

APPENDIX C

Laboratory Analytical Data Quality Evaluation

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1 Acronyms and Abbreviations

2	ADR	Automated Data Review
3	COC	chain of custody
4	DL	detection limit
5	DOD	U.S. Department of Defense
6	DRO	diesel-range organics
7	EB	equipment blank
8	ELAP	Environmental Laboratory Accreditation Program
9	EPA	U.S. Environmental Protection Agency
10	FD	field duplicate
11	GRO	gasoline-range organics
12	ID	identification
13	J	analyte detected but less than the limit of quantitation (LOQ)
14	LCS	laboratory control sample
15	LOD	limit of detection
16	LOQ	limit of quantitation
17	MS	matrix spike
18	MSD	matrix spike duplicate
19	PARCC	precision, accuracy, representativeness, comparability, and completeness
20	ppm	parts per million
21	QA	quality assurance
22	QC	quality control
23	R	analyte has been rejected and is unusable for project objectives
24	RPD	relative percent difference
25	SDG	sample delivery group
26	SVOC	semivolatile organic compound
27	TA	TestAmerica Laboratories, Inc.
28	TB	trip blank
29	TPH	total petroleum hydrocarbons
30	U	non-detected result at the limit of detection (LOD)
31	UJ	estimated non-detected result at the limit of detection (LOD)
32	VOC	volatile organic compound

1 Data Quality Evaluation Report

2 This appendix contains the Data Quality Evaluation Report for groundwater samples collected as part of
 3 the Periodic Groundwater Monitoring Program at Fort Wingate Depot Activity, New Mexico. This report
 4 evaluates whether the analytical data obtained in the investigation are of sufficient quality and quantity
 5 to accomplish the project objectives.

6 Introduction

7 The analytical work was conducted in accordance with the approved *2015 Final Interim Measures*
 8 *Facility-Wide Groundwater Monitoring Plan, Version 8, Fort Wingate Depot Activity, McKinley County,*
 9 *New Mexico* (Innovar Environmental, Inc., 2015).

10 TestAmerica Laboratories, Inc. (TA) in Arvada, Colorado, performed all analyses. After collection,
 11 samples were packed and shipped by overnight carrier to TA for analysis. The following analytical
 12 methods were used for sample analysis:

- 13 ○ Total petroleum hydrocarbons, diesel-range organics (TPH-DRO) by U.S. Environmental
 14 Protection Agency (EPA) Method SW8015C
- 15 ○ Total petroleum hydrocarbons gasoline-range organics (TPH-GRO) by EPA Method SW8015C
- 16 ○ Volatile organic compounds (VOCs) by EPA Method SW8260B
- 17 ○ Semivolatile organic compounds (SVOCs) by EPA Method SW8270D
- 18 ○ Organochlorine pesticides by EPA Method SW8081A
- 19 ○ Explosives by EPA Method SW8330B
- 20 ○ Total and dissolved metals by EPA Methods SW6010C and SW6020A
- 21 ○ Mercury by EPA Method SW7470A
- 22 ○ Perchlorate by EPA Method SW6860
- 23 ○ Nitrate and nitrite by EPA Method 9056

24 Eight sample delivery groups (SDGs) were evaluated for data quality. Each SDG was delivered with a
 25 Part 1 and a Part 2 file. The Part 2 file contains data for caprolactam and was delivered separately by the
 26 laboratory because TA lacks U.S. Department of Defense (DOD) Environmental Laboratory Accreditation
 27 Program (ELAP) certification for and did not want it included in a report of other compounds with
 28 applicable DOD ELAP certification. Table 1 lists the sample identifiers, collection dates, and analyses
 29 associated with the project samples. (All tables are presented at the end of this report.)

30 Field Sample Collection

31 The fieldwork for this monitoring event was conducted between April 1, 2015, and April 10, 2015. The
 32 following data quality sample quantities/types were collected and analyzed: 63 groundwater samples,
 33 7 field duplicate (FD) samples, and 4 planned matrix spike/matrix spike duplicates (MS/MSDs)
 34 with additional MS/MSDs included as part of the laboratory-selected quality assurance/quality control
 35 (QA/QC) process.

36 Other QC samples including 13 trip blanks (TBs), and 3 equipment blanks (EBs) were collected and
 37 analyzed in accordance with the Work Plan. No QA sample splits were collected during this event.

1 Data Review and Validation Process

2 Data Validation Definition

3 All analytical data from the spring 2015 sample collection were evaluated in accordance with the
4 procedures described in the Work Plan. One hundred percent of the analytical results were validated
5 using the Automated Data Review (ADR) software. The assessment of data included a review of the
6 following laboratory information based on the electronic data received from the laboratory in ADR file
7 format containing only files A1 and A3:

- 8 o Holding time
- 9 o Shipping cooler temperatures
- 10 o QC sample frequencies
- 11 o Method and field blanks
- 12 o Laboratory control samples (LCSs)
- 13 o Surrogate spikes
- 14 o MS/MSDs
- 15 o FD precision
- 16 o Case narrative review and flagging based on discussions provided

17 In addition, as defined in the Work Plan, 10 percent of the sample results required additional, more
18 detailed data validation as a Stage 3 data review, which included the following:

- 19 o All aspects of the review using the ADR software
- 20 o Calibration review including initial calibration, second source checks, continuing calibration, and
21 calibration blanks
- 22 o Internal standards review
- 23 o Instrument tune review
- 24 o Confirmation data, where applicable
- 25 o Post spikes and serial dilutions
- 26 o Limited recalculation check of results from raw data and transcription check

27 The Stage 3 data review was completed for SDG 67438. This SDG consists of seven groundwater
28 samples, two TBs, two FD samples, and one MS/MSD sample. The samples were analyzed using the
29 analytical methods identified in Table 1. The field sample numbers and corresponding laboratory
30 numbers are presented in Table 2.

31 Data flags for both the ADR software and the additional Stage 3 data review were assigned using the QC
32 acceptance limits and procedures defined in the Work Plan. Data flags and the reason for each flag were
33 entered into an electronic database and are available to data users. Although multiple flags were
34 routinely applied to a specific sample method/matrix/analyte combination, only one final flag was
35 applied to the data according to the most conservative of the validation flags.

1 Overall Data Validation Findings

2 An overall summary of qualified sample results and the reason each result was flagged are presented in
3 Table 3.

4 Attachment 1 of this appendix contains multiple files for each of the nine SDGs and presents the output
5 files from the ADR software. The file types vary for each SDG based on what type of out-of-control
6 details were noted in each SDG. The file types define all samples within the SDG, the methods reviewed,
7 the specifics of the data qualifiers applied, and how each sample was flagged. The electronic (PDF files)
8 TA laboratory data are included as Attachment 2 of this appendix.

9 Only out-of-control conditions noted during the data validation are presented in Table 3. The sections
10 below provide overviews of the data validation findings from the ADR software. Specific issues identified
11 during the Stage 3 data review are also described.

12 Results Detected Between the Limit of Quantitation

13 Analytes that were detected at concentrations greater than the detection limit (DL), but less than the
14 limit of quantitation (LOQ), were qualified as "J" to reflect the uncertainty associated with
15 concentrations of analytical data between the DL and the LOQ. Non-detected sample results were
16 reported to the limit of detection (LOD).

