PORSF
11.3.245.1V62

BRIDGEWATER GROUP, INC. TRANSMITTAL

To: Tom Zelenka
SAC

From: Bill Cobb

Attn:

Date: September 14, 2000

Re:

We Are Sending You:

✓ Attached	Under separate cover via	
Shop Drawings	Documents	Tracings
Prints	Specifications	Catalogs
Copy of letter	Other:	

Quantity	Description
1	Memo re: Northwest Terminal
1	Response to DEQ request for additional info on Premier

If material received is not as listed, please notify us at once

Remarks: 1 set for your files

Copy To: Ater Wynne got 2 sets (1 for DEQ)

USEPA SF
1336483

DOCUMENT2

1

SCHN00259739

Additional Evaluation of Northwest Terminal Tanks - Premier Edible Oils

TO: Claudia K. Powers/Ater Wynne LLP
Charlie Ford/SIC

FROM: Bill Cobb

DATE: September 13, 2000

Summary

This memorandum presents additional information from the Oregon Historical Society regarding the presence of the Northwest Oil Company tank farm on the southern portion of the former Premier Edible Oils property from February 1941 until December 1943. No information has been obtained regarding the operational or waste management practices at the facility. However, a release of oil occurred when the tanks were moved from the south side of the slip in February 1941, suggesting that releases could have occurred at this location.

The preponderance of evidence gathered from the Oregon Historical Society, and augmented by Chain of Title information, indicates that Northwest Oil Company operated for almost 3 years on the former Premier Edible Oils site. As such, the former tank farm is a potential source area that the Department of Environmental Quality (DEQ) will likely require be investigated as part of a Remedial Investigation conducted under the Voluntary Cleanup Program. As part of the tank farm investigation, it is likely that DEQ will request historical information regarding operational practices, stored materials, and possible spills or releases during Northwest Oil Company's occupancy of the site. This information is relevant in evaluating the potential source(s) of the floating petroleum hydrocarbons in monitoring well MW-2, which is located on the western edge of the former tank farm.

Historical Photograph Review

Bridgewater Group has obtained a series of photographs from the Oregon Historical Society that documents the conditions north of the slip during World War II. In addition, a 1942 map of the Oregon Shipyard operations was obtained. This information was evaluated in conjunction with 1939 and 1944 photographs of the site that have been previously provided to DEQ and a 1944 map of the Oregon Shipyard Company facility. The photographs and maps indicate the following:

- Bridgewater Group's August 30, 2000 memorandum was in error when it stated that the Northwest Oil Company facility was moved by Northwest Oil Company employees to its current location, which is north of and adjacent to the former Premier Edible Oils site, in February 1941 (page 11 of *Oregonship*). The text indicates that Northwest Oil Company was to "settle on the north side of what was to

be the Outfitting Basin." In absence of additional photographs, it was mistakenly concluded that the 1944 photographs showing the current location of the Northwest Terminal facility was the location described in the text. However, additional photographs have been found which document that Northwest Oil Company relocated to the north side of the slip in 1941 and then moved to its current location in late 1943.

- Oregon Historical Society Photograph #OrHi 89425, dated June 1941, documents the presence of the Northwest Oil Company facility immediately north of the slip. There are seven tanks in this photograph, plus some small adjacent buildings that appear associated with the tank farm. The Northwest Oil Company facility appears to be the primary, if not the only, industrial activity on the north side of the slip at that time. The photograph also documents the presence of a loading dock along the Willamette River, immediately north of the slip, which was associated with the Northwest Oil Company facility.

- Oregon Historical Society photograph #OrHi 68781 documents the presence of the Northwest Oil Company facility immediately north of the slip. The ship in the photograph appears to be the Star of Oregon, which was launched in August 1941. No additional industrial activity on the north side of the slip is apparent in this photograph.

- A July 15, 1942 map of the Oregon Shipbuilding Corporation facility shows the facility boundary on the north side of the slip that excludes the location of the Northwest Oil Company facility. The exclusion of this parcel indicates that the tank farm was a separate parcel from the Oregon Shipbuilding Corporation and not associated with shipbuilding activities. This map was included in a U.S. War Manpower Commission report published in 1943 titled *A Survey of Shipyard Operations in the Portland, Oregon Metropolitan Area: with emphasis on the use of manpower, facilities, and materials* by G.L. Harding.

- Oregon Historical Society photograph #OrHi 49685 documents the presence of the Northwest Oil Company facility immediately north side of the slip (Outfitting Basin). There are seven tanks in this photograph and the Willamette River dock is still present north of the slip. In the upper left corner of the photograph, the construction of the barracks can be seen. Based on information presented in *Oregonship*, the barracks were constructed starting July 1943 (page 81 indicates that fill activities started in July) and had its first occupants on January 9, 1944. Thus, photograph #OrHi 49685 was likely taken during early fall 1943.

- A 1944 aerial photograph, which was included in Bridgewater Group's October 1998 Focused Site Characterization Report and previously provided to DEQ, shows the former Northwest Oil Company facility has been moved to its current location. The there are thirteen tanks present in the photograph.

- A December 14, 1944 map of the Oregon Shipbuilding Corporation facility, which was included in Bridgewater Group's October 1998 Focused Site Characterization Report (also provided to DEQ), shows that the former Northwest Oil Company facility has been moved to its current location and is labeled as Northwest Oil Company. The former tank farm is shown to be occupied by the Boiler Erection building, Fire Brick Storage building, Coke Storage bin, Paint Storage building, and Cable Storage

building. Thus, these structures were present on the former Premier Edible Oils site from early 1944 until Oregon Shipbuilding Corporation ceased operation in fall 1945.

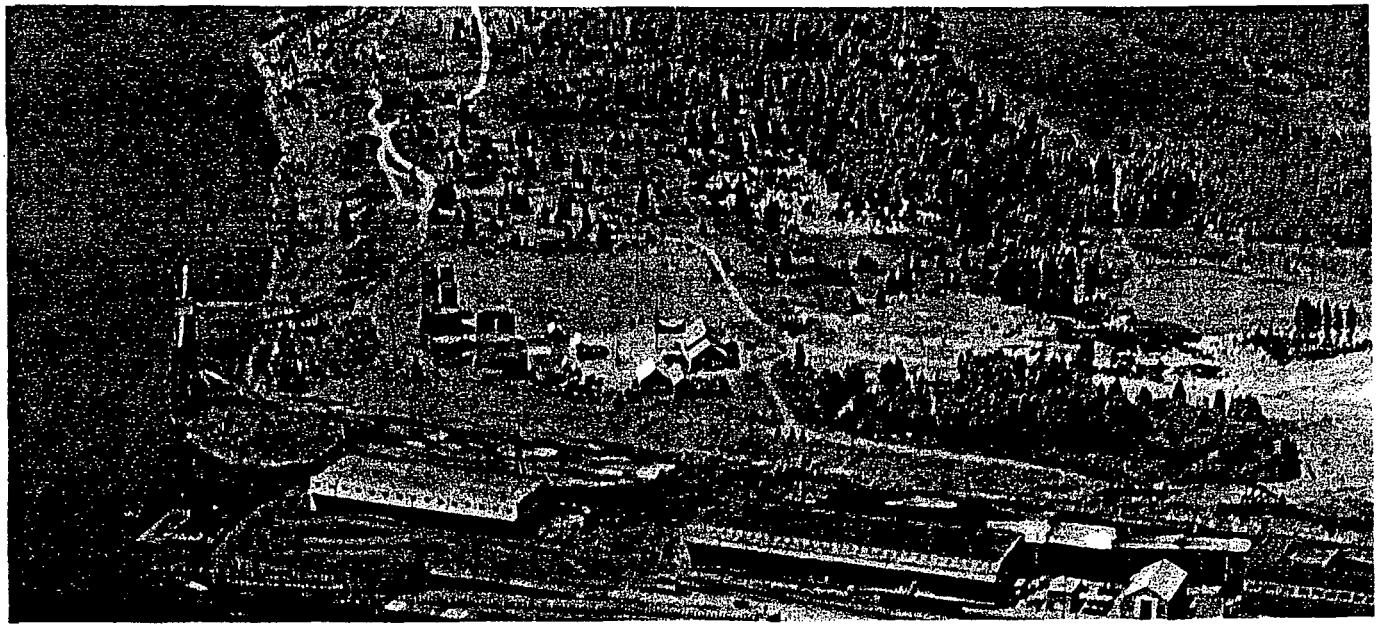
- Oregon Historical Society photograph #OrHi 81042 documents the current location of Northwest Oil Company. The photograph, which shows the completed barracks, was taken sometime between January 9, 1944 and August 1945 (the shipyard caught fire on August 30, 1945). This photograph also shows thirteen tanks present at the Northwest Oil Company facility and several of the tanks appear to be the same tanks shown in photograph #OrHi 49685.

The photographs and maps provide significant information that documents the nearly three-year occupation of the former Premier Edible Oils site by Northwest Oil Company. No information has been obtained from the Oregon Historical Society regarding operations of the former tank farm. As previously noted in Bridgewater Group's August 30, 2000 memorandum, there was an oil spill when the tanks were drained in 1941 at the former tank farm location south of the slip (the tanks were drained by Northwest Oil Company personnel). Thus, it is possible that the same personnel and operating practices could have resulted in a release on the former Premier Edible Oils facility.

Chain of Title Review

The Chain of Title for the former Premier Edible Oil, attached to this memorandum, indicates that Northwest Terminal Company acquired this parcel on February 11, 1941 and transferred ownership on December 11, 1943. Based on the Oregon Historical Society photographs, Northwest Terminal Company occupied this location during these dates. On the same date, there is a Release Deed between Northwest Oil and Northwest Terminal Company and a series of consolidation purchases by Oregon Shipbuilding Corporation to enable expansion of the shipyard.

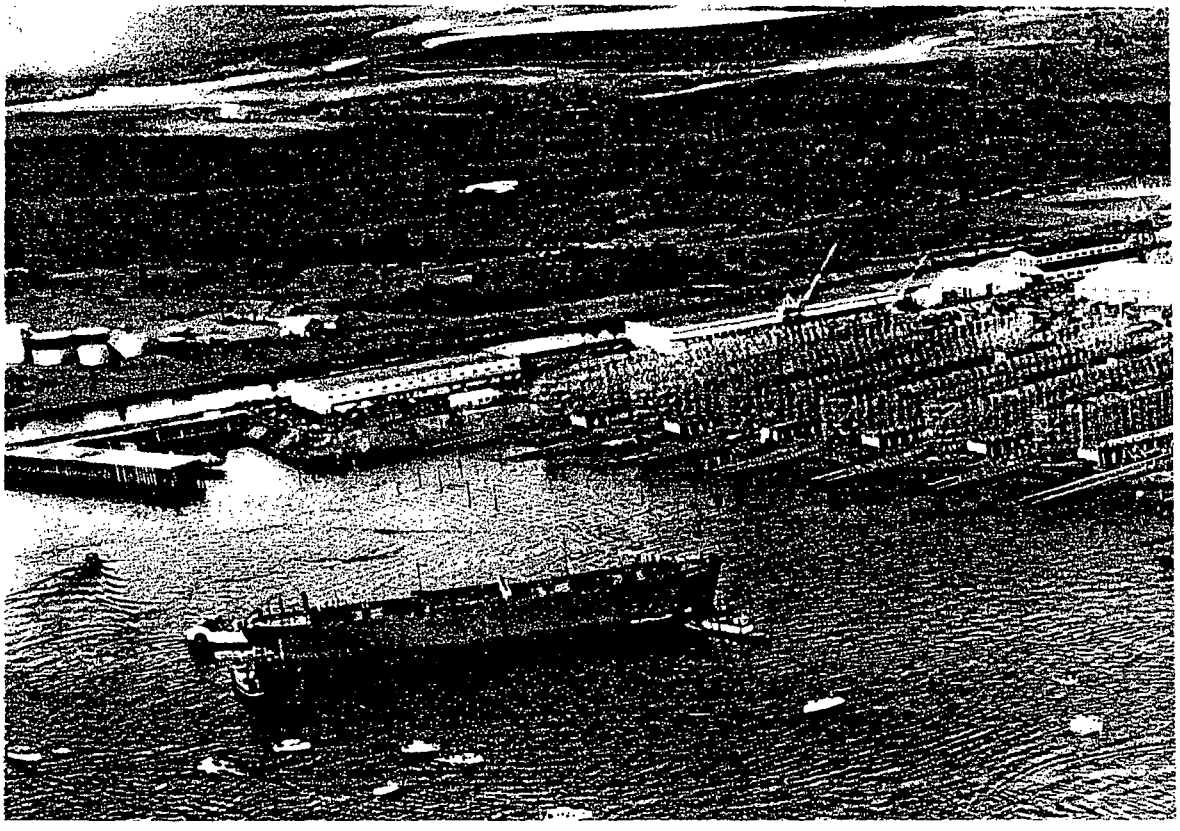
The dates listed in the Chain of Title are consistent with the information in *Oregonship* regarding the relocation of Northwest Oil Company from the Oregon Shipbuilding Company property to the area immediately north of the slip. The December 11, 1943 date that Northwest Terminal Company sells the property is consistent with the aerial photographs and site maps from 1944.



Photograph #OrHi 89425

BRIDGEWATER GROUP, INC.

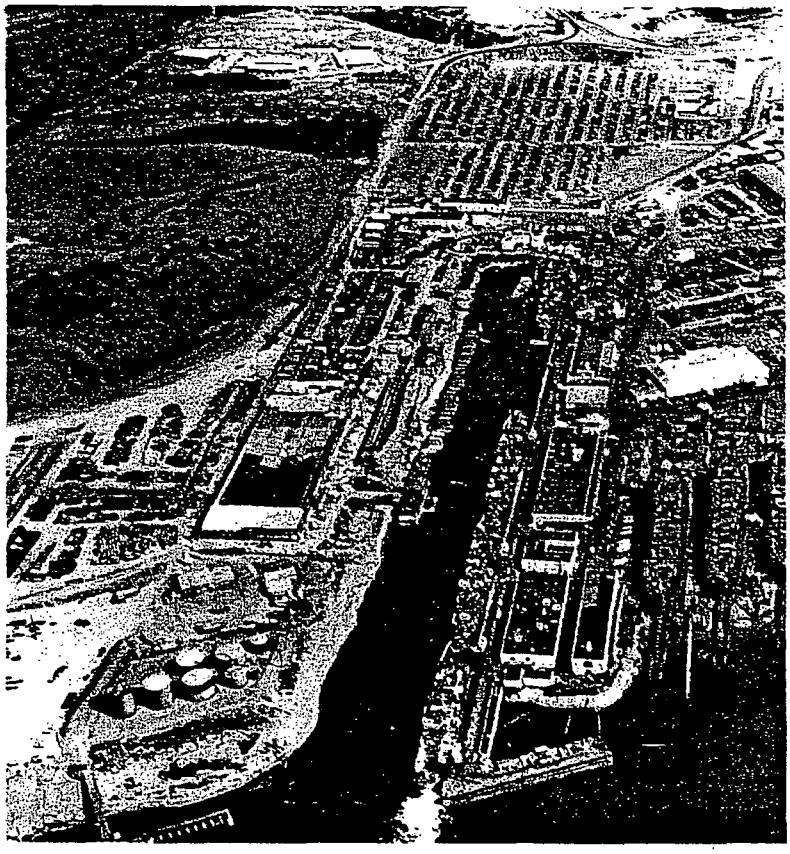
SCHN00259743



Photograph #OrHi 68781

BRIDGEWATER GROUP, INC.

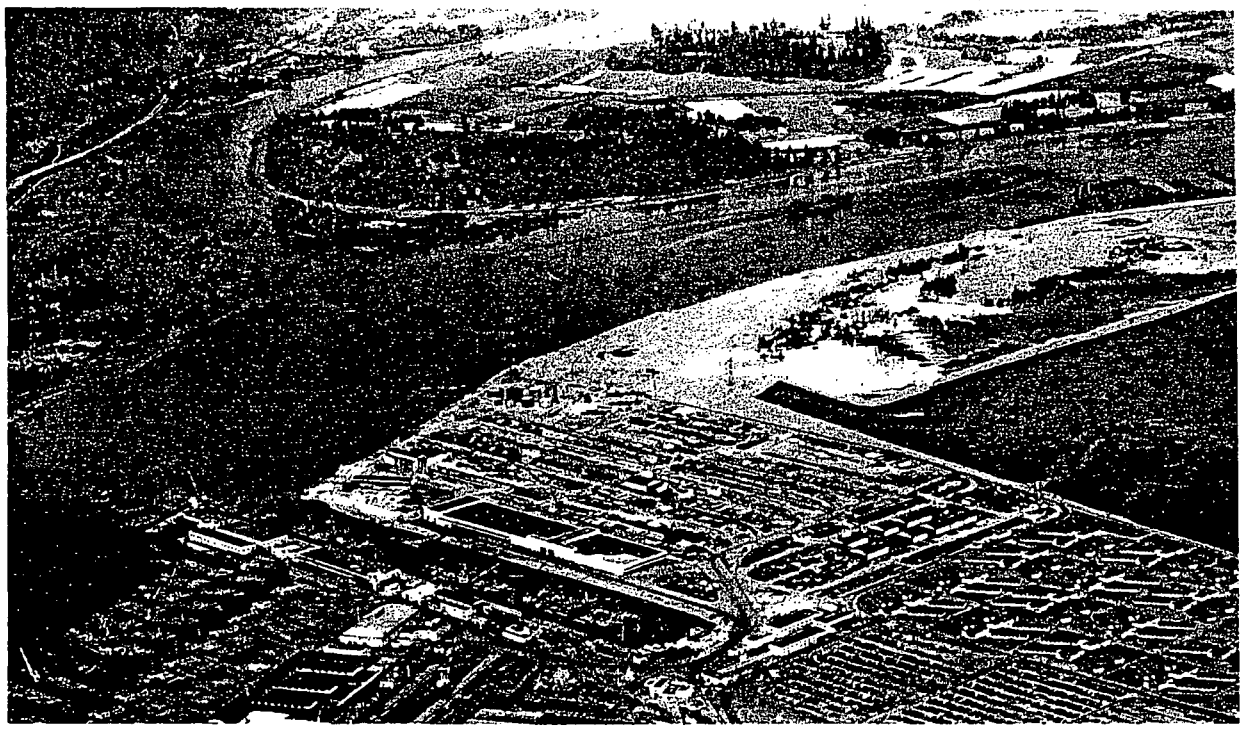
SCHN00259744



Photograph #OrHi 49685

BRIDGEWATER GROUP, INC.

