Compli-
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SITE ASSESSMENT REPORT FOR UNDERGROUND STORAGE TANK CLOSURE AT SANOFI BIO-INDUSTRIES WAPATO, WA

For:

Major Petroleum Service Co.
1675 W. 36th Avenue
Kennewick, WA 99337

By:

David L. Green, R.S.A.
Engineering Geologist

WHITE SHIELD, INC.
P.O. Box 477
Grandview, WA 98930

June, 1991

WHITE SHIELD, INC.

P.O. BOX 477 • GRANDVIEW, WA 98930 • (509) 882-1144
FAX (509) 882-4566

July 17, 1991

- Bill Gavey
- Stuart

Major Petroleum Service Co.
1675 W. 36th Avenue
Kennewick, WA 99337

Attention: Gilbert Jones

SUBJECT: SITE ASSESSMENT REPORT FOR CLOSURE OF UNDERGROUND STORAGE TANKS AT SANOFI BIO-INDUSTRIES, WAPATO, WA.

Dear Mr. Jones,

Please find two copies of the site assessment report as required by the Washington State Department of Ecology. Based on the data and findings reported herein, we found soil contaminated by diesel and bunker 6 fuel. We also found bunker 6 oil floating atop the groundwater. Upon completion of remedial activities, we found no evidence of petroleum contamination exceeding DOE cleanup guidelines remaining at the site.

The DOE requires that you retain this report for a minimum of ten years. We recommend you retain it indefinitely. The DOE also requires us to submit a copy of the Underground Storage Tank Site Check/Site Assessment Checklist and a copy of Notice of Permanent Closure of Underground Storage Tanks to the Olympia office and it is attached to this report as Appendix D and E.

We appreciate the opportunity to provide you technical assistance for your tank closure. Please call me at (509) 882-1144 should you have any questions or comments.

Respectfully Yours,
WHITE SHIELD, INC.

David L. Green, R.S.A.
Engineering Geologist

Project Number: MPS-0191

cc: lb
Sanofi Bio-Industries, Wapato, WA
U.S. Environmental Protection Agency, Olympia, WA
Department of Ecology, Olympia, WA
Department of Ecology, Central Regional Office

Sanofi Bio-Industries, Wapato, WA

Executive Summary

White Shield, Inc. (WSI) provided closure site assessment services upon removal of one 2,000 gallon diesel tank and one 10,000 bunker 6 fuel tank, located at the Sanofi Bio-Industries property Wapato, WA. We tested the soil for petroleum contamination as required by the Guidance for Site Checks and Site Assessments for Underground Storage Tanks. We conducted our initial investigation on June 14, 1991. Based on our visual observations, analytical laboratory analyses, olfactory responses (smell), and interviews, we found petroleum contamination exceeding DOE cleanup guidelines at the site.. The soil under the diesel tank was contaminated with diesel and the soil adjacent to the bunker fuel was contaminated with bunker fuel. We also found bunker fuel contaminated soil adjacent to fuel lines. We encountered bunker fuel floating atop the groundwater under the bunker fuel tank.

Upon confirming that petroleum concentrations exceeded Action Levels for Petroleum Releases (Action Levels), we initiated cleanup at the site by excavating petroleum contaminated soil. We also used absorbent pads to remove bunker fuel from the surface of the groundwater.

Cleanup of petroleum contaminated soil and groundwater was verified by analytical laboratory results. We find no remaining petroleum contamination in the soil or groundwater which exceeds Action Levels.

The petroleum contaminated soil was transported to property owned by Sanofi Bio-Industries for treatment (landfarming).

RECEIVED

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Appendix E: Notice of Permanent Closure of Underground Storage Tanks

1.1 Purpose

This report describes findings and actions taken for work associated with the Underground Storage Tank removal(s). The work and investigation responds to regulatory requirements set forth by the United States Environmental Protection Agency (EPA) and the State of Washington, Department of Ecology (DOE).

1.2 Scope of Work

This report completes site assessment services, provided by White Shield, Inc. (WSI), for one 2,000 gallon diesel tank and one 10,000 gallon bunker 6 fuel tank on the Sanofi Bio-Industries property, Wapato, WA. Major Petroleum Service Co. provided the decommissioning services. Upon confirmation that petroleum concentrations exceeded Action Levels, we were retained to provide technical direction for PCS removal.

2.0 Background Information

2.1 Site Location

The site is located at 5661 Branch Road, Wapato, Washington. It is located within the NE 1/4 of the NW 1/4 of Section 31, Township 11 North, Range 19 East, Willamette Meridian.

2.2 Site Description and History

We understand that these tanks formerly supported refueling of railroad locomotives. Concrete floors and foundations are the only remains of railroad buildings at the site. The year of tank installation is not known. The tanks were removed on June 13, 1991.

2.3 Soils Description

Our inspection of the soil found poorly sorted Yakima River gravels up to 6 inches in diameter.

3.0 Field Activities

3.1 General Investigative Methods

We visually inspected each tank, the soil and the fill. We also used field screening, analytical laboratory analyses, olfactory responses (smell), and interviews for data. The methods and general conclusions are discussed below.

3.2 Tank Inspection

We removed attached soil and scale to completely expose the tanks. With the soil and scale removed, we carefully examined each tank. The steel tanks exhibited moderate corrosion and pitting. We observed a small pin-hole at the base of the diesel tank.

3.3 Site Assessment

Dave Green, engineering geologist, and Rodney Heit, environmental technician erformed the closure site assessment on June 14, 1991 after removal of the tanks. Both are registered with the Washington State Department of Ecology Underground Storage Tank Program. The attached Field Form for Site Assessment of Underground Storage Tanks (Field Form) provides a site map and other key data.

