TENNESSEE GAS PIPELINE COMPANY
COMPRESSOR STATION 254
NASSAU, NEW YORK

O&M ACTIVITY LOG FORM

Personnel Performing O&M Activity

Date: 4-29-99

☑ Drainline A Excavation – Provide Description of Activity (include sketch as attachment)

Drainline Component Removed? (Yes/[✓ No])
Drainline Component and Surrounding Soil Disposed? (Yes/No) (Attach Manifest)
Repairs Made to Exposed Drainlines? (Yes/No) Describe:

☑ Air Receiver Tank Cap Excavation – Provide Description of Activity (include sketch as attachment)

Excavation Below Cap Performed? (Yes/No)
Excavated Materials Disposed Off–Site? (Yes/No) (Attach Manifest)
Cap Restored to Original Condition? (Yes/No) Describe:

☑ Drainage Area A Inspection – Rip–Rap Providing Adequate Erosion Protection? (Yes/No)

Repairs Made? (Yes/No) Describe:

☑ Service Road Area – Areal Coverage and Thickness of Stone Layer Adequate? (Yes/No)

Repairs Made? (Yes/No) Describe:

☐ Groundwater Monitoring – Groundwater Sampling Performed? (Yes/No) (Attach Summary Report and Analytical Results)

☑ Surface Water Monitoring – Surface Water Sampling Performed? (Yes/No) (Attach Summary Report and Analytical Results) Complete – On time

TENNESSEE
GAS PIPELINE
an El Paso Energy company

MEMORANDUM

To: John Roth

From: Larry Grebert

Date: April 29, 1999

RE: Report of Inspection of PCB Remediation Areas at Station 254

Inspections were conducted at Station 254 on 4/29/99 as specified in Sections 4 and 5 of the approved O&M plan. Section 4.2 specifies that inspections are to be conducted on an annual basis in order to verify the effectiveness of the erosion control measures installed in Drainage Area A, which is located west of the station adjacent to Kinderhook Creek. Observations from the inspection revealed no damage or integrity problems with this area.

Section 5.2 specifies that inspections are to be conducted on an annual basis in order to observe that the coverage and thickness of the stone layer are adequate. Observations from the inspection revealed that the coverage and thickness of the stone layer are adequate.

The integrity of the remaining remediatiated areas has not been breached and no maintenance activities have been conducted in, or are currently being planned for.

L.H. Grebert

Larry Grebert
Operations Supervisor

cc: Wayne Kolanko
File

EL PASO
ENERGY

August 2, 1999

Mr. Gerald Rider
Chief, Operation and Maintenance Section
Bureau of Hazardous Site Control
Division of Environmental Remediation
50 Wolf Road
Room 252
Albany, New York 12233-7010

Re: Tennessee Gas Pipeline Company Compressor Station 254
Order on Consent #A4-0329-9503
Letter Report - May 1999 Groundwater Sampling Results – Year Three

Dear Mr. Rider:

Tennessee Gas Pipeline Company (TGPL) is pleased to submit this letter report documenting the activities of the May 1999 groundwater monitoring event at TGPL Compressor Station 254 in Nassau, New York. These activities were conducted in accordance with *Final Documentation Report for Soil, Sediment, and Drainline Remediation Activities, Attachment 9, Operations and Maintenance Plan*, as revised in correspondence from Blasland, Bouck & Lee (O&M Plan, BB&L) on December 9, 1996. This monitoring event (May 1999) included collection of groundwater samples from the onsite Monitoring Well MW-3 for analysis of polychlorinated biphenyls (PCBs) (filtered and unfiltered). A brief description of the scope of work, results, and future scheduled sampling events are presented below.

