



Department of Energy  
 Carlsbad Field Office  
 P. O. Box 3090  
 Carlsbad, New Mexico 88221  
 November 14, 2014



Mr. Jon E. Hoff, Manager  
 Quality Assurance  
 Nuclear Waste Partnership LLC  
 P.O. Box 2078  
 Carlsbad, NM 88221-2078

Subject: Transmittal of Report for CBFO Audit A-15-03

Dear Mr. Hoff:

The Carlsbad Field Office (CBFO) performed Audit A-15-03, Nuclear Waste Partnership LLC Monitoring Programs, October 21-23, 2014. The audit team concluded that overall, the programs evaluated are adequate, satisfactorily implemented, and effective. Details of the audit and conclusions of the audit team are provided in the enclosed report.

If you have any questions or comments, please contact me at (575) 234-7491.

Sincerely,

Dennis S. Miehl  
 Senior Quality Assurance Specialist

Enclosure

cc: enclosure

- |                       |      |                   |    |
|-----------------------|------|-------------------|----|
| W. Mouse, CBFO        | * ED |                   |    |
| M. Brown, CBFO        | ED   | R. Lee, EPA       | ED |
| M. Navarrete, CBFO    | ED   | J. Kieling, NMED  | ED |
| R. McQuinn, NWP       | ED   | R. Maestas, NMED  | ED |
| J. Blankenhorn, NWP   | ED   | S. Holmes, NMED   | ED |
| J. Harris, NWP        | ED   | C. Smith, NMED    | ED |
| S. Kennedy, NWP       | ED   | D. Winters, DNFSB | ED |
| V. Cannon, NWP        | ED   | V. Daub, CTAC     | ED |
| W. Ledford, NWP       | ED   | R. Allen, CTAC    | ED |
| B. Allen, NWP         | ED   | P. Martinez, CTAC | ED |
| S. Punchios, NWP      | ED   | B. Pace, CTAC     | ED |
| S. Escareno-Soto, NWP | ED   | J. Schuetz, CTAC  | ED |
| T. Peake, EPA         | ED   | D. Harvill, CTAC  | ED |
| L. Bender, EPA        | ED   | G. White, CTAC    | ED |
| S. Ghose, EPA         | ED   | CBFO QA File      |    |
|                       |      | CBFO M&RC         |    |

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U.S. DEPARTMENT OF ENERGY  
CARLSBAD FIELD OFFICE

AUDIT REPORT

OF THE

NUCLEAR WASTE PARTNERSHIP LLC

MONITORING PROGRAMS

CARLSBAD, NEW MEXICO

AUDIT NUMBER A-15-03

October 21 – 23, 2014



Prepared by: James R. Schuetz  
James R. Schuetz, CTAC  
Audit Team Leader

Date: 11/14/14

Approved by: Michael R. Brown FOR  
Michael R. Brown, CBFO  
Director, Quality Assurance Division

Date: 11-14-14

## **1.0 EXECUTIVE SUMMARY**

Carlsbad Field Office (CBFO) Audit A-15-03 was conducted to evaluate the continued adequacy, implementation, and effectiveness of the Nuclear Waste Partnership LLC (NWP) Monitoring Programs and applicable elements of the NWP Quality Assurance (QA) Program related to implementation of program procedures and monitoring program activities.

The purpose of the evaluation was to verify the flow-down of upper-tier requirements through the NWP *Quality Assurance Program Description* (NWP QAPD) into applicable NWP procedures, and to determine if the procedures were effectively implemented. The audit was conducted at the Waste Isolation Pilot Plant (WIPP), October 21 – 23, 2014.

Two conditions adverse to quality identified during the audit, were determined to be isolated in nature and were resolved, verified, and classified as corrected during the audit (CDA). See section 6.1 for details. No observations were identified during the audit and no recommendations were offered for management consideration.

Overall, the audit team concluded that the NWP Monitoring Programs and implementing procedures evaluated, including the applicable QA Program elements, are adequate in addressing upper-tier requirements. The audit team also concluded that the NWP procedures evaluated are satisfactorily implemented and effective in achieving the desired results for an environmental monitoring program.

## **2.0 SCOPE AND PURPOSE**

### **2.1 Scope**

The audit team evaluated the adequacy, implementation, and effectiveness of selected monitoring processes related to the NWP QA Program. The following criteria were evaluated:

- Quality Assurance Program
  - Organization
  - Training
  - Document Control
  - Records
- Volatile Organic Compound/Hydrogen/Methane Monitoring
- Delaware Basin Monitoring
- New Mexico Environment Department (NMED) Groundwater Discharge Permit DP-831
- Groundwater Monitoring
- Biota/Land Management

The evaluation of the adequacy of the NWP Monitoring Programs documents was based on compliance with current revisions of the following documents:

DOE/CBFO-94-1012, *Quality Assurance Program Document (QAPD)*  
DOEWIPP 93-004, *WIPP Land Management Plan*  
DOEWIPP-06-3339, *WIPP Groundwater Protection Program Plan*  
DOEWIPP 06-3332, *WIPP Well Plugging and Abandonment Program*  
Groundwater Discharge Permit DP-831  
WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*  
Related NWP technical and QA implementing procedures

### **3.0 AUDIT TEAM AND OBSERVERS**

|                  |  |
|------------------|--|
| Dennis S. Miehls | Carlsbad Field Office (CBFO) QA Management Representative      |
| James Schuetz    | Audit Team Leader, CBFO Technical Assistance Contractor (CTAC) |
| Charlie Riggs    | Auditor, CTAC  |
| Roger Vawter     | Auditor, CTAC  |
| Randall Allen    | Auditor, CTAC  |
| Kirk Kirkes      | Auditor, CTAC  |
| Mavis Lin        | Technical Specialist, CTAC                                     |

### **4.0 AUDIT PARTICIPANTS**

Individuals contacted during the audit are identified in Attachment 1. A pre-audit conference was held in the WIPP site HR conference room on October 21, 2014. The audit was concluded with a post-audit conference in the WIPP site Support Building large conference room on October 23, 2014.

### **5.0 AUDIT RESULTS**

#### **5.1 Program Adequacy, Implementation, and Effectiveness**

The audit team concluded that the NWP Monitoring Programs evaluated were adequate, satisfactorily implemented, and effective for the areas audited.

#### **5.2 Quality Assurance Program Activities**

NWP implementing procedures and associated plans evaluated during the audit are identified in Attachment 2. Objective evidence evaluated during the audit is identified in Attachment 3. Attachment 4 is the Summary Table of Audit A-15-03 Results. Details of

the audit interview and document review activities are contained in the following sections.

### **5.2.1 Organization**

The audit team interviewed NWP monitoring program personnel and QA management personnel. The applicable section of the NWP QAPD, organizational charts, and other related documentation were reviewed to verify that an adequate organizational structure has been established to ensure the fulfillment of requirements for NWP QA and monitoring activities. As illustrated in the NWP organizational chart, the QA Manager reports directly to the NWP General Manager, thus providing the necessary independence and authority to conduct independent assessments of monitoring program activities in order to verify the organization's achievement of quality and to assure effective implementation of the QA program. As illustrated in the URS Regulatory and Environmental Services (RES) organizational chart, there is adequate structure for implementation of environmental monitoring and hydrology monitoring and reporting activities.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that applicable requirements for establishment of an organization are adequate for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

### **5.2.2 Quality Assurance Program**

The audit team reviewed NWP QAPD section 1.1, *Quality Assurance Program and Organization*, to verify that it appropriately translates and provides adequate measures for ensuring the establishment and effective implementation of a QA program, and complies with the CBFO QAPD. NWP documents and monitoring program implementing procedures and resulting records examined to verify that the applicable QA program elements are sufficiently addressed for satisfactory implementation included personnel training and qualification, quality improvement, document and record control, work processes, procurements, monitoring, measuring, testing, and data collection equipment, independent assessment, and sample control.

To verify the performance of required independent assessments of monitoring program activities, the audit team interviewed responsible personnel and reviewed assessment reports from the Volatile Organic Compound (VOC)/Hydrogen/Methane monitoring program. The results of the interviews and document reviews were positive and indicated that independent assessments are satisfactorily conducted and continue to achieve the desired results.

### **5.2.3 Training**

The audit team interviewed responsible personnel and reviewed implementing procedure WP 14-TR.01, Revision 14, *WIPP Training Program*, relative to the training and qualification of personnel, to determine the degree to which the procedure

adequately addresses upper-tier requirements. The team concluded that upper-tier requirements for personnel training and qualification are adequately addressed.

The audit team examined personnel training records associated with the Biota/Land Management Program, VOC/Hydrogen/Methane Monitoring Program, Groundwater Monitoring Program, DP-831 Salt Storage Evaporation Pond, and Delaware Basin Drilling Program to verify implementation of associated requirements and to verify that personnel (e.g., samplers, scientists, field staff, records coordinators, validators) performing these activities are appropriately qualified. Records reviewed included qualification plans, qualification cards, transcripts, exams, and required reading documentation. The audit team verified monitoring program personnel were appropriately trained and qualified.

The procedures reviewed and objective evidence assembled and evaluated during the audit substantiate that the applicable requirements for training and qualification of personnel are adequate for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.2.4 Document and Record Control**

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address CBFO QAPD requirements. The team reviewed procedures WP 15-RM, Revision 7, *WIPP Records Management Program*, and WP 15-RM3002, Revision 7, *Records Filing, Inventorying, Scheduling, and Dispositioning*, and concluded that upper-tier requirements are adequately addressed.