17 Holding Time

18 Three samples for SVOCs or explosives were reanalyzed out of hold time to confirm surrogate spike
19 recoveries. The results reanalysis of these samples were not used for the project because the initial
20 results showed surrogate recoveries that were not significantly out-of-control and the initial analysis
21 may have had detections whereas the reanalysis did not. The reanalysis data are rejected.

22 In addition, four nitrate results, one nitrite result, and one bis 2-ethylhexyl phthalate result were
23 qualified as estimated concentrations and flagged "J" or "UJ" for exceeding the holding time by less than
24 twice the allowable limit.

25 There was one VOC sample, MW18D042015, where the sample was listed as preserved in accordance
26 with the method upon laboratory receipt; however, the actual pH was found to be greater than 2. The
27 sample was analyzed within the 7 days as required by the method and no flagging was required. All
28 TPH-GRO samples were also received with a pH of greater than 2. All were analyzed within the required
29 7-day holding period except for MW18D042015 and TMW08042015. Both were analyzed within a
30 preserved method holding time of 14 days. TPH-GRO for samples MW18D042015 and TMW08042015
31 were flagged "J" or "UJ" and are considered to be estimated concentrations.

32 No additional holding time exceedances were noted in the Stage 3 data review. All holding time
33 exceedances were flagged as estimated concentrations and are usable for project objectives. Holding
34 time-related issues are presented in Table 3 and Attachment 1.

35 Shipping Temperatures, Preservation, and Sample Custody

36 No sample shipping temperature control issues were noted in the validation based on a review of
37 sample chains of custody (COCs) and the documentation of sample-received conditions. All samples
38 were delivered with a completed sample COC.

39 Sample preservation issues are discussed above in the Holding Time section.

40 In a number of instances, the COC listed a sample identification (ID) with an incorrect 2014 date suffix,
41 and the sample label was listed with the correct 2015 date suffix. In all cases, the correct 2015 suffix was
42 used by the laboratory.

- 1 The COC associated with SDG 67438 was not correctly relinquished on the last page by the field team.
2 No action was taken.
- 3 There were discrepancies in the sample ID of DTW43042015. On some COC pages, the sample was
4 incorrectly listed as DMW43042015.
- 5 Pesticide analyses were canceled for sample TMW04042015 as requested on the COC. However, no
6 sample bottles were received with the TMW04042015 label for pesticides.
- 7 Sample TMW18D0402015 was listed on the COC but no samples bottles were received for that sample.
8 Sample bottles were received with the ID MW18D0402015. All containers were logged in for analysis as
9 MW18D0402015.
- 10 A sample bottle for perchlorate analysis was received for TMW40S042015 but was not listed on the
11 COC. The sample was logged and tested for perchlorate.
- 12 The sample bottle for total metals on TMW40S042015 was received unpreserved and was preserved by
13 the laboratory upon receipt.
- 14 Discrepancies between the sample time of collection on the bottle label and the COC were identified for
15 a number of samples. In each case, the correct time was resolved with the field team and laboratory
16 staff.
- 17 In a number of cases, broken bottles or bottles that were not completely full due to well recharge issues
18 were received at the laboratory; however, in all cases enough of the sample remained to complete the
19 work as requested. No action was taken.
- 20 No sample results were flagged due to custody or sample preservation issues.

21 **Sample Quality Control Frequencies**

22 Frequency of analysis for required method QC samples completed by the laboratory is part of the review
23 using the ADR software. The ADR software detected no issues. Also, no sample QC frequency issues
24 were noted in the additional Stage 3 data review.

25 **Blank Contamination**

26 The laboratory and field blanks were generally free of contamination at concentrations greater than one
27 half of the LOQ. The analytes detected in blanks were generally consistent with normal laboratory and
28 field operations and do not negatively affect the use of the data for project objectives. Qualified sample
29 results from method blank contamination were predominantly associated with the metals antimony,
30 manganese, selenium, silver, and thallium. However, sample results were also qualified for two SVOCs,
31 one VOC, and nitrate. Thirty-four results were qualified in 23 samples.

32 Twelve qualified sample results from EB contamination were predominantly related to metals, and
33 8 metals were included; however, one perchlorate result was also qualified. Three samples were
34 qualified for equipment blank contamination.

35 Nine acetone and four methylene chloride results were qualified due to trip blank contamination in
36 13 samples.

37 Samples affected by blank contamination were qualified as non-detected results and flagged "U." Blank
38 contamination-related issues are presented in Table 3 and Attachment 1.

39 The Stage 3 data review identified no additional blank contamination issues not previously detected by
40 the ADR software.

1 **Laboratory Control Samples**

2 Overall, the LCSs were within-control. The qualified LCS data are limited to 7 TPH-DRO results,
3 15 benzidine results, 11 benzaldehyde results, three 2,3,4,6-tetrachlorophenol results, and
4 39 hexachlorocyclopentadiene results. If an LCS was out-of-control with a high bias and the associated
5 sample result did not detect that compound, the results were not flagged. All of the samples qualified
6 for LCS recoveries were flagged as estimated non-detected concentrations and flagged "UJ" or
7 estimated detected concentration "J"; however, all of the qualified benzidine results were flagged "R."
8 Nine of the qualified hexachlorocyclopentadiene results were flagged "R." The R-flagged results are
9 unusable for any reason. All other flagged results are usable for project objectives. Each of these
10 compounds are considered to be poor responding compounds.

11 The LCS relative percent difference (RPD) was out-of-control for 9 hexachlorocyclopentadiene results
12 and 22 benzidine results. The nine hexachlorocyclopentadiene results and seven of the benzidine results
13 qualified for LCS RPD were flagged as estimated non-detected concentrations and flagged "UJ"
14 estimated non-detected concentrations and are usable for project objectives. Fifteen of the benzidine
15 results were rejected and flagged "R."

16 The Stage 3 data identified no LCS errors not already detected by the ADR software. LCS-related issues
17 are presented in Table 3 and Attachment 1.

18 **Surrogate Spikes**

19 Overall, surrogate spikes were within-control. The qualified samples/target data due to out-of-control
20 surrogate spikes are associated with five pesticide samples, four VOC samples, and three explosives
21 samples. In a small number of samples, the surrogate spike showed a high bias or was diluted out.
22 Diluted samples were not qualified, and high-bias surrogate recoveries associated with non-detected
23 results were also not qualified. All samples qualified for surrogate spike recoveries were flagged "J"
24 or "UJ" as estimated concentrations and are usable for project objectives, with the exception of five
25 explosives compounds in one sample, which were rejected. Rejected results are not usable for project
26 objectives.

27 The Stage 3 data review identified no surrogate out-of-control conditions not already detected by the
28 ADR software. Surrogate spike-related issues are presented in Table 3 and Attachment 1.

29 **Matrix Spike and Matrix Spike Duplicates**

30 Overall, the MS/MSDs were within-control for both accuracy and precision. The qualified sample results
31 due to out-of-control MS/MSDs included 244 results in all, predominantly associated with the metals
32 aluminum, antimony, barium, calcium, iron, sodium, and zinc. Qualified sample results for SVOC
33 compounds included 3,3-dichlorobenzidine, 3 and 4 nitroaniline, benzaldehyde, benzidine, and
34 nitrobenzene. Other compounds with qualified results included nitrate, nitrite, perchlorate, toxaphene,
35 and HMX. In cases where the concentrations of the parent samples were significantly greater than the
36 spike concentrations, the recovery was not accurate and the results were not qualified. Samples were
37 not qualified when they contained concentrations of target analytes greater than four times the spiked
38 concentration added to the MS/MSD. Most of the qualified sample results are flagged as estimated
39 concentrations and are usable for project objectives. Rejected results include benzidine and
40 3,3-dichlorobenzidine.

