler systems are inspected on a weekly basis so that a complete system inspection is accomplished on a monthly basis.
Fire and Emergency Response Trucks (Seagrave Fire Apparatus, Emergency One Apparatus)	Emergency Services	Weekly	12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment	Current	2/27/15	N/A	
Fire and Emergency Response Trucks (Underground Rescue Truck)	Emergency Services	Weekly	12-FP0030 and 12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment	Not Current	2/8/14	3/31/16	As the underground rescue truck is returned to service as part of the recovery, the Permit required inspections will be scheduled and performed and the inspection dates will be noted in this table.

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Hazardous Material Response Equipment	Emergency Services	Weekly	12-FP0033 Inspecting for Mechanical Operability, Deterioration, and Required Equipment	Current	2/24/15	N/A	
Miners First Aid Station	Emergency Services	Quarterly	12-FP0035 Inspecting for Required Equipment	Current	1/5/15	N/A	
Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Services	Weekly	12-FP0029 Inspecting for Deterioration and Pressure	Current	2/28/15	N/A	
Rescue Truck (Surface)	Emergency Services	Weekly	12-FP0030 and 12-FP0033 Inspecting for Mechanical Operability, Deterioration, Leaks/Spills, and Required Equipment	Current	2/26/15	N/A	
Vehicle Siren (Surface Vehicles)	Emergency Services	Weekly	Functional Test included with inspection of the Ambulances, Fire Trucks, and Rescue Trucks	Current	2/26/15, 2/27/15	N/A	
Vehicle Siren (Underground Vehicles)	Emergency Services	Weekly	Functional Test included with inspection of the Ambulances, Fire Trucks, and Rescue Trucks	Current/ Underground Ambulance Only	2/28/15	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Adjustable Center of Gravity Lift Fixture	Waste Handling	Preoperational	WP 05-WH1410 Inspecting for Mechanical Operability and Deterioration	Current	7/30/14 (41-T-037) 10/23/14 (41-T-038) 2/22/15 (41-T-032) 8/20/14 (41-T-036)	N/A	There are four ACGLFs, but the pre-operational inspection was only performed on the one fixture updated. The other ACGLFs will be inspected prior to use.
Contact-Handled (CH) TRU Underground Transporter	Waste Handling	Preoperational	WP 05-WH1603 Inspecting for Mechanical Operability, Deterioration, and area around transporter clear of obstacles	Current	2/5/14	When waste disposal operations resume	Equipment not in use due to the fire and radiological events.
Conveyance Loading Car	Waste Handling	Preoperational	WP 05-1406 Inspecting for Mechanical Operability, Deterioration, path clear of obstacles and guards in the proper place	Current	11/30/14 (41-H-018)	When waste disposal operations resume	Equipment not in use due to the fire and radiological events. The preoperational inspection was completed for training purposes only. Inspection not intended for daily operations.
Facility Transfer Vehicle	Waste Handling	Preoperational	WP 05-WH1204 Inspecting for Mechanical Operability, Deterioration, path clear of obstacles, and guards in the proper place	Current	2/17/15 (41-H-020A) 2/10/15 (41-H-020B)	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment) on Surface	Waste Handling	Preoperational	WP 05-WH1201, WP 05-WH1207, WP 05-WH1401, WP 05-WH1402, WP 05-WH1403, and WP 05-WH1412 Inspecting for Mechanical Operability, Deterioration, and On board fire suppression system	Current	12/18/14 (41-H-009) 2/21/15 (41-H-013) 2/14/15 (41-H-051) 8/9/14 (41-T-051) 1/26/15 (41-H-012D) 2/21/15 (41-H-012E) 2/21/15 (74-H-010B)	N/A	
Forklifts Used for Waste Handling (Electric and Diesel forklifts, Push-Pull Attachment) in Underground	Waste Handling	Preoperational	WP 05-WH1201, WP 05-WH1207, WP 05-WH1401, WP 05-WH1402, WP 05-WH1403, and WP 05-WH1412 Inspecting for Mechanical Operability, Deterioration, and On board fire suppression system	Current	2/5/14	When waste disposal operations resume	Equipment not in use due to the fire and radiological events.
Surface TRU Mixed Waste Handling Area	Waste Handling	Preoperational or Weekly	WP 05-WH1101 Inspecting for Deterioration, Leaks/Spills, Required Aisle Space, Posted Warnings, Communication Systems, Container Condition, and Floor coating integrity	Current	2/25/15 (Weekly)	N/A	
TRU Mixed Waste Decontamination Equipment	Waste Handling	Annually	WP 05-WH1101 Inspecting for Required Equipment	Current	12/30/14	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Underground TRU Mixed Waste Disposal Area	Waste Handling	Preoperational	WP 05-WH1810 Inspecting for Deterioration, Leaks/Spills, mine pager phones, equipment, unobstructed access, signs, debris, and ventilation	Current	2/5/14	When waste disposal operations resume	Waste handling operations are suspended therefore preoperational inspections are not being performed.