Control of QA records was evaluated by observance of QA records stored in fire-rated cabinets in Trailer 918B and the Safety Building, 1<sup>st</sup> and 2<sup>nd</sup> floors. Records storage requirements were evaluated by performing a walk-down of QA records stored in fire-rated cabinets in both trailer 918B and the Safety Building.

The audit team also evaluated Records Inventory and Disposition Schedule (RIDS), monitoring plans, and reports of surveillance reports from the records.

The procedures reviewed and objective evidence assembled and evaluated during the audit substantiate that the applicable requirements for the control of documents and records are adequate for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.2.5 Volatile Organic Compound/Hydrogen/Methane Monitoring**

The audit team evaluated the adequacy, implementation, and effectiveness of NWP activities associated with the VOC/Hydrogen/Methane Monitoring Program and reporting at the WIPP as related to the requirements of the Hazardous Waste Facility Permit Part 4 and applicable portions of the NWP QA Program. Program areas evaluated during the audit included:

- VOC/Hydrogen/Methane monitoring operations resulting in sampling, laboratory analysis, data generation, validation, and reporting
- Control of certified laboratories and maintenance subcontractors
- VOC/Hydrogen/Methane sampler and sample canister cleaning and certification, receipt, handling and use
- Audits and assessments of the VOC/Hydrogen/Methane Monitoring Program

The audit team evaluated these activities by reviewing implementing procedures and objective evidence in accordance with checklists based on the applicable NWP implementing procedures. Results of the evaluations and objective evidence reviewed are documented on the checklists.

The NWP monitoring programs use a variety of controlled processes, including:

- review and validation of laboratory data packages
- calibration of measuring and test equipment
- cleaning and certification of VOC samplers and canisters
- chain-of-custody forms, request for analysis forms, logbooks, inspection forms, and sampling data sheets
- quality control testing
- verification of QA data objectives for accuracy, precision, sensitivity and completeness
- independent audits and management assessments
- personnel qualification

NWP laboratory subcontractors and maintenance subcontractors are subject to procurement controls, including evaluations and inclusion on the Qualified Supplier List (QSL). NWP uses two analytical laboratories: Carlsbad Environmental Monitoring and Research Center (CEMRC) and Eurofins Air Toxics, Inc. Shaw Environmental and Infrastructure, Inc. (now known as CB&I Federal Services LLC) is the NWP maintenance subcontractor for cleaning and certification of VOC samplers. All three subcontractors were evaluated and are listed on the QSL. Data packages, analytical reports and certifications provided by the laboratories are reviewed and validated by NWP personnel.

Results of the monitoring programs are reviewed and validated by NWP and then reported to CBFO and the NMED to fulfill permit requirements.

NWP Quality Assurance performed an internal audit of the VOC/Hydrogen/Methane Monitoring Program in October 2013, and documented results in audit report I13-09. Additionally, a management assessment was performed by the Environmental

Monitoring and Hydrology Manager in September 2014, and results were documented in assessment report MA-RC-14-001.

Due to the February 2014 underground fire and radiation release event, regulatory underground monitoring was stopped. NWP has continued to perform sub-atmospheric VOC sampling at surface locations approximating the horizontal locations of samples that would be taken underground. This sampling method is being evaluated to determine its feasibility in lieu of collecting repository VOC monitoring samples.

The audit team identified no concerns related to the VOC/Hydrogen/Methane Monitoring Program. The procedures reviewed and objective evidence assembled and evaluated during the audit demonstrated that the applicable requirements for VOC/Hydrogen/Methane monitoring activities, as well as requirements for sample control, are adequately established for compliance with the upper-tier requirements and are satisfactorily implemented.

#### **5.2.6 Delaware Basin**

The audit team evaluated the adequacy, implementation, and effectiveness of activities associated with the Delaware Basin Drilling Database Upgrade Process through review of the implementing procedure and objective evidence. A Field Report/Annual Survey is sent to drilling companies for wells drilled in the nine-township area of interest during the previous 12 months; typically, no response is received. Information obtained through different commercial sources and state offices in the Delaware Basin area is uploaded onto the database, as verified by the audit team. Evidence reviewed indicated that the database is properly maintained and updated weekly.

The audit team identified no concerns related to the Delaware Basin Database Upgrade Process. The procedure reviewed and objective evidence evaluated during the audit substantiate that the applicable requirements for the Delaware Basin Drilling Database Upgrade Process are adequately established for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.2.7 NMED Groundwater Discharge Permit DP-831**

The audit team evaluated the adequacy, implementation, and effectiveness of activities associated with the DP-831 Salt Storage Evaporation Pond. The team examined and verified the Sewage Lagoon Sample Data Worksheets and Infiltration Control Sample Data Worksheets for 2013 and 2014. The 2014 Infiltration Control Sample Data Worksheet was cancelled due to high temperatures at the laboratory and has been rescheduled pending preparation of an area suitable for analytical processes. The associated chain of custody (CofC) records were verified to be complete. The Site Discharge Area Pond and Salt Storage Cells Inspection attachments from WP 02-EM1022 were reviewed and verified to be complete. The team verified proper storage of documents in fire-rated cabinets.

