APPENDIX F.4

SOIL CORROSIVITY TESTS

NORTH ANNA COL

DATA REPORT REV. 0
JANUARY 23, 2007

MACTEC PROJECT NO. 6468-06-1472

MACTEC

DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT

Project Name: North Anna COL

Project Number: 6468-06-1472

Project Manager: Steve Criscenzo

Project Principal: Al Tice

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD

The information and date contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Project No. 6468-06-1472, North Anna, Lot #: F6J270353

Revised, December 8, 2006

SUBCONTRACTOR: Severn Trent Laboratories, Inc. (STL St. Louis)

DATE OF ACCEPTANCE : December 15, 2006

TECHNICAL REVIEWER: J. Allan Tice

PROJECT PRINCIPAL : J. Allan Tice

DCN NA COL- 177

SEVERN TRENT STL®

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ANALYTICAL REPORT

PROJECT NO. 6468-06-1472

NORTH ANNA

Lot #: F6J270353

J. Allan Tyce

MACTEC Engineering & Consultin
3301 Atlantic Ave
Raleigh, NC 27604

SEVERN TRENT LABORATORIES, INC.

Terry Romanko
Project Manager

DCN NACOL-176
TOTAL No. of Pages 31

December 8, 2006

Case Narrative
LOT NUMBER: F6J270353

This report contains the analytical results for the 16 samples received under chain of custody by STL St. Louis on October 27, 2006. These samples are associated with your NORTH ANNA project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

This report is revised to include chloride data originally missing for three samples.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Anions (Chloride, Sulfate) (MCAWW 300.0A)

The MS recovery for Sulfate in 6317431 is outside the established QC limits due to matrix interference. Method performance is demonstrated by acceptable LCS recoveries.
Affected Samples:
F6J270353 (1): 909-5
F6J270353 (2): 933-5
F6J270353 (3): 929-4
F6J270353 (4): 928-4
F6J270353 (5): 907-3
F6J270353 (6): 921-4
F6J270353 (7): 927-8
F6J270353 (8): 901-4
F6J270353 (9): 927-4
F6J270353 (10): 911-55 911-5 JAZ 12/5/06
F6J270353 (11): 920-12
F6J270353 (12): 920-6
F6J270353 (13): 914-9
F6J270353 (14): 910-5
F6J270353 (15): 920-2
F6J270353 (16): 910-9

Percent Moisture (MCAWW 160.3 Mod)
There were no nonconformances or observations noted with this analysis.

Soil and Waste pH (SW846 9045C)
There were no nonconformances or observations noted with this analysis.

NOTE: FOR EASE OF REFERENCE, TEST REPORTS HAVE BEEN REORDERED BY BORING ORDER.
JAZ MACTEC 12/5/06

METHODS SUMMARY

F6J270353

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F6J270353

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JHFNE	001	909-5	10/25/06	
JHFNN	002	933-5	10/25/06	
JHFNT	003	929-4	10/25/06	
JHFTJ	004	928-4	10/25/06	
JHFTK	005	907-3	10/25/06	
JHFTM	006	921-4	10/25/06	
JHFTT	007	927-8	10/25/06	
JHFTW	008	901-4	10/25/06	
JHFTX	009	927-4	10/25/06	
JHFT0	010	911-55 911-5 JAD 12/15/06	10/25/06	
JHFT1	011	920-12	10/25/06	
JHFT2	012	920-6	10/25/06	
JHFT4	013	914-9	10/25/06	
JHFT7	014	910-5	10/25/06	
JHFT8	015	920-2	10/25/06	
JHFVF	016	910-9	10/25/06	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering and Consulting Inc

Client Sample ID: 901-4

General Chemistry

Lot-Sample #...: F6J270353-008 Work Order #...: JHFTW Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 8.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.8	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	ND	2.2	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1		Analysis Time..: 08:53		
Percent Moisture	8.9	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	ND	5.5	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 08:53		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering and Consulting Inc