We observed visual signs of contamination in the soil and groundwater adjacent to the bunker 6 fuel tank and a portion of the fuel lines. We also observed slight diesel odors in the diesel tank excavation. We submitted 15 samples to Materials Testing and Consulting, Mt. Vernon, Washington, for laboratory analysis and found that petroleum hydrocarbon concentrations exceeded Action Levels in the area of the bunker fuel tank, a portion of the fuel lines and under the diesel tank. The sample locations are shown on the Field Form and the analysis results are shown in Appendix B. As required by the DOE, we have completed the Underground Storage Tank Site Check/Site Assessment Checklist and the "Notice of Permanent Closure of Underground Storage Tank(s) and submitted them to the Olympia office. These are presented in this report as Appendix D and E, respectively.

4.0 Investigative Methods and Results

4.1 Field Screening

For field analysis of compounds containing volatile organics, we used a Foxboro Organic Vapor Analyzer in conjunction with the interim headspace method as recommended by the manufacturer. This method is used to confirm the presence or absence of volatile components in the soil and provides only a rough indication of the contaminant concentrations. The analysis procedure involves:

1. Selecting a clean, wide mouth jar (1 qt.) and filling the bottom 1/3 with a discrete soil sample.

2. Place aluminum foil over the top of the jar and place a ring over the jar to create a seal.

3. Boil the sample for 10 minutes. This causes the volatile compounds to become vapors and collect in the space above the soil.

4. Remove the sample from the boiling water and insert the instrument probe through the aluminum foil for vapor analysis.

5. Record the instrument response on the Field Form.

For field analysis of semi-volatile (diesel) and non-volatile compounds (bunker fuel), we use Thin Layer Chromatography (TLC) for qualitative and quantitative analysis. This analytical technique utilizes the principle of chromatography to separate individual components for comparison to known standards.

TLC is classified as a solid-liquid chromatographic system, meaning there are two phases through which an extract of the sample is passed; a solid phase (silica gel) and a liquid phase (a solvent such as hexane).

The solid phase is stationary and is coated on a glass plate. During the chromatography process, the liquid phase carries the sample through the solid phase. The solvent moves at a fairly constant rate through the solid phase. However, the compound in the sample (analyte) are partitioned by a relative attractiveness of the analyte between the solid phase and the liquid phase. Analytes strongly attracted to the silica will remain on the ca longer and move more slowly than analytes that are not as strongly attracted to the lica. When the chromatography is stopped, the distance the analyte has moved relative

to the distance the solvent has moved is used to identify the compound. When the plate is viewed under ultraviolet light, the analytes can be seen and compared to standards of known concentration for quantitative analysis.

4.2 Soil Sampling

The Field Form (Appendix A) presents the location, quantity and types of samples taken. In general, sample collection and control followed the following protocol:

1. Select a laboratory certified clean sample jar for sample collection.

2. Using clean latex gloves and clean sampling utensils (tri-sodium phosphate, chlorine solution, tap water rinse and distilled water rinse cycle) tightly pack the soil sample in the sample jar (4 oz.) to the top of the jar to prevent any airspace.

3. Label the jar with the soil sample number, the type of laboratory test required, the date, name of site and sampler. The sample is then entered on the chain of custody form.

4. Cool the sample in wet ice to approximately 4 degrees centigrade.

5. Repack the samples for shipment to the laboratory in blue ice and a cooler.

6. Relinquish sample to courier for shipment to the laboratory.

4.3 Soil Chemistry

Laboratory analysis of soil samples collected from the floor of the diesel tank excavation found:

- diesel in concentrations up to 38.0 parts per million (ppm) and
- xylenes in concentrations up to 0.294 ppm.

Laboratory analysis of soil samples in the bunker fuel tank excavation found:

- Total Recoverable Petroleum Hydrocarbons (TPH) in concentrations up to 21,463 ppm.

Laboratory analysis of soil samples collected under fuel lines found:

- TPH in concentrations up to 2,090 ppm.

Results of the analyses are shown in Appendix B. Comparison of the analyses results with Action Levels for Petroleum Releases (Appendix C) cleanup guidelines indicates that no cleanup action is required.

4.4 Groundwater Sampling

Water sampling followed the same general protocol as the soil samples. The difference lies in filling the sample bottle. We filled the water bottle and placed the cap on the sample underwater to ensure the absence of air space.

4.5 Groundwater Chemistry

Laboratory analysis of groundwater samples collected from under the diesel tank and the bunker fuel tank detected no petroleum hydrocarbons. Results of the analyses are shown in Appendix B. Comparison of the analyses results with the Action Levels (Appendix C) indicates that no additional cleanup action is required.

5.0 Remedial Action

Upon confirmation that petroleum concentrations exceeded Action Levels (described above), we initiated cleanup of the soil and groundwater. Debbie Chulos, environmental technician, monitored the excavation process through use of Thin Layer Chromatography (TLC). Miss Chulos is registered with the Washington State Department of Ecology's Underground Storage Tank Program.

Mr. Jones used petroleum absorbent pads to remove bunker fuel that was floating on the surface of the groundwater in the bunker fuel tank excavation. As discussed above, laboratory analysis detected no dissolved petroleum products in the groundwater. PCS adjacent to fuel lines and from within the diesel tank excavation was also excavated. Mr. Jones excavated PCS from these locations until field analyses indicated that excavation of PCS was complete.

When field analysis indicated that excavation of Petroleum Contaminated Soil (PCS) was complete, we collected soil samples for laboratory analysis to confirm that petroleum concentrations do not exceed Action Levels. The analyses found no remaining petroleum contaminants exceeding action levels.