No concerns were identified during the audit related to the discharge permit management and reporting program. The procedures reviewed and objective evidence assembled and evaluated during the audit substantiate that the applicable requirements for NMED Groundwater Discharge Permit DP-831 management and reporting activities are adequately established for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.2.8 Groundwater Monitoring**

No groundwater monitoring activities were performed during the time of the audit. The audit team evaluated the adequacy, implementation, and effectiveness of the Groundwater Monitoring Program by reviewing implementing procedures and examining resulting records. Pressure density results were verified for records from October through November of 2013. All measuring and test equipment for this activity was determined to be properly maintained and calibrated prior to use. The team verified results of the pressure density readings and the calculated results for fluid density. The audit team verified that all results were recorded correctly.

The Groundwater Monitoring operations crew uses two generators. A review of the May, June, July and August 2013 equipment checks (Attachment 1) of WP 02-EM1018, and generator set operational check data sheets (Attachment 2) of WP 02-EM1018, Revision 4, were verified to be complete.

The audit team reviewed Groundwater Level Measurement and Water Level Data Handling and Reporting records and conducted personnel interviews. The team verified current calibrations for the water level probes. Water Level Measurement Field Data Sheets were verified to be completed and submitted to records as required. Data entry and checkprinting activities were performed by different individuals as required by the procedure. Review of the groundwater level monthly data reports for June and August of 2014 confirmed that the required measurements and data were incorporated from the field data sheets and validated by checkprints on the report summary. A review of the Hydrology Field Activity Logs (Attachment 1 of WP 02-EM1002, Revision 6) verified water level meter calibrations were current during use, and the purging flow rates were logged during each sampling day. Current groundwater monitoring qualifications were verified for each operator.

No concerns related to the Groundwater Monitoring Program were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated substantiate that the applicable requirements for Groundwater Monitoring activities are adequately established for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

#### **5.2.9 Biota/Land Management Monitoring**

NWP operations for Biota/Land Management were evaluated for adequacy, implementation, and effectiveness of the activities associated with sampling of biota,

vegetation, surface water, sediment and soil, Environmental Monitoring and Hydrology (EM&H) field work, and the Land Use Request. The audit team evaluated the validation and verification of sampling results by reviewing implementing procedures and objective evidence. The team verified results of sampling activities in accordance with the *Integrated Sample Control Plan* (WP 02-EM.02, Revision 4). No field activities were being performed during this audit. The following sampling data files, C of C forms, and radiological data verification and validation data checklists were examined:

- 2013 Soil Sampling data sheets and C of C forms
- 2014 Soil Sampling data sheets and C of C forms
- 2013 Biotic Tissue Sampling data sheets and C of C forms
- 2014 Biotic Tissue Sampling data sheets and C of C forms
- 2013 Surface Water/Sediment Sampling data sheets and C of C forms
- 2014 Surface Water/Sediment Sampling data sheets and C of C forms
- 2013 Vegetation Sampling data sheets and C of C forms
- 2014 Vegetation Sampling data sheets and C of C forms
- Documentation for EM&H Field Work and Land Use Request dated October 2014
- Radiological Data Verification and Validation Documentation
  - Rad verification checklists for batches 2012-156, 2012-232, 2013-056, 2013-067, 2014-069, 2014-120 and 2014-243
  - WIPP Annual Site Environmental Report (ASER) for 2013

The sampling protocols for soil, vegetation, surface water and sediment were found to be adequate and the audit team verified that associated data files were reviewed by an independent reviewer. Biota (fish, quail, deer, and rabbit) samples were properly preserved prior to submitting the samples to the WIPP Laboratories for analysis. Material and testing equipment (M&TE) certifications were reviewed and found to be acceptable. Radiological data verification and validation were found to be adequate and the WIPP Annual Site Environmental Report for 2013 had been completed and issued. Training and qualification of sampling individuals were confirmed to meet requirements for the NWP Monitoring Program.

Two concerns were identified and corrected during the audit (CDA). Concern 1 related to two incomplete biotic tissue sampling data sheets, which did not indicate whether or not the samples were frozen. The independent reviewer had signed the data sheets without noticing the errors. In addition, two Request for Analysis (ROA) forms did not indicate the date the sample was sent. This concern was discussed with the EM&H Manager, and the audit team determined that the number of incomplete data sheets was a small percentage of the total volume. The data sheets were corrected by the originator of the documents and witnessed by the audit team, and the concern was classified as CDA.