SCHN00259745



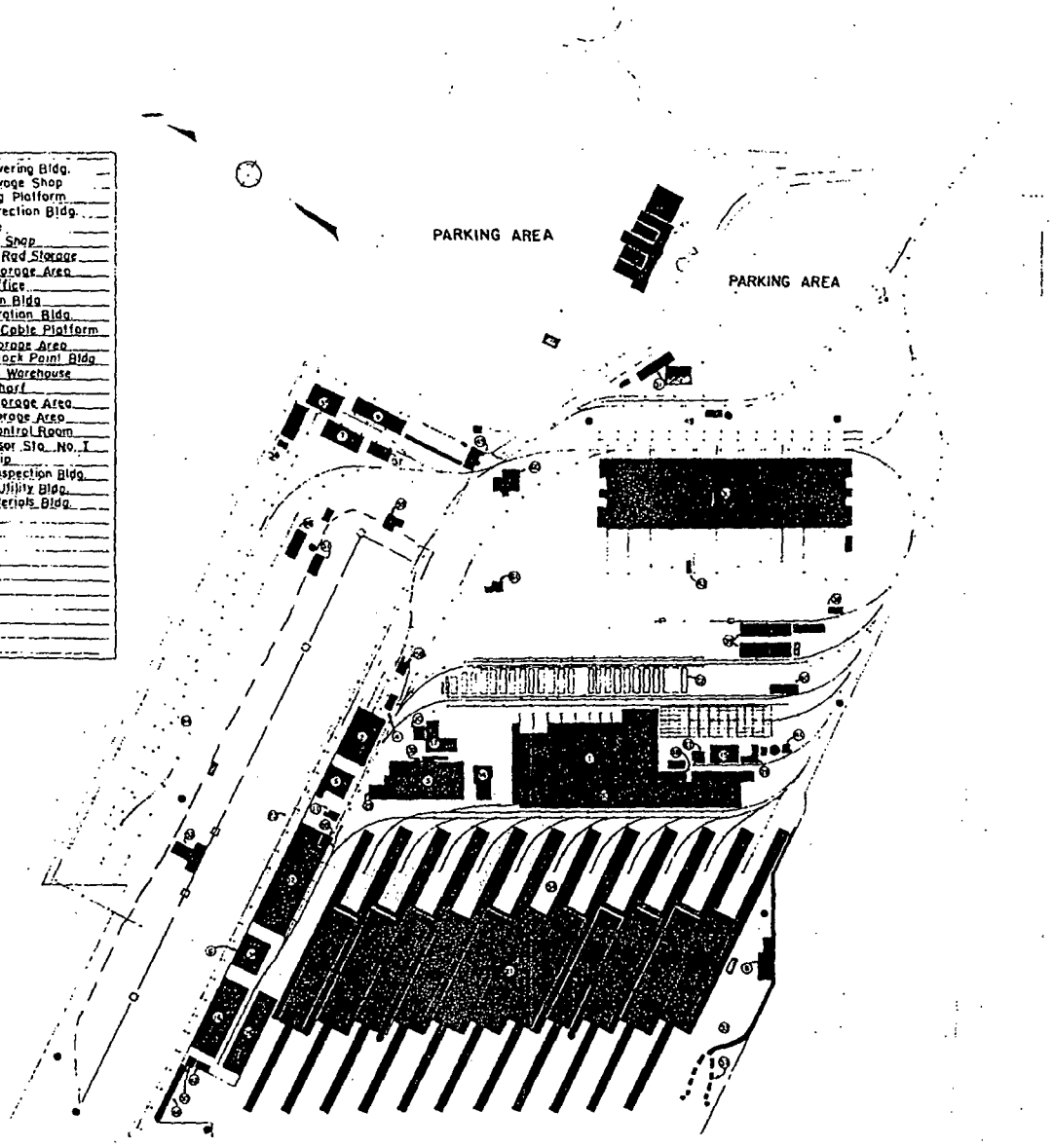
Photograph #OrHi 81042

BRIDGEWATER GROUP, INC.

SCHN00259746

SCHN00259747

1	Plate Shop	37	Deck Covering Bldg.
2	Machine Shop	38	Bolt Salvage Shop
3	Mold Loft	39	Unloading Platform
4	Blacksmith Shop	40	Boiler Erection Bldg.
5	Dock Pipe Shop	41	Oil House
6	Electrical Shop	42	Asbestos Shop
7	Sheet Metal Shop	43	Welding Rod Storage
8	Carpenter Shop	44	North Storage Area
9	Rigging Loft	45	Guard Office
10	Oxygen Storage	46	Trial Run Bldg
11	Acetylene Bldg. No. I	47	Administration Bldg.
12	General Stores	48	Electric Cable Platform
14	Field Office	49	East Storage Area
15	South Point Storage Bldg.	50	Fitting Dock Point Bldg
16	Fitting Stores	51	Facilities Warehouse
17	Safety Building & Hosp.	52	North Wharf
18	Substations	53	South Storage Area
60	General Stores Annex	54	Ways Storage Area
20	Assembly Bay	55	Radio Control Room
21	Building Ways	56	Compressor Sta. No. I
22	Plate Yard	57	Ferry Slip
23	Fitting Dock	58	Engine Inspection Bldg.
24	Railroad	59	General Utility Bldg.
25	Yard General	61	Hull Materials Bldg.
26	Main Pipe Shop		
27	Acetylene Bldg. No. II		
28	Compressor Sta. No. II		
29	Garage		
30	Assembly Bldg.		
31	Service Bldg.		
32	Battery Storage Bldg.		
34	Outfitting Office Bldg.		
35	Joiner Bldg.		
36	Mast & Boom Erection		



CONSTRUCTION NOT STARTED

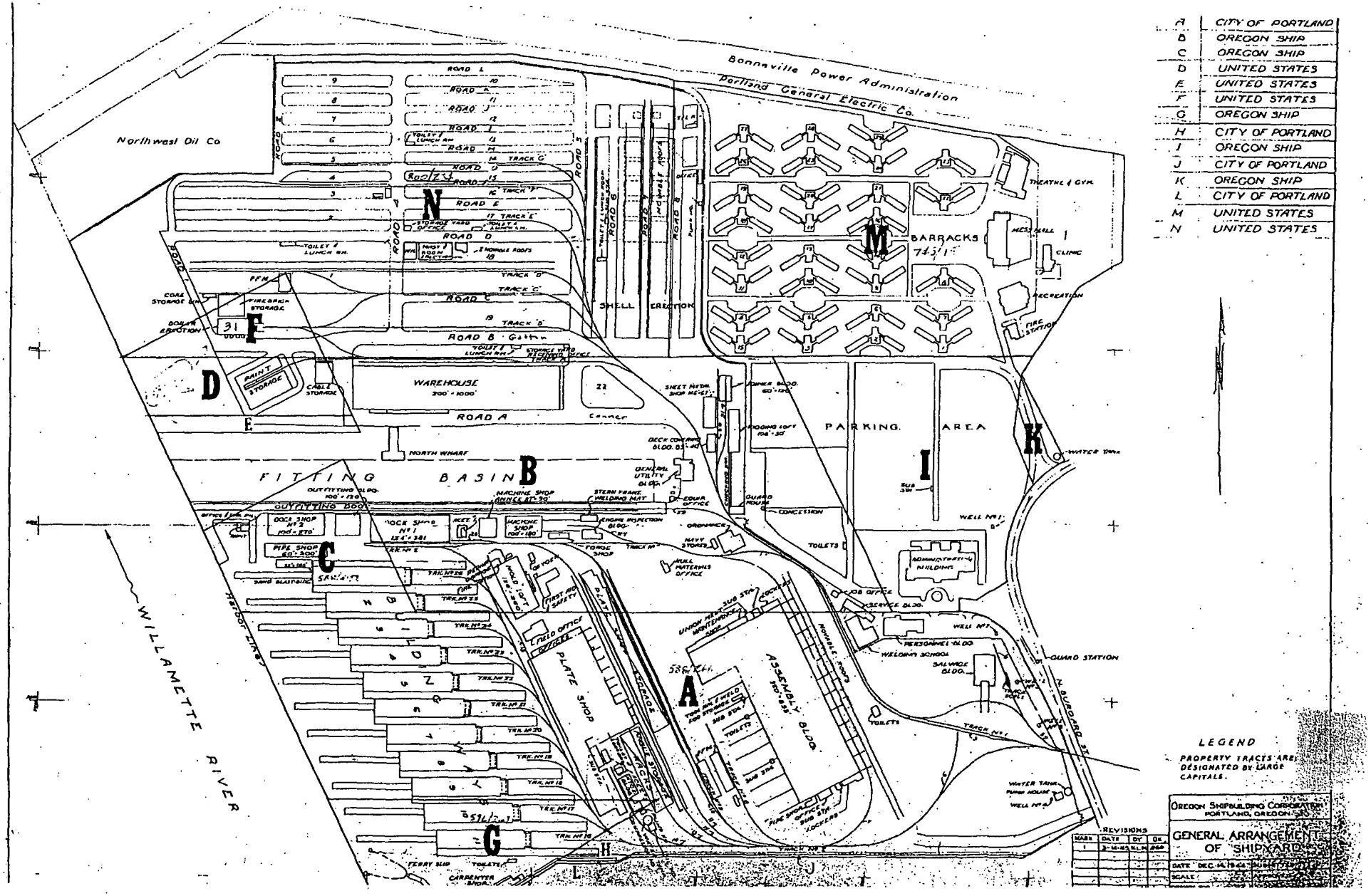
PILING DRIVEN FOUNDATIONS

UNDER CONSTRUCTION

CONSTRUCTION COMPLETED

UNDER RECONSTRUCTION

REVISIONS				OREGON SHIPBUILDING CORPORATION PORTLAND OREGON
	DATE	BY		FACILITIES PROGRESS REPORT
	7-30-42	W.J.		
	8-15-42	W.J.		
	8-30-42	W.J.		
	[illegible]	[illegible]		DATE JULY 15, 1942 — SUBMITTED
	9-30-42	W.J.		[illegible] — APPROVED
	[illegible]	W.J.		[illegible]
				[illegible]



A	CITY OF PORTLAND
B	OREGON SHIP
C	OREGON SHIP
D	UNITED STATES
E	UNITED STATES
F	UNITED STATES
G	OREGON SHIP
H	CITY OF PORTLAND
I	OREGON SHIP
J	CITY OF PORTLAND
K	OREGON SHIP
L	CITY OF PORTLAND
M	UNITED STATES
N	UNITED STATES

LEGEND

PROPERTY TRACTS ARE DESIGNATED BY LARGE CAPITALS.

REVISIONS

MARK	DATE	BY	OK
1	3-14-45		

OREGON SHIPBUILDING CORPORATION
PORTLAND, OREGON

GENERAL ARRANGEMENT OF SHIPYARD

DATE DEC. 14, 1944

SCALE

SCHN00259748

SCHN00259749

CHICAGO TITLE INSURANCE COMPANY
OF OREGON
DOCUMENT GUARANTEE REPORT
November 5, 1997

10001 SE SUNNYSIDE ROAD
CLACKAMAS, OR 97015
Telephone: (503) 653-7300

Plant Date: November 5, 1997

Order No: 159298

Liability: $0.00

Premium: $0.00

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

(b)(4) copyright

SCHN00259758

DEQ Requested Information - Premier Edible Oils site

TO: Dan Skerritt/Ater Wynne LLP

COPIES: Tom Zelenka/SIC
Charlie Ford/SIC

FROM: Bill Cobb

DATE: September 13, 2000

On September 7, 2000, Alicia Voss/DEQ requested, via e-mail, additional information on the Premier Edible Oils site. Attached to this memorandum are specific responses to her request, as follows:

1. Boring logs for the Geoprobes installed by CH2M HILL and Geo-Tech Explorations are provided, along with a summary of drilling program observations.
2. Well completion diagrams, prepared by CH2M HILL, for monitoring wells MW-1 through MW-5.
3. Well development information prepared by CH2M HILL, including field notes and the well development field logs.
4. Relevant survey information, including the "normalized" and actual survey elevations for the wells and river stage information. The well elevations were originally survey to a "normalized" elevation of 100 feet and were subsequently calibrated to NGVD 29 elevation of 32.18 ft.
5. Field notes and sampling information from CH2M HILL (groundwater sampling) and Stratus Corporation (surface soil sampling).
6. Figure 1 for the August 30, 2000 Bridgewater Group memo regarding Evaluation of Potential Sources
7. North Creek Analytical reports for the samples discussed in the August 30, 2000 Bridgewater Group memo regarding Evaluation of Potential Sources.
8. There are no test pit logs associated with the trenches discussed in the August 30, 2000 Bridgewater Group memo regarding Evaluation of Potential Sources, nor are there test pit logs for any trenches that have been dug at the site. As noted in the CH2M HILL boring logs, sand has been uniformly encountered across the site from near-surface depths to depths of approximately 20 feet (no subsurface exploration has occurred below this depth). All trenches installed at the site have been to depths of 3 to 10 feet below ground surface and all have encountered the same sand material. The only observations made during the trenching activities were associated with soil coloration and odor; the field observations regarding gray colored sand versus brown colored sand were noted in the August 30, 2000 memorandum. The soil samples obtained from the reference trenches were composite samples taken from the sidecast material in the locations shown on Figure 1; the sampled sidecast material also represented a vertical composite from that particular portion of each trench.

SCHN00259759

Soil Boring Logs

MHILL SUBJECT Summary of Drilling program observations SHEET NO. ____ of ____ DATE ____ PROJECT NO. ____

Geoprobe location	ODOR	Sheen	Air Monitoring Reading Downhole	Stained soil at depth below 10	Comments
1	--	--	0		
2	--	--	0		
3 (MW-4)	Yes	Yes heavy	3.2	15 to 26' strong odor & stain	(Solvent?)
4	--	Yes	0.45		recharging slowly
5 (MW-3)	--	--	0	15 to 26 slight staining	
6	--	--	0		
7	Yes light	Yes	60		
8	— NO	ACCESS			
9	Yes	Yes-heavy	30		
10 (MW-5)	YES strong	Yes balls of product	385	16-26'	solvent LEVEL
11	--	--	0		
12	--	--	0.5		
13	--	--	0		
14	--	--	0		
15	— NO	ACCESS	TO LOCATION		
16 (MW-1)	--	--	0	No staining seen	clean looking
17	--	--	0		
18	--	--	0		
19 (MW-2)	YES STRONG	YES Heavy	300 inside well	10' to 26'	VERY STRONG LEVEL
~~20~~	~~No sample Plant~~				
50	--	--	0		behind hy. buildin
60	--	Yes	160		between #3 & #4
46	--	--	1.0		between 3 & 2 slo re
47	--	--	0.5		before 2 & 1 d
48	--	--	0.0		between 1 & fea
49	--	--	0.5		nearest gate

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

REV 10/98 FORM 18

SCHN00259760

SCHN00259761

CH2M HILL

this is a capital "O" letter.

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.E0.Ø1	1	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION on berm, along east side of tankfarm

ELEVATION _____ DRILLING CONTRACTOR GROTEK EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring.
15						Depth to water inside rods: 14.8' bgs
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

CH2M HILL

Confidential Attorney ... Product ... Research Specialist

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	2	1	1

HS's is a capital "O" letter.

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION on berm, east side of tank farm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch polytubing w/ ball valve to collect groundwater samples
5						
15						Depth to water inside rods: 15.8' bgs
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259762

this is a capital "O" letter

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	3	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east of small tank farm, containing design

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring.
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 3.2 ppm Heavy sheen observed on water samples.
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259763

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	A	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east of maintenance shop.

ELEVATION _____ DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen.

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and 1/4-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collect from this boring.
15						Depth to water inside rods: ~~18.69~~ 18.0' b.g.s.
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.45 ppm. Light sheen observed ~~present~~ on water samples. Location ~~produced water~~ recharging slowly.
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259764

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET / OF /
130341.E0.01	5	

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east of railcar loading rack

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Body-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS0.5	1.0		0.0 to 0.3' Asphalt 0.3 to 0.6' Fill sandy aggregate 0.6 to 2.0 Sand (SW) with fine gravel, gray, moist, gravel 1"-minus.	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples Wet or oily stain observed at approximately 0.6'
	2.0	SS1.5	1.0			
5						
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rod = 0.0ppm
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259765

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	
13Ø341.EO.Ø1	6	SHEET 1 OF 1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION south of waste treatment plant

ELEVATION _____ DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS05	1.0		0.0 to 0.3 Asphalt fill	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch polytubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0		0.3 to 2.0 Sand (SW) brown, moist loose, with fine gravel present.	
5						No visual signs of staining observed.
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259766

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13O341.EO.O1	7	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION northeast corner of process building

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS0.5	1.0		0.0 to 0.3' Asphalt	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0		0.3 to 1.0' Fill, Sand (SW), with gravel, brown, moist, loose	
	4.0	SS3	2.0		1.0' to 4.0 Sand (SP), brown moist, loose, occassional gravel encountered.	
5						
15	16.0				16.0 to 18.0 Sand (SP), gray, wet loose	stained soil present, strong odor observed.
	18.0	SS17	2.0		Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rod = 60 ppm Heavy sheens present on water samp Depth to water inside rods = 17.8' bgs
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259767

CH2MHILL **MEMORANDUM**

To: _____ (OFFICE)
_____ (OFFICE)
_____ (OFFICE)
_____ (OFFICE)
_____ (OFFICE)
_____ (OFFICE)
_____ (OFFICE)

From: _____ _____ (OFFICE)

Date: _____ Project No: _____

Re: _____

8

No access to location

10/97 FORM 3A

SCHN00259768

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	9	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION inside containment wall - small tank to

ELEVATION DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS0.5	1.0		Linda Same as # 10 here	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch polytubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0			
	4.0	SS3	2.0			
5						
15	16.0				16.0 to 18.0' Sand (SP), brown, moist to wet, loose, med to fine sand.	Odor present, grey staining present 16.5 to 18.0' bgs.
		SS17	2.0			
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	~~Depth~~ GROUNDWATER sample collected. OVM reading inside rods = 30ppm
20						Depth to water in rods = 16.6 bgs
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259769

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	10	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION in road between process building & tan

ELEVATION DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS06	1.0		0.0 to 0.3' Asphalt	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch polytubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0		0.3' to 1.0' Fill sand (SW) with gravel black, moist, loose.	
	4.0	SS3	2.0		1.0 to 4.0 Sand (SP) fine to med brown, moist, loose	
5						
15	16.0				16.0 to 18.0 Sand (SP) fine to med, brown, moist to wet, loose,	Strong odor, grey stained soil from 17 to 18' bgs.
	18.0	SS17	2.0		Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside jar headspace = 385 ppm · Strong sheen present on samples · Driller noted possible globules of product in samples
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259770

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	11	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east end of office building parking

ELEVATION DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS START 5/21/98 FINISH 5/21/98 LOGGER Bruce Body-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS0.5	1.0		0.0 to 0.3' Asphalt 0.3 to 1.0 Sand (SW), brown, moist loose with fine gravel present.	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0		1.0 to 2.0 Sand (SP), brown, moist loose; fine sand.	
5						Stained soil present between 0.3' and 0.8' b.g.s.
15						Depth to water inside rods = 16.5' bgs
	18.0				Probe driven to 22 feet below ground surface; pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20	22.0					
25						

REV 11/89 FORM D1586

(8.30)

SCHN00259771

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	12	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION in roadway between office & tanks

ELEVATION _____ DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS0.5	1.0		0.0 to 0.3' Asphalt 0.3' to 1.0' Fill, sand (SW) with gravel, black/gray, moist, loose	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
	2.0	SS1.5	1.0		1.0 to 4.0' Sand (SP) fine to med, brown, moist, loose, wet zone from 3.0' to 3.4' bgs	
	4.0	SS3	2.0			• Stained soil was observed approximately 0.5' bgs ~~odor~~
5						
15						Depth to water inside rods = 16.6 bgs
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.5 ppm
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259772

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	13	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION at southwest corner of office building

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
15						Depth to water inside rods = 15.43' bgs
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259773

this is a capital "O" letter.

CH2M HILL

Prepared Under the Direction of Counsel.

