

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: PHILIPS DISPLAY COMPONENTS
Facility Address: JOHNSTON ST, SENECA FALLS, NY
Facility EPA ID #: NYD002246015

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

If yes - check here and continue with #2 below.

If no - re-evaluate existing data, or

if data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 2

2. Is **groundwater** known or reasonably suspected to be “**contaminated**”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

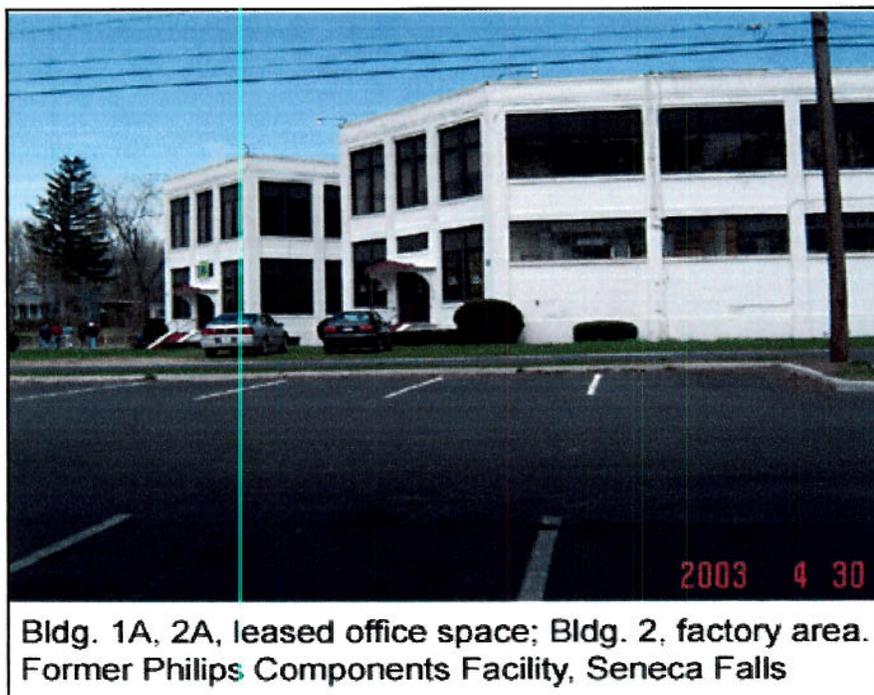
Yes If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

_____ If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): **see chart below.**

Footnotes: ¹“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).