TDOP Upender	Waste Handling	Preoperational	WP 05-WH1010 Inspecting for Mechanical Operability and Deterioration	Current	10/9/13	When waste disposal operations resume	Equipment not in use due to the fire and radiological events.
Waste Handling Cranes	Waste Handling	Preoperational	WP 05-WH1407 Inspecting for Mechanical Operability, Deterioration, and Leaks/Spills	Current	1/6/15 (41-T-151A) 1/14/14 (41-T-151B) 2/22/15 (41-T-151D)	N/A	There are four cranes, but the pre-operational inspections were only performed on the cranes listed. The other crane will be inspected prior to use.
Push-Pull Attachment (Surface)	Waste Handling	Preoperational	WP 05-WH1401 Inspecting for Damage and Deterioration	Current	2/21/15 (41-T-160A) 2/21/15 (41-T-160B)	N/A	
Push-Pull Attachment (Underground)	Waste Handling	Preoperational	WP 05-WH1401 Inspecting for Damage and Deterioration	Current	2/5/14	When waste disposal operations resume	Equipment not in use due to the fire and radiological events.
Trailer Jockey	Waste Handling	Preoperational	WP 05-WH1405 Inspecting for Mechanical Operability and Deterioration	Current	2/15/15 (41-H-151B) 2/22/15 (41-H-151A) 12/02/14 (41-H-046)	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Bolting Robot	Waste Handling	Preoperational	WP 05-WH1203 Mechanical Operability	Current	6/29/12	When waste disposal operations resume	Equipment is currently out of service.
Yard Transfer Vehicle	Waste Handling	Preoperational	WP 05-WH1205 Mechanical Operability, clear of obstacles and Guards in proper place	Current	7/29/14 (41-H-021A) 2/17/15 (41-H-021B)	N/A	
Payload Transfer Station	Waste Handling	Preoperational	WP 05-WH1208 Mechanical Operability, Deterioration, and Guards in proper place	Current	2/15/15 (41-Z-041)	N/A	
Monorail Hoist	Waste Handling	Preoperational	WP 05-WH1202 Mechanical Operability, and leaks/spills	Current	2/17/15 (41-H-027)	N/A	
Bolting Station	Waste Handling	Preoperational	WP 05-WH1203 Mechanical Operability, Deterioration, and Guards in proper place	Current	2/17/15 (41-T-053A) (41-T-054A)	N/A	
Backup Power Supply Diesel Generators	Facility Operations	Monthly	WP 04-ED1301 Inspecting for Mechanical Operability and Leaks/Spills by starting and operating both generators. Results of this inspection are logged in accordance with WP 04-AD3008.	Current	2/21/15 (#1) 2/21/15 (#2)	N/A	
Central Monitoring System (CMS)	Facility Operations	Continuous	Automatic Self-Checking	Current	2/28/15	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use)¹	Comments
Mine Pager Phones (between surface and underground)	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations	Current	2/26/15	N/A	
Mine Pager Phones (underground)	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations	Current	2/26/15	N/A	
Public Address (and Intercom System) on Surface	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations Systems operated in test mode	Current	2/26/15	N/A	
Public Address (and Intercom System) in Underground	Facility Operations	Monthly	WP 04-PC3017 Testing of PA and Underground Alarms and Mine Page Phones at essential locations Systems operated in test mode	Current	2/26/15	N/A	
Radio Equipment	Facility Operations	Daily	Radios are operated daily and are repaired upon failure	Current	2/28/15	N/A	
Uninterruptible Power Supply (Central UPS)	Facility Operations	Daily	WP 04-ED1542 Inspecting for Mechanical Operability and Deterioration with no malfunction alarms. Results of this inspection are logged in accordance with WP 04- AD3008.	Current	2/28/15	N/A	
Water Tank Level	Facility Operations	Daily	SDD-WD00 Inspecting for Deterioration, and water levels. Results of this inspection are logged in accordance with WP 04-AD3008.	Current	2/28/15	N/A	

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use)¹	Comments
Facility Inspections (Water Diversion Berms)	Facility Engineering	Annually	WP 10-WC3008 Inspecting for Damage, Impediments to water flow, and Deterioration	Current	9/7/14	N/A	
Eye Wash and Shower Equipment (Surface)	Equipment Custodian	Weekly	WP 12-IS1832 Inspecting for Deterioration	Current	2/26/15	N/A	
Eye Wash and Shower Equipment (Underground)	Equipment Custodian	Weekly	WP 12-IS1832 Inspecting for Deterioration	Current	2/22/15	N/A	
Perimeter Fence, Gates, Signs	Security	Daily	PF0-010 Inspecting for Deterioration and Posted Warnings	Current	2/28/15	N/A	East portion of the fence line is clogged with tumbleweeds and one post is rusted through at ground level. An AR has been written and security issues are being addressed accordingly.
Underground— Geomechanical Instrumentation System (GIS)	Geotechnical Engineering	Monthly	WP 07-EU1301 Inspecting for Deterioration	Current	2/25/15	N/A	Complete at accessible areas.