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	14	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION southwest corner of large tank farm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC, TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Body-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS 0.5	1.0		0.0 to 2.0 Sand (SP), fine to med, brown, moist loose, minor gravel ½" minus present	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
	2.0	SS 1.5	1.0			No visual signs of staining observed.
5						
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0ppm
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259774

CH2MHILL **MEMORANDUM**

To: _____ (OFFICE)

_____ (OFFICE)

_____ (OFFICE)

From: _____ _____ (OFFICE) _____ (OFFICE)

Date: _____ Project No: _____ _____ (OFFICE)

Re: _____ _____ (OFFICE)

[illegible] Work [illegible] Under the [illegible]

#15
No access to location

10/97 FORM 3A

SCHN00259775

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CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13O341.EO.01	16	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east of containment berm in open area of large tank farm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
	1.0	SS 0.5	1.0		0.0 to 2.0' Sand (SP), fine to med, brown, loose, moist, with minor amount of small gravel 1"-minus	Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
	2.0	SS 1.5	1.0			
5						No visual signs of staining observed
15						
	18.0				Probe driven to 22 feet below grond surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected.
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259776

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13O341.EO.01	17	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION on berm, north of tank farm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/96 FINISH 5/21/96 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil sample collected from this boring.
15						Depth to water inside rods: 18.5' b.
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. Driller noted septic odor to water
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259777

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	18	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION on berm, north of tank farm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Body-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
15						Depth to water inside rods: 18.7' bg.
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. Drillers noted septic odor to water.
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259778

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	19	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION southwest of warehouse building

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
15						Depth to water inside rods: 17.0' bgs.
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. · OVM reading inside rods = 38 ppm · Strong odors noted from groundwater sample · Heavy sheen observed on sample.
20	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259779

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	46	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION between #2 & #3 / east berm

ELEVATION _____ DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch polytubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	This location recharging very slowly. Need 65 minutes to collect enough water for a grab GROUNDWATER sample collected.
20						OVM reading inside rods = 1.0 ppm
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259780

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.EO.Ø1	47	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION between #1 & #2, on east berm

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Body-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
15						Depth to water in rods = 27.5' b.g.s
	~~[illegible]~~				Probe driven to 26 feet below ground surface, pulled back to 22 to expose the screen from 22 to 26 b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.5 ppm
20	22.0					
25	26					

(8.30)

REV 11/89 FORM D1586

SCHN00259781

This is a capital

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	48	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION in Northeast corner of property

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Body-Heir

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and 1/4-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
10						
15						Depth to water in rods = 17.8' bgs
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected.
20						OVM reading inside rods = 0.0 ppm
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259782

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
130341.E0.01	49	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION along the edge of entrance roadway

ELEVATION _____ DRILLING CONTRACTOR GROTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Body-He

DEPTH BELOW SURFACE (FT)	SAMPLE: INTERVAL	SAMPLE: NUMBER AND TYPE	SAMPLE: RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring
10						
15						
	18.0				Probe driven to ~~22~~ 26 feet below ground surface, pulled back to ~~18~~ 22 to expose the screen from ~~18~~ 22 to ~~22~~ 26' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods=0.5 ppm
20	22.0					
25	22.0					

(8.30)

REV 11/89 FORM D1586

SCHN00259783

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET	OF
13Ø341.E0.Ø1	50	1	1

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION east of hydrogen plant

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/21/98 FINISH 5/21/98 LOGGER Bruce Brady-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and ¼-inch poly tubing w/ ball valve to collect groundwater samples
5						No soil samples collect from this boring.
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 0.0 ppm
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259784

this is a capital "O" letter.

CH2M HILL

PROJECT NUMBER	BORING NUMBER	SHEET / OF /
13O341.EO.01	60	

SOIL BORING LOG

PROJECT Premier Edible Oil Site LOCATION Eastern property boundary

ELEVATION _____ DRILLING CONTRACTOR GEOTECH EXPLORATIONS INC., TUALATIN, OR.

DRILLING METHOD AND EQUIPMENT Geoprobe Direct Push Rig and 4' macro soil sampler, and 4' groundwater screen

WATER LEVELS _____ START 5/22/98 FINISH 5/22/98 LOGGER Bruce Brody-Heine

DEPTH BELOW SURFACE (FT)	SAMPLE INTERVAL	SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (FT)	STANDARD PENETRATION TEST RESULTS 6"-6"-6" (N)	SOIL DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS AND INSTRUMENTATION
						Used 4-foot geoprobe groundwater sampling screen, vacuum pump and 1/4-inch polytubing w/ ball valve to collect groundwater samples
5						No soil samples collected from this boring.
15						
	18.0				Probe driven to 22 feet below ground surface, pulled back to 18' to expose the screen from 18 to 22' b.g.s. for groundwater sample collection.	GROUNDWATER sample collected. OVM reading inside rods = 115 ppm Heavy sheen present on water samples
20						
	22.0					
25						

(8.30)

REV 11/89 FORM D1586

SCHN00259785

Well Completion Diagrams

SCHN00259786

PROJECT NUMBER	BORING NUMBER	
130341.EO.01	MW01	SHEET 1 OF 1

CH2MHILL

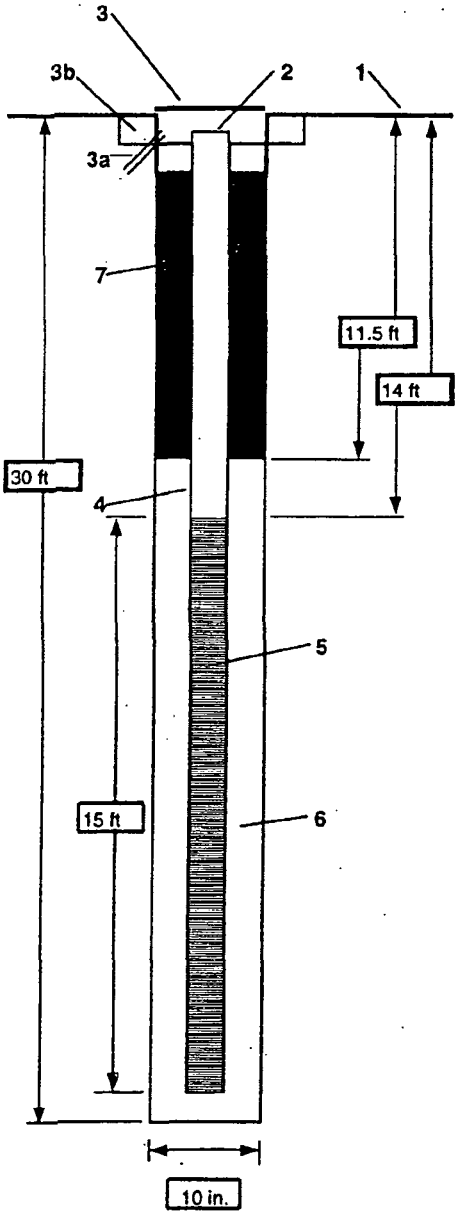
WELL COMPLETION DIAGRAM

PROJECT : Premier Edible Oils — LOCATION : ESE of hydrogen plant (location 16)

ELEVATION : 95.15 ft — DRILLING CONTRACTOR : Geo-Tech Explorations

DRILLING METHOD AND EQUIPMENT USED : HSA

WATER LEVEL 14.12 ft BTOC 5/28/98 — START : 5/26/98 — END : 5/26/98 — LOGGER B. Brody-Heine



1- Ground elevation at well 95.15 ft

2- Top of casing elevation 94.80 ft

3- Wellhead protection cover type Sherwood monument
a) drain tube? no
b) concrete pad dimensions 1.5 ft

4- Diameter/type of well casing 2-inch Sch. 40 PVC flush threaded

5- Type/slot size of screen Sch. 40 PVC/0.010-inch slot

6- Type screen filter 10-20 Colorado Silica
a) Quantity used 13 - 50# sacks

7- Type of seal 3/4-inch Bentonite chips
a) Quantity used 7 - 50# sacks
b) Top of seal 1.5 ft bgs

Development method

Development time

Estimated purge volume

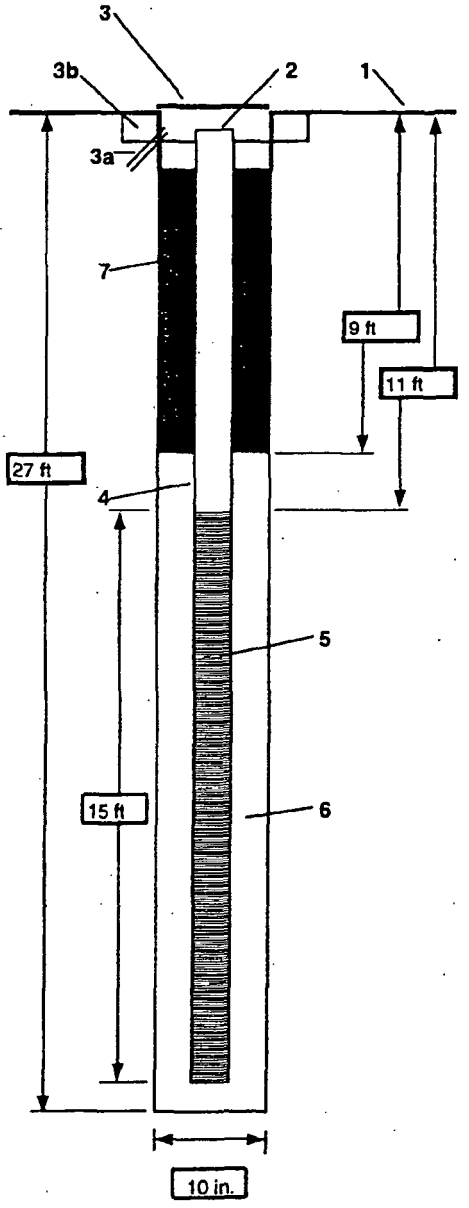
Comments 4-inch end cap below screen

PROJECT NUMBER	BORING NUMBER	
130341.EO.01	MW02	SHEET 1 OF 1

CH2MHILL

WELL COMPLETION DIAGRAM

PROJECT : Premier Edible Oils		LOCATION :	W of warehouse (location 19)
ELEVATION : 96.11 ft		DRILLING CONTRACTOR :	Geo-Tech Explorations
DRILLING METHOD AND EQUIPMENT USED : HSA			
WATER LEVEL 14.47 ft BTOC 5/28/98	START : 5/26/98	END : 5/26/98	LOGGER B. Brody-Heine



1- Ground elevation at well 96.11 ft

2- Top of casing elevation 95.76 ft

3- Wellhead protection cover type Sherwood monument
a) drain tube? no
b) concrete pad dimensions 1.5 ft

4- Diameter/type of well casing 2-inch Sch. 40 PVC flush threaded

5- Type/slot size of screen Sch. 40 PVC/0.010-inch slot

6- Type screen filter 10-20 Colorado Silica
a) Quantity used 14 - 50# sacks

7- Type of seal 3/4-inch Bentonite chips
a) Quantity used 5 - 50# sacks
b) Top of seal 1.5 ft bgs

Development method

Development time

Estimated purge volume

Comments 4-inch end cap below screen

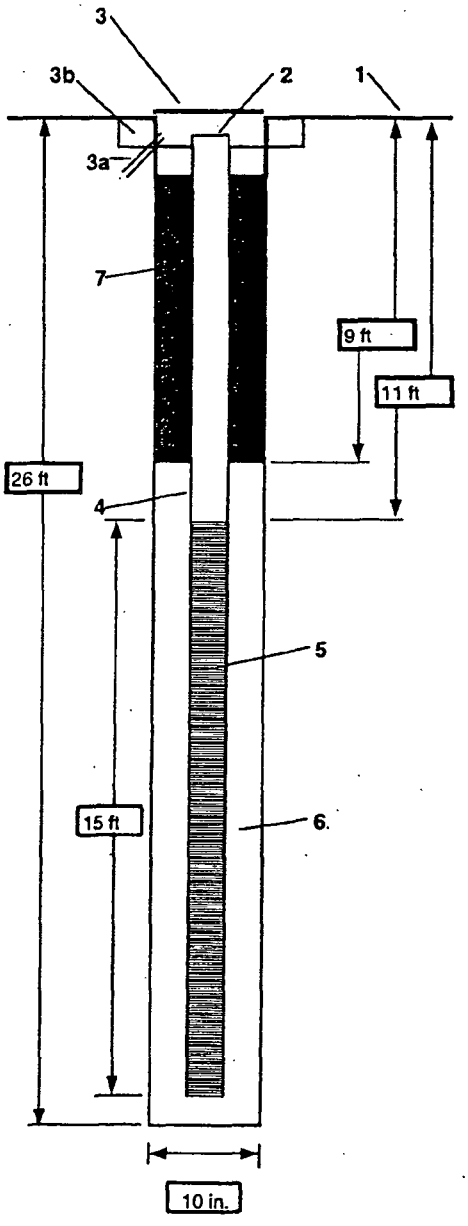
SCHN00259788

PROJECT NUMBER	BORING NUMBER	
130341.EO.01	MW03	SHEET 1 OF 1

CH2MHILL

WELL COMPLETION DIAGRAM

PROJECT : Premier Edible Oils		LOCATION :	E of railcar loading racks (location 5)
ELEVATION : 96.48 ft		DRILLING CONTRACTOR :	Geo-Tech Explorations
DRILLING METHOD AND EQUIPMENT USED : HSA			
WATER LEVEL 15.71 ft BTOC 5/28/98	START : 5/26/98	END : 5/26/98	LOGGER B. Brody-Heine



1- Ground elevation at well 96.48 ft

2- Top of casing elevation 96.24 ft

3- Wellhead protection cover type Sherwood monument
a) drain tube? no
b) concrete pad dimensions 1.5 ft

4- Diameter/type of well casing 2-inch Sch. 40 PVC flush threaded

5- Type/slot size of screen Sch. 40 PVC/0.010-inch slot

6- Type screen filter 10-20 Colorado Silica
a) Quantity used 15 - 50# sacks

7- Type of seal 3/4-inch Bentonite chips
a) Quantity used 5 - 50# sacks
b) Top of seal 1.5 ft bgs

Development method

Development time

Estimated purge volume

Comments 4-inch end cap below screen

SCHN00259789

PROJECT NUMBER	BORING NUMBER	
130341.EO.01	MW04	SHEET 1 OF 1

CH2MHILL

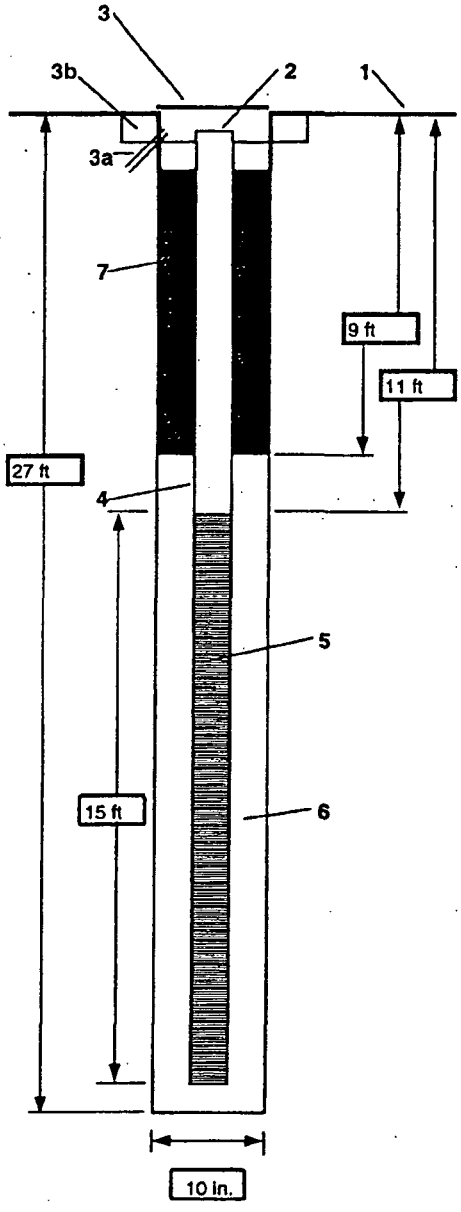
WELL COMPLETION DIAGRAM

PROJECT : Premier Edible Oils — LOCATION : N of maintenance shop (location 3)

ELEVATION : 96.24 ft — DRILLING CONTRACTOR : Geo-Tech Explorations

DRILLING METHOD AND EQUIPMENT USED : HSA

WATER LEVEL 14.75 ft BTOC 5/28/98 — START : 5/27/98 — END : 5/27/98 — LOGGER B. Brody-Heine



1- Ground elevation at well 96.24 ft

2- Top of casing elevation 95.94 ft

3- Wellhead protection cover type Sherwood monument
a) drain tube? no
b) concrete pad dimensions 1.5 ft

4- Diameter/type of well casing 2-inch Sch. 40 PVC flush threaded

5- Type/slot size of screen Sch. 40 PVC/0.010-inch slot

6- Type screen filter 10-20 Colorado Silica
a) Quantity used 14 - 50# sacks

7- Type of seal 3/4-inch Bentonite chips
a) Quantity used 6 - 50# sacks
b) Top of seal 1.5 ft bgs

Development method

Development time

Estimated purge volume

Comments 4-inch end cap below screen

SCHN00259790

PROJECT NUMBER	BORING NUMBER	
130341.EO.01	MW05	SHEET 1 OF 1

CH2MHILL

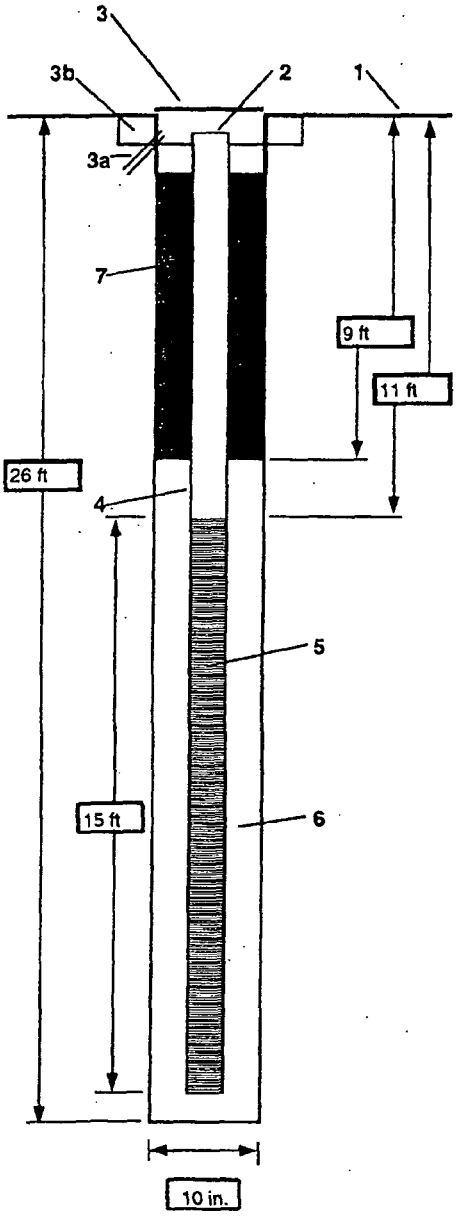
WELL COMPLETION DIAGRAM

PROJECT : Premier Edible Oils — LOCATION : just N of process bldg (location 10)

ELEVATION : 96.21 ft — DRILLING CONTRACTOR : Geo-Tech Explorations

DRILLING METHOD AND EQUIPMENT USED : HSA

WATER LEVEL 15.33 ft BTOC 5/28/98 — START : 5/27/98 — END : 5/27/98 — LOGGER B. Brody-Heine



1- Ground elevation at well 96.21 ft

2- Top of casing elevation 95.85 ft

3- Wellhead protection cover type Sherwood monument
   a) drain tube? no
   b) concrete pad dimensions 1.5 ft

4- Diameter/type of well casing 2-inch Sch. 40 PVC flush threaded

5- Type/slot size of screen Sch. 40 PVC/0.010-inch slot

6- Type screen filter 10-20 Colorado Silica
   a) Quantity used 13 - 50# sacks

7- Type of seal 3/4-inch Bentonite chips
   a) Quantity used 6 - 50# sacks
   b) Top of seal 1.5 ft bgs

Development method

Development time

Estimated purge volume

Comments 4-inch end cap below screen

SCHN00259791

Well Development

SCHN00259792

CH2M HILL **MEMORANDUM**

To: Bill Cobb / Bridgewater (OFFICE)

From: Mark Wiraganowicz (OFFICE)

Date: 6/10/98 Project No. 130341.E0.01

Re: monitoring well development by Mike Abbott & Barry Collom

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

Premier Edible Oils

monitoring wells MW-1 through MW-5 developed 6/8 & 6/9/98 using surge block and peristaltic pump

MW-1

total gallons purged = 98

final parameters: specific conductance = 133 µmhos/cm

temp. = 14.1 °C

pH = 6.41

turbidity = 4.4 NTUs

description = clear, colorless

MW-2

total gallons purged = 55

final parameters = spec. cond. = 522 µmhos/cm

temp. = 17.1

pH = 6.22

turbidity = 6 NTUs

description = hint of yellow color, clear, very light sheen, light odor

2/3

CH2M HILL **MEMORANDUM**

To: (OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

(OFFICE)

