

2010 DEC 13 AM 10:36

December 9, 2010

Mr. Emerson C. Raulerson, P.E.  
Florida Department of Environmental Protection  
Northeast District  
7825 Bay Meadows Way, Suite B200  
Jacksonville, FL 32256-7590

RE: Pond # 2 Surface Water Quality Analytical Data  
Trail Ridge Landfill Inc.  
WACS Facility Identification Number 33628  
Permit No. 0013493-017-SO

Dear Mr. Raulerson:

Heavy rainfall during the week leading up to August 16<sup>th</sup>, 2010 resulted in erosion at Trail Ridge Landfill washing soils and other materials into a storm water retention pond (Pond #2) on the southern and eastern side slope portions of the landfill. FDEP was notified of the erosion and corrective actions were initiated. This erosion issue was subsequently discussed in FDEP's September 23, 2010 letter (#WL10-010SW16NED) and a subsequent meeting with Waste Management on October 11<sup>th</sup>. As requested by the Department in an email dated October 26, 2010, Waste Management conducted sampling of Pond #2. The results of this sampling event are discussed below.

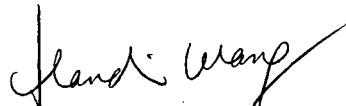
On November 11, 2010 Pro-Tech Environmental Services collected three surface water samples from Pond #2 and submitted them to Columbia Analytical Services Laboratory for analysis for the surface water parameters listed in Attachment 9 referenced in specific condition 46.c. of the facility's permit. Samples were collected near the center of the pond mid water, the northern portion of pond mid water from near outfall mid water as requested by the FDEP. Field parameters (including pH, temperature, conductivity, dissolved oxygen, turbidity, ORP, and color) were also measured during sampling. The parameters detected are summarized in Table 1. The laboratory report is attached

The surface water analytical results indicate that dissolved oxygen, iron, and lead concentrations were above the Class III Surface Water Standards. The detection of lead is attributed to sample turbidity which ranged from 70 to 84 NTU's. Fecal coliform counts were above the monthly average limit but were below the any one day limit. No other parameters were detected above Class III standards. No VOCs were

detected above detection limits. The results from this surface water sampling event are generally consistent with historical results and do not indicate any impacts from leachate.

If additional information is required, please contact Mr. Eric Parker at (904) 289-9100 ext. 212 or via email [eparker@wm.com](mailto:eparker@wm.com).

Sincerely,  
HDR Engineering, Inc.



Handi Wang  
Handi Wang, Ph.D., CPSS



Brad M. Stone, P.E.

12-1-2010

Cc: Eric Parker

Attachments

**Table 1**  
**Parameters Detected at Surface Water at Pond #2**  
**Sampling Date: November 11, 2010**  
**Trail Ridge Landfill**

Parameters	Pond #2 Surface Water Test Results			Class III Limit	Unit
	Center	North	South		
Coliform, Fecal	360	<b>490</b>	<b>480</b>	400	cfu/100 ml
Temperature, Field	17.4	17.5	17.3	NA	Deg-C
Biochemical Oxygen Demand (BOD)	4.4	4.2	3.3	NA	mg/L
Carbon, Total Organic (TOC)	20.1	19.7	19.9	NA	
Chemical Oxygen Demand, Total	107	83	86	NA	
Dissolved Oxygen, Field	<b>3.3</b>	<b>4.9</b>	<b>4.1</b>	>5	
Nitrate as Nitrogen	1.76	1.73	1.75	NA	
Nitrogen, Total as Nitrogen	3.75	4.01	4.09	NA	
Orthophosphate as Phosphorus	0.106	0.114	0.111	NA	
Phosphorus, Total	0.11	0.115	0.108	NA	
Solids, Total Dissolved	330	327	326	NA	
Solids, Total Suspended (TSS)	8	11	10.5	NA	
Turbidity, Field	79.83	70.35	84.21	NA*	NTU
pH, Field	6.84	6.71	6.85	6-8.5	S.U.
Conductivity, Field	415	401	415	NA	uS/cm
Antimony, Total Recoverable	1.1I	1.1I	1.4I	4300	ug/L
Arsenic, Total Recoverable	1.76	1.23	1.4	50	
Barium, Total Recoverable	90.7	85.9	90.7	NA	
Cobalt, Total Recoverable	0.4I	0.4I	0.5I	NA	
Iron, Total Recoverable	<b>1810</b>	<b>1880</b>	<b>1760</b>	1000	
Selenium, Total Recoverable	1.9I	ND	ND	5	
Vanadium, Total Recoverable	9.5	8	9	NA	
Hardness, Total as CaCO <sub>3</sub>	154	157	152	NA	mg/L
Chromium, Total Recoverable	4.5	5	5	See Calculated Limit	ug/L
Chromium Calculated Limit	122.7	124.7	121.4		
Copper, Total Recoverable	4.1	4.4	4.2		
Copper Calculated Limit	13.5	13.7	13.3		
Lead, Total Recoverable	<b>15.4</b>	<b>14.8</b>	<b>14.7</b>		
Lead Calculated Limit	5.5	5.6	5.4		
Nickel, Total Recoverable	3.5	3.5	3.4		
Nickel Calculated Limit	75.2	76.4	74.3		
Zinc, Total Recoverable	18	19	17		
Zinc Calculated Limit	172.7	175.6	170.8		

Note:

"I" after the number indicates that the result is below the report limit.

NA - Standard is not established.

Number in Bold phase indicates that the parameter is above Class III limit.

\* - Class III standard for turbidity is 29 NTU's above background

November 24, 2010

Service Request No: J1005461

Eric Parker  
Waste Management, Incorporated  
5100 Us Highway 301 South  
Baldwin, FL 32234

**Laboratory Results for: Trail Ridge**

Dear Eric:

Enclosed are the results of the sample(s) submitted to our laboratory on November 11, 2010. For your reference, these analyses have been assigned our service request number **J1005461**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at [CMyers@caslab.com](mailto:CMyers@caslab.com).

Respectfully submitted,

**Columbia Analytical Services, Inc.**



Craig Myers  
Project Manager

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## COLUMBIA ANALYTICAL SERVICES, INC.

**Client:** Waste Management, Inc.  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request No.:** J1005461  
**Date Received:** 11/11/10

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

#### Sample Receipt

Three water samples and one trip blank were received for analysis at Columbia Analytical Services on 11/11/10. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at  $4\pm2^{\circ}\text{C}$  upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

#### Volatile Organic Compounds by GC-MS

The samples were analyzed for Volatile Organics using EPA Method 8260. The following observations were made regarding this delivery group.

#### Second Source Exceptions

The control criterion was exceeded for the following analyte in Second Source Verification (SSV) ICAL 2358: trans-1,4-Dichloro-2-butene. The analyte in question was not detected in the associated field samples. Since the analyte was detected in the MRL check standard, instrument sensitivity was documented. The data quality was not significantly affected and no further corrective action was taken.

#### Matrix Spike Recovery Exceptions

The matrix spike recoveries of Acetone, Acrylonitrile and 2-Butanone (MEK) for sample Pond #2 - North were outside control criteria. Recoveries in the Laboratory Control Sample (LCS) were acceptable, which indicates the analytical batch was in control. No further corrective action was appropriate.

#### Relative Percent Difference Exceptions

The Relative Percent Difference (RPD) for the following analytes in the replicate matrix spike analyses of Pond #2 - North was outside control criteria: Acrylonitrile, 2-Butanone and trans-1,4-Dichloro-2-butene. The analytes in question were not detected in the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Approved by \_\_\_\_\_



Date 11/24/10

#### Lab Control Sample Exceptions

The spike recoveries of 1,2-Dibromoethane (EDB), 1,2,3-Trichloropropane and trans-1,4-Dichloro-2-butene for Laboratory Control Sample (LCS) JQ1005766-01 were outside the lower control criterion. The analytes in question were not detected in the associated field samples. Since the analytes were detected in the MRL check standard, instrument sensitivity was documented. The data is flagged to indicate the problem.

#### Metals by ICP-MS/ICP-OES/CVAA

The samples were analyzed for Total Metals using EPA Methods 6020/6010B/7470A. No problems were observed.

#### General Chemistry Parameters

The samples were analyzed for Inorganic Parameters using various EPA and Standard Methods. No problems were observed.

#### Subcontracted Analytical Parameters

The samples were delivered to ENCO Labs in Jacksonville, FL on 11/12/10 for EPA Method 8011 determination. The certified analytical report has been included in its entirety in Appendix A: Subcontracted Analytical Results.

Approved by  Date 11/24/10

## **Florida DEP Data Qualifiers**

- B Results based upon colony counts outside the acceptable range.
- D Measurement was made in the field.
- H Value based on field kit determination; results may not be accurate.
- i The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J Estimated value (one of the following reasons is discussed in the project case narrative).
  - 1. The result may be inaccurate because the surrogate recovery limits have been exceeded.
  - 2. No known quality control criteria exists for the component.
  - 3. The reported value failed to meet the established quality control criteria for either precision or accuracy.
  - 4. The sample matrix interfered with the ability to make any accurate determination (e.g., primary and confirmation results show greater than 40% RPD).
  - 5. The data is questionable because of improper laboratory or field protocols (e.g., GC/MS Tune did not meet method criteria).
- K Off scale low. The value is less than the lowest calibration standard but greater than the method reporting limit (MRL).
- L Off scale high. The analyte is above the upper limit of the linear calibration range.
- M The MDL/MRL has been elevated because the analyte could not be accurately quantified due to matrix interference.
- N Presumptive evidence of the analyte. Confirmation was not performed.
- Q Sample held beyond the accepted holding time.
- T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only.
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- Y The laboratory analysis was from an improperly preserved sample.
- Z Too many colonies were present (TNTC). The numeric value represents the filtration volume.

