

## **APPENDIX G**

### **QUALITY ASSURANCE REPORT FOR ANALYTICAL DATA**

**Fort McClellan Quality Assurance Report  
For Site Investigation Performed at Area North of MOUT Site  
Parcel NOM  
IT Project No 796887**

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**1.0 Overview**

Fifty-three soil samples and one groundwater sample were collected in support of the investigation at Fort McClellan (FTMC) Parcel NOM, Area North of MOUT Site. Samples were submitted to EMAX Laboratories, Inc. for analysis. QC samples consisted of the following types and quantities: 5 field duplicates, 2 matrix spike/matrix spike duplicate (MS/MSD) pairs and 6 equipment rinsates. An analytical summary cross-referencing sample location, sample number, and contaminants of concern is presented in Attachment A.

One hundred (100%) percent of samples were validated and reviewed in accordance with the *USEPA Contract Laboratory Program National Functional Guidelines for Evaluating Inorganic Data Review (EPA, February 1994)* and *USEPA Contract Laboratory Program National Functional Guidelines for Organic Review (EPA, October 1999)* for all areas except blanks. *Region III Laboratory Data Validation Functional Guidelines for Inorganic Analyses (EPA, April 1993)* and *Region III National Functional Guidelines for Organic Data Review (EPA, June 1992)* were applied to the areas associated with blank contamination. Data qualifiers assigned to results were based on guidance outlined in the referenced documents and the *Installation-Wide Sampling and Analysis Plan (IT, March 2000)* for FTMC.

**Table 1.0-1  
Laboratory Data Qualifier Definitions**

Data Qualifier	Laboratory Data Qualifier Definition
B	Analyte detected in method blank at concentration greater than the reporting limit (and greater than zero).
C	Confirming data obtained using second GC column or GC/MS.
E	Analyte concentration exceeded calibration range.
I	Analyte identification suspect. See narrative for explanation.
J	Result is less than or equal to specified reporting limit but greater than the method detection limit (MDL).
P	Analyte not confirmed. Results from primary and secondary GC columns differ by greater than 10 percent
S	Analyte concentration obtained using Method of Standard Additions (MSA).
U	Not detected. The value represented indicates the reporting limit for the analysis.
D	Sample analyzed as a dilution. The result reported has been calculated using the appropriate dilution factor.
No Code	Confirmed identification.

**Table 1.0-2  
Validation Data Qualifier Definitions**

<b>Validation Qualifier</b>	<b>Validation Data Qualifier Definition</b>
U	Not detected. The associated number indicates approximate sample concentration necessary to be detected.
No Code	Confirmed identification.
B	Not detected substantially above the level reported in laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
N	Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.
J	Analyte present. Reported value may not be accurate or precise. Considered an estimate.
NJ	Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.
NV	Result was not validated.

The Data Validation Summary Report is presented in Attachment B.

## **2.0 Summary**

Data were evaluated to verify compliance with precision, accuracy, representativeness, comparability, completeness, and sensitivity. To verify that project data quality objectives (DQOs) were met, laboratory analytical results and data packages were examined for compliance with SW846 8081A, 8141, 8151, 8260B, 8270C, 8330, 6010B/7470A/7471A quality control (QC) method. Laboratory nonconformances and discrepancies in the data were also examined to determine their impact on the data. The results of this review are presented in the following sections.

### **2.1 Sample Receipt and Analytical Holding Times**

All sample results generated by the laboratory during this investigation have been reviewed with respect to condition of samples as received by the laboratory, chain-of-custody, and analysis holding times. All coolers were received by EMAX in good condition under proper chain-of-custody.

### **2.2 Rejected Data**

Table 2.2-1 lists all rejected analytical data. Sample re-collection at this time is not warranted due to all rejected results being reported as non-detect.

**Table 2.2-1 Rejected Analytical Results**

Sample Delivery Group	Sample Number	Contaminant	Reason
10NOM-01	PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046	Naled	Continuing Calibration Percent Difference (%D) > 25%.
	PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046	Bromomethane	Initial and Continuing Calibration Relative Response Factor (RRF) <0.05.
	PP0045 & PP0046	Acetone	Initial and Continuing Calibration Relative Response Factor (RRF) <0.05.