From: (OFFICE)

Date: Project No. 13634.E0.01

Re:

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

MW-3

total gallons purged = 69

final parameters: spec. cond. = 361 µmhos/cm

temp. = 15.4 °C

pH = 6.44

turbidity = 4.7

description = almost clear, colorless, no sheen

MW-4

total gallons purged = 55

final parameters: spec. cond. = 378 µmhos/cm

temp. = 13.3 °C

pH = 6.70

turbidity = 2.9 NTUs

description = clear, colorless, no sheen, gasoline odor

MW-5

total gallons purged = 55

final parameters: spec. cond. = 353 µmhos/cm

temp. = 14.5 °C

pH = 6.35

turbidity = 5 NTUs

description = clear, colorless, no sheen, gasoline odor

REV 7/84 FORM 3

SCHN00259794

CH2M HILL **MEMORANDUM**

To: _____ (OFFICE)

From: _____ (OFFICE)

Date: _____ Project No. 130341.E0.01

Re: _____

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

(OFFICE) (OFFICE) (OFFICE) (OFFICE) (OFFICE)

OBSERVATIONS DURING DEVELOPMENT

MW-1 : no sheens, no odor during development

MW-2 : thin layer of product on water column (~ 1/16") prior to development, strong diesel/kerosene odor, sheens especially on sand

MW-3 : oil sheen as small dots and streaks of irridescence, diesel/kerosene(?) odor

MW-4 : sheen observed with small globules ~ 1/16 - 1/8" diameter, gasoline odor

MW-5 : sheen, gasoline odor

DRUM INVENTORY

drums labeled with well IDs, as development water, date, and number of gallons; drums left on-site near their respective wells; 3 empty drums left on site, one has large crease near bottom, recommend not for liquids

MW-1 : 2 drums (1 full, 1 with ~ 46 gallons)
MW-2 : 1 drum, full
MW-3 : 2 drums (1 full, 1 with ~ 15 gallons)
MW-4 : 1 drum, full
MW-5 : 1 drum, full

TOTAL = 7 drums, ~ 336 gallons

REV 7/84 FORM 3

Confidential Attorney Work Product

CH2M HILL WELL DEVELOPMENT FIELD LOG

Schnitzer — Well I.D.: MW 1

Client: Premier Edible Oils — Well Dia:(in.): 2

Project #: — Sand Pack Dia (in.): 10"

Developed By: MDA; BEC — Bore Hole Dia (in.): 10"

Total Gallons Removed: 98

Standing Well Volume (gallons @ 30% porosity): 27 - 12.79 x .17 = 2.4 gallons Casing

15' x 3.92 x .3 = 17.6 gallons - sandpack 17.6 + 2.4 = 20 gal

Start: Date 6/18/98 Time: 1048 DTW (ft. from TOC): 12.79 Total Depth(ft. from TOC):

Stop: Date / / Time: DTW (ft. from TOC): Total Depth(ft. from TOC): ~27

Development Method / Comments: Peristaltic Pump w/ 1/2" Poly Tubing & surge block on bottom of tubing

Time	DTW ft. from TOC	Volume Removed (gallons)	Spec. Cond. (micromohs/cm)	Temp. (oC)	Ph	Turbidity NTU's	Purge Rate (gal/min)	Surging (Y/N)	Clarity/ Color/Remarks (Near continuous surging of all 15' of screen)
1048 1054	12.79 Pump on	0						Y	Initial Surging Yellow-Brown, Very Cloudy Bottom
1057		2	121	15.0	6.19	—	.66	Y	@ 100% pump speed Settleable solids
1105	12.98	10	117	13.4	6.30	—	1.0	Y	Yellow-Brown Cloudy Bottom of Bucket
1114	12.97	20	116	14.1	6.35	900	1.1	Y	100% Yellow-Brown very fine sand Cloudy
1122	12.93	30	124	13.6	6.36	470	1.25	Y	100% " " " Cloudy
1130 ~~1139~~	12.97	40	122	13.7	6.41	330	1.25	Y	100% Yellow Brown very fine sand cloudy
1139	12.90	50	128	13.7	6.41	795	1.1	Y	100% Pump Speed " less sand, Cloudy
1149	12.92	60	126	13.9	6.43	475	1.0	Y	" Yellow-Brown very little sand, Cloudy
1159	12.93	70	121	14.0	6.43	500	1.0	Y	" " "
1204	end	Surging						N	
1208 1208	12.92	80	122	14.4 /	6.40 reduce	600	1.0 Pump Speed	N	50% Pump speed " Pump Suction Top 1' of water column "
1221 1224	12.89 Turned Pump (92) down to 40%	90	131	14.3	6.42	37	.8	N	" 40% Slightly Cloudy No sand
1234	12.83	98	133	14.1	6.41	4.4	*.8	N	40% Pump Speed Clear Colorless "
END									

* measured @ .5 gpm ??

SCHN00259796

Confidential Attorne
not Prepar
Litigation or Counsel

CH2M HILL WELL DEVELOPMENT FIELD LOG

Schnitzer — Well I.D.: MW 2

Client: Premier Edible Oils	Well Dia:(in.): 2
Project #:	Sand Pack Dia (in.): 10" X 15'
Developed By: mDa; BEC	Bore Hole Dia (in.): 10"
	Total Gallons Removed: 55
Standing Well Volume (gallons @ 30% porosity): (27 - 15.43) X .17 = 2 in well casing	
15 X 3.92 X .3 = 17.6 gal. in Sand Pack	17.6 + 2 = 19.6
Start: Date 6/19/98 Time:	DTW (ft. from TOC): 15.43 Total Depth(ft. from TOC):
Stop: Date / / Time:	DTW (ft. from TOC): Total Depth(ft. from TOC):

Development Method / Comments: Peristaltic Pump w/ 1/2" Poly Tubing and Surge block 6" from end of Tubing.

Time	DTW ft. from TOC	Volume Removed (gallons)	Spec. Cond. (micromohs/cm)	Temp. (oC)	Ph	Turbidity NTUs	Purge Rate (gal/min)	Surging (Y/N)	Almost continuous Surging of Screen Area during surging Clarity/ Color/Remarks
1400	15.43	0						Y	STRONG Kerosene Odor
1403	—	<1	561	19.3	6.04	—		Y	Olive-Grey - Very Cloudy, lots of black sand 100% Pump Speed NO Sheen
1416	15.45	10	550	16.8	6.03	—	.8	Y	~~No~~ very little Sheen on top of water & ~~but~~ heavy Sheen in Sand in bottom of Cup/Bucket
1430	15.25	20	545	16.8	6.07	—	.7	Y	very little Sheen on top of water - Heavy in Black Sand in bottom of Bucket - Olive Green
1443	15.20	30	542	16.8	6.15	500	.8	Y	less Sand, Same otherwise less turbid
1451	—	35				32		N	~~Slightly~~ very Cloudy, Sheen ? Colorless
1458	15.21	40	535	17.0	6.26	14	.7	N	Slightly Cloud, Sheen ? Colorless no Sand
1305	—	45	527	17.0	6.25	11	.7	N	Very Slightly Cloudy, Colorless Sheen
1313	15.15	50	527	17.0	6.24	9	.7	N	" " "
~~1318~~ 1313		~~55~~						N	70% Pump Speed
~~1325~~ 1325	14.95	55	522	17.1	6.22	6	.4	N	" Hint of Yellow in water
end.									

Checked for floating product w/ Bailer ~~and~~ before developing well 1/32 - 1/16" layer of Product on top of well. Strong Diesel/Kerosene odor - light Amber in Color.

Prepared Under the
Direction of Counsel.
Confidential Attorney Work

CH2M HILL WELL DEVELOPMENT FIELD LOG

Breeze from West

Schnitzer — Well I.D.: MW3 — 70°F, clear,

Client: Premier Edible Oils	Well Dia:(in.): 2
Project #:	Sand Pack Dia (in.): 10 x 15
Developed By: MDQ, BEC	Bore Hole Dia (in.): 10
	Total Gallons Removed: 69
Standing Well Volume (gallons @ 30% porosity): (26 − 14.19) x .17 = 2.0 gal − Casing	
15 x 3.92 x .3 = 17.6 gal / Sand Pack 17.6 + 2 = 19.6 per Vol.	
Start: Date 6/8/98 Time: 0737	DTW (ft. from TOC): 14.19 Total Depth(ft. from TOC):
Stop: Date / / Time:	DTW (ft. from TOC): Total Depth(ft. from TOC): ~26

Development Method / Comments: Peristaltic Pump w/ 1/2" Poly tubing. Attached Surge Block 6" from bottom of tubing.

Time	DTW ft. from TOC	Volume Removed (gallons)	Spec. Cond. (micromohs/cm)	Temp. (oC)	Ph	~~Eh~~ ~Turbidity	Purge Rate (gal/min)	Surging (Y/N)	Surged Almost Continuously entire Screen length Clarity/ Color/Remarks
14:00	14.19	0				—		Y	
14:05	Pump on					—	—	Y	50% Pump Speed Brown, Very Cloudy
14:07	14.32	~1.5	393	16.2	6.40	—	—	Y	50%, Very Cloudy, Brown Sheen/oily film
14:09		—						Y	100% Pump Speed lots of ~~Sand~~ Sand w/ silt
14:13		5						Y	100% olive-Brown very fine sand w/ silt
—		10	372	14.9	6.46	—	—	Y	Pump, Cloudy, Sheen
14:28	14.45	15					.66	Y	lots of very fine Sand still
14:35	14.42	20	368	14.7	6.45	—	.66	Y	" " " " " " Sheen
1447	14.45	30	364	14.7	6.43	—	.8	Y	Sheen, less of fine Sand, Olive-Brown
1458	14.43	40	364	14.7	6.44		.8	Y	less Sheen, less Sand, Olive-Brown
1510	14.45	50	357	14.6	646	600	.8	Y	Sheen, very little Sand, Olive-Brown
1511	end Surge							N	Suction in top 1' of water Column.
1520	—	58	360	146	6.46	122		N	Sheen?, No Sand, Tan
1520		58					0.4	N	slowed pump to 40%
1537	14.32	65	355	15.3	642	11.5	00.4	N	No Sheen, Almost Clear Colorless
1550	14.31	69	361	15.4	6.44	4.7	0.4	N	
END					6.				
									Odor - Diesel / Kerosene?

Note: Oil/Sheen evident in Purge cup as small dots or streak of irridescences. May be coming in with the Sand.

Sand is Black.

Product Prepared Under the
Direction of Counsel.

CH2M HILL WELL DEVELOPMENT FIELD LOG

Schnitzer

Well I.D.: MW 4

Client: Premier Edible Oils	Well Dia:(in.): 2
Project #:	Sand Pack Dia (in.): 10" x 15'
Developed By:	Bore Hole Dia (in.): 10"
	Total Gallons Removed: 55
Standing Well Volume (gallons @ 30% porosity): (27 - 13.76) x .17 = 2.3 gal. CASING	
15 x 3.92 x .3 = 17.6 Sand Pack + 2.3 = 19.9 gallons	
Start: Date 6/9/98 Time: 0830	DTW (ft. from TOC): 13.76 Total Depth(ft. from TOC): —
Stop: Date / / Time:	DTW (ft. from TOC): Total Depth(ft. from TOC): ~27

Development Method / Comments: Peristaltic Pump w/ 1/2" Poly Tubing & Surge Block Attached to bottom of Tubing.

Time	DTW ft. from TOC	Volume Removed (gallons)	Spec. Cond. (micromohs/cm)	Temp. (oC)	Ph	Turbidity NTUs	Purge Rate (gal/min)	Surging (Y/N)	Almost Continuous Surging of Entire Screen During Surging Periods Clarity/ Color/Remarks
0847	13.76							Y	Olive-Grey
0853	Pump ON							Y	50% pump Speed, Very Cloudy,
0854								Y	100% pump Speed, " " "
0857	13.91	~4	277	13.4	6.54	—		Y	Black Sheen, Very fine Sand, Cloudy
0906	13.78	12	276	13.2	6.66	—	.9	Y	Sheen, Sand, Cloudy, Gasoline odor?
0922	13.81	20	430	13.1	6.67	—	.5	Y	SAME
0928		25						Y	100% SAME NO SAND
0934	13.78	30	398	13.4	6.75	20	.8	NO	Slightly Cloudy, Colorless NO Sheen
~~0937~~									~~50% pump Speed~~ NO Sheen
0946	13.78	40	381	13.4	6.73	5.9	~~5.9~~ .8	N	Gasoline Odor NO SAND Clear, Colorless
0956	13.80	50	378	13.3	6.70	2.9	1.0	N	SAME
1001	13.79	55	end						

Note: Sheen is seen in purge cup as small dots about 1/16 - 1/8" dia.

Product Recovered Under ...

CH2M HILL WELL DEVELOPMENT FIELD LOG

Schnitzer — Well I.D.: MW5

Client: Premier Edible Oils — Well Dia:(in.): 2

Project #: — Sand Pack Dia (in.): 10" X 15'

Developed By: mda; BEC — Bore Hole Dia (in.): 10"

Total Gallons Removed: 55

Standing Well Volume (gallons @ 30% porosity): (26-14) X .17 = 2

Sand Pack = 15 X 3.92 X .3 = 17.6 — 17.6 + 2 = 19.6

Start: Date 6/19/98 Time: 10:21 DTW (ft. from TOC): 14.00 Total Depth(ft. from TOC): —

Stop: Date / / Time: DTW (ft. from TOC): Total Depth(ft. from TOC): ~26

Development Method / Comments: Peristaltic Pump w/ 1/2" Poly tubing & Surge block Attached 6" from Bottom of Tubing T.O.

Time	DTW ft. from TOC	Volume Removed (gallons)	Spec. Cond. (micromohs/cm)	Temp. (oC)	Ph	Turbidity NTU ~~Eh~~	Purge Rate (gal/min)	Surging (Y/N)	Almost Continuous Surging of entire Screen. Clarity/ Color/Remarks
1033								Y	
1038	Pump on					—		Y	100% Pump Speed. Olive Gray
↓						—		Y Y	SAND,
1041	—	~3	343	14.6	6.32	—	~1	Y	Sheen, Olive-Gray, Lots of Fine black sand Gasoline odor, Cloudy
1047	14.12	10	366	14.2	6.40	—	~1	Y	SAME
1058	14.15	20	367	14.0	6.37	~	~1	Y	SAME less Sand
1111	14.11	30	375	14.1	6.36	off scale	.8	Y	SAME less Sand
1118	14.14	35	end Surging			SAME	.8	Y	" " "
1123	14.13	40	372	14.2	6.39	150	~1	N	less Sheen, less Cloudy NO SAND less Color Gasoline odor
11:23	Pump to 50% speed								
Bucket OUM 16 → 11:31	14:10	45	356	14.5	6.37	15	0.6	N	Very Slightly Cloudy Gasoline No Sheen, Colorless, odor
1141	14:09	50	351	14.6	6.35	7.5	.5	N	Almost clear No Sheen Colorless Gasoline odor
1151	14:09	55	353	14.5		5	.5	N	Clear, Colorless No Sheen, Gasoline odor
End									

Note: Checked well with Bailer before Starting No Visible Floating Product.

SCHN00259800

Survey Information

SCHN00259801

Premier Edible Oils

Adjusted Elevations of Monitor Wells.

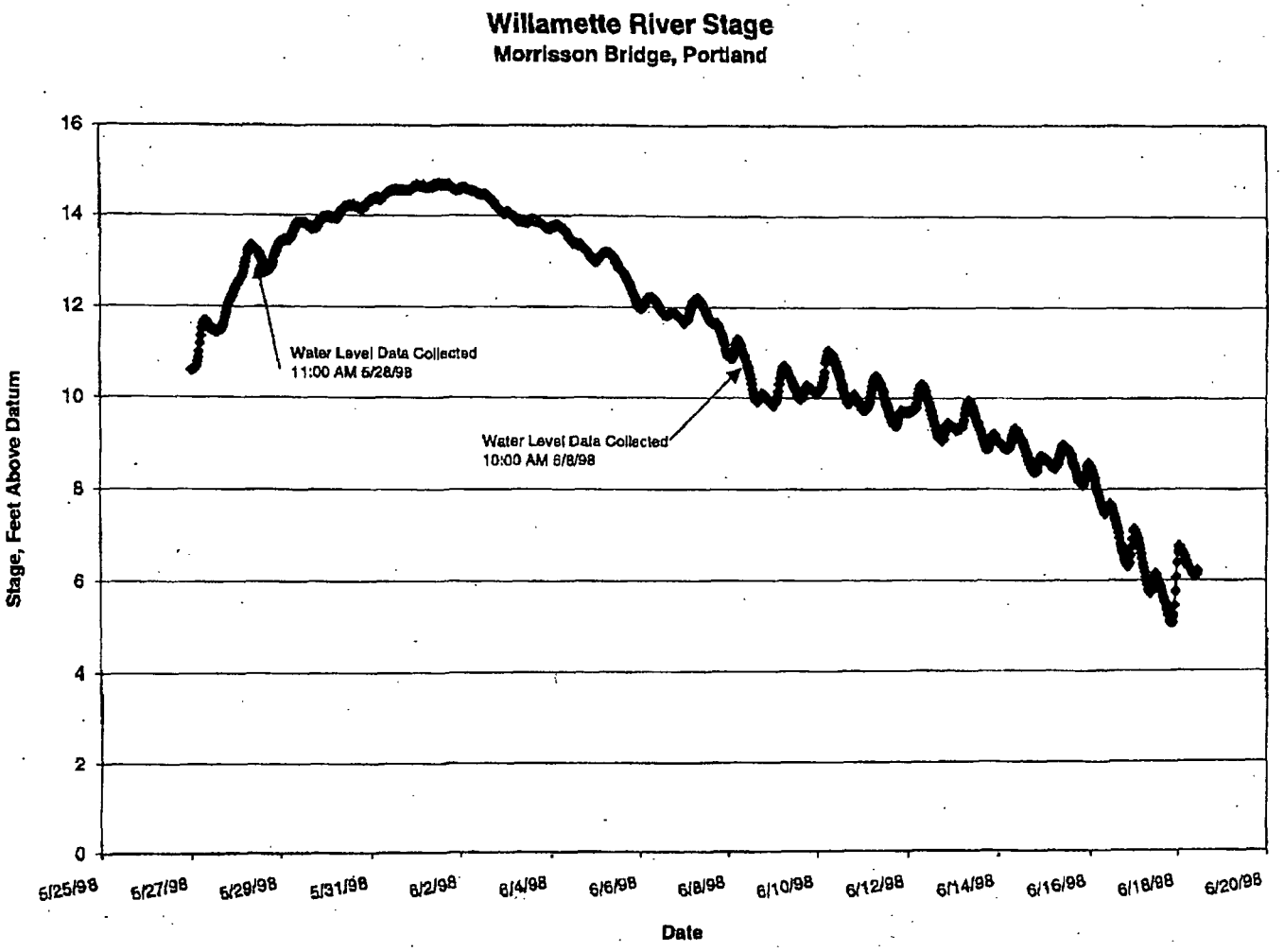
Well ID	Location	Previous Assumed Elevation	NGVD 29 Elevation
MW-1	Casing	95.15	30.97
	PVC	94.80	30.62
MW-2	Casing	96.11	31.93
	PVC	95.76	31.58
MW-3	Casing	96.48	32.30
	PVC	96.24	32.06
MW-4	Casing	96.24	32.06
	PVC	95.94	31.76
MW-5	Casing	96.21	32.03
	PVC	95.85	31.67

BM	Assumed	NGVD 29	Difference
HLM - 61	96.36	32.18	64.18

Fax # 973-4069

To: Bill Cobb
Bridgewater Group

From Bruce Brody-Heine
12/13/99



SCHN00259803

CH2M HILL **MEMORANDUM**

To: Bruce B-H (OFFICE)

