Pharmatopes, Inc.

July 31, 1980

Directorate of Regulatory Affairs
Office of Inspection and Enforcement, USNRC
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear sir:

On July 29, 1980, , a driver who had been in our employ since June 9, 1980, left Pharmatopes in Oak Park at 10:20 AM to go to Detroit Central Hospital, Woodward Nuclear Clinic, Jefferson Rehabilitation Clinic and Park General Clinic.

The driver became lost going to Detroit Central Hospital. We have mobile radios in each of our delivery cars, but she did not call in for directions because she realized where she was and figured out how to get to where she was supposed to be. She arrived at Detroit Central Hospital, 801 Virginia Park at Third Avenue in Detroit, at 12:30 PM. The technologists, Pam Moultrup and Byron Barnes closed the department for the day around noon and left a used vial of Technetium-99m Sodium Pertechnetate in a briefcase at the usual pick-up point on the first floor of the hospital.

When our driver went inside the hospital with a second vial of Technetium-99m Sodium Pertechnetate, she was told that there was no one in nuclear medicine but that she could have them paged, which she did. When there was no response to the page, the security guard said she could leave the case in the office where the case to be returned was sitting.

It was at this point that the driver removed the dose, 100 mCi of Technetium-99m Sodium Pertechnetate in 3.36 ml of solution at 1100 July 29, 1980, from its briefcase. The solution was sealed in a 10 ml glass vial inside a 2-1b bright orange lead pig sealed with a four to five-inch piece of radioactive warning tape across the top of the pig. The lead pig was inside a white plastic jar with a black screw-top cap on it. The plastic container is four inches high and two inches in diameter. showed the security guard, a woman named Barnes, the dose and said she could not just leave it sitting there, so she would take it back to Pharmatopes. The guard asked if she wanted to take

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the other case, too, so the driver left the hospital carrying the two cases, her car keys and the dose she had not returned to its case in her hands.

was agitated because she was late on her deliveries and was afraid she would be reprimanded by her supervisor, so when she got to the car and dropped her car keys under the car, she just became more upset. She set the cases on the street and the instant technetium dose on the rear bumper so she could retrieve the keys. She unlocked the driver's door, set the cases in the back seat, got in the car and called Pharmatopes on the radio to report that she could not deliver the dose. The dispatcher told her she was really late, so she started the car and drove off.

(Please refer to enclosed diagram)
She was parked on Virginia Park in front of the hospital, by the wheelchair ramp, directly in front of a fire hydrant (position 1). She pulled out, turned right onto Third Avenue and continued on to Woodward Nuclear Clinic. When she got to Woodward Nuclear Clinic at 1:00 PM, she realized that she left the dose on the bumper. After she made the delivery of isotopes at Woodward, she returned to Detroit Central around 1:15 to 1:30 to see if she could find it. Because she had gotten lost and was late on her deliveries, she was sure she would get fired if she lost a dose, so she did not report it. After searching several minutes for the dose and checking with Detroit Central's security people to be sure it hadn't been turned in, she finished her other deliveries. She checked in with the dispatcher at her last stop to report that she was returning to the pharmacy. She did not mention the lost dose.

She arrived back at Pharmatopes at 2:45 PM. When the dispatcher asked her why she was so late (she should have returned two hours earlier) she said that she got lost and that she lost a dose. The dispatcher notified the pharmacist, who notified me. I wanted her to go back down there with us to look for the dose, but she said she had already looked; it wasn't there. When I insisted, she said she had to go pick up her car. I tried to tell her how serious this was, but she said, "Well, I quit. Been nice knowing you," and walked out the door.

I called the security department at the hospital to see if they had any more information on it, which they didn't. I called the local police and explained the situation, asking that they help in any way they could. It was not until 10 PM that I learned they had not responded at all.

I called the NRC to report the loss, gave all the details I had at the time, and was advised that since the dose had been missing for nearly three hours I should call the news media to warn the public not to open or handle the material.

I called the three major TV networks in Detroit to give them the details. In the meantime, the Michigan Department of Public Health had been notified by the NRC, so I talked to them to give them all the details I had. The TV stations wanted interviews to get everything straight and to show people what the container looked like. At about 7 PM I was still answering the phone as we had quite a few calls coming in.

When I was notified that the Department of Public Health was on the scene and had located the dose, I left to go down to Detroit Central myself. When I arrived on the scene, the radioactive material had been located on the northeast corner of Third Avenue and Virginia Park (position 2 on diagram) by Thomas Dykstra, a Health Physicist with the Division of Radiological Health in the Michigan Department of Public Health.