## **Acronyms**

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

**Client:**  
**Project:** Trail Ridge

**Service Request:** J1005461

**SAMPLE CROSS-REFERENCE**

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1005461-001	Pond #2 - North	11/11/10	09:30
J1005461-002	Pond #2 - Center	11/11/10	10:01
J1005461-003	Pond #2 - South	11/11/10	10:30
J1005461-004	Trip	11/11/10	00:00

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - North  
**Lab Code:** J1005461-001

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0930  
**Date Received:** 11/11/10

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.180	1	NA	11/22/10 10:59		226413	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	11/22/10 10:59		226413	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.110	1	NA	11/22/10 10:59		226413	
1,1,2-Trichloroethane	ND	U	1.00	0.170	1	NA	11/22/10 10:59		226413	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.130	1	NA	11/22/10 10:59		226413	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	11/22/10 10:59		226413	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	11/22/10 10:59		226413	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	11/22/10 10:59		226413	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.170	1	NA	11/22/10 10:59		226413	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	11/22/10 10:59		226413	
1,2-Dichloroethane	ND	U	1.00	0.180	1	NA	11/22/10 10:59		226413	
1,2-Dichloropropane	ND	U	1.00	0.120	1	NA	11/22/10 10:59		226413	
1,4-Dichlorobenzene	ND	U	1.00	0.100	1	NA	11/22/10 10:59		226413	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	11/22/10 10:59		226413	
2-Hexanone	ND	U	25.0	2.20	1	NA	11/22/10 10:59		226413	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	0.650	1	NA	11/22/10 10:59		226413	
Acetone	ND	U	50.0	5.60	1	NA	11/22/10 10:59		226413	
Acrylonitrile	ND	U	10.0	1.20	1	NA	11/22/10 10:59		226413	
Benzene	ND	U	1.00	0.210	1	NA	11/22/10 10:59		226413	
Bromochloromethane	ND	U	5.00	0.270	1	NA	11/22/10 10:59		226413	
Bromodichloromethane	ND	U	1.00	0.170	1	NA	11/22/10 10:59		226413	
Bromoform	ND	U	2.00	0.420	1	NA	11/22/10 10:59		226413	
Bromomethane	ND	U	1.00	0.220	1	NA	11/22/10 10:59		226413	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	11/22/10 10:59		226413	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	11/22/10 10:59		226413	
Chlorobenzene	ND	U	1.00	0.160	1	NA	11/22/10 10:59		226413	
Chloroethane	ND	U	5.00	0.220	1	NA	11/22/10 10:59		226413	
Chloroform	ND	U	1.00	0.350	1	NA	11/22/10 10:59		226413	
Chloromethane	ND	U	1.00	0.110	1	NA	11/22/10 10:59		226413	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	11/22/10 10:59		226413	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	11/22/10 10:59		226413	
Dibromochloromethane	ND	U	1.00	0.190	1	NA	11/22/10 10:59		226413	
Dibromomethane	ND	U	5.00	0.180	1	NA	11/22/10 10:59		226413	
Ethylbenzene	ND	U	1.00	0.210	1	NA	11/22/10 10:59		226413	
Iodomethane	ND	U	5.00	2.68	1	NA	11/22/10 10:59		226413	
m,p-Xylenes	ND	U	2.00	0.410	1	NA	11/22/10 10:59		226413	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - North  
**Lab Code:** J1005461-001

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0930  
**Date Received:** 11/11/10

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260B**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	11/22/10 10:59		226413	
o-Xylene	ND	U	1.00	0.140	1	NA	11/22/10 10:59		226413	
Styrene	ND	U	1.00	0.291	1	NA	11/22/10 10:59		226413	
Tetrachloroethene (PCE)	ND	U	1.00	0.110	1	NA	11/22/10 10:59		226413	
Toluene	ND	U	1.00	0.190	1	NA	11/22/10 10:59		226413	
trans-1,2-Dichloroethene	ND	U	1.00	0.120	1	NA	11/22/10 10:59		226413	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	11/22/10 10:59		226413	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	11/22/10 10:59		226413	
Trichloroethene (TCE)	ND	U	1.00	0.160	1	NA	11/22/10 10:59		226413	
Trichlorofluoromethane	ND	U	20.0	0.220	1	NA	11/22/10 10:59		226413	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	11/22/10 10:59		226413	
Vinyl Chloride	ND	U	1.00	0.220	1	NA	11/22/10 10:59		226413	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	88	71-122	11/22/10 10:59	
4-Bromofluorobenzene	102	75-120	11/22/10 10:59	
Dibromofluoromethane	92	82-116	11/22/10 10:59	
Toluene-d8	104	88-117	11/22/10 10:59	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - Center  
**Lab Code:** J1005461-002

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1001  
**Date Received:** 11/11/10

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.180	1	NA	11/22/10 11:30			226413
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	11/22/10 11:30			226413
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.110	1	NA	11/22/10 11:30			226413
1,1,2-Trichloroethane	ND	U	1.00	0.170	1	NA	11/22/10 11:30			226413
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.130	1	NA	11/22/10 11:30			226413
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	11/22/10 11:30			226413
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	11/22/10 11:30			226413
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	11/22/10 11:30			226413
1,2-Dibromoethane (EDB)	ND	U	1.00	0.170	1	NA	11/22/10 11:30			226413
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	11/22/10 11:30			226413
1,2-Dichloroethane	ND	U	1.00	0.180	1	NA	11/22/10 11:30			226413
1,2-Dichloropropane	ND	U	1.00	0.120	1	NA	11/22/10 11:30			226413
1,4-Dichlorobenzene	ND	U	1.00	0.100	1	NA	11/22/10 11:30			226413
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	11/22/10 11:30			226413
2-Hexanone	ND	U	25.0	2.20	1	NA	11/22/10 11:30			226413
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	0.650	1	NA	11/22/10 11:30			226413
Acetone	ND	U	50.0	5.60	1	NA	11/22/10 11:30			226413
Acrylonitrile	ND	U	10.0	1.20	1	NA	11/22/10 11:30			226413
Benzene	ND	U	1.00	0.210	1	NA	11/22/10 11:30			226413
Bromochloromethane	ND	U	5.00	0.270	1	NA	11/22/10 11:30			226413
Bromodichloromethane	ND	U	1.00	0.170	1	NA	11/22/10 11:30			226413
Bromoform	ND	U	2.00	0.420	1	NA	11/22/10 11:30			226413
Bromomethane	ND	U	1.00	0.220	1	NA	11/22/10 11:30			226413
Carbon Disulfide	ND	U	10.0	2.36	1	NA	11/22/10 11:30			226413
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	11/22/10 11:30			226413
Chlorobenzene	ND	U	1.00	0.160	1	NA	11/22/10 11:30			226413
Chloroethane	ND	U	5.00	0.220	1	NA	11/22/10 11:30			226413
Chloroform	ND	U	1.00	0.350	1	NA	11/22/10 11:30			226413
Chloromethane	ND	U	1.00	0.110	1	NA	11/22/10 11:30			226413
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	11/22/10 11:30			226413
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	11/22/10 11:30			226413
Dibromochloromethane	ND	U	1.00	0.190	1	NA	11/22/10 11:30			226413
Dibromomethane	ND	U	5.00	0.180	1	NA	11/22/10 11:30			226413
Ethylbenzene	ND	U	1.00	0.210	1	NA	11/22/10 11:30			226413
Iodomethane	ND	U	5.00	2.68	1	NA	11/22/10 11:30			226413
m,p-Xylenes	ND	U	2.00	0.410	1	NA	11/22/10 11:30			226413

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - Center  
**Lab Code:** J1005461-002

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1001  
**Date Received:** 11/11/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Analysis Lot:** 226413

<b>Analyte Name</b>	<b>Result</b>	<b>Q</b>	<b>MRL</b>	<b>MDL</b>	<b>Dilution Factor</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Extraction Lot</b>	<b>Analysis Lot</b>	<b>Note</b>
Methylene Chloride	ND	U	5.00	0.210	1	NA	11/22/10 11:30		226413	
o-Xylene	ND	U	1.00	0.140	1	NA	11/22/10 11:30		226413	
Styrene	ND	U	1.00	0.291	1	NA	11/22/10 11:30		226413	
Tetrachloroethene (PCE)	ND	U	1.00	0.110	1	NA	11/22/10 11:30		226413	
Toluene	ND	U	1.00	0.190	1	NA	11/22/10 11:30		226413	
trans-1,2-Dichloroethene	ND	U	1.00	0.120	1	NA	11/22/10 11:30		226413	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	11/22/10 11:30		226413	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	11/22/10 11:30		226413	
Trichloroethene (TCE)	ND	U	1.00	0.160	1	NA	11/22/10 11:30		226413	
Trichlorofluoromethane	ND	U	20.0	0.220	1	NA	11/22/10 11:30		226413	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	11/22/10 11:30		226413	
Vinyl Chloride	ND	U	1.00	0.220	1	NA	11/22/10 11:30		226413	

<b>Surrogate Name</b>	<b>%Rec</b>	<b>Control Limits</b>	<b>Date Analyzed</b>	<b>Q</b>
1,2-Dichloroethane-d4	88	71-122	11/22/10 11:30	
4-Bromofluorobenzene	96	75-120	11/22/10 11:30	
Dibromofluoromethane	92	82-116	11/22/10 11:30	
Toluene-d8	103	88-117	11/22/10 11:30	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - South  
**Lab Code:** J1005461-003

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1030  
**Date Received:** 11/11/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.180	1	NA	11/22/10 12:01		226413	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	11/22/10 12:01		226413	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.110	1	NA	11/22/10 12:01		226413	
1,1,2-Trichloroethane	ND	U	1.00	0.170	1	NA	11/22/10 12:01		226413	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.130	1	NA	11/22/10 12:01		226413	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	11/22/10 12:01		226413	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	11/22/10 12:01		226413	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	11/22/10 12:01		226413	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.170	1	NA	11/22/10 12:01		226413	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	11/22/10 12:01		226413	
1,2-Dichloroethane	ND	U	1.00	0.180	1	NA	11/22/10 12:01		226413	
1,2-Dichloropropane	ND	U	1.00	0.120	1	NA	11/22/10 12:01		226413	
1,4-Dichlorobenzene	ND	U	1.00	0.100	1	NA	11/22/10 12:01		226413	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	11/22/10 12:01		226413	
2-Hexanone	ND	U	25.0	2.20	1	NA	11/22/10 12:01		226413	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	0.650	1	NA	11/22/10 12:01		226413	
Acetone	ND	U	50.0	5.60	1	NA	11/22/10 12:01		226413	
Acrylonitrile	ND	U	10.0	1.20	1	NA	11/22/10 12:01		226413	
Benzene	ND	U	1.00	0.210	1	NA	11/22/10 12:01		226413	
Bromochloromethane	ND	U	5.00	0.270	1	NA	11/22/10 12:01		226413	
Bromodichloromethane	ND	U	1.00	0.170	1	NA	11/22/10 12:01		226413	
Bromoform	ND	U	2.00	0.420	1	NA	11/22/10 12:01		226413	
Bromomethane	ND	U	1.00	0.220	1	NA	11/22/10 12:01		226413	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	11/22/10 12:01		226413	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	11/22/10 12:01		226413	
Chlorobenzene	ND	U	1.00	0.160	1	NA	11/22/10 12:01		226413	
Chloroethane	ND	U	5.00	0.220	1	NA	11/22/10 12:01		226413	
Chloroform	ND	U	1.00	0.350	1	NA	11/22/10 12:01		226413	
Chloromethane	ND	U	1.00	0.110	1	NA	11/22/10 12:01		226413	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	11/22/10 12:01		226413	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	11/22/10 12:01		226413	
Dibromochloromethane	ND	U	1.00	0.190	1	NA	11/22/10 12:01		226413	
Dibromomethane	ND	U	5.00	0.180	1	NA	11/22/10 12:01		226413	
Ethylbenzene	ND	U	1.00	0.210	1	NA	11/22/10 12:01		226413	
Iodomethane	ND	U	5.00	2.68	1	NA	11/22/10 12:01		226413	
m,p-Xylenes	ND	U	2.00	0.410	1	NA	11/22/10 12:01		226413	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - South  
**Lab Code:** J1005461-003

