AMERICAN CHEMICAL SERVICES NPL SITE
GRIFFITH, INDIANA
SITE SUMMARY AS OF July 9, 1990

SITE HISTORY

The American Chemical Services NPL site was listed on the National Priorities List (NPL) in September 1984. The ACS site contains a currently operating facility which accepts hazardous materials, primarily spent solvents, for distillation and eventual resale. The operating facility, operates under an "interim status" permit issued under the RCRA program and is seeking a full operating permit under RCRA. The ACS site is composed of three landfilled areas: the "on-site containment area"; the "off-site containment area"; and the city of Griffith municipal landfill. The two containment areas contain numerous buried drums and sludges from ACS operations from 1955 until 1975. The city of Griffith landfill was used by ACS for disposal of various hazardous substances. Other areas at the site include the Kapica Drum area (located outside the operating portion of the facility) and a buried still bottoms pond (located inside the operating facility). Kapica Drum encompasses approximately two acres and formerly housed a drum reclaiming operation. A consent order to perform a RI/FS was signed by approximately 150 former customers of ACS as potentially responsible parties (PRPs) on June 28, 1988. Site work began in late June 1989. The USEPA recently issued a complaint against ACS, which resulted in a Consent Decree ordering ACS to either comply with RCRA financial assurance regulations by early September 1990, or close the facility.

CURRENT CLEANUP STATUS

Phase I of the RI was completed in early December 1989, with the submittal of technical memoranda to USEPA by the PRPs contractor. Phase I results showed highly contaminated soils in the Kapica Drum area, highly contaminated groundwater underlying most areas of the site, and large volumes of hazardous waste materials within the on-site and off-site containment areas. Phase II of the RI is near completion at the present time. Phase II concentrated on determining the extent of groundwater contamination, sampling of residential wells, delineating the volume of highly toxic hazardous substances in the waste burial areas (e.g., PCBs), delineating site wetlands, delineating sediment and surface water contamination, and the extent of waste burial.

ENVIRONMENTAL SITUATION

Large tracts of wetlands border the site to the west, southwest, north, and east. Sediment samples have been taken to assess the impact the site has had on these areas. Groundwater is heavily contaminated with benzene, xylene and toluene, lesser concentrated substances include methylene chloride, various semi-volatile compounds and trace PCBs near one source area. Groundwater appears to discharge to nearby wetland areas but the impact of this discharge is not yet known, due to the unavailability of data. A lower aquifer may also be impacted, however, no data is yet available. Residences near the site may be affected by contaminated groundwater.

PROPOSED SCHEDULE

The RI report is due to USEPA September 7, 1990. The FS report is due to USEPA by mid-July 1991. A Record of Decision has been scheduled for the end of June 1992. <u>All dates are currently projected and do not account for unforseen site complexities.</u>

Original

PRELIMINARYT REVIEW REPORT (PR)
RCRA FACILITY ASSESSMENT (RFA)

1. Facility Name American Chemical Service
EPA ID # IND 016 360 265
Preparer Keith Warwick
Date November 28, 1988

2. General Description of Facility and Processes:

A. Description: There are tanks at the facility. They have a Container Storage Area. Process codes include S02 and T04, and S01. Closure would involve ~ 400,000 gallons. This is an NPL site because of GW contamination. They handle significant amounts of chlorinated hydrocarbons. They have 315,000 gallons of solvents. Wastes include Benzene, Toluene and 1,1,1-Trichloroethylene. About 10,000 people live within 3 miles of the site. They treat D001, F001, F002, F003 and F005. Container Storage area contains 300 drums. Facility size is approx 11+ acres. They recover spent solvents through distillation. They treat D001, F001, F002, F003, F005. ACS is a chemical recycling facility. Concerns include disposed drums and sludge. The following wastes are handled at the facility: F001, F002, F003, F005, U002, U031, U112, U147 and U154. EPA Hazardous Waste No's include: F001, F002, F003, F005 and D001. They do custom chemical manufacturing, solvent reclaiming and processing of hazardous wastes.

B. Information on Solid Waste Management Units (attach additional sheets as needed):

	Unit	Release (yes/no/unknown/suspected)
i.	Tanks	Unknown
ii.	Reclaim Areas	Unknown
iii.	Old Landfills	Yes
iv.	Container Storage Area	Unknown
v.	Miscellaneous 55-gallon drums	Suspected
vi.	Adjacent City Landfill(s)	Suspected
vii.	Disposal Areas - Center ACS Site	Suspected
viii.	Old Settling Pits	Suspected
ix.	Ponds	Suspected
x.	Incinerator	Unknown

CONTINUED

PRELIMINARYT REVIEW REPORT (PR)
RCRA FACILITY ASSESSMENT (RFA)

1. Facility Name American Chemical Service (Continued)
EPA ID # IND 016 360 265
Preparer
Date

2. General Description of Facility and Processes:

A. Description: On site they have equipment to receive, process and ship various solvents and chemicals in drums and bulk. Injectant storage tanks contain high chloride injectant blending stocks, low chloride injectant blending stocks and blended injectant.

B. Information on Solid Waste Management Units (attach additional sheets as needed):

	Unit	Release (yes/no/unknown/suspected)
X i.	Bulk Shipment Unloading & Loading-Drum Filling Dock	Unknown
X ii.	Surface Swale	Yes
X iii.	Other Facilities (Epoxidation / Blending / WWT)	Unknown
X iv.		
X v.		
X vi.		
X vii.		
X viii.		
X ix.		
X x.		

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Tanks
Age:
Capacity: 315,000 Gallons
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description: Listed on Part "A" recieved Aug. 22, 85

Several Locations.

Tanks include; processing tank areas, holding tank areas, (additives) tank farm, injectant tank farm,

Investigate Product Storage

Additional Information Needed: Has there been a release here?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Reclaim Areas
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:
Includes at least three areas: 1. Reclaim Product Tank Farm
2. Reclaim Crude Tank Farm
3. Reclaim Facility

Solvent Reclaim Storage - Crude solvent storage tanks are emptied by routine charging of distillation equipment as detailed in Routine Procedure Training File.

The Part "A" recieved Aug 22 '85 as total solvent and Fuel recycling capacity. - TOH - to be determined - 50,000 gallons per day.

Investigate Distillation Process Area.

Investigate Solids Mixing Area (Waste Pile)

Additional Information Needed:
What processes do these refer to?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Old Landfills
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description: These old landfills contain hazardous waste. Shallow aquifer beneath site is contaminated with benzene, toluene, and 1,1,1- trichloroethylene.

A Dec 10, 1982 Memo from Jim Knoy, Division of Land Pollution Control mentions contaminated leachate in a surface swale adjacent to the landfill.

Additional Information Needed:
Have there been releases here?

What was landfilled?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Container Storage Area
Age:
Capacity: 600 / 300 Drums
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:
Part A recieved Aug 22 '85 lists 16,500 Gallon Capacity.
Hazardous constituents include crude soluents.
Surrounded by a curb.
The Drum Unloading Dock is in this area.

Additional Information Needed:
Is hazardous waste stored here for more than 90 days?
What has been stored here?
What is currently stored here?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Miscellaneous 55-gallon drums Regulatory Status:
Age:
Capacity:
Period of Operation:
Waste Type:
Volume: "Many"
Hazardous Constituents (attach separate sheet):

B. Unit Description:
During an inspection, there were many 55-gallon drums on ACS property that were not shown to the inspectors by Mr. Tarpo.

Investigate a 55-Gallon drum recycling area.

Additional Information Needed: What is/was in the drums? Have there been releases from the drums?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Adjacent City Landfill(s) Regulatory Status:
Age:
Capacity:
Period of Operation:
Waste Type: See Below
Volume:
Hazardous Constituents (attach separate sheet): See Below

B. Unit Description: Groundwater contamination has been documented here.

Possible hazardous waste includes buried drums containing residues such as phenol, isophorone, naphthalene and numerous other wastes.

Operator labeled listed wastes as D001, mixed with sand to render solid waste (non-ignitable) and sent to neighboring landfill as non-hazardous waste.

Additional Information Needed:
This has been studied on numerous occasions by the U.S. EPA.

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Disposal Areas Center ACS Site Regulatory Status:
Age:
Capacity:
Period of Operation:
Waste Type: See Below
Volume:
Hazardous Constituents (attach separate sheet): See Below

B. Unit Description:
This unit is currently covered with roads and storage tanks.

Possible hazardous wastes include; buried drums containing residues such as phenol, isophorone, naphthalene and numerous other wastes.

There are Disposal Areas, covered in 1975, may contain buried drum's and sludges.

Additional Information Needed:

Inspected by ISDH in the past.
Was the "Disposal Area" a lagoon?

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Old Settling Pits
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:
Three pits were dug by ACS for early distillation processing. As the pits were retired from use, they were filled with perforated 55-gallon drums.

Cap materials include: Clay, mix gravel and trash.

There are three pits.

Additional Information Needed:

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Ponds
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:

This facility has drains from the container process area. (Fire Pond)
There is a holding Pond.
There is a retention Pond.

Additional Information Needed: Are there other past or present ponds. Do any contain hazardous waste?

12/19

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Incinerator
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description: Listed in Certification regarding potential releases from solid waste management units

Fume Incinerator located in northeast area of the facility.

Additional Information Needed:

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Bulk Shipment Unloading/Loading / Drum Filling Dock
Regulatory Status:
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

B. Unit Description:
Bulk shipments are unloaded with a pump at the Western Boundary.

Two Locations - Unloading

Bulk shipments are unloaded with a pump at the northern boundary.

One Location - Loading

Outgoing shipments are pumped to a tank wagon spotted at the eastern boundary.

There is a Drum Filling Dock located in the southern area of the facility by the Railroad Spur Track.

Additional Information Needed:

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Surface Swale
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:
A Dec 10, 1982 Memo from Jim Knoy, Division of Land Pollution Control mentions contaminated leachate in a Surface Swale adjacent to the landfill.

Additional Information Needed:

3. Specific Unit Information (prepare one for each unit):

A. Unit Type: Other Facilities
Age:
Capacity:
Period of Operation:
Waste Type:
Volume:
Hazardous Constituents (attach separate sheet):

Regulatory Status:

B. Unit Description:
Epoxidation Tank Farm & Facility

Blending Tank Farm & Additive Blending Facility

Wastewater Treatment Units

Additional Information Needed:

Wastewater Treatment Units - Listed in Certification regarding potential releases from solid waste management units.

C. Monitoring Description (groundwater, surface water, etc.):

Aquifers are separated by a continuous 15 to 25 foot layer of clay.

There are four deep wells located on ACS property.

Additional Information Needed:

D. Environmental Setting: About 10,000 people live within 3 miles of site and use the shallow aquifer for drinking water.

ACS is located in Lake County, Indiana.

Adjacent facilities include; Fazme drums, Old City of Griffith Sanitary Landfill, and the new City of Griffith Sanitary Landfill.

Fazme drums purchased his property from Kopica Drums

ACS is bordered by Colfax Avenue on the East, Company railroad tracks on the south, the Grand Truck Railroad on the North, and lowland with an elevated barrier to the west.

Additional Information Needed:

E. **Evidence of Suspected Past or Current Releases:**

The shallow aquifer beneath the site is contaminated with petachlorophenol (spelling ?), benzene, toluene, vinyl chloride, 1,1,1-trichloroethylene and other compounds.

A Dec 10, '82 Memo from Jim Knoy, Division of Land Pollution Control mentions data from monitoring wells installed by E & E is currently being reviewed. Preliminary results do indicate groundwater contamination.

Additional Information Needed:

Request geologic information and sampling results showing evidence of releases, from the facility.

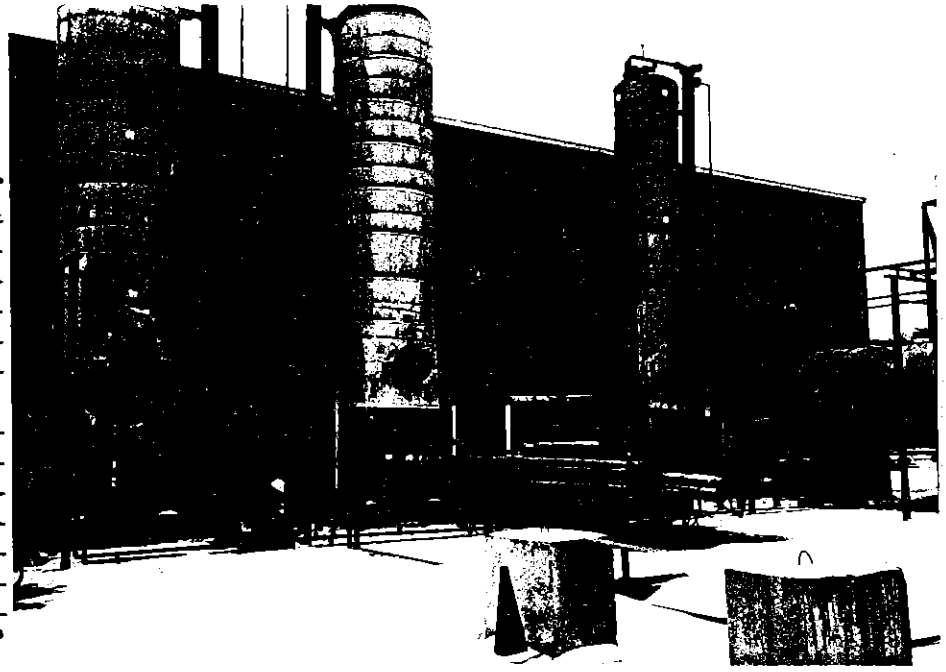
4. Visual Site Inspection (VSI)

A. Specific Objectives: Estimated length of time on-site for VSI is 3-4 hours

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Distillation Facility ?
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec. 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warnick
WITNESS:
CAMERA:
FILM TYPE: ASA: T-1/ f:
NEGATIVE LOCATION: RCRA-K.W. FILE #:
PROCESSED BY:
PHOTO #: 1 of 18

GPO 525-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Container Storage
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warnick
WITNESS:
CAMERA:
FILM TYPE: ASA: T-1/ f:
NEGATIVE LOCATION: RCRA-K.W. FILE #:
PROCESSED BY:
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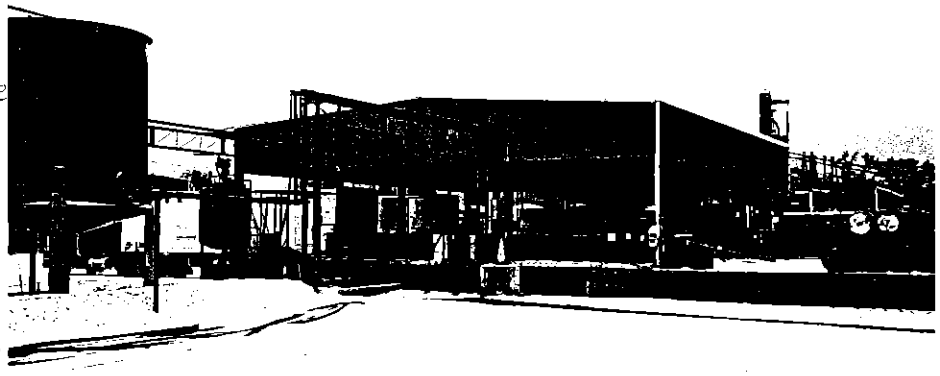
GPO 525-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Landfill
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warnick
WITNESS:
CAMERA:
FILM TYPE: ASA: T-1/ f:
NEGATIVE LOCATION: RCRA-K.W. FILE #:
PROCESSED BY:
PHOTO #: 3 of 18

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Fire pond
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): [signature]
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
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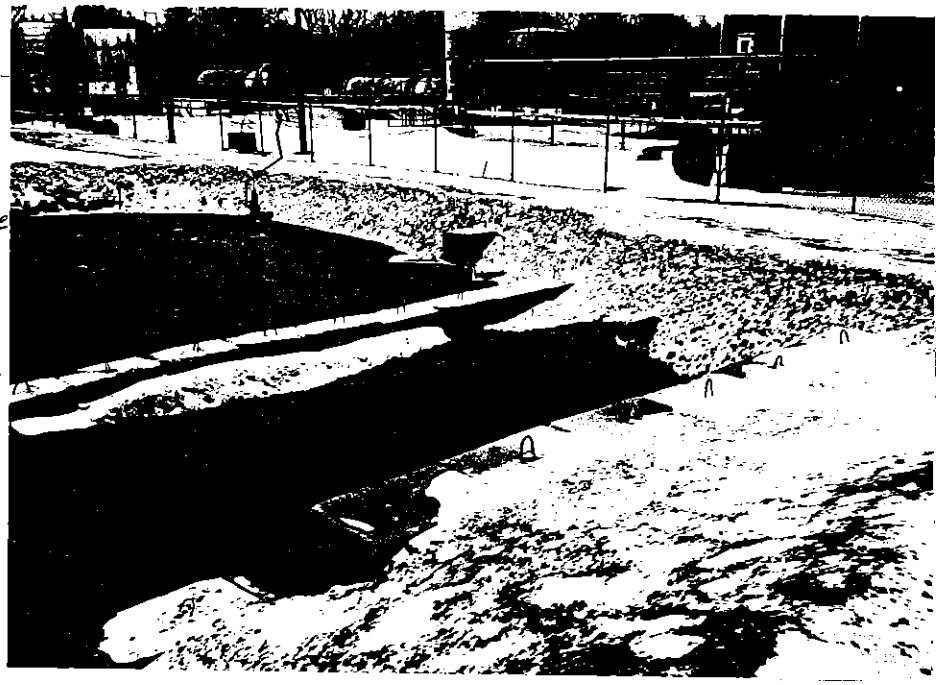
GPO 838-888



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U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Fire pond
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): [signature]
WITNESS:
CAMERA:
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PHOTO #: 5 of 18

GPO 838-888

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Fire pond
LOCATION:
CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): [signature]
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FILM TYPE: ASA: T:1/ f:
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PHOTO #: 6 of 18

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT Landfill
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.)
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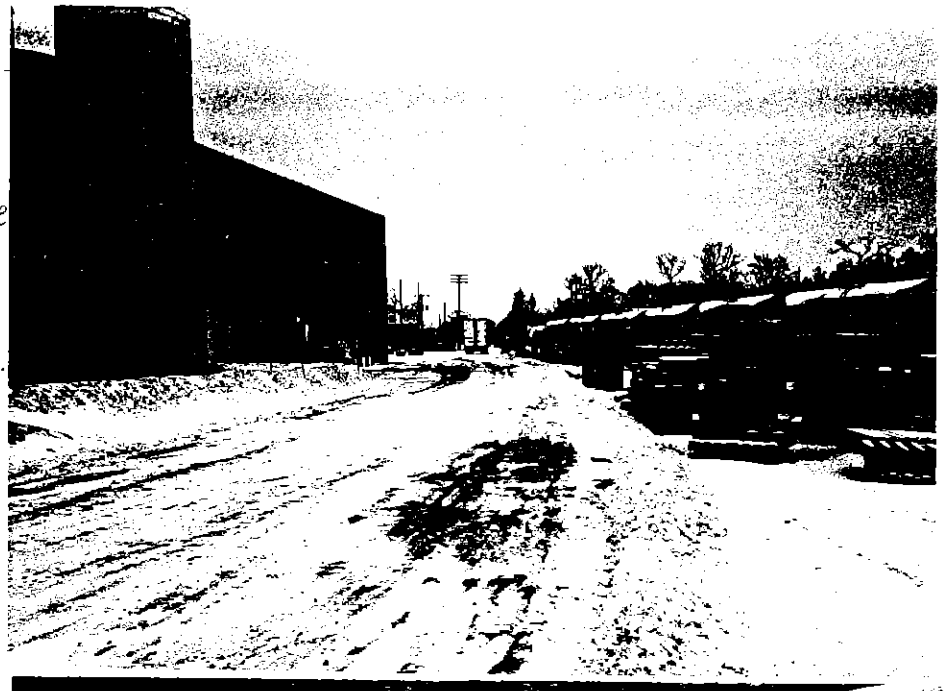
GPO 535-559



OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT Waste Pile Area
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.)
WITNESS:
CAMERA:
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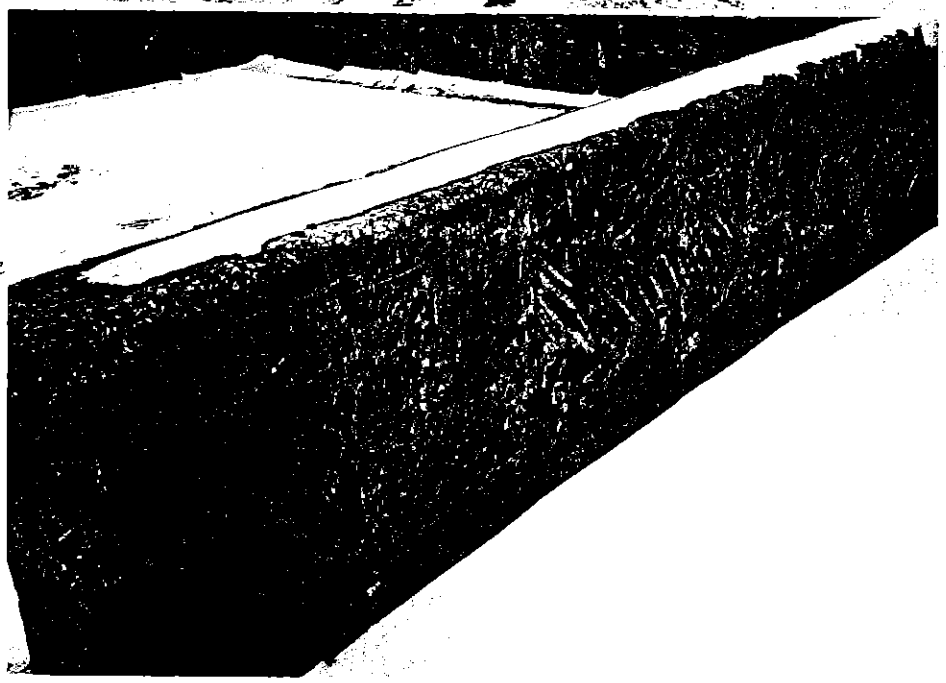

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Waste Pile Area
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.)
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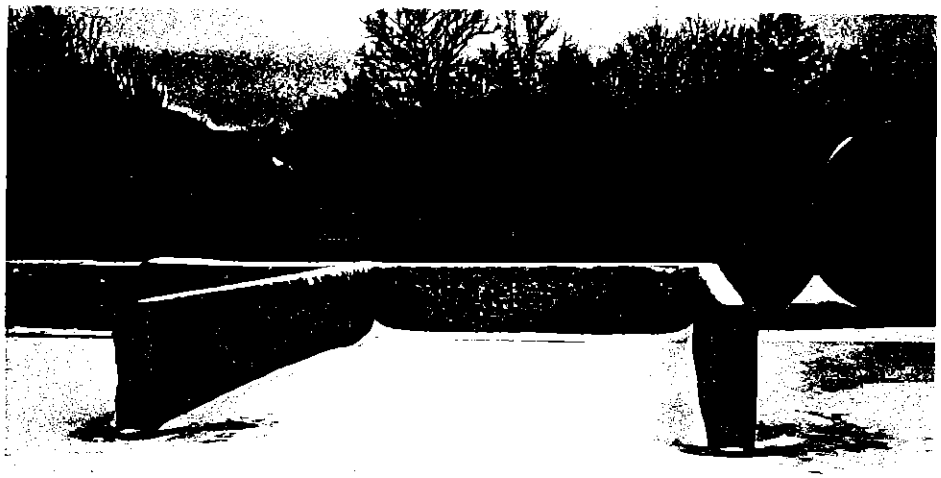

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U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT Waste Pile, Area
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) [signature]
WITNESS:
CAMERA:
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PHOTO #: 10 of 18

GPO 535-559

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT Injectant Tank Farm
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) [signature]
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
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GPO 535-559

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U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Container Storage
LOCATION:

Griffith COUNTY: STATE: IN
Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.) [signature]
WITNESS:
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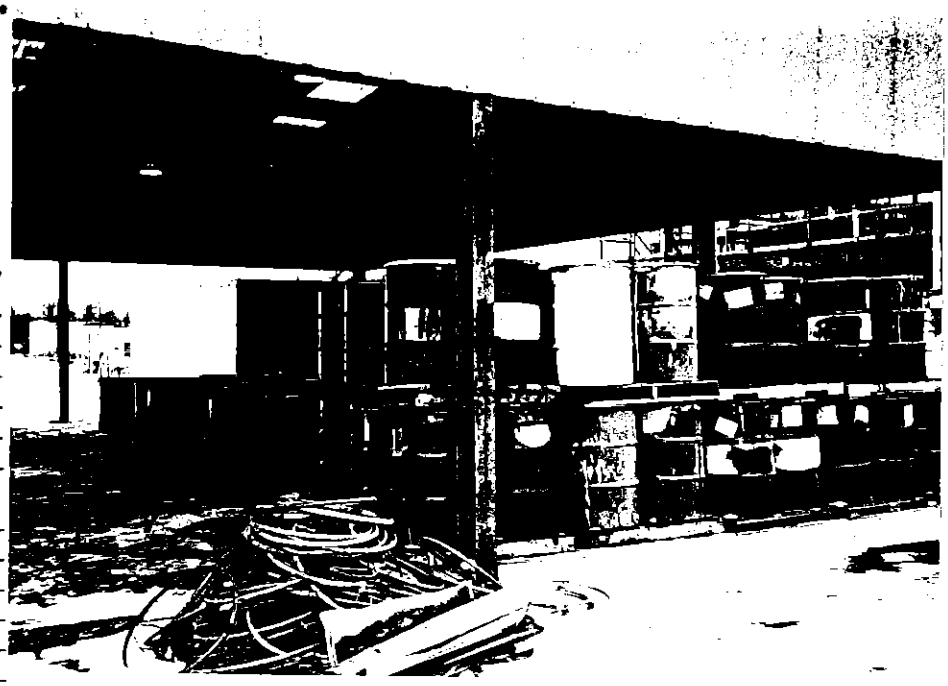

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U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Container Storage
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Beth Warren
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
NEGATIVE LOCATION: FILE #:
PROCESSED BY:
PHOTO #: 13 of 18

GPO 888-888

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Swale
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Beth Warren
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
NEGATIVE LOCATION: FILE #:
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PHOTO #: 14 of 18

GPO 888-888

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Swale
LOCATION:

C: Griffith COUNTY: STATE: IN
L: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Beth Warren
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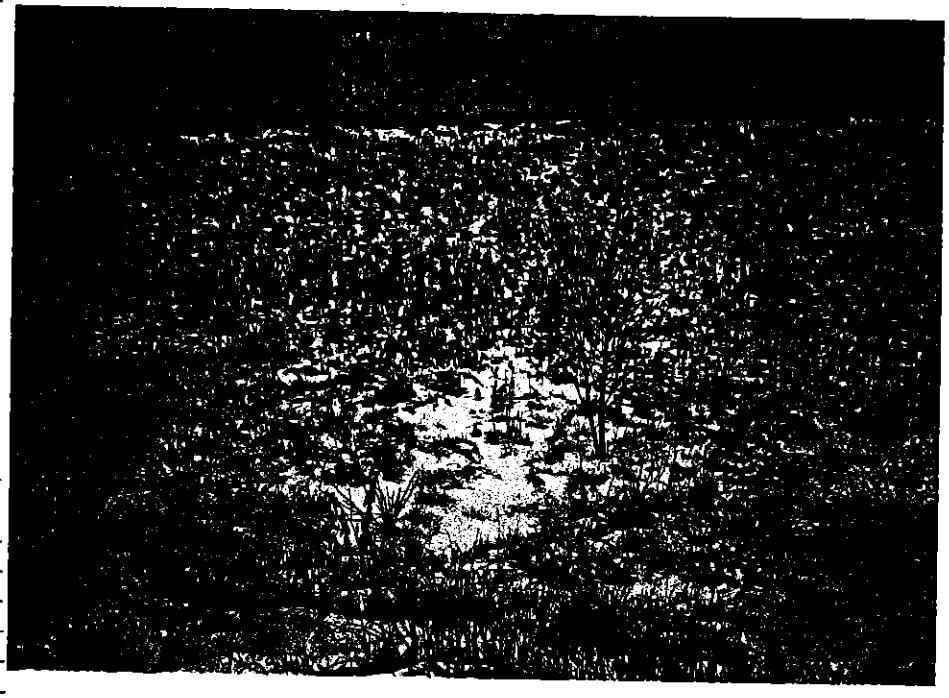

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Municipal Landfill
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warwick
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
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PHOTO #: 16 of 18

GPO 838-889

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Municipal Landfill
LOCATION:

CITY: Griffith COUNTY: STATE: IN
DATE: Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warwick
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
NEGATIVE LOCATION: FILE #:
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PHOTO #: 17 of 18

GPO 838-889

OFFICIAL PHOTOGRAPH
U.S. ENVIRONMENTAL PROTECTION AGENCY

PROJECT/CASE NO: American Chemical Service
SUBJECT: Landfill ?
LOCATION:

Griffith COUNTY: STATE: IN
Dec 13 '88 TIME: A.M.
WEATHER: (SUN) (HAZE) (CLOUDY) (RAIN) (SNOW)
PHOTOGRAPHER (Sig.): Keith Warwick
WITNESS:
CAMERA:
FILM TYPE: ASA: T:1/ f:
NEGATIVE LOCATION: FILE #:
PROCESSED BY:
PHOTO #: 18 of 18

ATEC Associates, Inc.

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☐ 130 Eisenhower Lane South • Lombard, Illinois 60148 (312) 932-0070

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January 11, 1988
File 7-3227

American Chemical Services, Inc.
ATTN: Mr. John J. Murphy, Vice President
420 S. Colfax Avenue
P.O. Box 190
Griffith, IN 46319

REPORT
Storage Tank Assessment and Certification
American Chemical Service, Inc.
RCRA Tank Farms #1 and #2
Griffith, Indiana

Dear Mr. Murphy:

We have completed our assessment and certification of twenty one (21) above-ground RCRA waste storage vessels. This work was completed in general accordance with our proposal dated April 30, 1987.

A narrative summary of our evaluation of these vessels is presented in the body of this report. Based on our evaluation, we certify that in our opinion, these tank systems are adequately designed, currently have sufficient structural strength, and are acceptable for storing the specified materials.

We trust this information is sufficient for your needs.

Very truly yours,
Atec Associates, Inc.

Steven Stanford
Geologist

John W Weaver II

John W. Weaver II, P.E.
Vice President

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ATEC

Storage Tank Assessment and Certification
American Chemical Services
RCRA Tank Farms #1 and #2
Griffith, Indiana

1.0 INTRODUCTION

1.1 General

ATEC Associates, Inc. (ATEC) was contracted by American Chemical Services (ACS) to prepare this written assessment of existing RCRA Storage tank facilities currently in use at ACS in Griffith, Indiana. This assessment is based upon a review of design standards, ACS vessel inspection records and reports, plumbing and piping pressure test results, hydrostatic test results, and an on-site visual inspection of each tank system. We did not perform testing of welds of perform independent design calculations.

This assessment report was prepared in accordance with the requirements outlined in 40 CFR 264.191 and presented in detail in interpretation of the regulations, we reviewed and addressed more detailed requirements set forth in the "Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems", U.S. EPA Office of Solid Waste, December, 1986.

1.2 Organization

The results of our assessment and findings are presented in the body of this report. Pertinent data, including tank I.D. numbers, installation dates, capacities, and tank contents are summarized in the "Tables" Section. Results of leak tests and our visual inspections for each vessel are presented in Appendix A. General tank information, including company inspection reports and a written assessment of tank shell thicknesses are presented in Appendix B.

1.3 Subject of Assessment and Certification

In summary, twenty one (21) RCRA waste storage tanks are addressed by this assessment report. A list of tanks and their I.D. numbers is presented in Table 1. The RCRA storage tank locations are shown in Figure 1.

1.4 Design Standard Assessment

Based on our visual observations and conversations with Mr. John J. Murphy of ACS, all tanks were designed in accordance with the document API Standard 650, "Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks."

1.4.1 Shell Thickness Testing

All tank shells were testing for thickness of the tank walls, and roof, by ACS personnel during the summer of 1987. Thicknesses were measured using a Parametrics Ultrasonic Thickness Gauge, Model 5226. Each tank was measured by first scraping the painted surface to the bare metal. A thin film of conductivity grease was applied to the area and the measurement was taken. The equipment was recalibrated for each tank from a standard block. The number of points measured for each tank was based on the variation of the readings.

For dish bottom tanks, a minimum of three readings were taken on the bottom dish, one about 12" from the bottom nozzle, one halfway to the sidewall, and one 12" from the sidewall. Further, readings were obtained 6 inches up the sidewall, one on either side of the first seam and one on either side of the second seam. If discrepancies developed, more readings were taken. The flat bottom tanks were measured at the following locations: Two 6" up the sidewall (one adjacent to the transfer nozzle), one one either side of the first seam, one on either side of the second seam and one on the either side of

the third seam. Again, if discrepancies developed more readings were taken. The recorded metal thicknesses were based on the minimum readings.

Tank thickness test results indicate that tank wall thinning has been consistently small. Two verification measurements per tank were taken by ACS personnel and observed and recorded by ATEC on December 9, 1987. These verification measurements deviated a maximum of 8.5 percent from earlier measurements, with a absolute mean variation of approximately 2 percent.

1.5 Hazardous Characteristics

According to U.S. EPA Guidance, an assessment of hazardous characteristics for handled wastes should address the compatibility of handled wastes with tank and or liner materials. Our compatibility assessment was prepared by evaluating loss of tank thickness as documented by ACS personnel in the attachment reproduced in Appendix B.

The tanks subject to this assessment are constructed of A 283C carbon steel. With the exception of tanks #1A, #1B, #116, #120, #121, #203, #206, #212, average yearly shell thickness loss rates are less than the "conservative" limit of 0.002 inches per year prescribed in the U.S. EPA guidance document.[1] We therefore believe that these tanks are sufficiently compatible for continued similar use.

The following tanks lost more than 0.002 inches per year of shell thickness:

Tank I.D.	Average Thickness Lost Per Year
#1A	0.004 inches
#1B	0.0039
#116	0.005
#120	0.0023
#121	0.004
#203	0.0021
#206	0.0022
#212	0.0074

To evaluate these tanks, ACS has calculated minimum allowable shell thicknesses using the method outlined in API 650 A 4.1. Using this method, ACS has determined that current (1987) shell thicknesses for these tanks still exceed the minimum API thickness requirements (including a corrosion allowance) by factors of 1.3 to 14. Based on the greatest calculated shell thickness loss rate of 0.0074 inches per year, Tank #212 should maintain a sufficient shell thickness for approximately five (5) years. Thus, with annual shell thickness monitoring, we believe that these tanks also exhibit sufficient compatibility for continued similar use.

1.6 Leak Test Results

Vessels #202, #203, #204, #205, #206, #210, #211, and #212, located in tank farm #1, were each hydrostatically tested by transferring product such that each tank was observed at full working capacity. No visible signs of leakage were observed for these tanks. Further, this hydrostatic test served to demonstrate that these tank posses sufficient strength to contain their full hydrostatic loads.

Due to their unique contents, the stored wastes contained in tanks #A1, #B1, #116, #117, #118, #119, #120, #121, #122, #123, #124, #125, and #126, product could not be transferred to fill

each tank to working capacity. Therefore, these tanks were subject to a exterior visual inspection described below.

Ancillary equipment for the twenty one (21) tanks subject to this assessment was pressure tested for tightness using a method developed specifically for the system. The ancillary equipment is defined as all piping, valves, joints, gaskets, and pumps associated with each tank farm, within the boundaries shown in Figure 1. Nitrogen was applied to each of the lines at a minimum of 25 pounds per square inch.

A soap water mixture was applied to the pumps, joints, welds, and valves of the entire system to facilitate detection of nitrogen leaks. Points in the system that failed to be pressure tight was immediately repaired and retested to assure tightness. At completion of pressure testing, all ancillary equipment within each tank farm passed this leak test.

1.7 Visual Inspection Results

The twenty one (21) tank systems subject to this assessment were physically inspected on December 9, 1987 by ATEC. The check list used for the inspection was based on the publication "Guide for Inspection of Refinery Equipment, Chapter VIII - "Atmosheric and Low-Pressure Storage Tanks" published by the American Petroleum Institute. Listed below are the items physically inspected at each system.

Anchor bolts - where possible
Welds
Pipe supports
Nozzle connections
Tank walls
Roof foundations
Vents and controls on tank roof
Gauges in operation

Protective coating
Indication of any leaks
Name plates
General Housekeeping

All 21 tank systems appeared to be in a good state of repair. We observed no deficiencies that appeared to affect the structural integrity of the tank system. The check list from the inspection of each tank is included in Appendix A.

1.8 Qualifications

At the time of this assessment, vessels and ancillary equipment subject to this certification were assessed to be free of leaks, structurally sound, and in a good state of general repair. In my opinion, the extent and scope of this study is in general accordance with the EPA guidance as expressed in the U.S. EPA "Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems," December, 1986.

However, with the passage of time, site conditions or equipment usage conditions can be subject to change. Therefore, periodic reviews of system conditions should be completed. These reviews should include continuation of routine and non-routine inspection and maintenance of all vessels (including annual shell thickness monitoring) and ancillary equipment used to store, treat, or handle hazardous materials. If the usage or application of the facilities described in this report are at any time changed materially from the conditions described in this assessment, or if during operation, routine maintenance, or inspections it is discovered that information presented in this assessment is incorrect, of if observed leakage does occur, we should be informed immediately since the validity of our findings may be affected.

1.9 Certification Statement for Existing Tank Systems

I, John W. Weaver II, P.E. Certify for ATEC Associates, Inc., the following. These findings were obtained in accordance with standard petroleum industry and standard engineering practices. No other warranties are expressed or implied:

1. I am a qualified registered professional engineer and am not an employee of American Chemical Services, Inc. or an American Chemical Services, Inc. subsidiary.

2. The term "Tank System" in this Assessment and Certification refers to the following tank systems subject to this assessment: #116, #117, #118, #119, #120, #121, #122, #123, #124, #125, #126, #A1, #B1, #202, #203, #204, #205, #206, #210, #211, and #212 as identified and located in this assessment report.

3. In my opinion, based on my review of, or the review of others under my direction, the Design Information for these Tank Systems indicates that the Tank Systems have sufficient structural integrity and are currently acceptable for storing the materials identified in this assessment report.

4. In my opinion, the tank systems are adequately designed and currently have sufficient structural strength and compatibility with stored materials to ensure that it will not collapse, rupture, or fail.

I certify under penalty of law that this document and all attachments were prepared by me of under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information

submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John W. Weaver II, P.E.

19478

Professional Engineer's Number

Vice President

Title

ATEC Associates, Inc.

Firm

ATEC

List of References

1. United States Environmental Protection Agency, Office of Solid Waste, "Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems", December 1986.

TABLES

1. Listing of Vessels Subject to Assessment

2. Verification of Shell Thickness Testing

TABLE 1
Listing of Vessels Subject to Assessment

Tank	year installed	Capacity (Gal)	Contents *1	Design *2
116	1982	10,800	b	a
117	1982	10,800	b	a
118	1982	10,800	b	a
119	1982	10,800	b	a
120	1981	6,000	b	a
121	1981	10,500	b	a
122	1981	10,500	b	a
123	1978	19,500	b	b
124	1978	19,500	b	b
125	1978	19,500	b	b
126	1978	19,500	b	b
A1	1981	2,750	a	a
B1	1981	2,750	a	a
202	1977	18,000	c	c
203	1977	16,000	c	c
204	1977	17,000	c	c
205	1977	18,000	c	c
206	1977	17,000	c	c
210	1977	23,000	c	c
211	1977	23,000	c	c
212	1981	24,000	c	c
220	1981	1,000	c	a

*1) a- Methylene Chloride, 1,1,1 Trichlorethylene Trichlorethylene, Perchloroethylene.
b- Acetone, Methanol, Methyl Ethel Ketone, Isopropyl Alcohol, Toluene, Hexane, Methly Isobutyl Ketone, Butyl Acetate, Xylene Mineral Spirits, Butyl Cellosolve, Butanol, Ethyl Acetate.
c- All of the above, Chlorinated not over 20% of the total concentration.

*2) a- Vertical on legs on a concrete slab.
b- Vertical with a flat bottom on a concrete slab.
c- Vertical with a flat bottom on a slag foundation.

TABLE 2
Verification of Shell Thickness Testing

AMERICAN CHEMICAL SERVICES
TANK ASSESSMENT
TANK THICKNESS SUMMARY
FILE 7-3227

Tank Number	Measuring Point Elevation (ft)	Tank Side	Thickness (in) 5/87	Thickness (in) 12/9/87	Change Thickness (in)*1	Change Thickness %
116	10	S	0.235	0.236	0.001	0.4255
	10	N	0.238	0.240	0.002	0.8403
117	9	S	0.220	0.235	0.015	6.8182
	9	N	0.230	0.229	-0.001	-0.4348
118	9	S	0.226	0.231	0.005	2.2124
	9	N	0.230	0.232	0.002	0.8696
119	9	S	0.241	0.242	0.001	0.4149
	9	N	0.248	0.247	-0.001	-0.4032
120	5	E	0.242	0.254	0.012	4.9587
	5	W	0.246	0.254	0.008	3.2520
121	5	E	0.234	0.243	0.009	3.8462
	5	W	0.240	0.238	-0.002	-0.8333
122	5	E	0.249	0.249	0.000	0.0000
	5	W	0.249	0.248	-0.001	-0.4016
123	7	E	0.240	0.235	-0.005	-2.0833
	7	W	0.240	0.242	0.002	0.8333
124	7	E	0.236	0.239	0.003	1.2712
	7	W	0.244	0.240	-0.004	-1.6393
125	7	E	0.236	0.235	-0.001	-0.4237
	7	W	0.240	0.238	-0.002	-0.8333
126	7	E	0.234	0.233	-0.001	-0.4274
	7	W	0.237	0.231	-0.006	-2.5316
A1	5	E	0.446	0.452	0.006	1.3453
	5	W	0.439	0.450	0.011	2.5057
B1	5	E	0.420	0.430	0.010	2.3810
	5	W	0.432	0.432	0.000	0.0000
202	7	S	0.168	0.162	-0.006	-3.5714
	7	N	0.170	0.164	-0.006	-3.5294
203	6	S	0.144	0.145	0.001	0.6944
	6	N	0.148	0.144	-0.004	-2.7027
204	7	S	0.150	0.143	-0.007	-4.6667
	7	N	0.146	0.144	-0.002	-1.3699
205	7	S	0.187	0.171	-0.016	-8.5561
	7	N	0.177	0.171	-0.006	-3.3898
206	7	S	0.222	0.219	-0.003	-1.3514
	7	N	0.214	0.218	0.004	1.8692
210	7	S	0.162	0.162	0.000	0.0000
	7	N	0.155	0.158	0.003	1.9355
211	7	S	0.168	0.176	0.008	4.7619
	7	N	0.169	0.178	0.009	5.3254
212	7	S	0.162	0.153	-0.009	-5.5556
	7	N	0.167	0.158	-0.009	-5.3892
				MEAN:	0.0005	0.0021
				ABSOLUTE MEAN:	0.0049	2.1491

*1 - A positve thickness change indictes a increase in tank wall thickness. A negetive thickness change indicates a decrease in wall thickness.

