TETRA TECH EC, INC.

8 March 2006
RAC II-2006-044

Ms. Sharon Trocher
Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway, 20th Floor
New York, NY 10007-1866

SUBJECT: USEPA RAC II CONTRACT NUMBER 68-W-98-214
WORK ASSIGNMENT NUMBER 109-RALR-0238
VESTAL WATER SUPPLY WELL, OPERABLE UNIT 1
DECEMBER 2005 PERFORMANCE MONITORING REPORT

Dear Ms. Trocher:

I am pleased to provide the December 2005 Monthly Performance Monitoring Report for the Vestal Water Supply Well treatment facility.

A. Monthly Operations

The treatment system at the Vestal Water Supply Well operated for the entire month of December. A summary of the operation and maintenance activities performed during December is as follows:

- Routine inspections of the facility were performed;
- Pumps were checked and lubricated;
- Air filters were cleaned or replaced;
- Removed snow and de-iced sidewalk; and
- The monthly influent and effluent samples were collected.

1000 The American Road, Morris Plains, NJ 07950
Tel 973.630.8000 Fax 973.630.8025
www.tteci.com

B. Operational Data

The following table presents operational data for the year 2005, arranged by month:

Month	Operating Days	Average flow Meter%	Average flow rate (gpm)	Amount of groundwater treated (mg)
January	31	47	541	24.2
February	28	46	529	21.3
March	31	45	517.5	22.4
April	17	48	552	13.5
May	31	*	*	*
June	30	*	*	*
July	29	*	*	*
August	29	*	*	*
September	30	*	*	*
October	31	*	*	*
November	30	*	*	*
December	31	*	*	*
Volume of groundwater treated for 2005				81.4*
Volume of groundwater treated for the OU-1				2684.8*

*The float control valve is not closing completely, preventing the flow meter from operating correctly. A replacement is being sought.

gpm - gallons per minute
mg - millions of gallons

C. Comparison of Influent and Effluent Concentrations with Discharge Criteria

The treatment plant influent and effluent analytical data received from the EPA-DESA laboratory for the month of December 2005 are included in Attachment 1. A summary of the data for the compounds detected in the plant influent and effluent is as follows:

Compound	Discharge Criteria (ug/L)	Influent Concentration (ug/L)												Effluent Concentration (ug/L) December
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Vinyl Chloride	2	3.5	3.9	3.4	4.4	4.1	3.7	3.5	3.3	4.5	4.2	3.8	3.0	0.5 U
Chloroethane		0.5	0.6	0.5	0.73	0.59	0.54	0.55	0.5U	0.5U	0.5U	0.51	0.5U	0.5 U
1,1-Dichloroethene*	5	13	9.3	8.4	11	12	9.5	9.4	8.3	8.7	8.6	8.3	7.4	0.5 U
1,1,2 Trichloro-1,2,2-Trifluoroethane		3.1	2.9	2.6	3.2	2.6	2.9	2.9	2.4	2.8	2.7	2.7	2.7	0.5 U
Acetone		1.0 U	2.3	1.0 U	1.0U	1.0U	1.0 U	1.0U	5.0U	1.0U	1.0U	10U	1.0U	1.8
Methylene Chloride		U	U	U	U	U	U	U	U	U	U	U	0.5U	13
Trans 1,2-Dichloroethene*	5	0.5 U	0.5 U	0.5 U	0.5U	0.5U	0.5 U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5 U
Methyl Tert-Butyl Ether		4.7	4.3	4.3	3.9	4.2	3.9	4.2	3.7	3.6	4.0	3.0	3.4	1.7
1,1-Dichloroethane	5	18	17	17	24	17	17	17	18	18	18	16	14	1.7
Cis-1,2-Dichloroethene*	5	50	46	46	54	47	45	44	41	44	42	40	37	5.1
Chloroform	7	0.5 U	0.5 U	0.5 U	0.5U	0.5U	0.5 U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5 U
1,1,1-Trichloroethane*	5	110	120	110	140	110	120	110	100	110	100	110	110	4.6
Trichloroethene*	5	43	40	40	47	39	38	36	35	36	35	35	34	2.4
Total Volatile Organics*	100	245.8	246.3	232.2	288.23	236.49	240.54	227.55	211.7	227.6	214.5	219.31	211.5	17.3

Note:

ug/L = micrograms per liter
* = Site Contaminant of Concern
U = Below Reporting Limit
NS = Not Sampled

D. Next Month's Activities

The following activities are planned for January 2006:

- Repair flow meter valve; and
- Perform monthly performance monitoring sampling.