Client Sample ID: 907-3

General Chemistry

Lot-Sample #...: F6J270353-005 Work Order #...: JHFTK Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	4.8	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	51.1 J	2.3	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1		Analysis Time..: 07:57		
Percent Moisture	14.5	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	ND	5.8	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:57		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 909-5

General Chemistry

Lot-Sample #...: F6J270353-001 Work Order #...: JHFNE Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 24

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.4	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	137 J	26.5	mg/kg	MCAWW 300.0A	11/27/06	6332273
		Dilution Factor: 10		Analysis Time..: 04:20		
Percent Moisture	24.4	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	6.7	6.6	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 06:06		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 910-5

General Chemistry

Lot-Sample #...: F6J270353-014 Work Order #...: JHFT7 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.8	0.10	No Units	SW846 9045C	11/01/06	6305182
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	3.6 J	2.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 08:33		
Percent Moisture	14.3	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	5.1 B	5.8	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 08:33		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 910-9

General Chemistry

Lot-Sample #...: F6J270353-016 Work Order #...: JHFVF Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 6.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.7	0.10	No Units	SW846 9045C	11/01/06	6305182
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	5.2 J	2.1	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 09:47		
Percent Moisture	6.1	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	4.2 B	5.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 09:47		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 911-5

General Chemistry

Lot-Sample #...: F6J270353-010 Work Order #...: JHFT0 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.6	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	3.4 J	2.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 07:19		
Percent Moisture	14.5	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	ND	5.8	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:19		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 914-9

General Chemistry

Lot-Sample #...: F6J270353-013 Work Order #...: JHFT4 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.8	0.10	No Units	SW846 9045C	11/01/06	6305182
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	8.4 J	2.4	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 08:15		
Percent Moisture	18.3	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	ND	6.1	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 08:15		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 920-2

General Chemistry

Lot-Sample #...: F6J270353-015 Work Order #...: JHFT8 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 4.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.9	0.10	No Units	SW846 9045C	11/01/06	6305182
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	1.5 B,J	2.1	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 09:29		
Percent Moisture	4.9	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	7.5	5.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 09:29		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 920-6

General Chemistry

Lot-Sample #...: F6J270353-012 Work Order #...: JHFT2 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 21

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.5	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	63.0 J	2.5	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 07:56		
Percent Moisture	20.9	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	7.5	6.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:56		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 920-12

General Chemistry

Lot-Sample #...: F6J270353-011 Work Order #...: JHFT1 Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.9	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	1.4 B,J	2.2	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 07:37		
Percent Moisture	10.4	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	2.3 B	5.6	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:37		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 921-4

General Chemistry

Lot-Sample #...: F6J270353-006 Work Order #...: JHFTM Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	7.0	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4.4 J	2.4	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1		Analysis Time..: 08:16		
Percent Moisture	18.2	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	10.8	6.1	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 08:16		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: 927-4

General Chemistry

Lot-Sample #...: F6J270353-009 Work Order #...: JHFTX Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 5.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.8	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	2.8 J	2.1	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317430
		Dilution Factor: 1		Analysis Time..: 07:00		
Percent Moisture	5.9	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	4.3 B	5.3	mg/kg	MCAWW 300.0A	11/08-11/09/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 927-8

General Chemistry

Lot-Sample #...: F6J270353-007 Work Order #...: JHFTT Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 13

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	7.4	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	5.6 J	2.3	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1		Analysis Time..: 08:34		
Percent Moisture	13.0	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	3.4 B	5.7	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 08:34		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 928-4

General Chemistry

Lot-Sample #...: F6J270353-004 Work Order #...: JHFTJ Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.8	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	120 J	24.0	mg/kg	MCAWW 300.0A	11/27/06	6332273
		Dilution Factor: 10		Analysis Time..: 04:55		
Percent Moisture	16.5	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	4.9 B	6.0	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 07:02		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 929-4

General Chemistry

Lot-Sample #...: F6J270353-003 Work Order #...: JHFNT Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.9	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	2.8 J	2.4	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1		Analysis Time..: 06:43		
Percent Moisture	17.6	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	2.7 B	6.1	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 06:43		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