Concern 2 related to personnel qualification. An individual was shown as the preparer of biota sample BR-SOO-20140814-1.1, dated 8/14/14; however, training records did not indicate that this individual had the required EM-15 qualification (WP 02-EM1011). The concern was discussed with the EM&H Manager, and it was determined the qualification of the individual that prepared the sample is in progress. By inspecting other forms related to this specific sample, the audit team determined that a qualified observer was present while the sample was being collected, but had not provided a concurring signature on the form. No other instances of omission of a concurring signature were identified during review of sample documents. The sample form was appended by the qualified observer and witnessed by the audit team, and the concern was classified as CDA.

The procedures reviewed and objective evidence assembled and evaluated during the audit substantiate that the applicable requirements for Biota/Land Management activities, as well as requirements for sample control, are adequately established for compliance with the upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

## **6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS**

### **6.1 Corrective Action Reports**

During the audit, the audit team may identify conditions adverse to quality (CAQs) and document such conditions on corrective action reports (CARs) in accordance with the definitions below:

*Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.*

*Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the Quality Assurance (QA) program.*

No CARs were issued as a result of evaluations performed during Audit A-15-03.

### **6.2 Deficiencies Corrected During the Audit**

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant.

Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable

manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA according to the definition below.

*CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. Correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), and one or two individuals that have not completed a reading assignment.*

Two deficiencies were identified and corrected during the audit, as described below.

### **CDA-1**

The audit team identified two biotic tissue sampling data sheets that were incomplete, providing no indication of whether or not the samples were frozen. The independent reviewer had signed the data sheets without noticing the errors. In addition, two Requests for Analysis (ROA) forms were found to be missing the date the sample was sent. The number of incomplete forms was determined to be a small percentage of the total volume. This concern was discussed with the EM&H Manager, and the data sheets were corrected by the originator and witnessed by the audit team. The concern was classified as CDA.

### **CDA-2**

Concern 2 related to personnel qualification. An individual was shown as the preparer of biota sample BR-SOO-20140814-1.1, dated 8/14/14; however, training records did not indicate that this individual had the required EM-15 qualification (WP 02-EM1011). The concern was discussed with the EM&H Manager, and it was determined the qualification of the individual that prepared the sample is in progress. By inspecting other forms related to this specific sample, the audit team determined that a qualified observer was present while the sample was being collected, but had not provided a concurring signature on the form. No other instances of omission of a concurring signature were identified during review of sample documents. The sample form was appended by the qualified observer and witnessed by the audit team, and the concern was classified as CDA.

## **7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS**

During the audit, the audit team may identify potential problems or suggestions for improvement that should be communicated to the audited organization. The audit team member, in conjunction with the ATL, evaluates these conditions and classifies them as Observations or Recommendations using the following definitions:

*Observation – A condition that, if not controlled, could result in a CAQ.*

*Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.*

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

### **7.1 Observations**

No Observations were identified during the audit.

### **7.2 Recommendations**

No Recommendations were provided to management during the audit.

## **8.0 LIST OF ATTACHMENTS**

Attachment 1: Personnel Contacted During Audit A-15-03

Attachment 2: NWP Implementing Procedures and Associated Plans Evaluated During Audit A-15-03

Attachment 3: Objective Evidence Reviewed and Evaluated During Audit A-15-03

Attachment 4: Summary Table of Audit A-15-03 Results

| PERSONNEL CONTACTED DURING AUDIT A-15-03 |                           |                  |                        |                   |
|--|---------------------------|------------------|------------------------|-------------------|
| NAME                                     | ORGANIZATION / DEPARTMENT | PREAUDIT MEETING | CONTACTED DURING AUDIT | POSTAUDIT MEETING |
| Bill Allen                               | NWP/QA                    |                  |                        | X                 |
| Mel Baldarama                            | RES/EM&H                  | X                | X                      | X                 |
| Wesley Boatwright                        | RES/VOC Program           | X                | X                      |                   |
| John Calicoat                            | EM&H                      |                  | X                      |                   |
| Jeff Casey                               | RES/SEC                   | X                |                        | X                 |
| MaryAnn Dearing                          | Tech Training             |                  | X                      |                   |
| Rick Eggleston                           | RES/EM&H                  |                  | X                      |                   |
| David Ganaway                            | RES/EM&H                  | X                | X                      | X                 |
| Jerome Hernandez                         | RES/EM&H                  |                  | X                      |                   |
| Jon Hoff                                 | NWP/QA                    | X                |                        |                   |
| Bill Jaco                                | RES/SEC                   | X                | X                      | X                 |
| Greg Jungclaus                           | RES/EM&H                  | X                | X                      | X                 |
| Tom Lichty                               | Tech Training             |                  | X                      |                   |
| Mavis Lin                                | CTAC                      | X                |                        |                   |
| Susan McCauslin                          | CBFO                      | X                |                        | X                 |
| Veronica Murillo                         | RES Env. Dept.            |                  | X                      |                   |
| Martin Navarrete                         | CBFO                      |                  |                        | X                 |
| Ed Picazo                                | RES/EM&H                  | X                |                        | X                 |
| Sheri Punchios                           | NWP/QA                    | X                |                        | X                 |
| Michael Quintella                        | RES/EM&H                  |                  | X                      |                   |
| Rick Salness                             | RES/EM&H                  | X                | X                      | X                 |
| Brett Seal                               | EM&H                      |                  | X                      |                   |
| Robbin Spoon                             | RES                       | X                | X                      | X                 |
| Steve Travis                             | RES/SEC                   | X                |                        |                   |