The excavated PCS was transported to a treatment site on the Sanofi Bio-Industries property. The client chose to "landfarm" the PCS to lower petroleum concentrations to acceptable levels. The treatment site is located approximately 600 feet North of Branch Road and 1000 feet West of Lateral B. It is located within the SW 1/4 of the SW 1/4 of Section 25, Township 11 North, Range 18 East, Willamette Meridian.

6.0 Conclusion

Our investigation found petroleum contamination exceeding DOE cleanup guidelines at the site. We removed bunker fuel floating atop the groundwater and directed excavation of PCS. Laboratory analysis on samples collected after the cleanup process found no petroleum concentrations exceeding Action Levels.

Excavated PCS was transported to a site owned by Sanofi Bio-Industries for atment.

7.0 Recommendations

For treatment of the petroleum contaminated soil, we recommend following these guidelines:

- spread the soil to a maximum thickness of 3 inches,
- protect the soil from surface water runoff,
- ensure that depth to groundwater at the site is greater than 10 feet,
- restrict public access to the site,
- till the soil on a monthly basis.

Since the majority of petroleum contamination consists of bunker 6 fuel oil, the treatment process may be relatively slow. This is due to the non-volatile nature of the oil. To accelerate the treatment process, we recommend fertilizing the soil with manure. The manure should be tilled into the soil. The manure/soil ratio should not exceed 50:50. Manure is an excellent fertilizer for this purpose as it adds nutrients and micro-organisms for biologic metabolism of the petroleum.

8.0 Limitations

In performing our professional services, we used a degree of care ordinarily exercised under similar circumstances by members of our profession. No warranty, expressed or implied, is made or intended. Our conclusions and recommendations, developed from our field and laboratory investigation reported herein, are based upon this firm's understanding of the tank removal project and are in concurrence with generally accepted practice.

WHITE SHIELD, INC.
P.O. BOX 477
GRANDVIEW, WA
98930
(509) 882-1144

FIELD FORM FOR SITE ASSESSMENT OF UNDERGROUND STORAGE TANKS

Project name: Sanofi Bio Industries Project number: MPS-0191

Location: Branch Rd. ; NE 1/4 NW 1/4, Sec. 31, T. 11 N., R. 19 E., W.M.

Field Personnel: Dave Green/Rod Heit Weather: Sunny, partly cloudy Date: 6/14/91

Tank Contents: Diesel Size: 2,000 gal. Condition: Pinhole in base of tank.

Tank Contents: Bunker 6 Size: 10,000 gal Condition: good, signs of overfill

Tank Contents: Size: Condition:

Tank Contents: Size: Condition:

Tank Contents: Size: Condition:

Ambient vapors: 20 Vapors in excavation: slight Odors: Bunker 6 & diesel

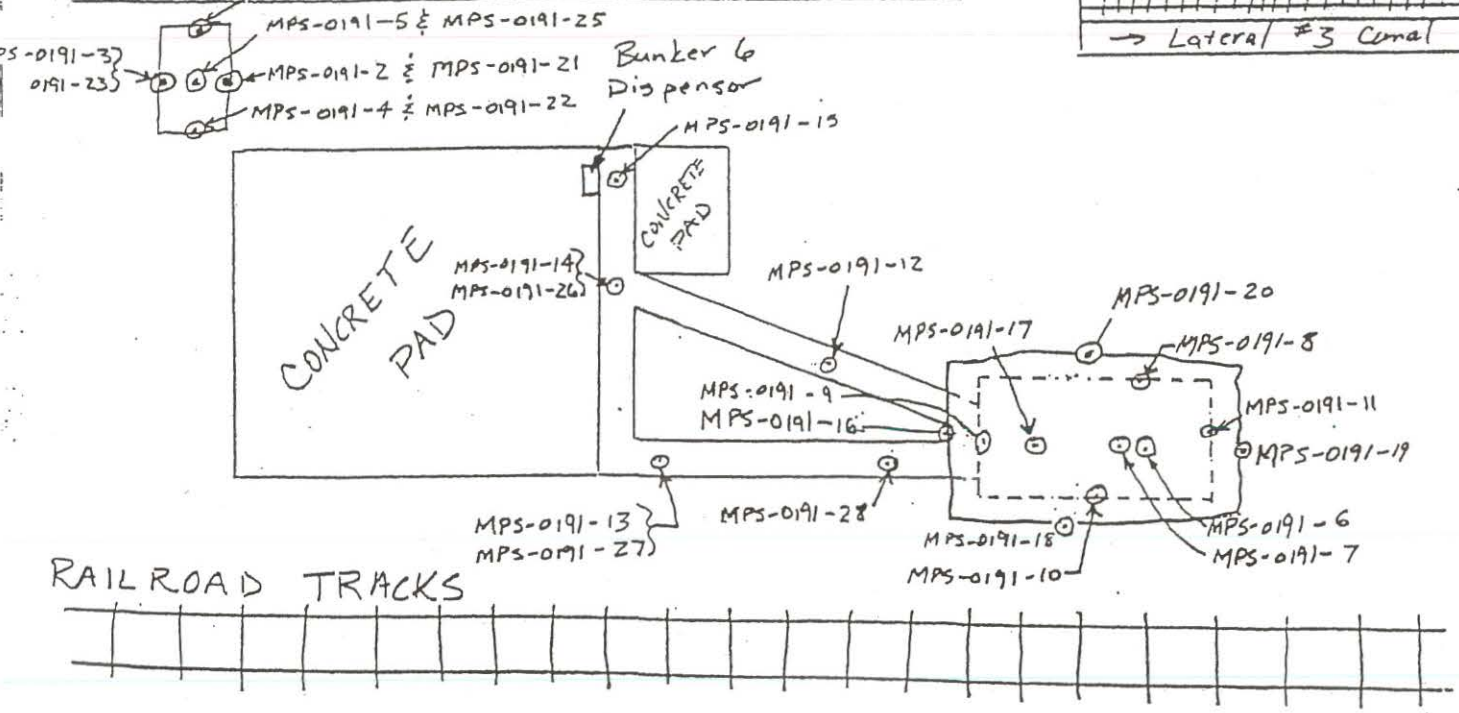
Soil texture and structures: Poorly sorted Yakima River Gravels up to 6" in diameter