MACTEC Engineering and Consulting Inc

Client Sample ID: 933-5

General Chemistry

Lot-Sample #...: F6J270353-002 Work Order #...: JHFNN Matrix.....: SOLID
Date Sampled...: 10/25/06 Date Received..: 10/27/06
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	5.4	0.10	No Units	SW846 9045C	11/01/06	6305181
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	210 J	24.7	mg/kg	MCAWW 300.0A	11/27/06	6332273
		Dilution Factor: 10		Analysis Time..: 04:37		
Percent Moisture	19.1	0.10	%	MCAWW 160.3 MOD	10/31-11/01/06	6304055
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	3.0 B	6.2	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1		Analysis Time..: 06:25		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F6J270353

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: JJLC51AA		MB Lot-Sample #:	F6K130000-430	
	0.49 B	2.0	mg/kg	MCAWW 300.0A	11/08/06	6317430
		Dilution Factor: 1				
		Analysis Time..: 07:39				
Chloride		Work Order #: JKEV11AA		MB Lot-Sample #:	F6K280000-273	
	0.47 B	2.0	mg/kg	MCAWW 300.0A	11/27/06	6332273
		Dilution Factor: 1				
		Analysis Time..: 12:13				
Sulfate		Work Order #: JJLC91AA		MB Lot-Sample #:	F6K130000-431	
	ND	5.0	mg/kg	MCAWW 300.0A	11/08/06	6317431
		Dilution Factor: 1				
		Analysis Time..: 07:39				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F6J270353

Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#:JKEV11AC-LCS/JKEV11AD-LCSD				LCS Lot-Sample#: F6K280000-273	
	97	(90 - 110)			MCAWW 300.0A	11/27/06	6332273
	109	(90 - 110)	11	(0-20)	MCAWW 300.0A	11/27/06	6332273

Dilution Factor: 1 Analysis Time..: 11:56

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353

Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	100	(99 - 101)	Work Order #: JHN261AA LCS Lot-Sample#: F6K010000-181 SW846 9045C Dilution Factor: 1 Analysis Time..: 00:00	11/01/06	6305181
pH (solid)	100	(99 - 101)	Work Order #: JHN3A1AA LCS Lot-Sample#: F6K010000-182 SW846 9045C Dilution Factor: 1 Analysis Time..: 00:00	11/01/06	6305182
Chloride	94	(90 - 110)	Work Order #: JJLC51AC LCS Lot-Sample#: F6K130000-430 MCAWW 300.0A Dilution Factor: 1 Analysis Time..: 07:20	11/08/06	6317430
Sulfate	93	(90 - 110)	Work Order #: JJLC91AC LCS Lot-Sample#: F6K130000-431 MCAWW 300.0A Dilution Factor: 1 Analysis Time..: 07:20	11/08/06	6317431

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353
Date Sampled...: 06/24/06 Date Received..: 10/21/06 Matrix.....: SOLID

Percnt Moisture: 37

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride	91	Work Order #...: JG2PE1AF (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F6J220106-008 11/08/06	6317430
		Dilution Factor: 1	Analysis Time..: 04:52		
Sulfate	86 N	Work Order #...: JG2PE1AH (90 - 110)	MCAWW 300.0A	MS Lot-Sample #: F6J220106-008 11/08/06	6317431
		Dilution Factor: 1	Analysis Time..: 04:52		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353 **Work Order #...:** JHFVF-SMP JHFVF-DUP **Matrix.....:** SOLID

Date Sampled...: 10/25/06 **Date Received..:** 10/27/06

% Moisture.....: 6.1

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F6J270353-016	
	6.1	7.9	%	27	(0-30)	MCAWW 160.3 MOD	10/31-11/01/06	6304055

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353 Work Order #...: JHFNE-SMP JHFNE-DUP Matrix.....: SOLID