From: M.W. (OFFICE)

Date: 5/28/98 Project No. 13Ø341.EO.Ø1 (OFFICE)

Re: monitoring well water levels (OFFICE)

Confidential Attorney Work Product Prepared Under the Direction of Counsel. (OFFICE)

(OFFICE)

(OFFICE)

10:20 MW-5 DTW = 15.33 ft BTOC
no odor, no sheen, PVC shavings

10:25 MW-1 DTW = 14.12 ft BTOC
no odor, no sheen, PVC shavings

10:35 MW-3 DTW = 15.71 ft BTOC
no odor, no sheen, PVC shavings

10:45 MW-4 DTW = 14.75 ft BTOC
odor, no sheen, PVC shavings

10:55 MW-2 DTW = 14.47 ft BTOC
product on probe, slimy appearance, strong odor
no sheen, ~1" product on water

1110 dock DTW = 14.40 ft below top of curb on
N side of dock

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REV 7/84 FORM 3

SCHN00259804

Premier Edible Oils
130341.EO.01

Top of PVC casing elevations (feet, site assumed)

MW-1	94.80
MW-2	95.76
MW-3	96.24
MW-4	95.94
MW-5	95.85

Depth to Groundwater in Monitoring Wells (feet BTOC)

Date	MW-1	MW-2	MW-3	MW-4	MW-5
05/28/98	14.12	14.47	15.71	14.75	15.33

Groundwater Elevations (feet)

MW-1	MW-2	MW-3	MW-4	MW-5
80.68	81.29	80.53	81.19	80.52
GW-16	GW-19	GW-5	GW-3	GW-10

Field Notes and Methods Description

SCHN00259806

Premier Edible Oils

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①

5/20/98

Mark Wirganowicz / CH2M HILL

10 arrive on site

site conditions: showers, calm, ~ 60°F

purpose: meet with Bill Cobb / Bridgewater Group and Carson Smith / Locates Down Under for utility locates at site

by the time I arrived, Bill & Carson had already checked for underground utilities at most sampling locations and Carson had marked all existing utilities that he could pick-up

walked site with Bill; he pointed out additional / optional geoprobe locations

1550 Bill & I leave site; Carson remains to finish and pack-up

Mark Wirganowicz

SCHN00259807

2) 5/21/98 Premier Edible Oils

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134341.EO.01

720 Mark Wiganowicz on site
Geo-Tech onsite - Tom Wilson (driller)
Mike Kadrmas (helper)

site conditions: overcast, calm, ~55°F
purpose: geoprobe soil & groundwater sampling

755 drillers get set up at location 17

800 hold H&S briefing; discuss contaminants detected at site, route to hospital, emergency phone #'s in H&S Plan, always wear hard hats, gloves, eyeglasses, steel toed boots, have cell phone available

815 TVA-1000 calibration, let warm-up for 15 mins
response factors for FID & PID set at 1.00
gas concs. = 100 ppm for methane & isobutylene
1.5 LPM regulator HAZCO R7159
T-tube
isobutylene: 100ppm, lot# 3-138, fill date: 2/19/96
methane: 100 ppm, lot 72875, mfg date = 11/91
FID flame won't ignite

815 start probing at loc. 17 (#17) 0825

820 probe at 22 ft, DTW = 18.5 ft
will collect VOAs, PAH, TPH-G, TPH-D

825 start collecting GW samples, driller notes septic odor to water

photo #1: loc. 17 looking NE

835 start pulling rods
835 Bruce Brady - Heine/CH2M HILL arrives
840 start probing at loc. 18
photo #2: loc. 18 looking NE (#18) 0855
#3: loc. 18 looking NW

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5/21/98 Edible Oils 130341, EO (3)

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0850 probe at 22 ft, DTW = 18.7 ft

breathing space 0.00 ppm on PID
FID will not light

0855 starting GW sampling
VOC, TPH-D, TPH-G, PAH

septic odor to water

0900 pull probe from loc 18

0910 start probing at loc. 01 (#1) 0920

0915 probe at 22 ft, DTW = 18.8 ft (from drillers)
photo #4: loc. 01 looking S

0920 start GW sampling
VOC, PAH, TPH-G, TPH-D

groundwater measured ± 14.8' b.g.s. (silting inside probe may have caused high reading)

breathing space 0.00 ppm on PID
downhole 0.00 ppm

0945 moved to loc. #2 and started probing (#2) 1000

began to drizzle

breathing zone space 0.00 ppm PID
downhole 0.00 ppm PID

1000 started GW sampling VOC, PAH, TPH-G TPH-D

depth to water measured at 15.8' b.g.s.

photo #5: loc. 02 looking SW
#6: loc 02 " W

1010 start pulling probe at loc. 02

1020 started geoprobing at loc. #3 (#3) 1030

1030 breathing space 0.2 ppm
down hole 3.2 ppm
Started G.W. Sampling, Oil & Grease, VOC, TPH-G, TPH-D, PAH
Nickel (total)

SCHN00259809

7)

5/21/98 Edible Oil 13 0341 60

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0 5 photo #7 : loc. 03 looking N

→ Mod. to heavy sheen observed on top of water samples.!
loc. #3

1045 pulling rods and began decoming rods.

1105 began probing @ #4 (#4 1120)
photo #8 loc. #4 looking south.

110 breathing space 0.00 ppm PID
downhole 0.45 ppm PID

probe at 22 ft ; DTW = 18.00 ft at loc. 04

120 this hole recharging slowly slight sheen seen on VOC/Gas bottles
sampling GW.

135 start pulling probes from loc. 04

1 start probing at loc. 19

VOC groundwater duplicate will be collected at loc. 19,
duplicate ID : GW-Dup time 0800

photo #9 : loc. 19 looking S

50 probe at 22 ft, DTW = 17.0'
breathing zone > 3 ppm PID (#19 1200)
Down hole 38 ppm PID

Sheen present, strong odor.
~~DTW~~

00 breathing space 0.5 - 1.5 ppm
headspace over water collected 1.3 ppm
Started GW sampling TPH-D, TPH-G, VOC, Nickel

05 start pulling probe from loc. 19

2. drillers break for lunch

5/21/98 Edible Oil

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(5)

1310 Drillers return to start hole #13 — they decond all their rods and are ready for 5 more holes

Drilling @ loc. #13 (#13) 1320

breathing zone = 0.0 ppm

photo #10 looking north down hole = 0.0 ppm

(moisture in air background reading is 1.40 ppm)

1320 started gw sampling

PTW = 15.35 b.g.s. VOC, O&Grease TPH-D TPH-G, Nickel PAH

1330 pulling rods

1335 Bill Cobb / Bridgewater arrived on site

1340 setting up on the #14 location = (#14) 1345 soil 1355 water

1345 sample shallow soils 0 – 2'

Breathing zone = 0.0 ppm

Down hole = 0.0 ppm

1355 groundwater samples; Nickel O&Grease

1400 Pulling rods

0-2' fine to med Sand, (SP) brown, ~~soft~~, loose, small gravel

1/2"(–) present = 10% – used entire 1 foot sections for sample, no visible signs of cont.

choose to skip #15 for now – access may be rather difficult disc. w/ Bill at site now

1410 began drilling @ location #16

1415 Soil samples from 0-2' collected (#16) 1415 soil 1420 water

fine to med. Sand (SP), brown, loose

small gravel up to 1" present

no visible signs of contam.

1420 starting GW Sampling O&Grease

H&S monitoring not done on this hole they moved too fast

photo #11 bill took of puddle on/near time oil just east of #3 – only area w/ sheen out there located near a large dump bucket

1425 – pulled rods and moving to next hole

SCHN00259811

(b) 5/21/98 Edible Oil

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1330 Next will be called loc# 50 out by the hydrogen tanks.

1440 – began drilling Bill wants GW, full sweat
breathing zone = 0.0 ppm PID
downhole = 0.0 ppm PID

#50 1445

1445 began sampling GW TPH-G D, VOC, PAH Nickel
oil & grease screen 18-22'
photo # 12 looking North at Hydrogen tank area
photo # 13 – of location of #16 looking S

1450 pulling rods from hole

1510 set up at location #5

#5 1505 1510

1505 soil samples from 0-2'
Asphalt fill, sand and gravel, (SW), @ ±6" wet or oily
0-4" looking, loose, grey color moist
gravel 1" minus present 10%

1510 collecting GW Oil grease & Nickle, screen 18-22'
breathing zone 0.0 ppm PID
Down hole 0.0 ppm PID photo #14 looking North

1515 pulling rods and
begin deconing rods

1540 began drilling at loc. #6

1540 soil sample from 0-2'
0-4" asphalt
0-2' sand (SW), brown, moist ~~wet~~, loose with
fine gravel up to ½(-) (10%)

#6 1545 1548

1545 began gw sampling Nickel, VOC's
screen 18-22' bgs.
breathing zone 0.0 ppm PID
down hole 0.0 ppm PID

1[illegible] pulling rods out

5/21/98 Edible Oil 130349 EO-01 (7)

1600 mob to location # 11

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#11 1605 1615

1605 soil sample from 0-2' photo
0-4" asphalt.
0-7' SW well graded sand, brown, moist loose, fine gravel present / Asphalt or stain at top 6"
1-2' SP fine sand, brown loose moist

1615 collect gw sample 18-22' VOC TPH-G, DPAH Nickle
DTW 16.5' b.g.s.
breathing zone 0.0 ppm PID
down hole 0.0 ppm PID

1625 pulling rods from hole

1635 Drillers and I leaving site for the day

Bruce Brady - Heine

1. all gw samples from the Geoprobe holes where screened from 18-22' unless otherwise noted.

2. All geoprobe holes were abandoned w/ bentonite chips - (small size) brought up to ground surface in dirt and capped w/ concrete if in asphalt.

S.S.H

SCHN00259813

8)

5/22/98 Friday Edible Oil

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

100 GeoTech on site
Bruce Brody-Heine on-site Tom Willson (driller)
Mike Kedianas (helper)

Site Conditions: overcast ± 55°F calm
purpose: continue geoprobe activity

0705 Hold H&S briefing, route to hospital, H&S plan, cont. at the site action levels, standard D protection

#8 not drilled

0710 Drillers begin attempt to get into location #8 - very tight.
Began calibrating TVA 1000 - see 5/21/98 for notes on procedure and equipment used.
RF = 1.00
calibrated to 100 ppm isobutylene lot 3-138

could not get into #8 location

0740 setup on #12 location

0745 collected soil sample = doing 2' runs side by side to get enough sample for lab. 2 8oz jar at (0-1', 1-2', 2-4')
0-3" asphalt
3"-1' fill SW, with gravel, black/grey, moist, loose
appears to be stained at 6"
1-4' SP Sand, brown fine to med, loose, moist, no staining visible
at 3' sand was wet for 4"

800 collecting gw sample
breathing space 0.0 FID 2.0 PID
downhole 0.5 FID 0.5 PID
* VOC, PAH TPH-G TPH-D, Nickel

#12 0745 0800

DTW = 16.6' b.g.s.
photo# looking West

B.B.H.

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5/22/98 Edible Oil 130341 (9)

0815 setting up on #10
photo looking west

0820 collecting soil samples: 2 runs to get enough sample volume
0-4" asphalt
same as #12 with exception of wet zone - none in
this hole, but at 3.5-4.0' sand become
med (coarsen up a little)

16-18 SP sand, fine to med brown, moist to wet
stained from 17 to 18' strong odor of petroleum

0835 collecting gw sample DTW = 16.4' #10 0820 0835

Oil & Grease & Dup		2 l
VOC		2 vo
TPH-D & Dup	time on Dups = 0800	2 l
TPH-G "		4 VOC
Nickel "		2 pl
Pall "		2 l

Drillers note strong odor at site when got to gw.
Duplicate samples labeled dup - and time 0800
Breating zone PID 5.0 ppm strong wind present to blow away odors
FID 0.0 ppm
Jar headspace 385 pid - alarm sounded
Downhole
During sampling pulling up small beads of oil

note to lab hot samples!

0900 pulled rods and heading to decon trailer to change out water

---

0915 Setting up on probe #9 difficult set up here #9 0925 0935

0925 began soil sampling collected Dup at 2-4' sample
same as #12 lithology
wet spot at 2.5' below grnd (6" long)

16-18 grey stained same as #10
smelled more like edible oil

(10) 5/22/98 Edible Oil

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0935 begin gw sampling PAH VOC TPH-D, G Nickel (#9)

breathing space: 2.0 ppm PID
3.0 ppm FID

note # tab downhole 30 PID DTW 16.6 bgs.
15 FID

photo taken looking West. hole just over retaining/containment wall.

Strong/heavy sheen on water samples - smells of petroleum

0950 pulling rods.

1000 setting up on loc # 7

1005 soil sampling at 7. (#7) 1005 1020

0-3" asphalt =
3"-1' gravel SW, brown, moist loose
1'-4' Sand SP, brown loose w/ occasional gravel piece -1"(+)

16-18 SP greyish stained, wet, loose slight petroleum odor.

1020 started gw sampling PAH VOC TPH-D-G, Nickel

breathing zone: 0.0 PID
0.0 FID

downhole: FID = 1001
PID = 80

photo of typical soils 2-4' (Sands)
photo of loc. #7 looking east.

DTW = 17.8 bgs sheens are present on water sample

1030 pulling rods

---

035 started drilling on location 60 formally 50 but that was the # for the hydrogen plant loc.

045 collecting gw samples PAH, VOC, TPH-G, D and Nickel

breathing zone 0.0 PID
0.0 FID

photo taken looking east

downhole 115 PID
160 FID

(#60) 1045

SCHN00259816

5/22/98 Confidential Attorney Work Product Prepared Under Direction of Counsel Edible Oil 130541 (11)

1035 Bill Cobb & Tom Zelenka / Bridgewater and sic arrived at the site discussed briefly what we have found. → they went off walking around the site.
sheen present in samples

1050 pulling rods

#46 1115

1100 starting at alt. loc # 46

1115 collecting GW samples 18-22 (as all the others)
breathing zone: 0.0 PID PAH, VOC, TPH-G
0.0 FID TPH-D
Downhole 1.0 PID Nickel.
0.5 FID

→ very slowly recharging hole! siltier ??
left tube in the ground and will return

→ spoke at length w/ Ross Ricke who just showed up
Bill / and Tom

#47 1140

1130 moved to # 47
check w/ at 18-22 - no water will drill down ± 4 additional feet screen at 22-26'

1140 began GW sampling TPH-D, G, VOC, PAH Nickel
photo taken
breathing zone 0.0 PID 0.0 FID
Downhole reading: 0.5 PID 0.5 FID

DTW = 22.5 slightly low producer at 22-26' ??

1200 Pulling Rods

1205 setting up at opt loc. # 48

#48 1215

1215 DTW = 17.8' screen 18-22'
breathing zone 0.0 PID 0.0 FID photo looking = North
Downhole " " " "

SCHN00259817

(12) 5/22/98 Confidential Attorney Work Product Prepared Under the Direction of Counsel Edible Oil 130341

1215 began sampling #48 TPH D, G, VOC, PAH Nickel

1220 pulling rods – there is an old well or valve junction located 8' to east of this hole – solid steel rod in middle of the hole cut at ground level ??

1230 Moving to next hole
setting up on hole #49

#49

1240 collecting gw sample: PAH VOC, TPH-D, G, Nickel 1240

photo looking east
breathing zone 0.0 PID FID out of Hydrogen
Downhole 0.5 PID

just barely into the water at 18-22'
drove down 4 more feet screen at 22-26'

1300
2 tried to opt # 46 to finish sampling
very clear water – fine sands ???

Drillers deconing rods

1315 Eq. Rinsate collect for Oil & Grease
PAH
VOC TPH-G
TPH-D
Nickle

Eq blank 1315

Poured DI water backwards through a screen section of rod. and collect samples

1320 finish sample # 46 and pulled rods.

1330 Driller left site following decon and placing decon in 55 gallon drum at stairs to southern most warehouse (east end) We filled up the existing drum and made 1 additional drum (1/4 full

SCHN00259818

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DECON DRUMS = 2 1(full)
1 (1/4 full)

labeled : Decon Water
Geoprobe Investigation
5/21/98 & 5/22/98
SIC
Non-hazardous

Per Bill Cobbs instructions I relabeled location #51 to #60 on sample jars (already done in notes)

Thoughts

✓ Bob - access monday morning
✓ Terry Jacks - screen length muddy in two areas??
sherwood covers beaver work.
✓ Screen length disc 16 - 31'??
✓ Survey schedule

1530 finished filling out the COC and spoke w/ Bob to verify the site would be accessable next week

Leaving site for office and lab

Samples submitted to NCA labs.

Bill Brady - Heim

1. Unless noted Geoprobe screened at 18-22'
2. all borings were abandoned w/ bentonite hole plug.

SCHN00259819

(14) 5/26/98 Tuesday Edible Oil 13034/

745 Bruce Body-Heine / CH2M Hill arrived on site

Confident[illegible]
Product Prepared
Direction of [illegible]

Site Conditions: partly cloudy / sunny ± 50° S F
Purpose: Install 5 monitoring wells to obtain gw flow div.

Contractor: Geo-Tech Mike Kadrmas
Mathew Slobig / helpers
Bradly James / Driller

900 Hold H & Safety Briefing: discussed contaminants at the site, route to Hospital, the H & S plan, aways wear eyeglasses, Hard hat etc... We have a cell phone available, signed plan:

Calibrated OVM: CH2M Hill 2232
w/ 100 ppm isobutylene Lot # 51909
using a 1.5 lpm regulator R2003
response factor will be set at 1.00
reading = 48.2 ppm

615 Drillers arrive - set up Decon area and set up rig on first well site: Location #16 MW-1

0900 = Began drilling.
I phoned Mark W at office river stage is ± 11'
and slowly rising general ↑ river stage = late June
at ± 16'
low at Sept/October at 4-6' CRD

Thus drop from 11 to 4' = 7' so the screens
set at 14 to 29' should be a good plan
to cover possible river stage fluctuation and
not go dry in the summer. Will get W.L. from
this well before setting other screens.

10 OVM reading: 0.0 ppm breathing space.

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loc. #16 Soil Cuttings log. (MW-1)

0 - 30' SP poorly graded fine to med sand. brown, moist loose.
the bottom 10' was grey color no odor
water encountered @ ± 17.0' b.g.s. during drilling

No soil samples were collected.

0920 breathing zone 0.0 ppm @ ± 20' b.g.s.
soil cuttings pile 0.0 ppm
drumed soil cutting 0.0 ppm

0930 began constructing well at loc. #16

screen interval 29 - 14' (15' long) 10 slot
blank schedule 40 ± 14' long
PVC, threaded joints 4" end cap at base

no water in hole during construction. (measured down to ± 25' b.g.s.

placed 10-20 sand from 30 to 11.5' b.g.s. (13 bags of sand)

0940 H2S safety Reading breathing zone 0.0 ppm
down hole 0.0 ppm

1000 H2S reading breathing zone 0.0
down well 0.0
down augers 0.0
water measured by driller at ± 15.8' b.g.s.
Surging well with a surge block at this point

1015 finished placing bentonite up to 18" b.g.s = hydrated w/ potable water from tank on the rig.

- Drumed all soil cuttings = 2 drums of soil

1030 DTW = 14.75 b.g.s. - may still be ~~feeling~~ showing effects of water put in hole to hydrate bentonite

6)

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Depth to water in River from pier surface
15.6' b. top of pier surface which is roughly equal to the grnd surface at site nearest the location. #16 #19

1100 Setup at location #19 (MW-2)

- Discussed with crew the strong hits we got here in odors when we drilled here before w/ geoprobe

- began drilling

1105 Breathing zone: 0.0 ppm
spoils pile : 0.0 ppm

Soil cuttings log. (MW-2)

0 - (sp) Sand (fine to medium) brown, loose moist

1110 at 10' b.g.s began encountering grey stained soil w/ strong odor. OVM at soil surface 12 ppm
breathing zone = 2.0 ppm

Soils became very, very stinky; hits of above 10 ppm in breathing zone not sustained. We all moved out of the way of the smell. to the side of the drill rig, upwind
once we stopped drilling the odor and readings in breathing zone dissipated to below 1 ppm rapidly.