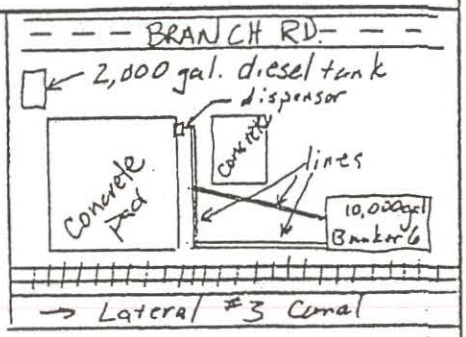
Visual contamination: Fuel lines & Bunker tank excavation Screening method: FID & TLC

SITE SKETCH

(Show tank locations, lines, dispenser(s) and sample locations.

North Direction





Compilation of Sampling

Samples descriptions are on reverse.

Depth to groundwater 9'

I certify that the work performed and sampling methods used meet regulatory requirements as set forth by the U.S. Environmental Protection Agency and the Washington State Department of Ecology.

REQUIRED SAMPLES

Display locations on site sketch

(15) Bunker fuel Dispenser 1 (two feet below pipe).
Analysis: 418.1 Depth: 3.
Headspace reading _____ ppm.

If there is more than one dispenser, include corresponding samples under Additional Sampling

(12) Fuel lines (first 50 feet of length).
Analysis: 418.1 Depth: 1.5'.
Headspace reading _____ ppm.

If there is more than 50 ' of lines, include corresponding samples under Additional Sampling

ADDITIONAL SAMPLING

(1) North wall, diesel tank
Analysis: 8015 Depth: 5'.
Headspace reading ND ppm.

(2) East wall, diesel tank
Analysis: 8015 Depth: 5'.
Headspace reading ND ppm.

(3) West wall, diesel tank
Analysis: 8015 Depth: 5'.
Headspace reading ND ppm.

(4) South wall, diesel tank.
Analysis: 8015 Depth: 5'.
Headspace reading ND ppm.

(5) Base of diesel tank.
Analysis: 8015 Depth: 7'.
Headspace reading ND ppm.

(6) Groundwater, Bunker Fuel tank
Analysis: 418.1 Depth: 9'.
Headspace reading _____ ppm.

(7) Base of Bunker Tank.
Analysis: 418.1 Depth: 8 1/2'.
Headspace reading _____ ppm.

(8) North wall, Bunker Tank
Analysis: 418.1 Depth: 8'.
Headspace reading _____ ppm.

(9) West wall, Bunker Tank
Analysis: 418.1 Depth: 5'.
Headspace reading _____ ppm.

(10) South wall, Bunker Tank
Analysis: _____ Depth: _____.
Headspace reading _____ ppm.

(11) East wall, Bunker Tank.
Analysis: 418.1 Depth: 10'.
Headspace reading _____ ppm.

(13) Fuel lines.
Analysis: 418.1 Depth: 1.5'.
Headspace reading _____ ppm.

(14) Fuel lines.
Analysis: 418.1 Depth: 2'.
Headspace reading _____ ppm.

(16) West wall, bunker tank after cleanup
Analysis: 418.1 Depth: 10'.
Headspace reading _____ ppm.

(17) W. Floor, bunker tank after cleanup
Analysis: 418.1 Depth: 11'.
Headspace reading _____ ppm.

(18) South wall, bunker tank after cleanup
Analysis: 418.1 Depth: 8'.
Headspace reading _____ ppm.

(19) East Wall, bunker tank after cleanup
Analysis: 418.1 Depth: 8'.
Headspace reading _____ ppm.

(20) North wall, bunker tank after cleanup
Analysis: 418.1 Depth: 8'.
Headspace reading _____ ppm.

(21) East wall, diesel tank after cleanup
Analysis: 8015 Depth: 9'.
Headspace reading _____ ppm.

(22) South wall, diesel tank after cleanup
Analysis: 8015 Depth: 9.
Headspace reading _____ ppm.

ADDITIONAL SAMPLING

West wall, diesel tank after cleanup
Analysis: 8015 Depth: 9'.
Headspace reading _____ ppm.

(24) North wall, diesel tank after cleanup
Analysis: 8015 Depth: 9'.
Headspace reading _____ ppm.

(25) Ground water, diesel tank excavation
Analysis: 8015 Depth: 10'.
Headspace reading _____ ppm.

(26) Fuel lines after cleanup
Analysis: 418.1 Depth: 3'.
Headspace reading _____ ppm.

(27) Fuel lines after cleanup
Analysis: 418.1 Depth: 3'.
Headspace reading _____ ppm.

(28) Fuel lines after cleanup
Analysis: 418.1 Depth: 3'.
Headspace reading _____ ppm.

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Analysis: _____ Depth: _____.
Headspace reading _____ ppm.

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Analysis: _____ Depth: _____.
Headspace reading _____ ppm.

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Headspace reading_____ ppm.

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Analysis:_____ Depth:_____.
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Analysis:_____ Depth:_____.
Headspace reading_____ ppm.

○ _____.
Analysis:_____ Depth:_____.
Headspace reading_____ ppm.

○ _____.
Analysis:_____ Depth:_____.
Headspace reading_____ ppm.

