32501.032
19.06.32.0028

ecology and environment, inc.
316 SOUTH BAYLEN STREET, PENSACOLA, FLORIDA 32501, TEL. (904) 435-8925
International Specialists m the Environment

N00204.AR.000477
NAS PENSACOLA
5090.3a

December 10, 1992

Commanding Officer
Attn: Greg Campbell (Code 480)
Naval Public Works Center
Naval Air Station
Pensacola, Fl. 32508

Re: April 1991 Appendix IX Report Revision, Wastewater Treatment Plant, Engineering Services Contract to Conduct Soil and/or Groundwater Contamination Investigations, Naval Air Station (NAS) Pensacola, Florida, Contract No. N62467-88-C-0200

Dear Sir:

Ecology and Environment, Inc., (E & E) has recently been informed of laboratory result miscalculations performed by a subcontract laboratory, International Technology Corporation (IT). Base Neutral/Acid Extractable (BNA) results were miscalculated by IT for well samples P32W001 (UG-1), P32W066 (GM-66), and field blank P32WFB02 during the April 1991 Appendix IX sampling event at the Wastewater Treatment Plant at NAS Pensacola. Eowever, the error only affects the results of well sample P32W066. The results for five BNAs were originally reported as almost twice the actual value or more. The BNA results for this sample are still well below any associated Florida Primary Drinking Water Standards. Enclosed is a corrected summary table (Table C-2) as' well as the analytical report replacement pages (Attachment 1) for the report titled Appendix IX Report for Monitoring Wells GM-66 and UG-1 Wastewater Treatment Facility Naval Air Station, Pensacola, Florida, Volume 1, dated July 1991. All replacement pages should be inserted in Attachment C of the above-mentioned report. Attachment 1 to this letter is a detailed description of the laboratory calculation error by IT.

Please note that IT's original data was reviewed by E & E, but was not validated. The error reported by IT was an internal calculation error, and as such would not have been caught by E 6 E's assessment and correction of the error.

recycled paper

If you have any questions regarding this matter or any other matter pertaining to this project, please feel free to contact me or John Barksdale at (904) 435-8925.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Amy Twitty
Project Manager

AT/sw
44:03

Attachments

cc: L. Martin; SouthNavFacEngCom--Charleston
J. Wilcox; E & E--Buffalo/Central Pile UH9000
J. Barksdale; E & E--Pensacola
M. Ueredith; E & E--Buffalo
C. Tronolone; E & E--Buffalo
[illegible]; BnSafe-- Memphis

Table C-2

SUMMARY ANALYTICAL RESULTS FOR

MONITORING WELLS GM-66 AND UG-1 AND FIELD QA/QC SAMPLES

(All results in ug/L unless noted)

Compound	Sample No. (Location)		Field QA/QC Samples	
	P32W066 (GM-66)	P32W001 (UG-1)	P32WFB02	P32WTB03
Barium	38	—	—	N/A
Beryllium	79	—	—	N/A
Cadmium	57	—	5.4	N/A
Chromium (Total)	360	—	—	N/A
Iron	420,000	2,100	78	N/A
Manganese	1,700	—	—	N/A
Sodium(mg/L)	670	8	—	N/A
Nickel	140	—	—	N/A
Lead	400	8.5	—	N/A
Vanadium	410	—	—	N/A
Zinc	460	15	12	N/A
Chloride (mg/L)	—	8.8	—	N/A
Sulfate[a] (mg/L)	N/A	19	N/A	N/A
Sulfide (mg/L)	4.9	—	—	N/A
Methylene chloride	—	(L,B)	(L,B)	(L,B)
Acetone	890(B)	(L,B)	12(B)	19(B)
1,1-Dichloroethene	(L)	—	—	—
1,2-Dichloroethene (Total)	1,000	—	—	—
Trichloroethene	8,200	—	—	—
Chlorabenzene	(L)	—	—	—
Xylene (m+p)	(L)	—	—	—
1,3-Dichlorobenzene	— [16][b]	—	—	N/A
1,4-Dichlorobenzene	17 [34]	—	—	N/A
1,2-Dichlorobenzene	25 [49]	—	—	N/A
2,4-Dimethylphenol	45 [91]	—	—	N/A
Naphthalene	28 [56]	—	—	N/A

[a] Sulfate is not an Appendix IX parameter, but is normally analyzed for this well during quarterly sampling events.

[b] Numbers in brackets [ ] represent former miscalculated analytical values

B-Compound also present in method blank

L-Present below stated detection limit

N/A-Analysis not performed

Dash (—) indicates compound not detected

11. Analytical Results/Methodology

Results of the Appendix analysis are presented in the enclosed tables and were determined in accordance with Methods 8270, 8080 and 8150, referenced in Test Methods for Evaluating Solid Waste, USEPA SW-846, 3rd Ed., 1986. Also copies of the raw data are enclosed.