Remember R.F = 1.00

1130 called J. Colley and discussed options for H&Safety. fun, John Mentioned that we needed to have 10 ppm for more than 5 minutes sustained

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to require an upgrade. We have not seen this at the site, very localized.

1145 Downhole = 10 ppm
Breathing zone = 1.5 ppm
soil pile = 176 ppm headspace above cuttings

Driller is using a full face respirator w/ GMM-E cartridge and we monitor the levels in breathing zone often. good light breeze blowing towards east row.

Well construction =

after d.i.w in last hole at 14' b.g.s. and river at 15' b.g.s. more screen up. also stained soil.

screen 11' – 26' b.g.s. 10 slot
sand 27' – 9' b.g.s. 10-20 sand. 14 bags

1205 phone office and get Mark working on a FAN for our next holes.

Drillers is OK constructing the well. helpers says it gets stinky when he pours sand. Bradley is in face mask. (Driller)

inside monitoring well reading was 322 ppm.

→ breathing zone is <1 ppm (0.5 – 0.8) when no work or no augers are being pulled.
Brad mentioned if he wiggled his jaw he could break the seal and get a good whiff of Odor.

1230 = Geotech Crew left site for lunch
we determined not to surge well due to hot odors in the well.

1300 began finishing construction of MW-2.

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reading from inside of well casing 288 ppm.
breathing zone = 0.2 ppm.
strong odors during well construction
1320 moved rig off of MW-2 hydrated bentonite and left two drums of dirt at location
both full drums.

Lance from Geotech arrived on-site w/ respirators for the drillers helpers → they remained upwind during construction of last well.
1345 decanned the auger flights and moved to loc. #5

MW-3 location #5

1360 W.L. in Monitoring Well #1 14.55' b. tip of PVC ± 14.85 b.g.s
really no change from before

MW-3 loc. #5 soil cuttings log

0-3" asphalt.
3"-1' fill gravel & sand (GP) some cobbles up to 5" round. brown, loose moist, 3/4" cobbles 85%
1'- SP fine to med Sand, brown, loose moist

355 breathing zone depth ± 8 to 10' = 0.1 ppm
soil cuttings - 0.1 ppm

410 breathing zone: 0.1 ppm at 15' b.g.s.
cuttings 0.1 ppm

1420 good breeze blowing at site now
1430 pulled rods to check water level: lost plug. Began fishing for it.
1450 finished fishing
water level 26' and rising
1500 19.8'; decided to set the screen at 11 to 26' b.g.s.
thinking the river is ± 15.5' b.g.s..

1440 Tim Todd of SIC swung by - he mentioned as they started

dredging in their slip they create an enormous sheen. (only 5 buckets or so. Tim mentioned the lab called the carbon weathered gasoline → they also had BTEX hits in sample

1510 began building the well screen 26 to 11' b.g.s. 10 slot with 4" cap
sand 10-20 Colorado Silica sand (bags)
50 lb bags
bentonite 3/4" chips NORIN (northwest resources inc)

1515 Mark Wa. arrived on site.
collected grab soil sample MW-03 grab 20'
1525 " " " " MW-03 grab - 25'

* Soil in MW-3 at depth 15 to 26' was stained gray and had an odor

1545 Mark W. and I sampled the MW-2 drum: collect one 8 oz jar MW-02-Grab @ 1545
still stank / strong odor.

1630 Geotech finish monument installation = flush mount
Mark and I examine the pier for location to set river water level.

1635 leaving site — Mark just left site before me.

Brian Brady-Heim

(20) 5/27/98 Wed Edible Oil 130341

Purpose: Continue installing monitering wells

0820 B. Brady-Heine arrived on-site
Drillers and crew here, repairing a frayed cable. same crew as on 5/26/98

Geo tech: Mike Kadrmas
Mathew Slobig
Bradley James Driller

Weather: 55°-60°F drizzles / expected clearing later in day

0830 H&S tailgate meeting, discussed yesterdays events and what is expected today. → told them of the fan I have in Jan. and discussed proper glove & level D proceedures

0855 Calibrating OVM CH2M HILL 2232
100ppm isobutylene lot # 51909
regulator 2003 1.5 liter
reading 98.6 ppm to span go:
RF = 1.00

0835 Drillers set up on MW-4 @ Location #3. MW-4

0845 breathing zone 0.0 ppm @ 5.0' depth
soil cutting 0.0 ppm

Soil Cuttings log MW-4

0-1' gravel fill GP, brown loose moist angular RKS
1-27' SP fine sand, brown loose, moist
at ± 6' was grey stained sand for ± 2'

at 15' strong staining odor - smell like solvent
water at 15.9' (±) driller noted

0900 breathing zone = 0.2 ppm
soil cuttings = 47 ppm
driller notes it smells of solvents

0900 Sample MW-4-Grab-25' collected

0915 sample MW4-Grab-23' collected

breathing zone = 2.7 ppm
soil cuttings = 22 ppm

0920 took water level in MW-3 = 15.9' b. top of PVC casing
we will set screen for # MW-4 at 11-26'

down augers 5.8 ppm
breathing zone 4.30 ppm

we installed 3' fan upwind and are airating the auger / well building area as we build the well.

0930 The OVM meter died — no longer working — I took it apart and could not revive the equipment
called Tim Bushnell in SEA to discuss. I recommended w/ one well left that we go to level C for this well. He was fine with that

0950 finished building the well.

MW-4 well construction
26-11' 10 slot screen 4" end cap.
27-9' 10-20 sand (13 bags)
9'-1.5' hole plug (6 hole plug)
concrete w/ sherwood nonshrink

1020 moved to last hole location #10
had trouble with overhead support structure

- 5/27/98 Edible Oil 130341

1050 began drilling MW-5 fan is operating at this well from the beginning

Soil cuttings long MW-5

0-3" asphalt
3"-3" fill subgrade gravel.
3' to 26 SP brown sand, loose, brown, moist

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took photo of site
located well ± 5' from ulitility located mark East direction down ¢ of drive

1120 Soil sample MW-5-Grab-16' - begining to get stained soils
1122 MW-5 Grab-20 - very strong smell stained

1130 because OVM not working we all went to level C.

1150 Soil Sample MW-5-Grab-25' collected strong sheen odor etc.

∞ putting monument in and steam cleaning the auger flights.

Well construction 24 - 11' 10 slot screen
(13 bags) 4" endcap 26 - 9' 10-20 colorado silica sand
9 - 1.5' bentonite chips
concrete w/ sherwood flush monument

1230 finish construction of the MW-5 and began breaking down the rig.

Comparison of MW-~~2~~ #19 to MW-5 #10 is relatively the same bad cond. #19 it seemed to start higher in the soils.

Drum Count 2 drums soil / well = 10 drums
2 decon drums.
2 decon drums from geoprobe / soil samples
6 empty drums left on site for devel.

5/27/98 Edible Oil 13034

	T	W
Total sand used	42	27
bentonite	17	12

4-wells to 26'
1 well to 29' (MW-1)

Attorney Work Product Prepared Under the Direction of Counsel

Bradley said that MW-2 @ loc. #19 — was incredibly stinky as he put the locking cap on the well

1330 Drill Rig off site
support truck off site

1340 Bruce Brody-Heine off-site after marking all the drums empty. or (full)

Dropped off the fan at Power Rents
Dropped samples w/ NCA for VOC
PAH
TPH-Dx
TPH-Gx

Bruce Brody-Heine

5/28/98

0835 arrive on site : Mark Wirganowicz / CH2M HILL
Dan Davenport / CH2M HILL
Ken Kong / CH2M HILL

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

Scott Flaharty & Dwight Guss of Stratus Corp. on site

0845 Bill Cobb / Bridgewater arrives

0845 hold H&S briefing: Mark, Dan, Ken, Scott, Dwight, & Bill

discussed constituents detected on site, beware of pipes on ground especially around tank farm, route to hospital, use catwalks whenever possible

site conditions: sunny, breezy, ~60°F

purpose: survey all soil & groundwater sampling locations, monitoring wells, and monitoring location on dock
Stratus on site to collect additional shallow soil samples per instructions from Bill Cobb

900 surveyors (Dan & Ken) walk site to elevation control points

920 helped surveyors shoot monitoring wells

015 take round of water levels at each mon. well plus from dock

020 DTW = 15.33 ft BTOC in MW-5
no odor, no sheen, PVC shavings

025 DTW = 14.12 ft BTOC in MW-1
no odor, no sheen, PVC shavings

035 DTW = 15.71 ft BTOC in MW-3
no odor, no sheen, PVC shavings

5/28/98

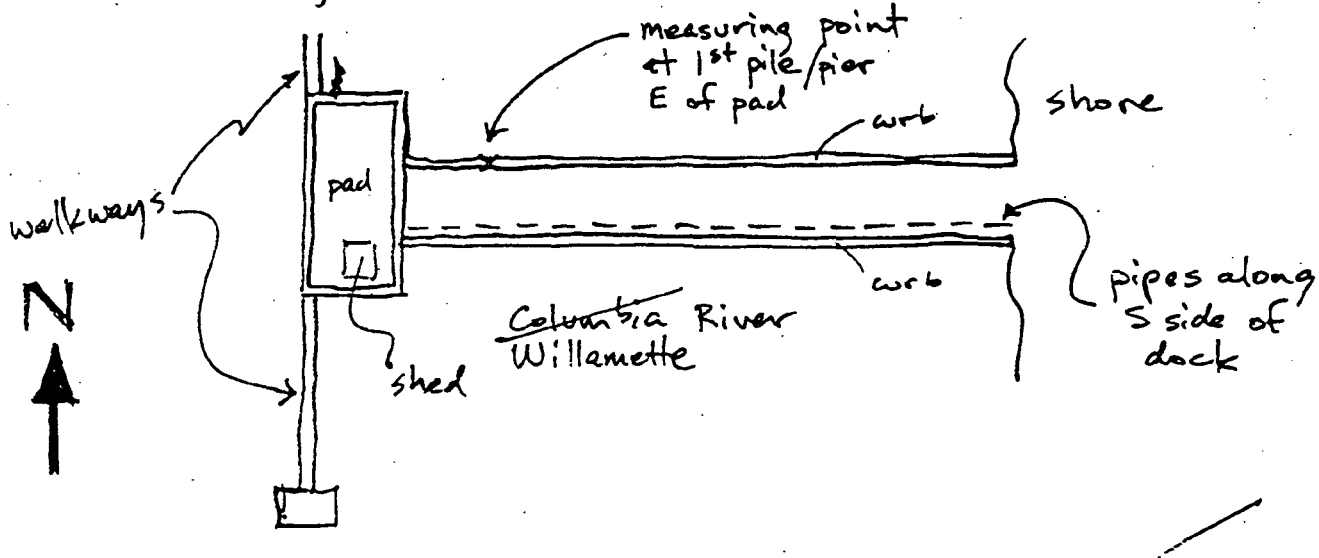
(25)

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

1045 DTW = 14.75 ft BTOC in MW-4
odor, no sheen, PVC shavings

1055 DTW = 14.47 ft BTOC in MW-2
product on probe, strong odor, no sheen, ~1" product on H2O

1110 DTW = 14.40 ft to Columbia River from dock, N side
measuring reference point top of curb on N side of dock



Mark Algozzini

20)

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

6-8-98 Purpose: Develope MW's

Conditions: Overcast, ~60°F, light breeze from W.

0900 - B. Collom + M. Abbott on site. calibrate instruments, start logs to MW-1

Calibration data:

OVM 580B w/10.0 eV lamp, HAZCO # 10676 cal'd to 100 ppm isobutylene lot # 3-138, 101.4 ppm obtained. RF = 1.0

Water level data:

Time	BZ OVM PPM	H.S.* OVM PPM	DTW	Well #	Comments
0928	Ø	25	12.79	MW1	well vented 5 min. before w.l. measure. No evidence of LNAPL
0939	Ø	89	14.19	MW3	" NO LNAPL
0959	Ø	9	13.65	MW4	well vented, No LNAPL, 20 ppm in protective casing
008	Ø	321	13.79	MW5	" , No LNAPL, 180 ppm "
1020	Ø	71	14.70	MW2	" , 18 ppm "

* H.S. = headspace inside well casing.

0942 - SST probe from HAZCO OVM is broken + falls off while measuring headspace on MW3 - falls directly into well

Field Instrument Calibration

Specific Conductance - YSI 30 - # 3520 Calibrated 1413 µS to 1,413 µS/cm.

pH - Orion 290 # 3581 4.01, 7.02, 10.07 @ 19.1°C Slope = 98.0

Temperature - ON YSI 30

Turbidity - HF Scientific DRT15CE - Set to 0.02 STANDARD (NTUs)

Note: Developement Instruction from Bruce Brody-Heine is to Surge & Purge A minimum of 55 gal. (1 drum) and 110 gallons MAX (2 drums)

MW01 OVM readings (PPM)

Breathing Zone	Time	well casing	Purge Bucket
~~10:54~~ 0.0	10:54	0.0	0.0
0.0	11:29	0.0	0.0
0.0	12:01	0.0	0.0
0.0	12:32	0.0	0.0

1 Full drum
1 46 gal. > 2 drums

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

6-8-98

MW#3 OVM Readings

Time	B.Z.	Well Casing	Purge Bucket	Comment
13:50	0.0	84	—	well Completion = 4 PPM
14:03	0.0	7		
14:17	0.0	<1	<1	Lt. wind from the West
14:31	0.0	33	<1	"
15:07	0.0	19	<1	"
15:30	0.0	8	<1	"

1600 Secured wells - Note: No locks on wells
625 off site.

Drums
1 Full Drum
1 Drum - 15 gal.

6/9/98 Mike Abbott, Barry Collom
Weather: Overcast 60-75°F

Purpose: Develope MW 4, 5, 2
0800 onsite
- Calibrate OVM 580B - HAZCO #10576 - Calibrated 99.5 PPM to 100 PPM Isobutylene ±2%
R.F. = 1.00
Parameter Meter Calibration
pH - Orion 290A #3581 - 4.00, 7.02, 10.09 @ 18.0°C Slope = 97.3
Specific Conductance - YSI 30, #3520, 1413 µS/cm to 1413 standard

Turbidimeter - HF Scientific - DRT15CE - Set to 0.02NTU Calibration Standard.

MW#4 OVM Readings

Time	Breathing Zone	Well Casing	Purge Bucket	Comment
08:29	~~92~~ 0	92	—	Initial DTW 13.76
08:55	0.0	5	0.0	
9:05	0.0	44	0.0	
0:917	0.0	328	0.0	
9 44	0.0	374	0.0	
1059	0.0	358	0.0	

Drums
1 - full drum

(28) 6/9/98 cont.

Confidential Attorney Work Product Prepared Under the Direction of Counsel.

MW5 OVM Readings (PPM)

Time	Breathing Zone	Well Casing	Purge Bucket	Comments
10 7	0.0	212	—	well Completion upon Opening = 32
				Breeze from the West
10:39	0.0	—	26	"
10:45	0.0	10	161	"
10:51	0.0	9	93	"
11:05	0.0	295	167	
11:16	0.0			
10:35	0.0	—	16	

~~10 max~~ ~~9 max~~

Drums
1-Full Drum

~~25-80°F~~ MW2 75-80°F

MW2 OVM Readings (PPM)

Time	Breathing Space	Well Casing	Purge Bucket	Comments
10:30	0.0	19	—	Initial Completion - 17
14:02	0.0	647	—	light wind from the west
14:10	<1	435	103	" "
14:21	0	310	8	" "
15:01	0	213	0 - clear water	" "

Decontaminated Sampling Equip. w/ Isopropyl Alcohol

Note: Installed 5-Green Locks on MW's Per Bruce Brady-Resine.

DRUM Inventory

Well	Gal./Drum
MW1	55
"	46
MW2	55
MW3	55
"	15
MW4	55
MW5	55

Note: left 2-5gal Buckets onsite with Empty Drums - Dirty.

~~3 empty Drums left onsite~~

1600 offsite

SCHN00259834

BRIDGEWATER

SCHNITZER

5/19/98 TRAVEL TIME

SCOTT FLAHERTY

08:00 SF ONSITE, SET UP DECON.

WEATHER CONDITIONS: RAINSHOWERS ~55°F.

MET WITH BOB (TRENT)

DECON AS FOLLOWS:

- WASH WITH WATER AND ALKONOX AND BRUSH
- RINSE WITH POTABLE WATER
- RINSE WITH DISTILLED WATER

09:45 JEFF WALTERS ONSITE

09:50 SS-22 GRAVEL 0.0' - 0.4'

SAND 0.4' - 2.0'

10:10 SS-23 GRAVEL 0.0' - 0.4'

ASPHALT 0.4' - UNABLE TO ADVANCE HAND AUGER

10:30 SS-24 GRAVEL 0.0' - 0.5'

0.5' - ROCK OR CONCRETE. UNABLE TO ADVANCE AUGER

10:45 SS-25 NO LOCATED

11:20 SS-31 GRAVEL 0.0' - 1.5'

SANDY - GRAVEL 1.5' - 2.0

12:09 SS-32 GRAVEL 0.0' - 0.5'

GRAVELY SAND 0.5' - 2.0'

12:30 SS-36 GRAVEL 0.0' - 0.8'

GRAVELY SAND 0.8' - 2.0'

16:17 SS-25 0.0' - 1.0' SANDY GRAVEL
1.0' - 2.0' SAND

16:25 SS-24 0.0' - 0.5' SANDY GRAVEL
0.5' - 2.0' SAND. LOOK IMPALTED AND HAS CHARACTISTICS OF ~~ASPHALTE~~ ASPHALT.

16 34 SS-51 Sandy Gravel

16:45 SS-21 RXR BALLAST 0' - 1.5'
SAND 1.5' - 20'

16:59 SS-44 DUP OF SS-21

17:30 SS-20 0.0' - 0.2' ASPHALT
0.2' - 0.5' GRAVEL
0.5' - 20' SAND

17:45 SS-45 DUP OF SS-20

1707 SS-41 Gravely Sand 0.0 TO 2.0

1715 SS 40 0.0 TO 1.5 ~~Gravely Sand~~ Sandy Gravel
1.5 TO 2.0 Sand

1240 SS-34 0.0 TO 1.0 Sandy Gravel
1.1 TO 2.0 Sand.

1300 SS-33 0.0 TO 1.0 Gravely Sand
1.0 TO 2.0 Sand.

1314 SS-35 0.0 TO 1.0 Gravely Sand
1.0 TO 2.0 Sand

13:30 SS-37 0.0' TO 1.0' ~~GRAVELY~~ SANDY GRAVEL
1.0' TO 2.0' GRAVELY SAND

~~SS-3~~

13:50 SS-~~42~~ 42 DUP OF SS 37

14:15 SS-38 0.0'-2.0' SANDY COBBLES

14:30 SS-43 DUP OF 38.

1540 SS-29 0.0 TO 2.0 Gravely Sand

1553 SS-30 0.0'-2.0' GRAVELY SAND

SS-28, 27, 26 DID NOT SAMPLE. AREAS ARE CONCRETE.

1606 SS-23 Sand 0.0 TO 2.0

17:24 SS-39 0.0' – 0.2' ASPHALT
0.2' – 0.4' GRAVEL
0.4' – 2.0' SAND.