41 Out-of-control MS/MSD RPD was limited to and associated with the SVOCs benzaldehyde, benzoic acid,
42 and hexachlorocyclopentadiene. The results were flagged as estimated non-detected concentrations.

1 Post-digestion spikes, serial dilutions, and interference check samples were evaluated from the case
2 narrative notations as well as the Stage 3 data review. A review of the case narratives required the
3 flagging of four iron results and one silver result noted under the professional judgment flags.

4 The Stage 3 data review identified no MS/MSD out-of-control conditions, serial dilution, or post-
5 digestion out-of-control conditions not previously detected by the ADR software. The MS/MSD-related
6 issues are presented in Table 3 and Attachment 1.

7 **Field Duplicate and Laboratory Precision**

8 Overall, FD precision was acceptable; however, a number of results required qualification because of
9 out-of-control precision criteria. The out-of-control FD precision was associated with 94 results for
10 metals, VOCs, explosives, SVOCs, TPH-DRO and nitrate results in seven sample pairs. Laboratory
11 duplicates were within-control.

12 Out-of-control detected results from FDs were qualified as estimated concentrations. Out-of-control
13 precision requirements in samples are believed to be caused by sample heterogeneity or matrix
14 interference in the analytical process.

15 The nitrate result from the duplicate pair DTW15042015 and TMW15042015 was of concern in that the
16 values were widely different at 8.2 in the parent sample and 270 parts per million (ppm) in the duplicate
17 sample. The sample data were evaluated for error but no obvious error was found. The two widely
18 different values imply a very heterogeneous sample or a sample bottle mix-up at the laboratory or in the
19 field. Because the location has had many years of data to show that the sample heterogeneity has not
20 been an issue, the expected result for the location should be around 8 ppm. The duplicate result of
21 270 is suspect; therefore, the duplicate result of 270 has been rejected for project use and flagged "R."
22 The next round of sample collection is expected to show the well at about 8 ppm; therefore, the
23 historical data and the next round will support the decision to reject this result.

24 The Stage 3 data review identified no FD or laboratory duplicate out-of-control conditions not previously
25 detected by the ADR software. Duplicate-related issues are presented in Table 3 and Attachment 1.

26 **Calibration**

27 Initial, continuing, and second-source calibrations were reviewed as part of the Stage 3 data review on
28 all methods and were noted to be within-control. No calibration flags were applied as part of the ADR
29 case narrative review.

30 **Internal Standards**

31 Internal standards were evaluated as part of the case narrative review for ADR and also as part of the
32 Stage 3 data review. All internal standards were found to be within-control.

33 **Confirmation**

34 When the case narrative defined the RPD for confirmation results from explosives or pesticides above
35 40 percent, the associated compound was flagged as an estimated result in the ADR software. Detected
36 results were flagged "J" as estimated concentrations. Confirmation-related data flags are noted in the
37 "Professional Judgment" column in Table 3 and clarified in the manual changes file in Attachment 1.

38 The Stage 3 data review identified no confirmation out-of-control conditions not previously detected by
39 the ADR software. Confirmation-related issues are presented in Table 3 and Attachment 1.

40 **Professional Judgment**

41 The professional judgment field of the ADR software and Table 3 was used to note confirmation
42 precision data flags, as stated in the Confirmation section. It was also used to flag samples

1 TMW03102015 and TMW04102015 for explosives, based on the opinion of the laboratory that the
2 sample showed evidence of matrix interference that may cause false positive or negative data. In
3 addition, sample TMW40S042015 had obvious matrix interference impacting the surrogate recovery
4 along with a number of compounds with out-of-control precision in the confirmation column. Therefore,
5 these samples were flagged "J" for detected results and "UJ" for all non-detected results.

6 The analytical response for TPH-GRO in sample MW18D042015 was based on the presence of discrete
7 peaks. The sample was flagged as an estimated concentration of "J."

8 The Stage 3 data review identified no conditions not previously detected by the ADR software.
9 Professional judgment-related issues are presented in Table 3 and Attachment 1.

10 Calculation Verification

11 A limited recalculation check of results from the raw data was completed for all methods as part of the
12 Stage 3 data review. No errors were identified.

13 Summary of Precision, Accuracy, Representativeness, 14 Comparability, and Completeness

15 The quality of the field sampling efforts and laboratory results were evaluated for compliance with
16 project data quality objectives through a review of overall precision, accuracy, representativeness,
17 comparability, and completeness (PARCC). Procedures used to assess PARCC are in accordance with the
18 respective analytical methods and the Work Plan requirements.

19 Precision

20 Overall, matrix precision from MS/MSDs was within control. Matrix precision was also evaluated
21 through the results of FDs and laboratory duplicates. Laboratory duplicates were within control.
22 Although there were some out-of-control results from each FD pair collected, overall, few results were
23 out-of-control, and the results of the FDs indicate that the field team adequately collected
24 representative samples and that the laboratory was capable of evaluating the matrix consistently.

25 Laboratory precision is acceptable as shown by the repeated overall within-control performance
26 (accuracy) of the LCSs.

27 All results qualified from out-of-control precision were qualified as estimated concentrations. The
28 methods and matrix precision are acceptable.

29 Accuracy

30 Overall, matrix accuracy from the MS/MSDs and surrogate spikes was acceptable. The accuracy of LCSs
31 was predominantly within-control. A significant number of hexachlorocyclopentadiene results may have
32 a low bias based on the out-of-control LCS recoveries. Calibrations were in control except for a limited
33 number of high-bias sodium results; therefore, the laboratory and matrix-related accuracy is acceptable.

34 The results qualified from out-of-control accuracy are considered estimated concentrations.

35 Representativeness

36 The sample data were representative of the site conditions at the time of sample collection. All samples
37 were properly stored and preserved. Holding time error was not significant, and the estimated sample
38 results are usable for project objectives. The results of field and laboratory blanks were generally at
39 concentrations less than one half of the LOQs. Overall, blank contamination was indicative of normal
40 laboratory and field sampling operations.

1 **Comparability**

2 All samples were reported in industry-standard units. Analytical protocols for the methods were
3 followed. Results obtained are comparable to industry standards in that collection and analytical
4 techniques followed approved and documented procedures.

5 **Completeness**

6 Overall, the completeness objective of 95 percent for water samples was met. The exceptions were
7 46 rejected results overall. A majority of the unusable data is the result of LCS and/or MS/MSD failure
8 for poor responding compounds as discussed in the LCS and MS/MSD sections. One explosives sample
9 had limited compound rejected due to surrogate recovery failures. Individually, the rejected compounds
10 may not meet the 95 percent completeness goal. However, given the long-term collection plan for the
11 project and the large amount of historical data available, the unusable data are not expected to present
12 a data gap.

13 **Conclusions**

14 The data generated from groundwater sample analyses are of sufficient quality and quantity to
15 accomplish the project objectives. The sample results accurately indicate the presence and/or absence
16 of target analyte contamination at the sampled locations. All samples were collected and analyzed as
17 specified in the Work Plan.