Results are based on sample concentration and expressed in micrograms per liter or parts per billion.

111. Quality Control

QA/QC information can be found immediately following the analytical data.

The incident has demonstrated that the verification program does work. It reassures me that we are generating sound analytical data throughout the laboratory. I know that my clients expect quality service, and a stringent QA/QC verification program is one example of my commitment to providing that service.

I look forward to discussing this matter and your analytical testing needs with you and can be contacted at (412) 731-8806.

Sincerely,

Thomas F. Daniels
Laboratory Director

TFD:kam

Enclosures

Appendix IX Semivolatile Compounds (Continued)

Client Sample ID: P32 W001
Sample Date: 3/25/91
Lab Sample ID: Q10316501
Extraction Date: 4/01/91
Analysis Date: 4/09/91

Compound	Concentration µg/L	Compound	Concentration µg/L
Benzo(b)Fluoranthene	ND10	Isosafrole	ND10
Benzo(k)Fluoranthene	ND10	M-Dinitrobenzene	ND10
Benzo(a)Pyrene	ND10	Pentachlorobenzene	ND10
Indeno(1,2,3-cd)Pyrene	ND10	1-Naphthylamine	ND50
Dibenz(a,h)Anthracene	ND10	2-Naphthylamine	ND50
Benzo(g,h,i)Perylene	ND10	5-Nitro-0-Toluidine	ND10
Total Methylphenol	ND10	Diphenylamine	ND10
Pyridine	ND50	Sym-Trinitrobenzene	ND10
2,3,4,6-Tetrachlorophenol	ND50	Phenacetin	ND10
Methyl Methanesulfonate	ND20	4-Aminobiphenyl	ND50
N-Nitrosodiethylamine	ND10	Pronamide	ND10
Ethylmethanesulfonate	ND10	Pentachloronitrobenzene	ND50
Pentachloroethane	ND10	4-Nitroquinoline-1-Oxide	ND50
N-Nitrosopyrrolidine	ND10	Methapyrilene	ND10
Acetophenone	ND10	Isodrin	ND10
N-Nitrosomorpholine	ND10	Aramite	ND20
P-Phenylenediamine	ND10	P-Dimethlaminoazobenzene	ND10
0-Toluidine	ND10	3,3-Dimethylbenzidine	ND20
N-Nitrosopiperidine	ND10	Kepone	ND300
Alpha,Alpha-Dimethyl-phenethylamine	ND20	7,12-Dimethylbenz(a) anthracene	ND10
2,6-Dichlorophenol	ND10	2-Acetylaminofluorene	ND10
Hexachloropropene	ND10	3-Methylcholanthrene	ND10
N-Nitrosodi-n-Butylamine	ND10	Dinoseb	ND50
Safrole	ND10	1,4-Naphthoquinone	ND50
1,2,4,5-Tetrachlorobenzene	ND10	Hexachloropehene	ND300

Surrogate Spike Percent Recovery:

Nitrobenzene-$	32% *	Phenol-d,	48%
2-Fluorobiphenyl	67%	2-Fluorophenol	54%
Terphenyl	71%	2,4,6-Tribromophenol	56%

*Outside QC limits.

recycled paper

ecology and environment

682-1-89

.Ecology and Environment, Inc.
Date: 6/1/92

IT ANALYTICAL SERVICES
PITTSBURGH, PA

Client Project ID: '965020

Job Number: Q103165

Appendix IX Semivolatile Compounds (Continued)

Client Sample ID: P32 W066
Sample Date: 3/25/91
Lab Sample ID: 410316502
Extraction Date: 4/01/91
Analysis Date: 4/09/91