Scope of Work

Groundwater samples from Monitoring Well MW-3 were collected by *Eco·Systems Inc.* (*Eco·Systems*), on May 19, 1999. Groundwater sampling and analysis was conducted in accordance with the procedures specified in the *Quality Assurance Project Plan for Soil/Drainline Remediation, New York Compressor Stations* (BB&L, May 1995 and TGPL, February 1996) (QAPP). Table 1 includes monitoring well purging and sampling data from the monitoring well. Severn Trent Laboratories (STL) analyzed the samples for PCBs utilizing USEPA Method 608. The detection limit for Method 608 is 0.065 µg/L.

Results

The analytical data package from Compressor Station 254 was reviewed according to the guidelines presented in the QAPP. The analytical data was validated and determined to be acceptable for its intended purpose. The analytical data validation report is presented in Attachment A.

The analytical data indicates PCBs were not detected in the unfiltered sample, duplicate sample, or filtered sample from Monitoring Well MW-3. Table 2 presents the analytical results for PCBs for this monitoring event. In addition, analytical results included as Table 3 indicate that PCBs have not been detected in the filtered samples from Monitoring Wells MW-3 for the past three consecutive monitoring events.

Schedule

Monitoring Well MW-3 will be monitored annually as required by the O&M Plan. The next annual monitoring event for Monitoring Well MW-3 is scheduled for May 2000. Your office will be notified prior to field team mobilization in the event that a NYSDEC representative intends to monitor the event.

If you have any questions regarding the information presented herein, please call me at (713) 420-5566.

Sincerely,

Ian Yanagisawa/RS

Ian Yanagisawa
Principal Environmental Engineer

Tables & Attachments

cc: Steve Morawski, El Paso-Northern Division
Eric Hamilton NYSDEC – Region 4
Larry Grebert, TGPL Compressor Station 254
File, El Paso-Houston
Central File, *Eco·Systems*

TABLES

TABLE 1
Summary of Field Sampling Data, May 1999
Tennessee Gas Pipeline Company
Station 254, Nassau, New York

	MW-3	MW-3 (filtered)
Purge Date	5/19/1999	5/19/1999
Purge Method	PVC Disposable Bailer	PVC Disposable Bailer
Initial DTW (ft-btoc)	19.71	19.71
Total Depth (ft-btoc)	31.04	31.04
Casing Volume (gal)	1.93	1.93
Approx. Volume Purged (gal)	6	6
pH	7.9	7.9
Temperature (°F)	59	59
Specific Conductance (μS)	80	80
Turbidity (NTU)	4.64 - 13.38	NM
Sample Collection Date	5/19/1999	5/19/1999
Sample Collection Time	11:35	11:40
Sample Collection Method	PVC Bailer	PVC Bailer (filtered)
Sample ID	254-MW03-C-051999	254-MW3F-C-051999
Sample Appearance	Clear w/sheen	Clear

Notes:
gal = gallons
ft-btoc = feet below top of casing
NM = not measured

TABLE 2
Summary of PCB Analytical Results for Groundwater Samples, May 1999
Tennessee Gas Pipeline Company
Station 254, Nassau, New York

LOCATION	SAMPLE ID	DATE COLLECTED	PCBs (µg/L)	NY ROD ACTION LEVEL (µg/L)	COMMENTS
MW-3	254-MW03-C-051999	5/19/1999	U	0.09	Unfiltered
MW-3F	254-MW3F-C-051999	5/19/1999	U	0.09	Filtered
MW-3DUP	254-FD1-C-051999	5/19/1999	U	0.09	Field Duplicate
RINSATE	254-RS1-C-051999	5/19/1999	U	0.09	Equipment Rinsate

Notes:
"U" indicates the parameter was not present at concentrations above the detection limit.
"J" indicates the concentration is estimated.
NY ROD Action Levels are equal to NYS groundwater quality standards per 6NYCRR Part 703.