### 2.3 Blank Results

Descriptions of the type of blank samples which were collected, processed, and evaluated for background and/or process contamination during this sampling are as follows:

- Equipment rinsates (ER) are samples of analyte-free deionized water poured into, over, or pumped through the sampling device, collected in a sample container, and transported to the laboratory for analysis. Equipment rinsates are used to assess the effectiveness of equipment decontamination procedures.
- Method blanks (MB) are used in the laboratory to assess and document any possible contamination resulting from the analytical process. A method blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank shall be carried through the complete sample preparation and analytical procedure.
- Initial and continuing calibration blanks (ICB and CCB) are instrument blanks consisting of an analyte-free matrix. ICBs and CCBs are analyzed to verify the analysis system is free of contamination and are analyzed immediately after the initial and continuing calibrations are performed.

When target compounds are detected in equipment rinsates, method blanks and/or instrument blanks there is increased uncertainty regarding the positive identification of the same constituents in field samples. When this occurs, detections more than five times the associated blank concentration are assumed to be positive detections in field samples. Because of the added uncertainty for certain "common" laboratory contaminants such as acetone, chloroform, toluene, and various phthalates, these constituents are not assumed present until sample concentrations exceed ten times the associated blank value. This is referred to as the 5X/10X rule.

Field sample concentrations were evaluated to determine if the sample results could have been biased by the presence of any contamination measured in equipment rinsate blanks, method blanks and/or initial/continuing calibration blanks. Sample data affected by blank contamination are summarized in Table 2.3-1.

**Table 2.3-1  
Summary of Blank Contamination**

<b>Sample Delivery Group</b>	<b>Sample Number</b>	<b>Contaminant</b>	<b>Action</b>
10NOM-01	PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046	Methylene chloride	Methylene chloride results for samples PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046 were "B" qualified due to MB and ER contamination.
	PP0007	Trichloroethene	Trichloroethene result for sample PP0007 was "B" qualified due to MB contamination.
	PP0042	Nickel	Nickel result for sample PP0042 was "B" qualified due to ICB/CCB contamination.
10NOM-02	PP0031 and PP0032	Mercury	Mercury results for samples PP0031 and PP0032 were "B" qualified due to ICB/CCB contamination.
10NOM-03	PP0048	Nickel	Nickel result for sample PP0048 was "B" qualified due to ICB/CCB contamination.
10NOM-04	PP0009	Arsenic	Arsenic result for sample PP0009 was "B" qualified due to ICB/CCB contamination.
	PP0019, PP0020, PP0021 and PP0022	Nickel	Nickel results for sample PP0019, PP0020, PP0021 and PP0022 were "B" qualified due to ICB/CCB contamination.
10NOM-06	PP0008	Zinc	Zinc result for sample PP0008 was "B" qualified due to ICB/CCB contamination.
10NOM-07	PP0050 and PP0051	Methylene chloride	Methylene chloride results for samples PP0050 and PP0051 were "B" qualified due to ER contamination.
10NOM-08	PP3004	Aluminum	Aluminum result for sample PP3004 was "B" qualified due to ICB/CCB contamination.

## 2.4 Analytical Precision

Precision is defined as a measurement of mutual agreement among individual measurements of the same property, usually under "prescribed similar conditions." Analytical precision is calculated as relative percent difference (%RPD) based on the following formula:

$$\%RPD = \left| \frac{(A-B)}{(A+B)/2} \right| \times 100$$

where:

%RPD = Relative Percent Difference  
A = original result  
B = duplicate result

A high RPD between an original sample and its field duplicate may be attributable to the difference in sample matrix or distribution of the contaminant within the sample, rather than the precision of the collection process. Also, when "estimated" results are reported, there is a potential for increased variability between the primary and duplicate sample results. This occurs because, at low concentrations, the relative difference in results is magnified by the RPD calculation even though the results are comparable in absolute terms. There is also increased uncertainty in the results as the lower limit of detection is approached, due to decreasing analytical accuracy. The RPD calculation cannot be performed in cases where non-detected results are reported with corresponding samples that contain detectable concentrations.