Compound	Concentration µg/L	Compound	Concentration µg/L
Benzo(b)Fluoranthene	NDlO	Isosafrole	NDlO
Benzo(k)Fluoranthene	NDlO	M-Dinitrobenzene	NDlO
Benzo(a)Pyrene	NDlO	Pentachlorobenzene	NDlO
Indeno(1,2,3-cd)Pyrene	NDlO	1-Naphthylamine	ND50
Dibenz(a,h)Anthracene	NDlO	2-Naphthylamine	ND50
Benzo(g,h,i)Perylene	NDlO	5-Nitro-0-Toluidine	NDlO
Total Methylphenol	NDlO	Diphenylamine	NDlO
Pyridine	ND50	Sym-Trinitrobenzene	NDlO
2,3,4,6-Tetrachlorophenol	ND50	Phenacetin	NDlO
Methyl Methanesulfonate	ND20	4-Aminobiphenyl	ND50
N-Nitrosodiethylamine	NDlO	Pronamide	NDlO
Ethylmethanesulfonate	ND10	Pentachloronitrobenzene	ND50
Pentachloroethane	NDlO	4-Nitroquinoline-1-Oxide	ND50
N-Nitrosopyrrolidine	NDlO	Methapyrilene	NDlO
Acetophenone	NDlO	Isodrin	NDlO
N-Nitrosomorpholine	NDlO	Aramite	ND20
P-Phenylenediamine	NDlO	P-Dimethlaminoazobenzene	NDlO
0-Toluidine	NDlO	3,3-Dimethylbenzidine	ND20
N-Nitrosopiperidine	NDlO	Kepone	ND300
Alpha,Alpha-Dimethyl-phenethylamine	ND20	7,12-Dimethylbenz(a) anthracene	NDlO
2,6-Dichlorophenol	NDlO	2-Acetylaminofluorene	NDlO
Hexachloropropene	NDlO	3-Methylcholanthrene	NDlO
N-Nitrosodi-n-Butylamine	NDlO	Dinoseb	ND50
Safrole	NDlO	1,4-Naphthoquinone	ND50.
1,2,4,5-Tetrachlorobenzene	NDlO	Hexachloropehene	ND300

Surrogate Spike Percent Recovery:

Nitrobenzene-d_5	24% *	Phenol-d_6	48%
2-Fluorobiphenyl	61%	2-Fluorophenol	53%
Terphenyl	55%	2,4,6-Tribromophenol	55%

*Outside QC limits.

recvcled pacer

ecology and environment

882-1-89

Appendix IX Semivolatile Compounds (Continued)

Client Sample ID: P32 WFB02
Sample Date: 3/25/91
Lab Sample ID: 410316503
Extraction Date: 4/01/91
Analysis Date: 4/09/91

Compound	Concentration µg/L	Compound	Concentration µg/L
Benzo(b)Fluoranthene	ND10	Isosafrole	ND10
Benzo(k)Fluoranthene	ND10	M-Dinitrobenzene	ND10
Benzo(a)Pyrene	ND10	Pentachlorobenzene	ND10
Indeno(1,2,3-cd)Pyrene	ND10	1-Naphthylamine	ND50
Dibenz(a,h)Anthracene	ND10	2-Naphthylamine	ND50
Benzo(g,h,i)Perylene	ND10	5-Nitro-0-Toluidine	ND10
Total Methylphenol	ND10	Diphenylamine	ND10
Pyridine	ND50	Sym-Trinitrobenzene	ND10
2,3,4,6-Tetrachlorophenol	ND50	Phenacetin	ND10
Methyl Methanesulfonate	ND20	4-Aminobiphenyl	ND50
N-Nitrosodiethylamine	ND10	Pronamide	ND10
Ethylmethanesulfonate	ND10	Pentachloronitrobenzene	ND50
Pentachloroethane	ND10	4-Nitroquinoline-1-Oxide	ND50
N-Nitrosopyrrolidine	ND10	Methapyrilene	ND10
Acetophenone	ND10	Isodrin	ND10
N-Nitrosomorpholine	ND10	Aramite	ND20
P-Phenylenediamine	ND10	P-Dimethlaminoazobenzene	ND10
0-Toluidine	ND10	3,3-Dimethylbenzidine	ND20
N-Nitrosopiperidine	ND10	Kepone	ND300
Alpha,Alpha-Dimethyl-phenethylamine	ND20	7,12-Dimethylbenz(a) anthracene	ND10
2,6-Dichlorophenol	ND10	2-Acetylaminofluorene	ND10
Hexachloropropene	ND10	3-Methylcholanthrene	ND10
N-Nitrosodi-n-Butylamine	ND10	Dinoseb	ND50
Safrole	ND10	1,4-Naphthoquinone	ND50
1,2,4,5-Tetrachlorobenzene	ND10	Hexachloropehene	ND300

Surrogate Spike Percent Recovery:

Nitrobenzene-d_5	26% *	Phenol-d_6	43%
2-Fluorobiphenyl	59%	2-Fluorophenol	48%
Terphenyl	74%	2,4,6-Tribromophenol	49%

*Outside QC limits.

