UOP

- PJDFP used shallow aquifer data to make conclusions about deep aquifer

Response
The site has been rescored to be consistent with using the deep aquifer for all information.

- Population does not draw water from aquifer of concern.

Response
All references cited by UOP and EPA indicate water is drawn from the Bennwich Formation and overlying till which is the aquifer of concern.

- Aquifer unusable because of high mineral content

Response
This appears to be true in some ~~of~~ geographic areas but not in others. This may suggest localized limitations in the ~~aquifer~~ water bearing zones but ~~information~~

precise information on the point in looking.

- Observed release occurred in the upper saturated zone. Therefore, the score should be entirely in the upper zone.

Response

The scoring is for the aquifer of concern which has been determined to be the lower aquifer, the Brunswick Formation.

- Upper zone should be evaluated for population served

Response

Upper aquifer is not the aquifer of concern.

- Population for deeper (lower) aquifer should be given

Response

Hydrogeological reports reviewed by EPA and VDP indicate the deeper aquifer is [illegible] potable water for Carolina

Kodi, NJ.

- Scores for waste characteristics and targets are grossly inflated.

Response

Scores for waste characteristics reflect chemical and toxicological ~~prop~~ properties of the ~~[illegible]~~ materials detected at the site as defined by the resources used in the Uncontrolled Hazardous Waste Site Ranking System.

The estimates of waste quantity ~~represent~~ are based on information provided by UOP in ~~the~~ its comment on the HRS Scoring ~~and independent estimate or with a second independent estimate based on information from~~

- No basis for estimates of waste quantity

~~See~~ Response

~~See the Documentation Package for estimate~~ Based on information provided by UOP in the UOP Comment.

• Conservative estimate of 1000 - 2500 drum of waste

Response

A ~~waste~~ waste quantity is defined as the entire volume or weight of waste which contains the hazardous material, not the hazardous material within the waste. Therefore if the total pesticide pollutant portion of the waste represented 0.01% the waste, as stated in the Comments of UOP, ~~the~~ and this 0.01% represent 1000-2500 drums then a linear extrapolation to the total waste volume would be ~~between~~ in excess of one million drums. If UOP ~~estimate~~ had overestimated by as much as 99.9%, they would still exceed the maximum of 10000 drum of waste.

• Target/Secondary compound ~~selected~~ selection based on detection in groundwater samples taken in 1980, not based on presence of substances at facility.

Substances which are determined to be on the facility through ~~history~~

~~to~~ historical records or analysis of facility components (i.e., water, soil, etc) may be used to provide reasonable scoring. chloroform was found in soil and water samples.

- No information available that reportable quantities of acrolein, chloroform be measured/seen on the site. ~~Reportable quantities~~ ~~The~~

Response

The availability of information about reportable ~~requirements~~ quantities is sufficient for scoring a site but not required.

- NJDEP site is lacking indicating a reportable quantity of the substance at the facility

Response

The availability of information about reportable quantities is sufficient for scoring a site but it is not required.

- Rarely found in gw similar to those found in local water supply – No basis for concluding substance was at the facility in a ≠ exploitable amount.

Response → working well & (as expected)

contaminated thereby due to a broken conn

~~No observed release to groundwater aquifer of concern~~

- Score of 15 is conservative choice for toxicity and persistence

Response The correct score is defined by the references cited in the Uncontrolled Haz. Waste Site Ranking System – A User's Manual is 18 based on a maximum score for toxicity and persistence for the compound chloroform

- Compound selection rationale is implied here presence of detectable levels of compounds should not exceed a reportable amount.

Response

Reportable amounts as required through needs of facility activities

or natural detention or site are sufficient ~~by~~ but not required conditions for use of a chemical in this route.

- Groundwater in the aquifer of concern is used only for beneficial purposes.

Response

References cited indicate a ~~deep~~ the aquifer below the varved silt and clay layers the Bernamisch Formation, supplies water for drinking use in Garfield and Lake

- Potential Targets population within 3 miles does not draw water from the aquifer of concern.

Response

The Bernamisch Formation is the aquifer of concern and the aquifer from which drinking water ~~[illegible]~~ is drawn. ~~The tabular nature of the aquifer~~ Based on the referenced report, there is a poor but existing ~~[illegible]~~ hydraulic connection between the various tabular segments of the Formation.

- People who do not draw water from the aquifer of concern within three miles should not be counted.

Response

~~[illegible]~~ Reasonable efforts have been made to discriminate between those populations drawing on the aquifer and those populations that are not.

- Report states that the aquifer is unpotable because of high mineral content.

Response The report does state that such wells supply drinking water. Unfortunately the report presents conflicting information. It appears that the mineral content may be higher in some areas than others due to the influence of Newark Bay or aquitards.

- Wells in area do not draw from aquifer of concern

The Brunswick Formation is the aquifer of concern ~~and~~ Donerlan

wells are drilled into this aquifer

· Known hydrogeological characteristics show potential targets do not draw from aquifer of concern.