Overall sampling and analysis precision for this task was assessed using field duplicate (FD) samples. Laboratory precision was assessed by laboratory control sample/laboratory control sample duplicate (LCS/LCSD) and matrix spike/matrix spike duplicate (MS/MSD) recoveries. Results indicate that an acceptable analytical precision was achieved. Table 2.4-1 lists precision acceptance criteria for LCS/LCSD, MS/MSD organic analyses and field duplicate comparisons. Table 2.4-2 lists all field duplicate, LCS/LCSD and MS/MSD RPDs that exceeded QC criteria.

**Table 2.4-1 Precision Acceptance Criteria**

Field/Laboratory QC Type	Matrix	
	Aqueous	Soil
Field Duplicate (Both Organic & Inorganic)	RPD < 35%	RPD < 50%
Organochlorinated Pesticides LCS/LCSD and MS/MSD	RPD < 25%	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"
Organophosphorus Pesticides LCS/LCSD and MS/MSD	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"
Herbicides LCS/LCSD and MS/MSD	RPD < 50%	RPD < 50%
TCL Volatiles LCS/LCSD and MS/MSD	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"
TCL Semivolatiles LCS/LCSD and MS/MSD	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"	Refer to Table 8-1 of FTMC "Installation Wide Sample and Analysis Plan - Appendix B"
Metals LCS/LCSD and MS/MSD	RPD < 20%	RPD < 20%

**Table 2.4-2  
Summary of Field Duplicate, LCS/LCSD & MS/MSD RPD Anomalies**

Sample Delivery Group	Sample Number	Contaminant	Assigned Validation Qualifier
10NOM-01	PP0017 (Parent) / PP0018 (FD)	Barium (109%) Manganese (72%) Cobalt (87%) Nickel (90%)	Barium, manganese, cobalt and nickel results for samples PP0017 and PP0018 were "J" qualified due to parent sample and its corresponding field duplicate RPD exceeding QC criteria.
	PP0045 (Parent) / PP0046 (FD)	Manganese (106%)	Manganese results for samples PP0045 and PP0046 were "J" qualified due to parent sample and its corresponding field duplicate RPD exceeding QC criteria.
	PP0002 MS/MSD	Antimony (46%) Barium (29%) Iron (23%)	Antimony, barium and iron results for samples PP0001 through PP0007, PP0016, PP0017, PP0018, PP0042, PP0044, PP0045 and PP0046 were "J"/"UJ" qualified due to MS/MSD RPD exceeding QC criteria.

**Table 2.4-2 (Continued)**  
**Summary of Field Duplicate, LCS/LCSD & MS/MSD RPD Anomalies**

<b>Sample Delivery Group</b>	<b>Sample Number</b>	<b>Contaminant</b>	<b>Assigned Validation Qualifier</b>
10NOM-01 (Continued)	PP0002 MS/MSD	Dichlorvos (41%) Naled (45%)	Dichlorvos and naled results for samples PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046 were "UJ"/"R" qualified due to MS/MSD RPD exceeding QC criteria.
	PP0045 MS/MSD	Naled (55%)	Naled results for samples PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046 were "UJ" / "R" qualified due to MS/MSD RPD exceeding QC criteria.
10NOM-07	PP0051 (Parent) / PP0052 (FD)	Aluminum (92%) Arsenic (80%) Barium (95%) Beryllium (58%) Calcium (116%) Chromium (105%) Cobalt (93%) Copper (54%) Lead (86%) Magnesium (100%) Manganese (97%) Nickel (69%) Potassium (82%) Vanadium (70%) Zinc (73%)	Aluminum, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, lead, magnesium, manganese, nickel, potassium, vanadium and zinc results for samples PP0051 and PP0052 were "J" qualified due to parent sample and its corresponding field duplicate RPD exceeding QC criteria.

### **2.5 Analytical Accuracy Assessment**

Accuracy is a measure of the degree of agreement of a result against an accepted reference or true value. Accuracy is expressed as a percent recovery (%R) calculated by the ratio of the measurement and accepted true value as shown in the following equation:

$$\%R = (|X_s - X_u|/K) \times 100$$

where:

- X<sub>s</sub> = measured value of the spiked sample
- X<sub>u</sub> = measured value of the unspiked sample
- K = known amount of the spike in the sample

Surrogate recoveries, MS/MSD and LCS/LCSD were used to measure analytical accuracy as described in SW846 8081A, 8141, 8151, 8260B, 8270C, 8330 and 6010B/7470A/7471A. Reported results indicate that an acceptable level of analytical accuracy was achieved. Surrogate, LCS/LCSD and MS/MSD spike recoveries, which exceed QC criteria are summarized in Table 2.5-1.