When our driver made the right turn onto Third Avenue from Virginia Park, the dose apparently left the bumper and continued across the intersection until it came to rest against the curb at position 2. When the container first hit the street, the black cap must have shattered. It has not been recovered. The white plastic jar remained intact, but the orange lead pig came out of it. The force of striking the street from a moving vehicle also cut through the radioactive warning tape so the vial fell out of the pig and was broken.

Radioactive contamination was found at the curb and on grass and earth six feet square. There had been some rain in the area in the late afternoon, which apparently helped spread the contamination. The contaminated grass and earth was physically removed from the scene by the health physicists from the Michigan Department of Public Health. They also removed all parts of the glass vial and its packaging that they could find. Finally, the Detroit Fire Department was called to hose down the area to wash the remaining short-lived isotope into a storm sewer a couple of feet from the contaminated area.

To the best of my knowledge, the only people who actually came in contact with the contaminated material were the health physicists and [redacted], the Night Administrator at Detroit Central Hospital. I was told by the health physicist that she had stepped in the radioisotope and had touched the white plastic jar which had become contaminated. I was also told that Thomas Dykstra, the health physicist, used a decontaminant foam to successfully clean her hands. He gave her boots to wear to prevent spreading the isotope. In my presence she was instructed to leave her shoes outside until the next day so the short-lived isotope could decay.

After the Fire Department left and the Michigan Department of Public Health loaded the drums of contaminated soil in their vehicles and left, I returned home. It was about 1:30 AM, so I waited until the following morning to notify the NRC that the material had been found and taken care of. I did notify the news media that the situation had been safely resolved.

The mistake that caused this incident was that the driver did not return the dose to its carrying case before leaving the hospital. She admits that this was extremely careless, and she knew better; she was upset because she was late on her deliveries.

After she realized she had lost the dose, she was afraid that if she called and reported it missing she would be fired. As it is, she resigned.

To ensure that this will not happen again, I have talked to each driver at some length to explain why there are rules about keeping the doses inside the cases and reporting in by radio when anything goes wrong. I explained that being so careless with hazardous material is very bad but that not reporting it is much worse. We have given the drivers immunity from being fired for having an accident, but have promised to fire them for trying to conceal an accident for any period of time or for not cooperating with us to find something they lost. This will be made into an amendment to the Employee Handbook for Pharmatopes.

If you have any further questions, please contact me. I can be reached at (313) 543-8400.

Sincerely,

C. Anne Smith

C. Anne Smith, R.Ph., M.S.
Director,
Nuclear Pharmacy Services

Copy to Donald VanFarowe
Michigan Department of Public Health

Mark T. Hebner R.Ph.
President, Pharmatopes, Inc.