MTC

Analytical/Environmental Services

Materials Testing & Consulting, Inc

P.O. Box 309
Mount Vernon, WA 98273
(206)424-7560 - FAX (206)424-7550

WSDOH Laboratory #46092090

31

Client: White Shield Inc.
P.O. Box 477
Grandview , WA 98930

Date: 7/16/91
Reference: 91-0268

Attn: Ms. Debbie Chulos

Project: Sanofi Bio Ind

Data Report

Lab Number	Sample Description	ug/gm TPH	ng/gm Benzene	Toluene	Ethlybenzene	Xylenes
1-91-00783.0S	Composite of MPS-0191-1 and 2	38-D	<10	<10	<10	294
31-91-00784.0S	Composite of MPS-0191-3 and 4	<0.10	<10	<10	<10	<10
1-91-00786.0W	MPS-0191-6	<0.01	<1	<1	<1	<1
	* - Sample # 5 was broken upon receipt					
	Methods:					
	BTEX/TPH SW846 8020/8015mod.					
	G- Gasoline D-Diesel	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water
	Method Reporting Limit (MRL)	0.05/0.01	5/1	5/1	5/1	5/1
	Maximum Contamination Levels	100/1	500/5	20000/20	40000/40	20000/20

Kurt W. Larsen
Sr. Enviromental Chemist

MTC

Analytical/Environmental Services

Materials Testing & Consulting, Inc

WSDOH Laboratory #46092090

P.O. Box 309
Mount Vernon, WA 98273
(206)424-7560 - FAX (206)424-7550

31

Client: White Shield Inc.
P.O. Box 477
Grandview, WA 98930

Date: 7/15/91
Reference: 91-0268

Attn: Mr. Dave Green

Project: Sanofi Bio

Data Report

Lab Number	Sample Description	ug/gm TPH	ng/gm Benzene	Toluene	Ethlybenzene	Xylenes
31-91-00786.0W	MPS-0191-6	<5	-	-	-	-
31-91-00787.0S	MPS-0191-7	6839	-	-	-	-
31-91-00788.0S	MPS-0191-8	71	-	-	-	-
3 1-00789.0S	MPS-0191-9	316	-	-	-	-
31-91-00790.0S	MPS-0191-10	35	-	-	-	-
31-91-00791.0S	MPS-0191-11	21463	-	-	-	-
31-91-00792.0S	MPS-0191-12	53	-	-	-	-
31-91-00793.0S	MPS-0191-13	661	-	-	-	-
31-91-00794.0S	MPS-0191-14	2090	-	-	-	-
31-91-00795.0S	MPS-0191-15	13	-	-	-	-
	Methods: TPH 418.1					
		Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water
	Method Reporting Limit (MRL)	25/0.1	5/1	5/1	5/1	5/1
	Maximum Contamination Levels	200/1	500/5	20000/20	40000/40	20000/20

Larry J. Henderson by [illegible]
L.J. Henderson, PhD
Lab Director

MTC

Analytical/Environmental Services

Materials Testing & Consulting, Inc

P.O. Box 309
Mount Vernon, WA 98273
(206)424-7560 - FAX (206)424-7550

WSDOH Laboratory #46092090

31

Client: White Shield Inc.
P.O. Box 477
Grandview, WA 98930

Date: 7/15/91
Reference: 91-0269

Attn: Ms. Debbie Chulos

Project: Sanofi Bio Ind.

Data Report

Lab Number	Sample Description	ug/gm TPH	ng/gm Benzene	Toluene	Ethlybenzene	Xylenes
31-91-00796.0S	MPS-0191-16	88				
31-91-00797.0S	MPS-0191-18	171				
31-91-00798.0S	MPS-0191-19	<25				
31-91-00799.0S	MPS-0191-20	157				
	Methods: EPA 418.1					
		Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water
	Method Reporting Limit (MRL)	25/5.0	5/1	5/1	5/1	5/1
	Maximum Contamination Levels	200/1	500/5	20000/20	40000/40	20000/20

Larry J. Henderson
Lab Director

MTC

Analytical/Environmental Services

Materials Testing & Consulting, Inc

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Mount Vernon, WA 98273
(206)424-7560 · FAX (206)424-7550

WSDOH Laboratory #46092090

12

Client: White Shield Inc.
P.O. Box 477
Grandview, WA 98930

Date: 6/26/91
Reference: 91-0228

Attn: Mr. Dave Green

Project: Sanofi Bio

Data Report

Lab Number	Sample Description	ug/gm TPH	ng/gm Benzene	Toluene	Ethlybenzene	Xylenes
31-91-00696.OS	MPS-0191-21	<5	<25	<25	<25	<25
31-91-00697.OS	MPS-0191-22	<5	<25	<25	<25	<25
31-91-00698.OS	MPS-0191-23	<5	<25	<25	<25	<25
31-91-00699.OS	MPS-0191-24	<5	<25	<25	<25	<25
31-91-00700.OW	MPS-0191-25	<0.1	<1	<1	<1	<1
	Methods: BTEX/TPH SW846 8020/8015mod.					
	G- Gasoline D-Diesel	Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water
	Method Reporting Limit (MRL)	0.05/0.1	5/1	5/1	5/1	5/1
	Maximum Contamination Levels	100/1	500/5	20000/20	40000/40	20000/20

Kurt W. Larsen
Sr. Enviromental Chemist

MTC

Analytical/Environmental Services

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Mount Vernon, WA 98273
(206)424-7560 - FAX (206)424-7550

