DOW CHEMICAL U.S.A.

50983

TEXAS DIVISION
FREEPORT, TEXAS 77541

ENVIRONMENTAL HEALTH REPORT

AIRBORNE ASBESTOS SURVEY CHLOR ALKALI UNIT II, OYSTER CREEK DIVISION

FILE NO. OCD-331

DATE April 15, 1974

AUTHOR H. N. Edwards

CHECKED R. L. Daniel

DATE 4/15/74

Summary

A survey for airborne asbestos was made at the Chlor Alkali Unit of the Oyster Creek Division. All analyses were below the levels required for the asbestos standard established by the Occupational Safety and Health Act (OSHA).

ST0650993

Distribution

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PLAINTIFF'S EXHIBIT

DOW-920

INTRODUCTION:

The Occupational Safety and Health Act (OSHA) requires that occupational exposure to airborne asbestos dust be controlled so that no worker is exposed to more than 5.0 asbestos fibers per cubic centimeter of air based on a count of fibers greater than 5 micrometers in length. These are determined as a time-weighted average (TWA) exposure for an eight hour work day, and no peak concentrations of asbestos more than 10.0 fibers per cubic centimeter as determined by a minimum sampling time of fifteen minutes. This survey evaluated the airborne asbestos at the Chlor Alkali Unit of Oyster Creek Division.

METHODOLOGY:

The bulk storage of asbestos is located in a storeroom several hundred yards from the Chlorine Cells (Fig. 1). Each day enough asbestos is transported from the bulk storage to a temporary storage located between the cell blocks and on the cells (Fig. 2). As the asbestos is required it is carried onto the top of the cells, mixed in a large container, and used in that area (Fig. 3). Air samples were taken in each of these areas and a personnel monitor was worn by the Technician while mixing and using the material.

Airborne samples were collected using the Micronair permissible air sampling pump (Bendix Environmental Science Division, Baltimore, Maryland). The asbestos was collected by pulling air through a millipore filter. Flow rates for the pumps were calibrated at 2000 cubic centimeters per minute and the sampling times for the stationary pumps were fifteen minutes, while the personnel monitor was worn for thirty minutes. All analyses were done by Lee Martin B-1218.

RESULTS:

There were no asbestos levels that exceeded the limits established by OSHA, (Table I). The highest level obtained was in the bulk storage area. In this area there was considerable loose dry asbestos.

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CONCLUSIONS:

Airborne asbestos measured during this survey was well below the current Threshold Limit Value (TLV).

RECOMMENDATIONS:

(1) Even though the concentrations of asbestos are below the TLV, care should always be used when handling the material.

(2) The bulk storage area should be used only for asbestos.

(3) The bulk storage area should be free of loose asbestos.

(4) There was some loose asbestos along side the cells. This should be removed.

(5) All clean up of asbestos should be performed by vacuum cleaners or wet cleaning method. No dry sweeping should be performed.

(6) Asbestos waste and scrap should be collected and disposed of in sealed bags or other containers.

(7) Medical surviellance is required on all personnel handling asbestos.

(8) Monitoring of this area should be done annually, and more frequently if work procedures change.

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TABLE I

AIRBORNE ASBESTOS

Fibers greater than 5.0 micrometers per cubic centimeter

LOCATION	NO. OF FIBERS
(1) (Fig.1) Bulk storage area----------	1.97
(2) (Fig. 1) Bulk storage area----------	0.80
(3) (Fig. 1) Bulk storage area----------	0.14
(4) (Fig. 2) Temporary storage----------	0.10
(5) (Fig. 2) Temporary storage----------	0.01
(6) (Fig. 3) Downwind of asbestos work---------	0.25
(7) (Fig. 3) Downwind of asbestos mixing-------	0.32
(8) Personnel monitor----------	0.22