| <b>NWP Implementing Procedures and Associated Plans Evaluated During Audit A-15-03</b> |                       |  |
|--|-----------------------|--|
| <b>Number</b>  | <b>Doc Number</b>     | <b>Applicable NWP Document - Description / Title</b>   |
| 1  | WP 02-1, Rev. 12      | WIPP Groundwater Monitoring Program Plan   |
| 2  | WP 02-2, Rev. 2       | WIPP Discharge Permit 831 Monitoring Plan  |
| 3  | WP 02-EC.06, Rev. 10  | WIPP Site Effluent and Hazardous Materials Sampling Plan   |
| 4  | WP 02-EC1003, Rev. 6  | Low-Flow Groundwater Purging and Sampling  |
| 5  | WP 02-EC3002, Rev. 6  | Delaware Basin Drilling Database Upgrade Process   |
| 6  | WP 02-EM.02, Rev. 4   | Integrated Sample Control Plan   |
| 7  | WP 02-EM1001, Rev. 16 | Sewage Lagoon and Infiltration Controls Sampling   |
| 8  | WP 02-EM1002, Rev. 6  | Electric Submersible Pump Monitoring System Installation and Operation   |
| 9  | WP 02-EM1009, Rev. 6  | Soil Sampling  |
| 10   | WP 02-EM1010, Rev. 2  | Field Parameter Measurements and Final Sample Collection   |
| 11   | WP 02-EM1011, Rev. 7  | Biotic Sampling  |
| 12   | WP 02-EM1012, Rev. 16 | Airborne Particulate Sampling  |
| 13   | WP 02-EM1014, Rev. 7  | Groundwater Level Measurement  |
| 14   | WP 02-EM1017, Rev. 7  | Surface Water and Sediment Sampling  |
| 15   | WP 02-EM1018, Rev. 4  | Onan 25DKAF Generator Set Operation  |
| 16   | WP 02-EM1019, Rev. 6  | Vegetation Sampling  |
| 17   | WP 02-EM1021, Rev. 9  | Pressure Density Survey  |
| 18   | WP 02-EM1022, Rev. 9  | Site Discharge Area Inspections  |
| 19   | WP 02-EM1024, Rev. 6  | EM&H Field Work and Implementation of the Land Use Request   |
| 20   | WP 02-EM1025, Rev. 6  | Construction of the Potentiometric Surface Map for the Annual Site Environmental Report and Shallow Subsurface Water |
| 21   | WP 02-EM1026, Rev. 5  | Water Level Data Handling and Reporting  |
| 22   | WP 02-EM3001, Rev. 23 | Administrative Processes for EM and Hydrology Programs   |
| 23   | WP 02-EM3003, Rev. 10 | Data Validation and Verification of RCRA Constituents  |
| 24   | WP 02-EM3004, Rev. 8  | Radiological Data Verification and Validation  |
| 25   | WP 02-PC.02, Rev. 5   | Delaware Basin Drilling Surveillance Plan  |