WSDOH Laboratory #46092090

31

Client: White Shield Inc.
P.O. Box 477
Grandview, WA 98930

Date: 7/15/91
Reference: 91-0297

Attn: Ms. Debbie Chulos

Project: Sanofi Bio Ind

Data Report

Lab Number	Sample Description	ug/gm TPH	ng/gm Benzene	Toluene	Ethlybenzene	Xylenes
31-91-00965.0S	MPS-0191-26	89				
31-91-00966.0S	MPS-0191-27	30				
31-91-00967.0S	MPS-0191-28	<25				
	Methods: EPA 418.1					
		Soil/Water	Soil/Water	Soil/Water	Soil/Water	Soil/Water
	Method Reporting Limit (MRL)	25/5.0	5/1	5/1	5/1	5/1
	Maximum Contamination Levels	200/1	500/5	20000/20	40000/40	20000/20

Larry J. Henderson by [illegible]
Larry J. Henderson
Lab Director

WHITE SHIELD INC.
P. O. BOX 477
GRANDVIEW, WA. 98930
(509) 882-1144
(509) 882-4566 FAX

CHAIN OF CUSTODY

PROJECT NAME Sanco Bio Industries
PROJECT # MPS-0191
DESTINATION MTC
SAMPLER D. Green
DATE 6-14-91 TIME

SAMPLE NUMBER	8015	418.1			
MPS-0191-1	X				
MPS-0191-2					
MPS-0191-3	X				
MPS-0191-4					
MPS-0191-5	X				
MPS-0191-6		X (Broken sample #5)			
MPS-0191-7		X			
MPS-0191-8		X			
MPS-0191-9		X			
MPS-0191-10		X			
MPS-0191-11		X			
MPS-0191-12		X			
MPS-0191-13		X			
MPS-0191-14		X			
MPS-0191-15		X			

PLEASE COMPOSITE SAMPLES MPS-0191-1 and MPS-0191-2

PLEASE COMPOSITE SAMPLES MPS-0191-4 and MPS-0191-3

19 Samples 6-15- Bunker #6

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
11.	12.	13.	14.
DATE 6/17/91 TIME 3:30	DATE TIME	DATE 6/17 TIME 6:45	DATE 6-17 TIME 8:30p
RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)
11.	12.	13.	14.
DATE 6-17-91 TIME 3:30	DATE TIME	DATE 6-17 TIME 6:45	DATE 6-17-91 TIME 20:00
METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY (SIGN)	DATE 6/18 TIME 10:02a
HAND CARRIED	HAND CARRIED		

ICN 91-0268

WHITE SHIELD INC. P. O. BOX 477 GRANDVIEW, WA. 98930 (509) 882-1144 (509) 882-4566 FAX	CHAIN OF CUSTODY	PROJECT NAME Sanofi BS Industries PROJECT # MPS-0191 DESTINATION MTC SAMPLER D. Chulos DATE 6-18-91 TIME 7 am

SAMPLE NUMBER	ANALYSIS REQUESTED												
	418.1												
MPS-0191-16	X												
MPS-0191-17	X	CANCEL PER D. CHULOS											
MPS-0191-18	X												
MPS-0191-19	X												
MPS-0191-20	X												

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
1. D. Chulos	2. [signature]	3. [signature]	4.
DATE 6/18/91 TIME 5:45	DATE 6/18 TIME [illegible]	DATE 6/18 TIME 8:30p	DATE TIME
RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)
1. [signature]	2. [signature]	3.	4.
DATE 6/18 TIME 5:45	DATE 6/18 TIME 6:45p	DATE TIME	DATE TIME
METHOD OF SHIPMENT HAND CARRIED	SHIPPED BY (SIGN) [signature]	RECEIVED FOR LABORATORY (SIGN)	DATE TIME

APPENDIX B

WHITE SHIELD INC.	CHAIN OF CUSTODY	PROJECT NAME Sandoz Bio Industries
P. O. BOX 477		PROJECT # MPS-0191
GRANDVIEW, WA. 98930		DESTINATION MJC
(509) 882-1144		SAMPLER Dave Sinclair
(509) 882-4566 FAX		DATE 6-21-91 TIME 10 A.M.

SAMPLE NUMBER	ANALYSIS REQUESTED 8015												
MPS-0191-21	X												
MPS-0191-22													
MPS-0191-23	PLEASE COMPOSITE THESE FOUR SOIL SAMPLES												
MPS-0191-24													
MPS-0191-25	X												

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
1. D. Sinclair	2.	3.	4.
DATE 6-21-91 TIME 5:35	DATE 6/21 TIME	DATE 6-21 TIME 9:15p	DATE TIME
RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)
1.	2.	3.	4.
DATE 6-21-91 TIME 5:35	DATE 6-21 TIME 7:30p	DATE TIME	DATE TIME
METHOD OF SHIPMENT HAND CARRIED	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY (SIGN)	DATE 6/23/91 TIME 8:[illegible]

WHITE SHIELD INC.
P. O. BOX 477
GRANDVIEW, WA. 98930
(509) 882-1144
(509) 882-4566 FAX

CHAIN OF CUSTODY

PROJECT NAME Sandoz Bio Industries
PROJECT # MPS:0191
DESTINATION MTC
SAMPLER D. Douglas
DATE 7-29-91 TIME 2:00 pm

SAMPLE NUMBER	ANALYSIS REQUESTED 418.1	/	/	/	/	/	/	/	/	/	/	/	/
MPS:0191:26	X												
MPS:0191:27	X												
MPS:0191:28	X												

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
1. D. Douglas	2. [illegible]	3.	4.
DATE 7-29 TIME 6:15	DATE 7/29 TIME 6:15	DATE TIME	DATE TIME
RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)	RECEIVED BY (SIGN)
1. [illegible]	2.	3.	4.
DATE 7/29 TIME 6:15	DATE TIME	DATE TIME	DATE TIME
METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY (SIGN)	DATE 7/02 TIME 9:35a
Hand	[illegible]	[illegible]	91-0297

