PLAINTIFF'S EXHIBIT

TEX-90

SAF-IN-AP

Houston, Texas
July 21, 1982

COPY

SAF STUDIES, SURVEYS & REPORTS
Texaco USA
Amarillo Plant
Asbestos

Mr. E. A. Enloe
Amarillo, Texas

Please find attached a survey report for potential exposure to asbestos at the Amarillo Plant. Both breathing zone and area samples were collected by Mr. B. R. Melton, May 17 - June 8, 1982. Breathing zone samples represent potential employe exposure to asbestos during stripping from overhead lines and are within acceptable limits. Area samples were obtained in the vicinity of the atmospheric tower (DCU) following an earlier stripping operation and during the CPS/DCU/CRU down period. These samples indicate that residual asbestos contamination levels are well within the OSHA standard.

The current use of respiratory protection and disposable coveralls and the practice of wetting insulation before and during removal are providing effective control for exposure and residual contamination as indicated by this survey.

If there are any questions, or assistance is needed, please contact Mr. J. W. Nisbet of this office.

Signed: O. W. RIGDON

O. W. RIGDON

TEXACO U. S. A. HOUSTON
ENVIRONMENTAL AND HEALTH
JUL 23 '82

FJB	✓	13	CHM		
RGM			FCH		
ERK	✓		DWM		
CWD			CFH		✓
MLM		✓	DJS	✓	
JFY	✓		SECY		
JJG					

JWN
blh:B/y

Attachments

FJB w/Attachments

WA-TEX 006134

WA-TEX006134

AMARILLO PLANT

ASBESTOS SURVEY

MAY 17 - JUNE 8, 1982

Sampling by: Mr. B. L. Melton
Industrial Hygiene Technician
Texaco USA

Report by: Mr. J. W. Nisbet
Industrial Hygienist
RESD

I. SUMMARY

Air sampling to determine potential employe exposure to asbestos was conducted at the Amarillo Plant. Breathing zone samples were obtained when an insulator was removing asbestos insulation from overhead lines for maintenance purposes. Area samples were obtained in the vicinity of the atmospheric tower (DCU) immediately following a stripping operation. All potential employe exposures were within the respective OSHA standards. Analysis of insulation material removed during the stripping operation showed that it contained 35-45% amosite and 5-10% chrysotile type asbestos. The current practice of following work procedures and utilizing personal protective equipment helps to ensure that exposure during the task and residual contamination are properly controlled. These practices are especially important since amosite is considered a more hazardous form of asbestos compared with the other forms of the material typically found.

II. SAMPLING METHODS AND ANALYSIS

Both breathing zone and area samples were obtained on three-stage mixed cellulose ester fiber filters utilizing a calibrated Bendix-44 sample pump. Subsequent analysis was performed on phase contrast miscroscopy by the NATLSCO Environmental Sciences Laboratory, an accredited industrial hygiene facility. Bulk samples were analyzed by polarizing light microscopy.

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III. RESULTS AND DISCUSSION

Results are provided in the attached Tables I and II. The breathing zone samples indicate potential ceiling limit exposures from 0.51 to 4.3 fibers per cubic centimeter (f/cc). Area samples indicate asbestos concentrations of less than 0.01 to 0.03 f/cc based on an eight-hour time weighted average (TWA). The "less than" indicates a concentration below the limit of detection. The OSHA standard for asbestos specifies an eight-hour TWA of 2 f/cc and a ceiling limit of 10 f/cc. Breathing zone samples indicate potential exposure to insulators below this standard. The ceiling limit levels determined here are considered "potential" exposures since insulators wore approved respiratory protection while performing the task. Area samples indicate no significant residual airborne asbestos following the stripping operation.

Bulk sample analysis of insulation indicated significant amounts of amosite type asbestos. Importantly, the ACGIH recommends an eight-hour TWA specific for amosite of 0.5 f/cc, considerably lower than the OSHA standard referenced above for all forms of asbestos. The ACGIH standard for amosite is based on the increased carcinogenic potential related to this specific substance. This standard should also be used for exposure comparisons where amosite is suspected, or determined to be, a component in stripped insulation materials.