TABLE 3
Summary of Detected Total PCBs in Filtered Groundwater Samples
Tennessee Gas Pipeline Company
Station 254, Nassau, New York

LOCATION	April-97	Jun-98	May-99
MW-3	U	U	U
MW-3DUP	U	U	UJ
RINSATE	U	U	U

Notes:
"U" indicates the parameter was not present at concentrations above the detection limit.
"J" indicates the concentration is estimated.
"DUP" indicates Duplicate Sample

ATTACHMENT A

Analytical QA/QC Review Report

ANALYTICAL DATA QA/QC REVIEW:
TENNESSEE GAS PIPELINE
COMPRESSOR STATION 254
STL SDG A99-3057

Reviewer: Patty Sartor, Staff Scientist

Date: June 10, 1999

Laboratory: Severn Trent Laboratories, Inc.
Audubon Business Center
10 Hazelwood Drive
Amherst, NY 14228-2298

Sampling Location: Tennessee Gas Pipeline
Compressor Station 254
Nassau, New York

1.0 Introduction

1.1 Samples Reviewed

Eco·Systems, Inc. (*Eco·Systems*) collected 6 groundwater samples (including QA/QC samples) from Station 254 for analysis of Polychlorinated Biphenyls (PCBs). These samples were received by Severn Trent Laboratories, Inc. (STL) on May 20, 1999. STL submitted a data package to *Eco·Systems* that contained the results and QA/QC data for each of the samples received and analyzed. The data package underwent a full data review following the criteria set forth in the QA Project Plan (Tenneco 1994), as well as the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 1994b). Table 1 lists the samples that underwent the full data review, the analytes or analyte groups that were requested on the chain-of-custody form for each sample, as well as the date the analyses were run.

Table 1. Samples Collected from Station 254

Sample	PCBs
254-FD1-C-051999	5/27/99
254-MW03-C-051999	5/27/99
254-MW3F-C-051999	5/27/99
254-RS1-C-051999	5/27/99

This data review is divided into three sections: Introduction, PCBs, and a Summary. Section 2.0 describes what parameter(s) is being evaluated, the criteria being used to evaluate the data, and the results of the full data review. The qualifiers, if any, have been added to the laboratory data analysis sheets that are provided in Attachment A. Copies of the data validation summary sheets are provided in Attachment B.

1.2 References

U.S. Environmental Protection Agency, *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, Office of Solid Waste and Emergency Response, EPA 540/R-94-013, February 1994b.

Tenneco Gas, Quality Assurance Project Plan, Revision 2, November 1997.

2.0 PCBs

2.1 Holding Times

The technical holding time criteria for PCBs in cooled (4°C) water samples is seven days from sample collection to time of extraction and then 40 days from sample extraction to analysis.

All holding times were met. It was noted in the SDG narrative that the samples were received at a temperature of approximately 4°C . No qualification is necessary.

2.2 Initial Calibration

Compliance requirements for satisfactory initial calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data for PCB compounds on the Target Compound List (TCL). Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of the analytical sequence and of producing a linear calibration curve.

Multi-component target compounds are analyzed at required concentrations. Three to five peaks are used for calibration and retention time windows of +/- 0.07 minutes are calculated. Calibration Factors (CFs) are determined for each selected multi-component analyte peak.

There were no problems noted with the initial calibration.

2.3 Continuing Calibration

Compliance requirements for satisfactory instrument calibration are established to ensure that the instrument is capable of producing acceptable qualitative and quantitative data. Calibration verification checks and documents satisfactory performance of the instrument over specific time periods during sample analysis. To confirm the calibration and evaluate instrument performance, calibration verification is performed, consisting of the analysis of instrument blanks.

There were no problems noted with the continuing calibration.

2.4 Surrogate Spikes

Laboratory performance on individual samples is established by means of spiking samples prior to extraction and analysis to determine surrogate spike recoveries. All samples are spiked with tetrachloro-m-xylene (TCMX) and decachlorobiphenyl (DCBP) prior to sample extraction. The evaluation of the recovery results of these surrogate spikes is not necessarily straightforward. The sample itself may produce effects due to such factors as interferences and high concentrations of target and/or non-target analytes. Since the effects of the sample matrix are frequently outside the control of the laboratory and may present relatively unique problems, the evaluation and review of data based on specific sample results are often subjective. The EPA data validation guidelines have set QC limits of 30-150% for both compounds.