APPENDIX C

Action Levels for Petroleum Releases

Indicator Constituent	CAS Number[1]	Groundwater Action Level	Soil Action Level
Benzene	71-43-2	1 µg/L[2,4]	0.5 mg/kg[3]
Ethylbenzene	100-41-4	30 µg/L	20 mg/kg
Toluene	108-88-3	40 µg/L	40 mg/kg
Xylene	1330-20-7	20 µg/L	20 mg/kg
TPH (gasoline)	—	1,000 µg/L	100 mg/kg
TPH (other than gasoline)	—	1,000 µg/L	200 mg/kg
Lead	7439-92-1	5.0 µg/L	250 mg/kg

1 CAS number is the Chemical Abstracting Service number; "—" means no CAS number has been defined for these constituents.
2 µg/L can also be expressed as ppb.
3 mg/kg can also be expressed as ppm.
4 Groundwater quality based criteria (Chapter 173-200 WAC).

TANK INFORMATION

1. Tank ID Number (as registered with Ecology): not registered
2. Year installed: unknown
3. capacity in gallons: 2000
4. Last substance stored: diesel

REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

- ____ Investigate suspected release due to on-site environmental contamination
- ____ Investigate suspected release due to off-site environmental contamination
- ____ Extend temporary closure of UST system for more than 12 months
- ____ UST system undergoing change-in-service
- ____ UST system permanently closed-in-place
- ✓ UST system permanently closed with tank removed
- ____ Required by Ecology or delegated agency for UST system closed before December 22, 1988
- ____ Other (describe): ____

CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.

	Yes	No
Has the site check/site assessment been conducted according to applicable procedures specified in the UST site check/site assessment guidance issued by the Department of Ecology?	DC	
Has a release from the UST system been confirmed? *NOTE: Owners/operators must report all confirmed releases to the Department of Ecology or delegated agency within 24 hours.*	DC	
Are the results of the site check/site assessment enclosed with this checklist? *NOTE: Two copies of the site check/site assessment results must be submitted to the Department of Ecology according to the reporting requirements specified in the UST site check/site assessment guidance.*	DC	

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

6-18-91
Date

Debbie Chulos
Signature of Person Registered with Ecology

OWNER'S SIGNATURE

6-18-91
Date

Mark R. Meyer
Signature of Tank Owner or Authorized Representative

Site Check/Site Assessment Checklist

purpose of this form is to certify the proper investigation of an UST site for the presence of a release. These activities . b nducted in accordance with Chapter 173.360 WAC. A description of the various situations requiring a site k te assessment is provided in the guidance document for UST site checks and site assessments.

. Site Check/Site Assessment Checklist shall be completed and signed by a person registered with the Department of logy to perform site assessments.

. copies of the results of the site check or site assessment should be included with this checklist according to the re- ing requirements in the guidance document for UST site checks and site assessments.

further information about completing this form, please contact the Department of Ecology UST Program.

completed checklist should be mailed to the following address:

Underground Storage Tank Section
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

ST SYSTEM OWNER AND LOCATION

)wner/Operator: SANOFI BIO-INDUSTRIES

rs Address: 5661 BRANCH RD
Street — P.O. Box

WAPATO — WA — 98951
City — State — ZIP-Code

one: (509) 877-6111

Number (on invoice or available from Ecology if tank is registered): not registered

usiness Name: SAME AS ABOVE

ldress:
Street — County

City — State — ZIP-Code

TE CHECK/SITE ASSESSMENT CONDUCTED BY:

ered Person: Debbie Chulos

ss: 246 Division — PO Box 477
Street — P.O. Box

Grandview — WASHINGTON — 98930
City — State — ZIP-Code

(509) 882-1144

UNDERGROUND STORAGE TANK
Site Check/Site Assessment Checklist

purpose of this form is to certify the proper investigation of an UST site for the presence of a release. These activities l b nducted in accordance with Chapter 173-360 WAC. A description of the various situations requiring a site ite assessment is provided in the guidance document for UST site checks and site assessments.

Site Check/Site Assessment Checklist shall be completed and signed by a person registered with the Department of logy to perform site assessments.

copies of the results of the site check or site assessment should be included with this checklist according to the re- ing requirements in the guidance document for UST site checks and site assessments.

further information about completing this form, please contact the Department of Ecology UST Program.

completed checklist should be mailed to the following address:

Underground Storage Tank Section
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711

ST SYSTEM OWNER AND LOCATION

wner/Operator: SANOFI BIO-INDUSTRIES

dress: 5661 BRANCH RD
Street P.O. Box

WAPATO WA 98951
City State ZIP-Code

one: (509) 877-6111

Number (on invoice or available from Ecology if tank is registered): not registered

siness Name: SAME AS ABOVE

dress:
Street County

City State ZIP-Code

E CHECK/SITE ASSESSMENT CONDUCTED BY:

red Person: Debbie Chulos

ss: 246 Division Po Box 477
Street P.O. Box

Grandview Washington 98930
City State ZIP-Code

(509) 882-1144

3. TANK INFORMATION

1. Tank ID Number (as registered with Ecology): not registered
2. Year installed: unknown
3. Tank capacity in gallons: 10,000
4. Last substance stored: Bunker #6

4. REASON FOR CONDUCTING SITE CHECK/SITE ASSESSMENT

Check one:

- ____ Investigate suspected release due to on-site environmental contamination
- ____ Investigate suspected release due to off-site environmental contamination
- ____ Extend temporary closure of UST system for more than 12 months
- ____ UST system undergoing change-in-service
- ____ UST system permanently closed-in-place
- ✓ UST system permanently closed with tank removed
- ____ Required by Ecology or delegated agency for UST system closed before December 22, 1988
- ____ Other (describe): ____

5. CHECKLIST

Each item of the following checklist shall be initialed by the person registered with the Department of Ecology whose signature appears below.