Date Sampled...: 10/25/06 Date Received..: 10/27/06

% Moisture.....: 24

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #:	F6J270353-001	
	5.4	5.4	No Units	1.1	(0-20)	SW846 9045C	11/01/06	6305181

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353 **Work Order #...:** JHJN5-SMP JHJN5-DUP **Matrix.....:** SOLID

Date Sampled...: 10/30/06 10:25 **Date Received..:** 10/30/06

% Moisture.....: 37

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #:	F6J300175-001	
	6.8	6.5	No Units	3.6	(0-20)	SW846 9045C	11/01/06	6305182

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6J270353 **Work Order #...:** JG2PE-SMP JG2PE-DUP **Matrix.....:** SOLID

Date Sampled...: 06/24/06 **Date Received..:** 10/21/06

% Moisture.....: 19

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride								
	1.9 B,J	2.0 B	mg/kg	0.62	(0-20)	SD Lot-Sample #: MCAWW 300.0A	F6J220106-008 11/08/06	6317430
			Dilution Factor: 1			Analysis Time..: 04:52		
Sulfate								
	3.0 B	2.8 B	mg/kg	5.2	(0-20)	SD Lot-Sample #: MCAWW 300.0A	F6J220106-008 11/08/06	6317431
			Dilution Factor: 1			Analysis Time..: 04:52		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

LOT# F6J270353

STL ST. LOUIS

aR4783

CHAIN OF CUSTODY RECORD
NORTH ANNA COL GEOLOGIC/GEOTECHNICAL EXPLORATION
MACTEC JOB NO. 6468-06-1472

No. NA-7 1 of 2

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	INTENDED USE	REMARKS LAB ASS #1
909-5	JAR	2B	10/25	Chemical Test LAB ASS. 06-202	~~LAB ASSIGN~~ 10/24/06
933-5	JAR				06-207
929-4					06-207
928-4					06-207
907-3					06-202
921-4					06-207
927-8				120 gall for all 10.27.06	06-207
901-4					06-202
927-4					06-207
911-55					06-202
920-12					06-207
920-6					06-207
914-9					06-202
910-5	JAR				06-202

Relinquished by:	Date/Time	Received by:	Relinquished by:	Received by:	Date/Time
[signature] (signature)	10/26/06 5pm	(signature)	(signature)	(signature:	
Relinquished by:	**Date/Time**	**Received by:**	**Relinquished by:**	**Received at Laboratory**	**Date/Time**
(signature)		(signature)	(signature)	(signature)	

Remarks: If relinquishing to a common carrier or Fed Ex – write freight bill or tracking number here. FEDEX 7928-7305-8827

Samples taken from SPT Jar samples in accordance with WI #16

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

Received by: Jill Clarke 10-27-06 0800

DCN No. NA COL 113

REVISED 29

CHAIN OF CUSTODY RECORD
NORTH ANNA COL GEOLOGIC/GEOTECHNICAL EXPLORATION
MACTEC JOB NO. 6468-06-1472

No. NA-7
2 of 2

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	INTENDED USE	REMARKS LAB Assignment
902-2	JAR	[illegible]	10/25/06	chemical testing	06-202
910-9	JAR	[illegible]	↓		06-202

Relinquished by:	Date/Time	Received by:	Relinquished by:	Received by:	Date/Time
[illegible] (signature)	10/26/06 5pm	(signature)	(signature)	(signature:	
Relinquished by:	**Date/Time**	**Received by:**	**Relinquished by:**	**Received at Laboratory**	**Date/Time**
(signature)		(signature)	(signature)	(signature)	

Remarks: If relinquishing to a common carrier or Fed Ex – write freight bill or tracking number here. FED EX 7928-7305-9827

Samples taken from SPT JAR samples in accordance with WI# 16

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

Received by: Jill Clark 10-27-06 0800

DCN No. NA CW 113

REVISED 30

STL St. Louis

Lot #(s): F6J270353

- 4783 -

Condition Upon Receipt Form

Client: Mactec
Quote No: 71966
COC/RFA No: NA-7
Initiated By:
Date: 10-27-06
Time: 0800