DCBP was below recommended QA limits for Monitoring Well MW-3, its duplicate, matrix spike, spike duplicate and filtered sample. The range was within 10 to 30%; therefore, all related samples with results below the IDL should be qualified as estimated non detect "UJ".

2.5 Blanks

The purpose of laboratory (or field) blanks is to determine the existence and magnitude of contamination problems resulting from laboratory (or field) activities. The criteria for evaluation of laboratory blanks apply to any blank associated with the samples (e.g., method blanks, instrument blanks, and sulfur cleanup blanks). If problems with any blank exist, all associated data must be carefully evaluated to determine whether or not there is an inherent variability in the data, or if the problem is an isolated occurrence not affecting the other data.

None of the PCB target compounds were detected in the rinsate or method blank samples.

2.6 Matrix Spike/Matrix Spike Duplicates

Data for matrix spikes (MS) and matrix spike duplicates (MSD) are generated to determine long-term accuracy and precision of the analytical method on various matrices. No action is taken on MS/MSD data alone. However, the MS/MSD results can be used in conjunction with other QC criteria and determine the need for qualification.

The MS/MSD recoveries were inside the QC acceptance limits. No qualification of the data is necessary.

2.7 Target Compound Identification

Qualitative criteria for compound identification have been established to minimize the number of erroneous identifications of compounds. An erroneous identification can either be a false positive (reporting a compound that is not present) or a false negative (not reporting a compound that is present).

There were no target compounds detected in any of the samples. No qualification of data is needed.

2.8 Compound Quantitation

Compound quantitation, as well as the adjustment of the contract required quantitation limit (CRQL), must be calculated according to the correct equation. Compound area responses must be calculated based on the internal standard associated with that compound. The compound quantitation must be based on the CF from the appropriate daily calibration standard.

There were no problems noted with the compound quantitation.

2.9 Field Duplicates

Field duplicates are collected and analyzed as an indicator of the laboratory's overall precision. These analyses measure both the field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance.

A field duplicate was collected with MW03 for PCB analysis. All results were nondetect.

3.0 Summary

A full data review of PCBs was performed on the data package submitted for Station 254. There were no major problems that would prohibit the use of the data. However, some results should be qualified before they are used. The following table summarizes the qualifiers needed based on the full data review. The qualifiers are also added to the laboratory data analysis sheets, which are included in Attachment A.

Qualifiers Needed for Analytical Data

Sample	PCBs
254-FD1-C-051999	UJ
254-MW03-C-051999	UJ
254-MW3F-C-051999	UJ

Based on the data reviewed, there is sufficient information to conclude that the data are acceptable for use as stated in this report.

ATTACHMENT A
DATA SHEETS WITH QUALIFIERS

EL PASO ENERGY
METHOD 608 - POLYCHLORINATED BIPHENYLS
ANALYSIS DATA SHEET

Client No.

254-FD1-C-051999

Lab Name: STL Buffalo Contract: ECOSYS

Lab Code: RECNY Case No.: ______ SAS No.: ______ SDG No.: 254

Matrix: (soil/water) WATER Lab Sample ID: A9305703

Sample wt/vol: 990.00 (g/mL) ML Lab File ID: LB74243.TX0

% Moisture: ______ decanted: (Y/N) N Date Samp/Recv: 05/19/99 05/20/99

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 05/26/99

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/27/99

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	----Aroclor-1016	0.065	U J
11104-28-2	----Aroclor-1221	0.065	U
11141-16-5	----Aroclor-1232	0.065	U
53469-21-9	----Aroclor-1242	0.065	U
12672-29-6	----Aroclor-1248	0.065	U
11097-69-1	----Aroclor-1254	0.065	U
11096-82-5	----Aroclor-1260	0.065	U ↓