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1030  
**Date Received:** 11/11/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Analysis Lot:** 226413

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND U	5.00	0.210	1	NA	11/22/10 12:01		226413	
<i>o</i> -Xylene	ND U	1.00	0.140	1	NA	11/22/10 12:01		226413	
Styrene	ND U	1.00	0.291	1	NA	11/22/10 12:01		226413	
Tetrachloroethene (PCE)	ND U	1.00	0.110	1	NA	11/22/10 12:01		226413	
Toluene	ND U	1.00	0.190	1	NA	11/22/10 12:01		226413	
trans-1,2-Dichloroethene	ND U	1.00	0.120	1	NA	11/22/10 12:01		226413	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	NA	11/22/10 12:01		226413	
trans-1,4-Dichloro-2-butene	ND U	20.0	2.20	1	NA	11/22/10 12:01		226413	
Trichloroethene (TCE)	ND U	1.00	0.160	1	NA	11/22/10 12:01		226413	
Trichlorofluoromethane	ND U	20.0	0.220	1	NA	11/22/10 12:01		226413	
Vinyl Acetate	ND U	10.0	1.90	1	NA	11/22/10 12:01		226413	
Vinyl Chloride	ND U	1.00	0.220	1	NA	11/22/10 12:01		226413	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	91	71-122	11/22/10 12:01	
4-Bromofluorobenzene	95	75-120	11/22/10 12:01	
Dibromofluoromethane	95	82-116	11/22/10 12:01	
Toluene-d8	105	88-117	11/22/10 12:01	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Trip  
**Lab Code:** J1005461-004

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0000  
**Date Received:** 11/11/10

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260B**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.180	1	NA	11/22/10 12:33		226413	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	11/22/10 12:33		226413	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.110	1	NA	11/22/10 12:33		226413	
1,1,2-Trichloroethane	ND	U	1.00	0.170	1	NA	11/22/10 12:33		226413	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.130	1	NA	11/22/10 12:33		226413	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	11/22/10 12:33		226413	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	11/22/10 12:33		226413	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	11/22/10 12:33		226413	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.170	1	NA	11/22/10 12:33		226413	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	11/22/10 12:33		226413	
1,2-Dichloroethane	ND	U	1.00	0.180	1	NA	11/22/10 12:33		226413	
1,2-Dichloropropane	ND	U	1.00	0.120	1	NA	11/22/10 12:33		226413	
1,4-Dichlorobenzene	ND	U	1.00	0.100	1	NA	11/22/10 12:33		226413	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	11/22/10 12:33		226413	
2-Hexanone	ND	U	25.0	2.20	1	NA	11/22/10 12:33		226413	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	0.650	1	NA	11/22/10 12:33		226413	
Acetone	ND	U	50.0	5.60	1	NA	11/22/10 12:33		226413	
Acrylonitrile	ND	U	10.0	1.20	1	NA	11/22/10 12:33		226413	
Benzene	ND	U	1.00	0.210	1	NA	11/22/10 12:33		226413	
Bromochloromethane	ND	U	5.00	0.270	1	NA	11/22/10 12:33		226413	
Bromodichloromethane	ND	U	1.00	0.170	1	NA	11/22/10 12:33		226413	
Bromoform	ND	U	2.00	0.420	1	NA	11/22/10 12:33		226413	
Bromomethane	ND	U	1.00	0.220	1	NA	11/22/10 12:33		226413	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	11/22/10 12:33		226413	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	11/22/10 12:33		226413	
Chlorobenzene	ND	U	1.00	0.160	1	NA	11/22/10 12:33		226413	
Chloroethane	ND	U	5.00	0.220	1	NA	11/22/10 12:33		226413	
Chloroform	ND	U	1.00	0.350	1	NA	11/22/10 12:33		226413	
Chloromethane	ND	U	1.00	0.110	1	NA	11/22/10 12:33		226413	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	11/22/10 12:33		226413	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	11/22/10 12:33		226413	
Dibromochloromethane	ND	U	1.00	0.190	1	NA	11/22/10 12:33		226413	
Dibromomethane	ND	U	5.00	0.180	1	NA	11/22/10 12:33		226413	
Ethylbenzene	ND	U	1.00	0.210	1	NA	11/22/10 12:33		226413	
Iodomethane	ND	U	5.00	2.68	1	NA	11/22/10 12:33		226413	
m,p-Xylenes	ND	U	2.00	0.410	1	NA	11/22/10 12:33		226413	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Trip  
**Lab Code:** J1005461-004

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0000  
**Date Received:** 11/11/10  
**Units:** µg/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	0.310	I	5.00	0.210	1	NA	11/22/10 12:33		226413	
o-Xylene	ND	U	1.00	0.140	1	NA	11/22/10 12:33		226413	
Styrene	ND	U	1.00	0.291	1	NA	11/22/10 12:33		226413	
Tetrachloroethene (PCE)	ND	U	1.00	0.110	1	NA	11/22/10 12:33		226413	
Toluene	ND	U	1.00	0.190	1	NA	11/22/10 12:33		226413	
trans-1,2-Dichloroethene	ND	U	1.00	0.120	1	NA	11/22/10 12:33		226413	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	11/22/10 12:33		226413	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	11/22/10 12:33		226413	
Trichloroethene (TCE)	ND	U	1.00	0.160	1	NA	11/22/10 12:33		226413	
Trichlorofluoromethane	ND	U	20.0	0.220	1	NA	11/22/10 12:33		226413	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	11/22/10 12:33		226413	
Vinyl Chloride	ND	U	1.00	0.220	1	NA	11/22/10 12:33		226413	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	87	71-122	11/22/10 12:33	
4-Bromofluorobenzene	107	75-120	11/22/10 12:33	
Dibromofluoromethane	94	82-116	11/22/10 12:33	
Toluene-d8	99	88-117	11/22/10 12:33	

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** JQ1005766-02

**Service Request:** J1005461  
**Date Collected:** NA  
**Date Received:** NA

**Units:** µg/L  
**Basis:** NA

## Volatile Organic Compounds by GC/MS

**Analytical Method:** 8260B**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.180	1	NA	11/22/10 09:26		226413	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	11/22/10 09:26		226413	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.110	1	NA	11/22/10 09:26		226413	
1,1,2-Trichloroethane	ND	U	1.00	0.170	1	NA	11/22/10 09:26		226413	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.130	1	NA	11/22/10 09:26		226413	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	11/22/10 09:26		226413	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	11/22/10 09:26		226413	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	11/22/10 09:26		226413	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.170	1	NA	11/22/10 09:26		226413	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	11/22/10 09:26		226413	
1,2-Dichloroethane	ND	U	1.00	0.180	1	NA	11/22/10 09:26		226413	
1,2-Dichloropropane	ND	U	1.00	0.120	1	NA	11/22/10 09:26		226413	
1,4-Dichlorobenzene	ND	U	1.00	0.100	1	NA	11/22/10 09:26		226413	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	11/22/10 09:26		226413	
2-Hexanone	ND	U	25.0	2.20	1	NA	11/22/10 09:26		226413	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	0.650	1	NA	11/22/10 09:26		226413	
Acetone	ND	U	50.0	5.60	1	NA	11/22/10 09:26		226413	
Acrylonitrile	ND	U	10.0	1.20	1	NA	11/22/10 09:26		226413	
Benzene	ND	U	1.00	0.210	1	NA	11/22/10 09:26		226413	
Bromochloromethane	ND	U	5.00	0.270	1	NA	11/22/10 09:26		226413	
Bromodichloromethane	ND	U	1.00	0.170	1	NA	11/22/10 09:26		226413	
Bromoform	ND	U	2.00	0.420	1	NA	11/22/10 09:26		226413	
Bromomethane	ND	U	1.00	0.220	1	NA	11/22/10 09:26		226413	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	11/22/10 09:26		226413	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	11/22/10 09:26		226413	
Chlorobenzene	ND	U	1.00	0.160	1	NA	11/22/10 09:26		226413	
Chloroethane	ND	U	5.00	0.220	1	NA	11/22/10 09:26		226413	
Chloroform	ND	U	1.00	0.350	1	NA	11/22/10 09:26		226413	
Chloromethane	ND	U	1.00	0.110	1	NA	11/22/10 09:26		226413	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	11/22/10 09:26		226413	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	11/22/10 09:26		226413	
Dibromochloromethane	ND	U	1.00	0.190	1	NA	11/22/10 09:26		226413	
Dibromomethane	ND	U	5.00	0.180	1	NA	11/22/10 09:26		226413	
Ethylbenzene	ND	U	1.00	0.210	1	NA	11/22/10 09:26		226413	
Iodomethane	ND	U	5.00	2.68	1	NA	11/22/10 09:26		226413	
m,p-Xylenes	ND	U	2.00	0.410	1	NA	11/22/10 09:26		226413	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

<b>Client:</b>	Jacksonville, City of	<b>Service Request:</b>	J1005461
<b>Project:</b>	Trail Ridge	<b>Date Collected:</b>	NA
<b>Sample Matrix:</b>	Water	<b>Date Received:</b>	NA
<b>Sample Name:</b>	Method Blank	<b>Units:</b>	µg/L
<b>Lab Code:</b>	JQ1005766-02	<b>Basis:</b>	NA