18:00 SS-52

~~18:15~~ ARCHIVE DECON WATER 1 EACH
18:05 TAKE EQUIP BLANK
18:15 SCOTT FLOHERTY, JEFF WALTERS OFF SITE

BRIDGEWATER GROUP

SCHNITZER

5/28/98

0630 DWIGHT GUSS (DG) TRAVEL TO NORTHCREEK LAB
TO PICK UP COOLERS AND SAMPLE JARS

0700 DG AT NORTHCREEK

0800 SCOTT FLAHERTY (SF) AND DG ONSITE.
MEET WITH MARK VIRGONOV CH2M
TAIL GATE SAFETY MEETING.

0845 MEET WITH BILL COBB. GO OVER SAMPLE LOCATIONS.
FILLOUT SAMPLE LABELS
580-B OVM USED FOR AIR MONITORING
OVM BACKGROUND READS 0.2 PPM

10:44 WS-70, OVM = 0.2 PPM SUMP

10:50 WS-71, OVM = 0.0 PPM SUMP

11:00 WS-72, OVM = 0.0 PPM SUMP

11:10 WS-73, OVM = 0.0 PPM SUMP

11:20 WS-74, OVM = 0.0 PPM VAULT

11:35 LUNCH - 1200

12:18 SS 75 - 0.5, OVM = 0.0 PPM BEACH COMPOSITE

12:30 SS 75 - 1.5, OVM = 0.0 PPM BEACH COMPOSITE

12:55 SS-76 -, OVM = 0.0 PPM SURFACE TANK FARM

13:00 SS-77, OVM = 0.0 PPM SURFACE TANK FARM

13:05 SS-78, OVM = 0.0 PPM SURFACE TANK FARM

13:15 SS-79, OVM = 0.0 PPM SURFACE TANK FARM

13:20 SS-80, OVM = 0.0 PPM SURFACE TANK FARM

13:45 SS-81, OVM = 0.0 PPM SURFACE TANK FARM

13:50 SS-82, OVM = 0.0 PPM SURFACE TANK FARM

14:00 SS-83, OVM = 0.0 PPM SURFACE TANK FARM

14:05 SS-84, OVM 0.0 PPM SURFACE TANK FARM

14:10 SS-85, OVM 0.0 PPM SURFACE TANK FARM

14:45 SS-86, OVM 0.0 PPM GRATED DRAIN BY #6 COMPOSITE

15:00 SS-87, OVM=0.0 GRATED DRAIN COMPOSITE BY #5

15:05 SS-88, OVM=0.0 GRATED DRAIN COMPOSITE BY #28

15:10 SS-89, OVM=0.0 GRATED DRAIN COMPOSITE BY #7/10

15:20 SS-90, OVM = 0.0 PPM LOADING DOCK SOUTH OF WAREHOUSE

15:25 SS-91, OVM= 3.0 PPM LOADING DOCK SOUTH OF WAREHOUSE

15:30 SS-92, OVM= ~~0.0~~ 1.0 PPM LOADING DOCK SOUTH OF WAREHOUSE

15:35 SS-93, OVM = 0.0 PPM LOADING DOCK SOUTH OF WAREHOUSE

PACKAGE SAMPLE COOLERS. FILL OUT C.O.C.S

16:30 SF & DG OFF SITE

SF TRAVEL TO BRIDGEWATER OFFICE TO MEET BILL COBB

17:12 SF AT BRIDGEWATER

Laboratory Analytical Reports – August 30, 2000 Memo

SCHN00259842

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27 April, 2000

Bill Cobb
Bridgewater Group
4640 SW Macadam Ave. Suite 222
Portland, OR 97201

RE: Premier Edible Oil

Enclosed are the results of analyses for samples received by the laboratory on 04/07/00 10:10.
If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Philip Nerenberg
Laboratory Manager

Work Orders included in this report:
P004158

North Creek Analytical, Inc.
Environmental Laboratory Network

www.ncalabs.com

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP-A-1	P004158-01	Soil	03/31/00 12:00	04/07/00 10:10
TP-B	P004158-02	Soil	03/31/00 12:00	04/07/00 10:10
TP-A-2	P004158-03	Soil	03/31/00 12:00	04/07/00 10:10

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-1 (P004158-01) Soil					Sampled: 03/31/00	Received: 04/07/00			
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	04/12/00	04/13/00	0040400	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*97.8 %*	*50-150*							
TP-A-2 (P004158-03) Soil					Sampled: 03/31/00	Received: 04/07/00			
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	04/12/00	04/13/00	0040400	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*98.0 %*	*50-150*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-1 (P004158-01) Soil					Sampled: 03/31/00	Received: 04/07/00			
Acetone	ND	1000	ug/kg dry	1	EPA 8260B	04/14/00	04/14/00	0040491	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
2-Butanone	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
Carbon disulfide	ND	1000	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	500	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Laboratory Manager

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-1 (P004158-01) Soil					Sampled: 03/31/00	Received: 04/07/00			
Hexachlorobutadiene	ND	200	"	"	"	"	"	"	
2-Hexanone	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	500	"	"	"	"	"	"	
Methylene chloride	ND	500	"	"	"	"	"	"	
Naphthalene	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Styrene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	100	"	"	"	"	"	"	
o-Xylene	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	200	"	"	"	"	"	"	
Surr: 4-BFB	*90.6 %*	*70-130*							
Surr: 1,2-DCA-d4	*103 %*	*70-130*							
Surr: Dibromofluoromethane	*96.0 %*	*70-130*							
Surr: Toluene-d8	*102 %*	*70-130*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-1 (P004158-01) Soil					Sampled: 03/31/00	Received: 04/07/00			
Acenaphthene	ND	13.4	"	"	EPA 8270B-m	04/10/00	04/10/00	0040285	
Acenaphthylene	ND	13.4	"	"	"	"	"	"	
Anthracene	ND	13.4	"	"	"	"	"	"	
Benzo (a) anthracene	ND	13.4	"	"	"	"	"	"	
Benzo (a) pyrene	ND	13.4	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	13.4	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	13.4	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	13.4	"	"	"	"	"	"	
Chrysene	ND	13.4	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	13.4	"	"	"	"	"	"	
Fluoranthene	ND	13.4	"	"	"	"	"	"	
Fluorene	ND	13.4	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	13.4	"	"	"	"	"	"	
Naphthalene	ND	13.4	"	"	"	"	"	"	
Phenanthrene	ND	13.4	"	"	"	"	"	"	
Pyrene	ND	13.4	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*81.4 %*	*48-138*							
Surr: Nitrobenzene-d5	*85.7 %*	*50-132*							
Surr: p-Terphenyl-d14	*60.5 %*	*58-143*							
TP-A-2 (P004158-03) Soil					Sampled: 03/31/00	Received: 04/07/00			
Acenaphthene	ND	13.4	ug/kg dry	1	EPA 8270B-m	04/10/00	04/10/00	0040285	
Acenaphthylene	ND	13.4	"	"	"	"	"	"	
Anthracene	ND	13.4	"	"	"	"	"	"	
Benzo (a) anthracene	ND	13.4	"	"	"	"	"	"	
Benzo (a) pyrene	ND	13.4	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	13.4	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	13.4	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	13.4	"	"	"	"	"	"	
Chrysene	ND	13.4	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	13.4	"	"	"	"	"	"	
Fluoranthene	ND	13.4	"	"	"	"	"	"	
Fluorene	ND	13.4	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	13.4	"	"	"	"	"	"	
Naphthalene	ND	13.4	"	"	"	"	"	"	
Phenanthrene	ND	13.4	"	"	"	"	"	"	
Pyrene	ND	13.4	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*84.2 %*	*48-138*							

North Creek Analytical - Portland

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-2 (P004158-03) Soil						Sampled: 03/31/00	Received: 04/07/00		
Surr: Nitrobenzene-d5	*86.2 %*	*50-132*							
Surr: p-Terphenyl-d14	*59.2 %*	*58-143*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Conventional Chemistry Parameters per APHA/EPA Methods
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-B (P004158-02) Soil					Sampled: 03/31/00	Received: 04/07/00			
Oil & Grease	21.7	10.0	mg/kg dry	1	EPA 413.2	04/25/00	04/26/00	0040803	

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Miscellaneous Physical/Conventional Chemistry Parameters
North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-A-1 (P004158-01) Soil					Sampled: 03/31/00	Received: 04/07/00			
% Solids	**89.8**		% by Weight	1	NCA SOP	04/10/00	04/10/00	0040288	
TP-B (P004158-02) Soil					Sampled: 03/31/00	Received: 04/07/00			
% Solids	**87.5**		% by Weight	1	NCA SOP	04/24/00	04/24/00	0040742	
TP-A-2 (P004158-03) Soil					Sampled: 03/31/00	Received: 04/07/00			
% Solids	**90.1**		% by Weight	1	NCA SOP	04/10/00	04/10/00	0040288	

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040400 - TPH-D Extraction										
Blank (0040400-BLK1)				Prepared: 04/12/00	Analyzed: 04/13/00					
Diesel Range Organics	ND	25.0	mg/kg wet							
Heavy Oil Range Hydrocarbons	ND	50.0	"							
Surr: 1-Chlorooctadecane	*4.55*		"	*5.00*		*91.0*	*50-150*			
LCS (0040400-BS1)				Prepared: 04/12/00	Analyzed: 04/13/00					
Diesel Range Organics	120	25.0	mg/kg wet	127		94.5	50-150			
Heavy Oil Range Hydrocarbons	65.8	50.0	"	75.9		86.7	50-150			
Surr: 1-Chlorooctadecane	*5.00*		"	*5.00*		*100*	*50-150*			
Duplicate (0040400-DUP1)		Source: P004186-01		Prepared: 04/12/00	Analyzed: 04/13/00					
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*5.08*		"	*5.38*		*94.4*	*50-150*			
Duplicate (0040400-DUP2)		Source: P004186-02		Prepared: 04/12/00	Analyzed: 04/13/00					
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*5.01*		"	*5.33*		*94.0*	*50-150*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040491 - EPA 5030										
Blank (0040491-BLK1)				Prepared: 04/14/00 Analyzed: 04/15/00						
Acetone	ND	1000	ug/kg wet							
Benzene	ND	100	"							
Bromobenzene	ND	100	"							
Bromochloromethane	ND	100	"							
Bromodichloromethane	ND	100	"							
Bromoform	ND	100	"							
Bromomethane	ND	500	"							
2-Butanone	ND	1000	"							
n-Butylbenzene	ND	100	"							
sec-Butylbenzene	ND	100	"							
tert-Butylbenzene	ND	100	"							
Carbon disulfide	ND	1000	"							
Carbon tetrachloride	ND	100	"							
Chlorobenzene	ND	100	"							
Chloroethane	ND	100	"							
Chloroform	ND	100	"							
Chloromethane	ND	500	"							
2-Chlorotoluene	ND	100	"							
4-Chlorotoluene	ND	100	"							
1,2-Dibromo-3-chloropropane	ND	500	"							
Dibromochloromethane	ND	100	"							
1,2-Dibromoethane	ND	100	"							
Dibromomethane	ND	100	"							
1,2-Dichlorobenzene	ND	100	"							
1,3-Dichlorobenzene	ND	100	"							
1,4-Dichlorobenzene	ND	100	"							
Dichlorodifluoromethane	ND	500	"							
1,1-Dichloroethane	ND	100	"							
1,2-Dichloroethane	ND	100	"							
1,1-Dichloroethene	ND	100	"							
cis-1,2-Dichloroethene	ND	100	"							
trans-1,2-Dichloroethene	ND	100	"							
1,2-Dichloropropane	ND	100	"							
1,3-Dichloropropane	ND	100	"							
2,2-Dichloropropane	ND	100	"							
1,1-Dichloropropene	ND	100	"							

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Bridgewater Group 4640 SW Macadam Ave. Suite 222 Portland, OR 97201	Project: Premier Edible Oil Project Number: SIC-004 Project Manager: Bill Cobb	**Reported:** 04/27/00 17:13

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040491 - EPA 5030										
Blank (0040491-BLK1)				Prepared: 04/14/00 Analyzed: 04/15/00						
cis-1,3-Dichloropropene	ND	100	ug/kg wet							
trans-1,3-Dichloropropene	ND	100	"							
Ethylbenzene	ND	100	"							
Hexachlorobutadiene	ND	200	"							
2-Hexanone	ND	1000	"							
Isopropylbenzene	ND	100	"							
p-Isopropyltoluene	ND	100	"							
4-Methyl-2-pentanone	ND	500	"							
Methylene chloride	ND	500	"							
Naphthalene	ND	100	"							
n-Propylbenzene	ND	100	"							
Styrene	ND	100	"							
1,1,1,2-Tetrachloroethane	ND	100	"							
1,1,2,2-Tetrachloroethane	ND	100	"							
Tetrachloroethene	ND	100	"							
Toluene	ND	100	"							
1,2,3-Trichlorobenzene	ND	100	"							
1,2,4-Trichlorobenzene	ND	100	"							
1,1,1-Trichloroethane	ND	100	"							
1,1,2-Trichloroethane	ND	100	"							
Trichloroethene	ND	100	"							
Trichlorofluoromethane	ND	100	"							
1,2,3-Trichloropropane	ND	100	"							
1,2,4-Trimethylbenzene	ND	100	"							
1,3,5-Trimethylbenzene	ND	100	"							
Vinyl chloride	ND	100	"							
o-Xylene	ND	100	"							
m,p-Xylene	ND	200	"							
Surr: 4-BFB	*1820*		"	*2000*		*91.0*	*70-130*			
Surr: 1,2-DCA-d4	*2280*		"	*2000*		*114*	*70-130*			
Surr: Dibromofluoromethane	*2180*		"	*2000*		*109*	*70-130*			
Surr: Toluene-d8	*2400*		"	*2000*		*120*	*70-130*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040491 - EPA 5030										
LCS (0040491-BS1)				Prepared: 04/14/00		Analyzed: 04/15/00				
Benzene	2600	100	ug/kg wet	2500		104	80-135			
Chlorobenzene	2550	100	"	2500		102	80-135			
1,1-Dichloroethene	2560	100	"	2500		102	60-150			
Toluene	2620	100	"	2500		105	80-130			
Trichloroethene	2360	100	"	2500		94.4	70-135			
Surr: 4-BFB	*1990*		"	*2000*		*99.5*	*70-130*			
Surr: 1,2-DCA-d4	*2230*		"	*2000*		*112*	*70-130*			
Surr: Dibromofluoromethane	*2090*		"	*2000*		*105*	*70-130*			
Surr: Toluene-d8	*2170*		"	*2000*		*109*	*70-130*			
Matrix Spike (0040491-MS1)		Source: P004142-01		Prepared: 04/14/00		Analyzed: 04/15/00				
Benzene	3120	100	ug/kg dry	3260	ND	95.7	60-135			
Chlorobenzene	3090	100	"	3260	ND	94.8	65-125			
1,1-Dichloroethene	2900	100	"	3260	ND	89.0	60-135			
Toluene	3270	100	"	3260	ND	99.9	60-125			
Trichloroethene	2880	100	"	3260	ND	88.3	60-125			
Surr: 4-BFB	*2210*		"	*2610*		*84.7*	*70-130*			
Surr: 1,2-DCA-d4	*2670*		"	*2610*		*102*	*70-130*			
Surr: Dibromofluoromethane	*2540*		"	*2610*		*97.3*	*70-130*			
Surr: Toluene-d8	*2760*		"	*2610*		*106*	*70-130*			
Matrix Spike Dup (0040491-MSD1)		Source: P004142-01		Prepared: 04/14/00		Analyzed: 04/15/00				
Benzene	3170	100	ug/kg dry	3260	ND	97.2	60-135	1.59	25	
Chlorobenzene	3150	100	"	3260	ND	96.6	65-125	1.92	25	
1,1-Dichloroethene	2920	100	"	3260	ND	89.6	60-135	0.687	25	
Toluene	3230	100	"	3260	ND	98.7	60-125	1.23	25	
Trichloroethene	2900	100	"	3260	ND	89.0	60-125	0.692	25	
Surr: 4-BFB	*2370*		"	*2610*		*90.8*	*70-130*			
Surr: 1,2-DCA-d4	*2570*		"	*2610*		*98.5*	*70-130*			
Surr: Dibromofluoromethane	*2430*		"	*2610*		*93.1*	*70-130*			
Surr: Toluene-d8	*2610*		"	*2610*		*100*	*70-130*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040285 - EPA 3550										
Blank (0040285-BLK1)				Prepared & Analyzed: 04/10/00						
Acenaphthene	ND	13.4	ug/kg wet							
Acenaphthylene	ND	13.4	"							
Anthracene	ND	13.4	"							
Benzo (a) anthracene	ND	13.4	"							
Benzo (a) pyrene	ND	13.4	"							
Benzo (b) fluoranthene	ND	13.4	"							
Benzo (ghi) perylene	ND	13.4	"							
Benzo (k) fluoranthene	ND	13.4	"							
Chrysene	ND	13.4	"							
Dibenzo (a,h) anthracene	ND	13.4	"							
Fluoranthene	ND	13.4	"							
Fluorene	ND	13.4	"							
Indeno (1,2,3-cd) pyrene	ND	13.4	"							
Naphthalene	ND	13.4	"							
Phenanthrene	ND	13.4	"							
Pyrene	ND	13.4	"							
Surr: 2-Fluorobiphenyl	*72.8*		"	*83.3*		*87.4*	*48-138*			
Surr: Nitrobenzene-d5	*76.2*		"	*83.3*		*91.5*	*50-132*			
Surr: p-Terphenyl-d14	*55.4*		"	*83.3*		*66.5*	*58-143*			
LCS (0040285-BS1)				Prepared & Analyzed: 04/10/00						
Acenaphthene	53.0	13.4	ug/kg wet	83.3		63.6	50-150			
Benzo (a) pyrene	54.5	13.4	"	83.3		65.4	50-150			
Pyrene	41.7	13.4	"	83.3		50.1	50-150			
Surr: 2-Fluorobiphenyl	*59.3*		"	*83.3*		*71.2*	*48-138*			
Surr: Nitrobenzene-d5	*62.8*		"	*83.3*		*75.4*	*50-132*			
Surr: p-Terphenyl-d14	*42.5*		"	*83.3*		*51.0*	*58-143*			*Q-01*

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040285 - EPA 3550										
Matrix Spike (0040285-MS1)		**Source: P004158-03**		**Prepared & Analyzed: 04/10/00**						
Acenaphthene	67.1	13.4	ug/kg dry	92.5	ND	72.5	50-150			
Benzo (a) pyrene	72.3	13.4	"	92.5	ND	78.2	50-150			
Pyrene	55.1	13.4	"	92.5	ND	59.6	50-150			
Surr: 2-Fluorobiphenyl	*75.9*		"	*92.5*		*82.1*	*48-138*			
Surr: Nitrobenzene-d5	*79.1*		"	*92.5*		*85.5*	*50-132*			
Surr: p-Terphenyl-d14	*57.1*		"	*92.5*		*61.7*	*58-143*			
Matrix Spike Dup (0040285-MSD1)		**Source: P004158-03**		**Prepared & Analyzed: 04/10/00**						
Acenaphthene	71.4	13.4	ug/kg dry	92.5	ND	77.2	50-150	6.21	60	
Benzo (a) pyrene	71.7	13.4	"	92.5	ND	77.5	50-150	0.833	60	
Pyrene	55.2	13.4	"	92.5	ND	59.7	50-150	0.181	60	
Surr: 2-Fluorobiphenyl	*81.1*		"	*92.5*		*87.7*	*48-138*			
Surr: Nitrobenzene-d5	*87.5*		"	*92.5*		*94.6*	*50-132*			
Surr: p-Terphenyl-d14	*57.4*		"	*92.5*		*62.1*	*58-143*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Conventional Chemistry Parameters per APHA/EPA Methods - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0040803 - TPH Freon Extraction										
Blank (0040803-BLK1)				Prepared: 04/25/00	Analyzed: 04/26/00					
Oil & Grease	ND	20.0	mg/kg wet							
LCS (0040803-BS1)				Prepared: 04/25/00	Analyzed: 04/26/00					
Oil & Grease	204	20.0	mg/kg wet	200		102	50-150			
Duplicate (0040803-DUP1)		Source: P004158-02		Prepared: 04/25/00	Analyzed: 04/26/00					
Oil & Grease	33.6	10.0	mg/kg dry		21.7			43.0	50	

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: SIC-004	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	04/27/00 17:13

Notes and Definitions

Q-01	The spike recovery, and/or RPD, for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 (541) 383-9310 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #: P004158