FIGURES

1. Tank Farm Location Plan

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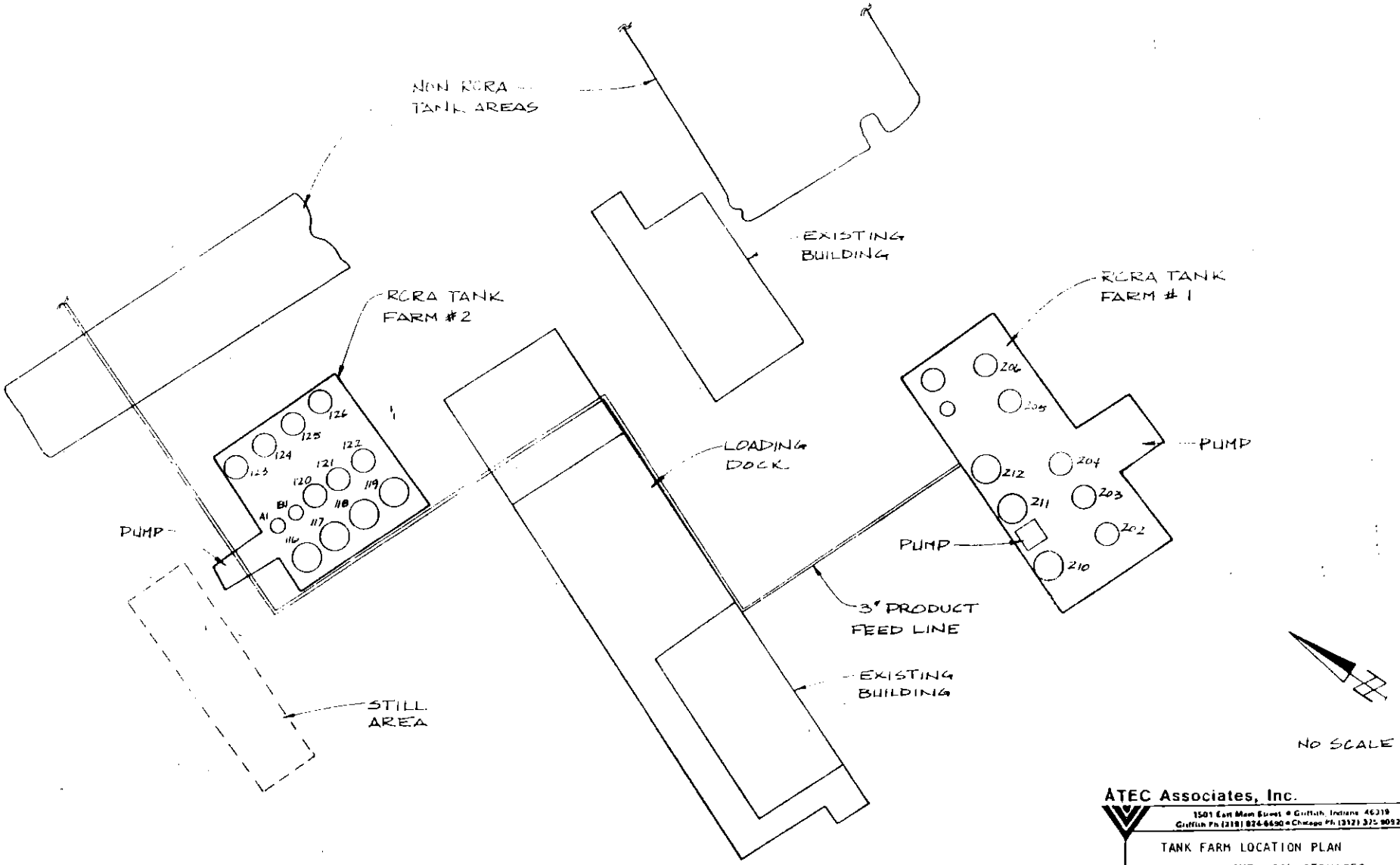

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TANK FARM LOCATION PLAN
AMERICAN CHEMICAL SERVICES
GRIFFITH, IN

FIGURE NO. 1

DRWN BK
CK
DATE 12/10/87 FILE 7-32??

APPENDIX A

1. ATEC Visual Inspection Reports

Pressure Testing

Plant Site: ACS - Griffith File No: 7-3227

Tank System #: 116 - 126 auxiliary piping

Date: 12-9-87

Inspected by: John M McBride

1) **Testing method:** Nitrogen was applied at 25 psi throughout the system. A soapy water was applied to all joints, welds, valves, and gasket packings to check for leaks.

2) **Leaks detected**

a) 5 leaks at valve packs

3) **Remedial action - results (if appropriate)**

a) Leaks at 4 valve packs were repaired by tightening the valve.

b) Release valve for Tank #123. This valve was repacked, retested, and passed

Pressure Testing

Plant Site: ACS - Griffith File No: 7-3227

Tank System #: 202-212 auxiliary piping

Date: 12-9-87

Inspected by: John M McBride

1) **Testing method:** Nitrogen was applied at 25 psi throughout the system. A soapy water was applied to all joints, welds, valves, and gasket packings

2) Leaks detected

a) 4 leaks at valve packs

b) 1 leak at central suction pump gasket

3) Remedial action - results (if appropriate)

a) Valve packs - all leaky valve packs were made pressure tight by tightening with a pipe wrench

b) Suction Gasket - The gasket was repacked, and then passed the test

Visual Inspection

Tank System # 116

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS - Griffith

File No: 7-3227

Item

1) Weld breaks - None apparent at tanks outer surface

2) Punctures - No apparent evidence of punctures or leaks

3) Scrapes of protective coatings - none, tank is freshly painted.

4) Cracks none apparent at surface

5) Corrosion slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks
no evidence of either

7) Others design - 4" concrete legs on a concrete slab

8) General House keeping excellent

Visual Inspection

Tank System # 117

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS-Griffith

File No: 7-3227

Item

1) Weld breaks None apparent on tank's outer surface

2) Punctures No apparent evidence of punctures or leaks.

3) Scrapes of protective coatings none, tank is freshly painted

4) Cracks none apparent at the surface

5) Corrosion slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks no evidence of loose pipe connections or leaks

7) Others design - 4 concrete legs on a concrete slab.

8) General House keeping - good

Visual Inspection

Tank System # 118
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Griffith
File No: 7-3227

Item

1) Weld breaks - None apparent at tank's outer surface.

2) Punctures No evidence of punctures or resulting leaks

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent at the surface.

5) Corrosion slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping.

7) Others design - 4 concrete legs on a concrete slab.

8) General House keeping excellent

Visual Inspection

Tank System # 119

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS-Griffith

File No: 7-3227

Item

1) Weld breaks None apparent at tank's outer surface

2) Punctures No apparent evidence of punctures or leaks

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent on outer surface.

5) Corrosion slight surface corrosion near top of tank, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others - design - 4 concrete legs on a concrete slab

8) General House keeping excellent

Visual Inspection

Tank System # 120
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS - Griffith
File No: 7-3227

Item

1) Weld breaks - None apparent at tanks outer surface

2) Punctures No evidence of punctures or resulting leaks.

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent at outer surface.

5) Corrosion none apparent on outer surface

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others - design - 4 concrete legs on a concrete slab

8) General House keeping - excellent

Visual Inspection

Tank System # 121
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Gr. Mich
File No: 7-3227

Item

1) Weld breaks None apparent on tanks outer surface

2) Punctures - No apparent evidence of punctures or resulting leaks.

3) Scrapes of protective coatings None, tank is freshly painted.

4) Cracks none apparent on tanks outer surface.

5) Corrosion Slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks - no evidence of leaks due to loose piping

7) Others - design - 4 concrete legs on a concrete slab.

8) General House keeping good

Visual Inspection

Tank System # 122
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Gr. Rich
File No: 7-3227

Item

1) Weld breaks - none apparent on tanks outer surface.

2) Punctures No apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent on outer surface

5) Corrosion none apparent on outer surface

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design - 4 concrete legs on a concrete slab.

8) General House keeping excellent

Visual Inspection

Tank System # 123

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS-Grafrich

File No: 7-3227

Item

1) Weld breaks - none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent on outer surface

5) Corrosion very slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design - seated on a concrete pad

8) General House keeping excellent

Visual Inspection

Tank System # 124
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Griffith
File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface.

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none, tank is freshly painted

4) Cracks none apparent on outer surface

5) Corrosion slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose pipe

7) Others design - seated on a concrete pad.

8) General House keeping excellent

Visual Inspection

Tank System # 125
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Griffith
File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or leaks.

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent on outer surface

5) Corrosion very slight near base of tank, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others - design - seated on concrete sub

8) General House keeping excellent

Visual Inspection

Tank System # 126
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Griffith
File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks.

3) Scrapes of protective coatings none, tank is freshly painted.

4) Cracks none apparent on outer surface.

5) Corrosion possible slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping.

7) Others Designed seated on a concrete slab

8) General House keeping excellent

Visual Inspection

Tank System # A1
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS-Griffith
File No: 7-3227

Item

1) Weld breaks none apparent at tanks outer surface

2) Punctures no evidence of punctures or resulting leaks.

3) Scrapes of protective coatings none, tank is freshly painted

4) Cracks none apparent on outer surface

5) Corrosion slight corrosion on tank legs, painted over.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others designed 4 meter legs on concrete slab
slight dent at top of tank wall

8) General House keeping good

Visual Inspection

Tank System # B-1

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS - GrMEA

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures No apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none, tank is freshly painted

4) Cracks none apparent on outer surface

5) Corrosion none apparent on outer surface

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design - 4 metal legs on concrete slab

8) General House keeping excellent

Visual Inspection

Tank System # 202

Date: 12-9-87

Inspected by: UMM

Plant Site: ACS-Griffith

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings - some scraps of paint near the top of the tank

4) Cracks none apparent on the tank's outer surface.

5) Corrosion slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others - design - seated on slag base

8) General House keeping good

Visual Inspection

Tank System # 203

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no evidence of punctures or resulting leaks

3) Scrapes of protective coatings Any past scrapes have been repainted

4) Cracks none apparent on outer surface of tank

5) Corrosion slight on surface, a few spots have yet to be repainted.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design · seated on slag base
slight dent in tank wall at 15 feet

8) General House keeping good

Visual Inspection

Tank System # 204

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks.

3) Scrapes of protective coatings None apparent

4) Cracks none apparent on outer surface of tank.

5) Corrosion Some on outer surface of tank

6) Loose pipe connections - indications of leaks No evidence of leaks due to loose piping

7) Others Drainage sealed on slag base

8) General House keeping excellent

Visual Inspection

Tank System # 205

Date: 12-9-87

Inspected by: OMM

Plant Site: ACS-Gr. Mich

File No: 7-3227

Item

1) Weld breaks none apparent on tanks outer surface

2) Punctures no apparent evidence of punctures or resulting leaks.

3) Scrapes of protective coatings none apparent

4) Cracks none apparent on outer surface

5) Corrosion very slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design - sealed on slag base
large dent at top of tank

8) General House keeping - excellent

Visual Inspection

Tank System # 206

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS- Gr. Mich

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings minimal, repainted

4) Cracks none apparent on outer surface

5) Corrosion very slight surface corrosion, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others

8) General House keeping - good

Visual Inspection

Tank System # 210

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks.

3) Scrapes of protective coatings none apparent.

4) Cracks none apparent on outer surface

5) Corrosion slight on surface, painted over

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping

7) Others design - seated on slag base
roof looks sound

8) General House keeping good

Visual Inspection

Tank System # 211
Date: 12-9-87
Inspected by: JMM

Plant Site: ACS
File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none apparent

4) Cracks none apparent on outer surface of tank.

5) Corrosion slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks no evidence of leaks due to loose piping.

7) Others design - sealed on slag base
a number of small dents in tank

8) General House keeping excellent

Visual Inspection

Tank System # 212

Date: 12-9-87

Inspected by: JMM

Plant Site: ACS

File No: 7-3227

Item

1) Weld breaks none apparent on tank's outer surface

2) Punctures no apparent evidence of punctures or resulting leaks

3) Scrapes of protective coatings none apparent.

4) Cracks none apparent on outer surface

5) Corrosion very slight surface corrosion, painted over.

6) Loose pipe connections - indications of leaks
Some signs of leakage at mixing pump
pump was repaired and leaks stopped (12/12/87)

7) Others design - seated on slag base

8) General House keeping - good

APPENDIX B

1. ACS Tank Inspection Reports

2. ACS Description of Tanks (Includes assessment of Tank Shell Thickness Data)

TANK IDENT: 120 TANK PROFILE DATE: 9-18-86

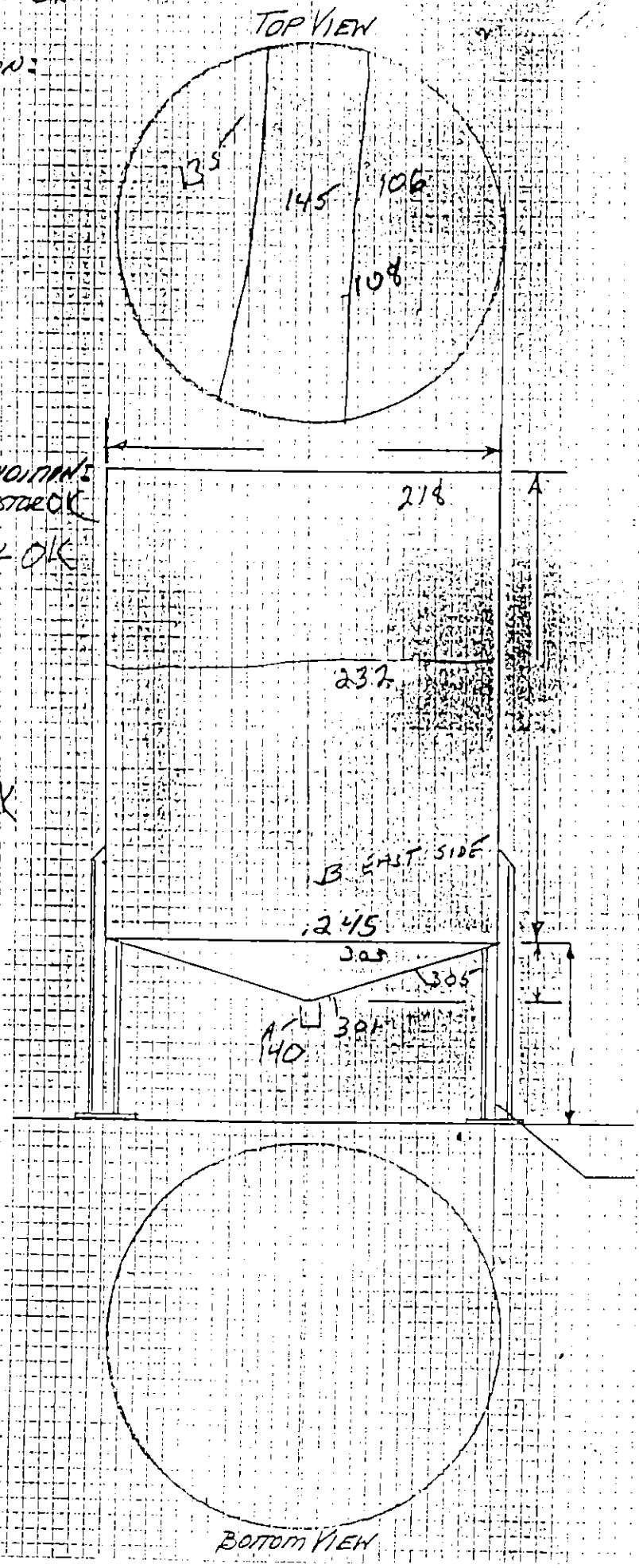
LOCATION: RECLAIM CRUDE

NOZZLES AND CONDITION:

OK

150 OK

JUNE 10, 1986



SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

LEG DIAMETER:

NUMBER:

TANK IDENT: 121 TANK PROFILE DATE: 9-18-86

LOCATION: RECLAIM CRUDE

JUNE 10, 1986

NOZZLES AND CONDITION:

2	OK
1130	OK
	OK

SAFETY, CONTROLS AND CONDITION:

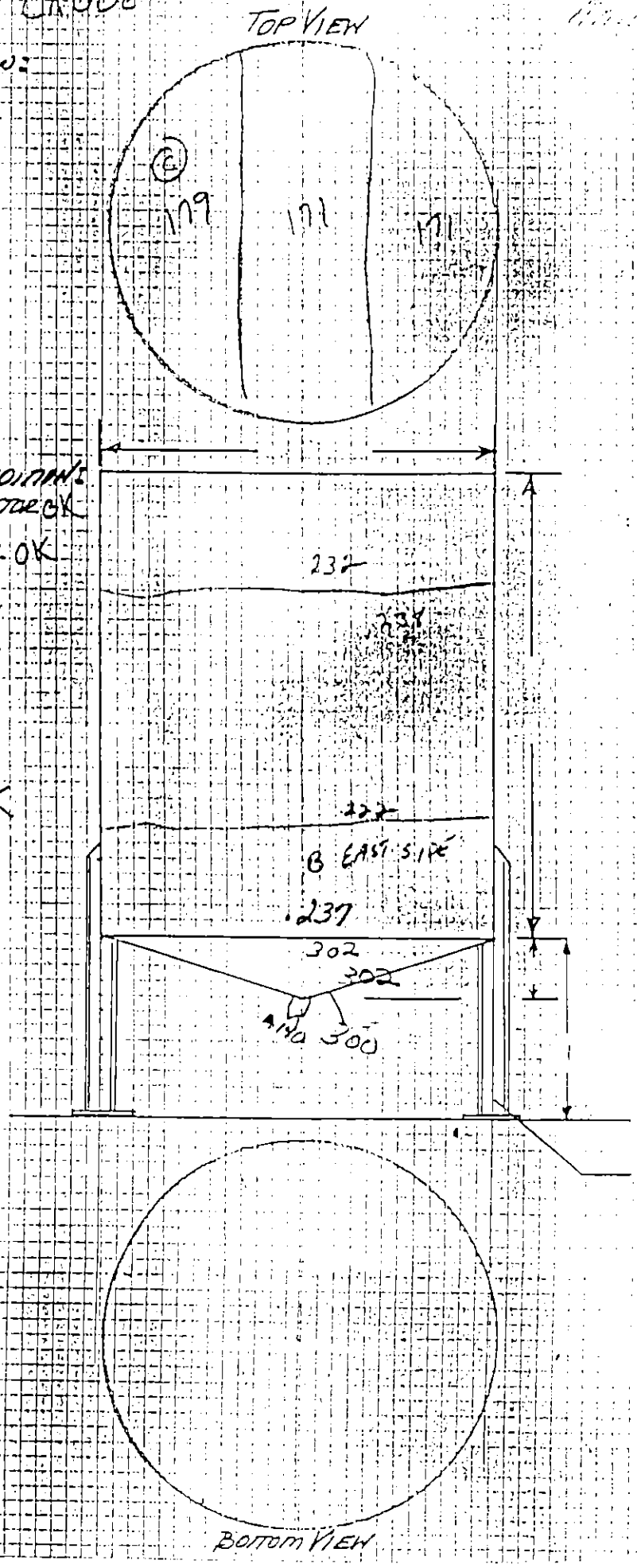
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



LEG DIAMETER:

NUMBER:

TANK 121

TOP VIEW

N

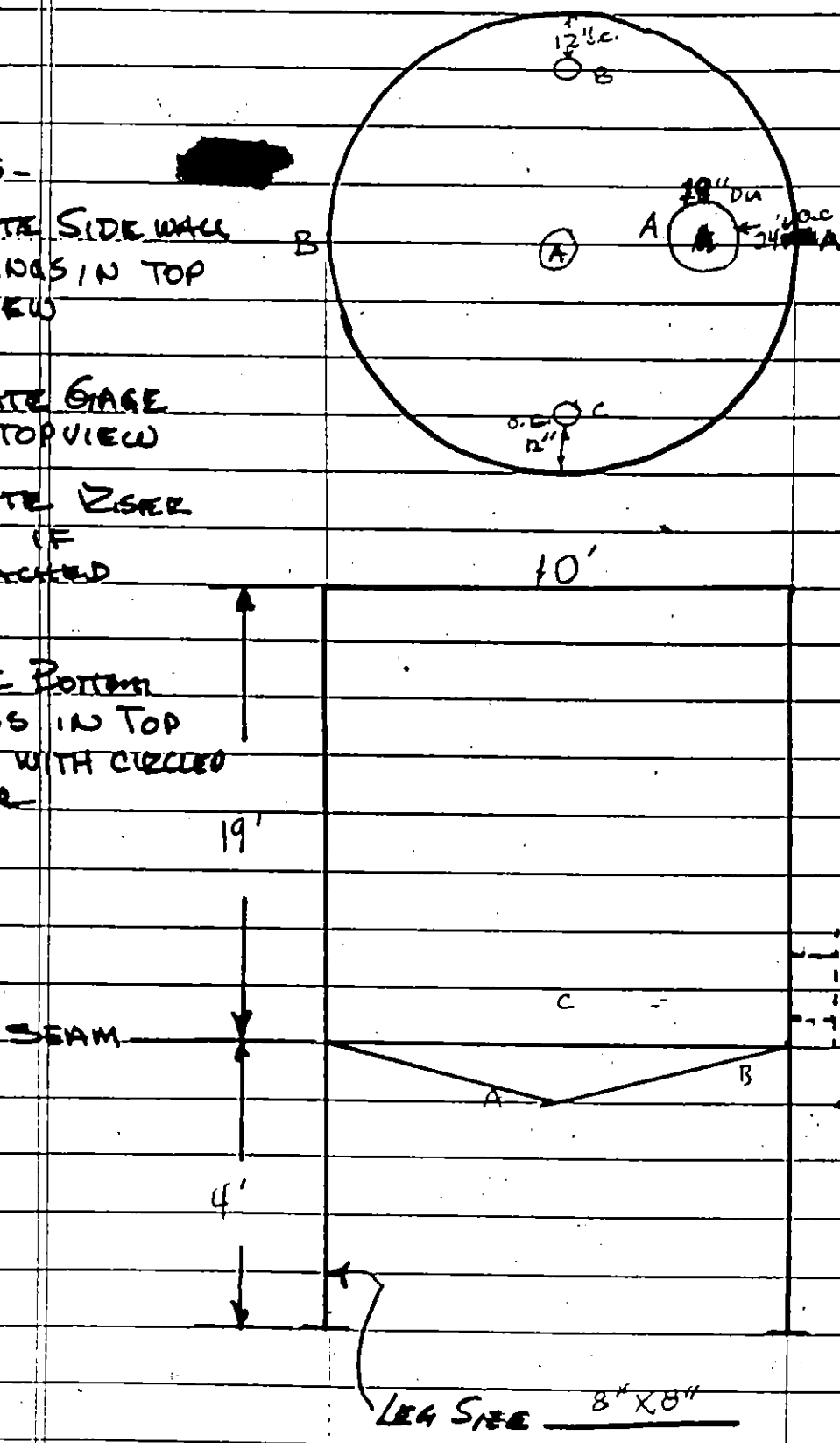
NOTES -

LOCATE SIDE WALL FITTINGS IN TOP VIEW

LOCATE GAGE IN TOP VIEW

LOCATE RISER PIPE IF ATTACHED

LOCATE BOTTOM FITTINGS IN TOP VIEW WITH CIRCLED LETTER



TOP FITTINGS.

SIZE	USE
A.	MANHEAD W/GAU
B.	2" VENT
C.	2" CAP
D.	

BOTTOM FITTINGS

SIZE	USE
A. 3"	
B.	
C.	
D.	

SIDE WALL FITTIN

SIZE	ABOVE SE
A. 2"	8"
B. MANHEAD	
C.	
D.	

16"

23"

MANHEAD DIAM 2

22 JUNE 85

THICKNESS READIN

A. .300

B. .305

C. .231

TANK IDENT: 121 TANK PROFILE DATE: MAY 6, 1987

LOCATION: B

NOZZLES AND CONDITION & READING

JUNE 10, 1986

	MAN WAY	OK	.244
?	2" NIPPLE	OK	.136
C.	2" NIPPLE	OK	.135

F.

I.

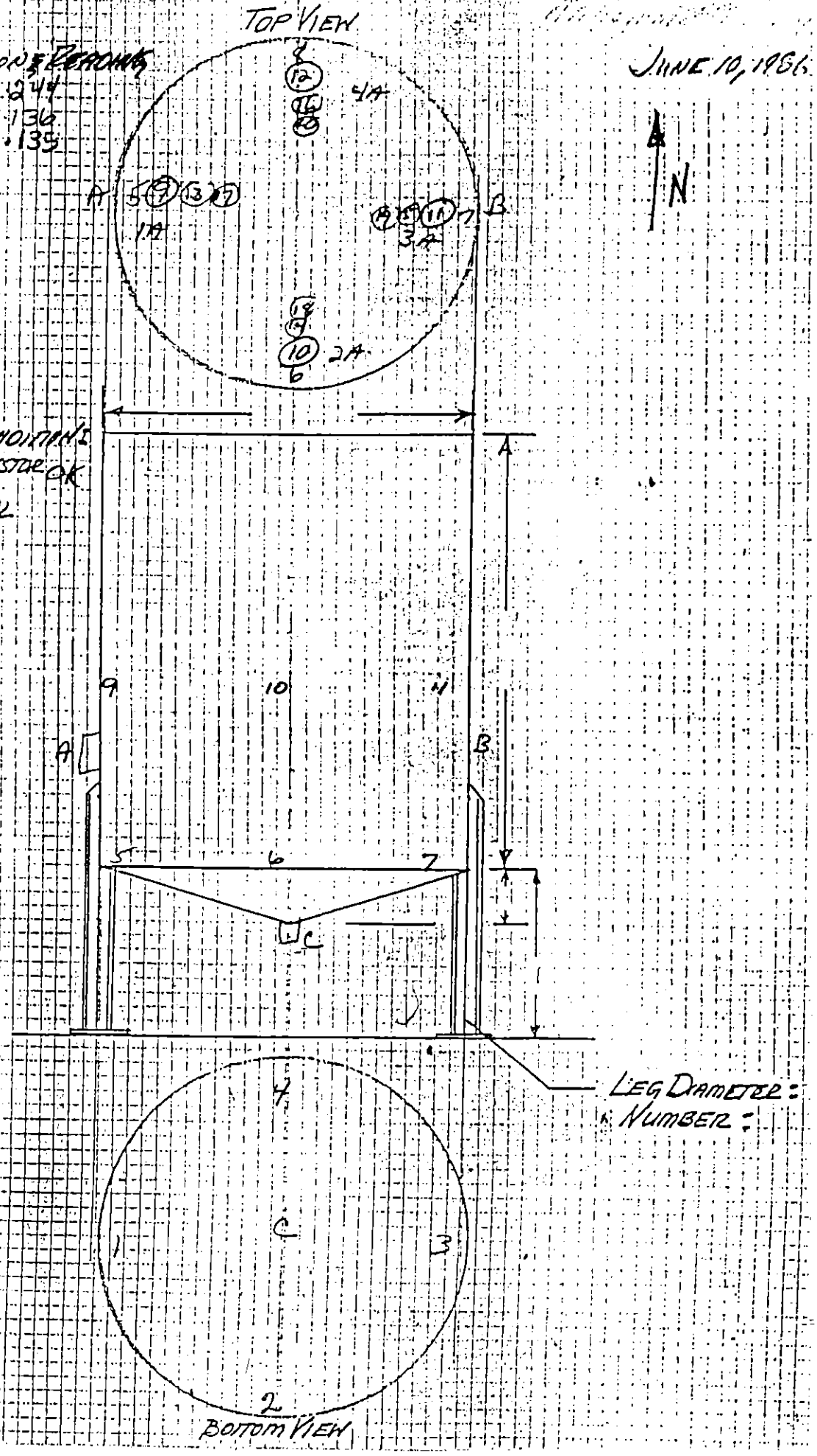
CHECKED 8-12-87

SAFETY CONTROLS AND CONDITIONS

1. BREATHER AND 2" ARRESTOR OK
2. GAUGE AND LIQUID SEAL OK FILLED
3. LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK: 121

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 6, 1987

MINIMUM WALL:

STR SIDE .120

POINT	HEIGHT ABOVE STR. SIDE	READING
1	CENTER OF CONE	.305
2	"	.309
3	"	.304
4	"	.304
5	BASE OF TANK	.240
6	"	.249
7	"	.239
8	"	.244
9	SIX FEET ABOVE BASE	.232
10	"	.236
11	"	.230
12	"	.236
13	12 FT. ABOVE BASE	.243
14		.238
15		.244
16		.238
17	TOP SIDE OF TANK	.213
18		.230
19		.243
20		.225
1A	TOP OF TANK	.175
2A	"	.176
3		.175
4		.172

TANK IDENT: 122

TANK PROFILE

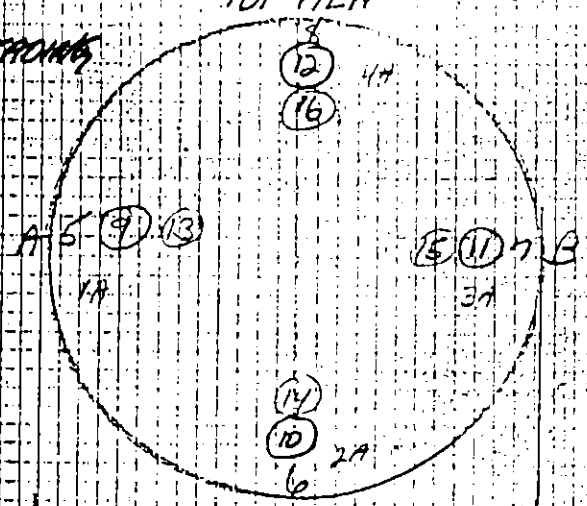
DATE: MAY 6, 1987

LOCATION: B

NOZZLES AND CONDITION & READING

[illegible] WAX	OK	.241
[illegible] NIPPLE	OK	.151
2" NIPPLE	OK	.134

JUNE 10, 1986



CHECK 8-12-87

SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

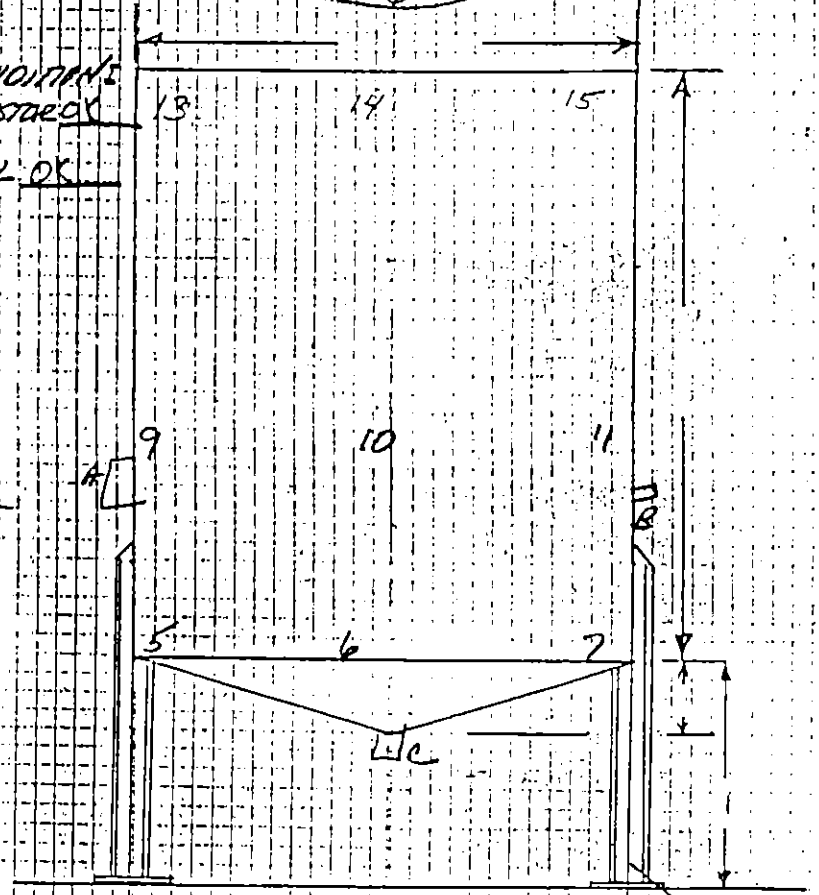
GAUGE AND LIQUID SEAL OK

FILLED

LEVEL ALARM OK

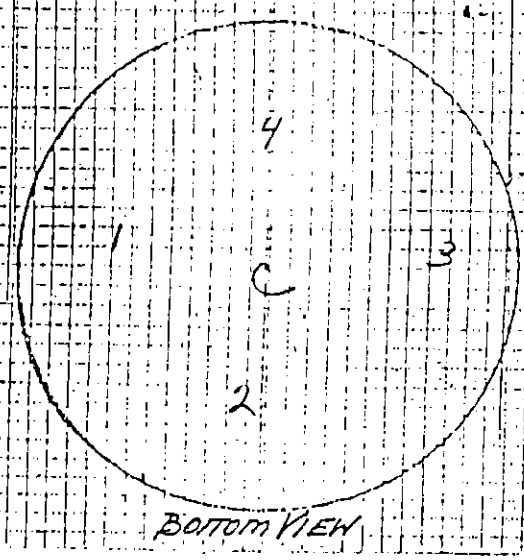
DESIGN STANDARDS:

[illegible] EXTERIOR: OK



LEG DIAMETER:

NUMBER:



TANK: 122

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 6, 1987

MINIMUM WALL:

STR SIDE .120

YT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	.307
	"	.309
	"	.307
	"	.310
	BASE OF TANK	.249
	"	.247
	"	.249
	"	.250
	SIX FEET ABOVE BASE	.242
	"	.237
	"	.243
	"	.236
	Twelve Feet Above Base	.248
	"	.228
	"	.235
	"	.236
	Top Side of Tank	.206
	"	.201
	"	.192
	"	.218
	Top of tank	.116
	"	.112
	"	.125
	"	.110

TANK PROFILE

DATE: 9-18-86

TANK IDENT: 122

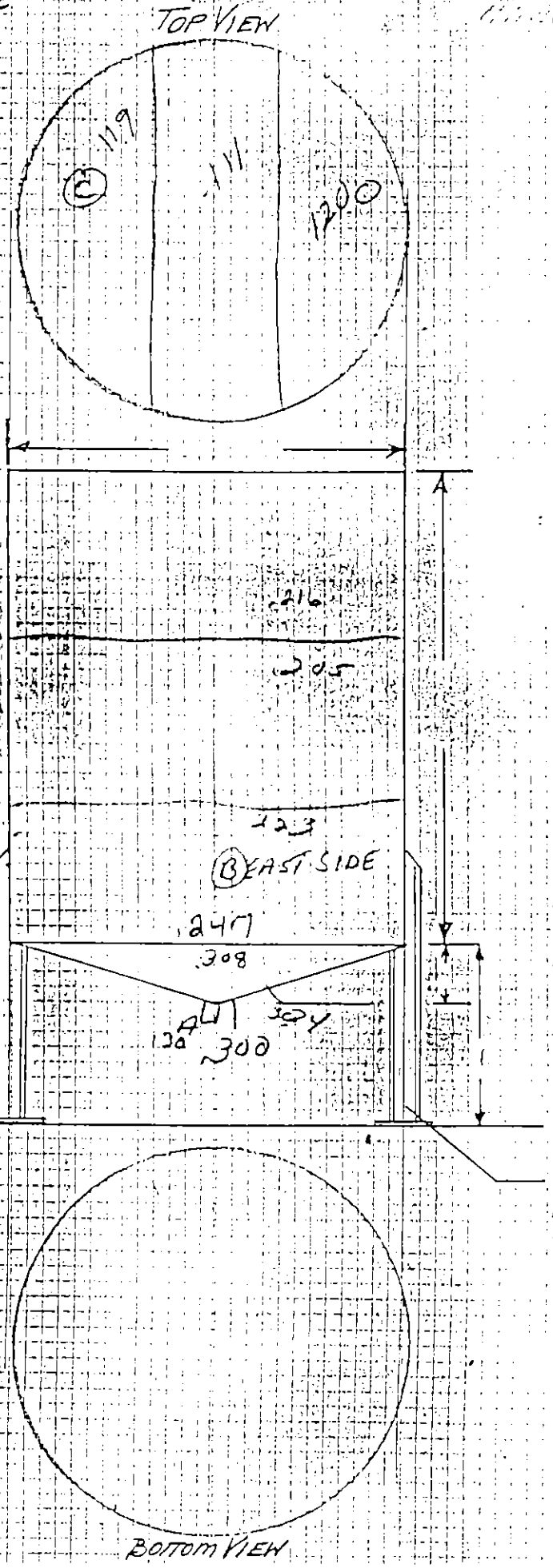
LOCATION: RECLAIM CRUDE

NOZZLES AND CONDITION:

OK

OK

JUNE 10, 1986



SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM O.K

DESIGN STANDARDS:

TANK EXTERIOR: O.K

TANK 122

TOP VIEW

N

[redacted]

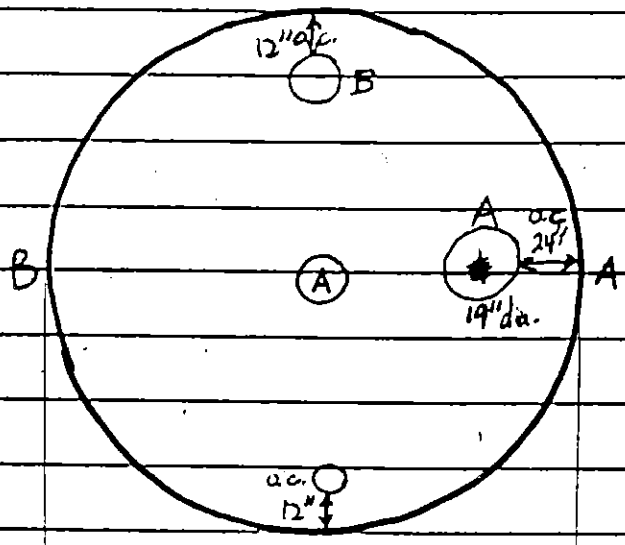
NOTES -

LOCATE SIDE WALL FITTINGS IN TOP VIEW

LOCATE GAGE IN TOP VIEW

LOCATE RISER PIPE IF ATTACHED

LOCATE BOTTOM FITTINGS IN TOP VIEW WITH CIRCLED LETTER



TOP FITTINGS.

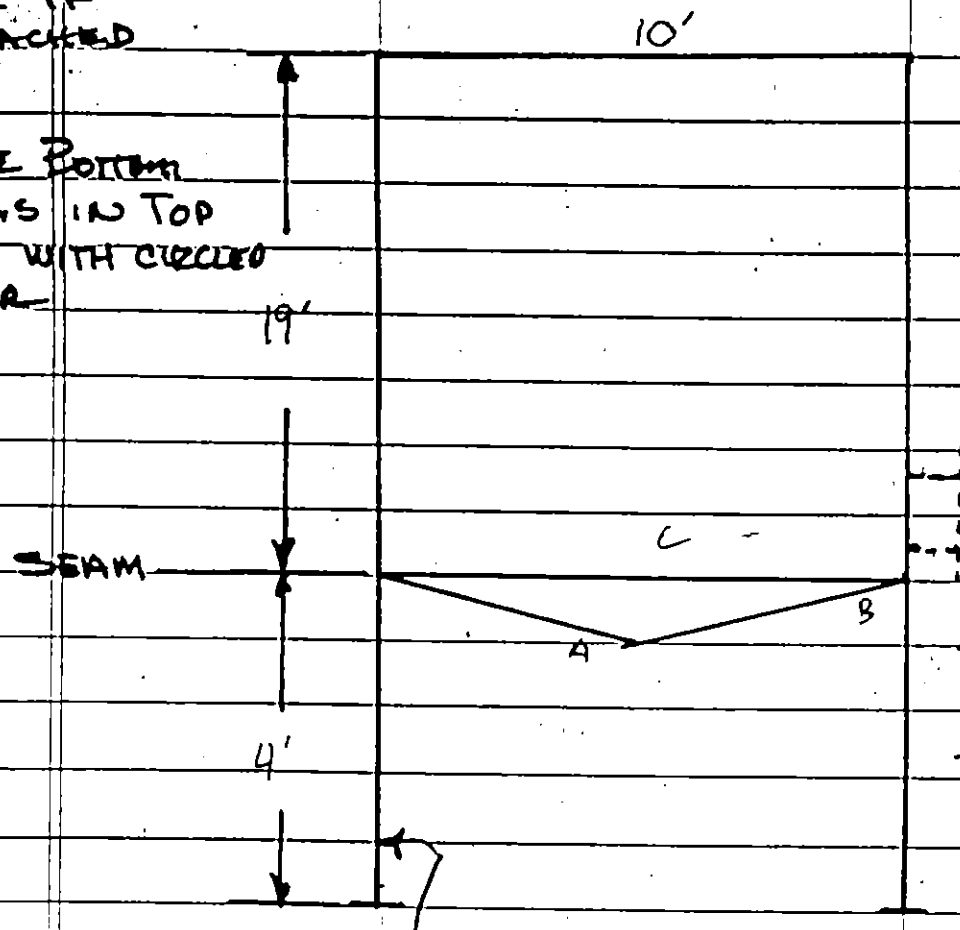
SIZE	USE
A.	MANHEAD W/GA
B.	2" VENT
C.	2" CAP
D.	

BOTTOM FITTINGS

SIZE	USE
A. 3"	
B.	
C.	
D.	

SIDE WALL FITTIN

SIZE	ABOVE SE
A. 2"	3"
B. MANHEAD	
C.	
D.	