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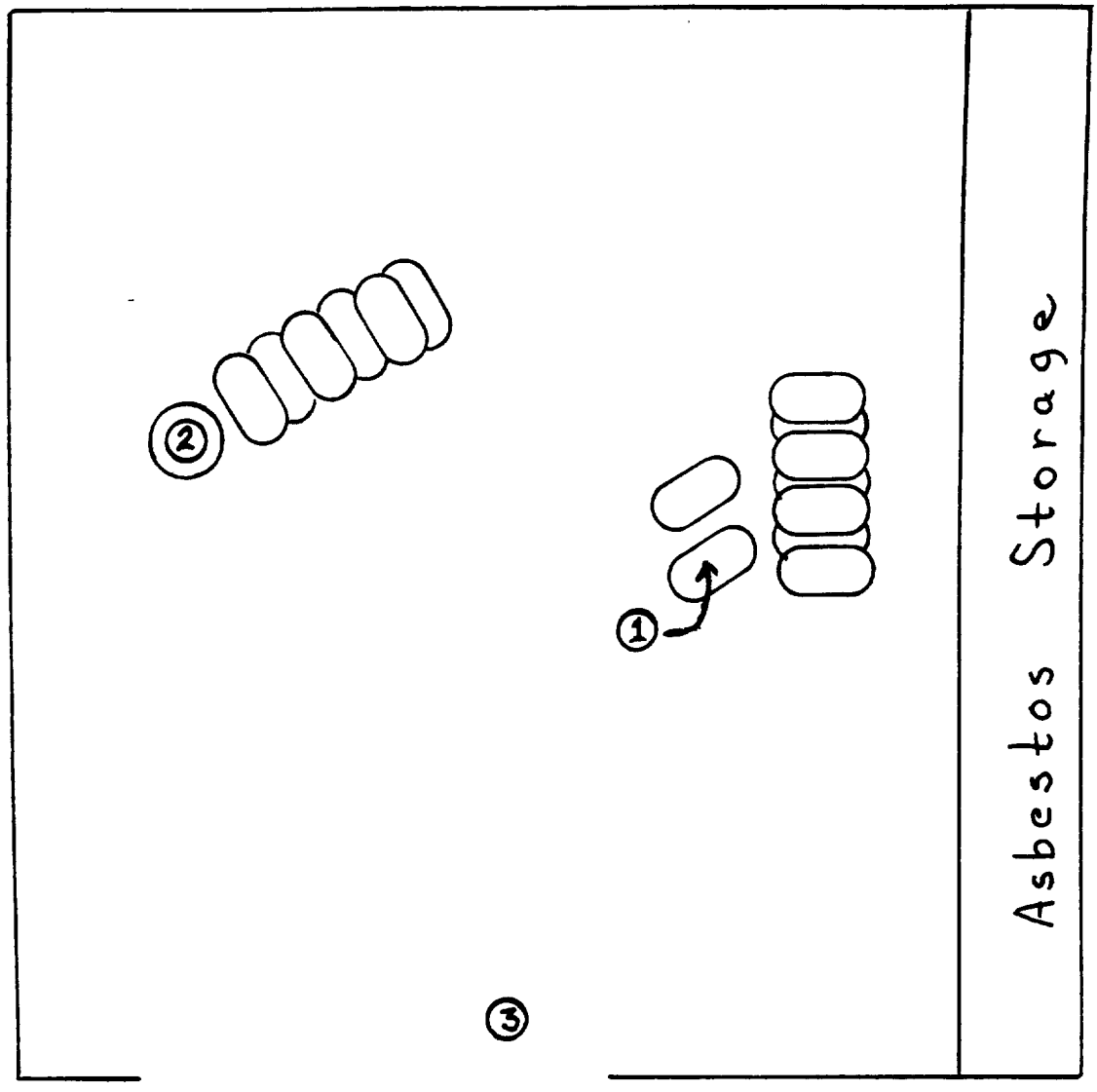