System/Equipment Name	Responsible Organization	Inspection Frequency	Procedure Number and Inspection Criteria	Inspection Status (Current/ Not Current)	Date of Last Inspection	Proposed Start Date (if Not Current or Equipment Not in Use) ¹	Comments
Ventilation Exhaust	Maintenance Operations	Quarterly	IC041098 Check for Deterioration and Calibration of Mine Ventilation Rate Monitoring Equipment	Not Current	41F30703 Fan A (11/9/13) 41F30704 Fan B (5/20/13) 41F30702 Fan C (12/18/13)	3/31/16	The 700 horsepower fans are not in use because underground ventilation system is operating in filtration mode.

¹ Inspection proposed start date of first quarter of calendar year 2016, is an estimate from the WIPP Recovery Plan. Inspections may be initiated prior to 3/31/16 as work zones are released in the underground. Therefore, 3/31/16 is a “placeholder,” and proposed start dates may be revised as recovery work progresses.

Attachment 2
TRU Mixed Waste Currently in Storage at the WIPP Facility (reserved)

Attachment 3 Environmental Monitoring

This attachment contains the following environmental monitoring data:

- VOC Monitoring
- Radiological Monitoring
 - Surface water samples
 - Biota samples



VOC Sampling Locations



cont. VOC Sampling Locations

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.165 J
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Acetone	67-64-1	PPBV		0.345 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Butane	106-97-8	PPBV		4.98 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		0.33 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		0.435 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.345 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Isobutane	75-28-5	PPBV		2.76 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Pentane	109-66-0	PPBV		2.07 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		0.51 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Propane	74-98-6	PPBV		4.41 NJ
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	78.41 J
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	107.6 J
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	6.35 J

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Toluene	108-88-3	PPTV	150	179.57
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Chloroform	67-66-3	PPTV	150	14.69 J
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	27.51 J
CEMRC	12/22/2014	1/12/2015	9153	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	5.37 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	0.14 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.4	0.2 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Butane	106-97-8	PPBV		6.34 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		2.8 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.6 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		3.5 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Pentane	109-66-0	PPBV		2.72 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.64 NJ

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Propane	74-98-6	PPBV		6.34 NJ
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	200	95.46 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	113.4 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	8.18 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Toluene	108-88-3	PPTV	200	199.54 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	200	15.58 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	33.24 J
CEMRC	12/22/2014	1/12/2015	9151	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	11.26 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	0.1 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	0.18 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Butane	106-97-8	PPBV		6.24 NJ
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		2.7 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.56 NJ
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Isobutane	75-28-5	PPBV		3.42 NJ
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Pentane	109-66-0	PPBV		2.64 NJ
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Propane	74-98-6	PPBV		6.38 NJ
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	76.34 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	108.46 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	9.16 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	173.3 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	14.56 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	28.8 J
CEMRC	12/22/2014	1/12/2015	9152	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	8.5 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.15 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Butane	106-97-8	PPBV		3.285 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		1.68 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.375 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Isobutane	75-28-5	PPBV		1.815 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Pentane	109-66-0	PPBV		1.425 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Propane	74-98-6	PPBV		2.79 NJ
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	70.29 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	96.06 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Toluene	108-88-3	PPTV	150	150.95
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Chloroform	67-66-3	PPTV	150	15.2 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	26.36 J
CEMRC	12/23/2014	1/12/2015	9156	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.4	U

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Butane	106-97-8	PPBV		3.02 NJ
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.4 NJ
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		1.7 NJ
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Pentane	109-66-0	PPBV		1.1 NJ
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Propane	74-98-6	PPBV		2.94 NJ
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	200	73 J
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	96.04 J
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Toluene	108-88-3	PPTV	200	113.34 J
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	200	14.58 J
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	22.02 J
CEMRC	12/23/2014	1/12/2015	9154	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	7.14 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Butane	106-97-8	PPBV		3.165 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		1.515 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.405 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Isobutane	75-28-5	PPBV		1.83 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Pentane	109-66-0	PPBV		1.245 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Propane	74-98-6	PPBV		2.895 NJ
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	72.11 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	115.74 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	9.3 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	127.98 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	16.55 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	22.58 J
CEMRC	12/23/2014	1/12/2015	9155	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	8.07 J