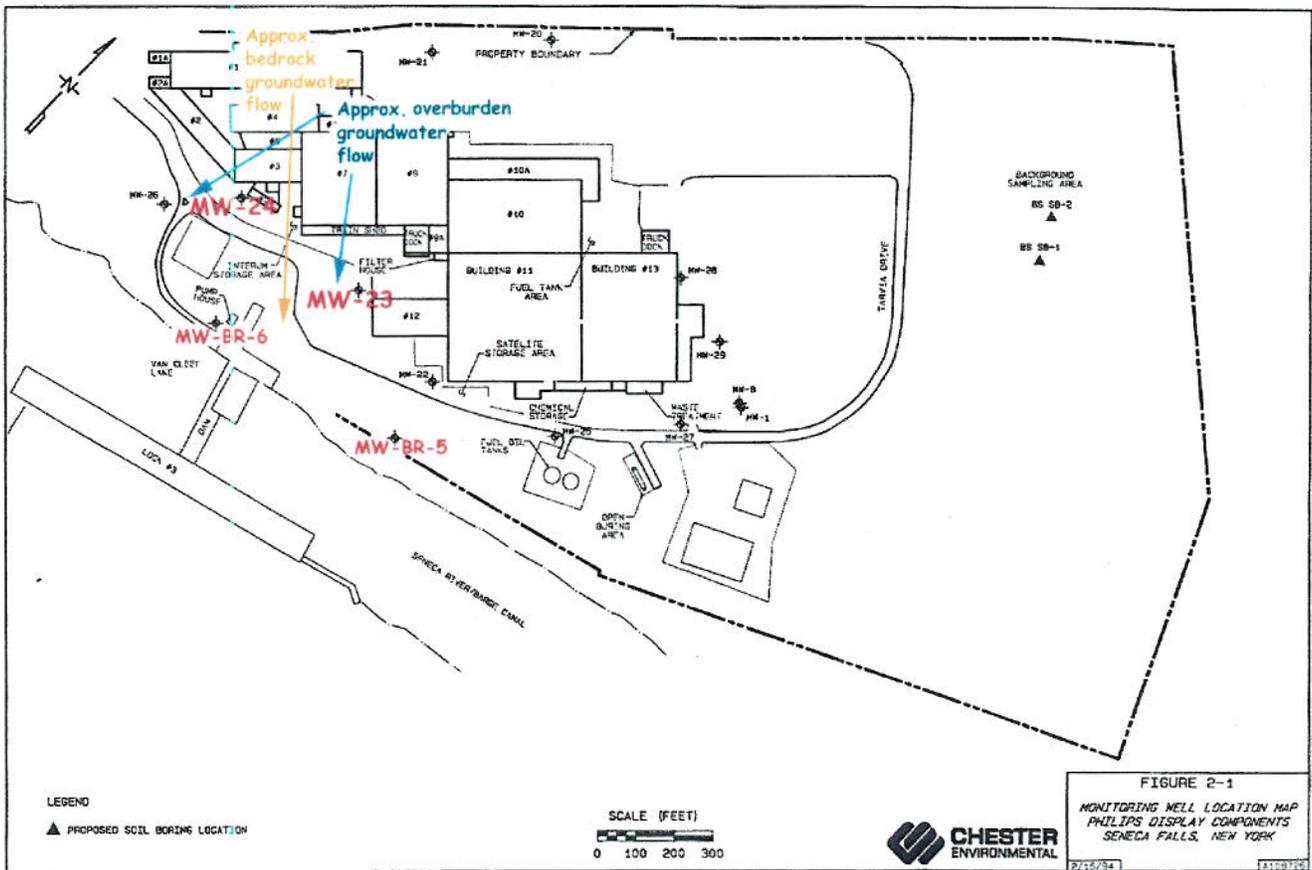
The facility occupies approximately 85 acres of land on Johnston Street in Seneca Falls, New York, with interconnected buildings occupying 13 acres of the site. The facility is bordered by Van Cleef Lake and the Seneca River/Barge Canal to the south, undeveloped and agricultural areas to the north and east, and a residential area to the west.

The original facility buildings were constructed by Rumsey Pump. In 1948, Sylvania purchased the plant and began the manufacture of black and

white television tubes. In 1960, the facility was sold to GTE and the manufacture of color television tubes began in 1962. Philips Display Components Company acquired the facility in 1981, and production ceased in 1986.

The hazardous waste management units operated by Philips included a surface impoundment and a container storage area. The impoundment was certified closed in 1993 and the container storage

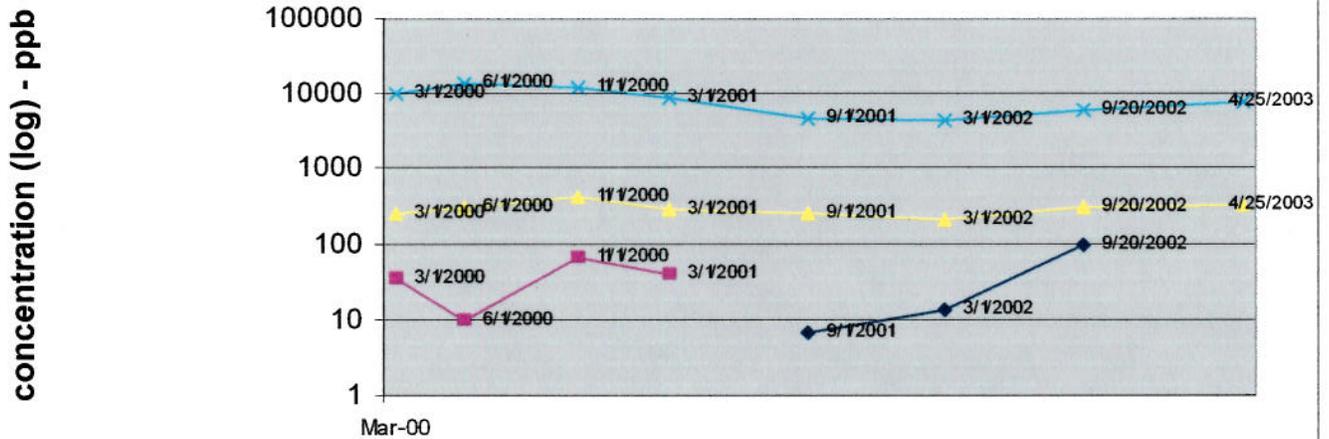
area was certified closed in 1995. The RCRA Facility Assessment (RFA) and the investigative activities conducted at the site identified ten areas to be investigated during the RCRA Facility Investigation (RFI). The RFI report submission was approved in 2003 and a Corrective Measures Study (CMS) workplan is currently pending submission.