MANHEAD DIAM 22"

LEG SIZE 8" X 8"

22 JUNE 85

THICKNESS READIN

A. .310

B. .309

C. .252

TANK PROFILE

DATE: MAY 7, 1987

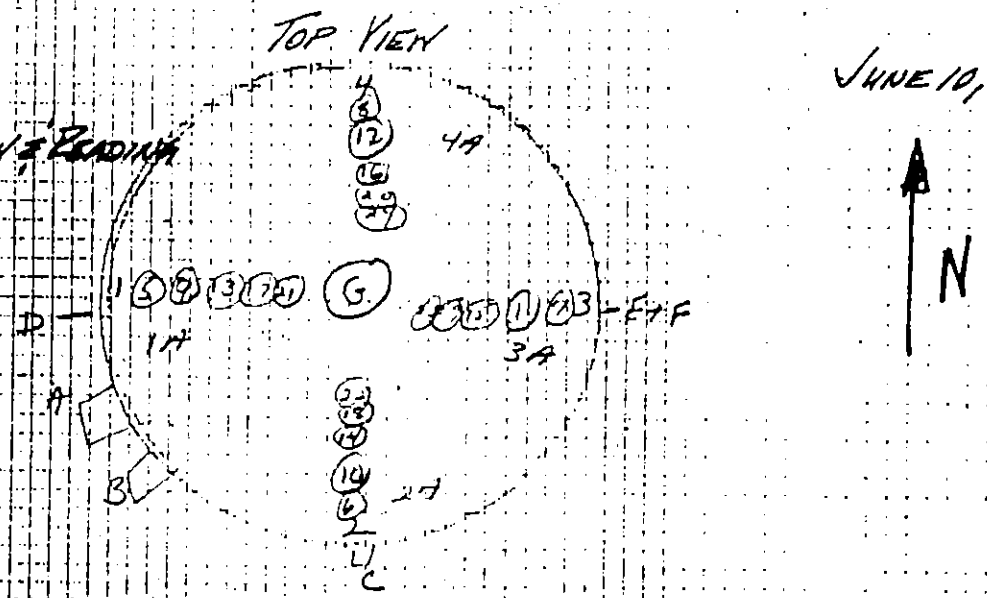
TANK IDENT: 123

LOCATION: 8

JUNE 10, 1986

NOZZLES AND CONITION & READING

1. MAN WAY
2. ...
. 2" NIPPLE - 256
D. 3" NIPPLE - 204
E. 2" " - 143
F. 2" " - 142
. MAN WAY



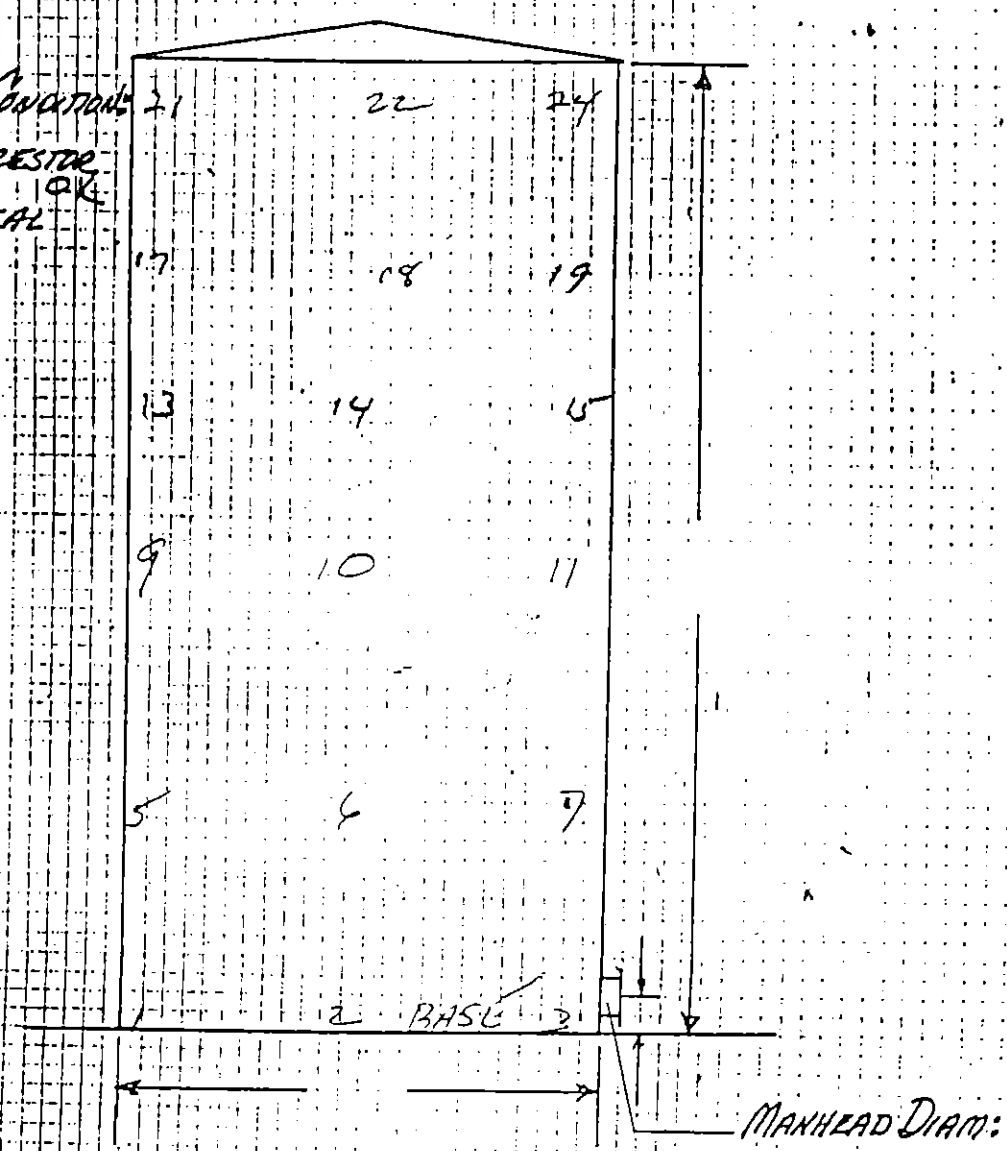
CHECKED 8-12-87

SAFETY CONTROLS AND CONDITION:

1. BREATHER AND 2" ARRESTOR OK
2. GAUGE AND LIQUID SEAL OK FILLED
3. LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK: 123

INSPECTOR: John Spudville

DATE: MAY 7, 1987

MINIMUM WALL:

STR SIDE .143

NT	HEIGHT ABOVE STR. SIDE	READING
	BASE OF TANK	.243
	"	.239
	"	.240
	"	.245
	SIX FEET UP	.240
	"	.243
	"	.240
	"	.241
	12' UP	.246
	"	.247
	"	.248
	"	.248
	18' UP	.246
		.243
		.248
		.252
	24' UP	.244
		.250
		.242
		.250
	TOP SIDE OF TANK	.244
		.245
		.241
		.247
	TOP OF TANK	.270
		.268
		.278
		.265

TANK PROFILE

DATE - 9-22-86

TANK IDENT: 123

LOCATION: RECLAIM CRUDE

JUNE 10, 1986

NOZZLES AND CONDITION:

A. OK
B. OK
C. OK
D. OK
E. ALL VENT LINES
F. VISUAL OK
G. (123 - 124)
H.
I.
J.

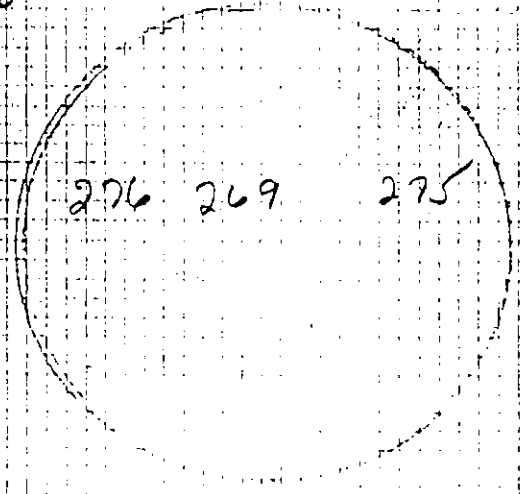
SAFETY CONTROLS AND CONDITION:

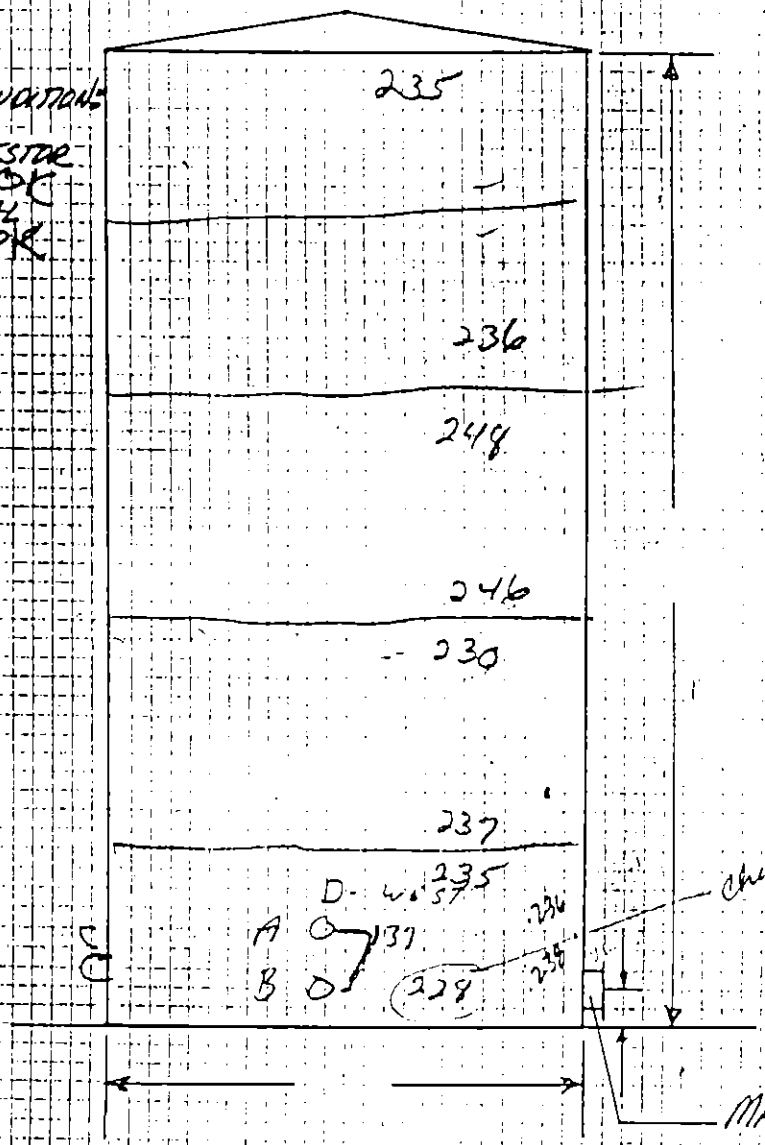
1. BREATHER AND 2" ARRESTOR OK
2. GAUGE AND LIQUID SEAL OK
3. LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: O.K

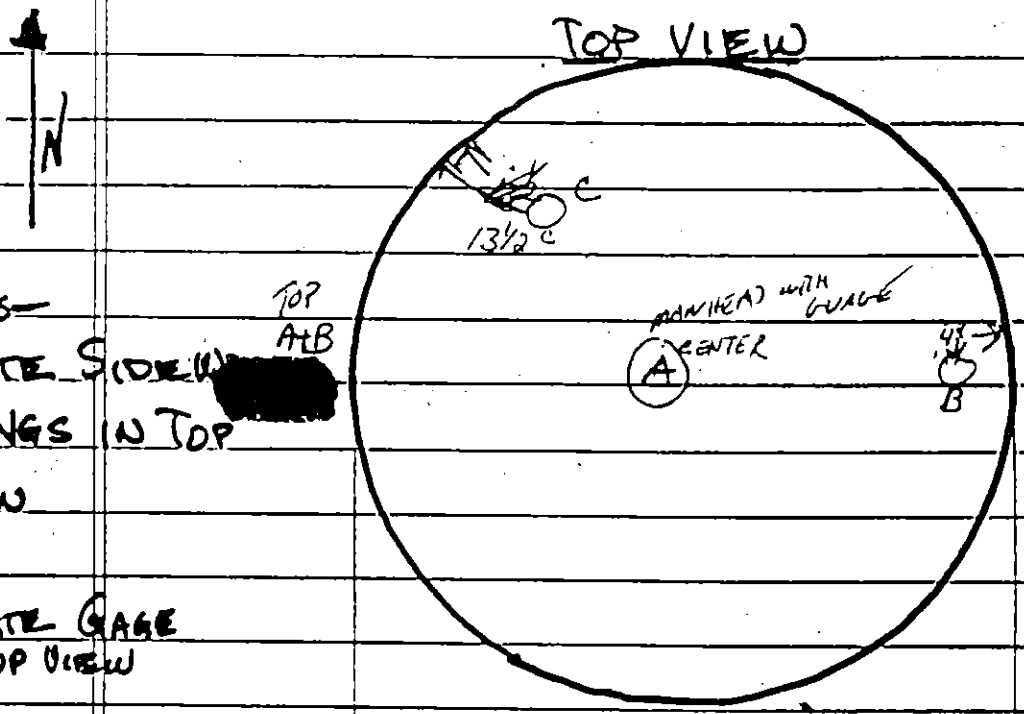
TOP VIEW





TANK 123

TOP VIEW

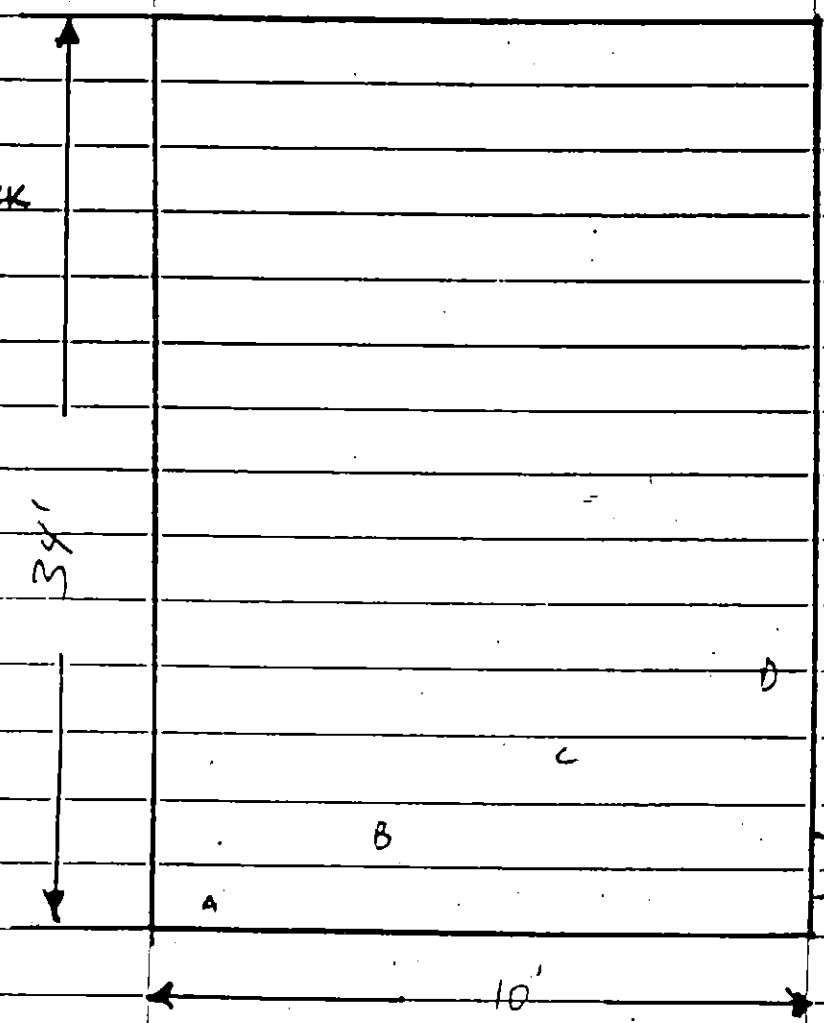


OTES—
CATE SIDE(S) [redacted]
ITTINGS IN TOP
IEW

OCATE GAGE
N TOP VIEW

OCATE RISER
PIPE IF
ATTACHED

LOCATE CATWALK



TOP FITTINGS

SIZE	USE
A. 21" D.	MAN.HE
B. 3"	VEW
C. 2"	CAP.
D.	

22 JUNE 85

THICKNESS READI

A.	.214
B.	.264
C.	.267
D	.249

SIDE WALL FITTI

	SIZE	ABOVE G
A.	3"	24" CAP
B.	3"	13 FROM TO CAP
C.	2"	7"
D.	2"	19"
E.	3"	12"
F	21" MAN HEAD	24"
G	8" MANHOOK	23"
H	2"	5"

MANHEAD
DIAM

TANK IDENT: 1A

LOCATION: B

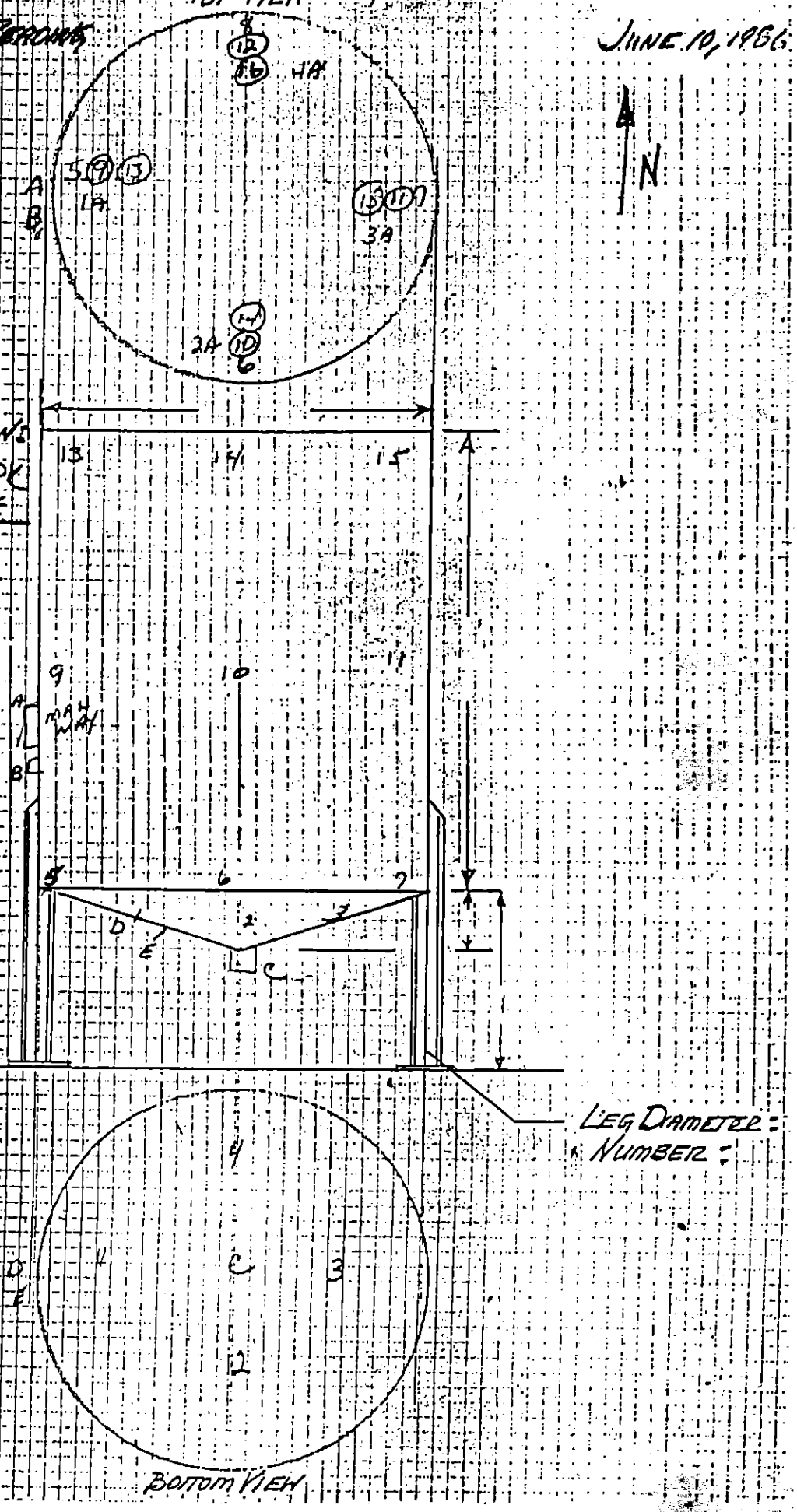
TANK PROFILE

DATE: MAY 6, 198

JUNE 10, 1986

NOZZLES AND CONDITION REPORT

1. MAN WAY OK
   2" NIPPLE OK .652
   2" NIPPLE OK .146
2. 1" NIPPLE OK
   1" COUPLING OK



CHECKED 8-12-87

SAFETY, CONTROLS AND CONDITION:
BREATHER AND 2" ARRESTOR OK
GAUGE AND LIQUID SEAL NONE
LEVEL ALARM OK

DESIGN STANDARDS:

INT. EXTERIOR: OK

TANK: 1A

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 6, 1987

MINIMUM WALL:

STR SIDE .040

INT	HEIGHT ABOVE STR. SIDE	READING
	BOTTOM CENTER OF CONE	.610
	"	.594
	"	.605
	"	.593
	BASE OF TANK	.446
	"	.448
	"	.439
	"	.444
	FIVE FEET ABOVE BASE	.449
	"	.451
	"	.447
	"	.469
	TOP SIDE OF TANK	.422
		.400
		.414
		.434
	TOP OF TANK	.533
		.546
		.542
		.558

TANK IDENT: 1A

TANK PROFILE

DATE: 9-17-86

XCATION: RECLAIM CRUDE

JUNE 10, 1986

OZZLES AND CONDITION:

D OK

OK

132 OK

VISUAL OK

OK

AFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR

OK OK

GAUGE AND LIQUID SEAL

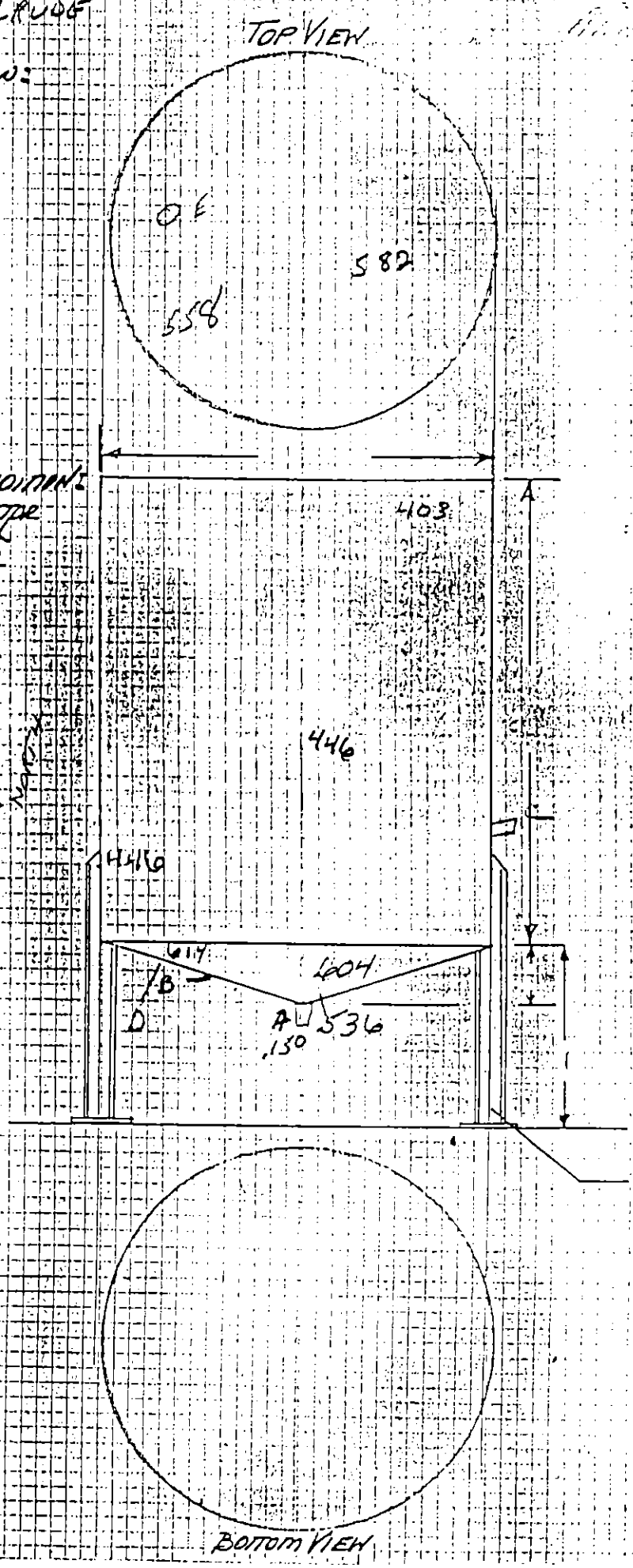
LEVEL ALARM OK

SIGN STANDARDS:

NK EXTERIOR:

OK

GS NOT FIRE PROOF



TANK PROFILE

TANK IDENT: 1B

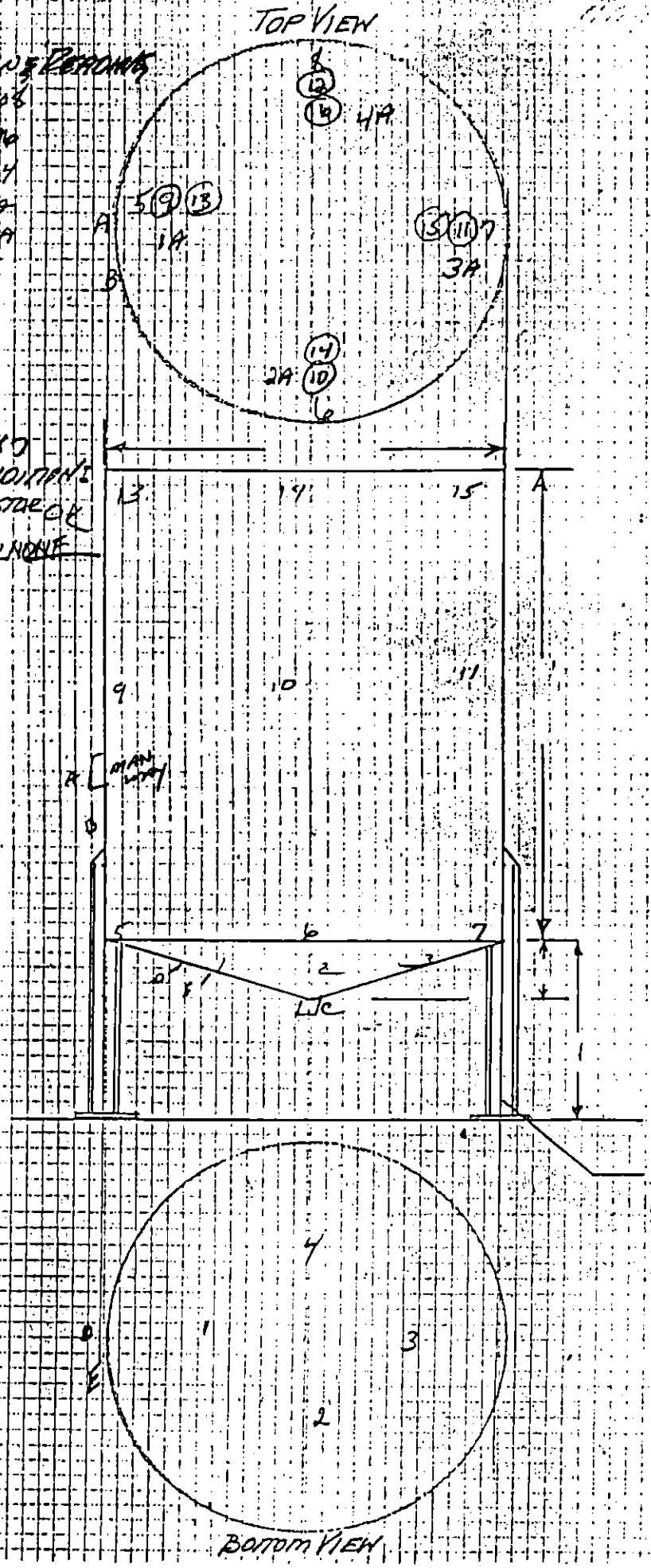
LOCATION: B

DATE: MAY 6, 198

JUNE 10, 1986

NOZZLES AND CONDITIONS READING

1.	4 WAY	COVER	.508
	BLIND	OK	.896
	2" NIPPLE	OK	.144
2.	1" NIPPLE	OK	NA
	1" COUPLING	OK	NA



CHECKED 8-12-87

SAFETY CONTROLS AND CONDITIONS:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL NONE

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

LEG DIAMETER:

NUMBER:

TANK: 1B

INSPECTOR: John Spudville

DATE: May 6, 1987

MAXIMUM WALL:

STR SIDE .090

POINT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	.578
	"	.586
	"	.584
	"	.580
	BASE OF TANK	.420
	"	.417
	"	.432
	"	.423
	FIVE FEET UP TANK	.428
	"	.414
	"	.417
	"	.421
	TOP SIDE OF TANK	.390
		.388
		.390
		.394
	TOP OF TANK	.500
		.506
		.510
		.515

TANK IDENT: 116

LOCATION: B

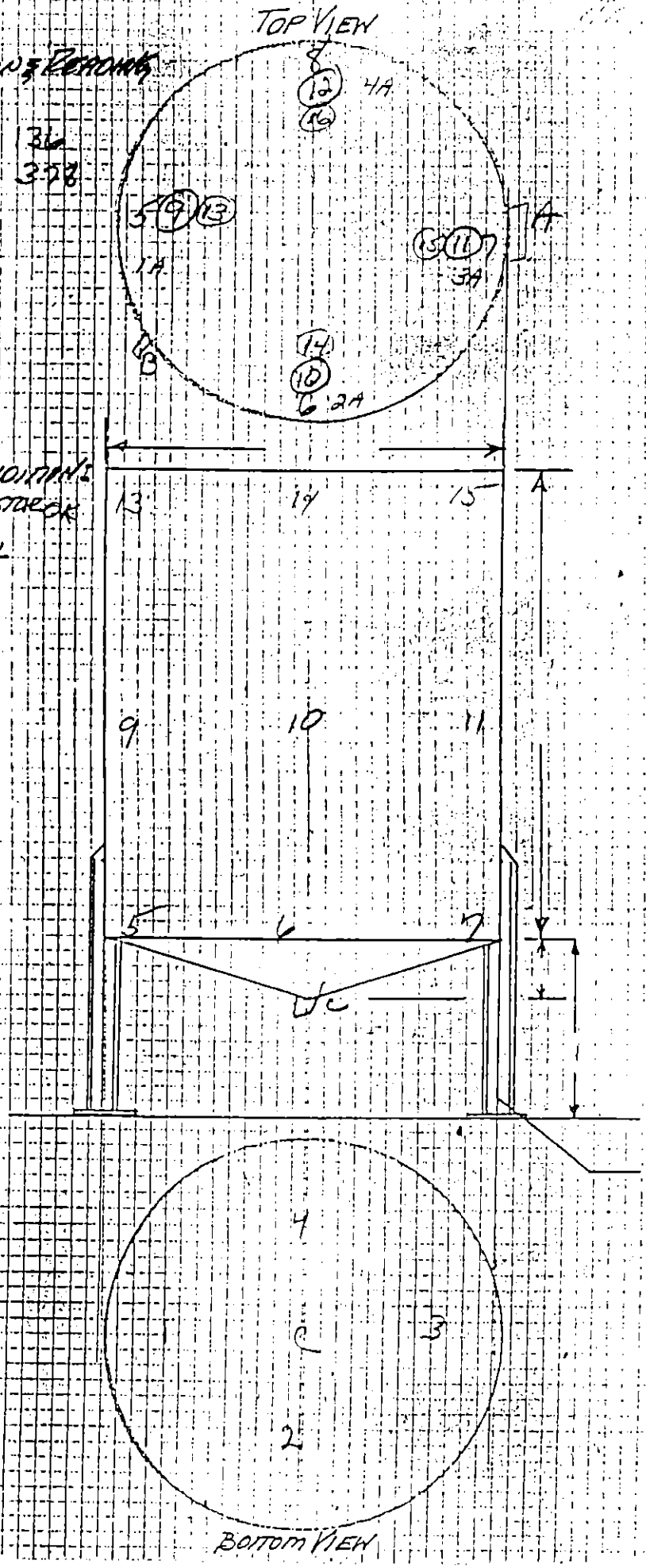
TANK PROFILE

DATE: MAY 6, 1987

JUNE 10, 1986

NOZZLES AND CONDITION & READING

1. 7" WAY OK
2. 2" NIPPLE OK 136
3. 4" FLANG OK 378



N

CHECKED 8-11-87

SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

LEG DIAMETER:

NUMBER:

TANK: 116

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 6, 1987

MINIMUM WALL:

STR SIDE .093

NT	HEIGHT ABOVE STR. SIDE	READING
	CENTER CONE	.284
	"	.285
	"	.300
	"	.273
	BASE OF TANK	.241
	"	.235
	"	.237
	"	.238
	FIVE FEET ABOVE BASE	.239
	"	.238
	"	.235
	"	.241
	Top Side of TANK	
	"	.240
	"	.240
	"	.240
	"	.245
	Top of TANK	
	"	.187
	"	.174
	"	.176
	"	.184

TANK IDENT: 117

TANK PROFILE

DATE:

LOCATION: B

MAY 7, 1986

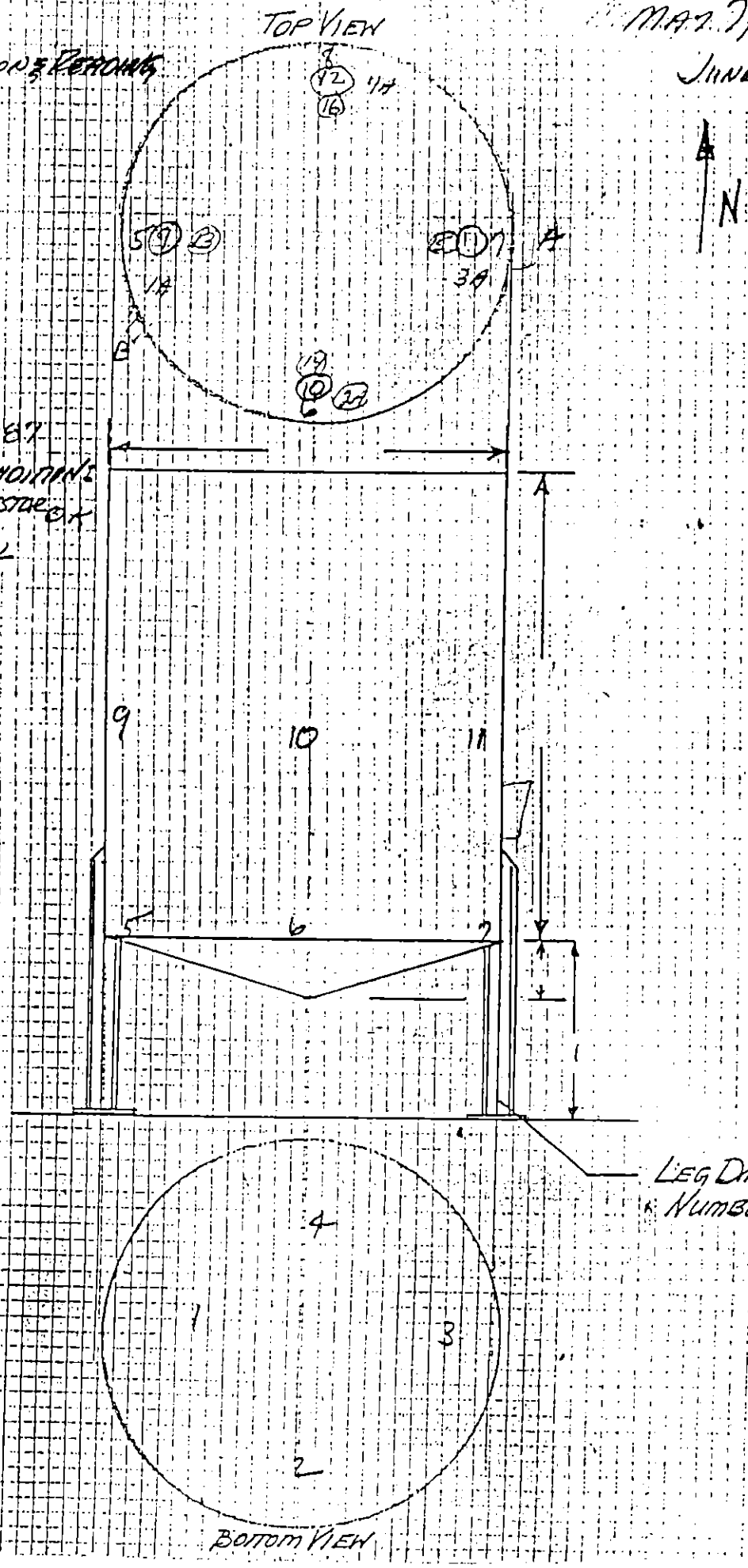
JUNE 10, 1986

NOZZLES AND CONDITION & READING

AN WAY

NIPPLE .139

FLANG .268



CHECKED 8-11-87

SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

LEG DIAMETER:

NUMBER:

TANK: 117

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 7, 1987

MINIMUM WALL:

STR SIDE .093

NT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	
	"	.314
	"	.313
	"	.314
	"	.311
	BASE OF TANK	.227
	"	.220
	"	.222
	"	.230
	FIVE FEET UP TANK	225
	"	230
	"	.226
	"	230
	Top Side of TANK	.224
	"	.208
	"	.226
	"	.215
	Top of TANK	.176
	"	.141
	"	.174
	"	.166

TANK IDENT: 117 TANK INSPECTION DATE: 4-18-86

LOCATION: RECLAIM CRUDE

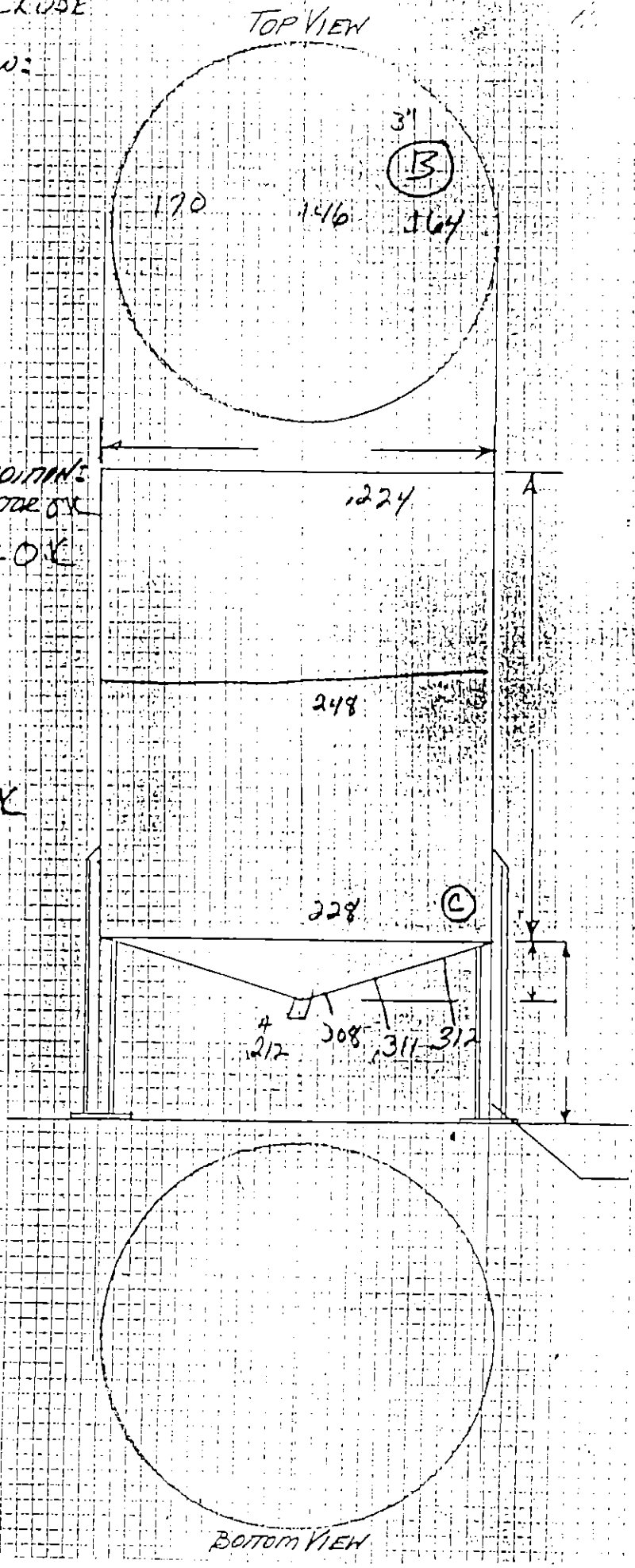
NOZZLES AND CONDITION:

2 OK

235 O.K

O.K

JUNE 10, 1986



SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR O.K

GAUGE AND LIQUID SEAL O.K

LEVEL ALARM O.K

DESIGN STANDARDS:

TANK EXTERIOR: O.K

LEG DIAMETER:

NUMBER:

TANK IDENT: 118 TANK PROFILE DATE: MAY 9,

LOCATION: B

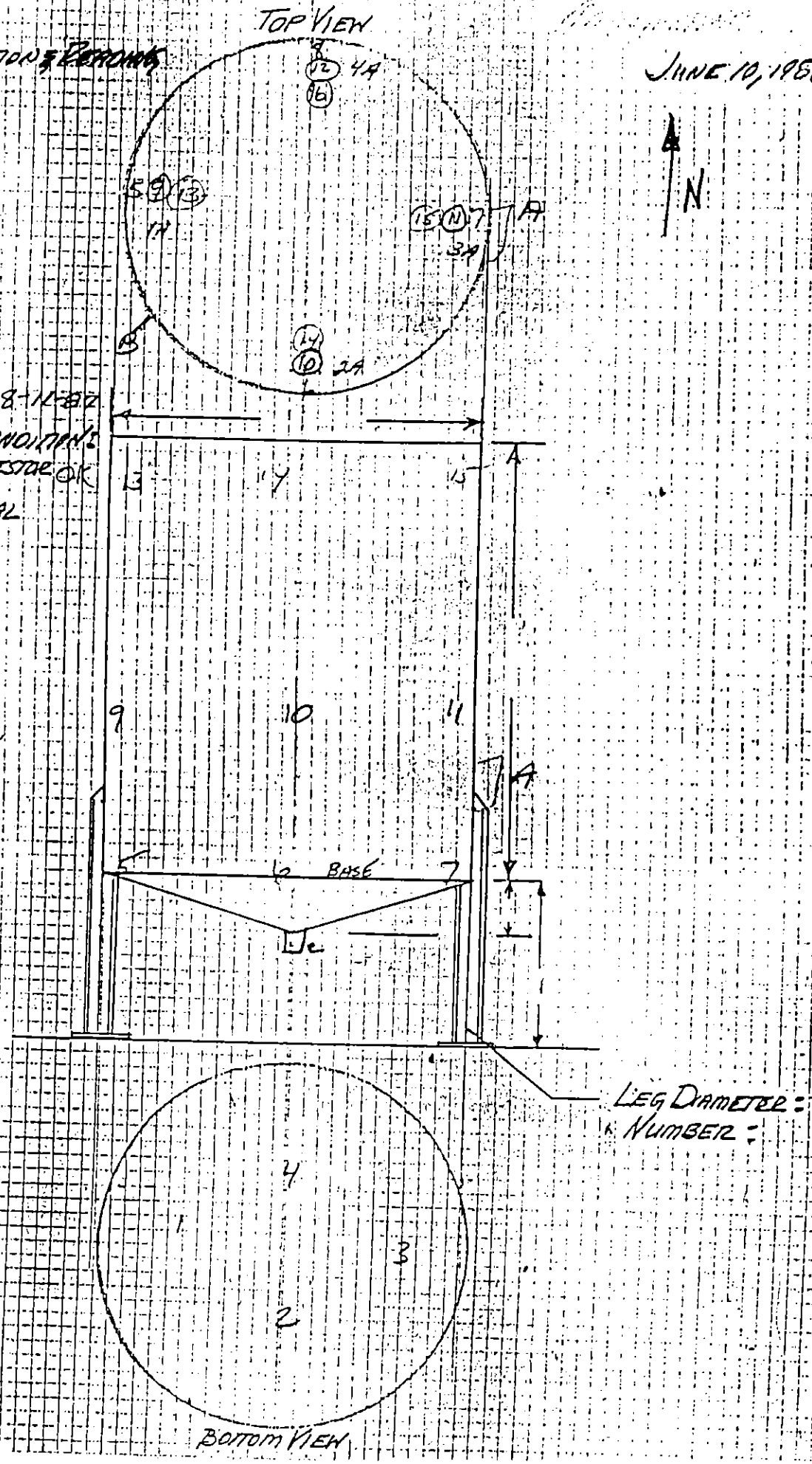
NOZZLES AND CONDITION & READING

MAN WAY OK

NIPPLE .143

4" FLANG .233

JUNE 10, 1986



SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK FILLED

LEVEL ALARM OK

SIGN STANDARDS:

EXTERIOR: OK

TANK: 118

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 7, 1987

MAXIMUM WALL:

STR SIDE .093

NT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	315
	"	316
	"	314
	"	314
	BASE OF TANK	234
	"	226
	"	.226
	"	.230
	FIVE FEET UP TANK	225
	"	226
	"	.220
	"	.230
	Top side of TANK	.230
	"	.222
	"	.235
	"	.222
	Top of TANK	.165
	"	.149
	"	.166
	"	.146

TANK IDENT: 119

TANK PROFILE

DATE: MAY 7, 1987

LOCATION: B

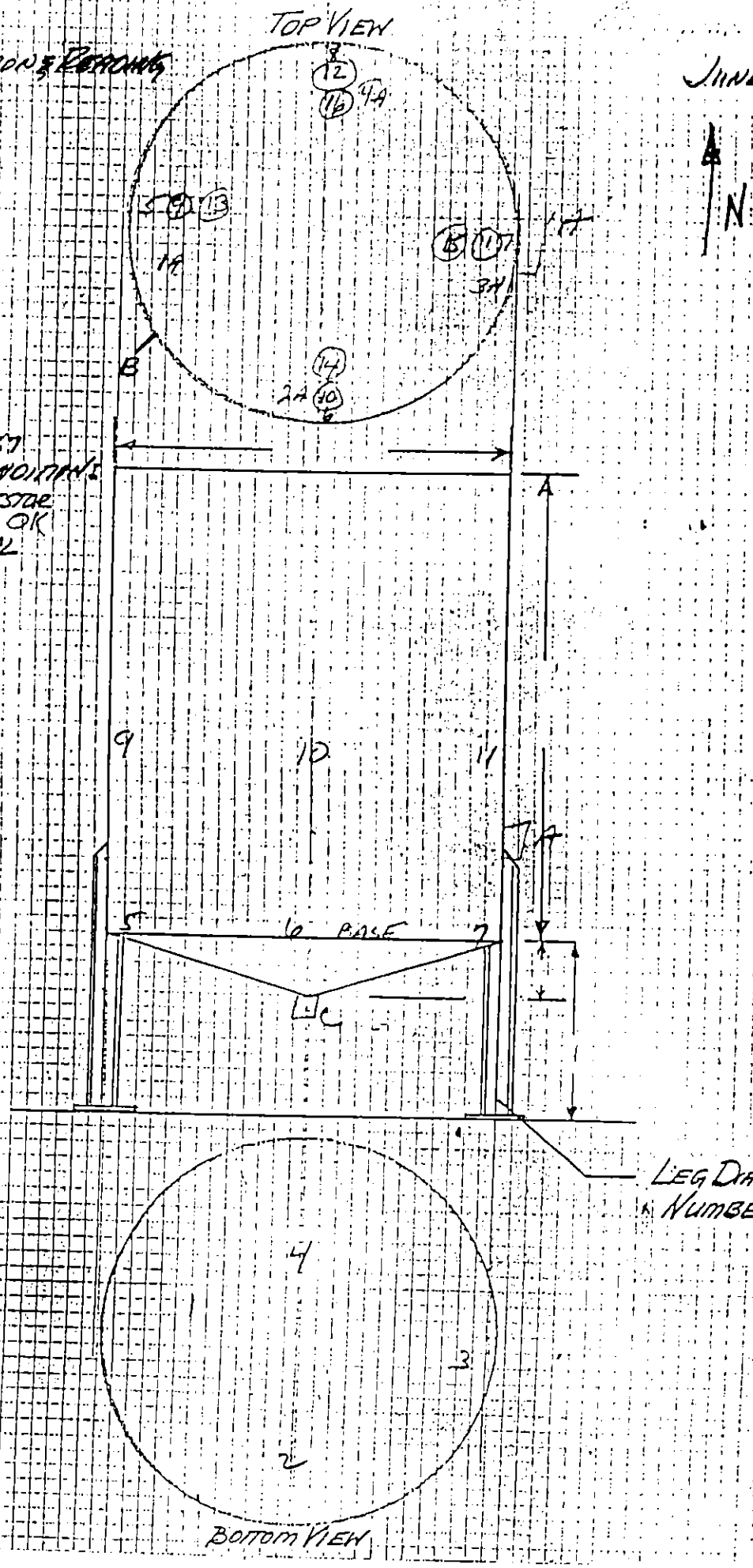
NOZZLES AND CONDITION & READING

MAN WAY OK

NIPPLE 148

4" FLAN 447

JUNE 10, 1986



CHECKED 8-11-87

SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

TANK: 119

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 1987

MINIMUM WALL:

STR SIDE .093

NT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	315
	"	311
	"	314
	"	314
	BASE OF TANK	.242
	"	241
	"	.244
	"	.248
	FIVE FEET UP TANK	236
	"	241
	"	.243
	"	.234
	Top Side of TANK	.244
	"	.245
	"	.239
	"	.228
	Top of TANK	.181
	"	.183
	"	.180
	"	.180

TANK IDENT: 120 TANK PROFILE DATE: MAY 6, 1987

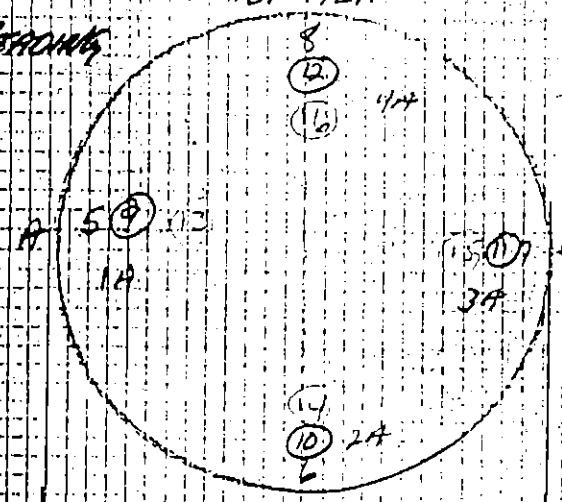
LOCATION: B

JUNE 10, 1986

NOZZLES AND CONDITION & REPAIRS

N WAY	OK	.249
2" NIPPLE	OK	.136
2" NIPPLE	OK	.134

TOP VIEW



N

CHECK 8-12-87

SAFETY CONTROLS AND CONDITION:

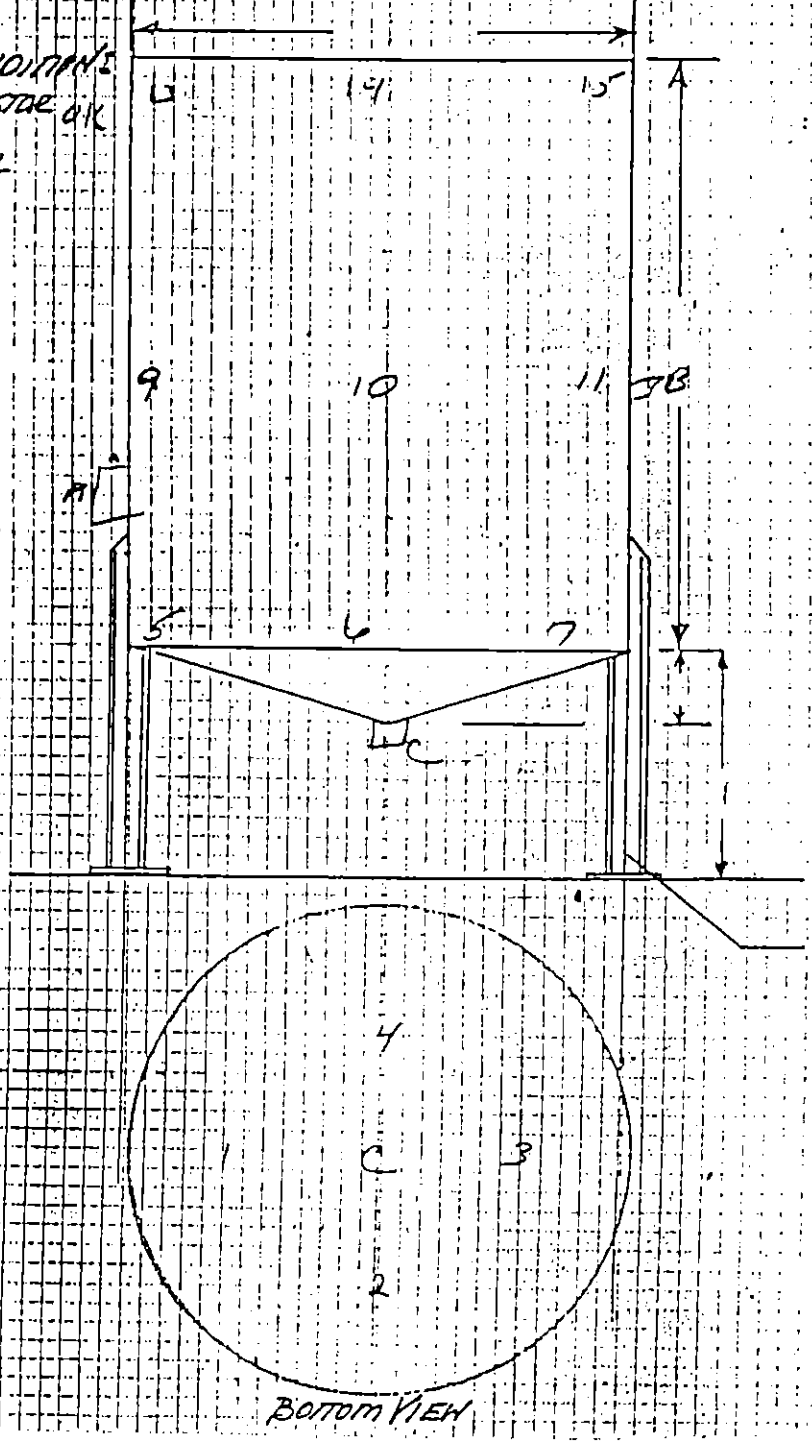
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



LEG DIAMETER:

NUMBER:

BOTTOM VIEW

TANK: 120

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 6, 1987

MAXIMUM WALL:

STR SIDE .070

INT	HEIGHT ABOVE STR. SIDE	READING
	CENTER OF CONE	.306
	"	.305
	"	.307
	"	.303
	BASE OF TANK	.246
	"	.250
	"	.242
	"	.248
	SIX FEET ABOVE BASE	.236
		.235
		.238
		.252
	TOP SIDE OF TANK	.222
		.212
		.216
		.212
	TOP OF TANK	.116
		.129
		.121
		.113

TANK: 211

INSPECTOR: JOHN SPUDVILLE

DATE: 8-11-87

MINIMUM WALL:

BASE .140

ABOVE 6' .108

INT	HEIGHT ABOVE STD. SIDE	READING
	BASE	.239
	"	.244
	"	.249
	"	.244
	SEVEN FEET UP	.182
	"	.168
	"	.170
	"	.169
	FOURTEEN FEET UP	.178
	"	.172
	"	.179
	"	.174
	21 FEET UP	.178
		.174
		.177
		.172
	TOP SIDE OF TANK	.158
	"	.160
	"	.159
	"	.160
	TOP OF TANK	.168
	"	.160
	"	.169
	"	.168

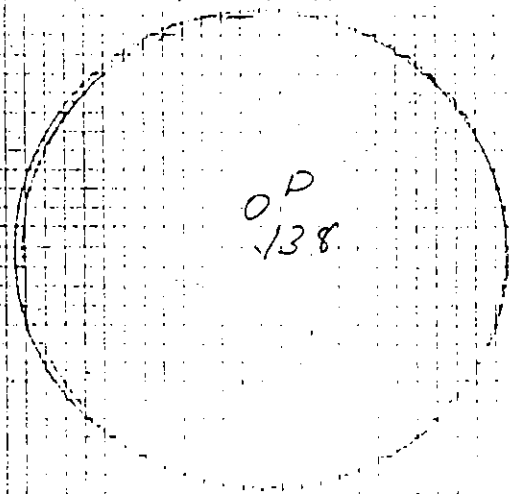
TANK PROFILE DATE: 10-1-8

TANK IDENT: 211

LOCATION: INJECTANT TANK FARM

JUNE 10, 1986

TOP VIEW



VISUAL OK

202 OK

197 OK

138 OK

SAFETY CONTROLS AND CONDITION:

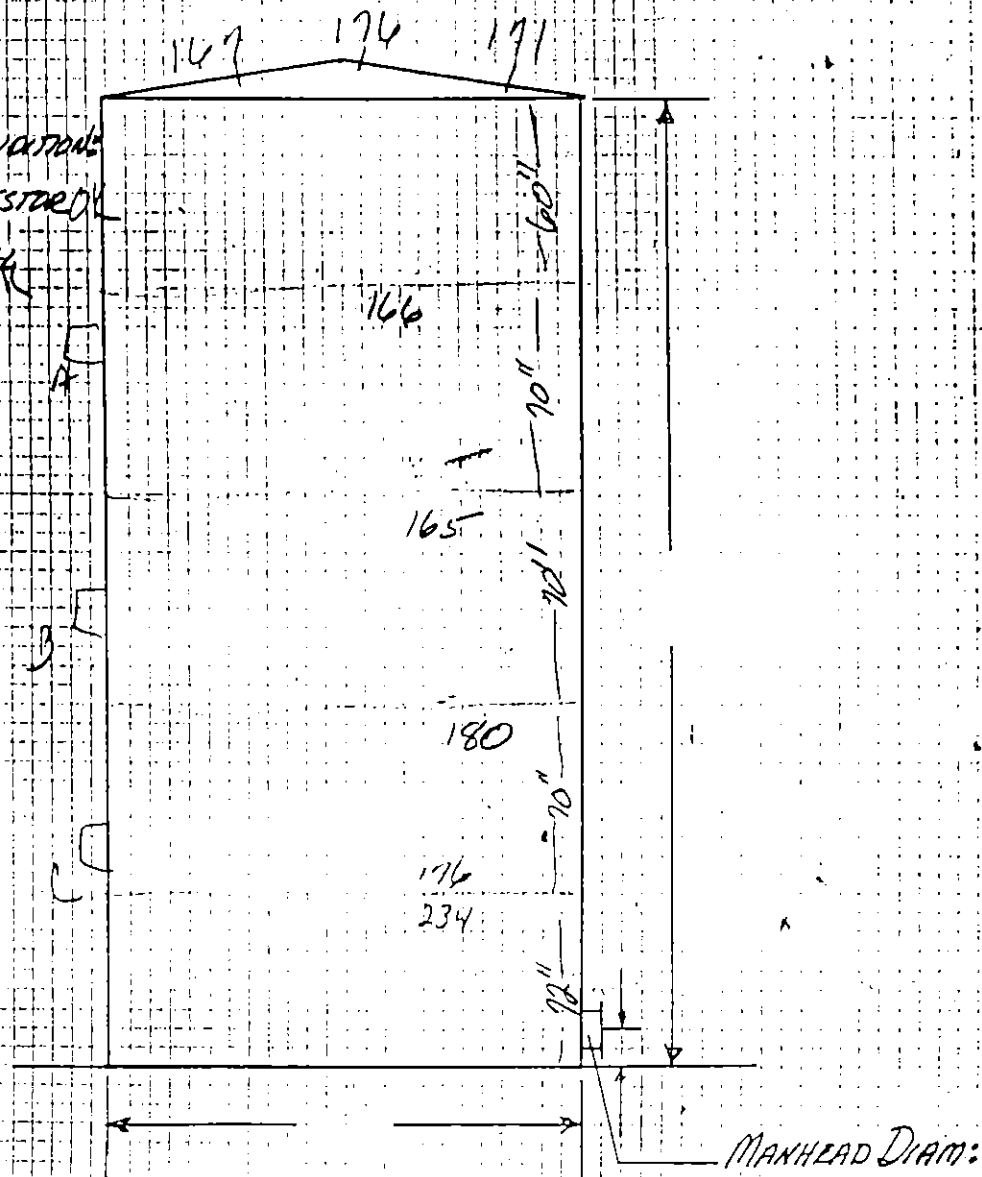
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK OK

LEVEL ALARM OK

DESIGN STANDARDS:

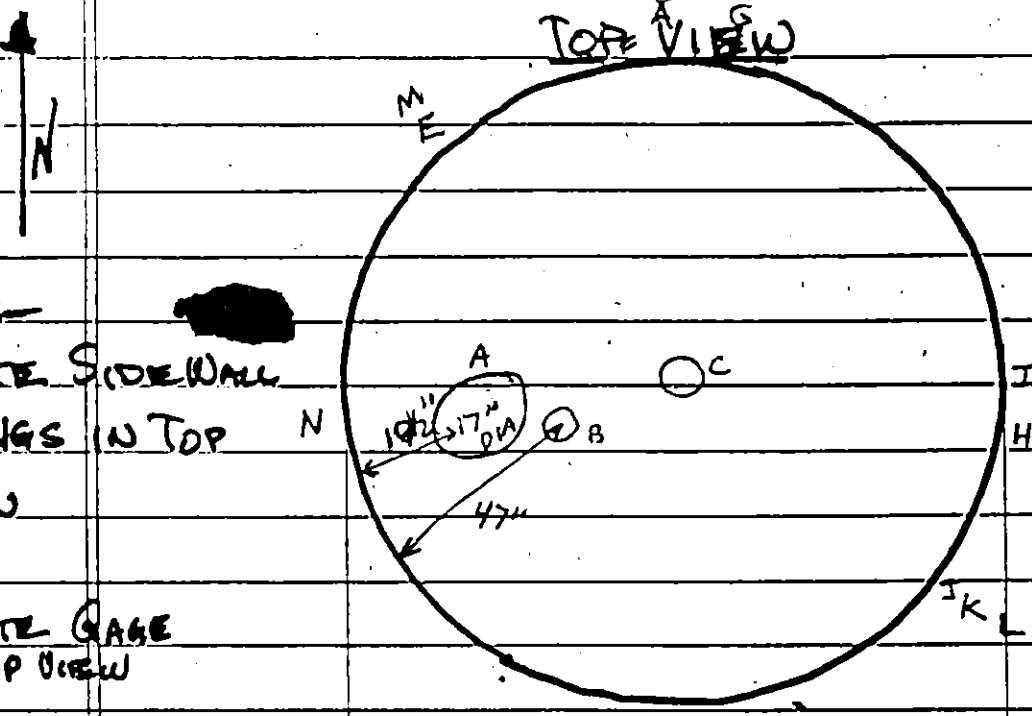
TANK EXTERIOR: OK



TANK 211

AGITATED

TOP VIEW



TOP FITTINGS

SIZE	USE
A. MANHEAD W/GA	
B. 3" VENT (THREA	
C. 2" W/RISER	
D.	

NOTES—

LOCATE SIDEWALL FITTINGS IN TOP VIEW

LOCATE GAGE IN TOP VIEW

LOCATE RISER PIPE IF ATTACHED

LOCATE LADDER

SIDE WALL CON

J	3"	6
K	3" CAP	12
L	3" CAP	18
M	2" PLUG	1
N	LADDER	

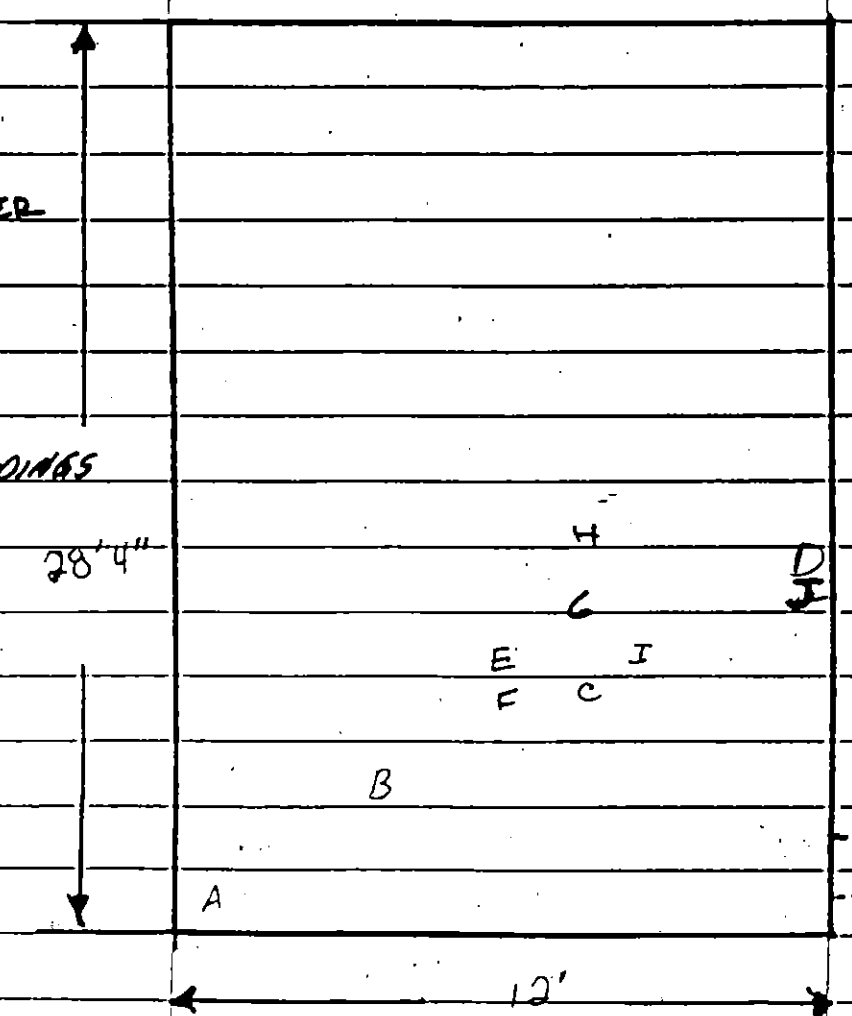
SIDE WALL FITT

	SIZE	ABOVE G
A.	3"	5'
B.	3"	35
C.	3"	12'
D.	3"	18'
E.	MANHEAD	
F	2" PLUG	11
G	2" PLUG	3
H	AGITATOR	2
I	2" W/VALVE	5

JUNE 85

THICKNESS READINGS

.226
.238
.233
.170
.180
.232
.180
.180
.180
.170



TANK PROFILE

DATE:
MAY 15, 1

TANK IDENT: 212

LOCATION: C

JUNE 10, 1986

N ZLES AND CONITION & READING

MAN WAY 328

2" NIPPLE 141

8" ADJATATOR 287

8" BLIND 288

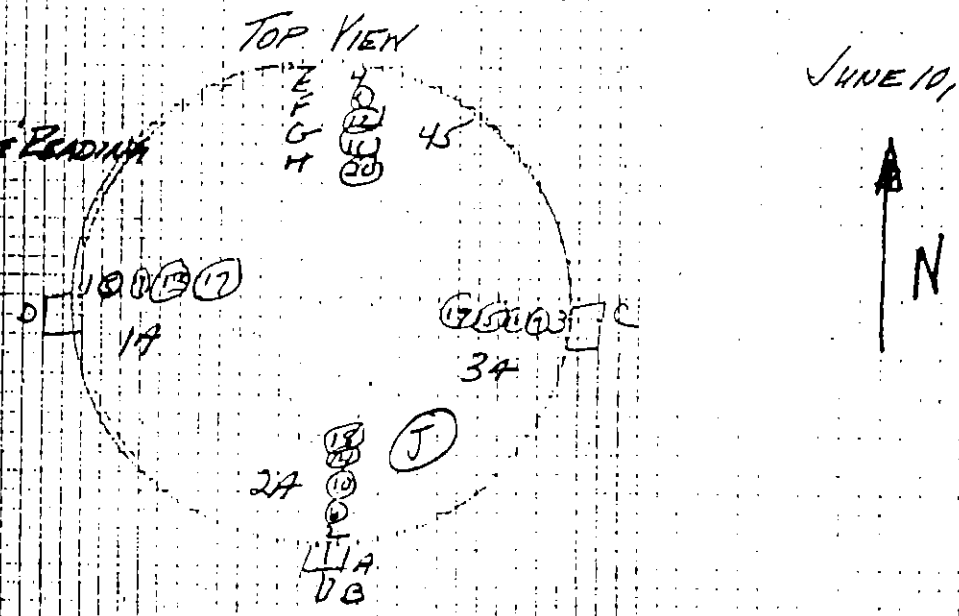
3" NIPPLE OK

3" NIPPLE OK

3" NIPPLE OK

3" NIPPLE OK

MAN WAY



8-12-87

FETY CONTROLS AND CONDITION:

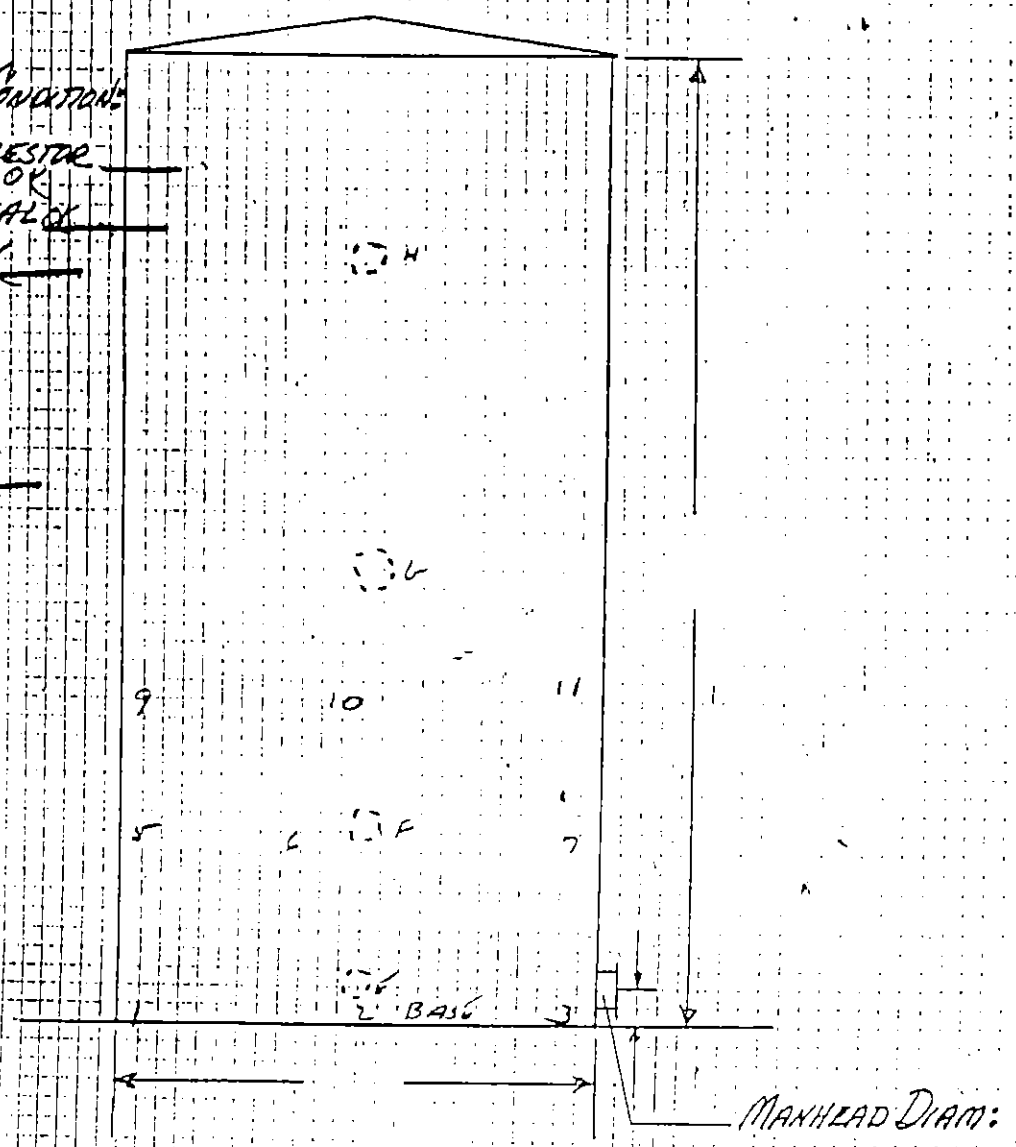
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM FILLED OK

DESIGN STANDARDS:

ANK EXTERIOR: OK



TANK: 212

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 15, 1987

MINIMUM WALL:

BASE .148

ABOVE 6' .117

INT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.228
	"	.234
	"	234
	"	232
	SEVEN FEET UP	.162
	"	.162
	"	.163
	"	.167
	FOURTEEN FEET UP	.160
	"	.163
	"	.163
	"	.167
	21' FT UP	.176
		.174
		.170
		.167
	TOP SIDE OF TK	
		.184
		.185
		.183
		.187
	TOP OF TK	.182
		.188
		.189
		.188

TANK PROFILE

DATE - NOV 10

TANK IDENT: 212

LOCATION:

JUNE 10, 1986

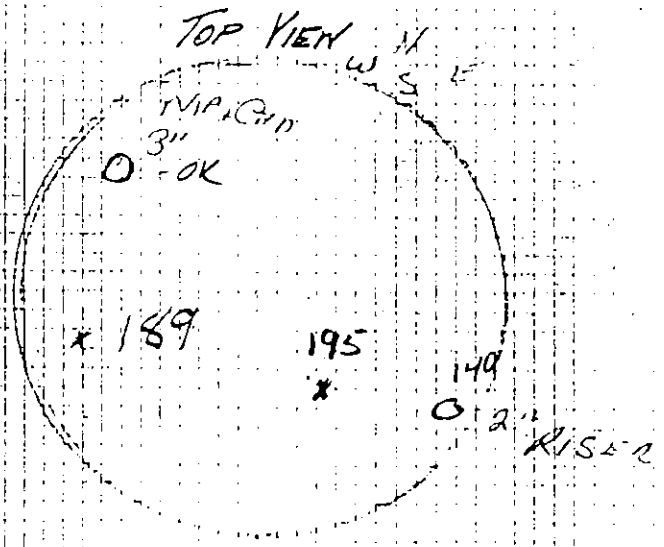
VALVES AND CONDITION:

VISUAL OK

VISUAL OK

VISUAL OK

142 OK



SAFETY CONTROLS AND CONDITION:

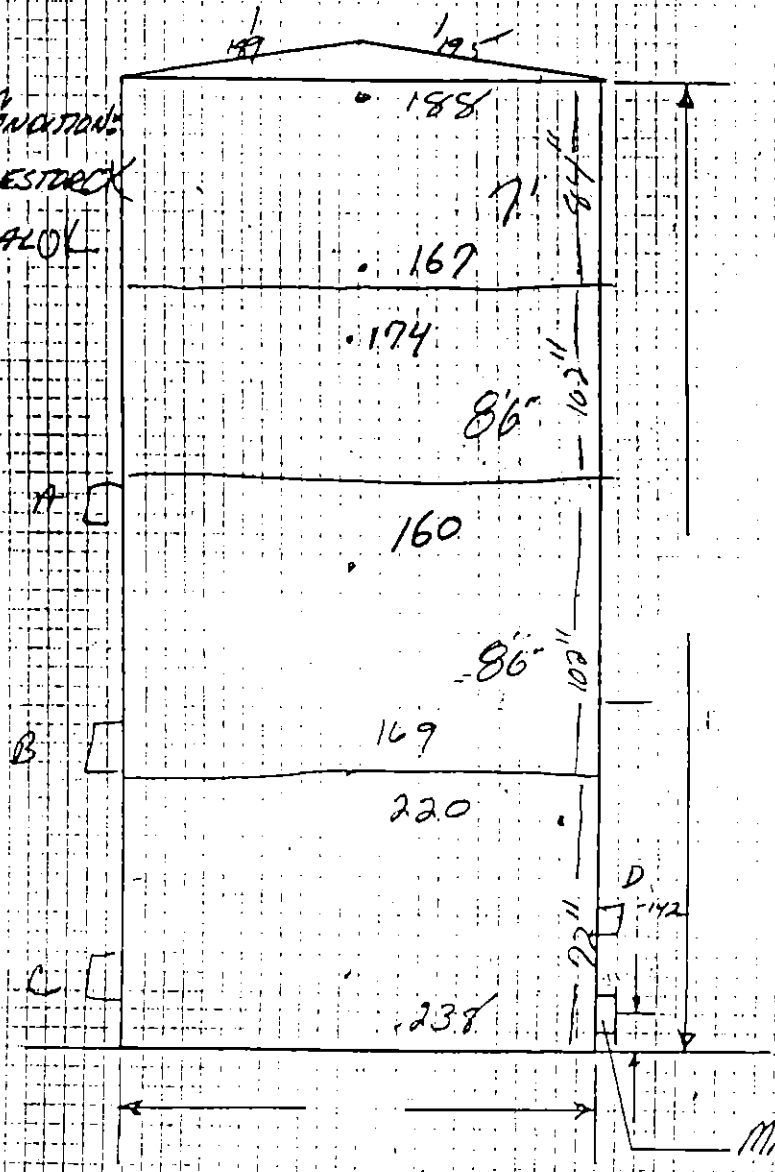
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



D-2a Description of Tanks (Refer to Individual Tank Profile Drawings)

TANK IDENT	1987 PRESENT SHELL THICKNESS (IN. @ ELEV)	WORKING CAPACITY (GALLONS)	DIAMETER (FEET)	HEIGHT (FEET)
Location A				
#20	.220 DISH .243 WALL	1000	5.5	5.5
Location B				
#1A	.5625 DISH .444 WALL	2750	6.5	10
#1B	.5625 DISH .423 WALL	2750	6.5	10
#116	.285 DISH .238 WALL	10,800	12	12
#117	.313 DISH .226 WALL	10,800	12	12
#118	.314 DISH .230 WALL	10,800	12	12
#119	.311 DISH .242 WALL	10,800	12	12
#120	.305 DISH .247 WALL	6000	9	12
#121	.307 DISH .238 WALL	10,500	10	18
#122	.308 DISH .248 WALL	10,500	10	18
#123	.242 TO 6' .242 ABOVE 6'	19,500	10	33
#124	.245 TO 6' .240 ABOVE 6'	19,500	10	33
#125	.241 TO 6' .240 ABOVE 6'	19,500	10	33
#126	.240 TO 6' .232 ABOVE 6'	19,500	10	33
#1002	.162 TO 6' .175 ABOVE 6'	11,000	10.5	18

D-2a Description of Tanks (Refer to Individual Tank Profile Drawings)
(con't) 1987 PRESENT

TANK IDENT	SHELL THICKNESS (IN. @ ELEV)	WORKING CAPACITY (GALLONS)	DIAMETER (FEET)	HEIGHT (FEET)
Location C				
#202	.241 TO 6' .170 ABOVE 6'	18,000	10.5	29
#203	.221 TO 6' .148 ABOVE 6'	16,000	10.5	27
#204	.228 TO 6' .150 ABOVE 6'	17,000	10.5	27
#205	.240 TO 6' .180 ABOVE 6'	18,000	10.5	29
#206	.236 TO 6' .215 ABOVE 6'	17,000	10.5	27
#210	.235 TO 6' .165 ABOVE 6'	23,000	12	27 1/3
#211	.237 TO 6' .175 ABOVE 6'	23,000	12	27 1/3
#212	.232 TO 6' .153 ABOVE 6'	24,000	12	29

D-2a Description of Tanks (Refer to Individual Tank Profile Drawings) (con't)

TANK IDENT	MATERIAL OF CONSTRUCTION	PRESSURE CONTROLS	FOUNDATION	SEAMS
Location A				
#20	A 240 316 S.S.	NONE	6" CONC	WELDED
Location B				
#1A	A 283C C.S.	STORAGE TANKS OPERATE AT ± .5 oz BY USING POSITIVE AND NEGATIVE BREATHING VALVES	12" CONC	WELDED
#1B	"		"	"
#116	"		"	"
#117	"		"	"
#118	"		"	"
#119	"		"	"
#120	"		"	"
#121	"		"	"
#122	"		"	"
#123	"		"	"
#124	"		"	"
#125	"		"	"
#126	"		"	"
#1002	"		CLAY BASE WITH 6" TO 8" GRAVEL #73	"

D-2a Description of Tanks (Refer to Individual Tank Profile Drawings) (con't)

TANK IDENT	MATERIAL OF CONSTRUCTION	PRESSURE CONTROLS	FOUNDATION	SEAMS
Location C				
#202	A 283C C.S.	STORAGE TANKS OPERATE AT ± .5 oz BY USING POSITIVE AND NEGATIVE BREATHING VALVES	CLAY BASE WITH 6" TO 8" GRAVEL #73	WELDED
#203	"			"
#204	"			"
#205	"			"
#206	"			"
#210	"			"
#211	"			"
#212	"			"

TANK IDENT	AGE YEARS	ORIGINAL THICKNESS INCHES @ ELEVATION	PAST USAGE	PRESENT THICKNESS INCHES AT ELEVATION	AVERAGE THICKNESS PER YEAR LOST
Location A					
#20	21	.250 DISH .250 SHELL	MIXING VESSEL SOLVENT	.220 DISH .243 WALL	.0014 .004
Location B					
#1A	16	.5625 DISH .500 WALLS	SOLVENT STORAGE	.5625 DISH .444 WALL	NIL .0039
#1B	16	"	"	.5625 DISH .423 WALL	NIL .005
#116	14	.3125 DISH .250 WALLS	OIL BLENDING	.285 DISH .238 WALL	.0023 .0008
#117	14	"	"	.313 DISH .226 WALL	NIL .0017
#118	14	"	"	.314 DISH .230 WALL	NIL .0015
#119	14	"	"	.311 DISH .242 WALL	.0001 .0005
#120	6	.3125 DISH .250 WALLS	NEW	.305 DISH .247 WALL	.0021 .0005
#121	6	"	"	.307 DISH .238 WALL	.0025 .0040
#122	6	"	"	.308 DISH .248 WALL	.0007 .0003
#123	19	.250 WALLS	FUEL OIL STORAGE	.242 TO 6' .242 ABOVE 6'	.0003 .0004
#124	19	"	"	.245 TO 6' .240 ABOVE 6'	.0003 .0005
#125	19	"	"	.241 TO 6' .240 ABOVE 6'	.0005 .0006
#126	19	"	"	.240 TO 6' .232 ABOVE 6'	.0005 .0009
#1002	10	.187 WALLS	SOLVENT STORAGE	.162 TO 6' .175 ABOVE 6'	.0025 .0012
Location C					
#202	15	.250 TO 6' .187 ABOVE 6'	FUEL OIL STORAGE	.241 TO 6' .170 ABOVE 6'	.0006 .0012

(con't)

(con't)

TANK IDENT	AGE YEARS	ORIGINAL THICKNESS INCHES @ ELEVATION	PAST USAGE	1987 PRESENT THICKNESS INCHES AT ELEVATION	AVERAGE THICKNESS PER YEAR LOST
#203	18	.250 TO 6'	FUEL OIL	.221 TO 6'	.0015
		.187 ABOVE 6'	STORAGE	.148 ABOVE 6'	.0021
#204	18	"	"	.228 TO 6'	.0012
				.150 ABOVE 6'	.0020
#205	15	"	"	.240 TO 6'	.0006
				.180 ABOVE 6'	.0005
#206	16	.250 WALLS	"	.236 TO 6'	.0008
				.215 ABOVE 6'	.0022
#210	20	.250 TO 6'	"	.235 TO 6'	.0009
		.187 ABOVE 6'		.165 ABOVE 6'	.0011
#211	20	"	"	.237 TO 6'	.0006
				.175 ABOVE 6'	.0005
#212	6	"	NEW	.232 TO 6'	.0036
				.153 ABOVE 6'	.0074

D-2b Tank Corrosion and Erosion

Based on API 650 A 4.1 a minimum allowable Shell thickness was developed for each storage tank.

$$t=\frac{(2.6)(D)(H-1)(G)}{(E)\ (21,000)} + C.A.$$

t = wall thickness in inches
D = nominal diameter of tank in feet
H = height in feet
G = specific gravity of liquid
E = joint efficenty = .7
C.A. = corrosion allowance in inches

The corrosion allowance for each tank was based on the minimum wall thickness required to secure the stored material with the maximim specific gravity shown in C-1b. (Waste in tanks) Then using the corrosion allowance, a minimum wall thickness was calculated by using a safety factor of 150%.