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.315
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Butane	106-97-8	PPBV		7.125 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		3.12 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		0.915 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		1.245 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Cyclopropane, ethyl-	1191-96-4	PPBV		0.36 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Heptane	142-82-5	PPBV		0.375 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Isobutane	75-28-5	PPBV		3.9 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Pentane	109-66-0	PPBV		3.6 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		1.125 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Pentane, 3-methyl-	96-14-0	PPBV		0.585 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Propane	74-98-6	PPBV		6.015 NJ
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	64.43 J

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	93.32 J
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Toluene	108-88-3	PPTV	150	329.09
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Chloroform	67-66-3	PPTV	150	13.98 J
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	43.61 J
CEMRC	12/30/2014	1/15/2015	9159	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.315
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Butane	106-97-8	PPBV		6.975 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		3.165 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.915 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.23 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Heptane	142-82-5	PPBV		0.375 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		3.78 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Pentane	109-66-0	PPBV		3.495 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.095 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Propane	74-98-6	PPBV		5.895 NJ
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	64.5 J
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	111.18 J
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	9.05 J
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	324.99
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	15.59 J
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	42.11 J
CEMRC	12/30/2014	1/15/2015	9157	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	10.19 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	0.285 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U

Qualifiers:

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Butane	106-97-8	PPBV		9.3 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		4.04 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		1.1 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.62 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.46 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Heptane	142-82-5	PPBV		0.46 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Isobutane	75-28-5	PPBV		5.04 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Pentane	109-66-0	PPBV		4.58 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.48 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Pentane, 3-methyl-	96-14-0	PPBV		0.76 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Propane	74-98-6	PPBV		8.38 NJ
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	64.61 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	121.47 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	10.8 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	308.27
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	16.47 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	42.05 J
CEMRC	12/30/2014	1/15/2015	9158	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	14.58 J

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.2	0.07 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.2	0.1 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Toluene	108-88-3	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Chloroform	67-66-3	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.2	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Acetone	67-64-1	PPBV		0.22 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Butane	106-97-8	PPBV		1.6 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.4 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Isobutane	75-28-5	PPBV		0.88 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Pentane	109-66-0	PPBV		0.68 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Propane	74-98-6	PPBV		1.24 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Trichloromonofluoromethane	75-69-4	PPBV		0.23 NJ
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Methylene Chloride	75-09-2	PPTV	100	73.64 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	100	98.61 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	100	4.55 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Chlorobenzene	108-90-7	PPTV	100	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Toluene	108-88-3	PPTV	100	80.39 J

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Chloroform	67-66-3	PPTV	100	15.31 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	100	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	100	U
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	100	19.4 J
CEMRC	12/31/2014	1/15/2015	9162	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	100	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Acetone	67-64-1	PPBV		0.3 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Butane	106-97-8	PPBV		1.725 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.435 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		0.96 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Pentane	109-66-0	PPBV		0.66 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Propane	74-98-6	PPBV		1.605 NJ
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	75.03 J
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	94.68 J

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	71.6 J
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	16.37 J
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	18.86 J
CEMRC	12/31/2014	1/15/2015	9160	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Butane	106-97-8	PPBV		1.635 NJ
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.405 NJ
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Isobutane	75-28-5	PPBV		0.9 NJ
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Pentane	109-66-0	PPBV		0.63 NJ
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Propane	74-98-6	PPBV		1.47 NJ

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	71.79 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	90.72 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	68.63 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	15.66 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	17.88 J
CEMRC	12/31/2014	1/15/2015	9161	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.45
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Acetone	67-64-1	PPBV		0.48 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Butane	106-97-8	PPBV		7.62 NJ

Qualifiers:

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		3.03 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		0.84 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		1.02 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Cyclopropane, ethyl-	1191-96-4	PPBV		0.345 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Heptane	142-82-5	PPBV		0.345 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Isobutane	75-28-5	PPBV		4.095 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Pentane	109-66-0	PPBV		3.66 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		1.05 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Pentane, 3-methyl-	96-14-0	PPBV		0.54 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Propane	74-98-6	PPBV		6.285 NJ
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	57.51 J
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	97.25 J
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	5.72 J
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Toluene	108-88-3	PPTV	150	470.12
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Chloroform	67-66-3	PPTV	150	13.56 J
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	37.55 J
CEMRC	1/7/2015	1/16/2015	9165	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.075 J
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U

Qualifiers:

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.39
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Butane	106-97-8	PPBV		7.86 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		3.615 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.72 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.87 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.315 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		4.305 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Pentane	109-66-0	PPBV		3.585 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.975 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Propane	74-98-6	PPBV		6.36 NJ
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	58.07 J
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	92.63 J
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	399.59
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	12.24 J
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	32.99 J
CEMRC	1/7/2015	1/16/2015	9163	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	0.1 J
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	0.36 J
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Butane	106-97-8	PPBV		8.64 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		3.8 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.68 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.72 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Isobutane	75-28-5	PPBV		4.64 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Pentane	109-66-0	PPBV		3.86 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.96 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Propane	74-98-6	PPBV		8 NJ
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	60.62 J
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	94.5 J

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J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	390.86
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	13.08 J
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	32.5 J
CEMRC	1/7/2015	1/16/2015	9164	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Toluene	108-88-3	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.435
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Acetone	67-64-1	PPBV		0.825 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Butane	106-97-8	PPBV		4.515 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		0.3 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.375 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Isobutane	75-28-5	PPBV		3.03 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Pentane	109-66-0	PPBV		1.815 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Propane	74-98-6	PPBV		4.995 NJ
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	75.9 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	107.82 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	10.97 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Toluene	108-88-3	PPTV	150	106.43 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Chloroform	67-66-3	PPTV	150	47.75 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	24.42 J
CEMRC	1/8/2015	1/16/2015	9168	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	415.26
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U

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Notes:

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Butane	106-97-8	PPBV		9.52 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		3.38 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.52 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		5.54 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Pentane	109-66-0	PPBV		3.48 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.74 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Propane	74-98-6	PPBV		11.64 NJ
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	200	68.5 J
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	110.28 J
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Toluene	108-88-3	PPTV	200	144.86 J
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	200	15.56 J
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	26.86 J
CEMRC	1/8/2015	1/16/2015	9166	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	7.58 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	0.18 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.3
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Acetone	67-64-1	PPBV		0.57 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Butane	106-97-8	PPBV		8.775 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.375 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.54 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.315 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.315 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Isobutane	75-28-5	PPBV		5.37 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Pentane	109-66-0	PPBV		3.36 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.81 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Propane	74-98-6	PPBV		9.96 NJ
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	74.06 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	103.19 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	7.29 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	194.78
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	28.95 J
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	29.15 J

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NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/8/2015	1/16/2015	9167	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	300.63
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.15 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.09 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Acetone	67-64-1	PPBV		1.155 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Butane	106-97-8	PPBV		5.295 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		0.33 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.36 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Isobutane	75-28-5	PPBV		3.555 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Pentane	109-66-0	PPBV		2.13 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Propane	74-98-6	PPBV		4.695 NJ
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	77.69 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	94.26 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Toluene	108-88-3	PPTV	150	154.5
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Chloroform	67-66-3	PPTV	150	23.75 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	26.61 J
CEMRC	1/14/2015	1/21/2015	9171	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	84.66 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.195 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.165 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.165 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Acetone	67-64-1	PPBV		0.735 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Butane	106-97-8	PPBV		5.58 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.405 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.345 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		3.12 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Pentane	109-66-0	PPBV		2.295 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.525 NJ

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Propane	74-98-6	PPBV		4.74 NJ
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	84.62 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	187.1
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	23.63 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	164.72
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	31.92 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	24.69 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	28.2 J
CEMRC	1/14/2015	1/21/2015	9169	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	162.78
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	0.22 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	1.1
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Acetone	67-64-1	PPBV		0.92 NJ
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Butane	106-97-8	PPBV		6 NJ

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Isobutane	75-28-5	PPBV		3.78 NJ
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Pentane	109-66-0	PPBV		2.4 NJ
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.5 NJ
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Propane	74-98-6	PPBV		5.94 NJ
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	95.56 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	222.36
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	30.86 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	153.86 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	64.56 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	25.76 J
CEMRC	1/14/2015	1/21/2015	9170	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	1037.04
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.345
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Butane	106-97-8	PPBV		9.645 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		4.005 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		0.69 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		0.885 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Cyclopropane, ethyl-	1191-96-4	PPBV		0.405 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Isobutane	75-28-5	PPBV		5.445 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Pentane	109-66-0	PPBV		3.915 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		1.05 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Propane	74-98-6	PPBV		8.235 NJ
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	66.39 J
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	91.82 J
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	5.67 J
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Toluene	108-88-3	PPTV	150	355.67
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Chloroform	67-66-3	PPTV	150	18.75 J
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	37.82 J
CEMRC	1/15/2015	1/21/2015	9174	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	35.28 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.33
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Acetone	67-64-1	PPBV		0.555 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Butane	106-97-8	PPBV		8.82 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.81 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.14 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.48 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		5.04 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Pentane	109-66-0	PPBV		3.87 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.11 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Pentane, 3-methyl-	96-14-0	PPBV		0.57 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Propane	74-98-6	PPBV		7.335 NJ
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	67.49 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	97.67 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	6.72 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	348.81