EL PASO ENERGY
METHOD 608 - POLYCHLORINATED BIPHENYLS
ANALYSIS DATA SHEET

Client No.
254-MW03-C-051999

Lab Name: STL Buffalo Contract: ECOSYS

Lab Code: RECNY Case No.: ______ SAS No.: ______ SDG No.: 254

Matrix: (soil/water) WATER Lab Sample ID: A9305701

Sample wt/vol: 1000.00 (g/mL) ML Lab File ID: LB74241.TX0

% Moisture: ______ decanted: (Y/N) N Date Samp/Recv: 05/19/99 05/20/99

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 05/26/99

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/27/99

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	----Aroclor-1016	0.065	U J
11104-28-2	----Aroclor-1221	0.065	U
11141-16-5	----Aroclor-1232	0.065	U
53469-21-9	----Aroclor-1242	0.065	U
12672-29-6	----Aroclor-1248	0.065	U
11097-69-1	----Aroclor-1254	0.065	U
11096-82-5	----Aroclor-1260	0.065	U

EL PASO ENERGY
METHOD 608 - POLYCHLORINATED BIPHENYLS
ANALYSIS DATA SHEET

Client No.

254-MW03F-C-051999

Lab Name: STL Buffalo Contract: ECOSYS

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 254

Matrix: (soil/water) WATER Lab Sample ID: A9305702

Sample wt/vol: 990.00 (g/mL) ML Lab File ID: LB74242.TX0

% Moisture: _____ decanted: (Y/N) N Date Samp/Recv: 05/19/99 05/20/99

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 05/26/99

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/27/99

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	0.065	U J
11104-28-2	Aroclor-1221	0.065	U
11141-16-5	Aroclor-1232	0.065	U
53469-21-9	Aroclor-1242	0.065	U
12672-29-6	Aroclor-1248	0.065	U
11097-69-1	Aroclor-1254	0.065	U
11096-82-5	Aroclor-1260	0.065	U

EL PASO ENERGY
METHOD 608 - POLYCHLORINATED BIPHENYLS
ANALYSIS DATA SHEET

Client No.
254-RS1-C-051999

Lab Name: STL Buffalo Contract: ECOSYS

Lab Code: RECNY Case No.: ______ SAS No.: ______ SDG No.: 254

Matrix: (soil/water) WATER Lab Sample ID: A9305704

Sample wt/vol: 990.00 (g/mL) ML Lab File ID: LB74244.TX0

% Moisture: ______ decanted: (Y/N) N Date Samp/Recv: 05/19/99 05/20/99

Extraction: (SepF/Cont/Sonc/Soxh): SEPF Date Extracted: 05/26/99

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 05/27/99

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.00 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	0.065	U
11104-28-2	Aroclor-1221	0.065	U
11141-16-5	Aroclor-1232	0.065	U
53469-21-9	Aroclor-1242	0.065	U
12672-29-6	Aroclor-1248	0.065	U
11097-69-1	Aroclor-1254	0.065	U
11096-82-5	Aroclor-1260	0.065	U

ATTACHMENT B
DATA VALIDATION SUMMARY SHEETS

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA

STATUS

I. HOLDING TIMES

1. Compare the sample dates on the EPA Sample Traffic Report with the dates of analysis on Form I-PEST.

2. Compare the dates of extraction on the sample extraction sheets with the dates of analysis on Form I-PEST.

Sampled Date 5/19/99
Received Dated 5/20/99
Extraction 5/26/99
Analyzed 5/27/99
w/in 7days

3. Verify that the samples were received intact and iced. C 4°C ✓

III. INITIAL CALIBRATION

1. Individual Standard Mixture
   a. Verify from the Form VIII-PEST that the Individual Standard Mixures A and B were analyzed at the proper frequency on each GC column and instrument used for analysis. Check the raw data for each standard to verify that each of the standards was analyzed at the required concentration levels.
   b. Check Forms VII-PEST-6 and PEST-7 with the raw data and deteremine that the midpoint standard concentration is 4 times the concentration of the low point standard concentration and verify that the resolution is greater than 90%.
   c. Check the Individual Standards Mixtures A and B data and Form VI-PEST-1 and review the calculated retention time windows for calculation and transcription errors.
   d. Check the chromatograms and verify that at least on chromatogram from each of the Individual Standard Mixtures A and B yields peaks registering recorder/printer deflections between 50 and 100% full scale.