**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Analysis Lot:** 226413

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	11/22/10 09:26		226413	
o-Xylene	ND	U	1.00	0.140	1	NA	11/22/10 09:26		226413	
Styrene	ND	U	1.00	0.291	1	NA	11/22/10 09:26		226413	
Tetrachloroethene (PCE)	ND	U	1.00	0.110	1	NA	11/22/10 09:26		226413	
Toluene	ND	U	1.00	0.190	1	NA	11/22/10 09:26		226413	
trans-1,2-Dichloroethene	ND	U	1.00	0.120	1	NA	11/22/10 09:26		226413	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	11/22/10 09:26		226413	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	11/22/10 09:26		226413	
Trichloroethene (TCE)	ND	U	1.00	0.160	1	NA	11/22/10 09:26		226413	
Trichlorofluoromethane	ND	U	20.0	0.220	1	NA	11/22/10 09:26		226413	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	11/22/10 09:26		226413	
Vinyl Chloride	ND	U	1.00	0.220	1	NA	11/22/10 09:26		226413	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	89	71-122	11/22/10 09:26	
4-Bromofluorobenzene	98	75-120	11/22/10 09:26	
Dibromofluoromethane	95	82-116	11/22/10 09:26	
Toluene-d8	107	88-117	11/22/10 09:26	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - North  
**Lab Code:** J1005461-001

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0930  
**Date Received:** 11/11/10

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	1.1 I	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:04	
Arsenic, Total Recoverable	6020	1.23	µg/L	0.50	0.40	1	11/15/10	11/17/10 20:04	
Barium, Total Recoverable	6020	85.9	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:04	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	11/15/10	11/17/10 20:04	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	11/15/10	11/17/10 20:04	
Calcium, Total Recoverable	6010B	54.5	mg/L	0.10	0.02	1	11/15/10	11/16/10 13:23	
Chromium, Total Recoverable	6020	5.0	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:04	
Cobalt, Total Recoverable	6020	0.4 I	µg/L	1.0	0.08	1	11/15/10	11/17/10 20:04	
Copper, Total Recoverable	6020	4.4	µg/L	2.0	1.0	1	11/15/10	11/17/10 20:04	
Hardness, Total as CaCO <sub>3</sub>	SM 2340 B	157	mg/L	1.7		1	NA	11/22/10	
Iron, Total Recoverable	6010B	1880	µg/L	100	10	1	11/15/10	11/16/10 13:23	
Lead, Total Recoverable	6020	14.8	µg/L	1.0	0.06	1	11/15/10	11/17/10 20:04	
Magnesium, Total Recoverable	6010B	5.00	mg/L	0.10	0.01	1	11/15/10	11/16/10 13:23	
Mercury, Total	7470A	ND U	µg/L	0.20	0.08	1	11/22/10	11/22/10 15:31	
Nickel, Total Recoverable	6020	3.5	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:04	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	11/15/10	11/17/10 20:04	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	11/15/10	11/17/10 20:04	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	11/15/10	11/17/10 20:04	
Vanadium, Total Recoverable	6020	8.0	µg/L	5.0	0.5	1	11/15/10	11/17/10 20:04	
Zinc, Total Recoverable	6020	19	µg/L	10	2	1	11/15/10	11/17/10 20:04	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Sample Name:** Pond #2 - Center  
**Lab Code:** J1005461-002

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1001  
**Date Received:** 11/11/10

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	1.1 I	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:09	
Arsenic, Total Recoverable	6020	1.76	µg/L	0.50	0.40	1	11/15/10	11/17/10 20:09	
Barium, Total Recoverable	6020	90.7	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:09	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	11/15/10	11/17/10 20:09	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	11/15/10	11/17/10 20:09	
Calcium, Total Recoverable	6010B	53.6	mg/L	0.10	0.02	1	11/15/10	11/16/10 13:27	
Chromium, Total Recoverable	6020	4.5	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:09	
Cobalt, Total Recoverable	6020	0.4 I	µg/L	1.0	0.08	1	11/15/10	11/17/10 20:09	
Copper, Total Recoverable	6020	4.1	µg/L	2.0	1.0	1	11/15/10	11/17/10 20:09	
Hardness, Total as CaCO <sub>3</sub>	SM 2340 B	154	mg/L	1.7		1	NA	11/22/10	
Iron, Total Recoverable	6010B	1810	µg/L	100	10	1	11/15/10	11/16/10 13:27	
Lead, Total Recoverable	6020	15.4	µg/L	1.0	0.06	1	11/15/10	11/17/10 20:09	
Magnesium, Total Recoverable	6010B	5.01	mg/L	0.10	0.01	1	11/15/10	11/16/10 13:27	
Mercury, Total	7470A	ND U	µg/L	0.20	0.08	1	11/22/10	11/22/10 15:35	
Nickel, Total Recoverable	6020	3.5	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:09	
Selenium, Total Recoverable	6020	1.9 I	µg/L	5.0	1.0	1	11/15/10	11/17/10 20:09	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	11/15/10	11/17/10 20:09	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	11/15/10	11/17/10 20:09	
Vanadium, Total Recoverable	6020	9.5	µg/L	5.0	0.5	1	11/15/10	11/17/10 20:09	
Zinc, Total Recoverable	6020	18	µg/L	10	2	1	11/15/10	11/17/10 20:09	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - South  
**Lab Code:** J1005461-003

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1030  
**Date Received:** 11/11/10

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	1.4 I	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:14	
Arsenic, Total Recoverable	6020	1.40	µg/L	0.50	0.40	1	11/15/10	11/17/10 20:14	
Barium, Total Recoverable	6020	90.7	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:14	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	11/15/10	11/17/10 20:14	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	11/15/10	11/17/10 20:14	
Calcium, Total Recoverable	6010B	52.8	mg/L	0.10	0.02	1	11/15/10	11/16/10 13:32	
Chromium, Total Recoverable	6020	5.0	µg/L	2.0	0.3	1	11/15/10	11/17/10 20:14	
Cobalt, Total Recoverable	6020	0.5 I	µg/L	1.0	0.08	1	11/15/10	11/17/10 20:14	
Copper, Total Recoverable	6020	4.2	µg/L	2.0	1.0	1	11/15/10	11/17/10 20:14	
Hardness, Total as CaCO <sub>3</sub>	SM 2340 B	152	mg/L	1.7		1	NA	11/22/10	
Iron, Total Recoverable	6010B	1760	µg/L	100	10	1	11/15/10	11/16/10 13:32	
Lead, Total Recoverable	6020	14.7	µg/L	1.0	0.06	1	11/15/10	11/17/10 20:14	
Magnesium, Total Recoverable	6010B	4.90	mg/L	0.10	0.01	1	11/15/10	11/16/10 13:32	
Mercury, Total	7470A	ND U	µg/L	0.20	0.08	1	11/22/10	11/22/10 15:37	
Nickel, Total Recoverable	6020	3.4	µg/L	2.0	0.2	1	11/15/10	11/17/10 20:14	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	11/15/10	11/17/10 20:14	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	11/15/10	11/17/10 20:14	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	11/15/10	11/17/10 20:14	
Vanadium, Total Recoverable	6020	9.0	µg/L	5.0	0.5	1	11/15/10	11/17/10 20:14	
Zinc, Total Recoverable	6020	17	µg/L	10	2	1	11/15/10	11/17/10 20:14	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Sample Name:** Method Blank  
**Lab Code:** J1005461-MB

**Service Request:** J1005461  
**Date Collected:** NA  
**Date Received:** NA

**Basis:** NA

**Inorganic Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	11/15/10	11/17/10 18:09	
Arsenic, Total Recoverable	6020	ND U	µg/L	0.50	0.40	1	11/15/10	11/17/10 18:09	
Barium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	11/15/10	11/17/10 18:09	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	11/15/10	11/17/10 18:09	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	11/15/10	11/17/10 18:09	
Calcium, Total Recoverable	6010B	ND U	mg/L	0.10	0.02	1	11/15/10	11/16/10 12:14	
Chromium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	11/15/10	11/17/10 18:09	
Cobalt, Total Recoverable	6020	0.2 I	µg/L	1.0	0.08	1	11/15/10	11/17/10 18:09	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	11/15/10	11/17/10 18:09	
Iron, Total Recoverable	6010B	ND U	µg/L	100	4	1	11/15/10	11/16/10 12:14	
Lead, Total Recoverable	6020	ND U	µg/L	1.0	0.06	1	11/15/10	11/17/10 18:09	
Magnesium, Total Recoverable	6010B	0.01 I	mg/L	0.10	0.01	1	11/15/10	11/16/10 12:14	
Mercury, Total	7470A	ND U	µg/L	0.20	0.08	1	11/22/10	11/22/10 15:28	
Nickel, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	11/15/10	11/17/10 18:09	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	11/15/10	11/17/10 18:09	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	11/15/10	11/17/10 18:09	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	11/15/10	11/17/10 18:09	
Vanadium, Total Recoverable	6020	ND U	µg/L	5.0	0.5	1	11/15/10	11/17/10 18:09	
Zinc, Total Recoverable	6020	ND U	µg/L	10	2	1	11/15/10	11/17/10 18:09	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - North  
**Lab Code:** J1005461-001

**Service Request:** J1005461  
**Date Collected:** 11/11/10 0930  
**Date Received:** 11/11/10  
**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen, Unionized	FL NH3UnCalc DEP12Feb01V2	ND U	mg/L	0.01		1	NA	11/19/10	
Biochemical Oxygen Demand (BOD)	SM 5210 B	4.2	mg/L	2.0	2.0	1	NA	11/12/10 14:00	
Carbon, Total Organic (TOC)	SM 5310 B	19.7	mg/L	1.0	0.3	1	NA	11/17/10 07:08	
Chemical Oxygen Demand, Total	SM21 5220 D	83	mg/L	20	2	1	NA	11/18/10 16:03	
Chlorophyll a (Monochromatic)	SM 10200 H	ND U	mg/m³	10	10	10	11/11/10	11/16/10 15:21	
Conductivity, Field	120.1	401	µMHOS/cm			1	NA	11/11/10 09:30	
Dissolved Oxygen, Field	360.1	4.9	mg/L			1	NA	11/11/10 09:30	
Nitrate as Nitrogen	300.0	1.73	mg/L	0.20	0.07	1	NA	11/11/10 14:18	
Nitrogen, Total as Nitrogen	Calculation	4.01	mg/L	0.1		1	NA	11/19/10	
Orthophosphate as Phosphorus	365.1	0.114	mg/L	0.0050	0.0020	1	NA	11/11/10 14:28	
pH, Field	150.1	6.71	pH Units			1	NA	11/11/10 09:30	
Phosphorus, Total	365.1	0.115	mg/L	0.0050	0.0030	1	11/17/10	11/18/10 13:11	
Solids, Total Dissolved	SM 2540 C	327	mg/L	10	10	1	NA	11/12/10 15:24	
Solids, Total Suspended (TSS)	SM 2540 D	11.0	mg/L	5.0	5.0	1	NA	11/12/10 10:41	
Temperature, Field	170.1	17.5	deg C			1	NA	11/11/10 09:30	
Turbidity, Field	180.1	70.35	NTU			1	NA	11/11/10 09:30	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - Center  
**Lab Code:** J1005461-002