| <b>Objective Evidence Reviewed and Evaluated During Audit A-15-03</b>  |                                 |  |
|--|---------------------------------|--|
| <b>Number</b>  | <b>Doc Number</b>               | <b>Applicable NWP Document - Description / Title</b>   |
| <b>Groundwater Monitoring Program / Delaware Basin Monitoring Program / NMED Groundwater Discharge Permit DP-831</b> |                                 |  |
| 1  | WQSP-4 Round 35                 | Groundwater well data sample package Dated April 2013  |
| 2  | WQSP-6 Round 35                 | Groundwater well data sample package Dated May 2013  |
| 3  | WP 02-EM1021                    | Attachment 1, Fluid Density Field Data Sheet   |
| 4  | WP 02-EM1018                    | Attachment 1, Equipment Checks<br>Attachment 2, Generator Set Operational Check Data Sheet   |
| 5  | WP 02-EM1014                    | Attachment 2, Water Level Measurement Field Data Sheet   |
| 6  | N/A                             | Qualification Transcripts for EM-02, EM-18, EM-19, and EM-23   |
| 7  | WP 02-EM1026                    | Attachment 1, Spreadsheet for a Monthly Water Level Report   |
| 8  | WP 02-EM1002                    | Attachment 1, Hydrology Field Activity Log   |
| 9  | WP 02-EM1022                    | Attachment 1, Site Discharge Area Pond Inspections<br>Attachment 2, Salt Storage Cells Inspections   |
| 10   | WP 02-EM1001                    | Attachment 1, Sewage Lagoon Sample Data Worksheet<br>Attachment 2, Infiltration Control Sample Data Worksheet  |
| 11   | WP 02-EC3002                    | Attachment 1, Field Report/Annual Survey   |
| <b>Volatile Organic Compound/Hydrogen/Methane Monitoring Program</b>   |                                 |  |
| 12   | DOE/WIPP-13-3509                | Semi Annual VOC, Hydrogen, and Methane Data Summary Report, January 1, 2013 to June 30, 2013 w/ Transmittal letter dated Oct 21, 2013                    |
| 13   | DOE/WIPP-14-3518                | Semi Annual VOC, Hydrogen, and Methane Data Summary Report, July 1, 2013 to December 31, 2013 w/ Transmittal letter dated April 24, 2014                 |
| 14   | DOE/WIPP-14-3536 (Working Copy) | Semi Annual VOC, Hydrogen, and Methane Data Summary Report, January 1, 2014 to June 30, 2014, not yet Transmitted  |
| 15   | N/A                             | Data package for Hydrogen & Methane Sampling 012714-002HM  |
| 16   | N/A                             | Data package for Hydrogen & Methane Sampling 011614-002HM  |
| 17   | WP 12-VC3209 Attachment 3       | EDD Review and Data Package Validation Table   |
| 18   | N/A                             | Data Packages for VOC Monitoring (3 Packages) <ul style="list-style-type: none"> <li>• 080714-001</li> <li>• 021014-001</li> <li>• 010914-001</li> </ul> |

| <b>NWP Implementing Procedures and Associated Plans Evaluated During Audit A-15-03</b> |                       |  |
|--|-----------------------|--|
| <b>Number</b>  | <b>Doc Number</b>     | <b>Applicable NWP Document - Description / Title</b>               |
| 26   | WP 12-VC.01, Rev. 11  | Volatile Organic Compound Monitoring Plan                          |
| 27   | WP 12-VC.02, Rev. 13  | Quality Assurance Project Plan for VOC Monitoring                  |
| 28   | WP 12-VC.03, Rev. 2   | Hydrogen and Methane Monitoring Plan                               |
| 29   | WP 12-VC.04, Rev. 3   | Quality Assurance Project Plan for Hydrogen and Methane Monitoring |
| 30   | WP 12-VC1684, Rev. 9  | VOC Monitoring Program – Air Sampling Equipment Operations         |
| 31   | WP 12-VC1685, Rev. 7  | Subatmospheric and Pressurized Air Sampling                        |
| 32   | WP 12-VC3209, Rev. 17 | VOC Monitoring Group – Data Handling and Program Reporting         |
| 33   | WP 13-1, Rev. 34      | NWP Quality Assurance Program Description                          |
| 34   | WP 13-QA.04, Rev. 21  | Quality Assurance Department Administrative Program                |
| 35   | WP 14-TR.01, Rev. 14  | WIPP Training Program  |
| 36   | WP 15-RM, Rev. 7      | WIPP Records Management Program                                    |
| 37   | WP 15-RM3002, Rev. 7  | Records Filing, Inventory, Scheduling, and Dispositioning          |

| <b>Objective Evidence Reviewed and Evaluated During Audit A-15-03</b> |  |   |
|---|--|---|
| <b>Number</b>   | <b>Doc Number</b>  | <b>Applicable NWP Document - Description / Title</b>  |
| 19  | N/A  | Regulatory and Environmental Services Organization Chart  |
| 20  | MA-RC-14-001   | Management Assessment Report of Surface VOC Sampling Assessment   |
| 21  | Audit Report E14-04                                      | NWP Audit of CMERC Lab  |
| 22  | N/A  | Sample Logbooks 0706-03 and 0907-04   |
| 23  | WP 12-VC1684 Attachment 1                                | Sample Line Inspection Sheets 1-8-13 to 2-3-14  |
| 24  | WP 12-VC3209 Attachment 9                                | Evaluation of Non-Target VOCs July 1, 2013 to June 30, 2014   |
| 25  | Audit Report I13-09<br>QA:13:00216<br>UFC:2300.00 I13-09 | NWP QA Audit of VOC, Hydrogen, and Methane Monitoring   |
| 26  | N/A  | Current Qualified Suppliers List (QSL)  |
| 27  | QSLR # 10-019  | QSL Update for EuroFins Toxics Inc.   |
| 28  | QSLR # 02-017  | QSL Update for Shaw Env. & Infrastructure (CB&I Federal Services)   |
| 29  | WP 12-VC1684 Attachment 2                                | Sample Canister Receipt forms for 103113-001 and 1112113-001  |
| 30  | N/A  | Sampler Certification Reports 0907-02 of June 30, 2013 and 0704-03 of April 4, 2012   |
| 31  | N/A  | Completeness Reports for VOC, Hydrogen, and Methane Sampling  |
| 32  | N/A  | Software Validation Records   |
| 33  | CBFO:OESH:SM:M<br>N:13-0804<br>UFC:5486.00               | SOP Letter of Transmittal to NMED   |
| <b>Biota/Land Management Monitoring Program</b>                       |  |   |
| 34  | N/A  | List of Qualified Individual / Qual Cards (Sampling Personnel)  |
| 35  | Various  | Sample data Files for Soil: <ul style="list-style-type: none"> <li>• 2013 Soil Sampling data sheets</li> <li>• 2014 Soil Sampling data sheets</li> </ul>  |
| 36  | Various  | Sample data Files for Biotic Tissue: <ul style="list-style-type: none"> <li>• 2013 Biotic Tissue Sampling data sheets</li> <li>• 2014 Biotic Tissue Sampling data sheets</li> </ul>                           |
| 37  | Various  | Sample data File for Surface Water/Sediment: <ul style="list-style-type: none"> <li>• 2013 Surface Water/Sediment Sampling data sheets</li> <li>• 2014 Surface Water/Sediment Sampling data sheets</li> </ul> |