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	16.49 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	39.74 J
CEMRC	1/15/2015	1/21/2015	9172	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	25.37 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	0.3 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	0.26 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Acetone	67-64-1	PPBV		0.96 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Butane	106-97-8	PPBV		9.76 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.74 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.1 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.52 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Isobutane	75-28-5	PPBV		5.82 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Pentane	109-66-0	PPBV		4.18 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.12 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Propane	74-98-6	PPBV		9.36 NJ
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	70.26 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	100.42 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	7.82 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	317.74
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	27.48 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	38.2 J
CEMRC	1/15/2015	1/21/2015	9173	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	249.12
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.255 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Butane	106-97-8	PPBV		3.405 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		0.765 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		1.035 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.3 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Heptane	142-82-5	PPBV		0.33 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Isobutane	75-28-5	PPBV		1.86 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Pentane	109-66-0	PPBV		1.95 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		0.72 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Propane	74-98-6	PPBV		2.745 NJ
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	72.12 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	102.27 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	5.66 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Toluene	108-88-3	PPTV	150	284.69
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Chloroform	67-66-3	PPTV	150	15.23 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	32.52 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	40.74 J
CEMRC	1/21/2015	1/30/2015	9177	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.165 J

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Notes:

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Butane	106-97-8	PPBV		2.85 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		0.345 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.375 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		1.575 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Pentane	109-66-0	PPBV		1.365 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.405 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Propane	74-98-6	PPBV		2.415 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Trichloromonofluoromethane	75-69-4	PPBV		0.315 NJ
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	75.77 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	102.42 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	6.44 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	176.78
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	14.15 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	24.83 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	30.69 J
CEMRC	1/21/2015	1/30/2015	9175	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	7.01 J

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.48
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	0.15 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.165 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Acetone	67-64-1	PPBV		0.435 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Butane	106-97-8	PPBV		2.565 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.345 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Isobutane	75-28-5	PPBV		1.44 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Pentane	109-66-0	PPBV		1.185 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		0.33 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Propane	74-98-6	PPBV		2.385 NJ
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	71.93 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	482.37
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	101.49 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	149.97 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	36.9 J

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Notes:

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	24.63 J
CEMRC	1/21/2015	1/30/2015	9176	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	139.08 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	0.105 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Toluene	108-88-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Acetone	67-64-1	PPBV		0.6 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Butane	106-97-8	PPBV		2.085 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Dichlorodifluoromethane	75-71-8	PPBV		0.405 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Isobutane	75-28-5	PPBV		1.17 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Nonanal	124-19-6	PPBV		0.36 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Pentane	109-66-0	PPBV		0.9 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Propane	74-98-6	PPBV		1.83 NJ
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	76.35 J

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	101.54 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Toluene	108-88-3	PPTV	150	135.42 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Chloroform	67-66-3	PPTV	150	15.62 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	24.93 J
CEMRC	1/22/2015	1/30/2015	9180	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.09 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Acetone	67-64-1	PPBV		0.345 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Butane	106-97-8	PPBV		2.01 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.42 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		1.11 NJ

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Nonanal	124-19-6	PPBV		0.345 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Pentane	109-66-0	PPBV		0.81 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Propane	74-98-6	PPBV		1.785 NJ
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	75.51 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	109.62 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	109.65 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	15.72 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	21.63 J
CEMRC	1/22/2015	1/30/2015	9178	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	8.31 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	0.105 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.675
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	0.135 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	0.18 J

Qualifiers:

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Bromofluorobenzene, p-, m-, o-	460-00-4, 1073-06-9, 1072-85-1	PPBV		10.065 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Butane	106-97-8	PPBV		1.935 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Dichlorodifluoromethane	75-71-8	PPBV		0.405 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Isobutane	75-28-5	PPBV		1.095 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Pentane	109-66-0	PPBV		0.795 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Propane	74-98-6	PPBV		1.755 NJ
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	150	90.48 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	659.16
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	130.26 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Toluene	108-88-3	PPTV	150	109.83 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Chloroform	67-66-3	PPTV	150	55.26 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	23.28 J
CEMRC	1/22/2015	1/30/2015	9179	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	176.58
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.54
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Benzene	71-43-2	PPBV		0.315 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Butane	106-97-8	PPBV		9.195 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		3.81 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		1.05 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		1.125 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Cyclopropane, ethyl-	1191-96-4	PPBV		0.375 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Heptane	142-82-5	PPBV		0.45 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Isobutane	75-28-5	PPBV		4.98 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Pentane	109-66-0	PPBV		4.47 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		1.29 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Pentane, 3-methyl-	96-14-0	PPBV		0.63 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Propane	74-98-6	PPBV		6.99 NJ
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	57.35 J
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	95.37 J
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Toluene	108-88-3	PPTV	150	556.61
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Chloroform	67-66-3	PPTV	150	12.56 J
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	40.32 J
CEMRC	1/28/2015	2/6/2015	9183	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.165 J
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.705
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Benzene	71-43-2	PPBV		0.315 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Butane	106-97-8	PPBV		9.795 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		4.245 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		1.335 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.65 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.525 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Heptane	142-82-5	PPBV		0.54 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		5.31 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Pentane	109-66-0	PPBV		4.905 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.53 NJ