**Service Request:** J1005461  
**Date Collected:** 11/11/10 10:01  
**Date Received:** 11/11/10  
**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen, Unionized	FL NH3UnCalc DEP12Feb01V2	ND	U	mg/L	0.01		1	NA	11/19/10	
Biochemical Oxygen Demand (BOD)	SM 5210 B	4.4		mg/L	2.0	2.0	1	NA	11/12/10 14:00	
Carbon, Total Organic (TOC)	SM 5310 B	20.1		mg/L	1.0	0.3	1	NA	11/17/10 07:21	
Chemical Oxygen Demand, Total	SM21 5220 D	107		mg/L	20	2	1	NA	11/18/10 16:04	
Chlorophyll a (Monochromatic)	SM 10200 H	ND	U	mg/m³	6.7	6.7	6.67	11/11/10	11/16/10 15:26	
Conductivity, Field	120.1	415		µMHOS/cm			1	NA	11/11/10 10:01	
Dissolved Oxygen, Field	360.1	3.30		mg/L			1	NA	11/11/10 10:01	
Nitrate as Nitrogen	300.0	1.76		mg/L	0.20	0.07	1	NA	11/11/10 14:33	
Nitrogen, Total as Nitrogen	Calculation	3.75		mg/L	0.1		1	NA	11/19/10	
Orthophosphate as Phosphorus	365.1	0.106		mg/L	0.0050	0.0020	1	NA	11/11/10 14:31	
pH, Field	150.1	6.84		pH Units			1	NA	11/11/10 10:01	
Phosphorus, Total	365.1	0.110		mg/L	0.0050	0.0030	1	11/17/10	11/18/10 13:16	
Solids, Total Dissolved	SM 2540 C	330		mg/L	10	10	1	NA	11/12/10 15:24	
Solids, Total Suspended (TSS)	SM 2540 D	8.0		mg/L	5.0	5.0	1	NA	11/12/10 10:41	
Temperature, Field	170.1	17.4		deg C			1	NA	11/11/10 10:01	
Turbidity, Field	180.1	79.83		NTU			1	NA	11/11/10 10:01	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Pond #2 - South  
**Lab Code:** J1005461-003

**Service Request:** J1005461  
**Date Collected:** 11/11/10 1030  
**Date Received:** 11/11/10  
**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen, Unionized	FL NH3UnCalc DEP12Feb01V2	ND U	mg/L	0.01		1	NA	11/19/10	
Biochemical Oxygen Demand (BOD)	SM 5210 B	3.3	mg/L	2.0	2.0	1	NA	11/12/10 14:00	
Carbon, Total Organic (TOC)	SM 5310 B	19.9	mg/L	1.0	0.3	1	NA	11/17/10 07:35	
Chemical Oxygen Demand, Total	SM21 5220 D	86	mg/L	20	2	1	NA	11/18/10 16:04	
Chlorophyll a (Monochromatic)	SM 10200 H	ND U	mg/m³	6.7	6.7	6.67	11/11/10	11/16/10 15:28	
Conductivity, Field	120.1	415	µMHOS/cm			1	NA	11/11/10 10:30	
Dissolved Oxygen, Field	360.1	4.1	mg/L			1	NA	11/11/10 10:30	
Nitrate as Nitrogen	300.0	1.75	mg/L	0.20	0.07	1	NA	11/11/10 14:48	
Nitrogen, Total as Nitrogen	Calculation	4.09	mg/L	0.1		1	NA	11/19/10	
Orthophosphate as Phosphorus	365.1	0.111	mg/L	0.0050	0.0020	1	NA	11/11/10 14:32	
pH, Field	150.1	6.85	pH Units			1	NA	11/11/10 10:30	
Phosphorus, Total	365.1	0.108	mg/L	0.0050	0.0030	1	11/17/10	11/18/10 13:19	
Solids, Total Dissolved	SM 2540 C	326	mg/L	10	10	1	NA	11/12/10 15:24	
Solids, Total Suspended (TSS)	SM 2540 D	10.5	mg/L	5.0	5.0	1	NA	11/12/10 10:41	
Temperature, Field	170.1	17.3	deg C			1	NA	11/11/10 10:30	
Turbidity, Field	180.1	84.21	NTU			1	NA	11/11/10 10:30	

**COLUMBIA ANALYTICAL SERVICES, INC.**

Analytical Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** J1005461-MB

**Service Request:** J1005461  
**Date Collected:** NA  
**Date Received:** NA  
**Basis:** NA

**General Chemistry Parameters**

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	ND	U	mg/L	2.0	2.0	1	NA	11/12/10 08:50	
Carbon, Total Organic (TOC)	SM 5310 B	ND	U	mg/L	1.0	0.3	1	NA	11/17/10 04:23	
Chemical Oxygen Demand, Total	SM21 5220 D	ND	U	mg/L	20	2	1	NA	11/18/10 16:02	
Chlorophyll a (Monochromatic)	SM 10200 H	ND	U	mg/m³	1.0	1.0	1	NA	11/16/10 15:17	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.07	1	NA	11/11/10 12:34	
Orthophosphate as Phosphorus	365.1	ND	U	mg/L	0.0050	0.0020	1	NA	11/11/10 14:26	
Phosphorus, Total	365.1	ND	U	mg/L	0.0050	0.0030	1	11/17/10	11/18/10 13:18	
Solids, Total Dissolved	SM 2540 C	ND	U	mg/L	10	10	1	NA	11/12/10 15:24	
Solids, Total Suspended (TSS)	SM 2540 D	ND	U	mg/L	5.0	5.0	1	NA	11/12/10 10:41	

**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461**Surrogate Recovery Summary  
Volatile Organic Compounds by GC/MS****Analytical Method:** 8260B**Units:** Percent

<b>Sample Name</b>	<b>Lab Code</b>	<b>Sur1</b>	<b>Sur2</b>	<b>Sur3</b>	<b>Sur4</b>
Pond #2 - North	J1005461-001	88	102	92	104
Pond #2 - Center	J1005461-002	88	96	92	103
Pond #2 - South	J1005461-003	91	95	95	105
Trip	J1005461-004	87	107	94	99
Method Blank	JQ1005766-02	89	98	95	107
Lab Control Sample	JQ1005766-01	87	103	92	103
Pond #2 - NorthMS	JQ1005766-03	90	97	92	101
Pond #2 - NorthDMS	JQ1005766-04	98	96	103	104

**Surrogate Recovery Control Limits (%)**

Sur1	= 1,2-Dichloroethane-d4	71 - 122
Sur2	= 4-Bromofluorobenzene	75 - 120
Sur3	= Dibromofluoromethane	82 - 116
Sur4	= Toluene-d8	88 - 117

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Collected:** 11/11/10  
**Date Received:** 11/11/10  
**Date Analyzed:** 11/22/10

**Matrix Spike Summary**  
**Volatile Organic Compounds by GC/MS**

**Sample Name:** Pond #2 - North                            **Units:** µg/L  
**Lab Code:** J1005461-001                            **Basis:** NA

**Analytical Method:** 8260B

<b>Analyte Name</b>	<b>Sample Result</b>	Pond #2 - NorthMS			Pond #2 - NorthDMS			<b>% Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>			
		Matrix Spike JQ1005766-03			Duplicate Matrix Spike JQ1005766-04								
		<b>Result</b>	<b>Spike Amount</b>	<b>% Rec</b>	<b>Result</b>	<b>Spike Amount</b>	<b>% Rec</b>						
1,1,1,2-Tetrachloroethane	ND	19.6	20.0	98	20.4	20.0	102	82 - 118	4	30			
1,1,1-Trichloroethane (TCA)	ND	19.9	20.0	100	21.4	20.0	107	76 - 130	7	30			
1,1,2,2-Tetrachloroethane	ND	17.9	20.0	90	19.5	20.0	97	72 - 127	8	30			
1,1,2-Trichloroethane	ND	18.5	20.0	93	19.7	20.0	98	77 - 124	6	30			
1,1-Dichloroethane (1,1-DCA)	ND	19.5	20.0	98	19.6	20.0	98	78 - 125	<1	30			
1,1-Dichloroethene (1,1-DCE)	ND	17.9	20.0	90	21.5	20.0	108	79 - 133	18	30			
1,2,3-Trichloropropane	ND	17.1	20.0	86	17.7	20.0	88	76 - 123	3	30			
1,2-Dibromo-3-chloropropane (DBC)	ND	15.4	20.0	77	16.4	20.0	82	54 - 120	7	30			
1,2-Dibromoethane (EDB)	ND	17.7	20.0	88	19.0	20.0	95	81 - 119	7	30			
1,2-Dichlorobenzene	ND	17.5	20.0	87	19.0	20.0	95	77 - 116	9	30			
1,2-Dichloroethane	ND	17.7	20.0	88	20.2	20.0	101	74 - 126	13	30			
1,2-Dichloropropane	ND	18.5	20.0	93	21.3	20.0	106	77 - 122	14	30			
1,4-Dichlorobenzene	ND	18.9	20.0	95	19.8	20.0	99	75 - 115	5	30			
2-Butanone (MEK)	ND	31.6	100	32 *	75.4	100	75	63 - 134	82 *	30			
2-Hexanone	ND	86.0	100	86	87.6	100	88	63 - 142	2	30			
4-Methyl-2-pentanone (MIBK)	ND	84.0	100	84	86.7	100	87	65 - 138	3	30			
Acetone	ND	45.1	100	45 *	39.5	100	40 *	56 - 139	13	30			
Acrylonitrile	ND	50.3	100	50 *	71.0	100	71	68 - 131	34 *	30			
Benzene	ND	19.5	20.0	97	19.3	20.0	97	78 - 123	<1	30			
Bromochloromethane	ND	17.4	20.0	87	21.1	20.0	105	80 - 124	19	30			
Bromodichloromethane	ND	18.8	20.0	94	20.1	20.0	101	79 - 125	7	30			
Bromoform	ND	19.1	20.0	96	19.3	20.0	97	70 - 129	<1	30			
Bromomethane	ND	19.9	20.0	99	23.5	20.0	117	78 - 129	17	30			
Carbon Disulfide	ND	90.2	100	90	106	100	106	71 - 146	16	30			
Carbon Tetrachloride	ND	20.5	20.0	102	21.9	20.0	110	76 - 131	7	30			
Chlorobenzene	ND	19.7	20.0	99	21.5	20.0	107	81 - 120	8	30			
Chloroethane	ND	20.4	20.0	102	23.3	20.0	117	76 - 129	14	30			