Appendix IX Semivolatile Compounds (Continued)

Lab Sample ID: Method Blank
Extraction Date: 4/01/91
Analysis Date: 4/09/91

Compound	Concentration µg/L	Compound	Concentration µg/L
Benzo(b)Fluoranthene	ND10	Isosafrole	ND10
Benzo(k)Fluoranthene	ND10	M-Dinitrobenzene	ND10
Benzo(a)Pyrene	ND10	Pentachlorobenzene	ND10
Indeno(1,2,3-cd)Pyrene	ND10	1-Naphthylamine	ND50
Dibenz(a,h)Anthracene	ND10	2-Naphthylamine	ND50
Benzo(g,h,i)Perylene	ND10	5-Nitro-0-Toluidine	ND10
Total Methylphenol	ND10	Diphenylamine	ND10
Pyridine	ND50	Sym-Trinitrobenzene	ND10
2,3,4,6-Tetrachlorophenol	ND50	Phenacetin	ND10
Methyl Methanesulfonate	ND20	4-Aminobiphenyl	ND50
N-Nitrosodiethylamine	ND10	Pronamide	ND10
Ethylmethanesulfonate	ND10	Pentachloronitrobenzene	ND50
Pentachloroethane	ND10	4-Nitroquinoline-1-Oxide	ND50
N-Nitrosopyrrolidine	ND10	Methapyrilene	ND10
Acetophenone	ND10	Isodrin	ND10
N-Nitrosomorpholine	ND10	Aramite	ND20
P-Phenylenediamine	ND10	P-Dimethlaminoazobenzene	ND10
0-Toluidine	ND10	3,3-Dimethylbenzidine	ND20
N-Nitrosopiperidine	ND10	Kepone	ND300
Alpha,Alpha-Dimethyl-phenethylamine	ND20	7,12-Dimethylbenz(a) anthracene	ND10
2,6-Dichlorophenol	ND10	2-Acetylaminofluorene	ND10
Hexachloropropene	ND10	3-Methylcholanthrene	ND10
N-Nitrosodi-n-Butylamine	ND10	Dinoseb	ND50
Safrole	ND10	1,4-Naphthoquinone	ND50
1,2,4,5-Tetrachlorobenzene	ND10	Hexachloropehene	ND300

Surrogate Spike Percent Recovery:

Nitrobenzene-d_5	74%	Phenol-d_6	52%
2-Fluorobiphenyl	64%	2-Fluorophenol	54%
Terphenyl	68%	2,4,6-Tribromophenol	48%

recycled paper

ecology and environment

882-1-89

Ecology and Environment, Inc.
Date: 6/1/92

IT ANALYTICAL SERVICES
PITTSBURGH, PA

Client Project ID: 965020

Job Number: Q103165

Pesticide/PCB Analysis

Client Sample ID: P32 W066
Sample Date: 3/25/91
Lab Sample ID: 410316502
Extraction Date: 4/1/91
Analysis Date: 4/9,10/91

Compound	Concentration µg/L
alpha-BHC	ND0.03
beta-BHC	ND0.06
delta-BHC	ND0.09
gamma-BHC (Lindane)	ND0.04
Heptachlor	ND0.03
Aldrin	ND0.04
Heptachlor Epoxide	ND0.83
Endosulfan I	ND0.14
Dieldrin	ND0.02
4,4'-DDE	ND0.04
Endrin	ND0.06
Endosulfan II	ND0.04
4,4'-DDD	ND0.11
Endosulfan Sulfate	ND0.66
4,4'-DDT	ND0.12
Endrin Aldehyde	ND0.23
Methoxychlor	ND1.8
Chlordane (Technical)	ND0.14
Toxaphene	ND2.4
Aroclor-1016	ND0.50
Aroclor-1221	ND0.50
Aroclor-1232	ND0.50
Aroclor-1242	ND0.50
Aroclor-1248	ND0.50
Aroclor-1254	ND1.0
Aroclor-1260	ND1.0

	Surrogate Spike Percent Recovery
Dibutylchlorendate	1074

recycled paper

ecology and environment

682-1-89

Pesticide/PCB Analysis

Lab Sample ID: Method Blank
Extraction Date: 4/1/91
Analysis Date: 4/9,10/91

Compound	Concentration µg/L
alpha-BHC	ND0.03
beta-BHC	ND0.06
delta-BHC	ND0.09
gamma-BHC (Lindane)	ND0.04
Heptachlor	ND0.03
Aldrin	ND0.04
Heptachlor Epoxide	ND0.83
Endosulfan I	ND0.14
Dieldrin	ND0.02
4,4'-DDE	ND0.04
Endrin	ND0.06
Endosulfan II	ND0.04
4,4'-DDD	ND0.11
Endosulfan Sulfate	ND0.66
4,4'-DDT	ND0.12
Endrin Aldehyde	ND0.23
Methoxychlor	ND1.8
Chlordane (Technical)	ND0.14
Toxaphene	ND2.4
Aroclor-1016	ND0.50
Aroclor-1221	ND0.50
Aroclor-1232	ND0.50
Aroclor-1242	ND0.50
Aroclor-1248	ND0.50
Aroclor-1254	ND1.0
Aroclor-1260	ND1.0

	Surrogate Spike Percent Recovery
Dibutylchlorendate	96%