18 The sample results are believed to be representative of the site conditions at the time of collection.
19 Results obtained are comparable to industry standards, in that collection and analytical techniques
20 followed approved and documented procedures. All results were reported in industry-standard units.
21 Although blank contamination occurred, the concentrations were generally below one half of the LOQ
22 and representative of normal laboratory procedures. In cases of elevated LOQs, LODs, and/or DLs due to
23 matrix interference and/or high target analyte concentrations, the results obtained for the associated
24 samples/analyses reflect the best achievable data for the site-specific conditions.

25 **References**

26 Innovar Environmental, Inc., 2015. *2015 Interim Measures Facility-Wide Groundwater Monitoring Plan,*
27 *Version 8, Fort Wingate Depot Activity, McKinley County, New Mexico.* Final. Prepared for the
28 U.S. Army Corps of Engineers, Albuquerque District. March 6.

Table 1

Sample Chronology, Data Summary

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample Name	Date Collected	Sample Type	6010C	6020A	6860	7470A	8015C DRO	8015C GRO	8081A	8260B	8270D	8330B	9056
BGMW01042015	02-Apr-15		X	X	X	X			X	X	X	X	X
BGMW02042015	02-Apr-15		X	X	X	X			X	X	X	X	X
BGMW02042015MS	02-Apr-15	MS	X	X	X	X			X	X	X	X	X
BGMW02042015MSD	02-Apr-15	MSD	X	X	X	X			X	X	X	X	X
BGMW03042015	01-Apr-15		X	X	X	X			X	X	X	X	X
DMW23042015	07-Apr-15	FD	X	X	X	X			X	X	X	X	X
DMW24042015	06-Apr-15	FD	X	X	X	X			X	X	X	X	X
DTW15042015	08-Apr-15	FD	X	X	X	X				X	X	X	X
DTW26042015	07-Apr-15	FD	X	X	X	X				X		X	X
DTW34042015	03-Apr-15	FD	X	X	X	X	X	X		X			X
DTW39D042015	06-Apr-15	FD	X	X	X	X			X	X	X	X	X
DTW43042015	10-Apr-15	FD	X	X	X	X			X	X	X	X	X
FW31042015	01-Apr-15		X	X		X			X	X	X	X	X
FW31042015MS	01-Apr-15	MS	X										
FW31042015MSD	01-Apr-15	MSD	X										
FW35042015	01-Apr-15									X	X	X	
FW35042015	02-Apr-15		X	X		X							X
FW35042015MS	02-Apr-15	MS											X
FW35042015MSD	02-Apr-15	MSD											X
MW01042015	01-Apr-15		X	X	X	X	X	X	X	X		X	X
MW02042015	01-Apr-15		X	X		X	X	X	X	X		X	X
MW02042015	02-Apr-15				X								
MW03042015	03-Apr-15		X	X	X	X	X	X		X		X	X
MW03042015MS	03-Apr-15	MS											X
MW03042015MSD	03-Apr-15	MSD											X
MW18D042015	08-Apr-15		X	X	X	X	X	X		X		X	X
MW20042015	03-Apr-15		X	X	X	X	X	X	X	X	X	X	X
MW22D042015	06-Apr-15		X	X	X	X	X	X	X	X	X	X	X
MW22D042015MS	06-Apr-15	MS	X	X	X	X	X	X	X	X	X	X	X
MW22D042015MSD	06-Apr-15	MSD	X	X	X	X	X	X	X	X	X	X	X
MW22S042015	01-Apr-15							X				X	X
MW22S042015	02-Apr-15				X					X	X		
MW22S042015	03-Apr-15								X				
MW22S042015	06-Apr-15		X	X		X	X						
MW22S042015	08-Apr-15		X	X		X							
MW23042015	07-Apr-15		X	X	X	X			X	X	X	X	X
MW23042015MS	07-Apr-15	MS	X	X	X	X			X	X	X	X	X
MW23042015MSD	07-Apr-15	MSD	X	X	X	X			X	X	X	X	X
MW24042015	06-Apr-15		X	X	X	X			X	X	X	X	X
SMW01042015	08-Apr-15		X	X	X	X				X	X	X	X
TMW01042015	07-Apr-15		X	X	X	X				X		X	X
TMW02042015	09-Apr-15		X	X	X	X				X		X	X
TMW03042015	09-Apr-15		X	X	X	X				X		X	X
TMW04042015	09-Apr-15		X	X	X	X				X	X	X	X
TMW06042015	09-Apr-15		X	X		X				X	X	X	X
TMW07042015	01-Apr-15		X	X		X				X	X	X	X
TMW08042015	08-Apr-15		X	X	X	X	X	X	X	X			X
TMW10042015	07-Apr-15		X	X	X	X				X		X	X
TMW11042015	08-Apr-15		X	X	X	X				X		X	X
TMW11042015MS	08-Apr-15	MS		X									
TMW11042015MSD	08-Apr-15	MSD		X									
TMW13042015	09-Apr-15		X	X	X	X				X			X
TMW14A042015	08-Apr-15		X	X		X				X	X	X	X
TMW14A042015MS	08-Apr-15	MS	X										X
TMW14A042015MSD	08-Apr-15	MSD	X										X
TMW15042015	08-Apr-15		X	X	X	X				X	X	X	X
TMW16042015	01-Apr-15		X	X	X	X				X	X	X	
TMW17042015	07-Apr-15		X	X	X	X				X			X
TMW18042015	01-Apr-15		X	X	X	X				X	X	X	X
TMW19042015	01-Apr-15		X	X	X	X				X	X	X	
TMW21042015	03-Apr-15		X	X	X	X				X		X	X

Table 1

Sample Chronology, Data Summary

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample Name	Date Collected	Sample Type	6010C	6020A	6860	7470A	8015C DRO	8015C GRO	8081A	8260B	8270D	8330B	9056
TMW21042015MS	03-Apr-15	MS	X										
TMW21042015MSD	03-Apr-15	MSD	X										
TMW22042015	01-Apr-15		X	X	X	X				X	X	X	X
TMW22042015MS	01-Apr-15	MS				X							
TMW22042015MSD	01-Apr-15	MSD				X							
TMW23042015	01-Apr-15		X	X	X	X			X	X		X	X
TMW24042015	08-Apr-15		X	X	X	X			X	X		X	X
TMW25042015	07-Apr-15		X	X		X				X		X	X
TMW26042015	07-Apr-15		X	X	X	X				X		X	X
TMW27042015	07-Apr-15		X	X	X	X				X			
TMW28042015	07-Apr-15		X	X		X				X			
TMW29042015	03-Apr-15		X	X	X	X				X		X	X
TMW29042015MS	03-Apr-15	MS		X									
TMW29042015MSD	03-Apr-15	MSD		X									
TMW30042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW30042015MS	01-Apr-15	MS											X
TMW30042015MSD	01-Apr-15	MSD											X
TMW31D042015	06-Apr-15		X	X	X	X			X	X	X	X	X
TMW31S042015	02-Apr-15		X	X	X	X			X	X	X	X	X
TMW32042015	09-Apr-15		X	X	X	X			X	X	X	X	X
TMW33042015	02-Apr-15		X	X		X	X	X		X	X		X
TMW34042015	03-Apr-15		X	X	X	X	X	X		X			X
TMW35042015	03-Apr-15		X	X	X	X	X	X	X	X	X		X
TMW35042015MS	03-Apr-15	MS			X	X							
TMW35042015MSD	03-Apr-15	MSD			X	X							
TMW36042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW37042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW38042015	08-Apr-15		X	X	X	X			X	X	X	X	X
TMW39D042015	06-Apr-15		X	X	X	X			X	X	X	X	X
TMW39S042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW40D042015	09-Apr-15		X	X	X	X			X	X	X	X	X
TMW40D042015MS	09-Apr-15	MS		X									
TMW40D042015MSD	09-Apr-15	MSD		X									
TMW40S042015	01-Apr-15		X	X		X					X		
TMW40S042015	02-Apr-15		X	X	X	X				X		X	
TMW40S042015	03-Apr-15								X				
TMW40S042015	06-Apr-15												X
TMW41042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW41042015MS	01-Apr-15	MS		X									
TMW41042015MSD	01-Apr-15	MSD		X									
TMW43042015	10-Apr-15		X	X	X	X			X	X	X	X	X
TMW43042015MS	10-Apr-15	MS	X	X	X	X			X	X	X	X	X
TMW43042015MSD	10-Apr-15	MSD	X	X	X	X			X	X	X	X	X
TMW44042015	01-Apr-15		X	X	X	X			X	X	X	X	X
TMW45042015	09-Apr-15		X	X	X	X			X	X	X	X	X
TMW46042015	02-Apr-15		X	X	X	X			X	X	X	X	X
TMW47042015	10-Apr-15		X	X	X	X			X	X	X	X	X
TMW48042015	06-Apr-15		X	X	X	X			X	X	X	X	X
TMW49042015	09-Apr-15		X	X	X	X			X	X	X	X	X
TMW49042015MS	09-Apr-15	MS	X										
TMW49042015MSD	09-Apr-15	MSD	X										