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## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Collected:** 11/11/10  
**Date Received:** 11/11/10  
**Date Analyzed:** 11/22/10

**Matrix Spike Summary**  
**Volatile Organic Compounds by GC/MS**

**Sample Name:** Pond #2 - North  
**Lab Code:** J1005461-001

**Units:** µg/L  
**Basis:** NA

**Analytical Method:** 8260B

<b>Analyte Name</b>	<b>Sample Result</b>	Pond #2 - NorthMS			Pond #2 - NorthDMS			<b>% Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>			
		Matrix Spike JQ1005766-03			Duplicate Matrix Spike JQ1005766-04								
		<b>Result</b>	<b>Spike Amount</b>	<b>% Rec</b>	<b>Result</b>	<b>Spike Amount</b>	<b>% Rec</b>						
Chloroform	ND	19.2	20.0	96	21.0	20.0	105	81 - 124	9	30			
Chloromethane	ND	19.9	20.0	100	21.5	20.0	107	73 - 139	7	30			
cis-1,2-Dichloroethene	ND	18.9	20.0	95	19.3	20.0	97	75 - 127	2	30			
cis-1,3-Dichloropropene	ND	20.3	20.0	101	20.6	20.0	103	77 - 117	2	30			
Dibromochloromethane	ND	19.3	20.0	96	19.5	20.0	98	78 - 124	1	30			
Dibromomethane	ND	16.8	20.0	84	19.7	20.0	98	78 - 124	16	30			
Ethylbenzene	ND	21.6	20.0	108	21.8	20.0	109	87 - 122	<1	30			
Iodomethane	ND	98.6	100	99	117	100	117	74 - 134	17	30			
m,p-Xylenes	ND	40.8	40.0	102	45.0	40.0	113	82 - 120	10	30			
Methylene Chloride	ND	17.2	20.0	86	19.6	20.0	98	75 - 123	13	30			
o-Xylene	ND	20.8	20.0	104	22.2	20.0	111	85 - 119	7	30			
Styrene	ND	20.2	20.0	101	20.3	20.0	102	84 - 126	<1	30			
Tetrachloroethene (PCE)	ND	20.7	20.0	104	22.7	20.0	114	79 - 123	9	30			
Toluene	ND	20.7	20.0	104	21.7	20.0	109	86 - 119	5	30			
trans-1,2-Dichloroethene	ND	17.4	20.0	87	20.6	20.0	103	76 - 125	17	30			
trans-1,3-Dichloropropene	ND	19.9	20.0	100	20.2	20.0	101	75 - 120	1	30			
trans-1,4-Dichloro-2-butene	ND	22.6	20.0	113	13.7	20.0	69	22 - 135	49 *	30			
Trichloroethene (TCE)	ND	19.3	20.0	97	23.0	20.0	115	77 - 128	18	30			
Trichlorofluoromethane	ND	20.3	20.0	101	24.8	20.0	124	81 - 133	20	30			
Vinyl Acetate	ND	88.1	100	88	77.6	100	78	43 - 163	13	30			
Vinyl Chloride	ND	21.6	20.0	108	24.9	20.0	125	78 - 141	14	30			

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## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Analyzed:** 11/22/10

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B

**Units:** µg/L  
**Basis:** NA

**Analysis Lot:** 226413**Lab Control Sample**

JQ1005766-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	19.5	20.0	97	85 - 117
1,1,1-Trichloroethane (TCA)	20.8	20.0	104	79 - 124
1,1,2,2-Tetrachloroethane	16.8	20.0	84	83 - 120
1,1,2-Trichloroethane	17.3	20.0	87	86 - 114
1,1-Dichloroethane (1,1-DCA)	20.0	20.0	100	80 - 128
1,1-Dichloroethene (1,1-DCE)	21.0	20.0	105	78 - 130
1,2,3-Trichloropropane	15.4	20.0	77 *	83 - 123
1,2-Dibromo-3-chloropropane (DBCP)	16.0	20.0	80	62 - 123
1,2-Dibromoethane (EDB)	17.0	20.0	85 *	88 - 117
1,2-Dichlorobenzene	18.6	20.0	93	84 - 115
1,2-Dichloroethane	17.9	20.0	90	80 - 124
1,2-Dichloropropane	18.5	20.0	92	79 - 123
1,4-Dichlorobenzene	19.5	20.0	97	83 - 113
2-Butanone (MEK)	81.1	100	81	73 - 127
2-Hexanone	80.7	100	81	71 - 138
4-Methyl-2-pentanone (MIBK)	81.0	100	81	72 - 136
Acetone	78.3	100	78	67 - 133
Acrylonitrile	82.1	100	82	77 - 127
Benzene	19.7	20.0	99	79 - 119
Bromochloromethane	17.0	20.0	85	79 - 129
Bromodichloromethane	18.3	20.0	91	81 - 123
Bromoform	17.4	20.0	87	68 - 129
Bromomethane	20.7	20.0	103	79 - 130
Carbon Disulfide	103	100	103	76 - 138
Carbon Tetrachloride	20.6	20.0	103	81 - 125
Chlorobenzene	20.1	20.0	101	86 - 113
Chloroethane	21.7	20.0	108	74 - 126
Chloroform	19.7	20.0	98	83 - 124
Chloromethane	21.1	20.0	106	67 - 135
cis-1,2-Dichloroethene	19.3	20.0	97	80 - 126
cis-1,3-Dichloropropene	18.2	20.0	91	86 - 123
Dibromochloromethane	17.4	20.0	87	82 - 121

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**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Analyzed:** 11/22/10

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Analytical Method:** 8260B**Units:**  $\mu\text{g/L}$   
**Basis:** NA**Analysis Lot:** 226413

**Lab Control Sample**  
JQ1005766-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromomethane	16.6	20.0	83	83 - 123
Ethylbenzene	21.3	20.0	106	90 - 118
Iodomethane	102	100	102	68 - 134
m,p-Xylenes	42.2	40.0	105	86 - 121
Methylene Chloride	18.1	20.0	90	72 - 124
o-Xylene	21.1	20.0	105	89 - 119
Styrene	19.0	20.0	95	89 - 122
Tetrachloroethene (PCE)	20.3	20.0	102	80 - 121
Toluene	20.9	20.0	105	86 - 117
trans-1,2-Dichloroethene	20.6	20.0	103	77 - 124
trans-1,3-Dichloropropene	17.7	20.0	88	83 - 124
trans-1,4-Dichloro-2-butene	9.39	20.0	47 *	53 - 143
Trichloroethene (TCE)	19.3	20.0	97	76 - 124
Trichlorofluoromethane	21.0	20.0	105	74 - 134
Vinyl Acetate	78.2	100	78	61 - 148
Vinyl Chloride	21.5	20.0	108	78 - 132

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**COLUMBIA ANALYTICAL SERVICES, INC.**

QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Analyzed:** 11/16/10 -  
                           11/22/10

**Lab Control Sample Summary**  
**Inorganic Parameters**

**Units:** µg/L  
**Basis:** NA

**Lab Control Sample**  
**J1005461-LCS**

<b>Analyte Name</b>	<b>Method</b>	<b>Result</b>	<b>Spike</b>	<b>% Rec</b>	<b>% Rec Limits</b>
			<b>Amount</b>		
Antimony, Total Recoverable	6020	50.5	50.0	101	80 - 120
Arsenic, Total Recoverable	6020	50.2	50.0	100	80 - 120
Barium, Total Recoverable	6020	49.4	50.0	99	80 - 120
Beryllium, Total Recoverable	6020	49.1	50.0	98	80 - 120
Cadmium, Total Recoverable	6020	48.0	50.0	96	80 - 120
Chromium, Total Recoverable	6020	47.6	50.0	95	80 - 120
Cobalt, Total Recoverable	6020	48.6	50.0	97	80 - 120
Copper, Total Recoverable	6020	49.0	50.0	98	80 - 120
Iron, Total Recoverable	6010B	2120	2000	106	80 - 120
Lead, Total Recoverable	6020	48.8	50.0	98	80 - 120
Mercury, Total	7470A	5.04	5.00	101	80 - 120
Nickel, Total Recoverable	6020	48.4	50.0	97	80 - 120
Selenium, Total Recoverable	6020	49.7	50.0	99	80 - 120
Silver, Total Recoverable	6020	49.9	50.0	100	80 - 120
Thallium, Total Recoverable	6020	48.4	50.0	97	80 - 120
Vanadium, Total Recoverable	6020	48.2	50.0	96	80 - 120
Zinc, Total Recoverable	6020	97.0	100	97	80 - 120

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**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Analyzed:** 11/16/10 -  
11/22/10

**Lab Control Sample Summary**  
**Inorganic Parameters**

**Units:** mg/L  
**Basis:** NA

**Lab Control Sample**

J1005461-LCS

	<b>Spike</b>	<b>% Rec</b>
	Amount	% Rec

<b>Analyte Name</b>	<b>Method</b>	<b>Result</b>			
Calcium, Total Recoverable	6010B	20.5	20.0	102	80 - 120
Magnesium, Total Recoverable	6010B	9.93	10.0	99	80 - 120

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**COLUMBIA ANALYTICAL SERVICES, INC.**

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Collected:** 11/11/10  
**Date Received:** 11/11/10  
**Date Analyzed:** 11/11/10 -  
11/18/10

**Matrix Spike Summary  
General Chemistry Parameters**

**Sample Name:** Pond #2 - North   **Units:** mg/L  
**Lab Code:** J1005461-001   **Basis:** NA

## Pond #2 - NorthMS

## Matrix Spike

J1005461-001MS

Analyte Name	Method	Sample Result	Spike Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand, Total	SM21 5220 D	83	562	500	96	90 - 110
Orthophosphate as Phosphorus	365.1	0.114	0.628	0.500	103	90 - 110
Phosphorus, Total	365.1	0.115	0.622	0.500	101	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Collected:** 11/11/10  
**Date Received:** 11/11/10  
**Date Analyzed:** 11/11/10 -  
                                  11/18/10