Shipping Information

Shipper Name: Fed Ex
Shipping # (s):*
1. 7928 7305 8827
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages Y (N) N/A
Sample Temperature (s):**
1. Ambient
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Was sample received broken?	8.	(Y) N	Sample received with Chain of Custody?
2.	Y N (N/A)	Was sample received with proper pH[1] ? (If not, make note below)	9.	(Y) N	Chain of Custody matches sample ID's on container(s)?
3.	Y N	If N/A-Was pH taken by original STL Lab?	10.	Y (N)	Are there custody seals present on cooler?
4.	(Y) N	Sample received in proper containers?	11.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?
5.	(Y) N	Sample volume sufficient for analysis?	12.	Y (N)	Are there custody seals present on bottles?
6.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)	13.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
7.	(Y) N	Were contents of the cooler frisked after opening	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: Date: 10/30/06

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 03/01/06\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004030106.doc

MACTEC

DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT

Project Name: North Anna COL

Project Number: 6468-06-1472

Project Manager: Steve Criscenzo

Project Principal: Al Tice

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD

The information and date contained in the attached report are hereby released by MACTEC for project use.

REPORT : Analytical Report Project No. 6468-06-1472, North Anna, Lot #: F6L140293

Dated January 9, 2007

SUBCONTRACTOR: Severn Trent Laboratories, Inc. (STL St. Louis)

DATE OF ACCEPTANCE : January 10, 2007

TECHNICAL REVIEWER: J. Allan Tice J Allan Tice 1-10-07

PROJECT PRINCIPAL : J. Allan Tice

DCN NA COL- 195

SEVERN TRENT STL®

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. JOB # 6468-06-1472

NORTH ANNA COL GEOLOGIC

Lot #: F6L140293

J. Allan Tyce

MACTEC Engineering & Consultin
3301 Atlantic Ave
Raleigh, NC 27604

SEVERN TRENT LABORATORIES, INC.

Terry Romanko
Project Manager

January 9, 2007

DCN NACOL 196

Case Narrative
LOT NUMBER: F6L140293

This report contains the analytical results for the four samples received under chain of custody by STL St. Louis on December 13, 2006. These samples are associated with your NORTH ANNA COL GEOLOGIC project.

The analytical results included in this report meet all applicable quality control procedure requirements.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F6L140293

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F6L140293

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JLG78	001	B-945-5	12/12/06	
JLG8L	002	B-918-3	12/12/06	
JLG8N	003	B-947-7	12/12/06	
JLG8T	004	B-948-3	12/12/06	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering and Consulting Inc

Client Sample ID: B-918-3

General Chemistry

Lot-Sample #...: F6L140293-002 Work Order #...: JLG8L Matrix.....: SOLID
Date Sampled...: 12/12/06 Date Received..: 12/13/06
% Moisture.....: 11

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.9	0.10	No Units	SW846 9045C	12/20/06	6354216
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	8.0 J	2.2	mg/kg	MCAWW 300.0A	01/04-01/05/07	7005059
		Dilution Factor: 1		Analysis Time..: 02:29		
Percent Moisture	10.9	0.10	%	MCAWW 160.3 MOD	12/19-12/20/06	6353336
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	9.4	5.6	mg/kg	MCAWW 300.0A	01/04-01/05/07	7005060
		Dilution Factor: 1		Analysis Time..: 02:29		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

5 Jan 1-10-07

Note pages 6 & 7 switched
so test results are in boring order
MACTEC 1-10-07

MACTEC Engineering and Consulting Inc

Client Sample ID: B-945-5

General Chemistry

Lot-Sample #...: F6L140293-001 **Work Order #...:** JLG78 **Matrix.....:** SOLID
Date Sampled...: 12/12/06 **Date Received..:** 12/13/06
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**6.4**	**0.10**	**No Units**	**SW846 9045C**	**12/20/06**	**6354216**
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	**6.9 J**	**2.4**	**mg/kg**	**MCAWW 300.0A**	**01/04-01/05/07**	**7005059**
		Dilution Factor: 1		Analysis Time..: 01:52		
Percent Moisture	**17.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/19-12/20/06**	**6353336**
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	**3.1 B**	**6.1**	**mg/kg**	**MCAWW 300.0A**	**01/04-01/05/07**	**7005060**
		Dilution Factor: 1		Analysis Time..: 01:52		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