Notes:

DRO = diesel range organics

FD = field duplicate

GRO = gasoline range organics

MS = matrix spike

MSD = matrix spike duplicate

Table 2**Laboratory and Field Sample Identifiers for Stage 3 Data Review***Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity*

Field Sample ID	Laboratroy Sample ID
DMW24042015	280-67438-8
DTW39D042015	280-67438-4
MW22D042015	280-67438-9
MW22D042015MS	280-67438-9MS
MW22D042015MSD	280-67438-9MSD
MW22S042015	280-67438-10
MW24042015	280-67438-7
TB-04-042015	280-67438-5
TB-43-042015	280-67438-6
TMW31D042015	280-67438-1
TMW39D042015	280-67438-2
TMW40S042015	280-67438-11
TMW48042015	280-67438-3

Notes:

D = duplicate

ID = identification

MS = matrix spike

MSD = matrix spike duplicate

TB = trip blank

Table 3

Summary of Data Qualifications by Reason

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample ID	Method	AnalyteName	Lab Sample ID	Analysis Type	Holding Time	Method Blanks	Surrogate Recovery	MS/MSD Recovery	MS/MSD RPD	LCS Recovery	LCS RPD	Equipment Blank	Trip Blank	Field Duplicate	Professional Judgement
DTW15042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67561-8							UJ					
DTW15042015	9056	NITRATE	280-67561-8	Total										R	
DTW26042015	6010C	ALUMINUM	280-67484-7	Total				J							
DTW26042015	6010C	SODIUM	280-67484-7	Dissolved				J							
DTW26042015	6020A	ZINC	280-67484-7	Dissolved										J	
DTW34042015	6020A	ANTIMONY	280-67366-5	Total				UJ							
DTW34042015	6020A	LEAD	280-67366-5	Total										J	
DTW34042015	6020A	THALLIUM	280-67366-5	Total										UJ	
DTW34042015	6860	PERCHLORATE	280-67366-5					J							
DTW34042015	8015C DRO	DIESEL RANGE ORGANICS	280-67366-5							J				J	
DTW34042015	8260B	ACETONE	280-67366-5											J	
DTW39D042015	6010C	ALUMINUM	280-67438-4	Dissolved										J	
DTW39D042015	6010C	IRON	280-67438-4	Dissolved										J	
DTW39D042015	6020A	ANTIMONY	280-67438-4	Dissolved										UJ	
DTW39D042015	6020A	ARSENIC	280-67438-4	Dissolved										UJ	
DTW39D042015	6020A	ZINC	280-67438-4	Dissolved				J						J	
DTW39D042015	6860	PERCHLORATE	280-67438-4					J							
DTW39D042015	8081A	TOXAPHENE	280-67438-4					UJ							
DTW39D042015	8270D	3,3'-DICHLOROBENZIDINE	280-67438-4					R							
DTW39D042015	8270D	3-NITROANILINE	280-67438-4					UJ							
DTW39D042015	8270D	4-NITROANILINE	280-67438-4					UJ							
DTW39D042015	8270D	BENZALDEHYDE	280-67438-4					UJ							
DTW39D042015	8270D	BENZIDINE	280-67438-4					R							
DTW39D042015	9056	NITRITE	280-67438-4	Total				UJ							
DTW43042015	6010C	ALUMINUM	280-67711-2	Total				J							
DTW43042015	6020A	BERYLLIUM	280-67711-2	Dissolved										J	
DTW43042015	6020A	SILVER	280-67711-2	Dissolved										J	
DTW43042015	6020A	THALLIUM	280-67711-2	Dissolved										J	
DTW43042015	8081A	TOXAPHENE	280-67711-2					UJ							
DTW43042015	8260B	METHYLENE CHLORIDE	280-67711-2			U							U		
DTW43042015	8270D	2,3,4,6-TETRACHLOROPHENOL	280-67711-2							UJ					
DTW43042015	8270D	BENZALDEHYDE	280-67711-2					UJ		UJ					
DTW43042015	8270D	BENZIDINE	280-67711-2					UJ							
DTW43042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67711-2						UJ	UJ					
DTW43042015	8330B	Octahydro-1,3,5,7-tetranitro-	280-67711-2											J	
FW31042015	6010C	ALUMINUM	280-67267-2	Total				J							
FW31042015	6010C	IRON	280-67267-2	Total								U			
FW31042015	6020A	CHROMIUM	280-67267-2	Total								U			
FW31042015	6020A	LEAD	280-67267-2	Total								U			
FW31042015	6020A	MANGANESE	280-67267-2	Dissolved								U			
FW31042015	6020A	NICKEL	280-67267-2	Total								U			
FW31042015	6020A	ZINC	280-67267-2	Total								U			
FW31042015	8270D	BENZIDINE	280-67267-2							R	UJ				
FW31042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-2							UJ					
FW35042015	6010C	CALCIUM	280-67316-14	Dissolved				J							
FW35042015	6020A	THALLIUM	280-67316-14	Total		U									
FW35042015	8270D	BENZIDINE	280-67267-20							R	UJ				