Allan R. Weiner
Executive Director, Detroit Central Hospital

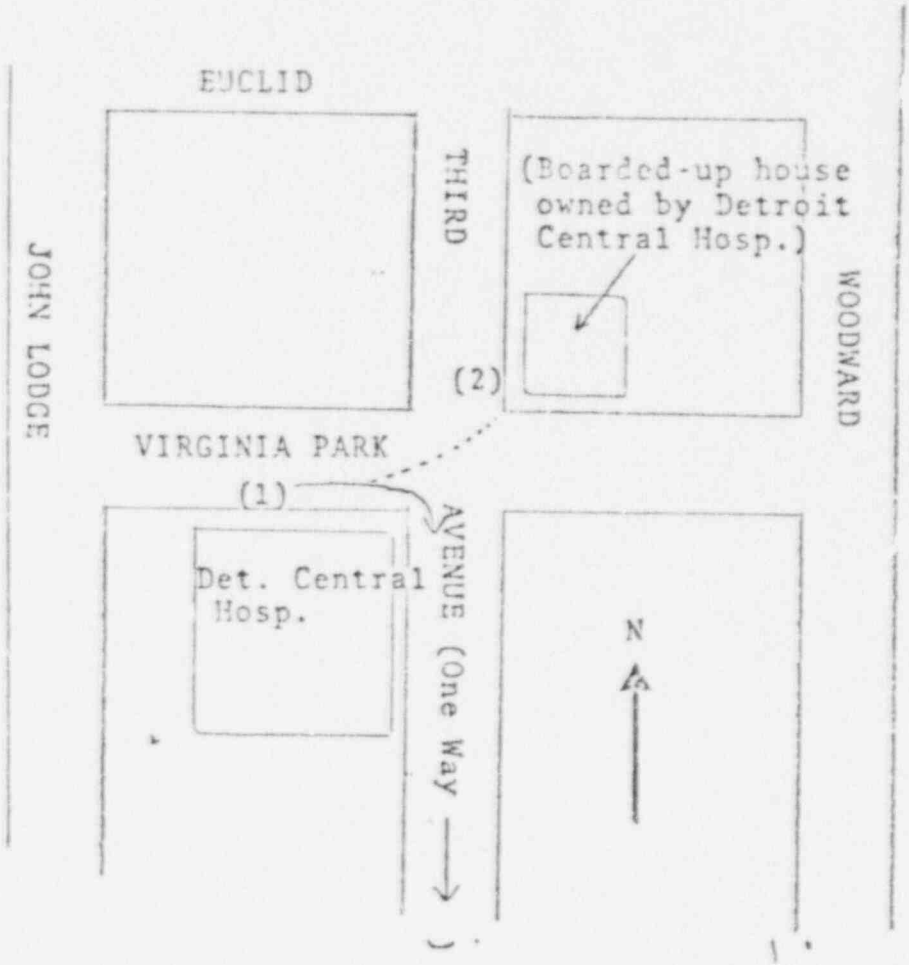


DIAGRAM OF DETROIT CENTRAL HOSPITAL AREA
WHERE ACCIDENT OCCURRED

GENERAL ACTIVITY REPORT

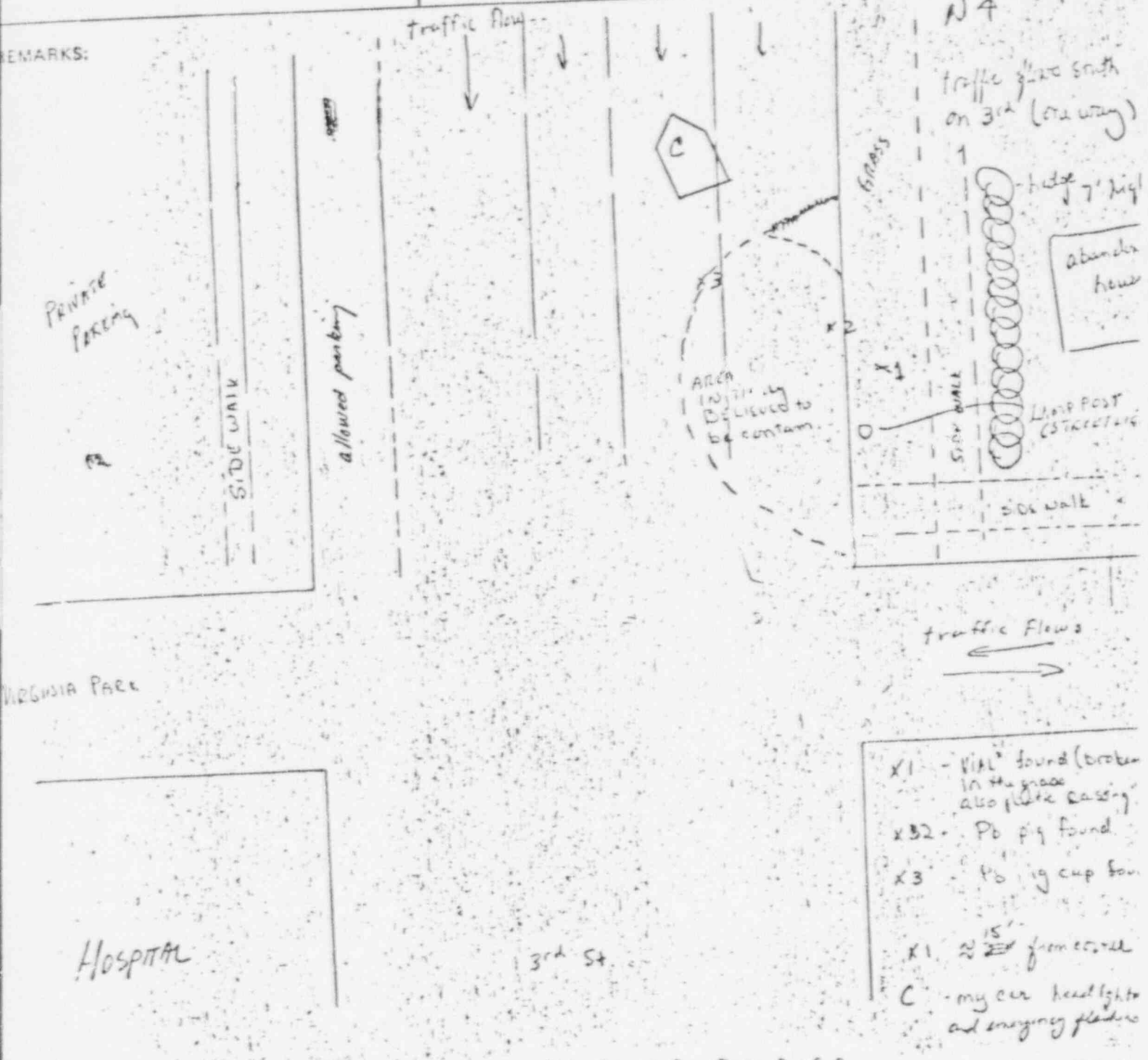
AH 800

	Expiration Date	Staff No. 60	Asst. Staff No.	Date 7/29/10
	Facility No.	County No. 63	County Oakland	
Lab.		Fac.		
Lab.				

Michigan Department of Public Health
Division of Radiological Health
3500 N. Logan Street
Lansing, Michigan 48914
Telephone: (517) 373-1310

Contact:

REMARKS:



Attachment 2 - Page 2 of 2

STATUS	ORIGIN	CONTACT	STATUS CHANGE	MACHINE STATUS	MACHINE STATUS CHANGE	TUBE STATUS
0. Not applicable 1. Compliance 2. Pend. Disposal 3. Pend. Correctn. 4. Cease and desist	0. Not applicable 1. New 2. Renewal 3. Amendment 4. Follow up 5. Request 6. Complaint	0. Not applicable 1. Full Inspection 2. Part. Inspection 3. Telephone 4. Office 5. Plan Review 6. Hearing	0. No change 1. New compliance 2. Out of compliance	Compliance Non-compliance Total	Add Subtract	Compliance Non-compl. Total Tubes Inspected

Time

Monsanto Research Corporation Performance Evaluation

Region III

LICENSEE PERFORMANCE EVALUATION (MATERIALS)

Facility: Monsanto Research Corporation
Dayton, Ohio

Licensee: Monsanto Research Corporation

Docket No.	License No.	Date of Issue	Category/Priority
070-00572	SNM-567	May 25, 1978	B-1

Nov. 1979

Appraisal Period: June, 1977 - October 31, 1980

Review Board Members:
D. J. Sreniewski, Acting Section Chief, Chairman
W. L. Fisher, Branch Chief
P. R. Guinn, NMSS Representative

A. Number and Nature of Noncompliance Items

Noncompliance Category	June 1977-September 1979	October 1979-October 1980
Violations	0	0
Infractions	2	0
Deficiencies	1	0

Areas of Noncompliance		(Action Points)
December 1977	20.408(b)-failure to report to NRC exposure of one person (non-employee) (not an over-exposure).	2
April-May 1979	20.101-employee received 21.80 rem extremity exposure in first quarter 1979.	10