## **Replicate Sample Summary General Chemistry Parameters**

**Sample Name:** Pond #2 - North      **Units:** mg/L  
**Lab Code:** J1005461-001      **Basis:** NA

Analyte Name	Method	MRL	MDL	Sample Result	Pond #2 - NorthDUP			RPD	RPD Limit
					Result	Average	Duplicate Sample		
Biochemical Oxygen Demand (BOD)	SM 5210 B	2.0	2.0	4.2	4.6	4.43	J1005461-001DUP	8	20
Chemical Oxygen Demand, Total	SM21 5220 D	20	2	83	86	84.5	Duplicate Sample	4	20
Orthophosphate as Phosphorus	365.1	0.0050	0.0020	0.114	0.113	0.114	J1005461-001DUP	<1	20
Phosphorus, Total	365.1	0.0050	0.0030	0.115	0.114	0.115	Duplicate Sample	<1	20
Solids, Total Dissolved	SM 2540 C	10	10	327	328	328	J1005461-001DUP	<1	20
Solids, Total Suspended (TSS)	SM 2540 D	5.0	5.0	11.0	10.0	10.5	Duplicate Sample	10	20

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COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Collected:** 11/11/10  
**Date Received:** 11/11/10  
**Date Analyzed:** 11/11/10 -  
                          11/18/10

## Replicate Sample Summary General Chemistry Parameters

**Sample Name:** Pond #2 - North      **Units:** mg/m<sup>3</sup>  
**Lab Code:** J1005461-001      **Basis:** NA

Analyte Name	Method	MRL	MDL	Sample Result	Pond #2 - NorthDUP				RPD Limit
					Duplicate Sample	J1005461-001DUP	Result	Average	
Chlorophyll a (Monochromatic)	SM 10200 H	10	10	ND U	ND U	NC	NC	NC	20

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## COLUMBIA ANALYTICAL SERVICES, INC.

## QA/QC Report

**Client:** Jacksonville, City of  
**Project:** Trail Ridge  
**Sample Matrix:** Water

**Service Request:** J1005461  
**Date Analyzed:** 11/11/10 -  
                           11/18/10

**Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:** mg/L  
**Basis:** NA

**Lab Control Sample**  
**J1005461-LCS**

<b>Analyte Name</b>	<b>Method</b>	<b>Result</b>	<b>Spike</b>	<b>% Rec</b>	<b>% Rec Limits</b>
			<b>Amount</b>		
Biochemical Oxygen Demand (BOD)	SM 5210 B	196	198	99	84.5 - 115.
Carbon, Total Organic (TOC)	SM 5310 B	49.6	50.0	99	90 - 110
Chemical Oxygen Demand, Total	SM21 5220 D	483	500	97	90 - 110
Nitrate as Nitrogen	300.0	4.67	5.00	93	90 - 110
Orthophosphate as Phosphorus	365.1	0.526	0.500	105	90 - 110
Phosphorus, Total	365.1	0.516	0.500	103	90 - 110
Solids, Total Dissolved	SM 2540 C	297	300	99	85 - 115
Solids, Total Suspended (TSS)	SM 2540 D	78.5	80.0	98	85 - 115

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## Cooler Receipt Form

Client:	HDR Eng.			Service Request #:	J1005461		
Project:	Tm.l Ridge LF						
Cooler received on	11-11-10			and opened on	11-11-10	by	CFB
COURIER: CAS	UPS	FEDEX	<input checked="" type="checkbox"/> Client	Other	Airbill #		
1	Were custody seals on outside of cooler?			Yes	<input checked="" type="checkbox"/> No		
	If yes, how many and where?			#:	on lid	other	
2	Were seals intact and signature and date correct?			Yes	No	<input checked="" type="checkbox"/> N/A	
3	Were custody papers properly filled out?			<input checked="" type="checkbox"/> Yes	No	N/A	
4	Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C)			<input checked="" type="checkbox"/> 5°			
5	Thermometer ID			T12			
6	Temperature Blank Present?			<input checked="" type="checkbox"/> Yes	No		
7	Were Ice or Ice Packs present			<input checked="" type="checkbox"/> Ice	Ice Packs	No	
8	Did all bottles arrive in good condition (unbroken, etc....)?			<input checked="" type="checkbox"/> Yes	No	N/A	
9	Type of packing material present			<input checked="" type="checkbox"/> Styrofoam	Vial Holder	Bubble Wrap	
10	Were all bottle labels complete (sample ID, preservation, etc....)?			<input checked="" type="checkbox"/> Yes	No	N/A	
11	Did all bottle labels and tags agree with custody papers?			<input checked="" type="checkbox"/> Yes	No	N/A	
12	Were the correct bottles used for the tests indicated?			<input checked="" type="checkbox"/> Yes	No	N/A	
13	Were all of the preserved bottles received with the appropriate preservative?			<input checked="" type="checkbox"/> Yes	No	N/A	
	HNO3 pH<2	H <sub>2</sub> SO4 pH<2	ZnAc2/NaOH pH>9	NaOH pH>12	HCl pH<2		
	Preservative additions noted below						
14	Were all samples received within analysis holding times?			<input checked="" type="checkbox"/> Yes	No	N/A	
15	Were VOA vials checked for absence of air bubbles? If present, note below			<input checked="" type="checkbox"/> Yes	No	N/A	
16	Where did the bottles originate?			<input checked="" type="checkbox"/> CAS	Client		

Sample ID	Reagent	Lot #	ml added	Initials Date/Time

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted:

Date:

36



SR #: J 100546 /

Jacksonville Laboratory

Condition Upon Receipt - Sample pH

Date: 11-11-10

Initials:

Note that pH is check and meets the required pH criterion listed in the column heading unless otherwise noted on the cooler receipt form.

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Container	G	G	G	P	P	P	P	P	P	P	P	P	G	G	P	P	G	G	G	G	G	G	G	G	G	G	G	G	G	G	
Preserve	N/A	HCl	Na2S2O3	N/A	HCl	Na2S2O3	N/A	HCl	NH3	HNO3	NaOH	NaOH	Zn(AA2)	H2SO4	HNO3	N/A	HNO3	N/A	H2SO4	N/A	HCl	N/A									
Req. pH	N/A	<2	N/A	N/A	-	-	-	-	-	<2	N/A	>9	>12	N/A	<2	N/A	<2	N/A	<2	N/A	<2	N/A	<2	N/A	<2	N/A	<2	N/A	<2	N/A	
Sample #	-1	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-2	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-3	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-4	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-5	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-6	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-7	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-8	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-9	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-10	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-11	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-12	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-13	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-14	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-15	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-16	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-17	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-18	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-19	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-20	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-21	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-22	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-23	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-24	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-25	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-26	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-27	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-28	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-29	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-30	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-31	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-32	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-33	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-34	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-35	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-36	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-37	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-38	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-39	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-40	3	5	2	3	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

NOTE: VOA pH checks are performed by the analytical area, not sample control

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Condition Upon Receipt - Sample pH



Form FD 9000-24  
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE	SITE LOCATION: JACKSONVILLE, FL
WELL NO: POND Z - NORTH	SAMPLE ID:

DATE: 11-11-10

**PURGING DATA**

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches): NA	WELL SCREEN INTERVAL DEPTH: - feet to - feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAIRER: NA								
WELL ELEVATION TO (R NGVD): NA	GROUNDWATER ELEVATION (R NGVD): NA											
WELL VOLUME PURGE: WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)												
= ( feet - feet ) X gallons/foot = gallons												
EQUIPMENT VOLUME PURGE: EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)												
= gallons + ( gallons/foot X feet ) + gallons = gallons												
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: NA	PURGING ENDED AT: NA	TOTAL VOLUME PURGED (gallons): NA								
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
0930	NA	NA	NA	NA	6.71	17.5	401	4.9	70.35	68	ORANGE	BROWN
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016												
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)												

**SAMPLING DATA**

SAMPLED BY (PRINT)/AFFILIATION: DAN ARMOUR / PRO-TECH	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0930	SAMPLING ENDED AT: NA						
PUMP OR TUBING DEPTH IN WELL (feet): NA	TUBING MATERIAL CODE: NA	FIELD-FILTERED: Y (N) um Filtration Equipment Type:	FILTER SIZE:						
FIELD DECONTAMINATION: PUMP Y N NA	TUBING Y N (replaced)	DUPLICATE: Y (N)							
SAMPLE CONTAINER SPECIFICATION	SAMPLE PRESERVATION	INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)						
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	SAMPLING EQUIPMENT CODE		
* SEE SAMPLE C-O-C AND BOTTLE ORDER WORKSHEET									
REMARKS:									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH:  $\pm 0.2$  units Temperature:  $\pm 0.2^\circ\text{C}$  Specific Conductance:  $\pm 5\%$  Dissolved Oxygen: all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2 \text{ mg/L}$  or  $\pm 10\%$  (whichever is greater) Turbidity: all readings  $\leq 20 \text{ NTU}$ ; optionally  $\pm 5 \text{ NTU}$  or  $\pm 10\%$  (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24  
GROUNDWATER SAMPLING LOG

SITE NAME: TRAIL RIDGE	SITE LOCATION: JACKSONVILLE, FL
WELL NO: POND #2 - CENTER	SAMPLE ID:

**PURGING DATA**

WELL DIAMETER (inches): NA	TUBING DIAMETER (inches) NA	WELL SCREEN INTERVAL DEPTH: — feet to — feet	STATIC DEPTH TO WATER (feet): NA	PURGE PUMP TYPE OR BAILER: NA								
WELL ELEVATION TOC (ft NGVD): NA	GROUNDWATER ELEVATION (ft NGVD): NA											
WELL VOLUME PURGE: WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)												
= ( feet - feet) X gallons/foot = gallons												
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): NA	FINAL PUMP OR TUBING DEPTH IN WELL (feet): NA	PURGING INITIATED AT: NA	PURGING ENDED AT: NA	TOTAL VOLUME PURGED (gallons): NA								
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR	ODOR
1001	NA	NA	NA	NA	6.84	17.4	415	3.30	79.83	81	ORANGE/BROWN	
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88												
TUBING INSIDE DIA. CAPACITY (Gal/ft): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0028; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016												
PURGING EQUIPMENT CODES: B = Baile; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)												