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Fig. 1 Asbestos Storage

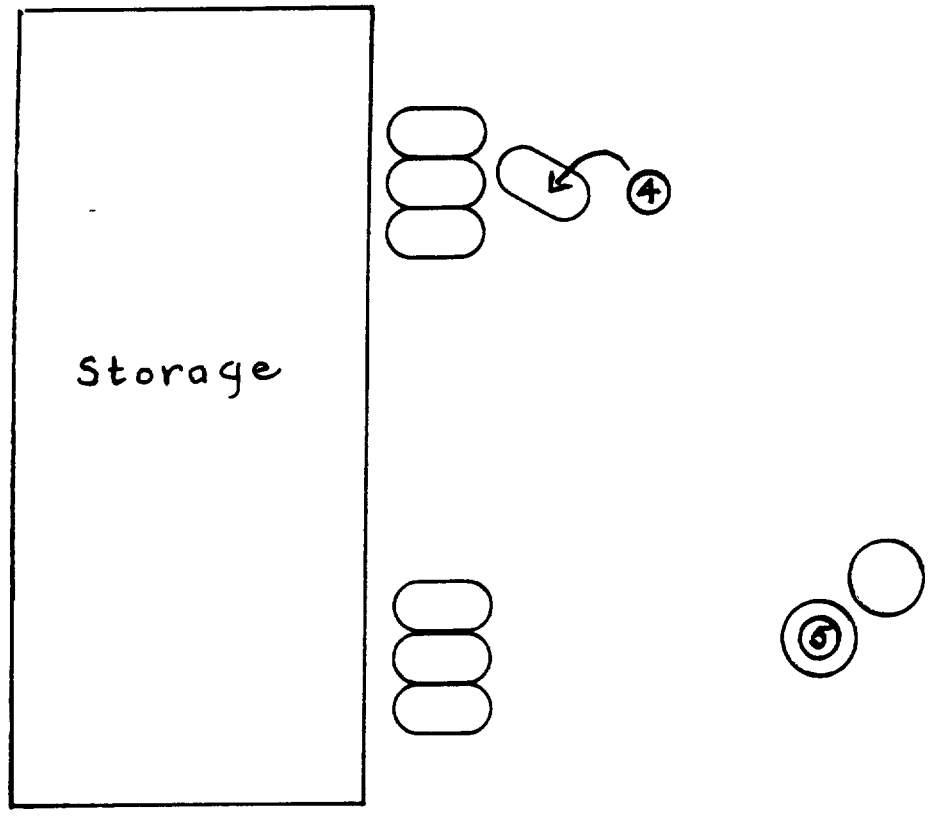

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Fig. 2 On-job asbestos storage