Table 3

Summary of Data Qualifications by Reason

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample ID	Method	AnalyteName	Lab Sample ID	Analysis Type	Holding Time	Method Blanks	Surrogate Recovery	MS/MSD Recovery	MS/MSD RPD	LCS Recovery	LCS RPD	Equipment Blank	Trip Blank	Field Duplicate	Professional Judgement
MW22S042015	8081A	HEPTACHLOR	280-67366-10				UJ								
MW22S042015	8081A	HEPTACHLOR EPOXIDE	280-67366-10				UJ								
MW22S042015	8081A	METHOXYCHLOR	280-67366-10				UJ								
MW22S042015	8081A	TOXAPHENE	280-67366-10				UJ								
MW22S042015	8270D	BENZIDINE	280-67316-5					R							
MW22S042015	8270D	BENZOIC ACID	280-67316-5						UJ						
MW22S042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67316-5							R					
MW22S042015	9056	NITRATE	280-67267-11	Total	J										
MW23042015	6010C	ALUMINUM	280-67484-5	Dissolved										UJ	
MW23042015	6010C	ALUMINUM	280-67484-5	Total				J							
MW23042015	6010C	IRON	280-67484-5	Dissolved										UJ	
MW23042015	6010C	SODIUM	280-67484-5	Dissolved				J							
MW23042015	6020A	SELENIUM	280-67484-5	Dissolved		U								J	
MW23042015	6020A	SILVER	280-67484-5	Dissolved										UJ	
MW23042015	6020A	THALLIUM	280-67484-5	Dissolved										UJ	
MW23042015	6020A	ZINC	280-67484-5	Dissolved										J	
MW23042015	8081A	TOXAPHENE	280-67484-5					UJ							
MW23042015	8270D	1,2,4-TRICHLOROBENZENE	280-67484-5											UJ	
MW23042015	8270D	1,2-DICHLOROBENZENE	280-67484-5											UJ	
MW23042015	8270D	1,2-DIPHENYLHYDRAZINE	280-67484-5											UJ	
MW23042015	8270D	1,3-DICHLOROBENZENE	280-67484-5											UJ	
MW23042015	8270D	1,4-DICHLOROBENZENE	280-67484-5											UJ	
MW23042015	8270D	2,4,6-TRICHLOROPHENOL	280-67484-5											UJ	
MW23042015	8270D	2-CHLORONAPHTHALENE	280-67484-5											UJ	
MW23042015	8270D	2-METHYLNAPHTHALENE	280-67484-5											UJ	
MW23042015	8270D	3,3'-DICHLOROBENZIDINE	280-67484-5					UJ							
MW23042015	8270D	ACENAPHTHENE	280-67484-5											UJ	
MW23042015	8270D	ACETOPHENONE	280-67484-5											UJ	
MW23042015	8270D	BENZALDEHYDE	280-67484-5					UJ	UJ						
MW23042015	8270D	BENZIDINE	280-67484-5					UJ							
MW23042015	8270D	BENZYL ALCOHOL	280-67484-5											UJ	
MW23042015	8270D	BIS(2-CHLOROISOPROPYL)ETHER	280-67484-5											UJ	
MW23042015	8270D	BIS(2-ETHYLHEXYL) PHTHALATE	280-67484-5											UJ	
MW23042015	8270D	DIBENZOFURAN	280-67484-5											UJ	
MW23042015	8270D	DIETHYL PHTHALATE	280-67484-5											UJ	
MW23042015	8270D	FLUORANTHENE	280-67484-5											UJ	
MW23042015	8270D	FLUORENE	280-67484-5											UJ	
MW23042015	8270D	M,P-Cresol	280-67484-5											UJ	
MW23042015	8270D	NAPHTHALENE	280-67484-5											UJ	
MW23042015	8270D	N-NITROSODIMETHYLAMINE	280-67484-5											UJ	
MW23042015	8270D	N-NITROSODIPHENYLAMINE	280-67484-5											UJ	
MW23042015	8270D	PHENANTHRENE	280-67484-5											UJ	
MW23042015	8330B	2-NITROTOLUENE	280-67484-5											UJ	
MW24042015	6020A	VANADIUM	280-67438-7	Dissolved										J	
MW24042015	6020A	ZINC	280-67438-7	Dissolved				J						J	
MW24042015	8081A	TOXAPHENE	280-67438-7					UJ							
MW24042015	8270D	3,3'-DICHLOROBENZIDINE	280-67438-7					R							

Table 3

Summary of Data Qualifications by Reason

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample ID	Method	AnalyteName	Lab Sample ID	Analysis Type	Holding Time	Method Blanks	Surrogate Recovery	MS/MSD Recovery	MS/MSD RPD	LCS Recovery	LCS RPD	Equipment Blank	Trip Blank	Field Duplicate	Professional Judgement
TMW04042015	8330B	METHYL-2,4,6-	280-67662-2												J
TMW04042015	8330B	NITROBENZENE	280-67662-2												UJ
TMW04042015	8330B	Octahydro-1,3,5,7-tetranitro-	280-67662-2				J								J
TMW06042015	6010C	SODIUM	280-67662-10	Total				J							
TMW06042015	8260B	ACETONE	280-67662-10										U		
TMW06042015	8270D	BENZALDEHYDE	280-67662-10							UJ					
TMW06042015	8270D	BENZIDINE	280-67662-10								UJ				
TMW06042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67662-10							UJ	UJ				
TMW07042015	6010C	ALUMINUM	280-67267-6	Total				J							
TMW07042015	8270D	BENZIDINE	280-67267-6							R	UJ				
TMW07042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-6							UJ					
TMW08042015	8015C GRO	GASOLINE RANGE ORGANICS	280-67561-11		UJ										
TMW10042015	6010C	SODIUM	280-67484-8	Dissolved				J							
TMW11042015	6020A	ANTIMONY	280-67561-4	Total		U									
TMW11042015	6020A	THALLIUM	280-67561-4	Dissolved		U									
TMW11042015	8260B	DIBROMOFUOROMETHANE	280-67561-4				J								
TMW13042015	6010C	SODIUM	280-67662-9	Total				J							
TMW13042015	8260B	ACETONE	280-67662-9										U		
TMW14A042015	6010C	IRON	280-67561-3	Dissolved											J
TMW14A042015	6010C	IRON	280-67561-3	Total											J
TMW14A042015	6020A	ANTIMONY	280-67561-3	Total		U									
TMW14A042015	6020A	THALLIUM	280-67561-3	Dissolved		U									
TMW14A042015	6020A	THALLIUM	280-67561-3	Total		U									
TMW14A042015	8260B	DIBROMOFUOROMETHANE	280-67561-3				J								
TMW14A042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67561-3							UJ					
TMW15042015	6010C	IRON	280-67561-7	Dissolved										UJ	
TMW15042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67561-7							UJ					
TMW15042015	9056	NITRATE	280-67561-7	Total										J	
TMW16042015	6010C	ALUMINUM	280-67267-18	Total				J							
TMW16042015	8270D	BENZIDINE	280-67267-18							R	UJ				
TMW16042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-18							UJ					
TMW17042015	6010C	ALUMINUM	280-67484-11	Total				J							
TMW17042015	6010C	SODIUM	280-67484-11	Dissolved				J							
TMW18042015	6010C	ALUMINUM	280-67267-14	Total				J							
TMW18042015	8270D	BENZIDINE	280-67267-14							R	UJ				
TMW18042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-14							UJ					
TMW19042015	6010C	ALUMINUM	280-67267-15	Total				J							
TMW19042015	8270D	BENZIDINE	280-67267-15							R	UJ				
TMW19042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-15							UJ					
TMW21042015	6010C	ALUMINUM	280-67366-1	Dissolved				J							
TMW21042015	6010C	ALUMINUM	280-67366-1	Total				J							
TMW21042015	6010C	IRON	280-67366-1	Dissolved				J							
TMW21042015	6010C	IRON	280-67366-1	Total				J							
TMW21042015	6020A	ANTIMONY	280-67366-1	Total				J							
TMW21042015	6860	PERCHLORATE	280-67366-1					J							
TMW22042015	6010C	ALUMINUM	280-67267-21	Total				J							
TMW22042015	8270D	BENZIDINE	280-67267-21							R	UJ				