April-May 1979	20.103(b)(2)-failure to record 47.3 MPC-hours airborne exposure corrective actions.	10

22 total Action Points

B. Number and Nature of Licensee Evant Reports

Part 20 Reports

April 5, 19.. Extremity overexposure - 21.8° rem to hand for first quarter of 1979.

C. Escalated Enforcement Action

Civil Penalties, Orders, Immediate Action Letters

None.

D. Management Conferences

None.

E. Evaluation of Open Items and Trends

1. There are no Open Items as of the April, 1980, inspection.

2. Overexposures - none for the period of review other than the item B, Part 20 Reports extremity overexposure.

In recent years, Monsanto Research Corporation had introduced lower action levels for personal whole body exposures. Specifically:

Year	Action Level
1976 and earlier	1 rem/qtr.
1977	0.6 rem/qtr.
1980	0.5 rem/qtr.

These reductions were reflected in the maximum whole body (WB) exposure received. Specifically:

Years	Range of max. WB exposure quarterly exposure
1977-1978	0.64 to 0.84 rem
1979-1980	0.49 to 0.57 rem

F. Licensee's Responsiveness and Management Control

NRC-RIII has found the licensee's responsiveness to problems identified by the inspection program to be adequate. There has been close cooperation and good management control demonstrated by the Facility Manager (R. Schimmel), Production Manager (R. Taylor) and Radiation Safety Officer (S. Hoadley). The support is apparent in recent facility improvements which required capital investment and in administrative procedures which required manpower commitments.

These were:

1. Installation of a new ventilation system for the process area.
2. Installation of an active waste storage bunker.
3. Addition of a soil and vegetation environmental sampling.
4. Installation of a laundry for protective clothing.

8/14/81

Ed. Jankow - Production
Robt. Taylor - Production Manager
Bob Schimmel
Steve Hadley