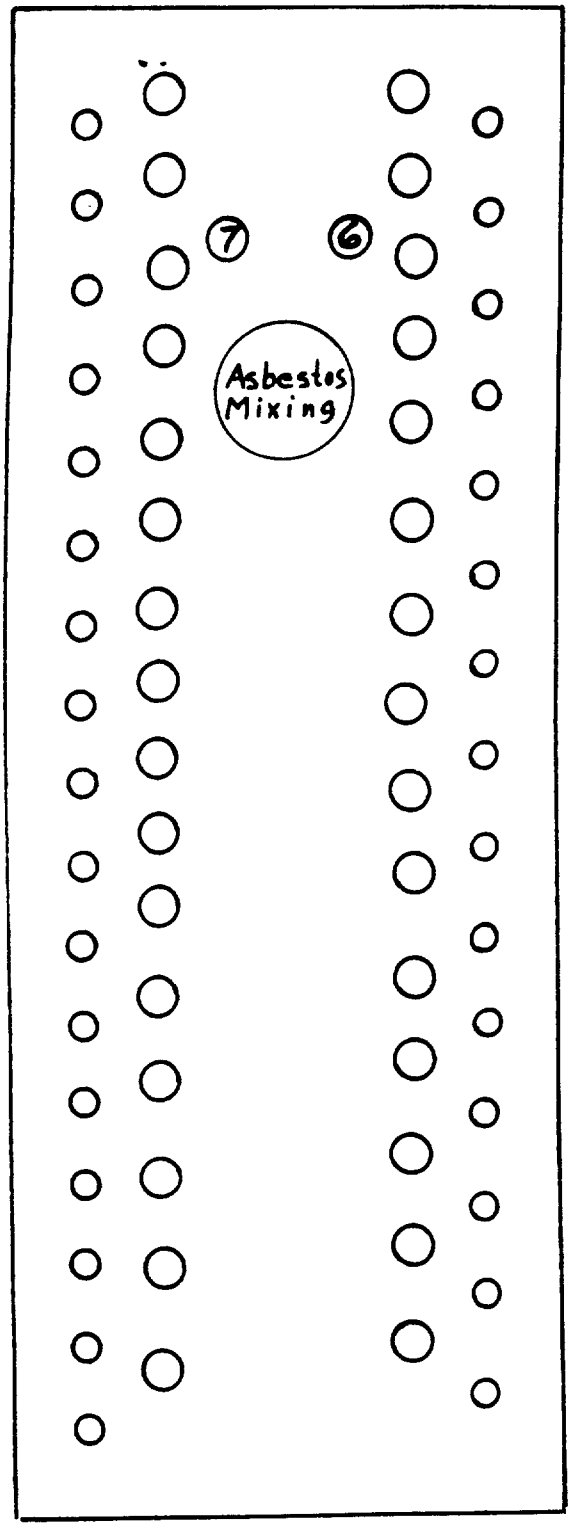

Fig 3. Cell area

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TEXAS DIVISION
FREEPORT, TEXAS 77541

ENVIRONMENTAL HEALTH REPORT

AIRBORNE ASBESTOS SURVEY
CATHODE CLEANING UNIT
OYSTER CREEK DIVISION

FILE NO. OCD-327

DATE April 9, 1974

AUTHOR H. N. Edwards

CHECKED R. L. Daniel

DATE 4/11/74

Summary

A survey for airborne asbestos was made at the cathode cleaning unit. All analyses were below the levels required for the asbestos standard established by the Occupation Safety and Health Act (OSHA).

ST0651000

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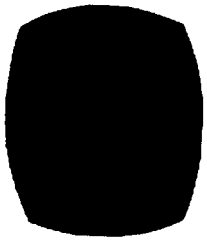

INTRODUCTION

The Occupational Safety and Health Act (OSHA) requires that occupational exposure to airborne asbestos dust be controlled so that no worker is exposed to more than 5.0 asbestos fibers per cubic centimeter of air based on a count of fibers greater than 5 micrometers in length. These are determined as a time-weighted average (TWA) exposure for an eight hour work day, and no peak concentrations of asbestos more than 10.0 fibers per cubic centimeter as determined by a minimum sampling time of fifteen minutes. This survey evaluated the airborne asbestos at the cathode cleaning unit.

METHODOLOGY

The cathode cleaning area was surveyed and ten locations were selected as stationary points for monitoring (Fig.1). Four other samples were collected from a monitor worn by a Technician during four hours of work.

Airborne samples were collected using the Micronair permissible air sampling pump (Bendix Environmental Science Division, Baltimore, Maryland). The asbestos was collected by pulling air through a millipore filter. Flow rates for the pumps were calibrated at 1500 cubic centimeters per minute and the sample times for the stationary pumps were thirty minutes while the time for sampling of the personnel monitor was one hour each for four hours. All analyses were done by Lee Martin B-1218.

RESULTS

There were no asbestos levels that exceeded the limits established by OSHA, (Table I). This operation seems to keep everything damp at all times and therefore asbestos levels are low.

CONCLUSIONS

Airborne asbestos measured during this survey are well below the current Threshold Limit Values (TLV).

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RECOMMENDATIONS

(1) Even though the concentrations of asbestos are below the TLV, care should always be used when handling the material.

(4) When the weather is warm and outside the cleaning area is dry, another survey should be made. This would evaluate the levels created by the truck traffic along the roadways.

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TABLE I

AIRBORNE ASBESTOS
Fibers greater than 5.0 micrometers per cubic centimeter

	LOCATION	NO. OF FIBERS
(1)	(Fig.1) Change Room, dirty clothes area	0.30
(2)	(Fig.1) Lunch Room, on table	0.16
(3)	(Fig.1) On cathodes that have been cleaned	0.27
(4)	(Fig.1) On wall (5' from floor)	0.86
(5)	(Fig.1) Between motors (5' from floor)	0.67
(6)	(Fig.1) On wall (5' from floor)	0.10
(7)	(Fig.1) On cathodes - ready for cleaning	0.16
(8)	(Fig.1) Along road on cathodes (5' from ground)	0.10
(9)	(Fig.1) Along road on cathodes(4' from ground)	0.12
(10)	(Fig.1) Along road on cathodes(4' from ground)	0.13