Note: Pages 5 & 6 switched
so test results are in boring order
JG Lui Mactec 1-10-07

MACTEC Engineering and Consulting Inc

Client Sample ID: B-947-7

General Chemistry

Lot-Sample #...: F6L140293-003 Work Order #...: JLG8N Matrix.....: SOLID
Date Sampled...: 12/12/06 Date Received..: 12/13/06
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	6.4	0.10	No Units	SW846 9045C	12/20/06	6354216
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	21.4 J	2.5	mg/kg	MCAWW 300.0A	01/04-01/05/07	7005059
		Dilution Factor: 1		Analysis Time..: 03:44		
Percent Moisture	18.7	0.10	%	MCAWW 160.3 MOD	12/19-12/20/06	6353336
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	6.4	6.1	mg/kg	MCAWW 300.0A	01/04-01/05/07	7005060
		Dilution Factor: 1		Analysis Time..: 03:44		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MACTEC Engineering and Consulting Inc

Client Sample ID: B-948-3

General Chemistry

Lot-Sample #...: F6L140293-004 **Work Order #...:** JLG8T **Matrix.....:** SOLID
Date Sampled...: 12/12/06 **Date Received..:** 12/13/06
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**5.7**	**0.10**	**No Units**	**SW846 9045C**	**12/20/06**	**6354216**
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	**3.8 J**	**2.3**	**mg/kg**	**MCAWW 300.0A**	**01/04-01/05/07**	**7005059**
		Dilution Factor: 1		Analysis Time..: 04:21		
Percent Moisture	**12.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/19-12/20/06**	**6353336**
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	ND	5.7	mg/kg	MCAWW 300.0A	01/04-01/05/07	7005060
		Dilution Factor: 1		Analysis Time..: 04:21		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F6L140293 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: JMGQN1AA		MB Lot-Sample #:	F7A050000-059	
	0.49 B	**2.0**	**mg/kg**	**MCAWW 300.0A**	**01/04/07**	**7005059**
		Dilution Factor: 1				
		Analysis Time..: 06:32				
Sulfate		Work Order #: JMGQQ1AA		MB Lot-Sample #:	F7A050000-060	
	ND	5.0	mg/kg	MCAWW 300.0A	01/04/07	7005060
		Dilution Factor: 1				
		Analysis Time..: 06:32				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F6L140293 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		WO#:JMGQN1AC-LCS/JMGQN1AD-LCSD				LCS Lot-Sample#: F7A050000-059	
	105	(90 - 110)			MCAWW 300.0A	01/04/07	7005059
	105	(90 - 110)	0.34	(0-20)	MCAWW 300.0A	01/04/07	7005059
		Dilution Factor: 1			Analysis Time..: 06:13		
Sulfate		WO#:JMGQQ1AC-LCS/JMGQQ1AD-LCSD				LCS Lot-Sample#: F7A050000-060	
	101	(90 - 110)			MCAWW 300.0A	01/04/07	7005060
	100	(90 - 110)	1.2	(0-20)	MCAWW 300.0A	01/04/07	7005060
		Dilution Factor: 1			Analysis Time..: 06:13		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F6L140293 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)		Work Order #: JLVG41AA	LCS Lot-Sample#: F6L200000-216		
	100	(99 - 101)	SW846 9045C	12/20/06	6354216
		Dilution Factor: 1	Analysis Time..: 00:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F6L140293 **Matrix.....:** SOLID
Date Sampled...: 05/15/06 **Date Received..:** 12/11/06