D-2b (con't)

The following are the calculations for each tank:

Location A

#20

With C.A. = 0 $t = \frac{2.6(5.5)(4.5)(1.6)}{14700} = .007$

Safety factor: .007 x 150% = .011
With C.A. = .011 t = .018

Location B

#1A and #1B

With C.A. = 0 $t = \frac{2.6(6.5)(9)(1.6)}{14700} = .016$

Safety factor: .016 x 150% = .024
With C.A. = .024 t = .040

#116, #117, #118, #119

With C.A. = 0 $t = \frac{2.6(12)(11)(1.6)}{14700} = 037$

Safety factor: .037 x 150% = .056
With C.A. = .056 t = .093

#120

With C.A. = 0 $t = \frac{2.6(9)(11)(1.6)}{14700} = .028$

Safety factor: .028 x 150% = .042
With C.A. = .042 t = .070

#121 and #122

With C.A. = 0 $t = \frac{2.6(10)(17)(1.6)}{14700} = .048$

Safety factor: .048 x 150% = .072
With C.A. = .072 t = .120

#123, 124, 125 and 126

With C.A. = 0 $t = \frac{2.6(10)(32)(1.0)}{14700} = .057$

Safety factor: .057 x 150% = .086
With C.A. = .086 t = .143

Location C

#210 and 211

With C.A. = 0 $t = \frac{2.6\ (12)(26.3)(1.0)}{14700} = 056$

Safety factor: .056 x 150% = .084
With C.A. = .084 t = .140

D-2b (con't)

#210 and 211 Above 6'
With C.A. = 0 $t = \frac{2.6(12)(20.3)(1.0)}{14700} = .043$

Safety factor: .043 x 150% = .065
With C.A. = .065 t = .108

#212
With C.A. = 0 $t = \frac{2.6(12)(28)(1.0)}{14700} = .059$

Safety factor: .059 x 150% = .089
With C.A. = .089 t = .148

#212 Above 6'
With C.A. = 0 $t = \frac{2.6(12)(22)(1.0)}{14700} = .047$

Safety factor: .047 x 150% = .070
With C.A. = .070 t = .117

#202 and #205
With C.A. = 0 $t = \frac{2.6(10.5)(28)(1.0)}{14700} = .052$

Safety factor: .052 x 150% = .078
With C.A. = .078 t = .130

#202 and #205 Above 6'
With C.A. = 0 $t = \frac{2.6(10.5)(22)(1.0)}{14700} = .041$

Safety factor: .041 x 150% = .061
With C.A. = .061 t = .102

#203 and #204
With C.A. = 0 $t = \frac{2.6(10.5)(26)(1.0)}{14700} = .048$

Safety factor: .048 x 150% = .072
With C.A. = .072 t = .120

#203 and #204 Above 6'
With C.A. = 0 $t = \frac{2.6(10.5)(20)(1.0)}{14700} = .037$

Safety factor: .037 x 150% = .056
With C.A. = .056 t = .093

D-2b
(con't)

#206
With C.A. = 0 $t = \frac{2.6(10.5)(26)(1.2)}{14700} = .058$

Safety factor: .058 x 150% = .087
With C.A. = .087 t = .145

#206 Above 6'
With C.A. = 0 $t = \frac{2.6(10.5)(20)(1.2)}{14700} = .045$

Safety factor: .045 x 150% = .067
With C.A. = .067 t = .112

Location B (Distillate Tank Farm)

#1002
With C.A. = 0 $t = \frac{2.6(10.5)(16)(.85)}{14700} = .025$

Safety factor: .025 x 150% = .038
With C.A. = .038 t = .063

(con't)

TANK IDENT	1987 METAL THICKNESS AT BASE	1987 METAL THICKNESS ABOVE 6'	MINIMUM WALL THICKNESS AT BASE	MINIMUM WALL THICKNESS ABOVE 6'
Location A				
#20	.220	.243	.018	NA
Location B				
#1A	.5625	.444	.040	NA
#1B	.5625	.423	.040	NA
#116	.285	.238	.093	NA
#117	.313	.226	.093	NA
#118	.314	.230	.093	NA
#119	.311	.242	.093	NA
#120	.305	.247	.070	NA
#121	.307	.238	.120	NA
#122	.308	.248	.120	NA
#123	.242	.242	.143	NA
#124	.245	.240	.143	NA
#125	.241	.240	.143	NA
#126	.240	.232	.143	NA
#1002	.159	.166	.063	NA
Location C				
#202	.241	.170	.130	.102
#203	.221	.148	.120	.093

TANK IDENT	1987 METAL THICKNESS AT BASE	1987 METAL THICKNESS ABOVE 6'	MINIMUM WALL THICKNESS AT BASE	MINIMUM WALL THICKNESS ABOVE 6'
#204	.228	.150	.120	.093
#205	.240	.180	.130	.102
#206	.236	.215	.145	.112
#210	.235	.165	.140	.108
#211	.237	.175	.140	.108
#212	.232	.153	.148	.117

JUL 7 1987
D-37A

APPENDIX C

STORAGE TANK ASSESSMENT AND CERTIFICATION, DISTILLATION UNITS #1, #2, #3, #7 AND TANK #1002

TANK PROFILE

DATE: MAY 8, 1987

TANK IDENT: 124

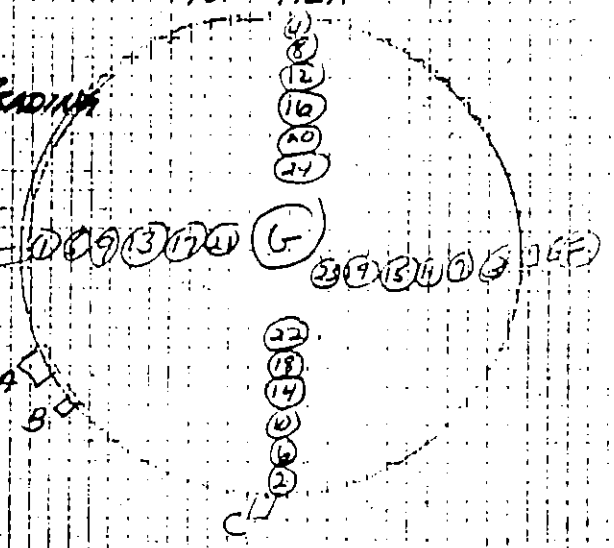
LOCATION: B

JUNE 10, 1986

1. NOZZLES AND CONDITION & READING

1. MAN WAY .217
2. AGITATOR .312
3. 24" NIPPLE .250
4. 8" NIPPLE .206
5. 2" NIPPLE .143
6. 2" NIPPLE .131
7. MAN WAY

TOP VIEW



CHECKED 8-12-87

SAFETY CONTROLS AND CONDITION:

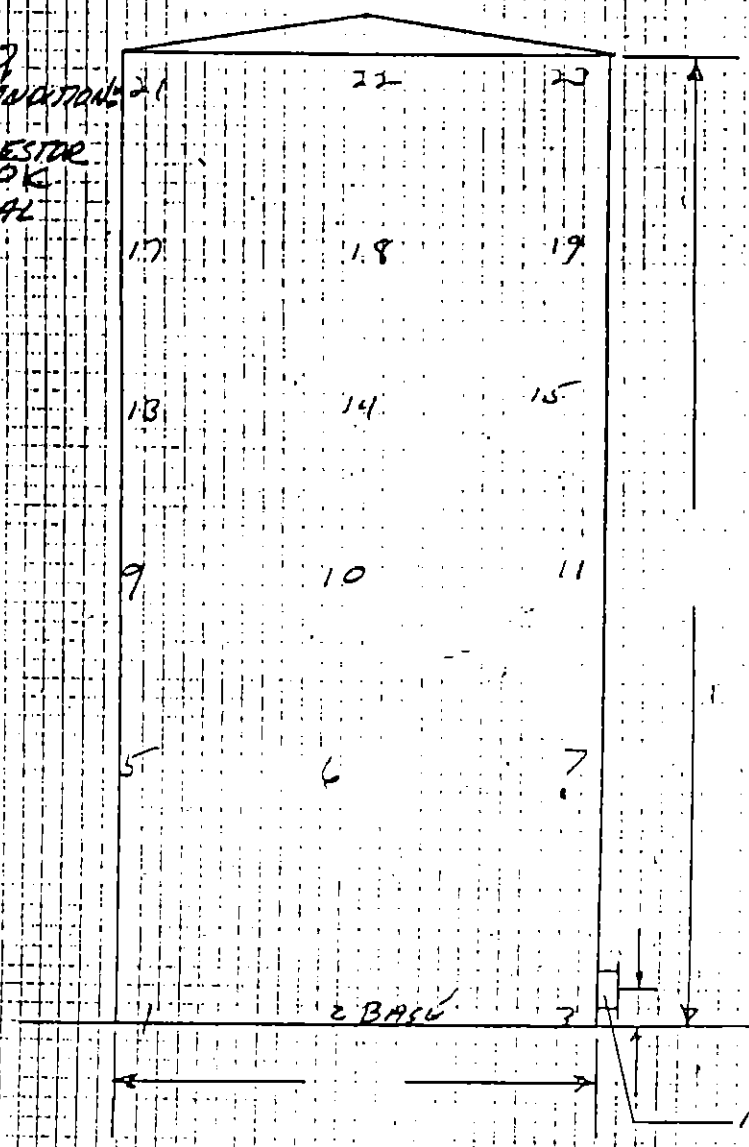
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK FILLED OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK: 124

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MINIMUM WALL:

STR SIDE .193

:NT	HEIGHT ABOVE STR. SIDE	READING
BASE	.243	
"	.247	
"	.243	
"	.247	
SIX FEET UP	.244	
	.241	
	.236	
	.248	
TWELVE FEET UP	.248	
	.250	
	.251	
	.247	
18' UP	.238	
	.239	
	.240	
	.233	
24' UP	.244	
	.240	
	.245	
	.244	
TOP SIDE OF TANK	.250	
	.256	
3	.252	
	.250	
TOP OF TANK	.265	
4	.270	
	.262	
4	.270	

TANK PROFILE

DATE: 9-22-86

TANK IDENT: 124

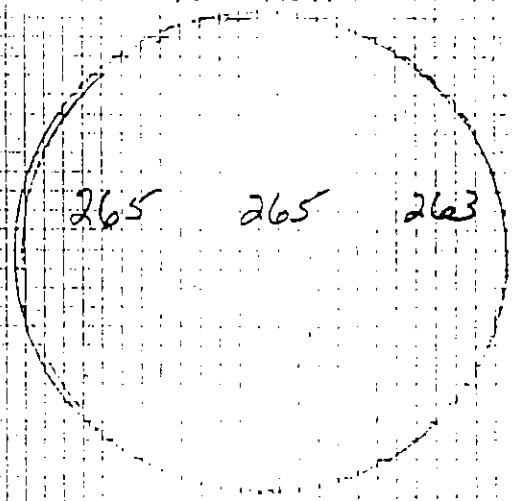
LOCATION:

JUNE 10, 1986

VALVES AND CONDITION:

OK
OK
OK
OK

TOP VIEW

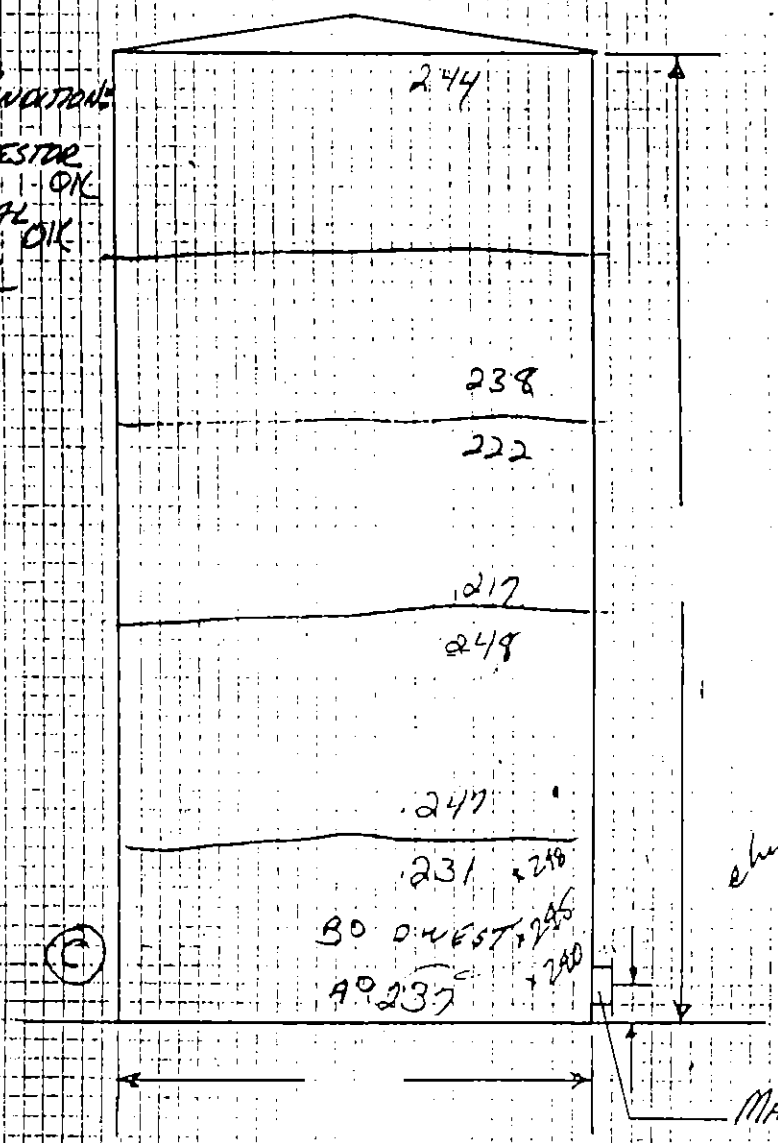


SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK
GAUGE AND LIQUID SEAL OK
LEVEL ALARM OK

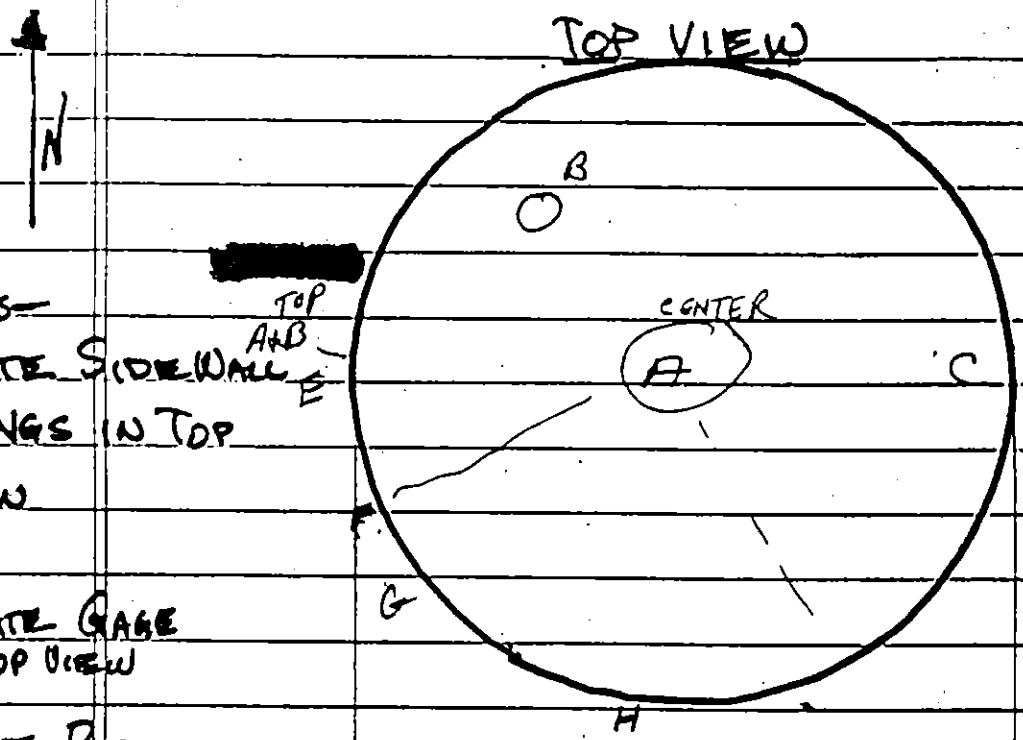
DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK 124

TOP VIEW



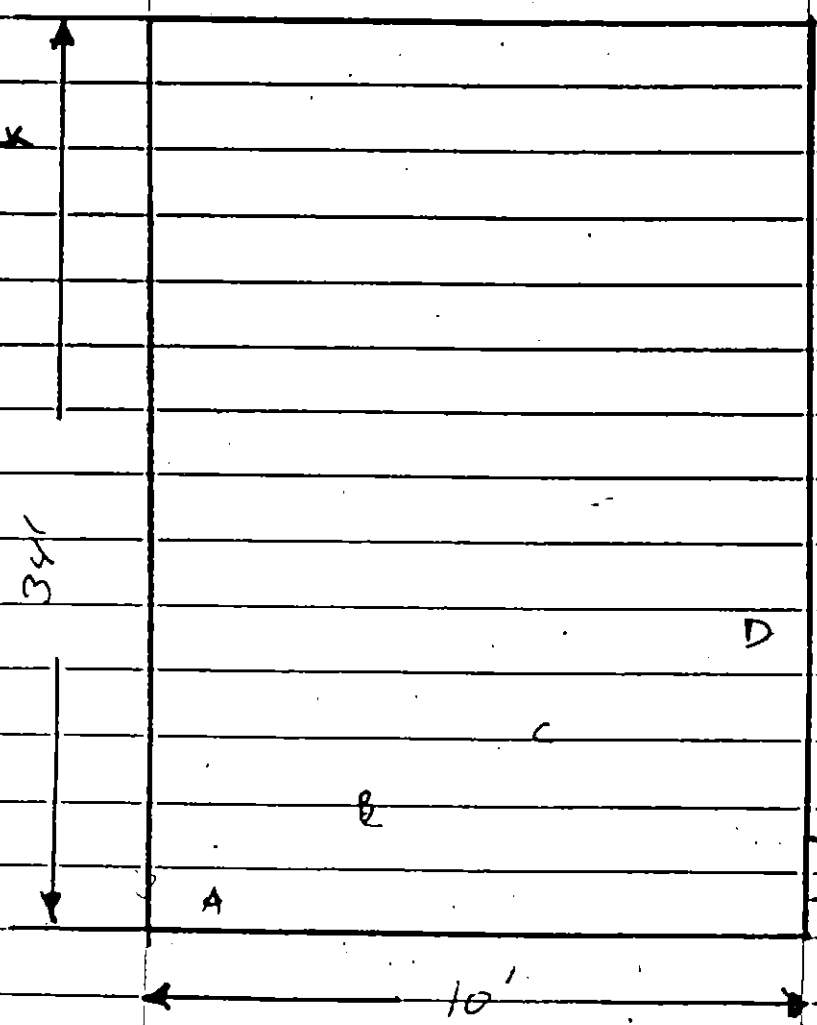
[redacted]

TES—
ATE SIDEWALL
TINGS IN TOP
EW

OCATE GAGE
TOP VIEW

OCATE RISER
IDE IF
TACHED

OCATE CATWALK



TOP FITTINGS

SIZE	USE
A. 21"	MANHE
B. 2"	CAP
C. 3"	VENT
D.	

27 JUNE 85

THICKNESS READIN

A.	.229
B.	.262
C.	.260
D	.242

SIDE WALL FITTI

SIZE	ABOVE G
A. 2" CAP	24" FROM
B. 3"	13" FROM
C. 2"	6½
D. 2"	18½
E. 3"	12½
F 21" MAN HEAD	24"
G ~~AGE~~ AVAIR 8"	26'
H 2"	6"

MANHEAD DIAM

TANK PROFILE

MAY 8, 1987

TANK IDENT: 125

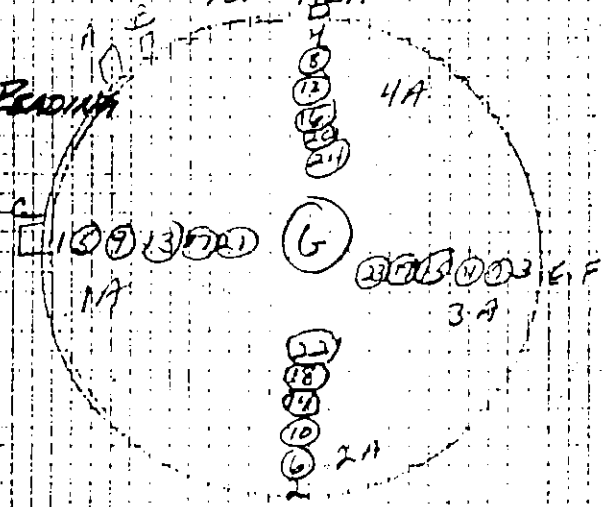
LOCATION: B

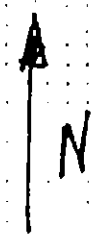
JUNE 10, 1986

N. ?LES AND CONITION & READING

MAN WAY	212
ADJATATOR	306
3" NIPPLE	.200
2" NIPPLE	.136
2" NIPPLE	.146
2" NIPPLE	.147
MAN WAY	

TOP VIEW





CHECKED 8-12-87

SAFETY CONTROLS AND CONDITION:

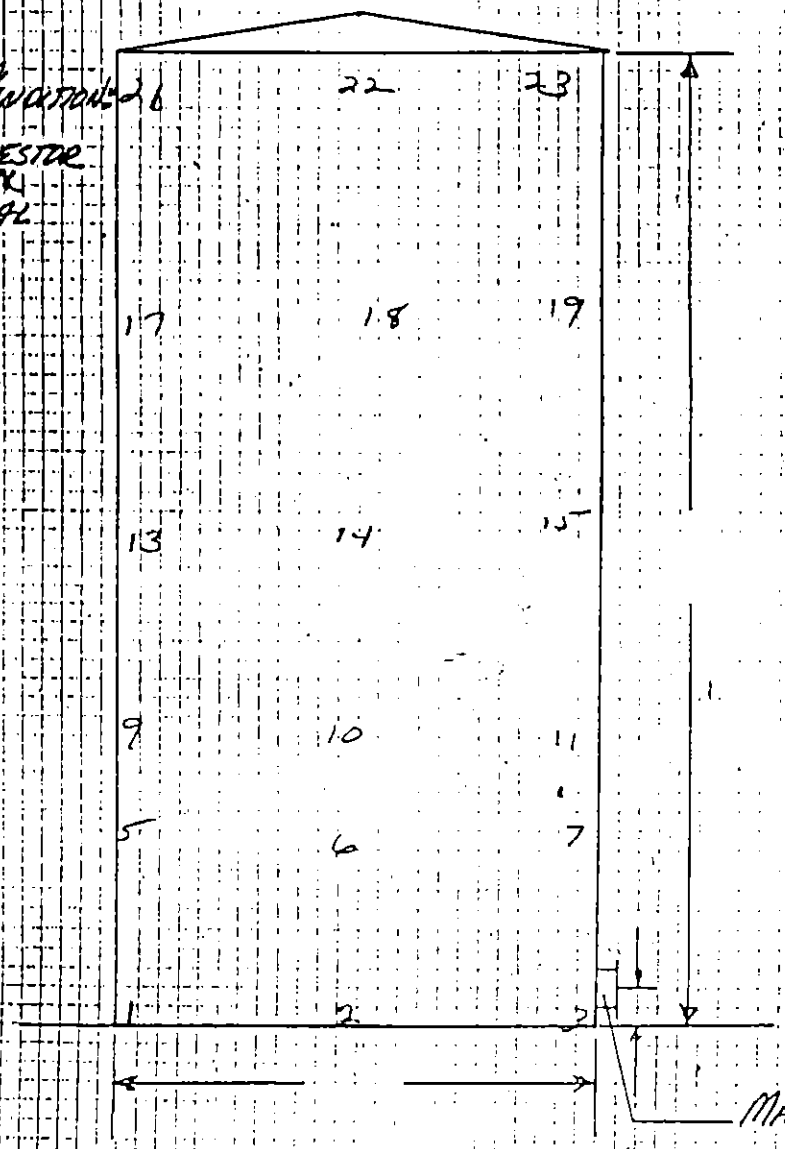
BREATHER AND 2" ARRESTOR
OK OK

GAUGE AND LIQUID SEAL
OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



MANHEAD DIAM:

TANK: 125

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MINIMUM WALL:

STR SIDE .143

POINT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.246
	"	.241
	"	.236
	"	.239
	SIX FEET UP	.240
	"	.240
	"	.236
	"	.238
	TWELVE FEET UP	.240
		.238
		.238
		.239
	18' UP	.240
		.241
		.243
		.240
	24' UP	.242
		.246
		.244
		.242
	TOP SIDE OF TANK	.225
		.233
		.225
		.224
	TOP OF TANK	.285
		.286
		.290
		.298

TANK PROFILE

DATE 9-22-

TANK IDENT: 125

LOCATION: RECLAIM CRUDE

JUNE 10, 1986

N ZLES AND CONDITION:

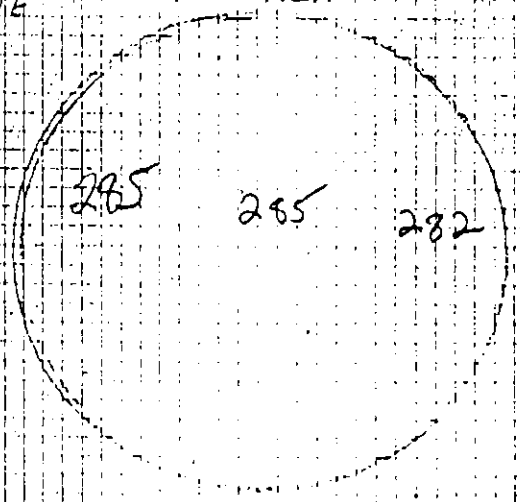
OK

OK

OK

OK

TOP VIEW



AFETY CONTROLS AND CONDITION:

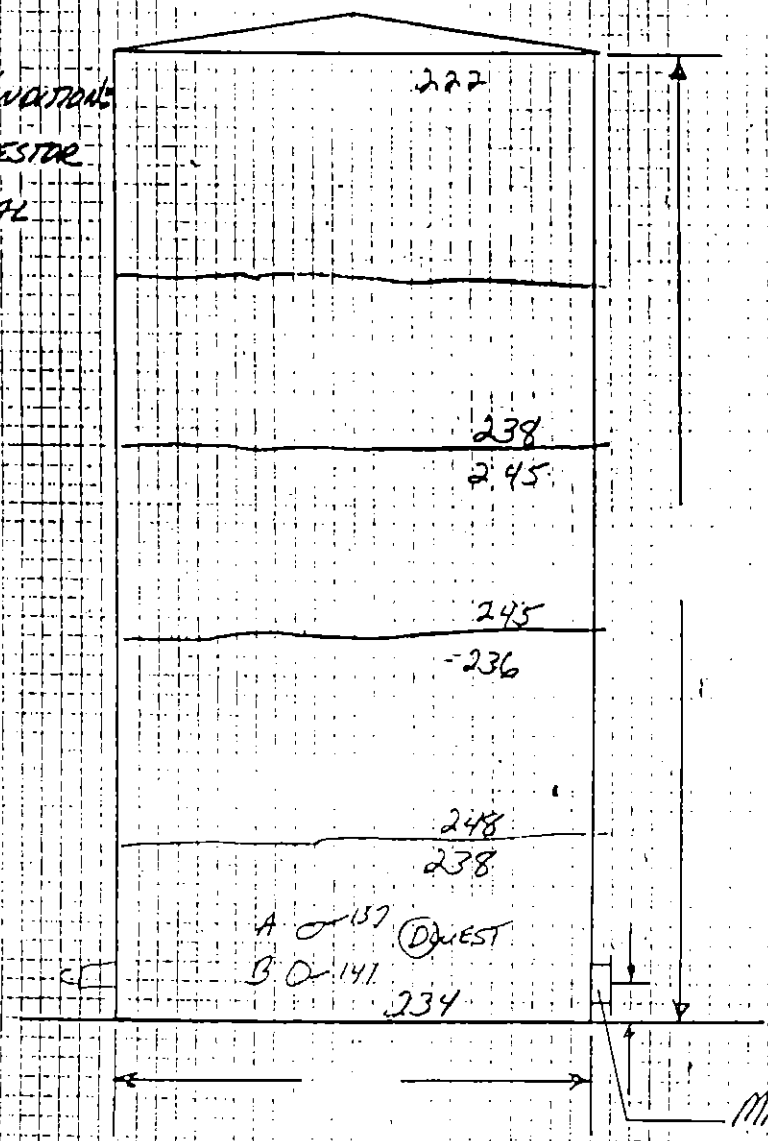
BREATHER AND 2" ARRESTOR

GAUGE AND LIQUID SEAL

LEVEL ALARM

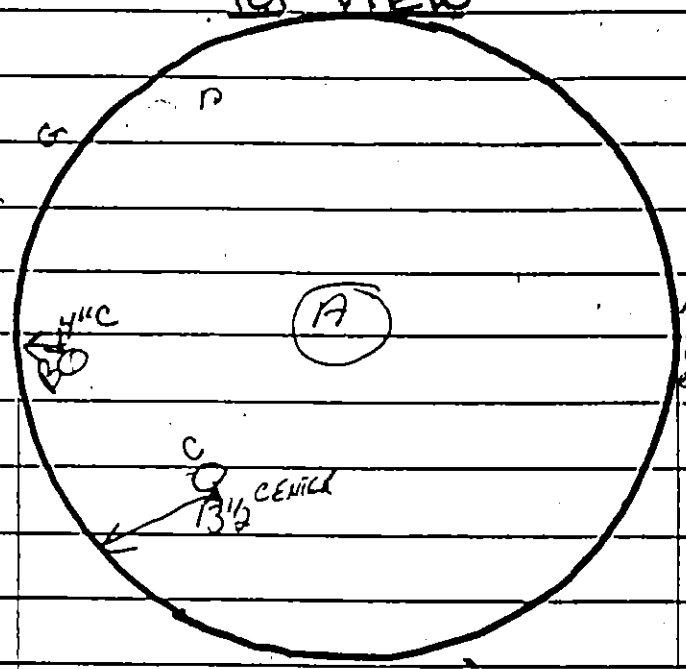
DESIGN STANDARDS:

ANK EXTERIOR:



TANK 125

TOP VIEW



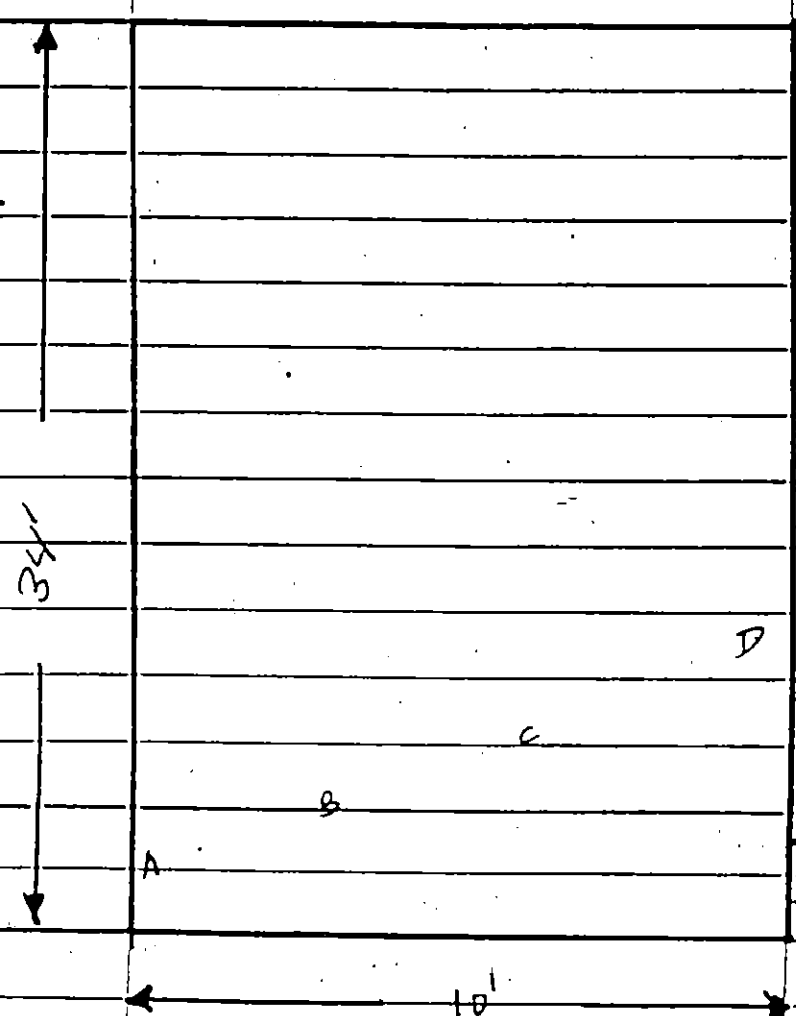
OTES— [redacted]

CATE SIDEWALL
ITTINGS IN TOP
IEW

OCATE GAGE
IN TOP VIEW

OCATE RISER
PIPE IF
ATTACHED

OCATE CATWALK



TOP FITTINGS

SIZE	USE
A. 21"	MANHEA
B. 3"	CAP
C. 2" cap	
D.	

A+B TOP
C D BOTTOM

27 JUNE 85

THICKNESS REAL

A. .242
B. .261
C. .263
D. .240

SIDE WALL FITTI

SIZE	ABOVE
A. 3" FROM TOP	13"
B. 2"	24"
C. 2"	8"
D. 2"	19½
E. 3"	12"
F 21" MAN HEAD	28"
G AGITATOR	27"
H 2"	6"

MANHEAD
DIAM

TANK PROFILE

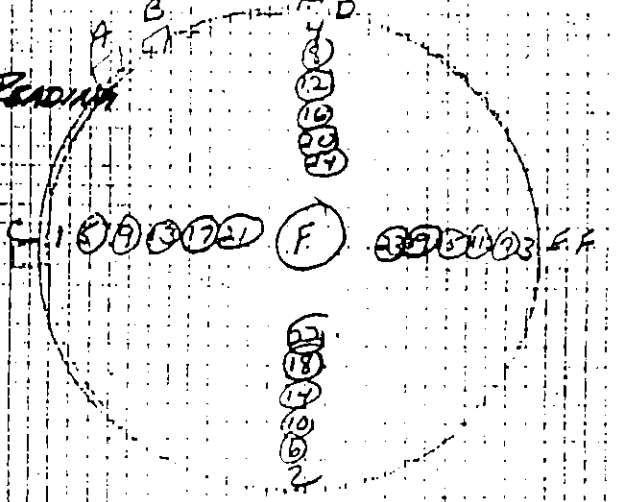
MAY 8, 1987

TANK IDENT: 126

LOCATION: B

JUNE 10, 1986

TOP VIEW



N

1. PIPES AND CONDITION & READING

1. MAN WAY .212
2. ROTATING BLIND .211
3. 3" NIPPLE .212
4. 2" NIPPLE .136
5. 2" NIPPLE .152
6. MAN WAY
7.

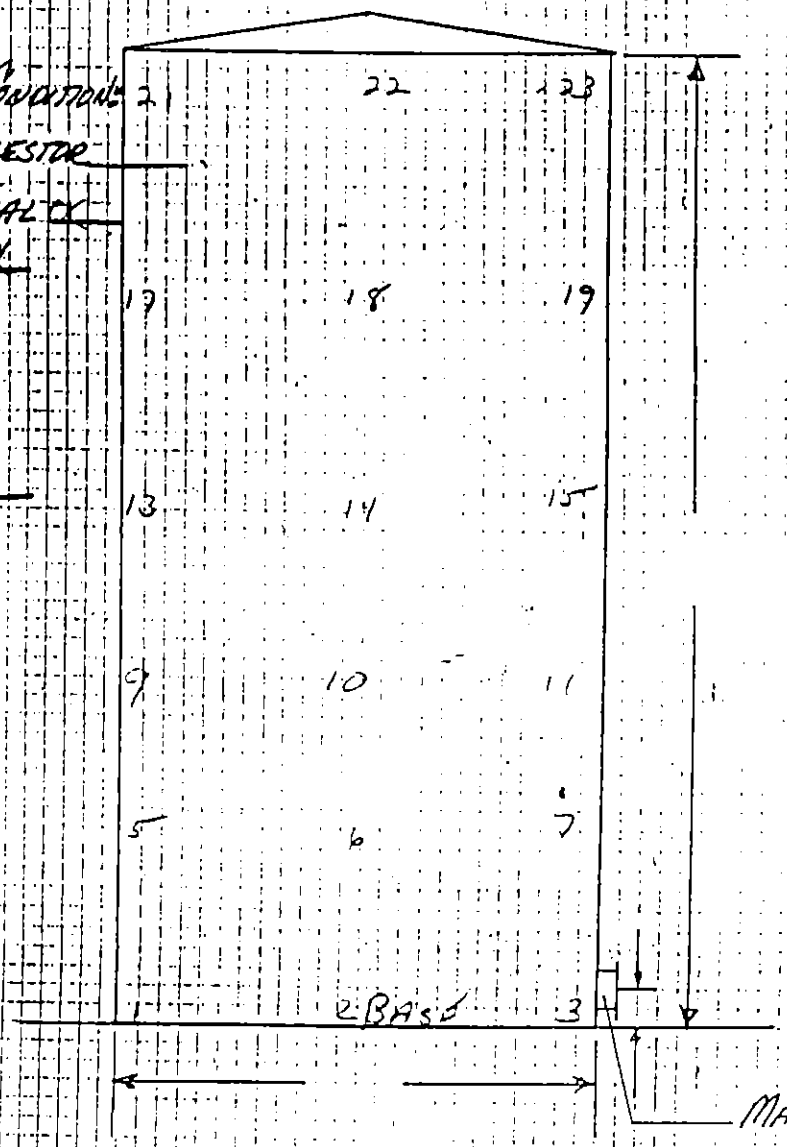
CHECKED 8-13-87

SAFETY CONTROLS AND CONDITION:

1. BREATHER AND 2" ARRESTOR OK
2. GAUGE AND LIQUID SEAL OK
3. LEVEL ALARM OK FILLED

DESIGN STANDARDS:

TANK EXTERIOR: OK



MANWAY DIAM:

TANK: 126

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MINIMUM WALL:

STR SIDE .143

INT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.244
	"	.248
	"	.246
	"	.247
	SIX FEET UP	.237
	"	.230
	"	.234
	"	.241
	TWELVE FEET UP	.247
	"	.249
	"	.246
	"	.249
	18" UP	.232
		.228
		.237
		.244
	24' UP	.252
		.258
		.250
		.252
	TOP SIDE OF TANK	.258
		.252
		.245
		.250
	TOP OF TANK	.256
		.262
		.260
		.258

TANK PROFILE

DATE: MAY 8, 1987

TANK IDENT: 202

LOCATION: C

JUNE 10, 1986

ZLES AND CONITION & READING

MAN WAY .278

2" NIPPLE .129

2" NIPPLE .138

4" CAP OK

3" NIPPLE .243

4" NIPPLE .210

2" RISER OK

MANWAY OK

CHECK 9-10-87

SAFETY CONTROLS AND CONDITION:

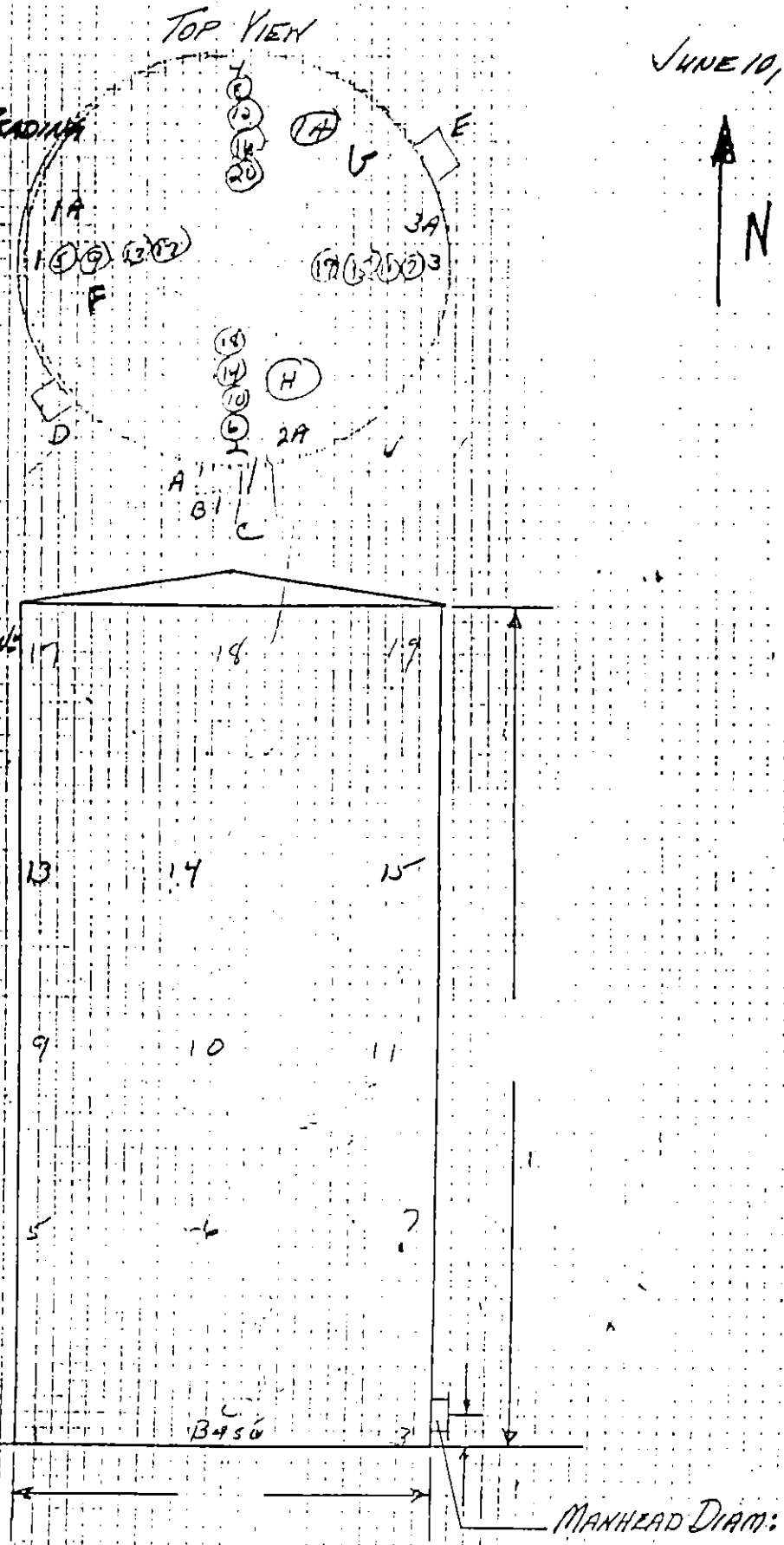
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM FILLED SEAL O.K

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK: 202

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MINIMUM WALL:

BASE .130

ABOVE 6' .102

NT	HEIGHT ABOVE STR. SIDE	READING
BASE	.237	
"	.238	
"	.252	
"	.246	
SEVEN FEET UP	.169	
"	.168	
"	.174	
"	.170	
FOURTEEN FEET UP	.164	
"	.188	
"	.188	
"	.188	
21 FEET UP	.175	
	.176	
	.177	
	.181	
TOP SIDE OF TANK	.172	
	.172	
	.173	
	.171	
TOP OF TANK	.208	
	.204	
	.200	
	.209	

TANK PROFILE

DATE: NOV. 10, 198

TANK IDENT: 202

LOCATION:

JUNE 10, 1986

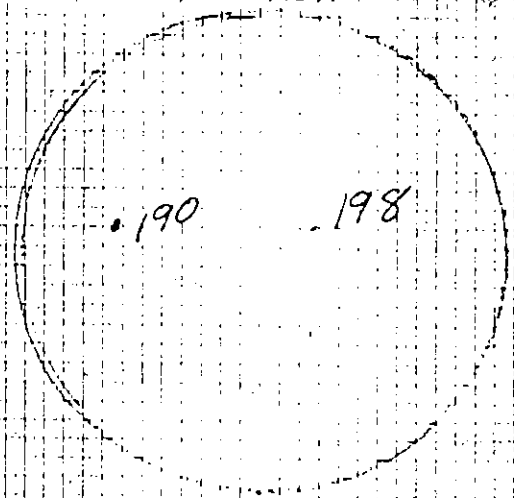
NOZZLES AND CONDITION:

2" .136 OK

2" .140 OK

RISER OK

TOP VIEW



SAFETY CONTROLS AND CONDITION:

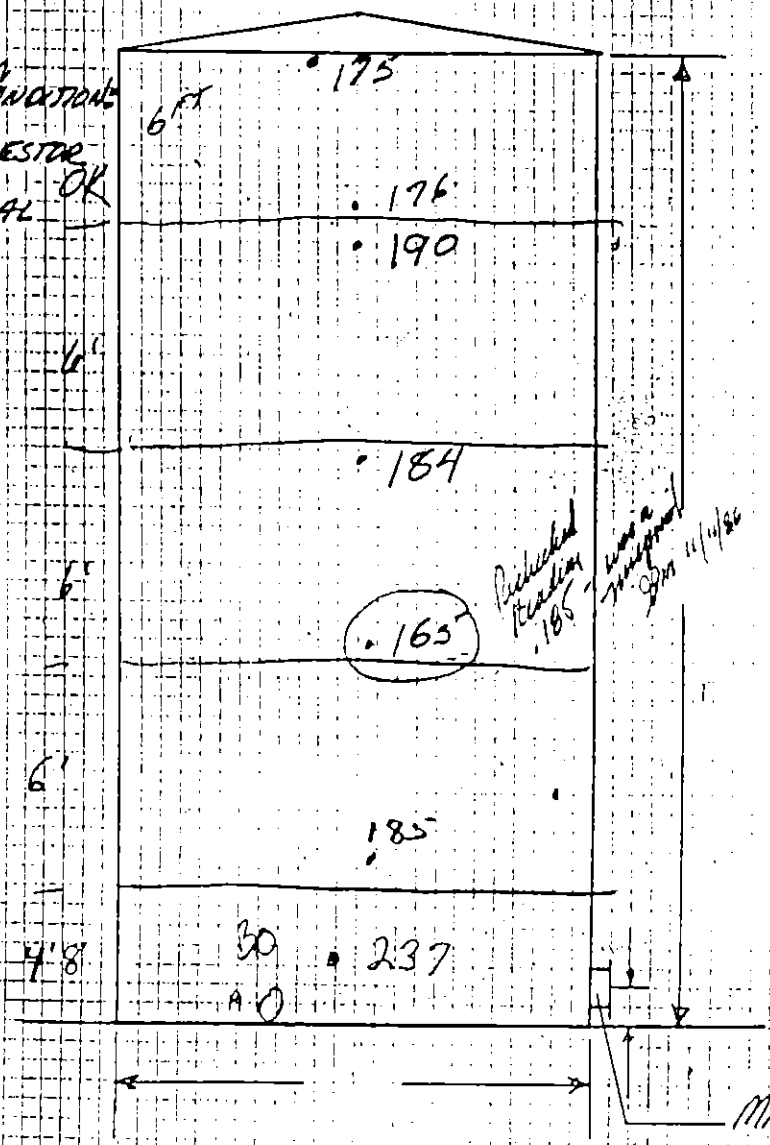
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK IDENT: 203

LOCATION: C

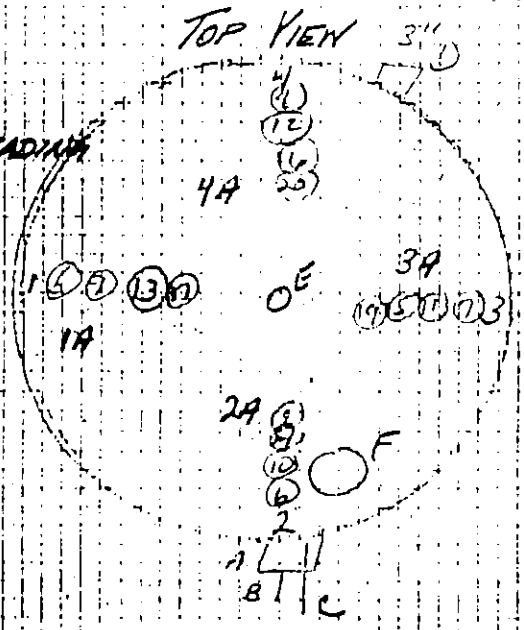
MAY 8, 1987

JUNE 10, 1986

N ZLES AND CONDITION & READING

1. MAN WAY 205
2. 3" NIPPLE 189
3. 2" NIPPLE 148
4. 3" CAP OK
5. 3" NIPPLE OK
6. MAN WAY OK
7.
8.

TOP VIEW



N

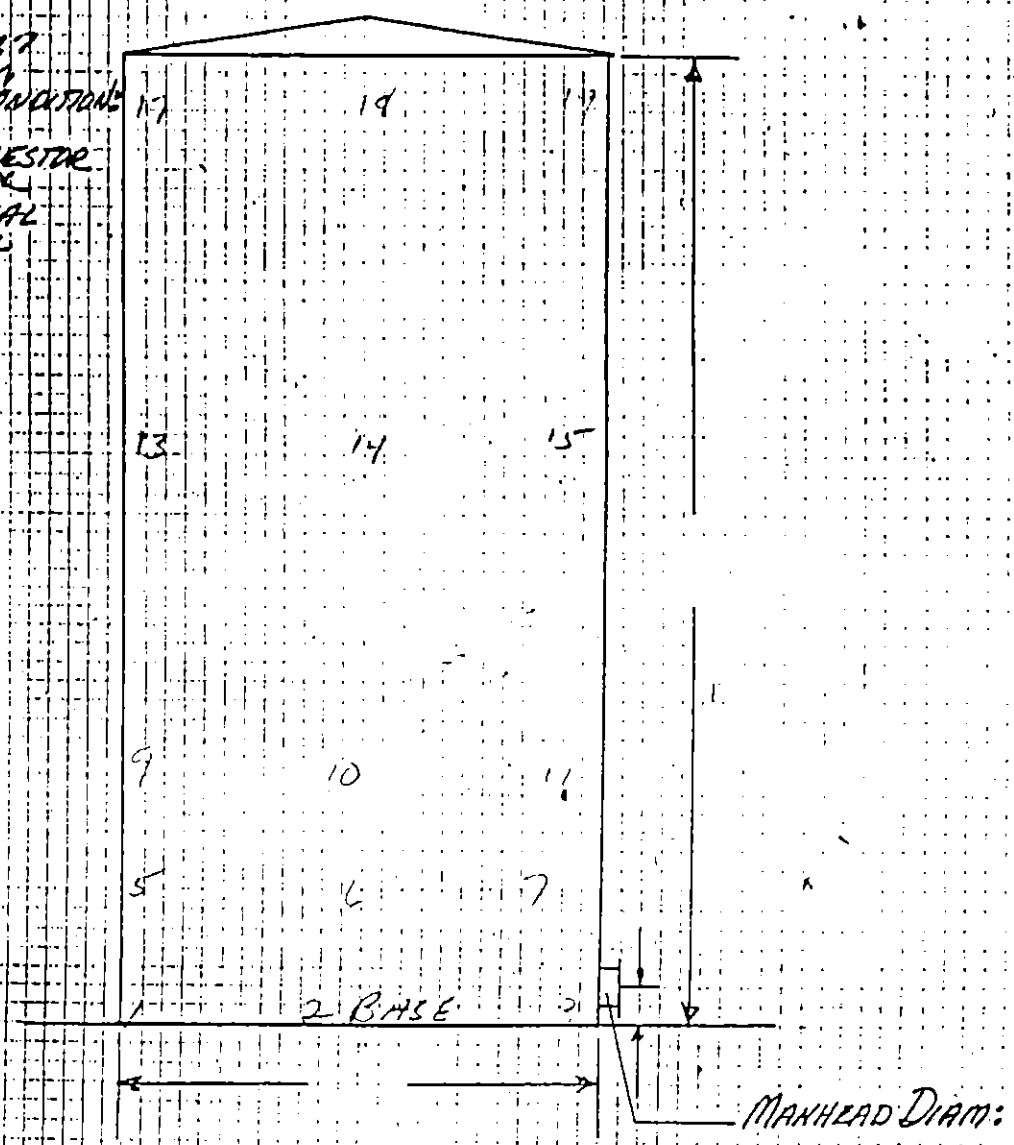
CHECKED 8-10-87

SAFETY CONTROLS AND CONDITION:

1. BREATHER AND 2" ARRESTOR OK
GAUGE AND LIQUID SEAL OK
2. LEVEL ALARM OK FILLED SEAL OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



MANHEAD DIAM:

TANK: 203

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MINIMUM WALL:

BASE .120

ABOVE 6' .093

'NT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.213
	"	.219
	"	.214
	"	.216
	SEVEN FEET UP	.155
	"	.144
	"	.144
	"	.148
	FOURTEEN FEET UP	.146
	"	.153
	"	.145
	"	.148
	21 FT UP	.134
		.137
		.145
		.134
	TOP SIDE	.145
	TOP SIDE	.164
		.168
		.167
	TOP OF TANK	
		.128
9		.156
7		.167
8		.110

TANK PROFILE

DATE: NOV 10, 1986

TANK IDENT: 203

LOCATION:

JUNE 10, 1986

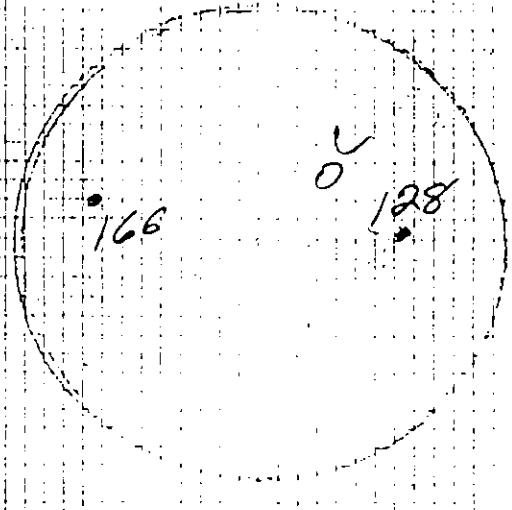
N ZLES AND CONITION:

3" - 189 OK

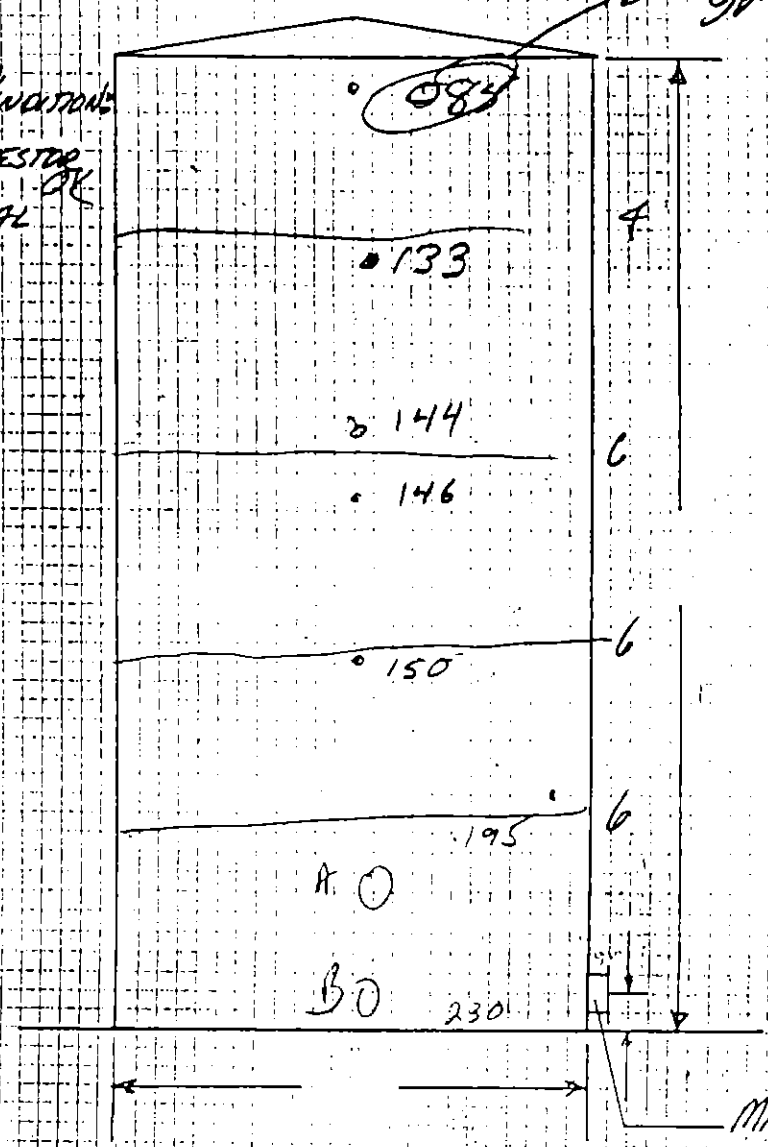
7" 145 OK

RISEL OK

TOP VIEW



Bad Reading 9Dm 11/9/86



MANHEAD DIAM:

FETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

ANK EXTERIOR:

MAY 8, 1987

JUNE 10, 1986

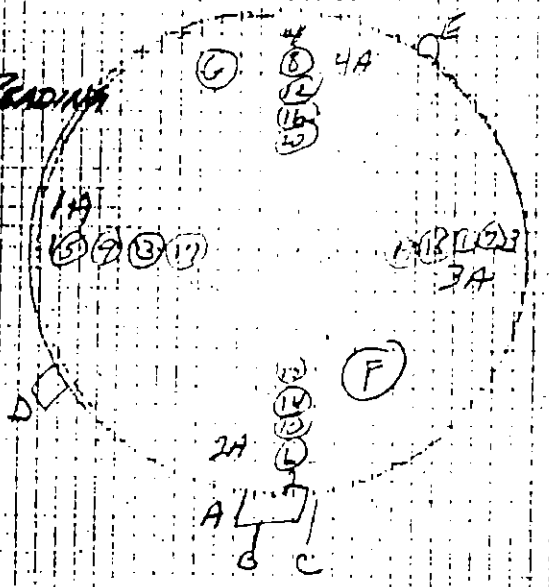
TANK IDENT: 204

LOCATION: C

NOZZLES AND CONDITION & READING

1. MAN WAY 460
2. 1½" NIPPLE 409
3. 2" NIPPLE 146
4. 3" CAP
5. 3½" CAP
6. MANWAY OK
7. 2" RISER OK

TOP VIEW



N

SAFETY CONTROLS AND CONDITION:

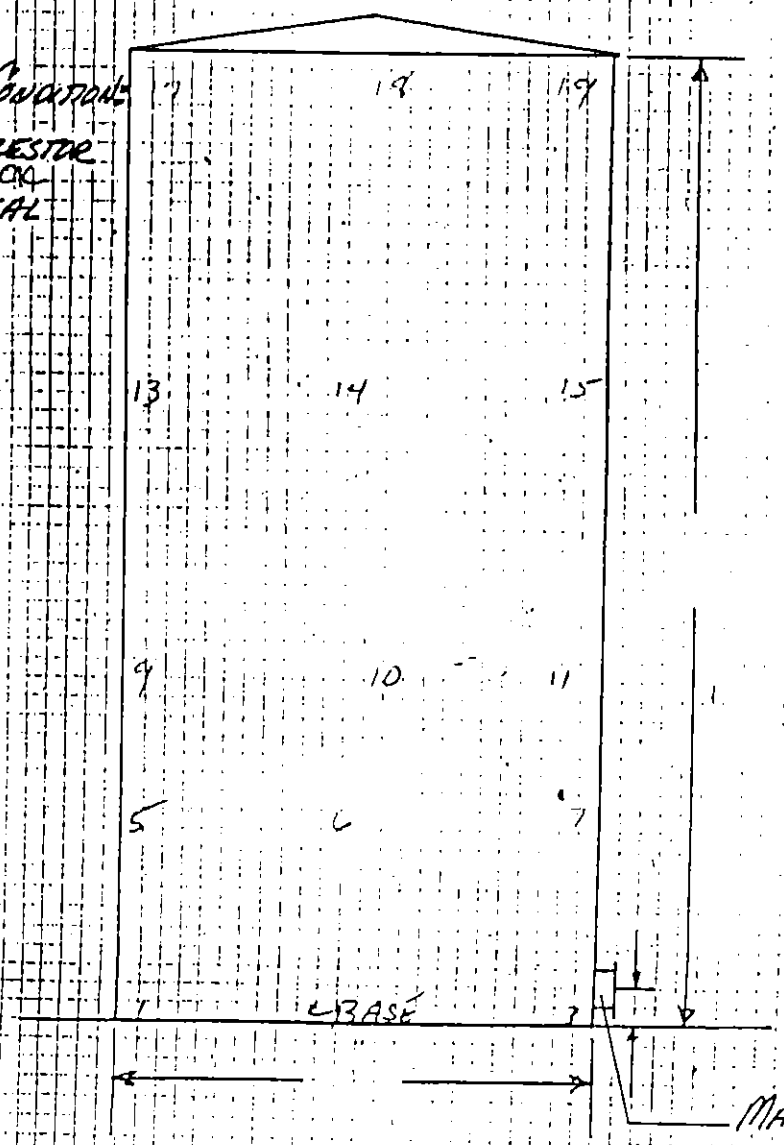
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM FILLED SEAL OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK: 204

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 8, 1987

MAXIMUM WALL:

BASE .120

ABOVE 6' .093

POINT	HEIGHT ABOVE STR. SIDE	READING
BASE		
"		.225
"		.221
"		.226
		.231
SEVEN FEET UP		.152
"		.150
"		.155
"		.146
FOURTEEN FEET UP		.144
"		.146
"		.140
"		.148
21 FT UP		.130
		.146
		.142
		.134
TOP SIDE		.174
		.170
		.171
		.171
		.177
		.174
		.173
		.170

TANK PROFILE

DATE: NOV 10 1986

TANK IDENT: 204

LOCATION:

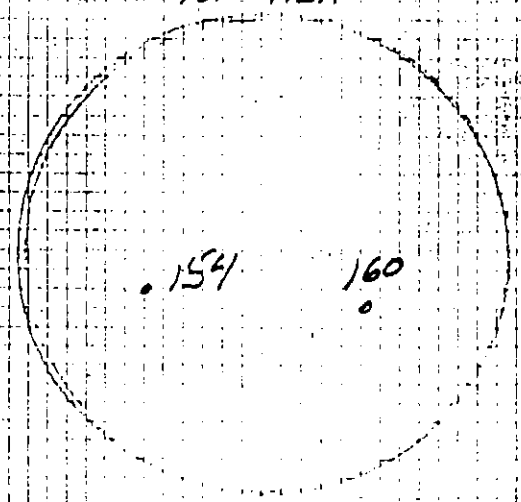
JUNE 10, 1986

NOZZLES AND CONITION:

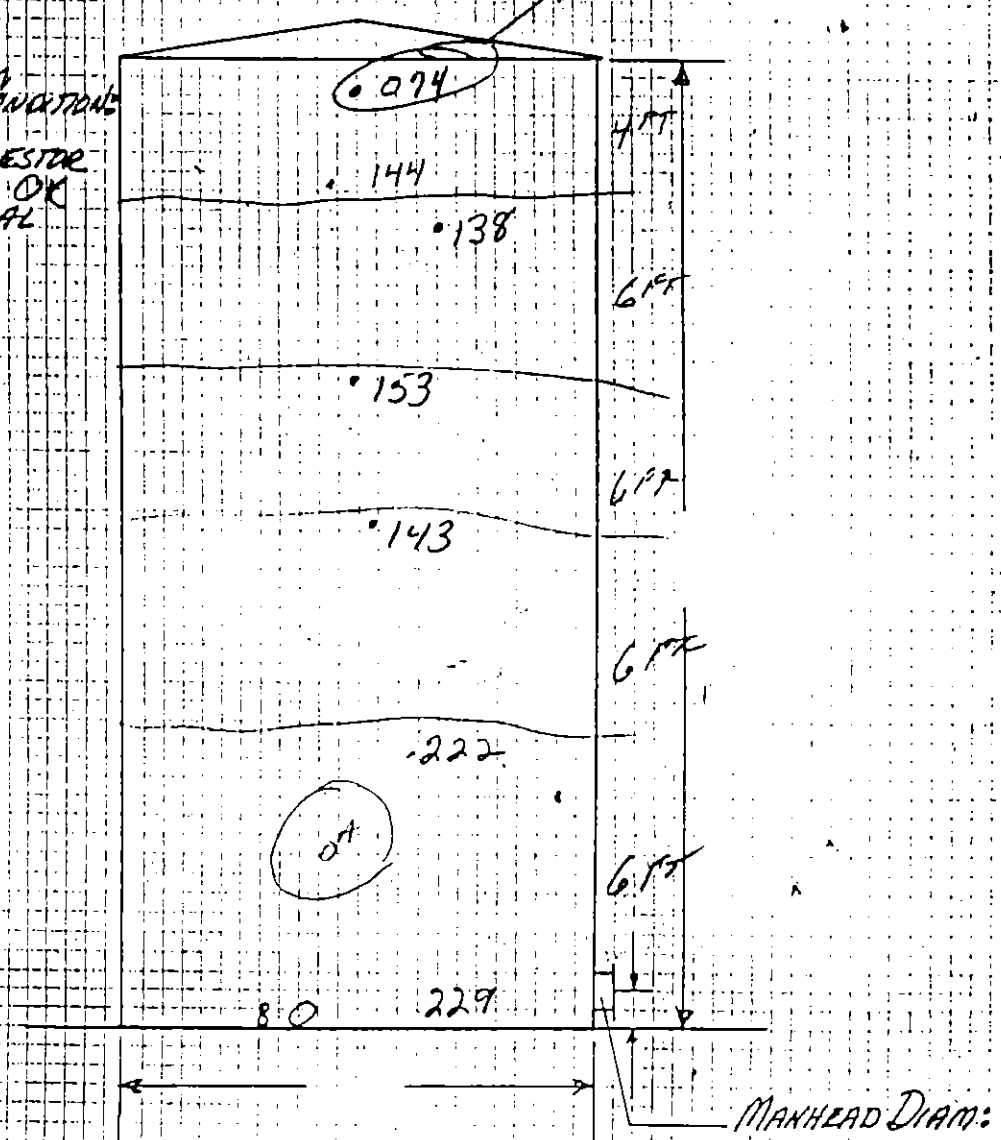
2" .117 OK

2" .145 OK

TOP VIEW



Bad Reading DDM 11/11/86



SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK OK

GAUGE AND LIQUID SEAL OK

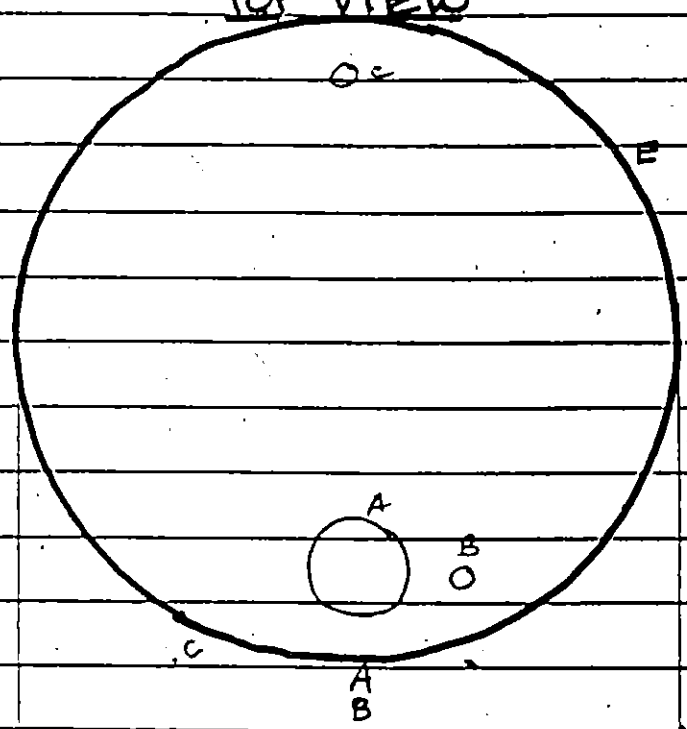
LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

TANK 204

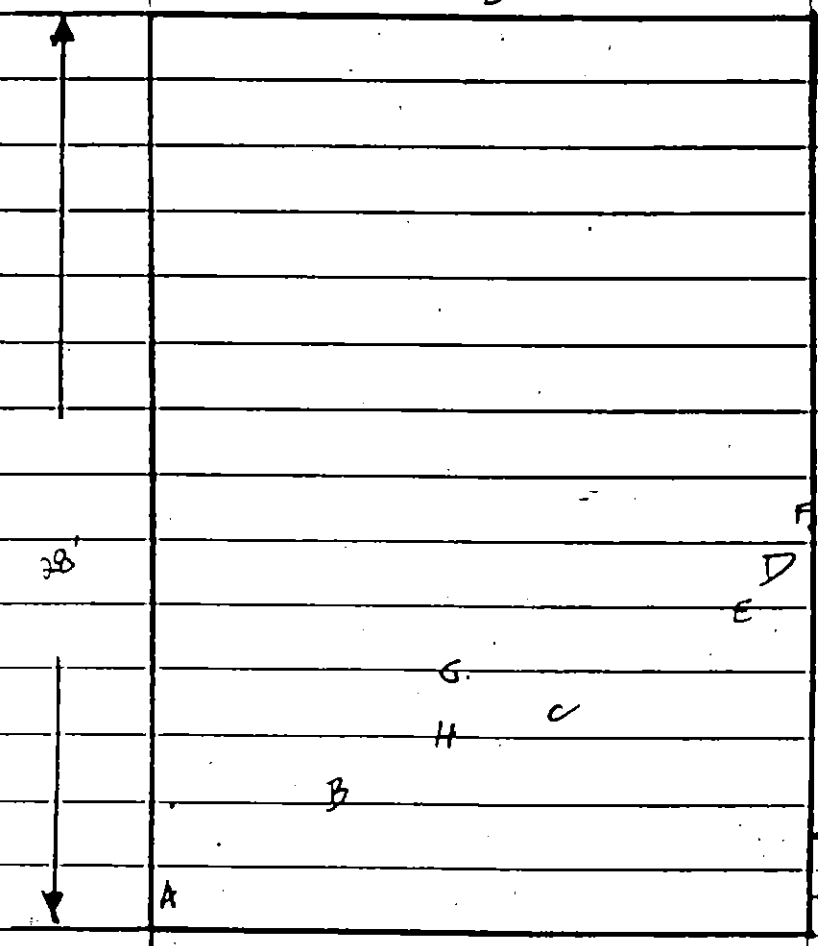
TOP VIEW



OTES—
:ATE SIDEWALL
ITTINGS [redacted]P
.EW

OCATE GAGE
N TOP VIEW

OCATE RISER
PIPE IF
:TTACHED



TOP FITTINGS

SIZE	USE
A. MANHEAD W/GA	
B. 2"	OLD GA
C. ? 2"	W/RISER
D. ? 4"	W/OLD FLAM AREA

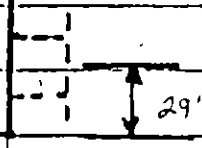
27 JUNE 85

THICKNESS READING

A. .205
B. .225
C. .209
D. .142
E .144
F .149
G. .146
H .222

SIDE WALL FITT

SIZE	ABOVE G
A. MANHEAD W/2"	
B. 2" ON GROUND	
C. 3"	5
D. UNDERGROUND FIT	
E. 3"	5



MANHEAD DIAM

MAY 15, 1987

ANK IDENT: 205

OCATION: C

JUNE 10, 1986

V ZLES AND CONITION & READING

MAN WAY .318

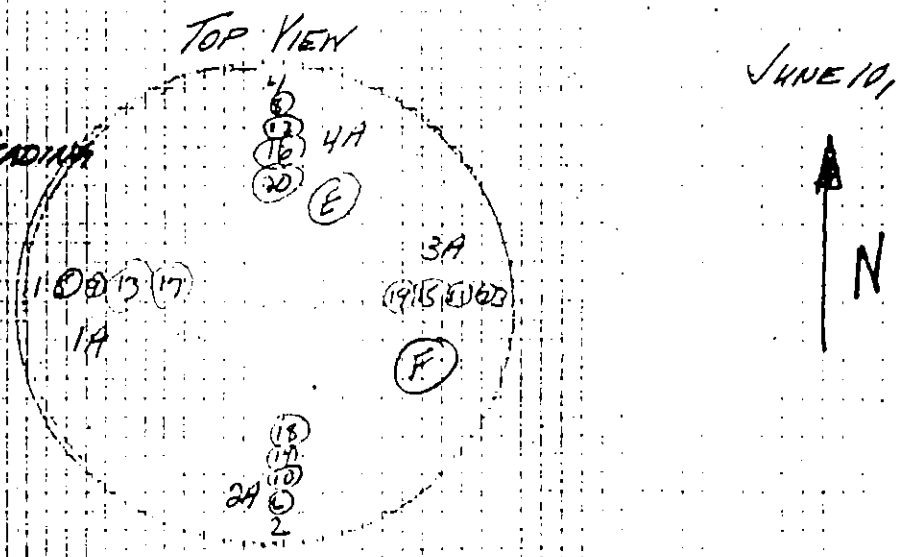
2" NIPPLE .216

4" CAP OK

2" NIPPLE .196

RISER .148

MANWAY



CHECK 8-10-87

FETY CONTROLS AND CONDITION: OK

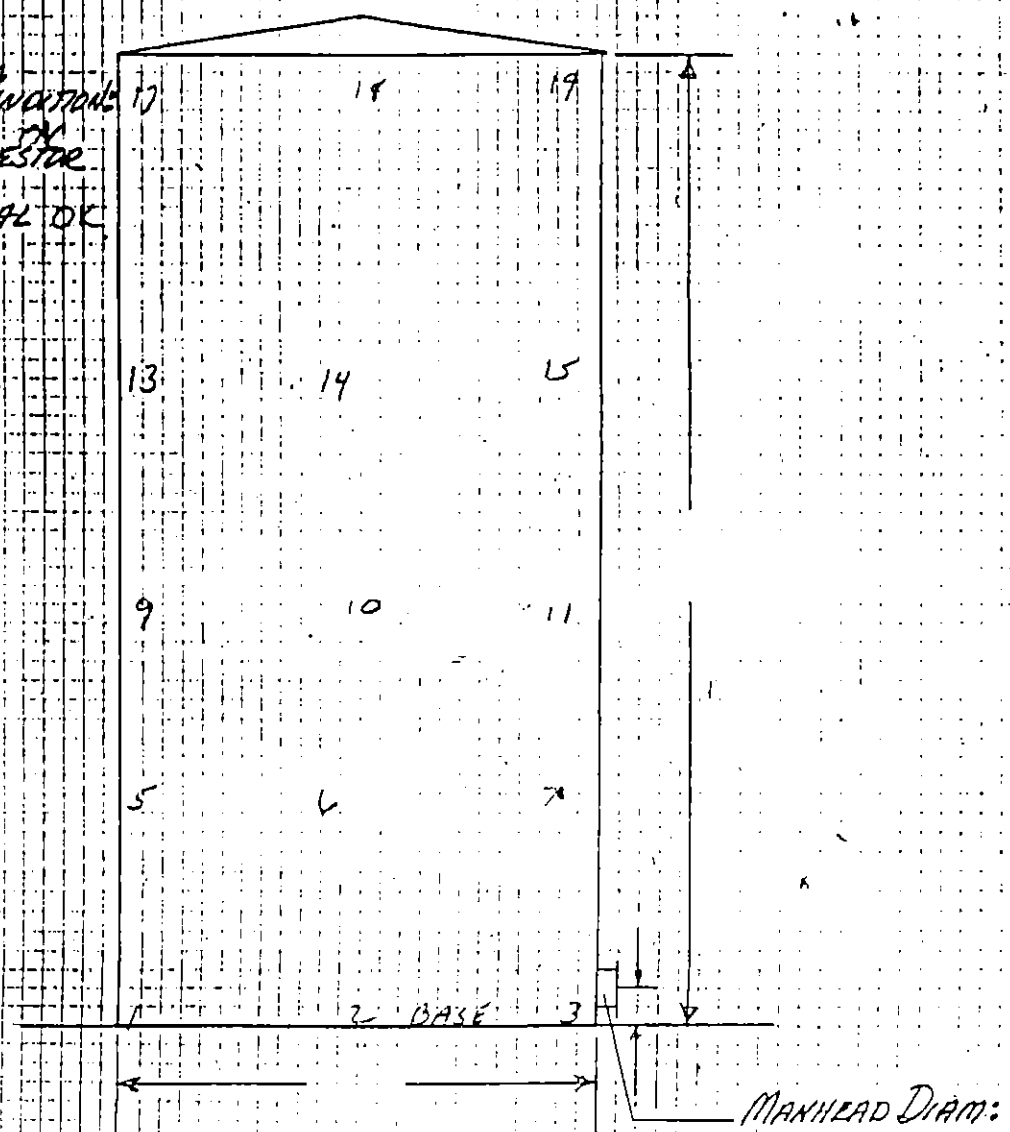
BREATHER AND 2" ARRESTOR OK

GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK FILLED OK

DESIGN STANDARDS:

ANK EXTERIOR: OK



TANK: 205

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 15, 1987

MINIMUM WALL:

BASE .130

ABOVE 6' .120

NT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.243
2	"	.238
	"	.241
	"	.238
5	SEVEN FEET UP	.177
	"	.187
	"	.183
3	"	.177
	FOURTEEN FEET UP	.203
0	"	.196
	"	.194
	"	.202
3	21 FT UP	.166
4		.170
5		.165
6		.160
7	TOP SIDE	.167
8		.163
9		.173
0		.161
	TOP	
A		.202
7		.188
A		.206
7		.196

TANK PROFILE

DATE:
NOV. 10, 198

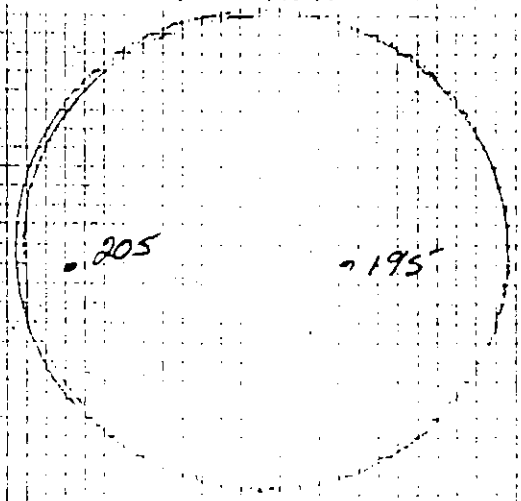
TANK IDENT: 205

LOCATION:

JUNE 10, 1986

N ZLES AND CONITION:
2" 214 OK
2" 204 OK
RISER OK

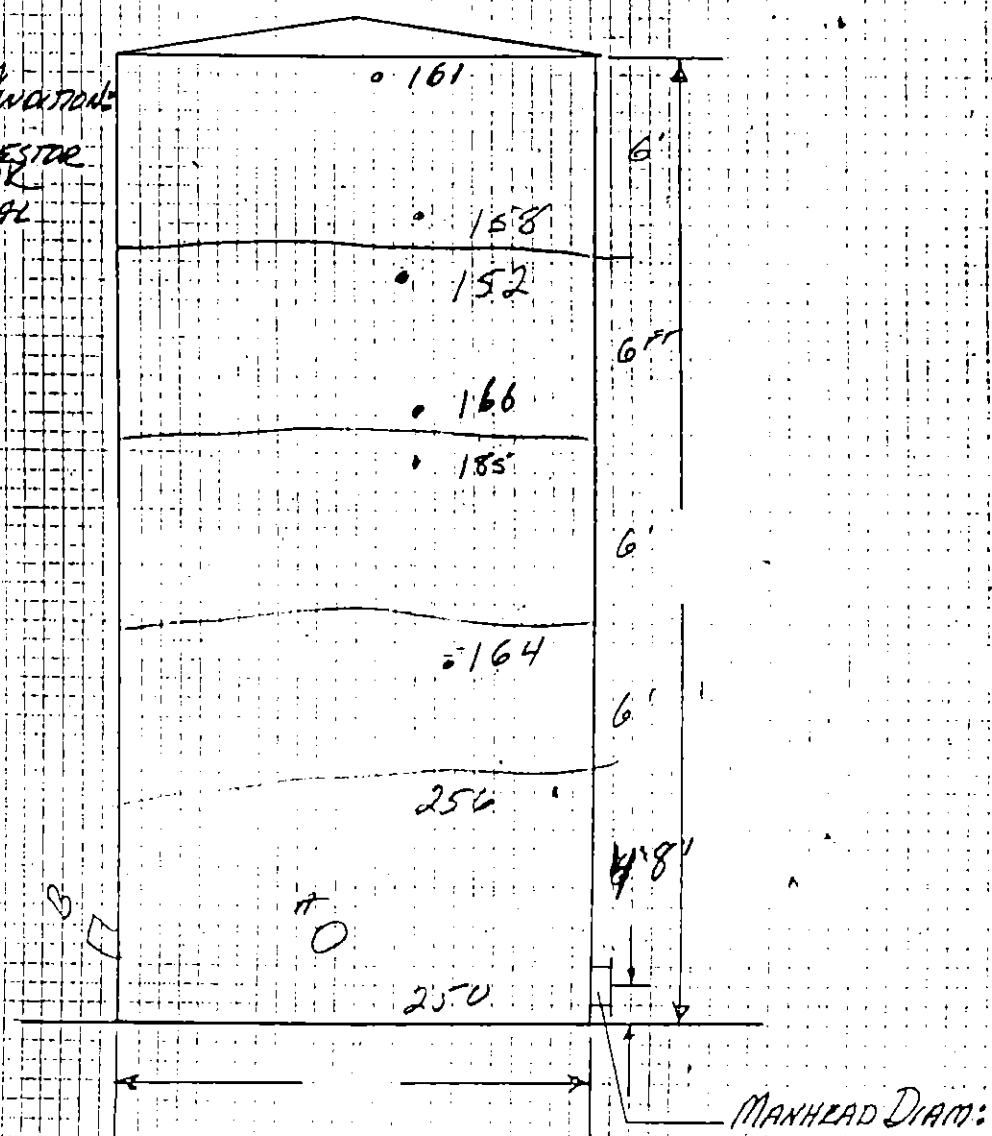
TOP VIEW



FETY CONTROLS AND CONDITION:
BREATHER AND 2" ARRESTOR
OK OK
GAUGE AND LIQUID SEAL
OK
LEVEL ALARM OK

DESIGN STANDARDS:

ANK EXTERIOR: OK



TANK IDENT: 206

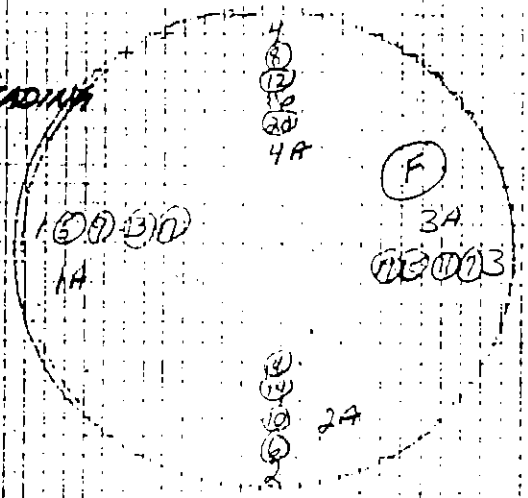
LOCATION: C

JUNE 10, 1986

NOZZLES AND CONDITION & READING

MAIN WAY 239
3" NIPPLE 180
2" NIPPLE 130
4" COUPLING OK
RISER 2" 110
MAN WAY OK

TOP VIEW

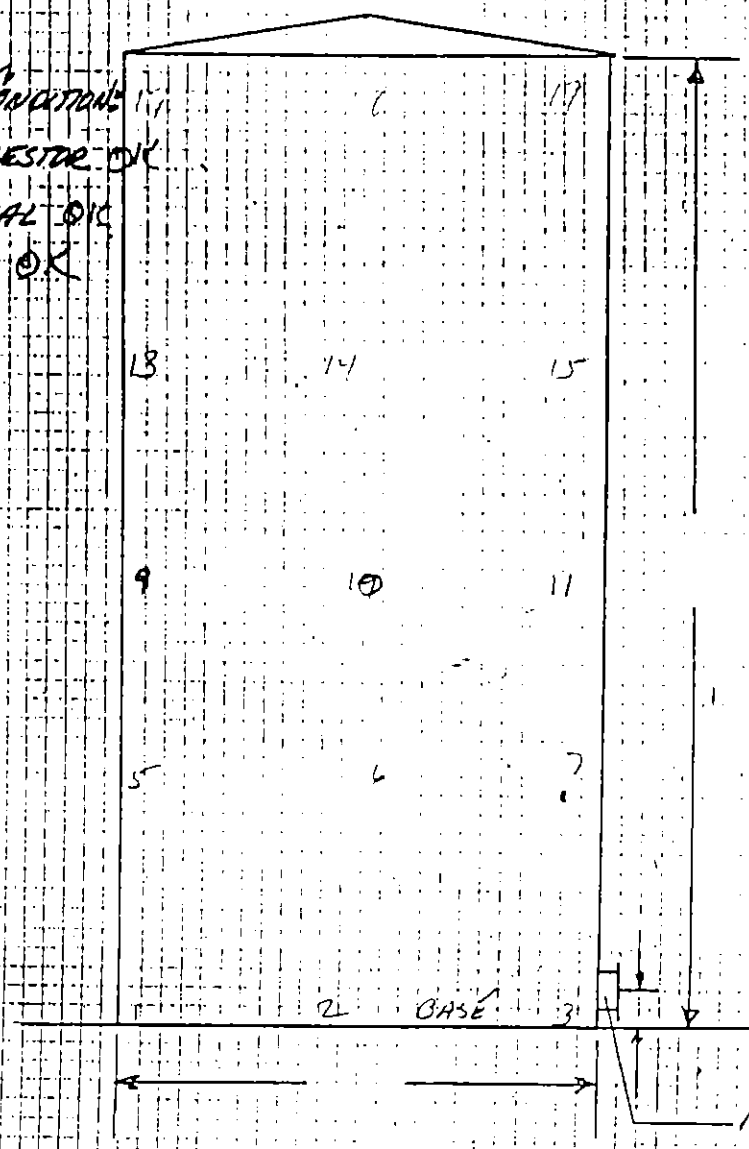


N

SAFETY CONTROLS AND CONDITION:
BREATHER AND 2" ARRESTOR OK
GAUGE AND LIQUID SEAL OK
FILLED SEAL
LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



MANHEAD DIAM:

TANK: 206

INSPECTOR: JOHN SPUDVILLE

DATE: MAY 15, 1987

MINIMUM WALL:

BASE .145

ABOVE 6' .112

POINT	HEIGHT ABOVE STD. SIDE	READING
	BASE	.236
	"	.234
	"	.231
	"	.241
	SEVEN FEET UP	.219
	"	.222
	"	.214
	"	.214
	FOURTEEN FEET UP	.218
	"	.219
	"	.218
	"	.212
	21 FT UP	.198
		.200
5		.210
		.206
7	TOP SIDE	.233
8		.224
9		.210
20		.220
1A	TOP OF TANK	.157
2A		.194
3A		.199
4A		.166

TANK PROFILE

DATE: NOV 10, 1986

TANK IDENT: 206

LOCATION:

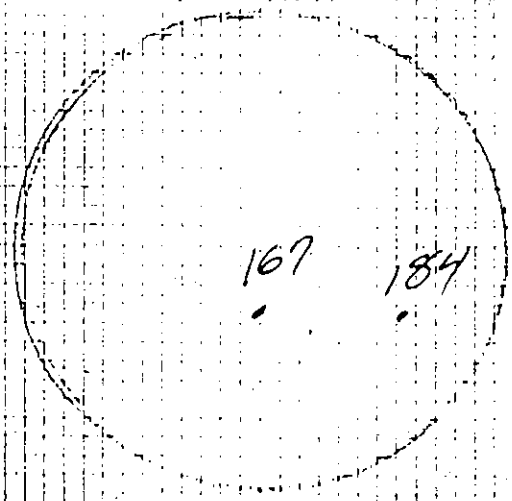
JUNE 10, 1986

NOZZLES AND CONDITION:

3" .190

2" 125

TOP VIEW

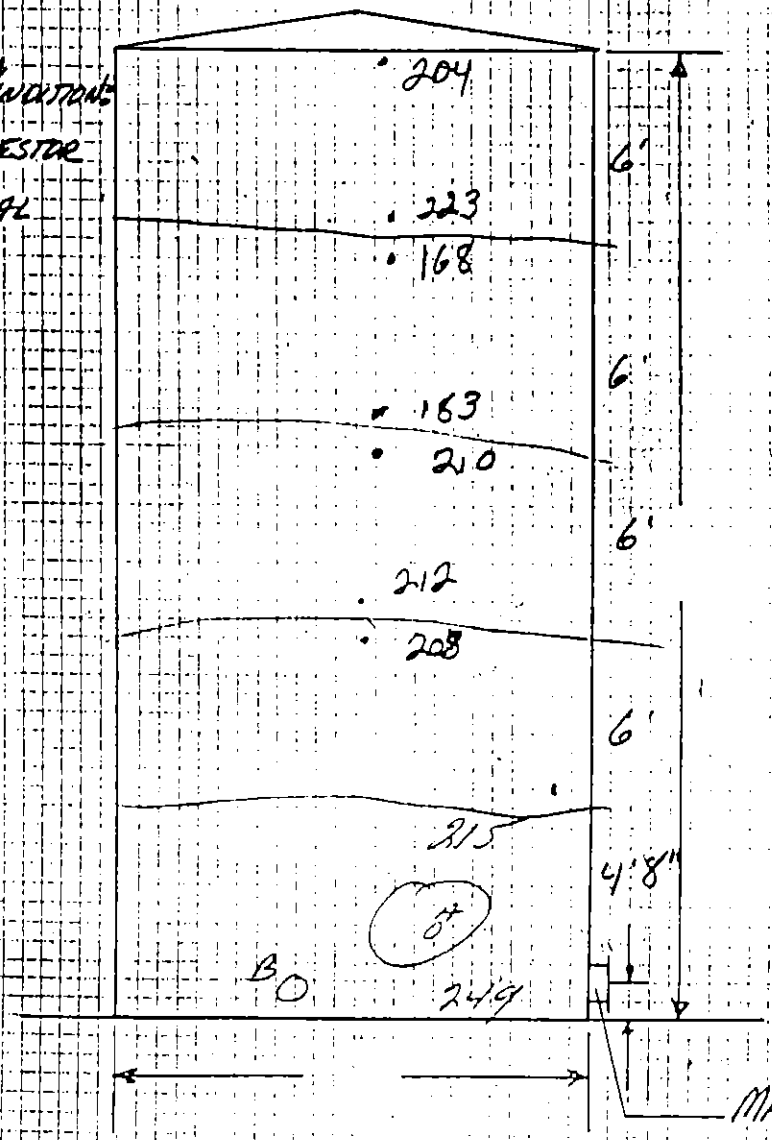


SAFETY CONTROLS AND CONDITION:

1. BREATHER AND 2" ARRESTOR OK
2. GAUGE AND LIQUID SEAL OK
3. LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



TANK 206

TOP VIEW

N

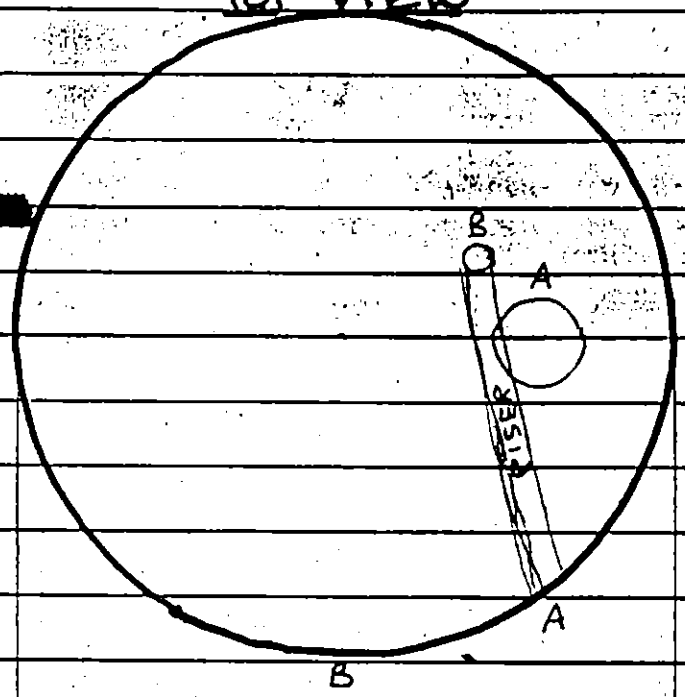
[redacted]

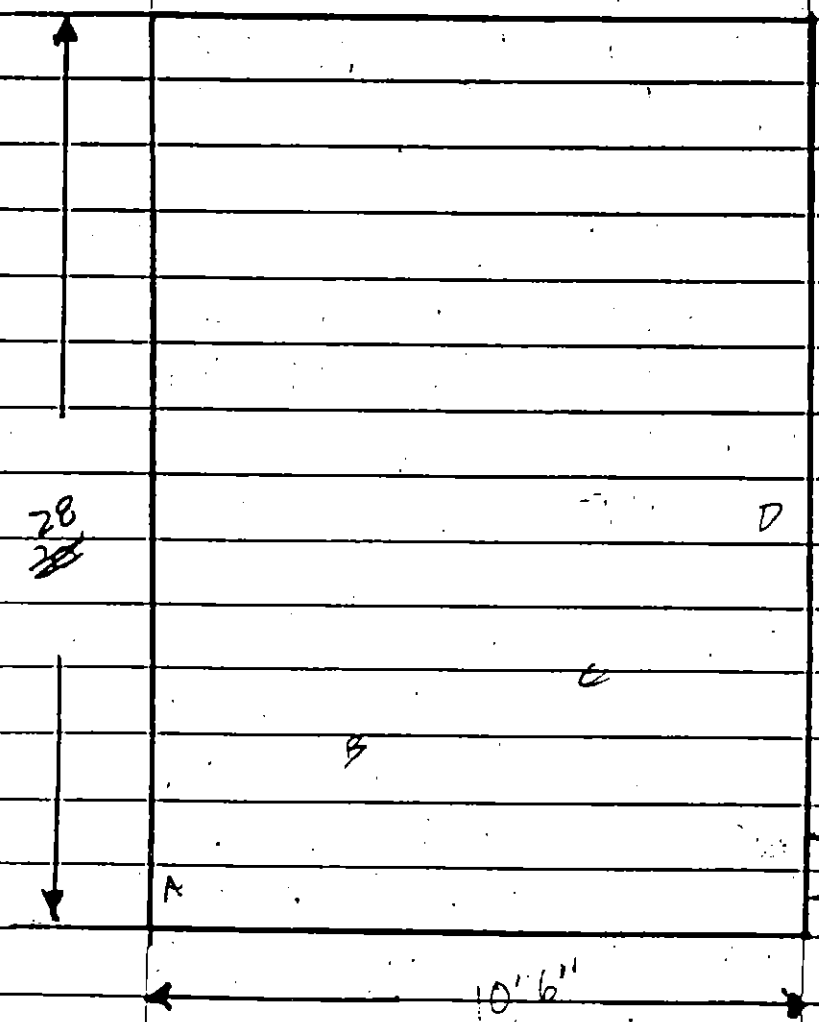
NOTES—

LOCATE SIDEWALL FITTINGS IN TOP VIEW

LOCATE GAGE IN TOP VIEW

LOCATE RISER PIPE IF ATTACHED





TOP FITTINGS

SIZE	USE
A. MANHEAD	
B. 4" or 3"	
C.	
D.	

27 JUNE 85

THICKNESS READING

A. .241

B. .226

C. .205

D. .224

SIDE WALL FITTINGS

SIZE	ABOVE/BELOW
A. MANHEAD	
B. 4"	W/VALVE
C. 4"	PLUG
D.	
E.	

MANHEAD DIAM

24"

TANK PROFILE

DATE: 10 JUNE 1987

TANK IDENT: 210

LOCATION: C

JUNE 10, 1986

N

N' ZLES AND CONITION & READING

MAN WAY 296

8" PIPE 310

3" COUPLING OK

2" COUPLING OK

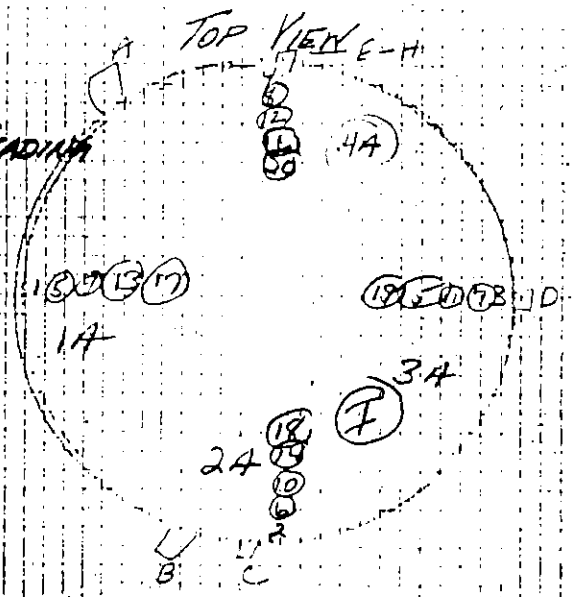
3" NIPPLE 202

3" NIPPLE 217

3" NIPPLE OK

3" NIPPLE OK

MAN WAY



8-12-87

SAFETY CONTROLS AND CONDITION:

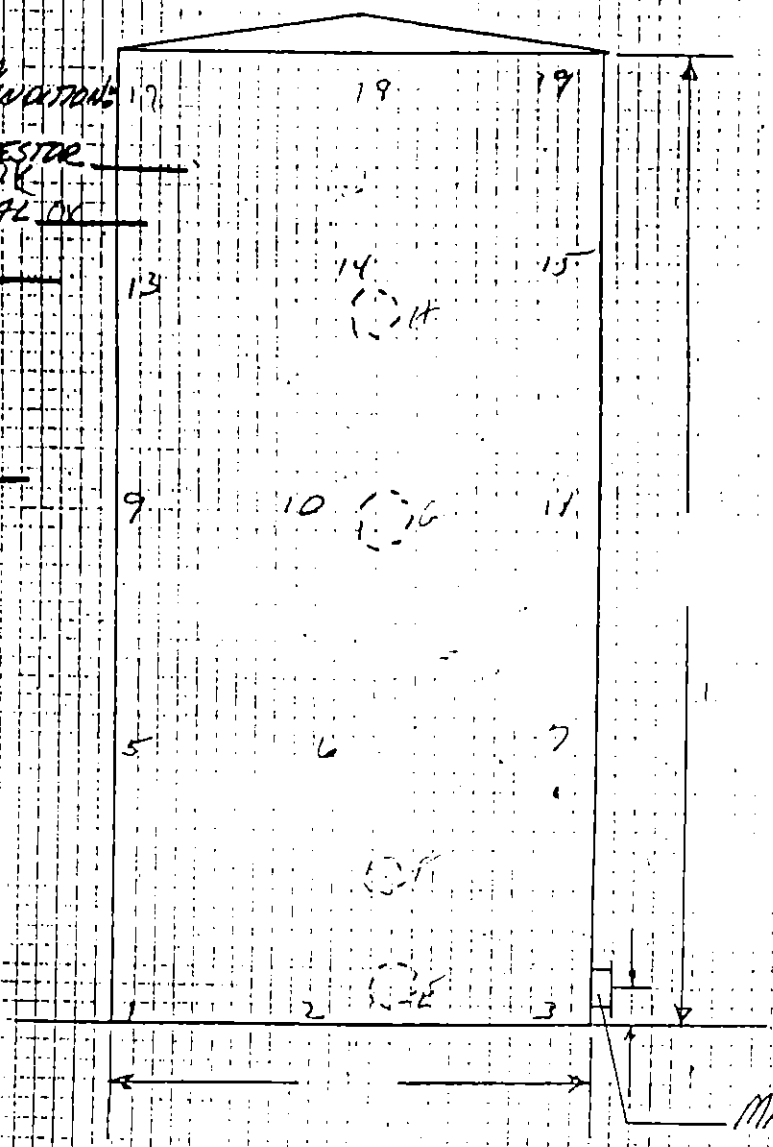
BREATHER AND 2" ARRESTOR OK OK

GAUGE AND LIQUID SEAL OK OK FILLED

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK



MANHEAD DIAM:

TANK: 210

INSPECTOR: JOHN SPUDVILLE

DATE: 6-10-87

MAXIMUM WALL:

BASE .140

ABOVE 6' .108

INT	HEIGHT ABOVE STR. SIDE	READING
	BASE	.233
	"	.237
	"	.238
	"	.233
	SEVEN FEET UP	.237
	"	.162
	"	.169
	"	.155
	FOURTEEN FEET UP	.163
	"	.163
	"	.169
	"	.158
	21 FT UP	.180 - .179
	"	.162
		.176
		.178
	TOP OF SIDE	.177
		.175
		.174
		.168
	TOP OF TANK	
7		.173
7		.160
7		.170
7		.167

TANK PROFILE

DATE: 10-1-8

TANK IDENT: 210

LOCATION: INJECTION

JUNE 10, 1986

NOZZLES AND CONDITION:

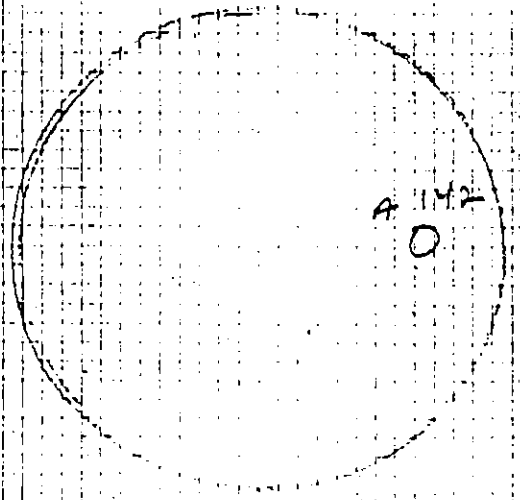
142 OK

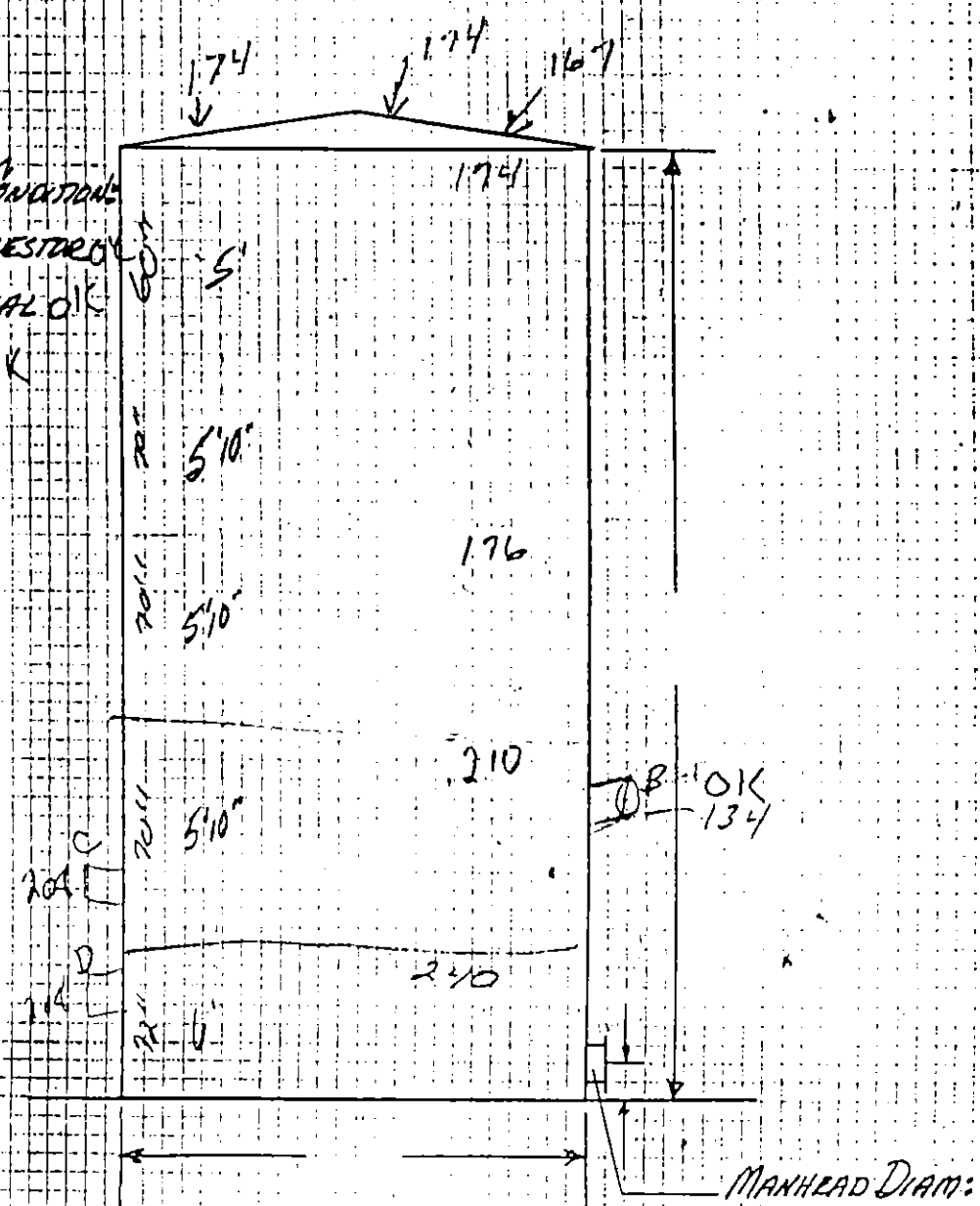
134

208

209

TOP VIEW





SAFETY CONTROLS AND CONDITION:

BREATHER AND 2" ARRESTOR OK

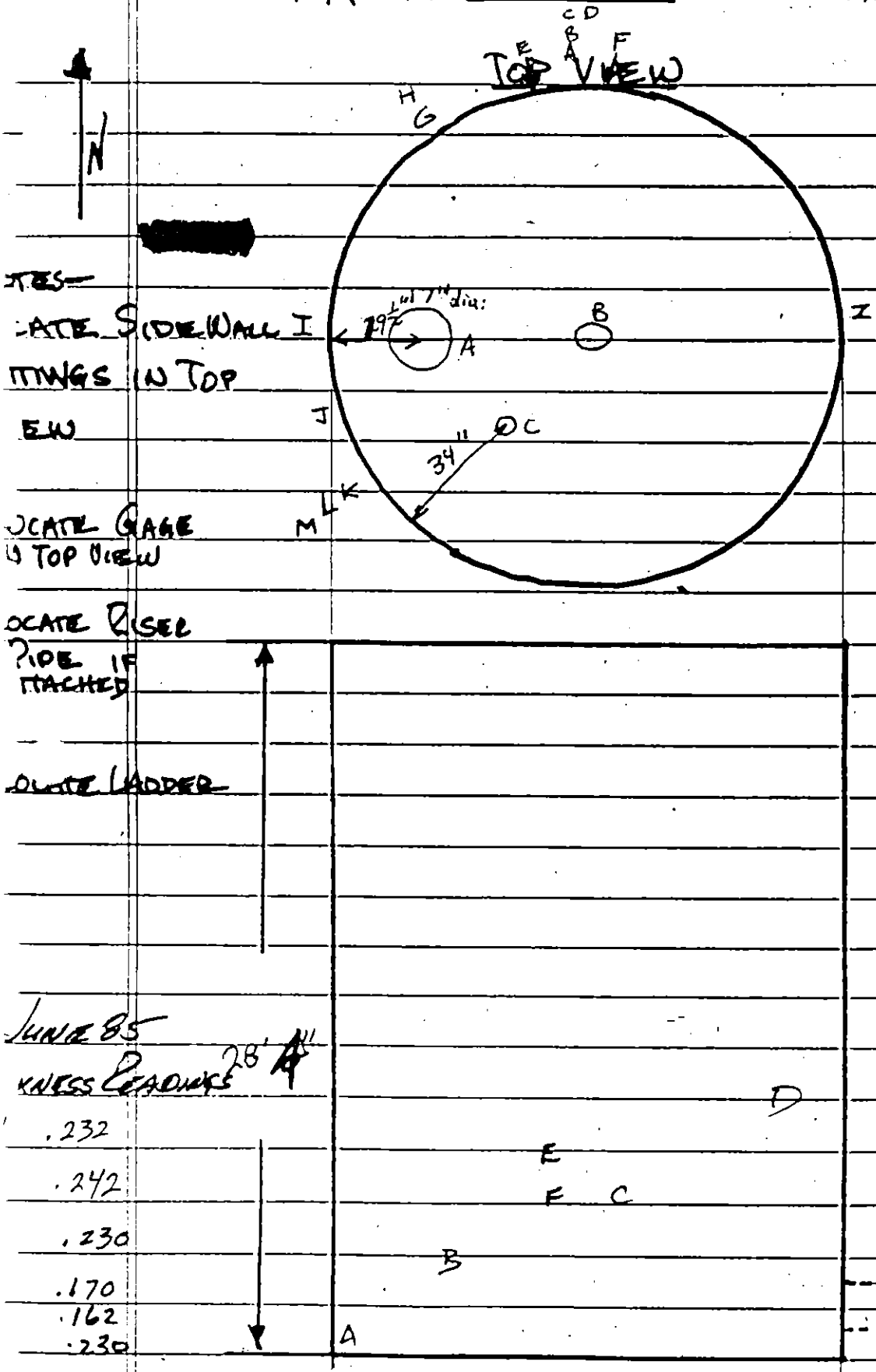
GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK

DESIGN STANDARDS:

TANK EXTERIOR: OK

TANK 210 AGITATED



TOP FITTINGS

	SIZE	USE
A.	MANHEAD W/GA	
B.	2" VENT (THRE	
C.	3" W/RISER	
D.		

SIDE WALL CONT

I.	LADDER	
J.	AGITATOR	2
K.	3"	6
L.	3" CAP	12
M.	3" CAP	18
N	2" w/ 1" VALVE	

SIDE WALL FITTI

	SIZE	ABOVE G
A.	3"	5
B.	3"	35
C.	3"	12
D.	3" CAP	18
E.	2" PLUG	11
F	2" PLUG	3
G.	2" PLUG	8

MANHEAD DIAM

27"

TANK PROFILE

DATE: MAY 15, 1987

TANK IDENT: 211

LOCATION: C

JUNE 10, 1986

1" NOZZLES AND CONDITION & READING

1. MANWAY 292
2. 8" PIPE 316
3. 2" NIPPLE 152
4. 2" COUPLING OK
5. 3" NIPPLE 193
6. 3" NIPPLE 198
7. 3" NIPPLE OK
8. 3" NIPPLE OK
9. 2" COUPLING OK
10. MAN WAY OK

CHECKED 10-11-87

SAFETY CONTROLS AND CONDITION:

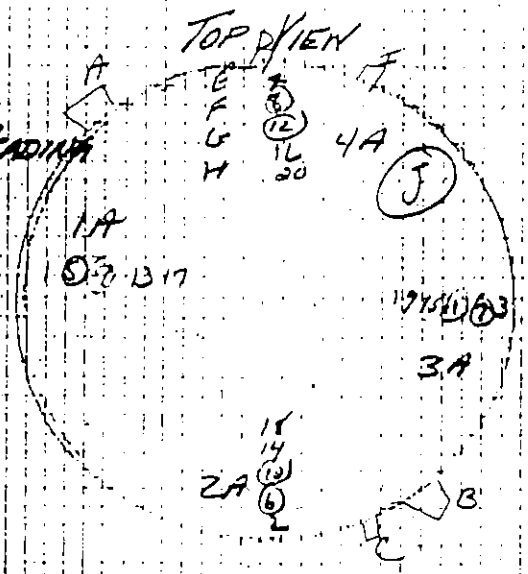
BREATHER AND 2" ARRESTOR OK

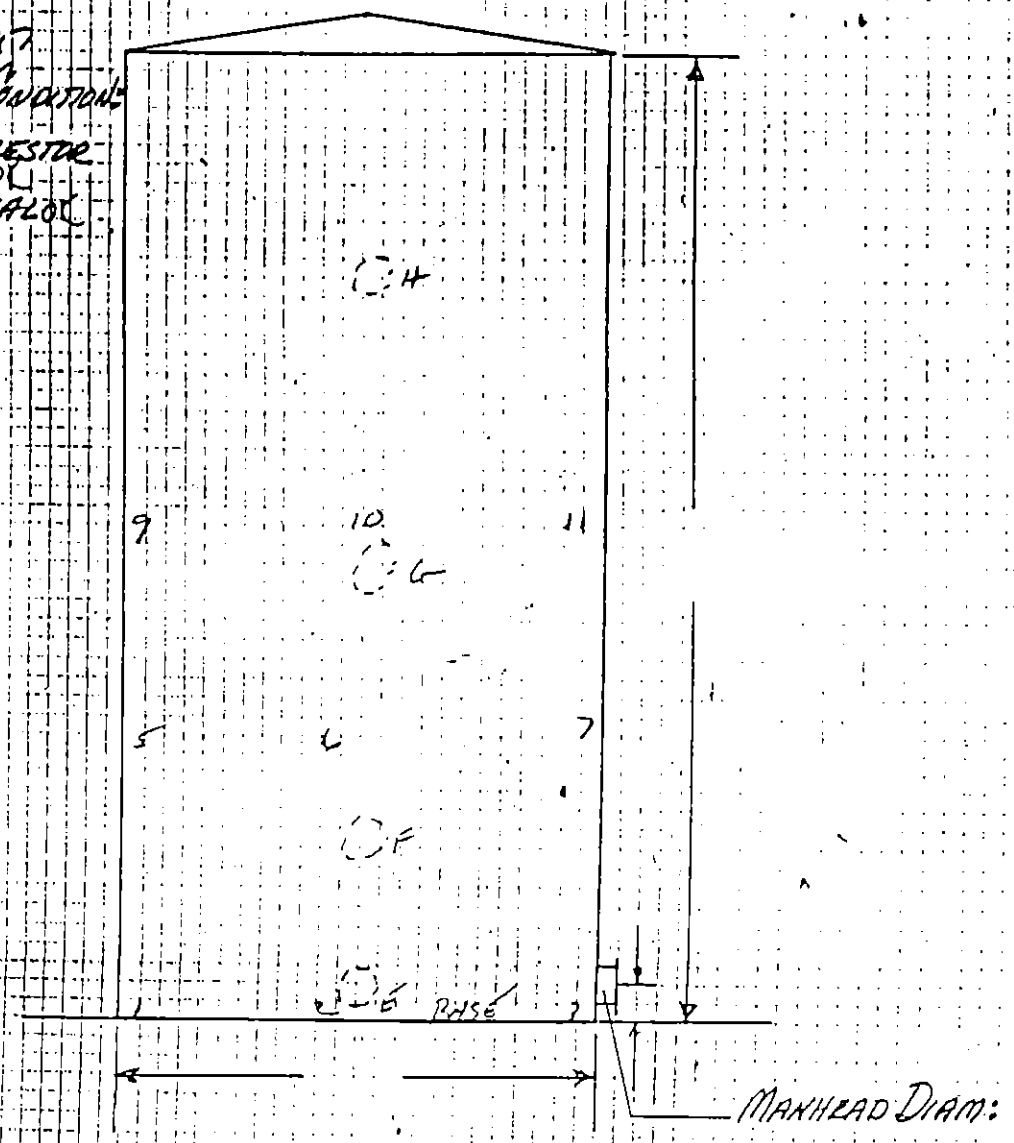
GAUGE AND LIQUID SEAL OK

LEVEL ALARM OK FILLED

DESIGN STANDARDS:

TANK EXTERIOR: OK





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 22 DEC 1988

SUBJECT: Visual Site Inspection (VSI) American Chemical Service
Griffith, Indiana IND 016 360 265

Keith Warwick

FROM: Keith Warwick, Civil Engineer
Indiana Section

RECEIVED
WMD RECORD CENTER
OCT 13 1994

TO: Hak K. Cho, Chief
Indiana Section

Attached is the VSI report for the inspection of American Chemical Service (ACS) located in Griffith, Indiana. During the inspection, I was accompanied by James Tarpo. A Preliminary Review Report (PR) was prepared for this facility on November 28, 1988.

ACS is currently seeking a Part B permit for two tank farms, the container storage area and for part of the distillation plant.

Visual Site Inspection
For
American Chemical Service
Griffith, Indiana
IND 016 360 265

U.S. Environmental Protection Agency
Region V
Waste Management Division

Date 22 DEC 1988

Facility Name: American Chemical Service (ACS)
EPA ID Number: IND 016 360 265
Location: Griffith, Indiana
Inspector: Keith Warwick
Title: Civil Engineer
Facility Rep: James Tarpo

I. Referenced Document:

A. Preliminary Review Report (PR) dated November 28, 1988

II. Briefing - December 13, 1988, 8:25 a.m.

A. Attendees:

1. James Tarpo, President, ACS
2. Keith Warwick, U.S. EPA

B. Items discussed:

1. Relationship between ACS and Indiana Department of Environmental Management

2. Waste Pile Closure

3. Areas to be inspected

III. Facility General Description:

A. Geographical Setting:

ACS is close to both residences and other industries

B. Known Releases:

1. Benzene
2. Toluene
3. 1,1,1,-trichloroethylene
4. Petachlorophenol (This may be "pentachlorophenol". The other spelling was listed in a October 22, 1984 RCRA Facility Review for Solid Waste Management Units).
5. Vinyl Chloride
6. Other compounds

C. Chemicals Used at Facility/Wastes Handled at the Facility

1. Chlorinated hydrocarbons
2. Solvents
3. Benzene
4. Toluene
5. 1,1,1,-trichloroethylene
6. D001
7. F001

8. F002
9. F003
10. F005
11. U002
12. U031
13. U112
14. U147
15. U154
16. low chloride injectant blending stocks
17. high chloride injectant blending stocks

D. Process at the facility:

1. S01
2. S02
3. T04

E. Manufacturing processes:

ACS produces and blends fuel additives. They also recover spent solvents through distillation. The facility does custom chemical manufacturing, and processing of hazardous wastes.

IV. Solid Waste Management Units (SWMU) and Areas Observed:

A. Drum Unloading Dock

Most likely this is part of the container storage area. A Part B permit has been applied for.

B. Reclaim Crude Tank Farm

A Part B permit has been applied for. No evidence of contamination was observed.

C. Injectant Tank Farm

A Part B permit has been applied for.

D. Landfill - Vicinity of Waste Pile

This area likely is releasing hazardous waste and may be part of superfund activity.

E. Landfill - Vicinity of Drum Unloading Dock

This area is likely releasing hazardous waste and may be part of superfund activity.

F. Landfill - Vicinity of Holding Pond

This area is likely releasing hazardous waste and may be part of superfund activity.

G. Swale - South of Fenced Area

In 1980 remedial action of construction of a 15 foot high clay wall around the swale was accomplished.

H. Landfill - South of Fenced Area

This area is likely releasing hazardous waste and may be part of superfund activity.

I. Municipal Landfill

This area may be releasing hazardous waste.

J. Waste Pile

IDEM will be requiring closure of the waste pile. The facility contends that this concrete pad, surrounded on three sides by 3 foot high concrete walls should be classified as a tank. Dried paint was visible on the concrete walls.

V. Adjacent Facilities of Interest

A. Drum Reconditioner

This facility may have placed waste and/or hazardous waste into the landfill-south of fenced area or into the municipal landfill.

VI. Exit Debriefing

A. Attendees

1. James Tarpo, President, ACS
2. John Murphy, Vice President, ACS
3. Keith Warwick, U.S. EPA, Region V

B. Item(s) Discussed

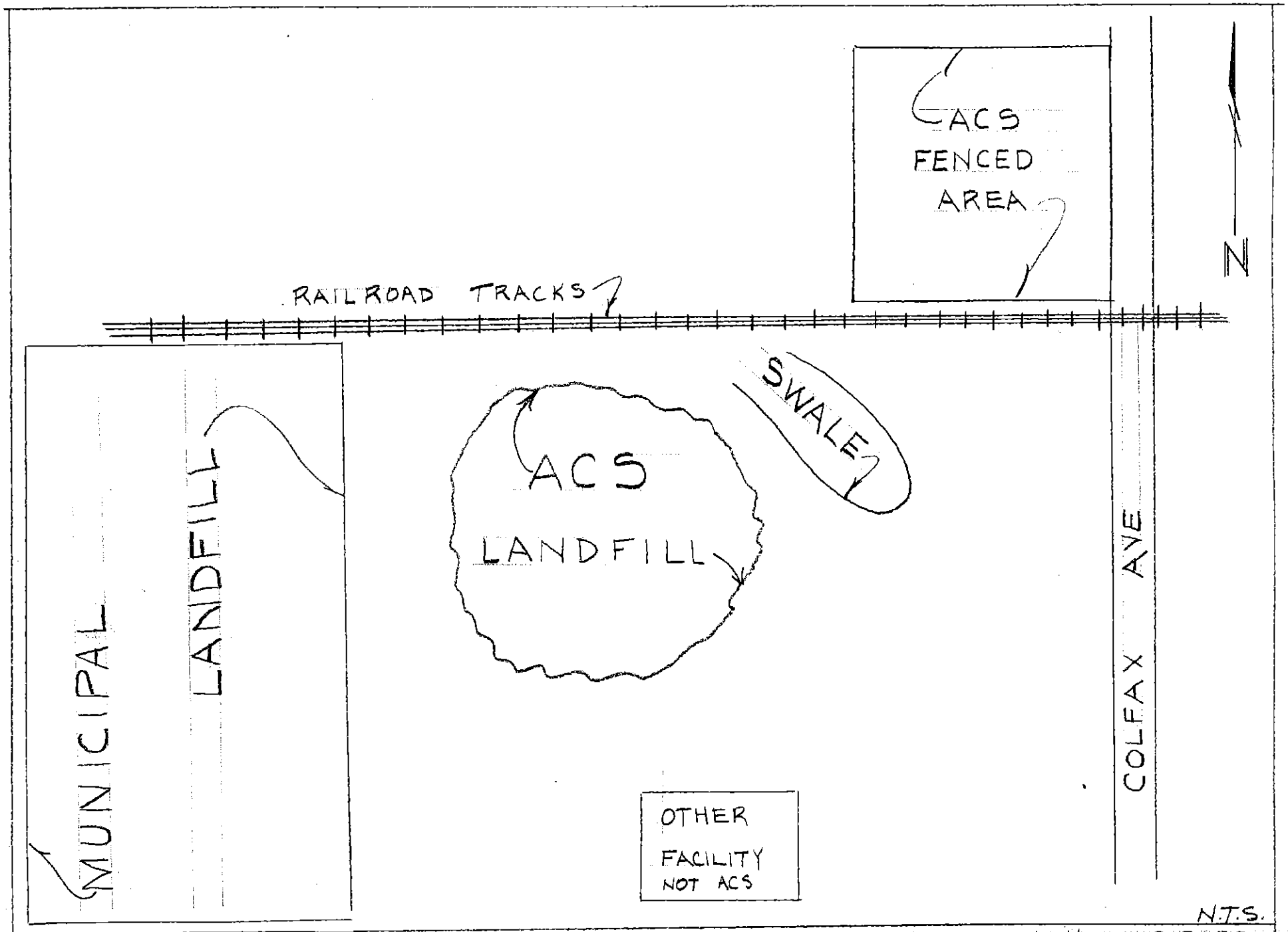
1. Waste Pile Closure and Status

VII. Atmospheric Conditions During Inspection

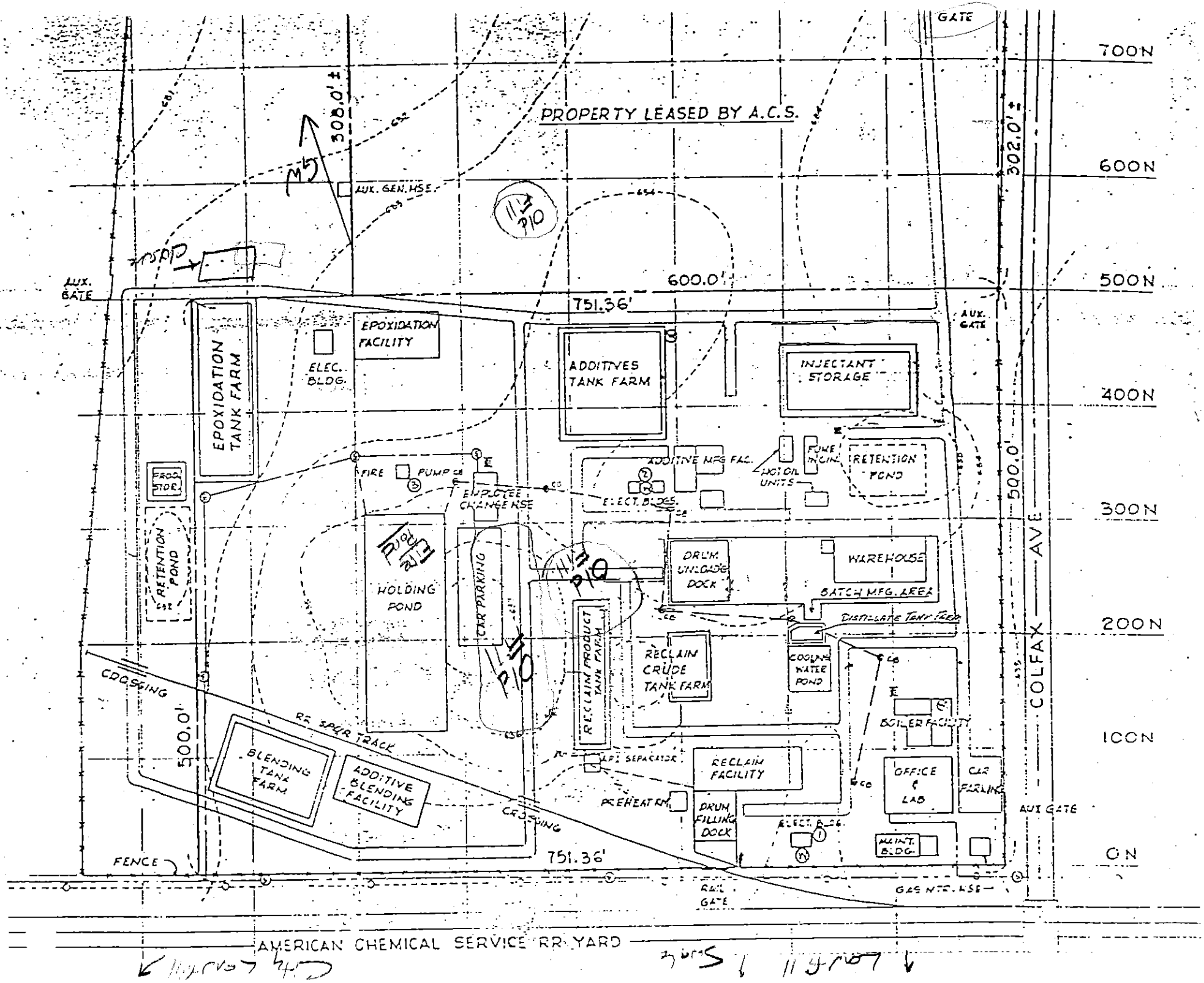
Snow on Ground:	One inch covering most areas
Temperature:	42°
Precipitation:	None
Wind:	0-5 mph

VIII. Conclusion

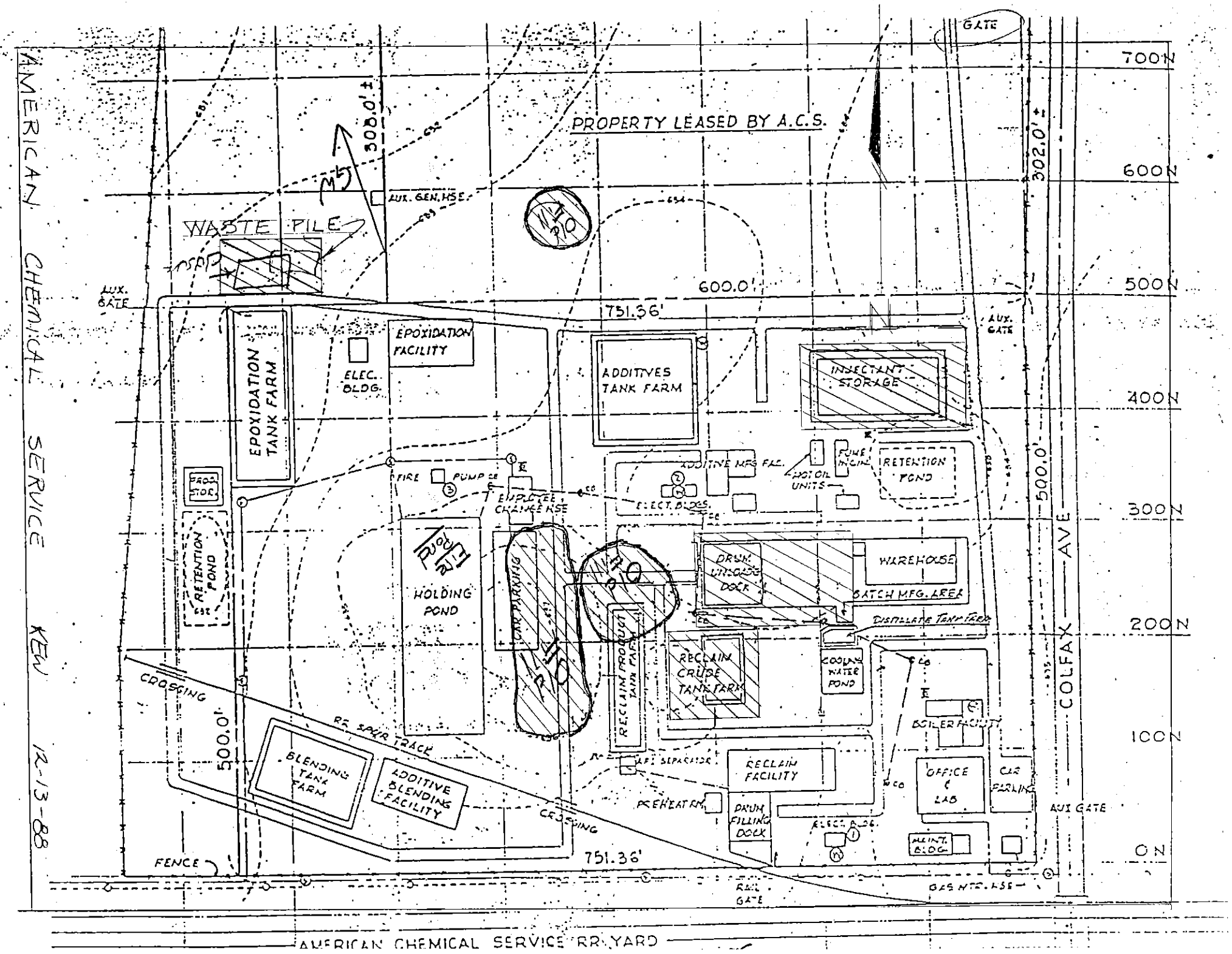
A sampling visit will not be necessary as part of this RFA for the following reasons: ACS admits to releases of hazardous waste at the facility, ACS is a superfund site and will have an RFIS and sampling will be done.



