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MEMORANDUM

TO: File

FROM: Jane Cramer, Technical Program

THROUGH: Benito Garcia, Bureau Chief,
Ed Horst, Program Manager, and
Steve Alexander, Technical Supervisor

DATE: December 8, 1992

RE: New Mexico Environment Department (**NMED**) well inventory results and well sampling rationale in the vicinity of Public Service Company of New Mexico-Person Station (**PNM**) RCRA unit.

NMED has inventoried and plans to sample selected private wells, in the vicinity of a known volatile organic (**VOC**) plume at the PNM RCRA unit. The plume is known to extend from the center of PNM property, east under I-25, to a monitoring well located on property owned by Ethicon Corp. The primary goal of the inventory is to determine whether any groundwater is being utilized for human consumption within a one-mile radius of the PNM property. The secondary goal is to assist in delineating the lateral and vertical extent of the VOC plume.

PNM completed a well inventory Nov 25, 1992. This inventory was derived from State Engineer's records, NMED records and additional published reports. It provided background information on wells within a one mile radius of the PNM RCRA site. Dan Vigil (District I, NMED) and myself used this well inventory as a starting point to conduct a door to door survey to locate private wells.

The PNM inventory reported 99 wells within the one-mile radius. PNM plotted fifty of these on a topographic map of the area. Field checking of plotted well locations, however, found wells located up to 1/2 mile from where they are shown on the map. At least one well located in the field was not reported in the PNM well inventory.

Residential wells inside the one-mile radius lie primarily southwest of PNM. Groundwater beneath PNM flows from west to east. This flow is controlled predominantly by pumping. Prior to pumping, groundwater flowed from north to south. Recent groundwater chemical data results from on-site production wells at PNM suggest that flow deeper in the aquifer may be more similar to pre-pumping north to south flow.

To protect the health of residents southwest of the plume and to test the hypothesis that flow deeper in the aquifer may be to the south, the southwest quadrant of the one mile radius was targeted for investigation.

Wells screened at a variety of depths were selected to obtain information from different parts of the aquifer. Also, wherever possible, wells installed in the late 80's and early 90's were selected in hopes that the well owner had not changed and could therefore be located for permission to sample. These wells fell into one of two categories; business and residential.

Residential wells are located in the Mountainview/Kinney Brick neighborhood. These wells range in total depth from approximately 100 to 200 feet below land surface (**BLS**) and typically have screened intervals ranging from 5 to 10 feet in length. Interestingly, there is great variation in the depth of the screened intervals. Screened intervals are scattered throughout 100 vertical feet of sediment, from depths ranging from 95 feet to 189 feet BLS. This suggests very heterogeneous zones of production.

Business wells, in contrast to residential wells, are deeper, are screened in a zone only 50 vertical feet thick, and have longer screens. These wells range in total depth from 270 to 320 feet BLS and typically have screened intervals ranging from 10 to 20 feet in length.

Five wells were selected for sampling (attachment A) on December 9, 1992. Wells have been located in the field and permission to sample has been obtained from well owners. Wells have dedicated submersible pumps and storage tanks of up to 15,000 gallons. Four of the five wells are inaccessible to sampling at the well head. It is not possible to obtain samples representative of formation waters from these systems because the storage tanks cannot be purged, but some information can be obtained.

The four wells will be sampled at the tap, allowing detection of contamination in drinking water. The fifth well will be sampled from a black PVC hose attached at the wellhead. For uniformity, and to avoid creation of a dangerous ice slick, the latter well will not be purged, but will be sampled as described below.

Two samples will be taken from each well. The first will be taken when the water is turned on to sample stagnant water in the system. This is because, historically, higher concentrations were detected in stagnant water from other wells in the area. The second sample will be taken after the water has been allowed to run for several minutes to obtain a more representative sample.

Detection of contaminants will indicate a need for more rigorous sampling of the water systems and the groundwater. Non-detects will not conclusively indicate a lack of contamination. Samples will be analyzed for VOCs (method 601, 8010) by Analytical Technologies, Inc.

ATTACHMENT A

RESULTS OF WELL INVENTORY:

PNM WELL REF #	File #	OWNER (phone)	Year Drilled	Well Depth (ft)	Screen Interval (ft)
na		Dr. Tim Hanosh Rio Bravo Vet Clinic 877-8370	89	151	141-151
13	RG-9405	NM Bi-products 877-6789	91	298	283-298
25	RG-3178A	Cal-Maine 877-1730	92	300	230-300
85	RG-26884	Capital Lumber 877-7222	85	300.5	270-280 284-294
83	RG-49023	McDonald Upco Pet-vet supply 877-6644	88	318	305-320

cc: Garth Graves, NMED District I
Chuck Thomas, NMED Groundwater Remediation
file: PNM/red/92

ATTACHMENT A

SAMPLE LOCATIONS AND SAMPLE IDs

LOCATION	SAMPLE ID
Rio Bravo Veterinary Clinic well owner: Dr. Tim Hanosh	PNM-NM-1S PNM-NM-2
New Mexico Bi-products	PNM-13-1S PNM-13-2
Cal-Maine	PNM-25-1S PNM-25-2
Capital Lumber	PNM-85-1S PNM-85-2
Upco Pet-vet Supply McDonald	PNM-83-1S PNM-83-2

attached:
chain-of-custody

cc: Garth Graves, NMED District I
Chuck Thomas, NMED, Groundwater Remediation
file: PNM/red/92