N/A for PCB

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA **STATUS**

III. INITIAL CALIBRATION (continued)

e. Verify that the concentrations of the low, medium and high level standards of Individual Mixtures A and B meet the criteria in PEST Section III.C.1 above.

N/A

f. Check the Individual Mixtures A and B data and Form VI-PEST-2 to verify that the %RSD for the calibration factors in each of the single component pesticides and surrogates in the initial calibration analyses on both columns are in compliance with the criteria in PEST Section III.C above. Check and recalculate the calibration factors and %RSD for one or more pesticides; verify that the recalculated values agree with the reported values. If errors are detected, more comprehensive recalculation and review should be performed.

2. Multi-component Target Compounds

a. Verify from the Form VIII-PEST that each of the multi-component target compounds were analyzed at the required frequency. Check the raw data for the standards to verify that the multi-component analytes were analyzed at the required concentration.

ICAL SHEETS STANNDARD DATA
(0.005, 0.010, 0.050, 0.100, 0.150)

b. Check the data for the mult-component target compounds and Form VI-PEST-3 to verify that at least three peaks were used for calibration and that the retention time windows were calculated as required.

5 were used

c. Check the data to verify that calibration factors have been determined for each selected peak.

✓ CF = $\frac{2349783}{0.15}$ = 15665220

LAB = 15665223.09

AREA WAS REPORTER ON 6L INSTEAD OF CF

Station # 259

SDG# A99- 3057

DATA VALIDATION CRITERIA	STATUS
III. CALIBRATION VERIFICATION	
1. Check the Form VIII-PEST to verify that the instrument blanks, PEMs, and Individual Standard Mixtures were analyzed at the required frequency and that no more than 12 hours was elapsed between continuing calibration brackets in an ongoing analytical sequence.	✓
2. Check Forms VI-PEST-6 and PEST-7 and the data for the midpoint concentration of Individual Standard Mixtures A and B to verify that the resolution between any two adjacent peaks is greater than or equal to 90%.	N/A
3. Check the data for each of the single component pesticides and surrogates in the midpoint concentration of the Individual Mixtures A and B and Form VII-PEST-2 to verify that the absolute retention times are within the appropriate retention time windows.	N/A
4. Check the data from the midpoint concentration of Individual Standard Mixtures A and B and Form VII PEST-2 to verify that the percent difference between the calculated amount and the true amount for each of the pesticides and surrogates must be within +/-25%.	N/A
V. BLANKS	
1. Review the results of all associated blanks on the Form I-PEST and Form IV-PEST and raw data to evaluate the presence of target and non-target compounds in the blanks.	RSI = U mb = U

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA **STATUS**

V. BLANKS (continued)

2. Verify that a method blank analysis has been reported per SDG, per matrix, per concentration level, for each extraction batch and for each GC system used to analyze samples. ✓

3. Verify that the method blank analysis contains less than the CRQL of any target pesticide or Aroclor/Toxaphene or any interfering peak. ✓

4. Verify that the instruemtn blank analysis has been performed every 12 hours as the first analysis of the continuing calibration sequence. All acceptable sample analysis are to be bracketed by acceptable instrument blanks. Additionally, the instrument blank must follow sample analysis which contain an analyte at high concentration. Evaluate the results from various instrument blanks to verify that they do not contain any target analytes above one-half the CRQL values for water samples (assuming a 1-L extraction of water sample). ✓

5. Verify that the sulfur clean-up blanks were analyzed at the required frequency and that (assuming a 1-L extraction of water sample) the sulfur blanks do not contain any target compound above the CRQL. If a separate sulfur cleanup blank was prepared, one version of Form IV-PEST should be completed associating all the samples with the method blank, and a second version of Form IV-PEST should be completed listing only those samples associated with the separate sulfur cleanup blank.