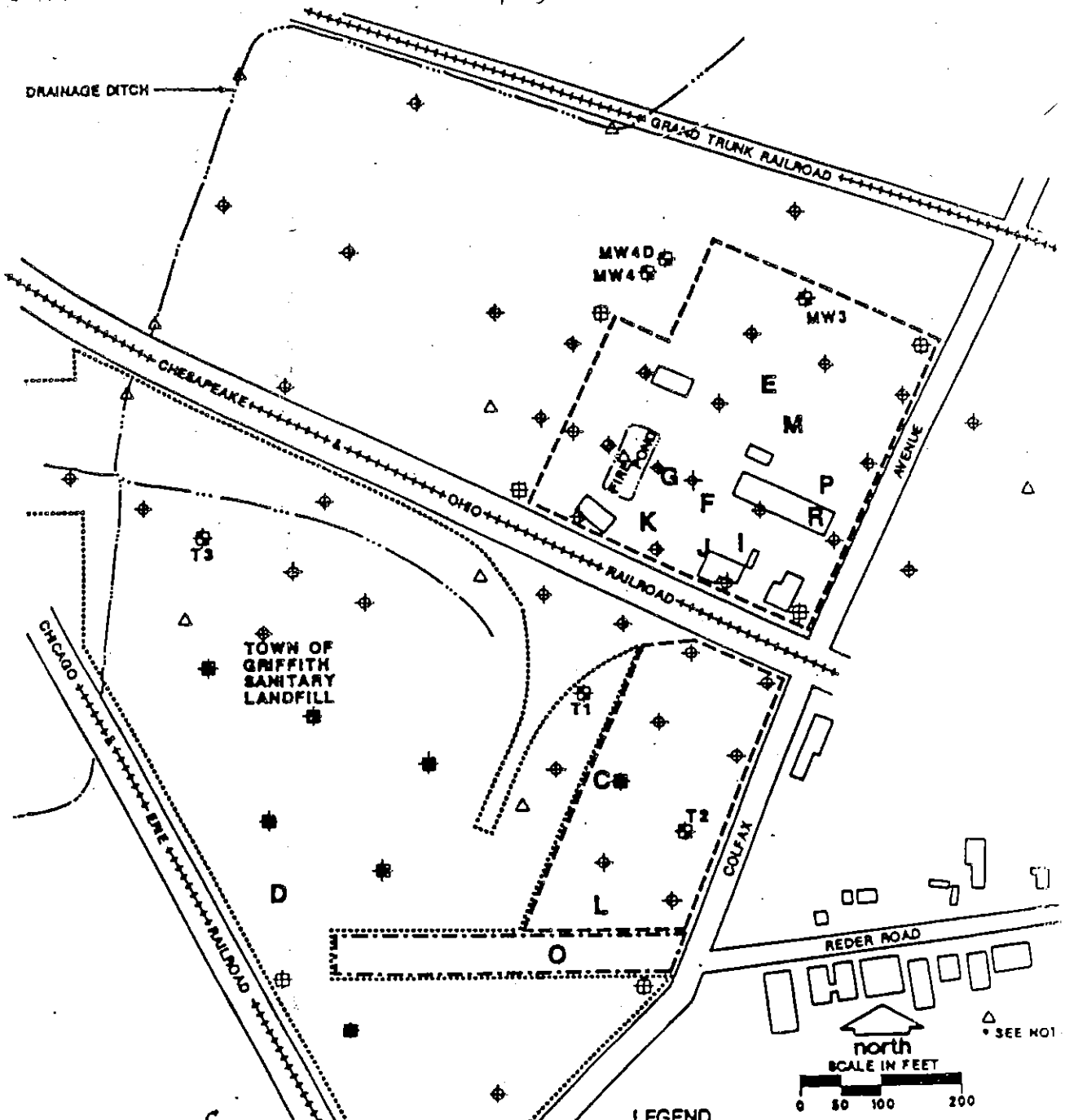
AMERICAN CHEMICAL SERVICE IND 016 360 265 KEW 12-13-88



PROPERTY LEASED BY A.C.S.
700N
600N
500N
400N
300N
200N
100N
0N
308.0'±
302.0'±
600.0'
751.36'
500.0'
AUX. GEN. HSE.
AUX. GATE
GATE
EPOXIDATION TANK FARM
EPOXIDATION FACILITY
ELEC. BLDG.
ADDITIVES TANK FARM
INJECTANT STORAGE
ADDITIVE MFG FAC.
HOT OIL UNITS
FUME INCIN.
RETENTION POND
ELECT. BLDGS.
FIRE
PUMP
EMPLOYEE CHANGE HSE
PROD. STOR.
RETENTION POND
HOLDING POND
CAR PARKING
DRUM UNLOADG DOCK
WAREHOUSE
BATCH MFG. AREA
DISTILLATE TANK FARM
RECLAIM PRODUCT TANK FARM
RECLAIM CRUDE TANK FARM
COOLING WATER POND
BOILER FACILITY
CROSSING
RR SPUR TRACK
BLENDING TANK FARM
ADDITIVE BLENDING FACILITY
API SEPARATOR
RECLAIM FACILITY
PREHEAT RM.
DRUM FILLING DOCK
OFFICE & LAB
CAR PARKING
MAINT. BLDG.
FENCE
RAIL GATE
GAS MTR. HSE
COLFAX AVE
AMERICAN CHEMICAL SERVICE RR YARD


AMERICAN CHEMICAL SERVICE KEW
R-13-88
PROPERTY LEASED BY A.C.S.
GATE
700N
600N
500N
400N
300N
200N
100N
0N
300.0'±
302.0'±
500.0'
600.0'
751.36'
AUX. GEN. HSE.
WASTE PILE
AUX. GATE
EPOXIDATION FACILITY
ELEC. BLDG.
EPOXIDATION TANK FARM
ADDITIVES TANK FARM
INSECTANT STORAGE
ADDITIVE MFG. FAC.
FUME INCIN.
HOT OIL UNITS
RETENTION POND
FIRE
PUMP
EMPLOYEE CHANGE HSE
ELECT. BLDGS.
PROD. STOR.
RETENTION POND
HOLDING POND
CAR PARKING
DRUM UNLOADING DOCK
WAREHOUSE
BATCH MFG. AREA
DISTILLATE TANK FARM
RECLAIM PRODUCT TANK FARM
RECLAIM CRUDE TANK FARM
COOLING WATER POND
BOILER FACILITY
CROSSING
RR SPUR TRACK
BLENDING TANK FARM
ADDITIVE BLENDING FACILITY
API SEPARATOR
RECLAIM FACILITY
PREHEAT FM.
DRUM FILLING DOCK
ELECT. BLDG.
OFFICE & LAB
CAR PARKING
MAINT. BLDG.
AUX GATE
FENCE
RAIL GATE
GAS HTG. HSE.
COLFAX AVE
AMERICAN CHEMICAL SERVICE RR YARD

Recieved from James Tarpo, ACS, 12-13-88



EPA IDENTIFIER	NAME OF AREA
C	OFF-SITE CONTAINMENT AREA
D	GRIFFITH CITY LANDFILL
E	ON-SITE CONTAINMENT AREA
F	OLD STILL BOTTOMS POND
G	TREATMENT POND #1
K I J	OLD WASTE WATER TRENCHES
L	KAPICA DRUM DRAINING AREA
M	OLD DRUM STORAGE AREA
O	KAPICA DRUM PROPERTY
P	FUME INCINERATOR
R	PREVIOUS SPILL/FIRE

* NOTE: SURFACE WATER POINT FALLS BEYOND THE SOUTHEAST BORDER OF THIS MAP

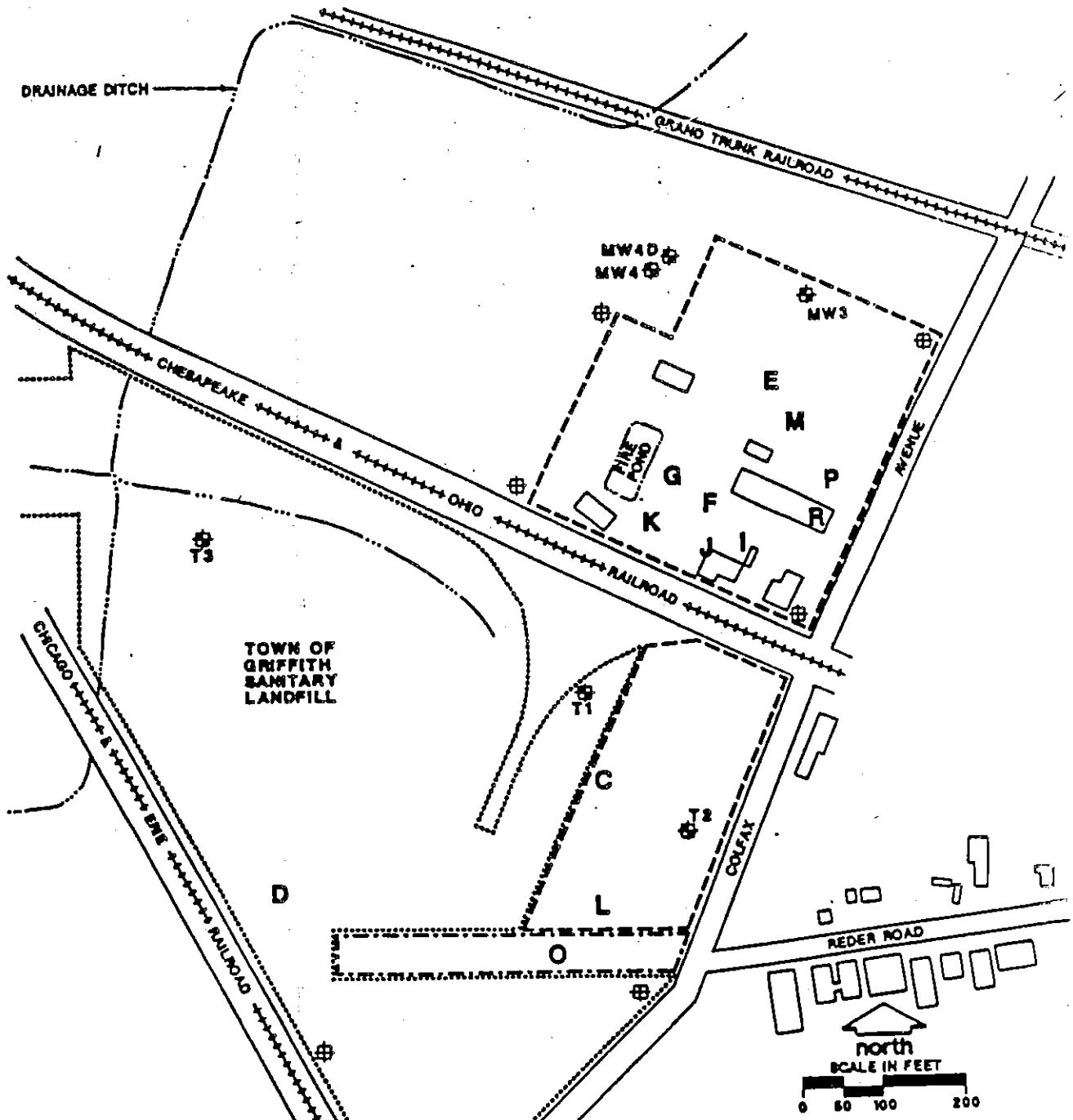
FIGURE 4-1

HYDROGEOLOGIC STUDY WATER LEVEL CONTROL POINTS
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE
GRIFFITH, INDIANA

WARZYN

AS SHOWN

60251-02



EPA IDENTIFIER	NAME OF AREA
C	OFF-SITE CONTAINMENT AREA
D	GRIFFITH CITY LANDFILL
E	ON-SITE CONTAINMENT AREA
F	OLD STILL BOTTOMS POND
G	TREATMENT POND #1
K I J	OLD WASTE WATER TRENCHES
L	KAPICA DRUM DRAINING AREA
M	OLD DRUM STORAGE AREA
O	KAPICA DRUM PROPERTY
P	FUME INCINERATOR
R	PREVIOUS SPILL/FIRE

FIGURE 4-2

PROPOSED PHASE I MONITORING WELL LOCATIONS
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE
GRIFFITH, INDIANA

WARZYN

AS SHOWN

60251-83

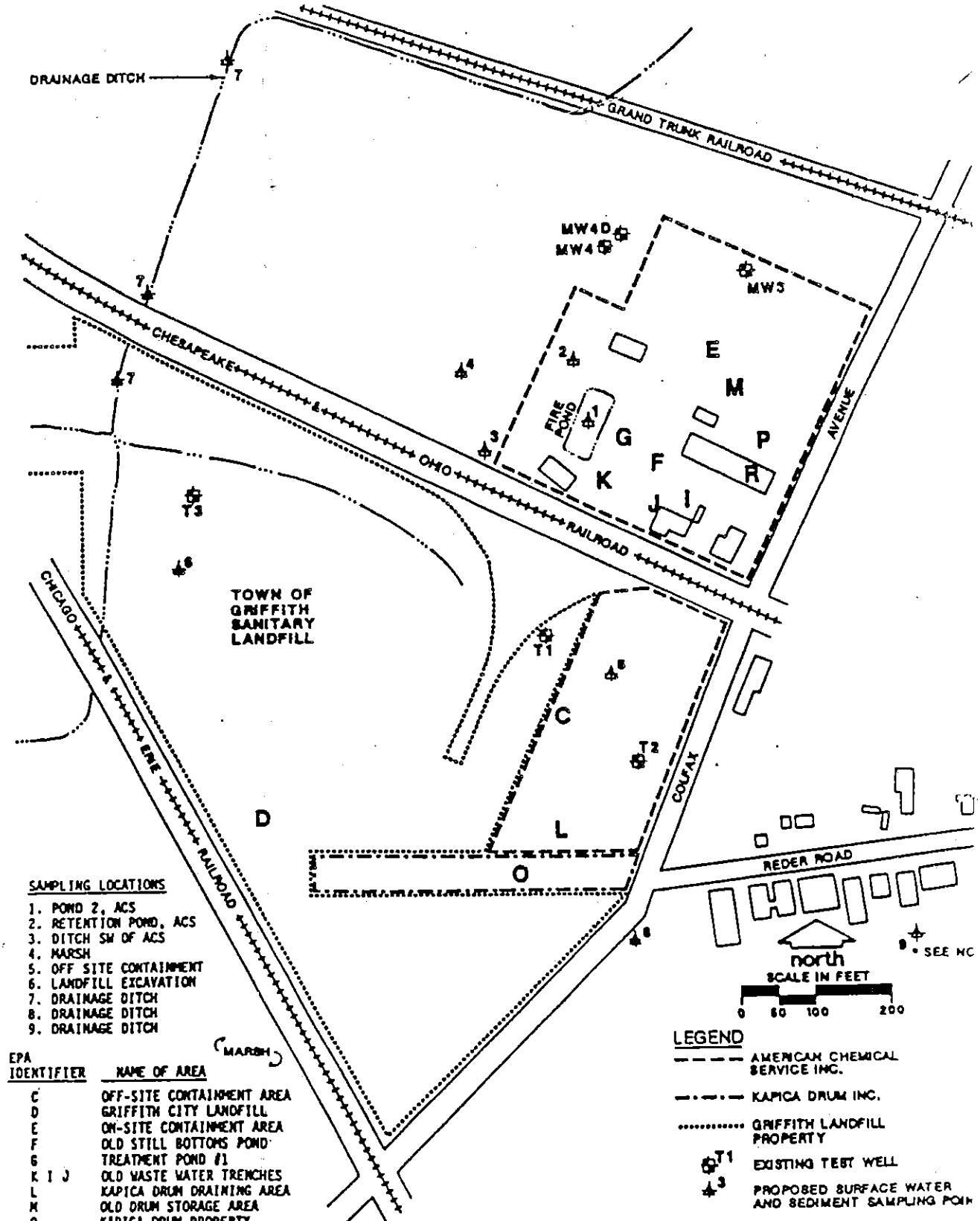


FIGURE 4-3

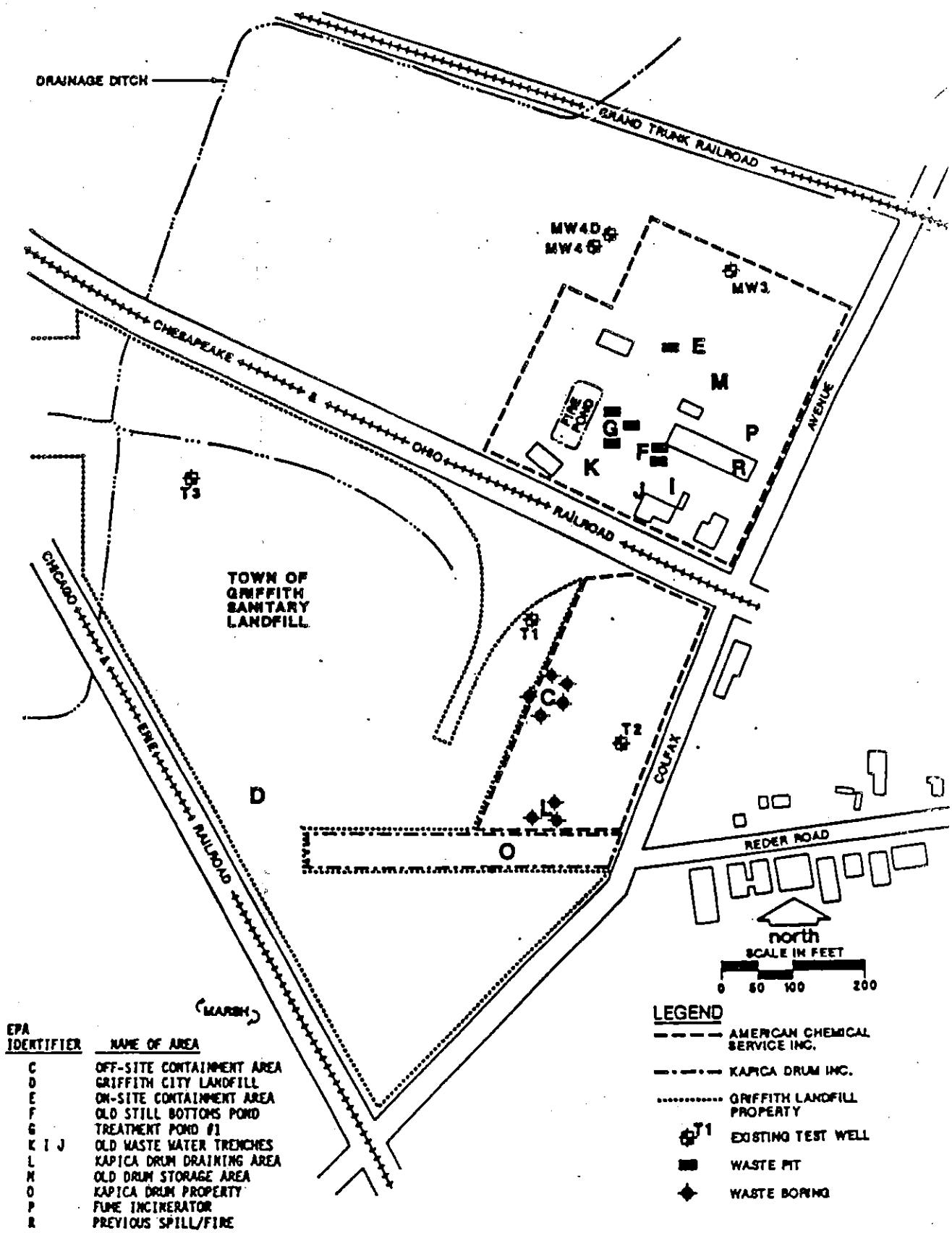
PROPOSED SURFACE WATER & SEDIMENT SAMPLING LOCATIONS
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE
GRIFFITH INDIANA

WARZYN

60251-84

PJV

AS SHOWN



EPA IDENTIFIER	NAME OF AREA
C	OFF-SITE CONTAINMENT AREA
D	GRIFFITH CITY LANDFILL
E	ON-SITE CONTAINMENT AREA
F	OLD STILL BOTTOMS POND
G	TREATMENT POND #1
K I J	OLD WASTE WATER TRENCHES
L	KAPICA DRUM DRAINING AREA
M	OLD DRUM STORAGE AREA
O	KAPICA DRUM PROPERTY
P	FUME INCINERATOR
R	PREVIOUS SPILL/FIRE

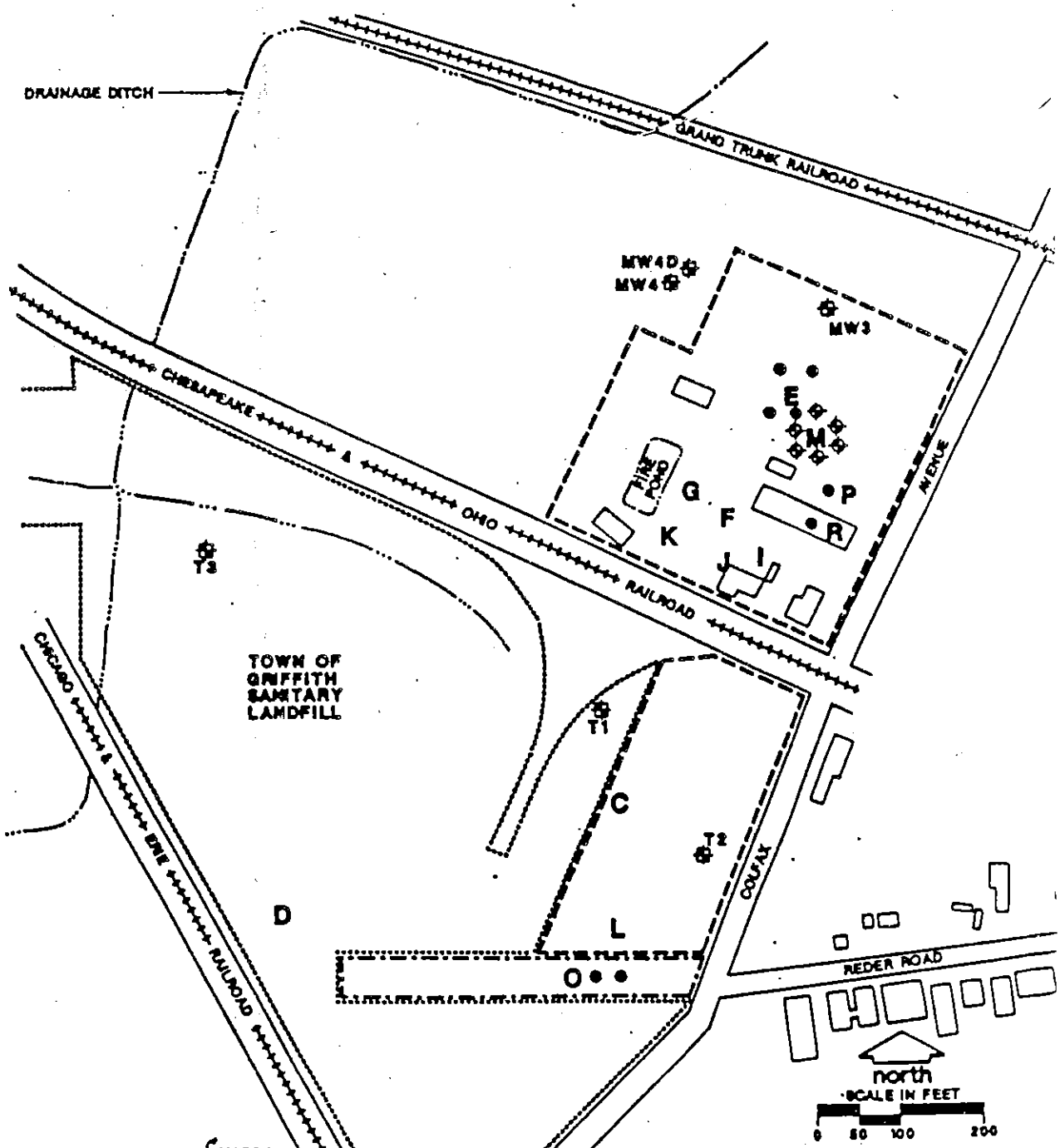
FIGURE 4-4

WASTE PIT & WASTE BORING LOCATIONS
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE
GRIFFITH, INDIANA

WARZYN

AS SHOWN

60251-B5



EPA IDENTIFIER	NAME OF AREA
C	OFF-SITE CONTAINMENT AREA
D	GRIFFITH CITY LANDFILL
E	ON-SITE CONTAINMENT AREA
F	OLD STILL BOTTOMS POND
G	TREATMENT POND #1
K I J	OLD WASTE WATER TRENCHES
L	KAPICA DRUM DRAINING AREA
M	OLD DRUM STORAGE AREA
O	KAPICA DRUM PROPERTY
P	FUME INCINERATOR
R	PREVIOUS SPILL/FIRE

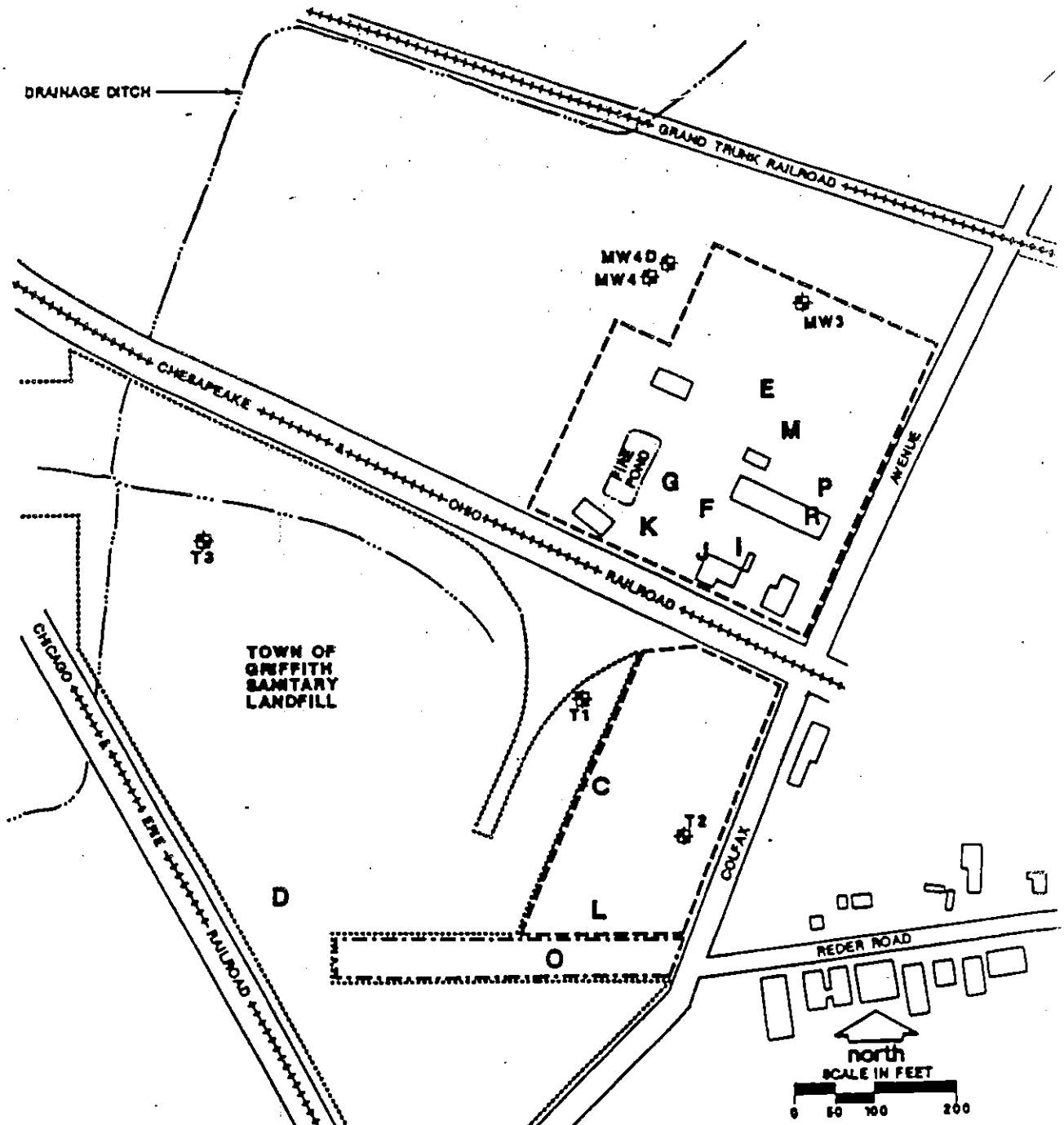
FIGURE 4-5

SOIL BORING & SOIL AREA LOCATIONS
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE
GRIFFITH, INDIANA

WARZYN

AS SHOWN

60251-06



EPA IDENTIFIER	NAME OF AREA
C	OFF-SITE CONTAINMENT AREA
D	GRIFFITH CITY LANDFILL
E	ON-SITE CONTAINMENT AREA
F	OLD STILL BOTTOMS POND
G	TREATMENT POND #1
K I J	OLD WASTE WATER TRENCHES
L	KAPICA DRUM DRAINING AREA
M	OLD DRUM STORAGE AREA
O	KAPICA DRUM PROPERTY
P	FUME INCINERATOR
R	PREVIOUS SPILL/FIRE

FIGURE 2-1.

REMEDIAL INVESTIGATION SITES
REMEDIAL INVESTIGATION/
FEASIBILITY STUDY
AMERICAN CHEMICAL SERVICES SITE

WARZYN

AS SHOWN

80251-B

LJS/GGW

STATE OF INDIANA

INDIANAPOLIS

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206-1964

August 12, 1985

RECEIVED
AUG 14 1985
SOLID WASTE BRANCH
U.S. EPA, REGION V

RECEIVED
AUG 15 1985
SWB-AIS
U.S. EPA, REGION V

Ms. Edith M. Ardiente, P.E., Chief
Technical Programs Section
U.S. EPA, Region V
230 South Dearborn Street
Chicago, IL 60604

Dear Ms. Ardiente:

Re: Corrective Action Response Review
American Chemical Service, Inc.
IND 016360265

Please find enclosed the completed RCRA Facility Review for Solid Waste Management Units for the above-referenced facility. The information provided was found in the files at the Indiana State Board of Health, Water Pollution and Land Pollution Control Divisions.

If you have any questions regarding this correspondence, please contact Ms. Jenny Ranck of my staff at AC 317/243-5089.

Very truly yours,

Guinn Doyle

Guinn Doyle, Chief
Hazardous Waste Management Branch
Division of Land Pollution Control

JLR/csc
Enclosures

COPY 2

RCRA FACILITY REVIEW FOR SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: American Chemical Service, Inc.
EPA ID NUMBER: IND 016360265
LOCATION (CITY, STATE): Griffith, Indiana
DATE OF INSPECTION: October 22, 1984
INSPECTOR(S): Ted Warner
TITLE(S): Compliance Monitoring Inspector
FACILITY REPRESENTATIVES PRESENT: James Tarpo, Ray Murphy

1. Based on a review of State records, describe any land disposal units that have ever had a State permit for managing municipal or industrial (non-hazardous) waste at this site. Summarize the information which is available to indicate whether the waste may contain hazardous constituents and whether the unit may be leaking.

American Chemical Service recycled chemicals from 1958 to 1975 when it voluntarily stopped using two disposal areas on-site and covered them. The site contains buried drums and sludges. The shallow aquifer beneath the site is contaminated with petachlorophenol, benzene, toluene, vinyl chloride, 1,1,1-trichloroethylene, and other compounds

See attachments A - E. The site is currently undergoing remedial action.

2. B[illegible] solid w[illegible]age and d[illegible]ion con- t[illegible] the information which is available to indicate whether the waste may contain hazardous constituents, and whether and whether the emissions from the unit may contain hazardous constituents.

None known.

3. Based on a review of State records (including CERCLA 103(c) notifications, complaints from the public, etc.) describe any known, suspected or likely releases of hazardous constituents to the environment from solid waste management units, except those spills not related to a specific unit, which were properly reported and cleaned up.

See question No. 1

4. Based on State records, describe any permitted injection wells at this facility and indicate whether injected the wastes may contain hazardous waste or hazardous constituents. Summarize the information which is available to indicate whether hazardous constituents may be escaping to the environment through improperly constructed or managed injection wells.

None known.

5. Did you see any of the following solid waste management units or evidence of prior existance of such a unit at the facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN THE PART B APPLICATION

	YES	NO
° Landfill		X
° Surface Impoundment		X
° Land Farm		X
° Waste Pile		X
° Incinerator		X
° Storage Tank (Above Ground)		X
° Storage Tank (Underground)		X
° Container Storage Area		X
° Injection Wells		X
° Wastewater Treatment Units		X
° Transfer Stations		X
° Waste Recycling Operations		X
° Waste Treatment, Detoxification		X
° Other _____		X

6. If there are "Yes" answers to any of the items in Number 5 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if avalable. You may simply reference the owner or operator's "Certification Regarding Potential Releases from Solid Waste Management Units" if the description contained therein appears to be accurate.

Not applicable.

7. If previous inspection reports indicated the presence of solid waste management units other than those described above, what is known about them?

An inspection of October 22, 1984, by an ISBH inspector mentions a fire pond which has drains from the container process area.

8. Describe other information about existing or closed solid waste management units at this facility that should be considered in determining whether there may be a continuing release of hazardous waste or hazardous constituents from solid waste mangement units.

See question No. 1

Jenny Ranck
Typed or Printed Name - State Permit Writer

Jenny Ranck
Signature - State Permit Writer

August 8, 1985
Date

664

Attachment A

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

5HR

07 NOV 1984

Ms. Susan J. Kennell
State Budget Agency
212 State House
Indianapolis, Indiana 46204

called - 11-13
Sent info

Dear Ms. Kennell:

This letter notifies you of a proposed Superfund project to be funded by the U.S. Environmental Protection Agency (U.S. EPA). This project is subject to the State Intergovernmental Review Process. The 60-day comment period on this proposed action will begin five days after the date of this letter. Please address any comments on the proposed action to Region V, Grants Management Section.

The project is outlined below:

Site Name: American Chemical Service

Location of Site: Griffith, Indiana

Site Rank: This site is ranked in group 7 of the National Priorities List (40 CFR Part 300 Appendix B), established by the U.S. EPA pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (P.L. 96-510).

Nature of the Problem: American Chemical Service recycled chemicals from 1958 to 1975, when it voluntarily stopped using two disposal areas on-site and covered them. The State has responded to complaints about the company since 1972. The site contains buried drums and sludges; the amounts, natures and source are unknown. The shallow aquifer beneath the site is contaminated with petachlorophenol, benzene, toluene, vinyl chloride, 1,1,1-trichloroethylene, and other compounds. The majority of the 10,000 people residing within 3 miles of the site use the lower aquifer for drinking purposes. The aquifers are separated by a continuous 15 to 25 foot layer of clay.

Description of Proposed Activities: A remedial investigation and feasibility study (RI/FS) is proposed. A remedial investigation (RI) is an activity involving investigation to gather the data necessary to: a) determine the nature and extent of problems at the site; b) establish remedial response criteria for the site; c) identify preliminary alternative remedial actions; and d) support the technical and cost analyses of the alternatives. The feasibility study (FS) is an activity involving a study to: a) evaluate alternative remedial actions from a technical, environmental, and cost-effective perspective; b) recommend the most cost-effective remedial action; and c) prepare a conceptual design, cost

Attachment B

American Chemical Service (ACS)
Narrative

ACS is a chemical recycling facility operating in Lake County, Indiana. Two areas that were used for drum and sludge disposal in the past are of concern today. One of the disposal areas in an adjacent city landfill has been studied on numerous occasions by the U.S. EPA. The other disposal area located in the center of the ACS site was inspected by the ISBH in the past, but now is covered over with roads and storage tanks. The buried drums contained residues such as phenol, isophorone, naphthalene and numerous other wastes. Groundwater contamination has been documented at the landfill site. The on-site disposal area has yet to be studied.

SEP 02 REC'D

AMERICAN CHEMICAL SERVICE
Griffith, Indiana

American Chemical Service recycled chemicals in Griffith, Indiana, from 1958 to 1975, when it voluntarily stopped using two disposal areas on-site and covered them. The State has responded to complaints about the company since 1972. The site contains buried drums and sludges; the amounts, nature, and source are unknown. The shallow aquifer beneath the site is contaminated with pentachlorophenol, benzene, toluene, vinyl chloride, 1,1,1-trichloroethylene, and other compounds. The majority of the 10,000 people residing within 3 miles of the site use the lower aquifer for drinking purposes. The aquifers are separated by a continuous 15-to-25 foot layer of clay.

SEP 2 11 00 AM '83
DIV. OF WATER POLLUTION CONTROL
STATE BOARD OF HEALTH

Hachment D

Doyle

STATE BOARD OF HEALTH

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: March 27, 1985

TO: American Chemical Services File
Griffith, Indiana

THRU: Jacqueline W. Strecker

FROM: Wallace Turner
Project Coordinator

SUBJECT: State/EPA/Contractor/City of Griffith/American Chemical Services/Pazme Drums Meeting

On Tuesday, March 12, 1985, State Project Coordinator, Wallace Turner, met with Mr. Rodney Gaither, U.S. Environmental Protection Agency (EPA); Mr. James Burton and Mr. Edward Nead, Weston, Inc., Consultants; Mr. Glen Reyome, City of Griffith, Public Works Manager; Mr. Tarpo and Mr. Murphy of American Chemical Services; and Mr. Pazme of Pazme Drums. Three different meetings were held throughout the day. The first meeting was between City of Griffith officials, EPA, Weston, and the State. The purpose of this meeting was to discuss the history of the City of Griffith Sanitary Landfill. The City of Griffith originally began using an old gravel pit which became the city dump in the 1950's. This site is located south of American Chemical Services, Pazme Drums, and the current City of Griffith Sanitary Landfill. The original city dump was excavated down to only ten feet below surface level before filling began by the City. When the filling was completed, it was capped with clay.

By this time (late 1960's), additional land had been acquired by the City of Griffith to construct the current sanitary landfill. A ditch was dug around the landfill to collect leachate. The leachate is currently pumped by a pumphouse to the sanitary sewer.

Public water for city consumption is bought from the Gary/Hobart Water Company. This water is drawn from Lake Michigan. The leachate, wells tested, and soil boring logs from the sanitary landfill is available from the city's files. Weston has requested this information be sent to them by the city. The area served by the public water system borders Broad Street on the south through Avenue H, then turns west. Therefore, the remainder of the area, minus the public water system, depends on private wells for their water supply. This area also includes the sanitary landfill.

A tour of the sanitary landfill was then conducted by Mr. Glen Reyome. The boundaries were identified bordering American Chemical Services and Pazme Drums. Also, the topographical layering of the landfill was observed.

At 10 a.m., a meeting was held at American Chemical Services with Mr. Tarpo, President, and Mr. John Murphy in attendance. The purpose of this meeting was to discuss and verify data supplied to Weston, Inc., by Mr. Tarpo. Based on this data, an action letter will be sent by EPA to American Chemical Services. This letter will outline the options available to American Chemical Services as to whether or not any remedial action is indicated.

At 1:30 p.m., an inspection tour was conducted by Mr. Tarpo and Mr. Murphy of American Chemical Services (ACS) property with EPA, State, and contractors in attendance. The fenced-in area of ACS was surveyed first with the inclusion of the distillation process and 55-gallon drum recycling process. Both of these processes are regulated by RCRA and are operating under standard operating procedures. The remainder of the property was inspected for location of old settling pits. These three pits were dug by ACS for early distillation processing. As the pits were retired from use, they were filled with perforated 55-gallon drums. After the bottom sludge completely filled the perforated drums, they were capped with clay by ACS. After ACS reached their property line bordering with the City of Griffith Landfill, the City took over the filling process. The fill material was changed from clay that ACS was using to mix gravel and trash material by the City of Griffith.

There are four deep wells located on ACS property. When asked about well logs, ACS stated that they had no record of the logs or data. Weston, Inc., asked for the names of the contractors who dug the wells. ACS furnished the name of the contractor and Weston will contact them for the information.

At 2:30 p.m., Mr. Pazme of Pazme Drums, south of ACS, was contacted. Mr. Pazme conducted an inspection of his premises for EPA, State, and the contractors. There were approximately 200 empty drums on the property belonging to ACS. These drums and others had been on this property when Mr. Pazme originally bought the property from Kapica Drums. Fifty-five gallon drums are no longer cleaned and recycled at this facility. Mr. Pazme is planning to sell the remaining drums he has, then drop the recycling of 55-gallon drums. Mr. Pazme has owned this land for approximately five years. During the inspection, there were many 55-gallon drums on ACS property that were not shown to us by Mr. Tarpo.

WRT/tr

cc: Guinn Doyle

Attachment E

Farner

STATE BOARD OF HEALTH

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: December 10, 1982

THRU: Karen E. Evans

TO: American Chemical Service
CERCLA File

FROM: Jim Knoy
Division of Land Pollution Control

SUBJECT: American Chemical Service Investigation

On November 22, 1982, Ms. Karen Evans, Mr. Jim Knoy, and Ms. Beverly Kush, U.S. EPA, On Scene Coordinator, conducted an inspection of the American Chemical Service hazardous waste facility in Griffith to obtain information for the Hazard Ranking System (HRS). Mr. James Tarpo, American Chemical Service, was contacted at that time. Inspected were the dump site that American Chemical Service utilizes south of the railroad and adjacent to the Griffith municipal landfill and the former lagoon on the plant site within which drums, both empty and partially filled, were disposed of.

The landfill area had been used for drum disposal. In 1980, Mr. Ralph Kuhns, U.S. EPA, had requested corrective measures to eliminate contaminated leachate which had been discovered in a surface swale adjacent to the landfill. Mr. Tarpo said that some of the perimeter of the dump had had clay walls installed down to a clay layer at that time. In addition, a clay cap had been installed on top of the fill area. He did not have available any engineering specifications on that work; however, Ms. Kush is researching the U.S. EPA files for that information. Monitoring wells installed by E & E have been tested and data from those wells is currently being reviewed. Preliminary results do indicate groundwater contamination.

The lagoon area had disposed in it empty drums and drums with sludges. Pictures taken by Indiana State Board of Health, Water Pollution Control Division staff, indicate many drums in the lagoon. Mr. Tarpo said that the lagoon was completely covered over during plant expansion, however, none of the drums were removed. Indeed, today the lagoon is not at all discernable. The active portion of the plant today appears to be very well maintained.

The lagoon area should be tested for groundwater contamination, however, such a study might no longer be conducted by E & E under the HRS study, as the preliminary results from the other monitoring wells already indicate groundwater contamination. The landfill area may require total installation of clay walls around the perimeter. Further work on the surface clay cap to encourage runoff may also be necessary.

JAKnoy/tw
cc: Mr. Ted Warner
Mr. Jim Traylor

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: AMERICAN CHEMICAL SERVICE INC.

EPA I.D. NUMBER: IND 016360265

LOCATION CITY: GRIFFITH

STATE: IN

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
° Landfill	X	
° Surface Impoundment	X	
° Land Farm		X
° Waste Pile		X
° Incinerator	X	
° Storage Tank (Above Ground)		X
° Storage Tank (Underground)		X
° Container Storage Area	X	
° Injection Wells		X
° Wastewater Treatment Units	X	
° Transfer Stations		X
° Waste Recycling Operations	X	
° Waste Treatment, Detoxification		X
° Other _____		

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed on and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, location at facility, provide a site plan if avaliable.

See A.C.S. response dated 1-18-85 to EPA Request for Information dated 10-18-84.

NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII Of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part B application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the part or still be occurring.

Please provide the following information

a. Date of release
b. Type of waste released
c. Quantity or volume of waste released
d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

See A.C.S. response dated 1-18-85 to EPA Request for Information dated 10-18-84.

4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

See A.C.S. response dated 1-18-85 to EPA Request for Information dated 10-18-84.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

James Tarpo, President

JAMES TARPO PRES.
Typed Name and Title

James Tarpo
Signature

5-21-85
Date