Reports show a complex structure and behavior of the aquifer but they do not indicate that the aquifer under the USP site is isolated from is the same formation which extends under the ~~[illegible]~~ ~~density well~~ ~~[illegible]~~ ~~of the~~ well systems of Canfield and Hodi.

1 Discontinuity exists which permits water from upper saturated ~~[illegible]~~ zone reaching the aquifer of concern

Response

A permeability rating of 1 is appropriate for the intervening unsaturated zone of varved silt and clay.

1 Water being pumped from the aquifer of concern is currently being used for industrial purposes only

Response

Water is being used for industrial and drinking water in different areas within the three mile limit.

- ~~Non~~ Non water bearing rock separates the aquifer of concern from other discrete water bearing beds

Response

The ~~tabulanized~~ nature of the ~~aquifer with existing hydraul~~ ~~hydraulic~~ connection (though poor) ~~is~~ is such that it is tabulanized with existing but poor hydraulic connection between ~~each~~ the water bearing layers.

Surface Water

- No evidence that the facility is releasing contaminants into surface water —

Response

Analytical results show a release has occurred. It is not necessary to demonstrate that

intermittent in ~~[illegible]~~ nature of occurrence.

UOP

(1) • NJDEP used shallow aquifer data to make conclusions about the deep aquifer.

(2) • Population does not draw water from aquifer of concern.

(3) • Aquifer has high mineral content & is saline

(4) • Observed release occurred in upper zone then the score should be entered in upper zone

(5) • Upper zone should be evaluated in population score

(6) • If deep aquifer is used population should be zero.

(7) • Scores for waste "characteristics" & "target" are grossly inflated

(8) • K6 basis for estimate of waste quantity -

(9) • Concentration estimate, does waste

given a score of 5 rather than 8.

(10) • Toxicity / persistence and related hazard on detection in ~~soil~~ soil gw samples taken in 1980, not based on presence of substance at the facility

(11) • No info. from which UOP can conclude that a significant quantity of acrolein, chlor from or Hg is at the site

(12) • NJDEP cites no data indicating significant quantity of these substances at the facility

(13) • levels found in gw similar to those found in a local water supply - No basis for concluding substances are at facility in a significant amount.

(14) • Score of 15 is a conservative choice for toxicity / persistence

(15) • ~~Solution~~ and Solution rationale invalid. Mere presence of detectable levels of cpds should not infer a significant amount.

Target

- NJDEP overstated target score.
- Canal water in the aquifer of concern is used only for industrial purposes
- Potential targets w/ within 3 mile does not draw water from the aquifer of concern
- People within 3 mile of site, who do not use water from aquifer of concern should not be / considered

Canal Water Use

- Report used by NJDEP (Ground Water Technology (in app. in App B.)), states that aquifer is unsuitable for potable purposes due to high mineral content
- Wells in area do not draw from aquifer of concern
- Known hydrogeological characteristics show potential target do not draw from aquifer of concern

- Discontinuity exists which prevents water from upper saturated zone reaching the aquifer of concern. (think depth of 100 ft of clay)

- Water cannot be pumped from aquifer of concern is not for industrial purposes, not drinking, due to its hardness.

- Non-water bearing rock separates the aquifer of concern from other discrete water-bearing beds.

- Score for D.H. Nearest Well/Dep. Serv. should be zero.

  Recomputed score = 9.42

- Observed release should be 0

- Depth to Aquifer of Concern = 1

- Net Precip = 2

- Permeability = 1

- Physical State = 2

· Contaminant = 3

· Sqw = 5.02

Surface water

· No evidence that the landfill is releasing contaminants to surface water

· waste characteristics should be 2.0 as stated previously.

· Score should 8.39 rather than 12.91

5.6 Score should be 5.65
or maybe 7.29

Data Summary

- Assessment of Hydrogeologic Connection Between UOP Plant Rutherford, NJ Property and the Brunswick Formation.

- Conclusion: See Figure - Summary

? will send me results

- Conversation w/ Dan Toder, re observed release
  NJDEP on 4/25/83
  - Sampling was conducted on July 2, 1981 ~~after~~ by NJDEP.
    Analyzed by Stabler - Reuter Inc.
    Sampling was also conducted by both UOP + NJDEP on April 9, 1981. NJDEP samples analyzed by Stabler - Reuter Inc.
    UOP samples analyzed by BCM.

- Sampling was conducted in production wells on-site in deep aquifer - (glacial till ≈ 100-120 ft deep).

<u>July 2, 1981 sampling</u>
- Well #6 was especially contaminated, probably due to broken casing.
  2,4-Dimethylphenol → 540 ppb.
  ~~5~~ Nitrophenols → 124 ppb.

Well #1 chloroform → 60 ppb.
toluene → 34 ppb.
trichloroethylene → 99 ppb
Well #3 chloroform → 24 ppb.
Well #4 chloroform → 11 ppb.

April 4, 1980 sampling - DEP
trichloroethylene - 11 ppb.

~~Also spoke to Vincent Monaco, NJDEP~~