Table 3

Summary of Data Qualifications by Reason

Groundwater Periodic Monitoring Report, Spring 2015 Sample Collections, Fort Wingate Depot Activity

Sample ID	Method	AnalyteName	Lab Sample ID	Analysis Type	Holding Time	Method Blanks	Surrogate Recovery	MS/MSD Recovery	MS/MSD RPD	LCS Recovery	LCS RPD	Equipment Blank	Trip Blank	Field Duplicate	Professional Judgement
TMW22042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-21							UJ					
TMW22042015	9056	NITRATE	280-67267-21	Total	J										
TMW23042015	6010C	ALUMINUM	280-67267-7	Total				J							
TMW23042015	8081A	4,4'-DDD	280-67267-7												J
TMW23042015	8330B	2-AMINO-4,6-DINITROTOLUENE	280-67267-7												J
TMW23042015	9056	NITRATE	280-67267-7	Total	J										
TMW25042015	6010C	ALUMINUM	280-67484-3	Total				J							
TMW25042015	6010C	SODIUM	280-67484-3	Dissolved				J							
TMW25042015	6020A	SELENIUM	280-67484-3	Dissolved		U									
TMW26042015	6010C	ALUMINUM	280-67484-10	Total				J							
TMW26042015	6010C	SODIUM	280-67484-10	Dissolved				J							
TMW26042015	6020A	ZINC	280-67484-10	Dissolved										UJ	
TMW27042015	6010C	SODIUM	280-67484-2	Dissolved				J							
TMW27042015	6020A	SELENIUM	280-67484-2	Dissolved		U									
TMW28042015	6010C	SODIUM	280-67484-1	Dissolved				J							
TMW28042015	6020A	SELENIUM	280-67484-1	Dissolved		U									
TMW28042015	6020A	SILVER	280-67484-1	Total		U									
TMW29042015	6010C	ALUMINUM	280-67366-2	Dissolved				J							
TMW29042015	6010C	ALUMINUM	280-67366-2	Total				J							
TMW29042015	6010C	IRON	280-67366-2	Dissolved				J							
TMW29042015	6010C	IRON	280-67366-2	Total				J							
TMW29042015	6020A	ANTIMONY	280-67366-2	Total				J							
TMW29042015	6860	PERCHLORATE	280-67366-2					J							
TMW30042015	6010C	ALUMINUM	280-67267-3	Total				J							
TMW30042015	8270D	BENZIDINE	280-67267-3							R	UJ				
TMW30042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-3							UJ					
TMW30042015	8330B	NITROBENZENE	280-67267-3												J
TMW31D042015	6020A	THALLIUM	280-67438-1	Total		U									
TMW31D042015	6020A	ZINC	280-67438-1	Dissolved				J							
TMW31D042015	6860	PERCHLORATE	280-67438-1					J							
TMW31D042015	8081A	TOXAPHENE	280-67438-1					UJ							
TMW31D042015	8270D	3,3'-DICHLOROBENZIDINE	280-67438-1					R							
TMW31D042015	8270D	3-NITROANILINE	280-67438-1					UJ							
TMW31D042015	8270D	4-NITROANILINE	280-67438-1					UJ							
TMW31D042015	8270D	BENZALDEHYDE	280-67438-1					UJ							
TMW31D042015	8270D	BENZIDINE	280-67438-1					R							
TMW31D042015	9056	NITRITE	280-67438-1	Total				UJ							
TMW31S042015	6010C	CALCIUM	280-67316-2	Dissolved				J							
TMW31S042015	6020A	THALLIUM	280-67316-2	Total		U									
TMW31S042015	8270D	BENZIDINE	280-67316-2					R							
TMW31S042015	8270D	BENZOIC ACID	280-67316-2						UJ						
TMW31S042015	8270D	DIMETHYL PHTHALATE	280-67316-2			U									
TMW31S042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67316-2							R					
TMW31S042015	8330B	NITROBENZENE	280-67316-2												J
TMW32042015	6010C	SODIUM	280-67662-5	Total				J							
TMW32042015	8260B	ACETONE	280-67662-5										U		
TMW32042015	8270D	BENZALDEHYDE	280-67662-5							UJ					

Table 3

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Sample ID	Method	AnalyteName	Lab Sample ID	Analysis Type	Holding Time	Method Blanks	Surrogate Recovery	MS/MSD Recovery	MS/MSD RPD	LCS Recovery	LCS RPD	Equipment Blank	Trip Blank	Field Duplicate	Professional Judgement
TMW33042015	8270D	BENZO(K)FLUORANTHENE	280-67316-9		R										
TMW33042015	8270D	BENZOIC ACID	280-67316-9		R										
TMW33042015	8270D	BENZOIC ACID	280-67316-9						UJ						
TMW33042015	8270D	BENZYL ALCOHOL	280-67316-9		R										
TMW33042015	8270D	BIS(2-CHLOROETHOXY)METHANE	280-67316-9		R										
TMW33042015	8270D	BIS(2-CHLOROETHYL) ETHER	280-67316-9		R										
TMW33042015	8270D	BIS(2-CHLOROISOPROPYL)ETHER	280-67316-9		R										
TMW33042015	8270D	BIS(2-ETHYLHEXYL) PHTHALATE	280-67316-9		R										
TMW33042015	8270D	Butyl Benzyl Phthlate	280-67316-9		R										
TMW33042015	8270D	CARBAZOLE	280-67316-9		R										
TMW33042015	8270D	CHRYSENE	280-67316-9		R										
TMW33042015	8270D	DIBENZ(A,H)ANTHRACENE	280-67316-9		R										
TMW33042015	8270D	DIBENZOFURAN	280-67316-9		R										
TMW33042015	8270D	DIETHYL PHTHALATE	280-67316-9		R										
TMW33042015	8270D	DIMETHYL PHTHALATE	280-67316-9		R										
TMW33042015	8270D	DI-N-BUTYL PHTHALATE	280-67316-9		R										
TMW33042015	8270D	DI-N-OCTYL PHTHALATE	280-67316-9		R										
TMW33042015	8270D	FLUORANTHENE	280-67316-9		R										
TMW33042015	8270D	FLUORENE	280-67316-9		R										
TMW33042015	8270D	HEXACHLOROBENZENE	280-67316-9		R										
TMW33042015	8270D	HEXACHLOROBUTADIENE	280-67316-9		R										
TMW33042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67316-9		R					UJ	UJ				
TMW33042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67316-9							R					
TMW33042015	8270D	HEXACHLOROETHANE	280-67316-9		R										
TMW33042015	8270D	INDENO(1,2,3-CD)PYRENE	280-67316-9		R										
TMW33042015	8270D	ISOPHORONE	280-67316-9		R										
TMW33042015	8270D	M,P-Cresol	280-67316-9		R										
TMW33042015	8270D	NAPHTHALENE	280-67316-9		R										
TMW33042015	8270D	NITROBENZENE	280-67316-9		R										
TMW33042015	8270D	N-NITROSODIMETHYLAMINE	280-67316-9		R										
TMW33042015	8270D	N-NITroso-DI-N-PROPYLAMINE	280-67316-9		R										
TMW33042015	8270D	N-NITROSODIPHENYLAMINE	280-67316-9		R										
TMW33042015	8270D	PENTACHLOROPHENOL	280-67316-9		R										
TMW33042015	8270D	PHENANTHRENE	280-67316-9		R										
TMW33042015	8270D	PHENOL	280-67316-9		R										
TMW33042015	8270D	PYRENE	280-67316-9		R										
TMW34042015	6020A	ANTIMONY	280-67366-4	Total				UJ							
TMW34042015	6020A	LEAD	280-67366-4	Total										UJ	
TMW34042015	6020A	THALLIUM	280-67366-4	Total										J	
TMW34042015	6860	PERCHLORATE	280-67366-4					J							
TMW34042015	8015C DRO	DIESEL RANGE ORGANICS	280-67366-4							J				J	
TMW34042015	8260B	ACETONE	280-67366-4											UJ	
TMW35042015	6010C	IRON	280-67366-9	Total				J							
TMW35042015	6020A	ANTIMONY	280-67366-9	Total				UJ							
TMW35042015	6860	PERCHLORATE	280-67366-9					J							
TMW35042015	8015C DRO	DIESEL RANGE ORGANICS	280-67366-9							J					
TMW35042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67366-9							UJ	UJ				