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Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Pentane, 3-methyl-	96-14-0	PPBV		0.84 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Propane	74-98-6	PPBV		7.38 NJ
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	61.83 J
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	170.82
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	19.94 J
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	739.74
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	18.02 J
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	56.97 J
CEMRC	1/28/2015	2/6/2015	9181	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	35.58 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	0.18 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	0.54
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Butane	106-97-8	PPBV		11.36 NJ

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

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NJ = Presumptive evidence of the presence of the compound at an estimated quantity; only used for tentatively identified compounds (TICs).

Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		4.74 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		1.38 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.74 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.54 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Heptane	142-82-5	PPBV		0.56 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Isobutane	75-28-5	PPBV		6.14 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Pentane	109-66-0	PPBV		5.5 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.64 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Pentane, 3-methyl-	96-14-0	PPBV		0.86 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Propane	74-98-6	PPBV		9.7 NJ
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	64.2 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	195.72 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	25.32 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	575.2
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	21.48 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	51.84 J
CEMRC	1/28/2015	2/6/2015	9182	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	41.72 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Methylene Chloride	75-09-2	PPBV	0.3	0.075 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.165 J

Qualifiers:

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Notes:

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Toluene	108-88-3	PPBV	0.3	0.54
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Butane	106-97-8	PPBV		8.445 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Butane, 2-methyl-	78-78-4	PPBV		3.855 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Cyclohexane, methyl-	108-87-2	PPBV		1.44 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Cyclopentane, methyl-	96-37-7	PPBV		1.995 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Cyclopropane, ethyl-	1191-96-4	PPBV		0.54 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Heptane	142-82-5	PPBV		0.57 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Isobutane	75-28-5	PPBV		4.5 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Pentane	109-66-0	PPBV		4.455 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Pentane, 2-methyl-	107-83-5	PPBV		1.53 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Pentane, 3-methyl-	96-14-0	PPBV		0.855 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Propane	74-98-6	PPBV		6.51 NJ
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Methylene Chloride	75-09-2	PPTV	150	52.11 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Carbon Tetrachloride	56-23-5	PPTV	150	156.35
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1,1-Trichloroethane	71-55-6	PPTV	150	16.23 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Chlorobenzene	108-90-7	PPTV	150	U

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Toluene	108-88-3	PPTV	150	549.35
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Chloroform	67-66-3	PPTV	150	16.53 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	1,2-Dichloroethane	107-06-2	PPTV	150	59.46 J
CEMRC	1/29/2015	2/6/2015	9186	WQSP-4	Trichloroethylene (1)	79-01-6	PPTV	150	29.97 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.3	0.135 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Toluene	108-88-3	PPBV	0.3	0.39
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Chloroform	67-66-3	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.3	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Butane	106-97-8	PPBV		7.755 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Butane, 2-methyl-	78-78-4	PPBV		3.42 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		0.945 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.29 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.375 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Heptane	142-82-5	PPBV		0.375 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Isobutane	75-28-5	PPBV		4.26 NJ

Qualifiers:

J = Estimated value; below laboratory's method reporting limit (MRL), but above method detection limit (MDL).

U = Compound not detected above the MDL.

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Notes:

(1) Starting with samples collected on or after May 12, 2014, trichloroethylene (TCE) is a target analyte in compliance with Administrative Order dated 5/12/2014. For samples collected before 5/12/2014, TCE is an additional requested analyte; not a Permit-prescribed target analyte but included in the laboratory quantitative analysis.

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Pentane	109-66-0	PPBV		3.795 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.125 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Propane	74-98-6	PPBV		6.195 NJ
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Methylene Chloride	75-09-2	PPTV	150	48.02 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Carbon Tetrachloride	56-23-5	PPTV	150	122.96 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	150	9.66 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Chlorobenzene	108-90-7	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Toluene	108-88-3	PPTV	150	397.38
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Chloroform	67-66-3	PPTV	150	14.01 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	1,2-Dichloroethane	107-06-2	PPTV	150	38.7 J
CEMRC	1/29/2015	2/6/2015	9184	Building 489 North Air Intake	Trichloroethylene (1)	79-01-6	PPTV	150	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Methylene Chloride	75-09-2	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Chlorobenzene	108-90-7	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Toluene	108-88-3	PPBV	0.4	0.4
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Chloroform	67-66-3	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPBV	0.4	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPBV	0.4	U

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* A value will not appear in the MRL column for TICs.