	Yes	No
1. Has the site check/site assessment been conducted according to applicable procedures specified in the UST site check/site assessment guidance issued by the Department of Ecology?	DC	
2. Has a release from the UST system been confirmed? *NOTE: Owners/operators must report all confirmed releases to the Department of Ecology or delegated agency within 24 hours.*	DC	
3. Are the results of the site check/site assessment enclosed with this checklist? *NOTE: Two copies of the site check/site assessment results must be submitted to the Department of Ecology according to the reporting requirements specified in the UST site check/site assessment guidance.*	DC	

I hereby certify that I have been in responsible charge of performing the site check/site assessment described above. Persons submitting false information are subject to penalties under Chapter 173.360 WAC.

6-18-91
Date

Debbie Charles
Signature of Person Registered with Ecology

OWNER'S SIGNATURE

6-18-91
Date

Mark R Meyer
Signature of Tank Owner or Authorized Representative

NOTICE OF PERMANENT CLOSURE OF UNDERGROUND STORAGE TANK(S)

Site Owner/Operator: Sanofi Bio-Industries
Site Address: 5661 Branch Rd.
Telephone: (509) 877-6111

Site Notification Number (If known; this is assigned by Ecology): —
Tank has been registered with Ecology (__); tank was not registered (X).

Local closure permit (if any) obtained from: None
(Always contact local authorities regarding permit requirements.)

Tank closure performed by:
Company/Individual: Major Petroleum Service Co./Gilbert Jones
Telephone: (509) 586-1861 Date of Tank Closure: June 13, 1991
Method of Closure: (X) Removal (__) In-Place Closure
If closed in place, type of fill material used: ____

If removed, how will the tank(s) be disposed of? (__) Scrap (__) Landfill
(X) Other method (please specify: Unknown
Disposal Location: ____

Tank(s) Closed

Tank ID Number	Age	Size	Last Material Stored
1	?	2,000 gal	Diesel
2	?	10,000 gal	Bunker C

Will the tanks be replaced by new underground tanks? (__) Yes (X) No
(NOTE: If YES, you need to submit a notification form for the new tanks.)

Was a site assessment completed? (X) Yes (__) No If so, was contamination found? (X) Yes (__) No

(NOTE: The appropriate regional office of the Washington Department of Ecology should be contacted for assistance if contamination is found (see attached map). Records of the site closure must also be maintained at the site and must be available upon an inspector's request for at least three years after closure.)

Inspecting Agency: None Inspector Name: None
(NOTE: This is generally the local fire department or agency enforcing the Uniform Fire Code; in some cases (usually involving contamination) it may be Ecology. In some instances there may be no inspecting agency.)

Signature: David Green Date: July 18, 1991
Title: Engineering Geologist

Please return the completed form to:

Storage Tank Unit
Department of Ecology
M/S PV-11
Olympia, WA 98504-8711

SANOFI BIO-INDUSTRIES, INC.
FLAVOR & FRUIT DIVISION
5661 BRANCH ROAD
WAPATO, WASHINGTON 98951
TEL: (509) 877-6111 · FAX: (509) 848-2259

sanofi
BIO-INDUSTRIES

FAX TRANSACTION Fax #: (509) 848 2259 Phone #: (509) 877 6111

To: BETH VOELKER Company: JUB ENG

Fax #: 736-0790 Date: 4/5/93

From: MARK R. MEYER Total Pages 2

(including cover sheet)

If transaction is incomplete please call _____

NOTICE OF UNDERGROUND STORAGE TANK REMOVAL / CLOSURE

Site Owner/Operator: SANOFI BIO-INDUSTRIES
Site Address: 5661 BRANCH RD WAPATO, WA 98951
Telephone: (509) 877-6111

Tank(s) was previously (✓) Registered ( ) Never Registered
Facility ID (Notification) Number: 4260003-233

Removal / Closure Performed by:
Company: MAJOR PETROLEUM SERVICE Telephone: ( )
Date of closure:
Method of Closure: (✓) Removal ( ) In-place Closure
If closed in-place, type of fill used:

How will old tank(s) be disposed of? ( ) Scrap
( ) Landfill
(✓) Other (specify) GIVEN TO
Disposal Location: LOCAL FARMER HAMLEY HALE (509) 848-2679

TANKS REMOVED OR CLOSED:

Tank ID #	Age	Size	Last Material Stored
1	21-30	2000	DIESEL
2	21-30	10,000	P.S. 300 OIL
4	16-20	300	* HEATING OIL - WEST SIDE OF OFFICE
7	16-20	1,000	HEATING OIL (DIESEL)

Will tanks be replaced by new underground tanks? ( ) Yes (✓) No
(Note: If Yes, you must submit a notification form for the new tanks.)

Was closure inspected by any local or EPA officials?
Inspecting Agency: _____ Inspector name: _____

Site assessment was completed and ( ) No contamination was found
(✓) Contamination was found*

* Note: EPA regulations do not establish any contaminated soil criteria. If any laboratory analyses indicate more than 200 ppm total petroleum hydrocarbons in a soil sample, contact the nearest EPA Operations office (below) to discuss your results.

* SITE ASSESSMENT REPORT FOR UNDERGROUND TANKS ATTACHED.

Signature: Mark R. Meyer Date: 29 AUG 91

* - 300 gallon tank was located on the "EAST SIDE of the House/office Building" per Gilbert Jones of Major Petroleum. It is believed that "the tank was exempt" and therefore, they did not prepare closer documentation on it.

TOTAL P.02