PERSONNEL MONITOR

First hour----------	0.73
Second hour----------	0.13
Third hour----------	*
Fourth hour----------	0.10

* Filter became wet during work (unable to evaluate)

EHS
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4-9-74

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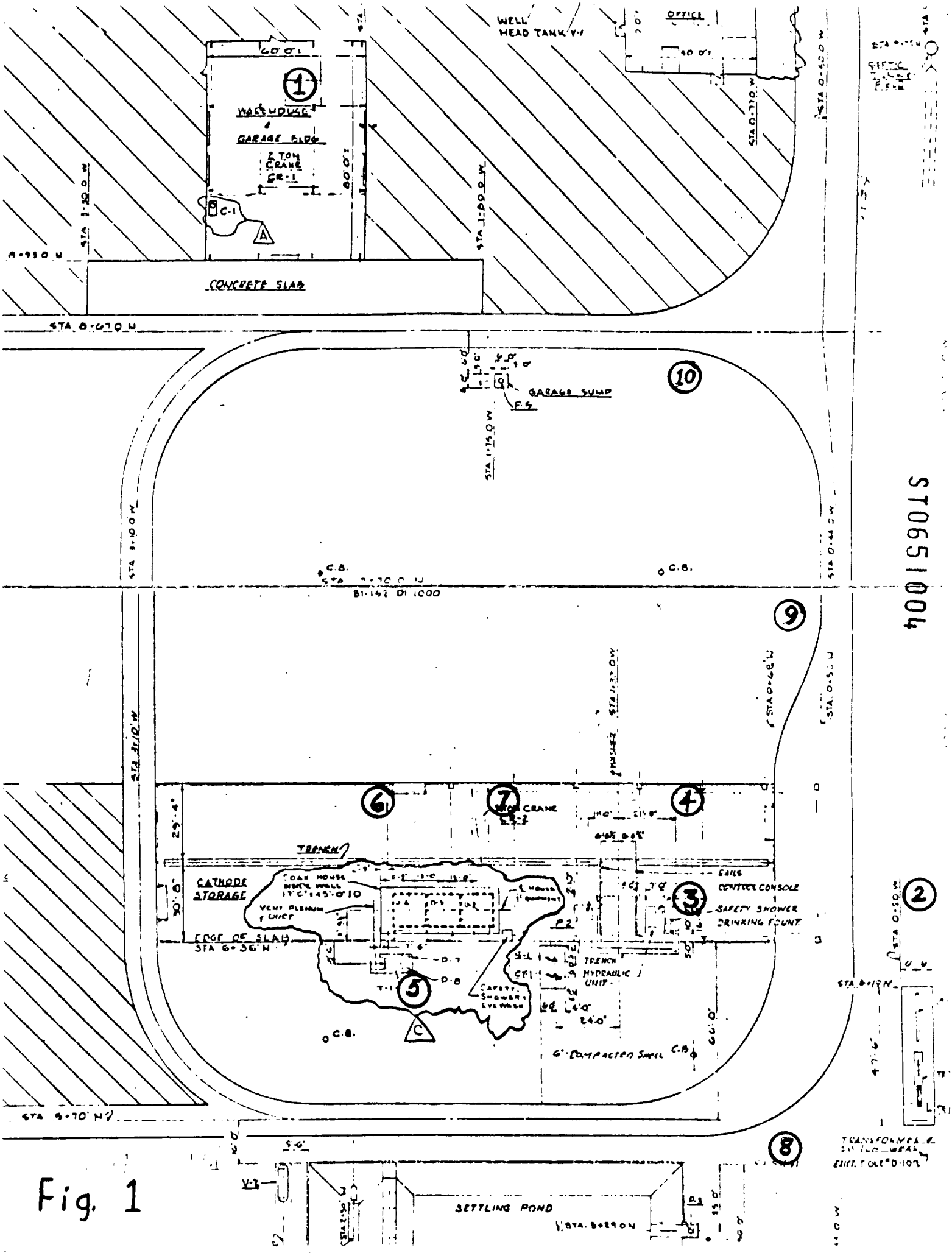

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Fig. 1