**Table 2.5-1  
Summary of Surrogate, LCS/LCSD and MS/MSD Spike Recovery Criteria Exceedances**

<b>Sample Delivery Group</b>	<b>Sample Number</b>	<b>Contaminant</b>	<b>Action</b>
10NOM-01	PP0002 MS/MSD	Antimony (LB) Calcium (LB) Silver (LB) Chromium (LB)	Antimony, calcium, silver and chromium results for samples PP0001 through PP0007, PP0016, PP0017, PP0018, PP0042, PP0044, PP0045 and PP0046 were "J"/"UJ" qualified due to MS/MSD spike recoveries exceeding QC criteria.
	PP0045 MS/MSD	Antimony (LB) Barium (HB) Iron (HB) Manganese (HB) Potassium (LB) Silver (LB) Calcium (LB)	Antimony, barium, iron, manganese, potassium, silver and calcium results for samples PP0001 through PP0007, PP0016, PP0017, PP0018, PP0042, PP0044, PP0045 and PP0046 were "J"/"UJ" qualified due to MS/MSD spike recoveries exceeding QC criteria.
	NPB004SL (LCS)	Naled (LB)	Naled results for samples PP0001, PP0002, PP0007, PP0044, PP0045 and PP0046 were "R" qualified due to LCS spike recovery exceeding QC criteria.
10NOM-05	PP0041 MS/MSD	Antimony (LB)	Antimony results for samples PP0023 through PP0030 and PP0037 through PP0041 were "J"/"UJ" qualified due to MS/MSD spike recoveries exceeding QC criteria.
10NOM-06	IPC038SL (LCS)	Silver (LB)	Silver results for samples PP0004R, PP0006R, PP0008 and PP0043 were "J" qualified due to LCS spike recovery exceeding QC criteria.
	NPC009SL (LCS)	Fensulfothion (LB)	Fensulfothion result for sample PP0008 was "UJ" qualified due to LCS spike recovery exceeding QC criteria.
10NOM-07	NPC009SL (LCS)	Fensulfothion (LB)	Fensulfothion results for samples PP0050 and PP0051 were "UJ" qualified due to LCS spike recovery exceeding QC criteria.

LB - Low bias  
HB - High bias

## **2.6 Data Representativeness**

Representativeness is a qualitative parameter that expresses the degree to which sample data actually represent the matrix conditions. Standardized requirements and procedures for sample collection, handling and analyses were employed to maximize sample representativeness.

Soil sample locations selected for this investigation will confirm whether the soil has been impacted by contaminant releases from former activities at this site. Groundwater samples were collected to determine the quality of groundwater in the aquifer.

## **2.7 Data Comparability**

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. By employing well-recognized techniques and accepted standardized methods for sampling and analysis, data comparability was achieved during this sampling event.

## **2.8 Data Completeness**

Completeness is calculated for the aggregation of data for each analyte measured during the investigation of Parcels NOM, Area North of MOUT Site. The formula for calculating completeness is listed below:

$$\% \text{ Completeness} = ( X_V / X_T ) \times 100$$

where:

$X_V$  = number of valid (i.e., non-“R”-flagged) results  
 $X_T$  = number of possible results

Parcel NOM goal for completeness is 95% for both aqueous and soil samples. The % Completeness for this task is calculated to be 99.7%.

- $\% \text{ Completeness} = (4204 / 4218) \times 100 = 99.7\%$

## **2.9 Sensitivity**

Sensitivity is defined as the ability of the laboratory's established method detection limits (MDL)/method reporting limits (MRL or RL) to meet project-specific DQOs or site-specific screening levels (SSSL) and or ecological screening values (ESV).

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. MDLs are determined from an analysis of a sample in a given matrix containing the target analyte of interest. The MRL is a threshold value based upon the sensitivity capability of method and instrument. MRLs are normally set at a minimum of two times the MDL. MRLs are adjusted based on the sample matrix, moisture (solids only), and any necessary sample dilutions. The laboratory cannot reliably quantitate values reported above the MDL but below the MRL. Therefore, these analyte values must be flagged as estimated quantities ("J"-flagged).