E. Summary and Recommendations

Based on the treatment plant influent and effluent data summarized above, it can be concluded the treated water continues to meet the discharge limits. Please feel free to contact me at (973) 630-8197 if you should have any questions.

Sincerely,

Heidemarie Roldan

Heidemarie Roldan
Project Manager

Attachment

cc: P. Long (NYSDEC)

ATTACHMENT 1

Case Narrative:
Vestal 1-1. #05120015

The National Environmental Laboratory Accreditation Conference (NELAC) is a voluntary environmental laboratory accreditation association of State and Federal agencies. NELAC established and promoted a national accreditation program that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAC accredited. The Laboratory tests that are accredited have met all the requirements established under the NELAC Standards.

Comment(s):

None

Reporting Limit(s):

The Laboratory was able to achieve the Contract Required Quantitation Limits (CRQLs) for each analyte requested except for the following analyte(s):

Volatile Organic Compounds: The CRQL for 1,2-Dibromo-3-chloropropane in water is 0.5 ug/L (OLC03.2). The Laboratory's Reporting Limit was raised to 5 ug/L due to problems associated with the initial calibration curve.

Method(s):

Low Level Volatile Organic Analysis, ESAT-SOP-132 (GC/MS Method)

Approval: J R. Tha Date: 1-31-06

U.S. Environmental Protection Agency
Region 2 Laboratory
2890 Woodbridge Avenue
Edison, NJ 08837

Data Report: Vestal Well 1-1 [12/05]

Project Number: 05120015

Program: Y206E

Project Leader: L. Arabia

Remark Codes	Explanation
U	THE ANALYTE WAS NOT DETECTED AT OR ABOVE THE REPORTING LIMIT.
J	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE IS AN ESTIMATE.
UJ	THE ANALYTE WAS NOT DETECTED AT OR ABOVE THE REPORTING LIMIT. THE REPORTING LIMIT IS AN ESTIMATE.
N	THERE IS PRESUMPTIVE EVIDENCE THAT THE ANALYTE IS PRESENT; THE ANALYTE IS REPORTED AS A TENTATIVE IDENTIFICATION.
NJ	THERE IS PRESUMPTIVE EVIDENCE THAT THE ANALYTE IS PRESENT; THE ANALYTE IS REPORTED AS A TENTATIVE IDENTIFICATION. THE REPORTED VALUE IS AN ESTIMATE.
R	THE PRESENCE OR ABSENCE OF THE ANALYTE CANNOT BE DETERMINED FROM THE DATA DUE TO SEVERE QUALITY CONTROL PROBLEMS. THE DATA ARE REJECTED AND CONSIDERED UNUSABLE.
K	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE MAY BE BIASED HIGH. THE ACTUAL VALUE IS EXPECTED TO BE LESS THAN THE REPORTED VALUE.
L	THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE MAY BE BIASED LOW. THE ACTUAL VALUE IS EXPECTED TO BE GREATER THAN THE REPORTED VALUE.
NV	NOT VALIDATED
INC	RESULT NOT ENTERED

Survey Name: Vestal Well 1-1 [12/05]

Project Number: 05120015

*Sorted By Sample ID

AG08940 Field/Station ID: INFLUENT Date Received: 12/6/2005
Matrix: Aqueous

Sample Description:

Analysis Type: VOA GCMS LOW LEVEL DRINKING WATER

CAS Number	Analyte Name	Result	Remark Codes	Units
75-43-4	DICHLORODIFLUOROMETHANE	---	0.50U	ug/L
000074873	CHLOROMETHANE	---	0.50U	ug/L
000075014	VINYL CHLORIDE	3.0		ug/L
000074839	BROMOMETHANE	---	0.50U	ug/L
000075003	CHLOROETHANE	---	0.50U	ug/L
000075694	TRICHLOROFLUOROMETHANE	---	0.50U	ug/L
000075354	1,1-DICHLOROETHENE	7.4		ug/L
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2.7		ug/L
000075150	CARBON DISULFIDE	---	0.50U	ug/L
000067641	ACETONE	---	1.0U	ug/L
79-20-9	METHYL ACETATE	---	0.50U	ug/L
000075092	METHYLENE CHLORIDE	---	0.50U	ug/L
000156605	TRANS-1,2-DICHLOROETHENE	---	0.50U	ug/L
001634044	METHYL TERT-BUTYL ETHER	3.4		ug/L
000075343	1,1-DICHLOROETHANE	14		ug/L
000156592	CIS-1,2-DICHLOROETHENE	37		ug/L
594-20-7	2,2-DICHLOROPROPANE	---	0.50U	ug/L
000078933	2-BUTANONE	---	1.0U	ug/L
000074975	BROMOCHLOROMETHANE	---	0.50U	ug/L
000067663	CHLOROFORM	---	0.50U	ug/L
71-55-6	1,1,1-TRICHLOROETHANE	110		ug/L
110-82-7	CYCLOHEXANE	---	0.50U	ug/L
000056235	CARBON TETRACHLORIDE	---	0.50U	ug/L
000563586	1,1-DICHLOROPROPENE	---	0.50U	ug/L
000071432	BENZENE	---	0.50U	ug/L
000107062	1,2-DICHLOROETHANE	---	0.50U	ug/L
025323891	TRICHLOROETHENE	34		ug/L
108-87-2	METHYLCYCLOHEXANE	---	0.50U	ug/L
000078875	1,2-DICHLOROPROPANE	---	0.50U	ug/L
000074953	DIBROMOMETHANE	---	0.50U	ug/L
000075274	BROMODICHLOROMETHANE	---	0.50U	ug/L
010061015	CIS-1,3-DICHLOROPROPENE	---	0.50U	ug/L
000108101	4-METHYL-2-PENTANONE	---	1.0U	ug/L
000108883	TOLUENE	---	0.50U	ug/L
010061026	TRANS-1,3-DICHLOROPROPENE	---	0.50U	ug/L
000079005	1,1,2-TRICHLOROETHANE	---	0.50U	ug/L
000127184	TETRACHLOROETHENE	---	0.50U	ug/L
000142289	1,3-DICHLOROPROPANE	---	0.50U	ug/L
000124481	DIBROMOCHLOROMETHANE	---	0.50U	ug/L
000106934	1,2-DIBROMOETHANE	---	0.50U	ug/L
000591786	2-HEXANONE	---	1.0U	ug/L
000108907	CHLOROBENZENE	---	0.50U	ug/L

Refer to Page 1 for an explanation of Remark Codes

Survey Name: Vestal Well 1-1 [12/05]

Project Number: 05120015

*Sorted By Sample ID

AG08940 Field/Station ID: INFLUENT Date Received: 12/6/2005
Matrix: Aqueous

Sample Description:

Analysis Type: VOA GCMS LOW LEVEL DRINKING WATER

CAS Number	Analyte Name	Result	Remark Codes	Units
000630206	1,1,1,2-TETRACHLOROETHANE	—	0.50U	ug/L
100-41-4	ETHYLBENZENE	—	0.50U	ug/L
001330207	M/P-XYLENE	—	0.50U	ug/L
000095476	O-XYLENE	—	0.50U	ug/L
000100425	STYRENE	—	0.50U	ug/L
000075252	BROMOFORM	—	0.50U	ug/L
000098828	ISOPROPYLBENZENE	—	0.50U	ug/L
000108861	BROMOBENZENE	—	0.50U	ug/L
000096184	1,2,3-TRICHLOROPROPANE	—	0.50U	ug/L
000079345	1,1,2,2-TETRACHLOROETHANE	—	0.50U	ug/L
000103651	N-PROPYLBENZENE	—	0.50U	ug/L
000095498	2-CHLOROTOLUENE	—	0.50U	ug/L
106-43-4	4-CHLOROTOLUENE	—	0.50U	ug/L
000108678	1,3,5-TRIMETHYLBENZENE	—	0.50U	ug/L
000098066	TERT-BUTYLBENZENE	—	0.50U	ug/L
000095636	1,2,4-TRIMETHYLBENZENE	—	0.50U	ug/L
135-98-8	SEC-BUTYLBENZENE	—	0.50U	ug/L
000541731	1,3-DICHLOROBENZENE	—	0.50U	ug/L
000106467	1,4-DICHLOROBENZENE	—	0.50U	ug/L
000095501	1,2-DICHLOROBENZENE	—	0.50U	ug/L
000099876	4-ISOPROPYLTOLUENE	—	0.50U	ug/L
000104518	N-BUTYLBENZENE	—	0.50U	ug/L
000096128	1,2-DIBROMO-3-CHLOROPROPANE	—	5.0U	ug/L
000120821	1,2,4-TRICHLOROBENZENE	—	0.50U	ug/L
87-68-3	HEXACHLOROBUTADIENE	—	0.50U	ug/L
000091203	NAPHTHALENE	—	0.50U	ug/L
000087616	1,2,3-TRICHLOROBENZENE	—	0.50U	ug/L
1330-20-7	TOTAL XYLENES	—	0.50U	ug/L

AG08941 Field/Station ID: EFFLUENT Date Received: 12/6/2005
Matrix: Aqueous

Sample Description:

Survey Name: Vestal Well 1-1 [12/05]

Project Number: 05120015

*Sorted By Sample ID

AG08941 Field/Station ID: EFFLUENT
Matrix: Aqueous

Date Received: 12/6/2005

Sample Description:

Analysis Type: VOA GCMS LOW LEVEL DRINKING WATER

CAS Number	Analyte Name	Result	Remark Codes	Units
75-43-4	DICHLORODIFLUOROMETHANE	---	0.50U	ug/L
000074873	CHLOROMETHANE	---	0.50U	ug/L
000075014	VINYL CHLORIDE	---	0.50U	ug/L
000074839	BROMOMETHANE	---	0.50U	ug/L
000075003	CHLOROETHANE	---	0.50U	ug/L
000075694	TRICHLOROFLUOROMETHANE	---	0.50U	ug/L
000075354	1,1-DICHLOROETHENE	---	0.50U	ug/L
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	---	0.50U	ug/L
000075150	CARBON DISULFIDE	---	0.50U	ug/L
000067641	ACETONE	1.8		ug/L
79-20-9	METHYL ACETATE	---	0.50U	ug/L
000075092	METHYLENE CHLORIDE	13		ug/L
000156605	TRANS-1,2-DICHLOROETHENE	---	0.50U	ug/L
001634044	METHYL TERT-BUTYL ETHER	1.7		ug/L
000075343	1,1-DICHLOROETHANE	1.7		ug/L
000156592	CIS-1,2-DICHLOROETHENE	5.1		ug/L
594-20-7	2,2-DICHLOROPROPANE	---	0.50U	ug/L
000078933	2-BUTANONE	---	1.0U	ug/L
000074975	BROMOCHLOROMETHANE	---	0.50U	ug/L
000067663	CHLOROFORM	---	0.50U	ug/L
71-55-6	1,1,1-TRICHLOROETHANE	4.6		ug/L
110-82-7	CYCLOHEXANE	---	0.50U	ug/L
000056235	CARBON TETRACHLORIDE	---	0.50U	ug/L
000563586	1,1-DICHLOROPROPENE	---	0.50U	ug/L
000071432	BENZENE	---	0.50U	ug/L
000107062	1,2-DICHLOROETHANE	---	0.50U	ug/L
025323891	TRICHLOROETHENE	2.4		ug/L
108-87-2	METHYLCYCLOHEXANE	---	0.50U	ug/L
000078875	1,2-DICHLOROPROPANE	---	0.50U	ug/L
000074953	DIBROMOMETHANE	---	0.50U	ug/L
000075274	BROMODICHLOROMETHANE	---	0.50U	ug/L
010061015	CIS-1,3-DICHLOROPROPENE	---	0.50U	ug/L
000108101	4-METHYL-2-PENTANONE	---	1.0U	ug/L
000108883	TOLUENE	---	0.50U	ug/L
010061026	TRANS-1,3-DICHLOROPROPENE	---	0.50U	ug/L
000079005	1,1,2-TRICHLOROETHANE	---	0.50U	ug/L
000127184	TETRACHLOROETHENE	---	0.50U	ug/L
000142289	1,3-DICHLOROPROPANE	---	0.50U	ug/L