Validated VOC Monitoring Data – Surface Sampling at the WIPP

analytical services by Carlsbad Environmental Monitoring & Research Center (CEMRC)

Lab	Sample Date	Analysis Date	Sample ID	Location	Compound	CAS	UNITS	MRL*	Concentration
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Butane	106-97-8	PPBV		9.2 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Butane, 2-methyl-	78-78-4	PPBV		4.1 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Cyclohexane, methyl-	108-87-2	PPBV		1 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Cyclopentane, methyl-	96-37-7	PPBV		1.22 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Cyclopropane, ethyl-	1191-96-4	PPBV		0.42 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Isobutane	75-28-5	PPBV		5.06 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Pentane	109-66-0	PPBV		4.34 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Pentane, 2-methyl-	107-83-5	PPBV		1.22 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Propane	74-98-6	PPBV		8.18 NJ
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Methylene Chloride	75-09-2	PPTV	200	60.1 J
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Carbon Tetrachloride	56-23-5	PPTV	200	144.78 J
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1,1-Trichloroethane	71-55-6	PPTV	200	13.26 J
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Chlorobenzene	108-90-7	PPTV	200	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Toluene	108-88-3	PPTV	200	444.26
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Chloroform	67-66-3	PPTV	200	16.68 J
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1-Dichloroethylene	75-35-4	PPTV	200	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,1,2,2-Tetrachloroethane	79-34-5	PPTV	200	U
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	1,2-Dichloroethane	107-06-2	PPTV	200	41.1 J
CEMRC	1/29/2015	2/6/2015	9185	Building 489 Air Intake	Trichloroethylene (1)	79-01-6	PPTV	200	17.26 J

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* A value will not appear in the MRL column for TICs.



Surface Water Sampling Locations
Samples of Opportunity, January 14, 2015

Environmental Monitoring & Hydrology Surface Water Sampling

Location	Sample ID Number	Sample Date	WIPP Labs Radiochemistry		
			Am-241 (dpm/L)	Pu-238 (dpm/L)	Pu-239/240 (dpm/L)
Sample of Opportunity	WS-SOO-20150114-1.5	1/14/2015	Below MDC	Below MDC	Below MDC
Sample of Opportunity (Dup)	WS-SOO-20150114-2.5	1/14/2015	Below MDC	Below MDC	Below MDC
Sample of Opportunity	WS-SOO-20150114-3.5	1/14/2015	Below MDC	Below MDC	Below MDC
Sample of Opportunity	WS-SOO-20150114-4.5	1/14/2015	Below MDC	Below MDC	Below MDC
Blank	WS-BLK-20150114-5.5	1/14/2015	Below MDC	Below MDC	Below MDC

MDC ranges are:

MDC Am-241 (dpm/L): 4.34E-02 to 1.51E-01

MDC Pu-238 (dpm/L): 2.84E-02 to 9.47E-02

MDC Pu-239/240 (dpm/L): 3.01E-02 to 7.60E-02

Environmental Monitoring & Hydrology Biota Sampling - Fauna

March 02, 2015

Tissue Type/Location	Sample ID Number	Sample Date	WIPP Labs Radiochemistry		
			Am-241 (dpm/g)	Pu-238 (dpm/g)	Pu-239/240 (dpm/g)
Biotic Fish/Brantley	BF-BRA-20141017-1.1	10/17/2014	Below MDC	Below MDC	Below MDC
Biotic Fish/Carlsbad	BF-CBD-20141031-1.1	10/31/2014	Below MDC	Below MDC	Below MDC

MDCs ranges are:

MDC Am-241 (dpm/g): 2.01E-02 to 4.85E-02

MDC Pu-238 (dpm/g): 1.27E-02 to 2.60E-02

MDC Pu-239/240 (dpm/g): 8.64E-03 to 2.52E-02

Attachment 4
Surface and Underground Derived Waste Currently in Storage at the WIPP Facility
(reserved)

Attachment 5
Status of RCRA Contingency Plan Required Activities (reserved)

Attachment 6
Corrective Actions Required for Recovery (reserved)

Attachment 7
As-Found Condition of Panel 7



Project Reach team members work to obtain video of emplacement waste located in Panel 7, Room 7 where the radiological release occurred.



Project Reach's 90-foot boom is positioned over the top of waste containers in Panel 7, Room 7, as a remotely operated video camera collects photographic evidence.

Attachment 8
Panel 7 Recovery-Related Work

