

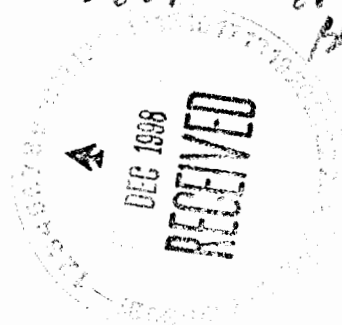


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

File # 13
where do we fit in -
IS there any action?
EPA order?
Sandy
12/09/98

December 3, 1998

Mr. Benito Garcia, Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
Santa Fe, NM 87505



RE: EPA Comments
RFI Work Plan
Philips Semiconductors, Inc.
NMD000709782

Dear Mr. Garcia:

The Environmental Protection Agency (EPA) has completed its review of the Philips Semiconductors' RCRA Facility Investigation Work Plan, dated June 14, 1996, and offers the attached comments. Please note that EPA also reviewed the most recent Quarterly Progress Reports, as well as the results of the July 1998 sampling event, in preparing these comments.

Tetrachloroethene (PCE) continues to be detected in on-site monitoring wells at concentrations exceeding the EPA maximum contaminant level (MCL). The PCE was detected in four of the five City of Albuquerque monitoring wells, as well as the three Philips' monitoring wells that are currently being sampled. Silver was also detected at concentrations exceeding the MCL during the July 1998 sampling event.

If you have any questions, please feel free to contact Ms. Nancy Morlock of my staff at (214) 665-6650.

Sincerely yours,

David W. Neleigh, Chief
New Mexico and Federal Facilities

Attachment

cc: Stephanie Kruse, NMED

ATTACHMENT
Notice of Deficiency
Philips Semiconductors RFI Work Plan
SWMU #8
June 1996

General Comments

1. Philips has proposed a three-phased investigation. Phase I includes only a determination as to whether the PCE is originating from an off-site source. Phase II includes a characterization of the nature and extent of soil and groundwater contamination. However, Phase II will be completed only if the results of Phase I indicate that the PCE is originating from an on-site source. Finally, Phase III includes a soil-gas survey to identify any source areas.

EPA has several concerns with the phased-approach. First, phased-investigations generally take longer to complete than a single, comprehensive investigation. Secondly, EPA does not agree with the decision point between Phase I and Phase II. EPA believes that characterization of the nature and extent of contamination at the facility, even if some contamination may be originating from an off-site source, should be required. The possibility for an additional source area located on the facility must be investigated, regardless of the status of any off-site contamination. EPA therefore recommends that Phase I and Phase II be combined.

2. Since the time of Work Plan submittal, sampling at MW-3 was ceased due to the fact that the water table fell below the level of the pump. EPA recommends that the inoperable bladder pump of MW-3 be repaired and that the well be included in the upcoming fourth quarter sampling event.
3. In addition to the activities proposed in the RFI Work Plan, the RFI Report should include a complete description of any additional investigative activities undertaken at Philips Semiconductors. For example, the September 15, 1998 Quarterly Progress Report indicates that the Bernalillo County Environmental Health Department (BCEHD) will perform a three day soil gas survey of the northwestern cell of the Coronado Landfill (SWMU 8) that is located on Philips' property. The results of the BCEHD soil gas survey should be included in Philips' RFI Report, perhaps as an appendix.

Additionally, sampling results from the City of Albuquerque's new wells should be included as an appendix to the RFI Report, along with copies of the well construction logs and other pertinent information regarding these new monitoring wells.

4. The July 1998 Groundwater Monitoring Results indicate that groundwater samples were analyzed for volatile organic compounds by EPA method 524.2. What is the rationale for using this method and not SW-846 Method 8260?

5. There is no information on well construction included in the RFI Work Plan. It appears that only the upper portion of the aquifer is being sampled. Because of the thickness of the aquifer, contamination in the lower zones could be missed. Philips should include well construction information in the RFI Work Plan, and also discuss the portion of the aquifer being sampled.

Specific Comments

1. **Section 3.0, Nature and Extent of Contamination, Table 3-4, Composite Sample Identification for Landfill Material Collected During the 1980 Initial Site Investigation, Page 3-10**

The table identifies locations and depths of samples collected from the landfill. It does not appear that samples were collected below five feet in some parts of the landfill. It is not clear if these samples were collected at a depth where the landfill stopped, or if this was a random depth chosen for sampling. Thus, the vertical extent of the landfill may be undefined.

2. **Section 3.0, Nature and Extent of Contamination, Table 3-6, 1987 Baseline Analytical Results for Groundwater Samples, Page 3-14**

Philips provides EPA secondary drinking water standards on this table, and gives a value of 20 ppb for tetrachloroethene. However, the maximum concentration level (MCL) for drinking water for TCE is 5 ppb.