GPC Clean up N
Sulphur Clean up Y

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA **STATUS**

V. SURROGATE SPIKES

1. Check the raw data to verify the surrogate spike recoveries on Form II-PEST. Check for any calculation or transcription errors. ✓

$\frac{(.0112)(1)}{2} = (.0056)(10,000) = 56$

LAB = 56

2. If recoveries are not within limits, check the raw data for possible interferences which may have affected surrogate recoveries. If low surrogate recoveries are observed, the reviewer should investigate whether the low recoveries were a result of sample dilution.

FD1, MW03, MW3F ARE ALL BELOW THE QC LIMITS FOR DCPB. ALL ASSOCIATED RESULTS WILL BE ESTIMATED.

3. Check the raw data to verify that the retention times on Form VIII-PEST are accurate and within retention time windows. ✓

MW03 TMX 2.99
CCV TMX 3.00

4. If retention times were not met, check the raw data for possible misidentification of GC peaks. Non-recovery of surrogates may also be due to shifts in retention times. ✓

VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATES

1. Verify that MS and MSD samples were analyzed at the required frequency and that results are provided for each sample matrix. ✓

2. Check raw data and Forms III-PEST-1 and PEST-2 to verify that the results for matrix spike recoveries were calculated and transcribed correctly.

$MS\ \%\ Rec = \frac{MS\ conc - Samp.\ conc}{Spike\ added} \times 100 = \frac{5.46 - 0}{5} \times 100 = 109.2$

Lab. = 109

3. Check raw data and Forms III-PEST-1 and PEST-2 to verify that the results for matrix spike relative percent difference were calculated and transcribed correctly.

$\%\ RPD = \frac{MS\ \%\ Rec. - SD\ \%\ Rec.}{\frac{MS\ \%\ Rec. + SD\ \%\ Rec.}{2}} \times 100 =$

$\frac{109 - 112}{109 + 112} \times 100 \quad \frac{-3}{110.5} = 2.71$

LAB = 3

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA **STATUS**

VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATES (continued)

6. Compare %RSD results of non-spiked compounds between the orginal result, MS and MSD. MW03 MS = SD =

ALL NONSPIKED COMPOUNDS ARE U

VII. TARGET COMPOUND IDENTIFICATION

1. Review Form I-PEST, the associated raw data and Form X-PEST-1 and PEST-2. Confirm reported detected analytes by comparing the sample chromatograms to the tabluated restuls and verifying peak measurements and retention times. Confirm reported non-detected analytes by a review of the sample chromatograms. Check the associated blank data for potential interferences and check the calibration data for adequate retention time windows. NA

All non detects

2. For multi-component target compounds (Toxaphene and Aroclors), the retention times and relative peak height ratios of major component peaks should be compared against the appropriate standard chromatogram.

3. Verify that GC/MS confirmation was performed for pesticide concentrations in the final extract which exceeded 10 ng/uL.

Station # 254

SDG# A99-3057

DATA VALIDATION CRITERIA **STATUS**

X. COMPOUND QUANTITATION AND REPORTED CRQLS

1. Raw data should be examined to verify the correct calculation of all sample results reported by the laboratory. Data system printouts, chromatograms, and sample preparation log sheets should be compared to the reported positive sample results and quantitation limits. Verify that the sample values are reported correctly. ✓

2. **Verify that the CRQLs have been adjusted to reflect all sample dilutions, splits, clean-up activities, and dry weight factors that area not accounted for by the method.** ✓