| <b>Objective Evidence Reviewed and Evaluated During Audit A-15-03</b>                    |                        |   |
|--|------------------------|---|
| <b>Number</b>  | <b>Doc Number</b>      | <b>Applicable NWP Document - Description / Title</b>  |
| 38   | Various                | Sample data File for Vegetation <ul style="list-style-type: none"> <li>• 2013 Vegetation Sampling data sheets</li> <li>• 2014 Vegetation Sampling data sheets</li> </ul>  |
| 39   | Various                | Documentation for EM&H Field Work and Land Use Request <ul style="list-style-type: none"> <li>• October, 2014 file</li> </ul>   |
| 40   | Various (See at Right) | Radiological Data V&V Documentation <ul style="list-style-type: none"> <li>• Rad verification checklists for batch #s: 2012-156; 2012-232; 2013-056; 2013-067; 2014-069; 2014-120; and 2014-243</li> <li>• WIPP Annual Site Environmental Report (ASER) for 2013</li> </ul> |
| <b>Organization / Quality Assurance Program / Training / Document and Record Control</b> |                        |   |
| 41   | N/A                    | RIDS RES/EM&H and SEC/General Records   |
| 42   | N/A                    | RIDS RES/RCRA Operating Record  |
| 43   | N/A                    | RIDS RES/SEC  |
| 44   | N/A                    | RIDS RES/Effluent Monitoring Program  |
| 45   | N/A                    | RIDS RES/EM&H/Groundwater Surveillance  |
| 46   | N/A                    | RIDS RES/EM&H/EM  |
| 47   | N/A                    | RIDS RES/EM&H/VOC HM Monitoring   |
| 48   | N/A                    | WIPP Technical Training Section – Report of Training  |
| 49   | N/A                    | Memo WIPP Labs to NWP; Qualifications of personnel to Review Radiochemistry Data  |
| 50   | N/A                    | Qualcard L-16, Volatile Organic Compound Sampling Operations  |
| 51   | N/A                    | Qualcard EM-15, Biotic Sampling   |
| 52   | N/A                    | Qualcard EM-17, Soil, Surface Water and Sediment Sampling   |
| 53   | N/A                    | Inter – Office Correspondence naming Record coordinators for RES/EM&H   |
| 54   | N/A                    | Online – Correspondence Log   |
| 55   | N/A                    | URS Regulatory and Environmental Services (RES) organizational chart, Effective August 2013   |

**Summary Table of Audit A-15-03 Results**

| Audit Elements                   | Concern Classification |          |          |          | QA Evaluation |                |               |
|----------------------------------|------------------------|----------|----------|----------|---------------|----------------|---------------|
|                                  | CARs                   | CDAs     | Obs      | Rec      | Adequacy      | Implementation | Effectiveness |
| Training Records & RIDS          |                        |          |          |          | A             | S              | E             |
| Sampling                         |                        | 2        |          |          | A             | S              | E             |
| VOC, H2, Me, and Air Sampling    |                        |          |          |          | A             | S              | E             |
| Groundwater and Discharge Permit |                        |          |          |          | A             | S              | E             |
| <b>TOTALS</b>                    | <b>0</b>               | <b>2</b> | <b>0</b> | <b>0</b> | <b>A</b>      | <b>S</b>       | <b>E</b>      |

**Definitions**

CDA = Corrected During Audit  
 A = Adequate

CAR = Corrective Action Report  
 S = Satisfactory

Rec = Recommendation  
 E = Effective

Obs = Observation  
 M = Marginal