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: DAN ARMOUR / PRO-TECH	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1001	SAMPLING ENDED AT: NR					
PUMP OR TUBING DEPTH IN WELL (feet): NA	TUBING MATERIAL CODE: NA	FIELD-FILTERED: Y (N) μm Filtration Equipment Type:	FILTER SIZE:					
FIELD DECONTAMINATION: PUMP Y N NA	TUBING Y N (replaced)	DUPLICATE: Y (N)						
SAMPLE CONTAINER SPECIFICATION		SAMPLE PRESERVATION		INTENDED ANALYSIS AND/OR METHOD	SAMPLE PUMP FLOW RATE (mL per minute)	SAMPLING EQUIPMENT CODE		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME				PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)
* SEE SAMPLES C-O-6 AND BOTTLE ORDER WORKSHEET								
REMARKS:								
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)								
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Baile; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)								

NOTES: 1. The above do not constitute all of the information required by Chapter 52-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH:  $\pm 0.2$  units Temperature:  $\pm 0.2$  °C Specific Conductance:  $\pm 5\%$  Dissolved Oxygen: all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2$  mg/L or  $\pm 10\%$  (whichever is greater) Turbidity: all readings  $\leq 20$  NTU; optionally  $\pm 5$  NTU or  $\pm 10\%$  (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

**2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE ES 2212 SECTION 3)**

pH:  $\pm 0.2$  units Temperature:  $\pm 0.2^\circ\text{C}$  Specific Conductance:  $\pm 5\%$  Dissolved Oxygen: all readings  $< 20\%$  saturation (see Table FS 2200-2); optionally,  $+0.2\text{ mg/l}$  or  $\pm 10\%$  (whichever is greater) Turbidity: all readings  $< 20\text{ NTU}$ ; optionally  $+5\text{ NTU}$  or  $\pm 10\%$  (whichever is greater)

Revision Date: February 12, 2009



Columbia Analytical Services  
9143 Philips Highway, Suite 200  
Jacksonville, FL 32256  
Tel 904-739-2277  
Fax 904-739-2011

## **Appendix A**

### **Subcontracted Analytical Results**

**Environmental Conservation Laboratories, Inc.**

4810 Executive Park Court, Suite 111

Jacksonville FL, 32216-6069

Phone: 904.296.3007 FAX: 904.296.6210



[www.encolabs.com](http://www.encolabs.com)

Monday, November 22, 2010

Columbia Analytical Svcs. (CO009)

Attn: Craig Myers

9143 Philips Highway, Suite 200

Jacksonville, FL 32256

**RE: Laboratory Results for**

**Project Number: J1005461, Project Name/Desc: J1005461**

**ENCO Workorder: B005426**

Dear Craig Myers,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, November 12, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Jacksonville. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Lindsay J. Crawford".

Lindsay J Crawford For Chris Tompkins

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 9.



**SAMPLE SUMMARY/LABORATORY CHRONICLE**

Client ID:	Pond #2 - North	Lab ID: 8005426-01	Sampled: 11/17/10 09:30	Received: 11/12/10 09:16
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)	

EPA 8011                    11/25/10                    12/01/10                    11/17/10                    10:25                    11/19/2010                    12:58

Client ID:	Pond #2 - Center	Lab ID: 8005426-02	Sampled: 11/17/10 10:00	Received: 11/12/10 09:16
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)	

EPA 8011                    11/25/10                    12/01/10                    11/17/10                    10:25                    11/19/2010                    13:13

Client ID:	Pond #2 - South	Lab ID: 8005426-03	Sampled: 11/17/10 10:30	Received: 11/12/10 09:16
Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)	

EPA 8011                    11/25/10                    12/01/10                    11/17/10                    10:25                    11/19/2010                    13:26



**SAMPLE DETECTION SUMMARY**

**No positive results detected.**



### ANALYTICAL RESULTS

**Description:** Pond #2 - North

**Lab Sample ID:** B005426-01

**Received:** 11/12/10 09:16

**Matrix:** Water

**Sampled:** 11/11/10 09:30

**Work Order:** B005426

**Project:** J1005461

**Sampled By:** Client

#### Semivolatile Organic Compounds by GC

*^ - ENCO Jacksonville certified analyte [NELAC E82277]*

<b>Analyte [CAS Number]</b>	<b>Results</b>	<b>Flag</b>	<b>Units</b>	<b>DF</b>	<b>MDL</b>	<b>PQL</b>	<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 12:58	JSW	
1,2-Dibromoethane [106-93-4] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 12:58	JSW	
<b>Surrogates</b>	<b>Results</b>	<b>DF</b>	<b>Spike Lvl</b>	<b>% Rec</b>	<b>% Rec Limits</b>		<b>Batch</b>	<b>Method</b>	<b>Analyzed</b>	<b>By</b>	<b>Notes</b>
1,1,1,2-Tetrachloroethane	0.19	1	0.250	78 %	33-122		OK17013	EPA 8011	11/19/10 12:58	JSW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.



Description: Pond #2 - Center

Lab Sample ID: B005426-02

Received: 11/12/10 09:16

Matrix: Water

Sampled: 11/11/10 10:01

Work Order: B005426

Project: J1005461

Sampled By: Client

### Semivolatile Organic Compounds by GC

^ - ENCO Jacksonville certified analyte [NELAC E82277]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	POL	Batch	Method	Analyzed	By	Notes
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 13:13	JSW	
1,2-Dibromoethane [106-93-4] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 13:13	JSW	
Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits		Batch	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane	0.17	1	0.250	67 %	33-122		OK17013	EPA 8011	11/19/10 13:13	JSW	



Description: Pond #2 - South

Lab Sample ID: B005426-03

Received: 11/12/10 09:16

Matrix: Water

Sampled: 11/11/10 10:30

Work Order: B005426

Project: J1005461

Sampled By: Client

### Semivolatile Organic Compounds by GC

<sup>^</sup> - ENCO Jacksonville certified analyte [NELAC E82277]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	POL	Batch	Method	Analyzed	By	Notes
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 13:26	JSW	
1,2-Dibromoethane [106-93-4] ^	0.012	U	ug/L	1	0.012	0.020	OK17013	EPA 8011	11/19/10 13:26	JSW	
Surrogates	Results	DF	Spike Lvl	% Rec	% Rec Limits		Batch	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane	0.17	1	0.250	70 %	33-122		OK17013	EPA 8011	11/19/10 13:26	JSW	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

### QUALITY CONTROL

#### **Semivolatile Organic Compounds by GC - Quality Control**

Batch 0K17013 - EPA 8011

##### **Blank (0K17013-BLK1)**

Prepared: 11/17/2010 10:25 Analyzed: 11/18/2010 11:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	0.012	U	0.020	ug/L							
1,2-Dibromoethane	0.012	U	0.020	ug/L							
Surrogate: 1,1,1,2-Tetrachloroethane [2C]	0.21			ug/L	0.250		84	33-122			

##### **LCS (0K17013-BS1)**

Prepared: 11/17/2010 10:25 Analyzed: 11/18/2010 11:16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	0.25		0.020	ug/L	0.250		101	60-140			
1,2-Dibromoethane	0.24		0.020	ug/L	0.250		97	60-140			
Surrogate: 1,1,1,2-Tetrachloroethane [2C]	0.22			ug/L	0.250		86	33-122			

##### **Matrix Spike (0K17013-MS1)**

Prepared: 11/17/2010 10:25 Analyzed: 11/18/2010 11:53

Source: 8005424-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	0.22		0.020	ug/L	0.250	0.012 U	89	60-140			
1,2-Dibromoethane	0.25		0.020	ug/L	0.250	0.012 U	102	60-140			
Surrogate: 1,1,1,2-Tetrachloroethane [2C]	0.21			ug/L	0.250		86	33-122			

##### **Matrix Spike Dup (0K17013-MSD1)**

Prepared: 11/17/2010 10:25 Analyzed: 11/18/2010 12:05

Source: 8005424-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,2-Dibromo-3-chloropropane	0.23		0.020	ug/L	0.250	0.012 U	93	60-140	5	20	
1,2-Dibromoethane	0.25		0.020	ug/L	0.250	0.012 U	100	60-140	2	20	
Surrogate: 1,1,1,2-Tetrachloroethane	0.30			ug/L	0.250		120	33-122			

**FLAGS/NOTES AND DEFINITIONS**

- PQL PQL: Practical Quantitation Limit.
- B Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
- I The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
- J Estimated value. The associated sample note or project narrative indicate the causative reason.
- K Off-scale low; Actual value is known to be less than the value given.
- L Off-scale high; Actual value is known to be greater than value given.
- M Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
- N Presumptive evidence of presence of material.
- O Sampled, but analysis lost or not performed.
- Q Sample exceeded the accepted holding time.
- T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- Y The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
- Z Too many colonies were present (TNTC); the numeric value represents the filtration volume.
- ? Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
- \* Not reported due to interference.

Columbia Analytical Services, Inc. Chain of Custody

9143 Philips Highway • Jacksonville, FL 32256 • 904-739-2277 • FAX 904-739-2011

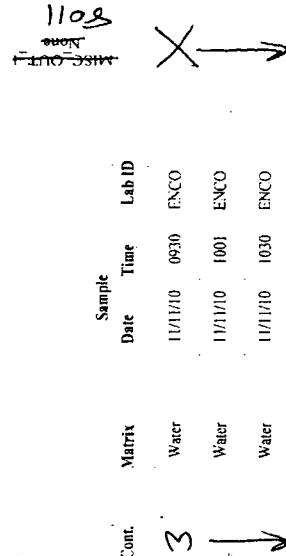
Project Number: J1005461

Project Manager: Craig Myers

CAS Contact: Craig Myers *CR*

*8005426*

Lab Code	Sample ID	# of Cont.	Matrix	Date	Time	Lab ID
J1005461-001	Pond #2 - North	3	Water	11/11/10	0930	ENCO
J1005461-002	Pond #2 - Center		Water	11/11/10	1001	ENCO
J1005461-003	Pond #2 - South		Water	11/11/10	1030	ENCO



Test Comments  
MISC\_OUT\_1 - None

EDB and DRCP by EPA Method 8011

Client Coaster @ 5.7°c

Special Instructions/Comments	Turnaround Requirements					Report Requirements	Invoice Information
	RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS <input checked="" type="checkbox"/> STANDARD						
	1	2	3	4	5	<input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data	PO# J1005461 Bill to
						Requested FAX Date: <u>11/24/10</u> Requested Report Date: <u>11/24/10</u>	

Relinquished By: Doug Myers 11/11/10 Received By: Kaitlin Kelly 11-12-10 Amhil Number: 8914 Page: \_\_\_\_\_