Percnt Moisture: 46

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #...: JK8N21AE		MS Lot-Sample #: F6L110212-001	
	103	(90 - 110)	MCAWW 300.0A	01/04/07	7005059
		Dilution Factor: 1	Analysis Time..: 08:18		
Sulfate		Work Order #...: JK8N21AG		MS Lot-Sample #: F6L110212-001	
	94	(90 - 110)	MCAWW 300.0A	01/04/07	7005060
		Dilution Factor: 1	Analysis Time..: 08:18		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6L140293 **Work Order #...:** JLPV4-SMP JLPV4-DUP **Matrix.....:** SOLID

Date Sampled...: 12/14/06 14:45 **Date Received..:** 12/16/06

% Moisture.....: 46

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F6L180202-002	
	46.1	43.7	%	5.2	(0-30)	MCAWW 160.3 MOD	12/19-12/20/06	6353336

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6L140293 **Work Order #...:** JLG3M-SMP JLG3M-DUP **Matrix.....:** SOLID

Date Sampled...: 11/30/06 12:30 **Date Received..:** 12/14/06

% Moisture.....: 4.0

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #:	F6L140269-001	
	8.3	8.5	No Units	2.7	(0-20)	SW846 9045C	12/20/06	6354216

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F6L140293 **Work Order #...:** JK8N2-SMP JK8N2-DUP **Matrix.....:** SOLID

Date Sampled...: 05/15/06 **Date Received..:** 12/11/06

% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride						SD Lot-Sample #:	F6L110212-001	
	1.9 B,J	1.8 B	mg/kg	5.2	(0-20)	MCAWW 300.0A	01/04/07	7005059
			Dilution Factor: 1			Analysis Time..: 08:18		
Sulfate						SD Lot-Sample #:	F6L110212-001	
	4.2 B	4.1 B	mg/kg	1.8	(0-20)	MCAWW 300.0A	01/04/07	7005060
			Dilution Factor: 1			Analysis Time..: 08:18		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CR 5511

CHAIN OF CUSTODY RECORD
NORTH ANNA COL GEOLOGIC/GEOTECHNICAL EXPLORATION
MACTEC JOB NO. 6468-06-1472

No. _____

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	INTENDED USE	REMARKS
B-945-5	Jar	LBJ	12/12/06	Chemical Anal. Lab Tests	820g
B-918-3	↓	↓	↓	↓	↓ 12.13.06
B-947-7					
B-948-3					

Relinquished by:	Date/Time	Received by:	Relinquished by:	Received by:	Date/Time
(signature)	12/12/06	Fed Ex: 792898307644 (signature)	(signature)	(signature:	12.13.06 0900
Relinquished by: (signature)	Date/Time	Received by: (signature)	Relinquished by: (signature)	Received at Laboratory (signature)	Date/Time

Remarks: If relinquishing to a common carrier or Fed Ex – write freight bill or tracking number here.

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

DCN No. _____

- 5511 -

Condition Upon Receipt Form

Client: Mactec COC/RFA No: N/A Date 12-13-06
Quote No: V11964 Initiated By: [illegible] Time: 0900

Shipping Information

Shipper Name: Fed Ex

Multiple Packages Y (N) N/A

Shipping # (s):*
1. 7928 9830 7644
2.
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**
1. Ambient
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Was sample received broken?	8.	(Y) N	Sample received with Chain of Custody?
2.	Y N (N/A)	Was sample received with proper pH[1] ? (If not, make note below)	9.	(Y) N	Chain of Custody matches sample ID's on container(s)?
3.	Y N	If N/A-Was pH taken by original STL Lab?	10.	Y (N)	Are there custody seals present on cooler?
4.	(Y) N	Sample received in proper containers?	11.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?
5.	Y N ?	Sample volume sufficient for analysis?	12.	Y (N)	Are there custody seals present on bottles?
6.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)	13.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
7.	(Y) N	Were contents of the cooler frisked after opening	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: Informed by:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: If released, notify:

Project Management Review: [signature] Date: 12/15/06

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

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