To evaluate method sensitivity, a general comparison of the laboratory's MDLs/MRLs and the site investigation screening levels (background values, human health SSSL for residential reuse, and ESV) was performed and presented to the FTMC Base Realignment and Closure Team (BCT) (November 1999). The comparison summarized the relationship between the MDL/MRLs and SSSL/ESVs for each parameter typically reported for all of the major analytical methods used at FTMC. The few cases identified where the MDL and/or MRL values exceeded their corresponding human health SSSL and/or ESV were specifically highlighted and explained. It was understood that for these cases, the standard analytical method of analysis was not going to provide MDLs/MRLs, which met human health SSSLs or ESVs without significant uncertainty and the possibility of reporting false negatives. It was generally accepted that standard EPA SW846 analytical methods would provide sufficient sensitivity for data reported and used in the site screening process at FTMC.

### ***3.0 Data Usability***

Data quality indicators (DQI) provide an internal guide for control and review to verify that data are scientifically sound, defensible, and of known and acceptable quality. Factors such as precision, accuracy, representativeness, comparability, completeness, and sensitivity were evaluated to determine if the project's DQOs were met. A review of the data revealed that the majority of QA/QC indicators were within acceptable control limits. Any data anomalies encountered during data validation and overall site evaluations have been summarized in the previous sections of this document.

Based on the results of data validation and QA review, IT has concluded that representative samples were collected and analyzed and the results are indicative of the media analyzed. The data are to be considered representative of site conditions and are usable for their intended purpose.

### ***4.0 Attachments***

Attachment A - Analytical Summary Table

Attachment B - Data Validation Summary Report

**ATTACHMENT A**  
**ANALYTICAL SUMMARY TABLE**

**Ft. McClellan  
Parcel NOM  
Area North of MOUT Site Soil Analytical Summary  
Project No. 796887**

Sample Location	Sample Name	Sample Number	Date Sampled	Sample Depth	Analytical Suite	Sample Type	Sample Purpose
HR-NOM-GP01	HR-NOM-GP01-SS-PP0001-REG	PP0001	23-Jan-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	SS	REG
	HR-NOM-GP01-DS-PP0002-REG	PP0002	23-Jan-02	3 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	REG
	HR-NOM-GP01-DS-PP0002-MS-MS	PP0002-MS	23-Jan-02	3 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	MS
	HR-NOM-GP01-DS-PP0002-MSD-MSD	PP0002-MSD	23-Jan-02	1 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	MSD
HR-NOM-GP02	HR-NOM-GP02-SS-PP0003-REG	PP0003	22-Jan-02	0 to .5 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP02-DS-PP0004-REG	PP0004	22-Jan-02	.5 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
	HR-NOM-GP02-DS-PP0004R-REG	PP0004R	8-Mar-02	1 to 1.5 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP03	HR-NOM-GP03-SS-PP0005-REG	PP0005	22-Jan-02	0 to .5 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP03-DS-PP0006-REG	PP0006	22-Jan-02	.5 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
	HR-NOM-GP03-DS-PP0006R-REG	PP0006R	7-Mar-02	1 to 2 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP04	HR-NOM-GP04-SS-PP0007-REG	PP0007	22-Jan-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	SS	REG
	HR-NOM-GP04-DS-PP0008-REG	PP0008	8-Mar-02	1 to 2.5 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	REG
HR-NOM-GP05	HR-NOM-GP05-SS-PP0010-REG	PP0010	25-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP05-DS-PP0011-REG	PP0011	25-Feb-02	2 to 2.5 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP06	HR-NOM-GP06-SS-PP0012-REG	PP0012	25-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP06-DS-PP0013-REG	PP0013	25-Feb-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP07	HR-NOM-GP07-SS-PP0014-REG	PP0014	25-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP07-DS-PP0015-REG	PP0015	25-Feb-02	3 to 3.5 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP08	HR-NOM-GP08-SS-PP0016-REG	PP0016	22-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP08-DS-PP0017-REG	PP0017	22-Jan-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
	HR-NOM-GP08-DS-PP0018-FD	PP0018	22-Jan-02	2 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	FD