Refer to Page 1 for an explanation of Remark Codes

U.S. EPA Region 2 Laboratory
Data Report

Survey Name: Vestal Well 1-1 [12/05]

Project Number: 05120015

*Sorted By Sample ID

AG08941 Field/Station ID: EFFLUENT
Matrix: Aqueous

Date Received: 12/6/2005

Sample Description:

Analysis Type: VOA GCMS LOW LEVEL DRINKING WATER

CAS Number	Analyte Name	Result	Remark Codes	Units
000124481	DIBROMOCHLOROMETHANE	—	0.50U	ug/L
000106934	1,2-DIBROMOETHANE	—	0.50U	ug/L
000591786	2-HEXANONE	—	1.0U	ug/L
000108907	CHLOROBENZENE	—	0.50U	ug/L
000630206	1,1,1,2-TETRACHLOROETHANE	—	0.50U	ug/L
100-41-4	ETHYLBENZENE	—	0.50U	ug/L
001330207	M/P-XYLENE	—	0.50U	ug/L
000095476	O-XYLENE	—	0.50U	ug/L
000100425	STYRENE	—	0.50U	ug/L
000075252	BROMOFORM	—	0.50U	ug/L
000098828	ISOPROPYLBENZENE	—	0.50U	ug/L
000108861	BROMOBENZENE	—	0.50U	ug/L
000096184	1,2,3-TRICHLOROPROPANE	—	0.50U	ug/L
000079345	1,1,2,2-TETRACHLOROETHANE	—	0.50U	ug/L
000103651	N-PROPYLBENZENE	—	0.50U	ug/L
000095498	2-CHLOROTOLUENE	—	0.50U	ug/L
106-43-4	4-CHLOROTOLUENE	—	0.50U	ug/L
000108678	1,3,5-TRIMETHYLBENZENE	—	0.50U	ug/L
000098066	TERT-BUTYLBENZENE	—	0.50U	ug/L
000095636	1,2,4-TRIMETHYLBENZENE	—	0.50U	ug/L
135-98-8	SEC-BUTYLBENZENE	—	0.50U	ug/L
000541731	1,3-DICHLOROBENZENE	—	0.50U	ug/L
000106467	1,4-DICHLOROBENZENE	—	0.50U	ug/L
000095501	1,2-DICHLOROBENZENE	—	0.50U	ug/L
000099876	4-ISOPROPYLTOLUENE	—	0.50U	ug/L
000104518	N-BUTYLBENZENE	—	0.50U	ug/L
000096128	1,2-DIBROMO-3-CHLOROPROPANE	—	1.0U	ug/L
000120821	1,2,4-TRICHLOROBENZENE	—	0.50U	ug/L
87-68-3	HEXACHLOROBUTADIENE	—	0.50U	ug/L
000091203	NAPHTHALENE	—	0.50U	ug/L
000087616	1,2,3-TRICHLOROBENZENE	—	0.50U	ug/L
1330-20-7	TOTAL XYLENES	—	0.50U	ug/L

Project Approval: _____ **Date:** 1-31-06

Refer to Page 1 for an explanation of Remark Codes

Report Date: 1/20/2006 4:57PM