Monitoring well location map - former Philips Components Facility

Wells mw23 and well mw24 are “key” wells hydraulically downgradient from the western portion of the facility, screened in the upper, overburden aquifer. The source of the data below is the June 28, 2002 RCRA Facility Investigation report from URS Corp. for GTE Operations Support Incorporated, supplemented with 9/20/02 and 4/25/03 well sampling analysis information. The 9/02 and 4/03 information was submitted in letters from GTE to Denise Radtke and Steve Malsan or Steve Condon and are attached. Please note the logarithmic concentration scale that allows for charting of both high and low levels of contaminants.

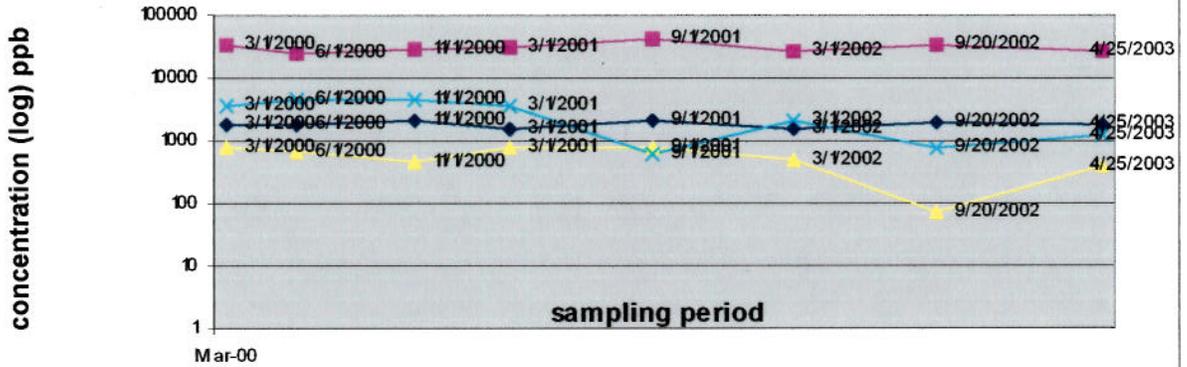
groundwater well mw23



	3/1/2000	6/1/2000	11/1/2000	3/1/2001	9/1/2001	3/1/2002	9/20/2002	4/25/2003
◆ Methylene Chloride 5ppb					6.7	14	100	
■ 1,1-Dichloroethane 5ppb	36	10	67	39				
▲ Cis-1,2-Dichloroethene 5ppb	260	300	430	280	250	210	300	330
✕ Trichloroethene 5ppb	10000	14000	12000	8800	4600	4500	6000	8100

sampling period

groundwater well mw24



	3/1/2000	6/1/2000	11/1/2000	3/1/2001	9/1/2001	3/1/2002	9/20/2002	4/25/2003
◆ Vinyl Chloride 5ppb	1800	1800	2100	1600	2100	1600	2000	1800
■ Cis-1,2-Dichloroethene 5ppb	34000	26000	30000	31000	44000	28000	34000	28000
▲ 1,2-Dichloroethane 0.6	810	660	480	800	820	500	75	410
× Trichloroethene 5ppb	3800	4500	4800	3700	630	2200	770	1300

The overburden aquifer does not appear to be in direct hydraulic connection with the bedrock aquifer, with overburden flow to the southeast and bedrock flow to the south. Overburden consists of silt, clay and minor sand glaciolacustrine layers deposited over weathered bedrock. There is adequate clay material in the overburden to retard vertical flow and horizontal flow appears to be the major component of groundwater movement. Contamination is predominantly found in the overburden aquifer with minor or minimal amounts found in the bedrock. Bedrock well #mw-br-5 shows Cis-1,2-Dichloroethene (the only significant component found) contamination steady at 1 ppb and bedrock well mw-br-6 shows TCE contamination (the only significant component found) decreasing at 14 ppb.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 3

3. Has the migration of contaminated groundwater stabilized (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”² as defined by the monitoring locations designated at the time of this determination)?