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TMW36042015	6010C	ALUMINUM	280-67267-16	Total				J							
TMW36042015	8270D	BENZIDINE	280-67267-16							R	UJ				
TMW36042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-16							UJ					
TMW37042015	6010C	ALUMINUM	280-67267-17	Total				J							
TMW37042015	8270D	BENZIDINE	280-67267-17							R	UJ				
TMW37042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67267-17							UJ					
TMW37042015	8330B	1,2-DINITROBENZENE	280-67267-17				J								
TMW37042015	8330B	1,3,5-TRINITROBENZENE	280-67267-17		R										
TMW37042015	8330B	1,3,5-TRINITROBENZENE	280-67267-17				UJ								
TMW37042015	8330B	1,3-DINITROBENZENE	280-67267-17		R										
TMW37042015	8330B	1,3-DINITROBENZENE	280-67267-17				UJ								
TMW37042015	8330B	2,4,6-TRINITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	2,4,6-TRINITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	2,4-DINITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	2,4-DINITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	2,6-DINITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	2,6-DINITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	2-AMINO-4,6-DINITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	2-AMINO-4,6-DINITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	2-NITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	2-NITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	3-NITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	3-NITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	4-AMINO-2,6-DINITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	4-AMINO-2,6-DINITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	4-NITROTOLUENE	280-67267-17		R										
TMW37042015	8330B	4-NITROTOLUENE	280-67267-17				UJ								
TMW37042015	8330B	HEXAHYDRO-1,3,5-TRINITRO-	280-67267-17		R										
TMW37042015	8330B	HEXAHYDRO-1,3,5-TRINITRO-	280-67267-17				UJ								
TMW37042015	8330B	METHYL-2,4,6-	280-67267-17		R										
TMW37042015	8330B	METHYL-2,4,6-	280-67267-17				UJ								
TMW37042015	8330B	NITROBENZENE	280-67267-17		R										
TMW37042015	8330B	NITROBENZENE	280-67267-17				UJ								
TMW37042015	8330B	Octahydro-1,3,5,7-tetranitro-	280-67267-17		R										
TMW37042015	8330B	Octahydro-1,3,5,7-tetranitro-	280-67267-17				UJ								
TMW38042015	6020A	THALLIUM	280-67561-9	Total		U									
TMW38042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67561-9							UJ					
TMW39D042015	6010C	ALUMINUM	280-67438-2	Dissolved										UJ	
TMW39D042015	6010C	IRON	280-67438-2	Dissolved										UJ	
TMW39D042015	6020A	ANTIMONY	280-67438-2	Dissolved										J	
TMW39D042015	6020A	ARSENIC	280-67438-2	Dissolved										J	
TMW39D042015	6020A	ZINC	280-67438-2	Dissolved				UJ						UJ	
TMW39D042015	6860	PERCHLORATE	280-67438-2					J							
TMW39D042015	8081A	TOXAPHENE	280-67438-2					UJ							
TMW39D042015	8270D	3,3'-DICHLORO BENZIDINE	280-67438-2					R							
TMW39D042015	8270D	3-NITROANILINE	280-67438-2					UJ							
TMW39D042015	8270D	4-NITROANILINE	280-67438-2					UJ							

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TMW46042015	8081A	GAMMA-BHC	280-67316-1				UJ								
TMW46042015	8081A	GAMMA-CHLORDANE	280-67316-1				UJ								
TMW46042015	8081A	HEPTACHLOR	280-67316-1				UJ								
TMW46042015	8081A	HEPTACHLOR EPOXIDE	280-67316-1				UJ								
TMW46042015	8081A	METHOXYCHLOR	280-67316-1				UJ								
TMW46042015	8081A	TOXAPHENE	280-67316-1				UJ								
TMW46042015	8270D	BENZIDINE	280-67316-1					R							
TMW46042015	8270D	BENZOIC ACID	280-67316-1						UJ						
TMW46042015	8270D	DIMETHYL PHTHALATE	280-67316-1			U									
TMW46042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67316-1							R					
TMW47042015	6010C	ALUMINUM	280-67711-4	Total				J							
TMW47042015	8081A	TOXAPHENE	280-67711-4					UJ							
TMW47042015	8260B	METHYLENE CHLORIDE	280-67711-4			U							U		
TMW47042015	8270D	2,3,4,6-TETRACHLOROPHENOL	280-67711-4							UJ					
TMW47042015	8270D	BENZALDEHYDE	280-67711-4					UJ		UJ					
TMW47042015	8270D	BENZIDINE	280-67711-4					UJ							
TMW47042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67711-4						UJ	UJ					
TMW48042015	6020A	ZINC	280-67438-3	Dissolved				J							
TMW48042015	6860	PERCHLORATE	280-67438-3					J							
TMW48042015	8081A	TOXAPHENE	280-67438-3					UJ							
TMW48042015	8270D	3,3'-DICHLOROBENZIDINE	280-67438-3					R							
TMW48042015	8270D	3-NITROANILINE	280-67438-3					UJ							
TMW48042015	8270D	4-NITROANILINE	280-67438-3					UJ							
TMW48042015	8270D	BENZALDEHYDE	280-67438-3					UJ							
TMW48042015	8270D	BENZIDINE	280-67438-3					R							
TMW48042015	9056	NITRITE	280-67438-3	Total				UJ							
TMW49042015	6010C	IRON	280-67662-4	Total											J
TMW49042015	6010C	SODIUM	280-67662-4	Total				J							
TMW49042015	6020A	THALLIUM	280-67662-4	Total		U									
TMW49042015	8260B	ACETONE	280-67662-4										U		
TMW49042015	8270D	BENZALDEHYDE	280-67662-4							UJ					
TMW49042015	8270D	BENZIDINE	280-67662-4								UJ				
TMW49042015	8270D	HEXACHLOROCYCLOPENTADIENE	280-67662-4							UJ	UJ				

Notes:

HT = holding time

ID = identification

J = analyte was detected and is considered to be an estimated concentration

LCS = laboratory control sample

MS = matrix spike

MSD = matrix spike duplicate

R = analyte has been rejected; it is unusable for project objectives.

RPD = relative percent difference

U = analyte was not detected above the reported sample limit of detection

UJ = analyte was not detected above the reported limit of detection; however, the reported value is considered an estimated concentration