**Ft. McClellan  
Parcel NOM  
Area North of MOUT Site Soil Analytical Summary  
Project No. 796887**

Sample Location	Sample Name	Sample Number	Date Sampled	Sample Depth	Analytical Suite	Sample Type	Sample Purpose
HR-NOM-GP09	HR-NOM-GP09-SS-PP0019-REG	PP0019	25-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP09-DS-PP0020-REG	PP0020	25-Feb-02	1 to 2 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP10	HR-NOM-GP10-SS-PP0021-REG	PP0021	25-Feb-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP10-DS-PP0022-REG	PP0022	25-Feb-02	1 to 2 ft	Volatiles by 8260B CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A	DS	REG
	HR-NOM-GP10-DS-PP0009-FD	PP0009	25-Feb-02	1 to 2 ft	Volatiles by 8260B CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A	DS	FD
HR-NOM-GP11	HR-NOM-GP11-SS-PP0023-REG	PP0023	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP11-DS-PP0024-REG	PP0024	26-Feb-02	1 to 2 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP12	HR-NOM-GP12-SS-PP0025-REG	PP0025	2-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP12-DS-PP0026-REG	PP0026	26-Feb-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP13	HR-NOM-GP13-SS-PP0027-REG	PP0027	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP13-DS-PP0028-REG	PP0028	26-Feb-02	1 to 2 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP14	HR-NOM-GP14-SS-PP0029-REG	PP0029	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP14-DS-PP0030-REG	PP0030	26-Feb-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP15	HR-NOM-GP15-SS-PP0031-REG	PP0031	23-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP15-DS-PP0032-REG	PP0032	23-Jan-02	2 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP16	HR-NOM-GP16-SS-PP0033-REG	PP0033	28-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP16-DS-PP0034-REG	PP0034	28-Jan-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP17	HR-NOM-GP17-SS-PP0035-REG	PP0035	28-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP17-DS-PP0036-REG	PP0036	28-Jan-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP18	HR-NOM-GP18-SS-PP0037-REG	PP0037	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP18-SS-PP0038-FD	PP0038	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	FD
	HR-NOM-GP18-DS-PP0039-REG	PP0039	26-Feb-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-GP19	HR-NOM-GP19-SS-PP0040-REG	PP0040	26-Feb-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-GP19-DS-PP0041-REG	PP0041	26-Feb-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-MW01	HR-NOM-MW01-SS-PP0042-REG	PP0042	23-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-MW01-DS-PP0043-REG	PP0043	7-Mar-02	1 to 3 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG

**Ft. McClellan  
Parcel NOM  
Area North of MOUT Site Soil Analytical Summary  
Project No. 796887**

Sample Location	Sample Name	Sample Number	Date Sampled	Sample Depth	Analytical Suite	Sample Type	Sample Purpose
HR-NOM-MW02	HR-NOM-MW02-SS-PP0044-REG	PP0044	23-Jan-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	SS	REG
	HR-NOM-MW02-DS-PP0045-REG	PP0045	23-Jan-02	3 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	REG
	HR-NOM-MW02-DS-PP0045-MS-MS	PP0045-MS	23-Jan-02	3 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	MS
	HR-NOM-MW02-DS-PP0045-MSD-MSD	PP0045-MSD	23-Jan-02	2 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	MSD
	HR-NOM-MW02-DS-PP0046-FD	PP0046	23-Jan-02	3 to 4 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DS	FD
HR-NOM-MW03	HR-NOM-MW03-SS-PP0047-REG	PP0047	28-Jan-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	SS	REG
	HR-NOM-MW03-DS-PP0048-REG	PP0048	28-Jan-02	3 to 4 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DS	REG
HR-NOM-DEP01	HR-NOM-DEP01-DEP-PP0049-REG	PP0049	13-Mar-02	0 to 1 ft	Nitroaromatics by 8330 TAL Metals by 6010B/7471A	DEP	REG
HR-NOM-DEP02	HR-NOM-DEP02-DEP-PP0050-REG	PP0050	13-Mar-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DEP	REG
	HR-NOM-DEP02-DEP-PP0051-FD	PP0051	13-Mar-02	0 to 1 ft	CI Herbicides by 8151A CI Pesticides by 8081A Nitroaromatics by 8330 OP Pesticides by 8141A Semivolatiles by 8270C TAL Metals by 6010B/7471A Volatiles by 8260B	DEP	FD