IV. RECOMMENDATIONS

The continued use of work procedures and personal protection during insulation stripping is important and should be periodically reemphasized with employes. Work procedures are especially important due to the amount of amosite asbestos recently determined in several Amarillo Plant insulation materials.

Work procedures include the thorough wetting of insulation prior to and during removal and the disposal of asbestos-related material in properly identified and sealed bags. Personal protection includes the use of approved respiratory protection and disposable coveralls during the stripping task. While this task is typically of short duration and performed infrequently, contamination can remain and result in subsequent exposure. It, therefore, necessitates the continued adherence to the procedures and use of the protection

described above to ensure that exposures remain within acceptable limits.

Additionally, it is important that we maintain the current medical surveillance program for insulators. Annual physicals with particular attention to the lung, combined with pulmonary function tests, are the main requirements of this program.

TABLE 1

AMARILLO PLANT

ASBESTOS

AREA SAMPLES
06/07/82 - 06/08/82

SAF - STUDIES, SURVEY AND REPORTS
TEXACO USA
AMARILLO PLANT
ASBESTOS
TABLE 1 OF 2
PAGE 1 OF 1
REPORT DATE- JUL 21 1982

SAMPLE NUMBER	DATE	LOCATION	WIND SPEED	TEMP (F)	TIME		ANALYSIS RESULT*		ADJUSTED CONCENTRATION*		METHOD**
6191000313	06/07/82	DCU,PRES COKE	11 TO 20 MPH	82	240		0.0100 F/CC	240		0.01 F/CC	8 HR-SAME
6191000314	06/07/82	DCU,PRES COKE	11 TO 20 MPH	82	240	<	0.0100 F/CC	240	<	0.01 F/CC	8 HR-SAME
6191000315	06/08/82	DCU,PRES COKE	11 TO 20 MPH	84	240		0.0300 F/CC	240		0.03 F/CC	8 HR-SAME
6191000316	06/08/82	DCU,PRES COKE	11 TO 20 MPH	84	240		0.0200 F/CC	240		0.02 F/CC	8 HR-SAME

* < = LESS THAN THE DETECTABLE LIMIT
↑ = ROUNDED TO THE NEAREST HUNDREDTH
B = BREAKTHROUGH
# = ADJUSTED CONCENTRATION EXCEEDS THE STANDARD

** SAME = THE ADJUSTED CONCENTRATION WAS COMPUTED BASED ON ASSUMED SAME EXPOSURE DURING THE BALANCE OF THE UNSAMPLED TIME.
ZERO = THE ADJUSTED CONCENTRATION WAS COMPUTED BASED ON NO SIGNIFICANT EXPOSURE DURING THE BALANCE OF THE UNSAMPLED TIME.

TABLE II

AMARILLO PLANT

ASBESTOS
05/17/82 - 05/20/82

SAFE - STUDIES, SURVEY AND REPORTS
TEXACO USA
AMARILLO PLANT
ASBESTOS

TABLE 2 OF 2
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REPORT DATE= JUL 21 1982

SAMPLE NUMBER	EMPLOYE SSN	EMPLOYE TITLE	LOCATION	DATE	TEMP (F)	TIME	ANALYSIS RESULT*	15 MIN CEILING*	METHOD**
6191000288	0456707627	INSULATOR	MAINTENANCE	05/17/82	64	15	1.3000 F/CC	1.30 F/CC	15 MIN=ZERO
6191000297	0456707627	INSULATOR	MAINTENANCE	05/19/82	68	30	0.5100 F/CC	0.51 F/CC	15 MIN=SAME
6191000301	0456707627	INSULATOR	MAINTENANCE	05/20/82	78	15	4.3000 F/CC	4.30 F/CC	15 MIN=ZERO

* < = LESS THAN THE DETECTABLE LIMIT
↑ = ROUNDED TO THE NEAREST HUNDREDTH
B = BREAKTHROUGH
# = CEILING EXCEEDS THE STANDARD

** SAME = THE CEILING WAS COMPUTED BASED ON ASSUMED SAME EXPOSURE DURING THE BALANCE OF THE SHORT TERM EXPOSURE
ZERO = THE CEILING WAS COMPUTED BASED ON NO SIGNIFICANT EXPOSURE DURING THE BALANCE OF THE SHORT TERM EXPOSURE

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