Yes If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”²).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”²) - skip to #8 and enter “NO” status code, after providing an explanation.

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

Migration of contaminated groundwater has stabilized and contaminated groundwater is expected to remain within the facility area that is defined by groundwater monitoring locations. In addition, a hydraulically downgradient boundary exists as a high bluff along the facility property. The elevation of this bluff is such that the watertable elevation “daylights” at a level on the bluff. There is no visible evidence of seeps, with surveys being performed in the spring at the time of maximum seepage and minimum foliage. It is believed that seepage, if any, occurs at a rate equal to evaporation.



Bank area near apartments - Former Philips Components Facility, Seneca Falls

² “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 4

4. Does “contaminated” groundwater discharge into surface water bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

No If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

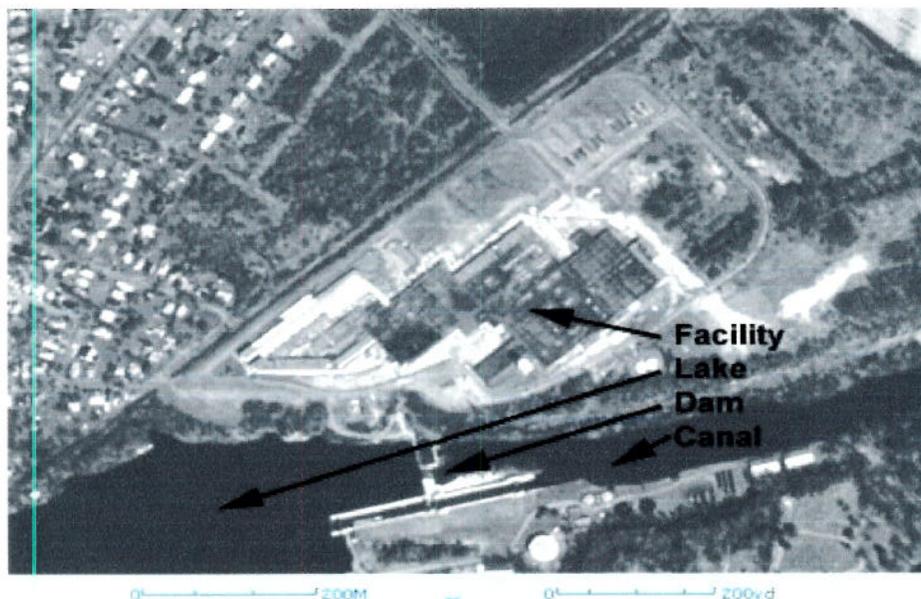
_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

This facility borders a surface water body (lake and canal) at the hydraulically downgradient side of the property; see the aerial photograph below.

1. A geologic boundary exists at the hydraulically downgradient side of the property in the form of a high bluff along the facility. The elevation of this bluff is such that the watertable elevation “daylights” at a level on the bluff. There is no visible evidence of seeps, with surveys being performed in the spring at the time of maximum seepage and minimum foliage. It is believed that seepage, if any, occurs at a rate equal to evaporation.

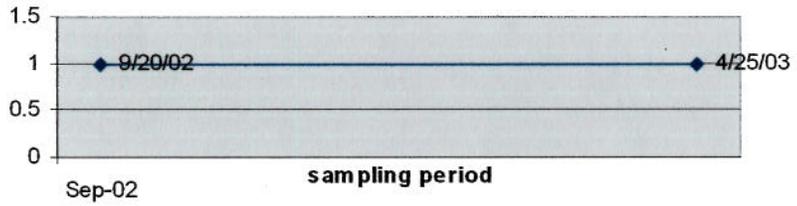
2. Analysis of two “key” bedrock wells, showing all persistent constituents is presented below. These wells are situated below the “bluff area, between the facility and the surface water body. Contaminants present in the bedrock aquifer would be observed in these wells and are shown to be of minimal concentrations.