3. **Section 3.0, Nature and Extent of Contamination, Page 3-19, 1st Paragraph**

Philips states that "None of the detected constituents exceeded NMED water quality standards, and the results are consistent with past sampling of the Philips monitoring wells." However, PCE was detected at concentrations ranging from 6.6 to 7.1 ppb, which exceed the MCL of 5 ppb.

4. **Section 4.0, Potential Receptors and Pathways, Page 4-4, Paragraph 1**

EPA questions the validity of the statement "The ingestion of soil is not considered a viable exposure pathway for the wandering child, because there are no child-care facilities in the area." Residential land use is located near the facility.

5. **Section 4.0, Potential Receptors and Pathways, Figure 4-1, Location of Recorded Groundwater Wells within One-Mile Radius of SWMU #8, Former Coronado Municipal Landfill, Page 4-7**

Since the plume extends off-site, the closest residential wells should be sampled to

determine the extent of contamination.

6. Section 5.0, Contamination Characterization, Page 5-1, Paragraph 2

- a. Philips states that "The primary data need is to determine whether the former CML is the source for PCE detected in MW-1, MW-2 and MW-4 or if the PCE is originating from an off-site source (Phase I)." EPA recommends that this statement be rewritten to read "The primary data need is to determine the nature and extent of any contamination located at the facility, and to determine whether the former CML is a source of PCE..."
- b. The statement "If the former CML is determined to be the source of PCE, then data will be collected to establish the nature and extent of COCs in groundwater" should be rewritten to state that the nature and extent will be determined in groundwater *and soil*.
- c. Philips states that slug testing will be performed to obtain information on hydraulic conductivity. Philips should explain the rationale for completing a slug test instead of a constant rate pumping test or step-drawdown pumping test, which are generally considered to produce more valuable data.
- d. EPA recommends that the soil-gas survey, proposed as part of the "Phase III" investigation, be conducted during the "Phase I" investigation so that any potential source areas may be identified.

7. Section 5.0, Contamination Characterization, Table 5-1, HSWA Module Requirements Related to Contamination Characterization at SWMU #8, Former Coronado Municipal Landfill", Page 5-2,

See General Comment #2 concerning the use of a three-phased investigation. EPA recommends that this table be revised to combine the Phase I and Phase II activities into a single phase. For example, the upgradient and downgradient monitoring wells should be installed simultaneously.

8. Section 5.2.1, Phase 1 Sampling Activities, Page 5-3, Second Paragraph

Philips states that it will install a background monitoring well, MW-5, to assess upgradient groundwater conditions. Does Philips intend to use the new City of Albuquerque well, NCLF-5, to fulfill this proposed requirement? Philips goes on to state that the City will install two additional upgradient monitoring wells. NCLF-6 appears to be located upgradient. However, NCLF-2 appears to be located in the vicinity of the SWMU. Does Philips propose to install an additional, upgradient monitoring well? Since the closest upgradient monitoring well is impacted by contamination, additional upgradient wells should be installed to further delineate the plume.

It may be helpful for NMED to request that Philips submit a revised Figure 5-2, Proposed Sampling Locations for Phase I Field Activities at SMWU #8, Former Coronado Municipal Landfill". The revised figure should show existing wells and proposed wells.

9. Section 5.2.2, Phase II Sampling Activities, Page 5-6

- a. On Page 5-9, Philips states that soil samples will be taken if screening indicates contamination. However, EPA recommends that soil samples be taken at some regular interval, generally every 10 or 20 feet, regardless of the results of the field screening. EPA also recommends that the standard operating procedure for the flame ionization detector (FID) be submitted to NMED for review and approval. What is the detection limit for the FID?
- b. At the bottom of Page 5-9, Philips states that "...an assessment will be made to determine whether identified COCs pose a risk to human health or the environment. If there is no significant risk present, the RFI Report/NFA Proposal will be prepared." EPA has several concerns with this statement. First, it is not clear *who* (Philips or NMED) will determine whether there is a risk to human health or the environment. Secondly, the use of the word "significant" is vague. What type of risk is considered "significant"? EPA recommends that the decision logic between Phase II and Phase III be reevaluated. It may be appropriate to revise the logic to show that NMED will determine the need for a Phase III investigation, following NMED review and approval of a report at the conclusion of Phase I/II. The decision logic figures included in Section 5.0 should be revised accordingly.

10. Section 5.2.3, Phase III Sampling Activities, Page 5-10

Again, EPA recommends that a soil-gas survey above the known extent of the CML be conducted during the first phase of the investigation. The information obtained from the soil-gas survey will help guide future investigative activities aimed at defining the nature and extent of contamination.