Aerial Photo, Former Philips Display Components Facility, Seneca Falls

bedrock well mw-br-05

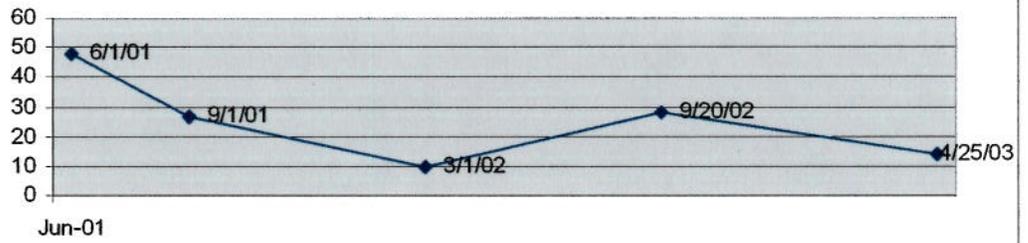
concentration (ppb)



	9/20/02	4/25/03
◆ Cis-1,2-Dichloroethene 5ppb	1	1

bedrock well mw-br-06

concentration (ppb)



	6/1/01	9/1/01	3/1/02	9/20/02	4/25/03
◆ Trichloroethene 5ppm	48	27	10	28	14

sample dates

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 7

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

YES If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

_____ If no - enter “NO” status code in #8.

_____ If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

A full groundwater monitoring program remains in place with semi-annual sampling scheduled in the Spring and Fall of each year. Wells scheduled to be sampled include overburden wells mw1, mw20, mw21, mw22, mw23, mw24, mw25, mw26, mw27, mw28, mw29 and bedrock wells mwbr1, mwbr2, mwbr3, mwbr4, mwbr5, mwbr6. Groundwater is analyzed for the following VOC parameters: Dichlorodifluoromethane, Chloromethane, Vinyl Chloride, Bromomethane, Chloroethane, Trichlorofluoromethane, 1,1-Dichloroethene, Carbon Disulfide, Acetone, Methylene Chloride, trans-1,2-Dichloroethene, 1,1-Dichloroethane, Vinyl Acetate, Cis-1,2-Dichloroethene, 2-Butanone (MEK), Chloroform, 1,1,1-Trichloroethane, Carbon Tetrachloride, Benzene, 1,2-Dichloroethane, Trichloroethene, 1,2-Dichloropropane, Bromodichloromethane, Cis-1,3-Dichloropropene, 4-Methyl-2-Pentanone (MIBK), Toluene, trans-1,3-Dichloropropene, 1,1,2-Trichloroethane, Tetrachloroethene, 2-Hexanone, Dibromochloromethane, Chlorobenzene, Ethylbenzene, Styrene, Bromoform, 1,1,2,2-Tetrachloroethane, and Xylenes (total).

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

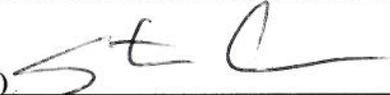
Page 8

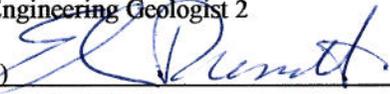
8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the **PHILIPS DISPLAY COMPONENTS** facility, EPA ID #**NYD002246015**, located at **JOHNSTON ST, SENECA FALLS, NY**. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

___ NO - Unacceptable migration of contaminated groundwater is observed or expected.

___ IN - More information is needed to make a determination.

Completed by (signature)  Date 9/30/03
(print) Stephen Condon
(title) Engineering Geologist 2

Supervisor (signature)  Date 9/30/03
(print) Edwin Dassatti
(title) Bureau Director
(EPA Region or State) Region 2

Locations where References may be found:

NYSDEC - Division of Solid & Hazardous Materials
9th floor
625 Broadway
Albany, NY 12233

Contact telephone and e-mail numbers

(name) Stephen Condon
(phone #) (518) 402-8594
(e-mail) sconcondon@gw.dec.state.ny.us