CLIENT: Schnitzer Investment Corp
REPORT TO: Bridgewater Group, Inc. c/o Bill Cibb
ADDRESS: 4640 SW Macadam Suite 222 Portland OR 97201
PHONE: 503-973-6068 FAX: 503-973-6069

INVOICE TO: Same
P.O. NUMBER:

PROJECT NAME: Premier Edible Oils
PROJECT NUMBER: SIC-004
SAMPLED BY: B Cibb

TURNAROUND REQUEST in Business Days*
Organic & Inorganic Analyses: 10 (STD.) | 7 | 5 | 4 | 3 | 2 | 1 | <1
Petroleum Hydrocarbon Analyses: 5 (STD.) | 4 | 3 | 2 | 1 | <1
OTHER — Please Specify
*Turnaround Requests less than standard may incur Rush Charges

REQUESTED ANALYSES

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TPH-Dx	Oil & Grease	PAHs (8270-SIM)	MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA ID
1. TP-A-1	3/31/00	✓		✓	S	1		
2. TP-B	3/31/00		✓		S	1		
3. TP-~~B~~A-2	3/31/00	✓		✓	S	1		
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								

RELINQUISHED BY:	DATE: 4-7-00	RECEIVED BY:	DATE: 4-7-00
PRINT NAME: Bill Cibb FIRM: BGI	TIME: 0935	PRINT NAME: Larry Spangler FIRM: NCA	TIME: 0935
RELINQUISHED BY:	DATE: 4-7-00	RECEIVED BY:	DATE: 4/7
PRINT NAME: Larry Spangler FIRM: NCA	TIME:	PRINT NAME: Eric Morgan FIRM: NCLT	TIME: 1010

ADDITIONAL REMARKS:
TEMP:

SCHN00259860

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8 August, 2000

Bill Cobb
Bridgewater Group
4640 SW Macadam Ave. Suite 222
Portland, OR 97201

RE: Premier Edible Oil

Enclosed are the results of analyses for samples received by the laboratory on 05/05/00 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Philip Nerenberg
Laboratory Manager

Work Orders included in this report:
P005140

North Creek Analytical, Inc.
Environmental Laboratory Network

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TP-4-A	P005140-01	Soil	05/04/00 14:45	05/05/00 15:00
TP-5-A	P005140-02	Soil	05/04/00 15:10	05/05/00 15:00
TP-5-B	P005140-03	Soil	05/04/00 15:20	05/05/00 15:00
TP-5-C	P005140-04	Soil	05/04/00 15:30	05/05/00 15:00
TP-5-D	P005140-05	Soil	05/04/00 15:45	05/05/00 15:00
TP-6-A	P005140-06	Soil	05/04/00 16:10	05/05/00 15:00
TP-6-B	P005140-07	Soil	05/04/00 16:35	05/05/00 15:00

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Gasoline Hydrocarbons per NW TPH-Gx Method

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-4-A (P005140-01) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/10/00	0050221	
Surr: 4-BFB	*96.8 %*	*50-150*							
TP-5-A (P005140-02) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/10/00	0050221	
Surr: 4-BFB	*99.7 %*	*50-150*							
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	**8.74**	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/11/00	0050221	
Surr: 4-BFB	*124 %*	*50-150*							
TP-5-C (P005140-04) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/11/00	0050221	
Surr: 4-BFB	*122 %*	*50-150*							
TP-5-D (P005140-05) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	**7.39**	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/11/00	0050221	
Surr: 4-BFB	*115 %*	*50-150*							
TP-6-A (P005140-06) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/10/00	0050221	
Surr: 4-BFB	*96.1 %*	*50-150*							
TP-6-B (P005140-07) Soil					Sampled: 05/04/00	Received: 05/05/00			
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry	1	NW TPH-Gx	05/08/00	05/10/00	0050221	
Surr: 4-BFB	*96.8 %*	*50-150*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-4-A (P005140-01) Soil					Sampled: 05/04/00	Received: 05/05/00			**A-01**
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	
Heavy Oil Range Hydrocarbons	**53.9**	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*107 %*	*50-150*							
TP-5-A (P005140-02) Soil					Sampled: 05/04/00	Received: 05/05/00			
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*102 %*	*50-150*							
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			**A-01**
Diesel Range Organics	**189**	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	D-15
Heavy Oil Range Hydrocarbons	**90.0**	50.0	"	"	"	"	"	"	D-15
Surr: 1-Chlorooctadecane	*108 %*	*50-150*							
TP-5-C (P005140-04) Soil					Sampled: 05/04/00	Received: 05/05/00			
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	
Heavy Oil Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*108 %*	*50-150*							
TP-5-D (P005140-05) Soil					Sampled: 05/04/00	Received: 05/05/00			**A-01**
Diesel Range Organics	**69.0**	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	
Heavy Oil Range Hydrocarbons	**226**	50.0	"	"	"	"	"	"	
Surr: 1-Chlorooctadecane	*116 %*	*50-150*							
TP-6-A (P005140-06) Soil					Sampled: 05/04/00	Received: 05/05/00			**A-01**
Diesel Range Organics	ND	25.0	mg/kg dry	1	NWTPH-Dx	05/09/00	05/11/00	0050246	
Heavy Oil Range Hydrocarbons	**55.7**	50.0	"	"	"	"	"	"	D-15
Surr: 1-Chlorooctadecane	*101 %*	*50-150*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-6-B (P005140-07) Soil					Sampled: 05/04/00	Received: 05/05/00			
Diesel Range Organics	**121**	25.0	mg/kg dry	1	NWTPH-Dx	05/10/00	05/11/00	0050284	D-15
Heavy Oil Range Hydrocarbons	**131**	50.0	"	"	"	"	"	"	D-15
Surr: 1-Chlorooctadecane	*103 %*	*50-150*							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philip Nerenberg, Laboratory Manager

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			
Acetone	ND	1000	ug/kg dry	1	EPA 8260B	05/18/00	05/18/00	0050532	
Benzene	ND	100	"	"	"	"	"	"	
Bromobenzene	ND	100	"	"	"	"	"	"	
Bromochloromethane	ND	100	"	"	"	"	"	"	
Bromodichloromethane	ND	100	"	"	"	"	"	"	
Bromoform	ND	100	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
2-Butanone	ND	1000	"	"	"	"	"	"	
n-Butylbenzene	ND	100	"	"	"	"	"	"	
sec-Butylbenzene	ND	100	"	"	"	"	"	"	
tert-Butylbenzene	ND	100	"	"	"	"	"	"	
Carbon disulfide	ND	1000	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Chloroethane	ND	100	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
2-Chlorotoluene	ND	100	"	"	"	"	"	"	
4-Chlorotoluene	ND	100	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	500	"	"	"	"	"	"	
Dibromochloromethane	ND	100	"	"	"	"	"	"	
1,2-Dibromoethane	ND	100	"	"	"	"	"	"	
Dibromomethane	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,3-Dichloropropane	ND	100	"	"	"	"	"	"	
2,2-Dichloropropane	ND	100	"	"	"	"	"	"	
1,1-Dichloropropene	ND	100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	100	"	"	"	"	"	"	

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Philip Nerenberg, Laboratory Manager

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Volatile Organic Compounds per EPA Method 8260B

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			
Hexachlorobutadiene	ND	200	ug/kg dry	1	EPA 8260B	05/18/00	05/18/00	0050532	
2-Hexanone	ND	1000	"	"	"	"	"	"	
Isopropylbenzene	ND	100	"	"	"	"	"	"	
p-Isopropyltoluene	ND	100	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	500	"	"	"	"	"	"	
Methylene chloride	ND	500	"	"	"	"	"	"	
Naphthalene	ND	100	"	"	"	"	"	"	
n-Propylbenzene	ND	100	"	"	"	"	"	"	
Styrene	ND	100	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	100	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Toluene	ND	100	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	100	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	100	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	100	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	100	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	100	"	"	"	"	"	"	
Vinyl chloride	ND	100	"	"	"	"	"	"	
o-Xylene	ND	100	"	"	"	"	"	"	
m,p-Xylene	ND	200	"	"	"	"	"	"	
Surr: 4-BFB	*98.4 %*	*70-130*							
Surr: 1,2-DCA-d4	*105 %*	*70-130*							
Surr: Dibromofluoromethane	*99.6 %*	*70-130*							
Surr: Toluene-d8	*95.6 %*	*70-130*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-4-A (P005140-01) Soil					Sampled: 05/04/00	Received: 05/05/00			**R-05**
Acenaphthene	ND	134	ug/kg dry	10	EPA 8270B-m	05/18/00	05/22/00	0050568	
Acenaphthylene	**155**	134	"	"	"	"	"	"	
Anthracene	**164**	134	"	"	"	"	"	"	
Benzo (a) anthracene	ND	134	"	"	"	"	"	"	
Benzo (a) pyrene	**238**	134	"	"	"	"	"	"	
Benzo (b) fluoranthene	**177**	134	"	"	"	"	"	"	
Benzo (ghi) perylene	**299**	134	"	"	"	"	"	"	
Benzo (k) fluoranthene	**171**	134	"	"	"	"	"	"	
Chrysene	**208**	134	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	134	"	"	"	"	"	"	
Fluoranthene	**394**	134	"	"	"	"	"	"	
Fluorene	ND	134	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	**196**	134	"	"	"	"	"	"	
Naphthalene	ND	134	"	"	"	"	"	"	
Phenanthrene	**139**	134	"	"	"	"	"	"	
Pyrene	**418**	134	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*85.4 %*	*20-158*							
Surr: Nitrobenzene-d5	*75.7 %*	*26-146*							
Surr: p-Terphenyl-d14	*70.9 %*	*41-141*							
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			**R-05**
Acenaphthene	ND	134	ug/kg dry	10	EPA 8270B-m	05/18/00	05/22/00	0050568	
Acenaphthylene	**192**	134	"	"	"	"	"	"	
Anthracene	**241**	134	"	"	"	"	"	"	
Benzo (a) anthracene	**253**	134	"	"	"	"	"	"	
Benzo (a) pyrene	**395**	134	"	"	"	"	"	"	
Benzo (b) fluoranthene	**282**	134	"	"	"	"	"	"	
Benzo (ghi) perylene	**442**	134	"	"	"	"	"	"	
Benzo (k) fluoranthene	**275**	134	"	"	"	"	"	"	
Chrysene	**370**	134	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	134	"	"	"	"	"	"	
Fluoranthene	**992**	134	"	"	"	"	"	"	
Fluorene	ND	134	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	**290**	134	"	"	"	"	"	"	
Naphthalene	ND	134	"	"	"	"	"	"	
Phenanthrene	**532**	134	"	"	"	"	"	"	
Pyrene	**833**	134	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*106 %*	*20-158*							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Polynuclear Aromatic Compounds per EPA 8270M-SIM

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
TP-5-B (P005140-03) Soil					Sampled: 05/04/00	Received: 05/05/00			**R-05**
Surr: Nitrobenzene-d5	*74.8 %*	*26-146*							
Surr: p-Terphenyl-d14	*73.8 %*	*41-141*							
TP-5-C (P005140-04) Soil					Sampled: 05/04/00	Received: 05/05/00			**R-05**
Acenaphthene	ND	67.0	ug/kg dry	5	EPA 8270B-m	05/18/00	05/22/00	0050568	
Acenaphthylene	ND	67.0	"	"	"	"	"	"	
Anthracene	**74.0**	67.0	"	"	"	"	"	"	
Benzo (a) anthracene	**72.7**	67.0	"	"	"	"	"	"	
Benzo (a) pyrene	**120**	67.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	**89.1**	67.0	"	"	"	"	"	"	
Benzo (ghi) perylene	**140**	67.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	**80.3**	67.0	"	"	"	"	"	"	
Chrysene	**107**	67.0	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	67.0	"	"	"	"	"	"	
Fluoranthene	**218**	67.0	"	"	"	"	"	"	
Fluorene	ND	67.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	**90.4**	67.0	"	"	"	"	"	"	
Naphthalene	ND	67.0	"	"	"	"	"	"	
Phenanthrene	**126**	67.0	"	"	"	"	"	"	
Pyrene	**263**	67.0	"	"	"	"	"	"	
Surr: 2-Fluorobiphenyl	*85.7 %*	*20-158*							
Surr: Nitrobenzene-d5	*58.7 %*	*26-146*							
Surr: p-Terphenyl-d14	*69.2 %*	*41-141*							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Gasoline Hydrocarbons per NW-TPH-Gx Method - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050221 - EPA 5035										
Blank (0050221-BLK1)				Prepared: 05/08/00		Analyzed: 05/10/00				
Gasoline Range Hydrocarbons	ND	4.00	mg/kg wet							
Surr: 4-BFB	*2.53*		"	*2.50*		*101*	*50-150*			
LCS (0050221-BS1)				Prepared: 05/08/00		Analyzed: 05/10/00				
Gasoline Range Hydrocarbons	70.6	4.00	mg/kg wet	62.5		113	50-150			
Surr: 4-BFB	*3.35*		"	*2.50*		*134*	*50-150*			
Duplicate (0050221-DUP1)		Source: P005140-01		Prepared: 05/08/00		Analyzed: 05/10/00				
Gasoline Range Hydrocarbons	ND	4.00	mg/kg dry		ND				50	
Surr: 4-BFB	*2.89*		"	*3.11*		*92.9*	*50-150*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	**Reported:**
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Diesel and Heavy Range Hydrocarbons per NWTPH-Dx Method - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050246 - TPH-D Extraction										
Blank (0050246-BLK1)				Prepared: 05/09/00 Analyzed: 05/10/00						
Diesel Range Organics	ND	25.0	mg/kg wet							
Heavy Oil Range Hydrocarbons	ND	50.0	"							
Surr: 1-Chlorooctadecane	*4.43*		"	*5.00*		*88.6*	*50-150*			
LCS (0050246-BS1)				Prepared: 05/09/00 Analyzed: 05/10/00						
Diesel Range Organics	107	25.0	mg/kg wet	127		84.3	50-150			
Heavy Oil Range Hydrocarbons	60.8	50.0	"	75.9		80.1	50-150			
Surr: 1-Chlorooctadecane	*5.43*		"	*5.00*		*109*	*50-150*			
Duplicate (0050246-DUP1)		**Source: P005136-04**		Prepared: 05/09/00 Analyzed: 05/10/00						
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	ND	50.0	"		ND				50	
Surr: 1-Chlorooctadecane	*6.44*		"	*7.11*		*90.6*	*50-150*			
Batch 0050284 - TPH-D Extraction										
Blank (0050284-BLK1)				Prepared: 05/10/00 Analyzed: 05/11/00						
Diesel Range Organics	ND	25.0	mg/kg wet							
Heavy Oil Range Hydrocarbons	ND	50.0	"							
Surr: 1-Chlorooctadecane	*4.80*		"	*5.00*		*96.0*	*50-150*			
LCS (0050284-BS1)				Prepared: 05/10/00 Analyzed: 05/11/00						
Diesel Range Organics	137	25.0	mg/kg wet	127		108	50-150			
Heavy Oil Range Hydrocarbons	73.0	50.0	"	75.9		96.2	50-150			
Surr: 1-Chlorooctadecane	*5.80*		"	*5.00*		*116*	*50-150*			
Duplicate (0050284-DUP1)		**Source: P005140-01**		Prepared: 05/10/00 Analyzed: 05/11/00						
Diesel Range Organics	ND	25.0	mg/kg dry		ND				50	
Heavy Oil Range Hydrocarbons	56.4	50.0	"		53.9			4.53	50	
Surr: 1-Chlorooctadecane	*6.69*		"	*6.23*		*107*	*50-150*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050532 - EPA 5035										
Blank (0050532-BLK1)				Prepared & Analyzed: 05/18/00						
Acetone	ND	1000	ug/kg wet							
Benzene	ND	100	"							
Bromobenzene	ND	100	"							
Bromochloromethane	ND	100	"							
Bromodichloromethane	ND	100	"							
Bromoform	ND	100	"							
Bromomethane	ND	500	"							
2-Butanone	ND	1000	"							
n-Butylbenzene	ND	100	"							
sec-Butylbenzene	ND	100	"							
tert-Butylbenzene	ND	100	"							
Carbon disulfide	ND	1000	"							
Carbon tetrachloride	ND	100	"							
Chlorobenzene	ND	100	"							
Chloroethane	ND	100	"							
Chloroform	ND	100	"							
Chloromethane	ND	500	"							
2-Chlorotoluene	ND	100	"							
4-Chlorotoluene	ND	100	"							
1,2-Dibromo-3-chloropropane	ND	500	"							
Dibromochloromethane	ND	100	"							
1,2-Dibromoethane	ND	100	"							
Dibromomethane	ND	100	"							
1,2-Dichlorobenzene	ND	100	"							
1,3-Dichlorobenzene	ND	100	"							
1,4-Dichlorobenzene	ND	100	"							
Dichlorodifluoromethane	ND	500	"							
1,1-Dichloroethane	ND	100	"							
1,2-Dichloroethane	ND	100	"							
1,1-Dichloroethene	ND	100	"							
cis-1,2-Dichloroethene	ND	100	"							
trans-1,2-Dichloroethene	ND	100	"							
1,2-Dichloropropane	ND	100	"							
1,3-Dichloropropane	ND	100	"							
2,2-Dichloropropane	ND	100	"							
1,1-Dichloropropene	ND	100	"							

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050532 - EPA 5035										
Blank (0050532-BLK1)				Prepared & Analyzed: 05/18/00						
cis-1,3-Dichloropropene	ND	100	ug/kg wet							
trans-1,3-Dichloropropene	ND	100	"							
Ethylbenzene	ND	100	"							
Hexachlorobutadiene	ND	200	"							
2-Hexanone	ND	1000	"							
Isopropylbenzene	ND	100	"							
p-Isopropyltoluene	ND	100	"							
4-Methyl-2-pentanone	ND	500	"							
Methylene chloride	ND	500	"							
Naphthalene	ND	100	"							
n-Propylbenzene	ND	100	"							
Styrene	ND	100	"							
1,1,1,2-Tetrachloroethane	ND	100	"							
1,1,2,2-Tetrachloroethane	ND	100	"							
Tetrachloroethene	ND	100	"							
Toluene	ND	100	"							
1,2,3-Trichlorobenzene	ND	100	"							
1,2,4-Trichlorobenzene	ND	100	"							
1,1,1-Trichloroethane	ND	100	"							
1,1,2-Trichloroethane	ND	100	"							
Trichloroethene	ND	100	"							
Trichlorofluoromethane	ND	100	"							
1,2,3-Trichloropropane	ND	100	"							
1,2,4-Trimethylbenzene	ND	100	"							
1,3,5-Trimethylbenzene	ND	100	"							
Vinyl chloride	ND	100	"							
o-Xylene	ND	100	"							
m,p-Xylene	ND	200	"							
Surr: 4-BFB	*1980*		"	*2000*		*99.0*	*70-130*			
Surr: 1,2-DCA-d4	*2070*		"	*2000*		*104*	*70-130*			
Surr: Dibromofluoromethane	*1970*		"	*2000*		*98.5*	*70-130*			
Surr: Toluene-d8	*1990*		"	*2000*		*99.5*	*70-130*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Volatile Organic Compounds per EPA Method 8260B - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050532 - EPA 5035										
LCS (0050532-BS1)				Prepared & Analyzed: 05/18/00						
Benzene	2450	100	ug/kg wet	2500		98.0	80-135			
Chlorobenzene	2480	100	"	2500		99.2	80-135			
1,1-Dichloroethene	2240	100	"	2500		89.6	60-150			
Toluene	2320	100	"	2500		92.8	80-130			
Trichloroethene	2280	100	"	2500		91.2	70-135			
Surr: 4-BFB	*1970*		"	*2000*		*98.5*	*70-130*			
Surr: 1,2-DCA-d4	*2180*		"	*2000*		*109*	*70-130*			
Surr: Dibromofluoromethane	*2000*		"	*2000*		*100*	*70-130*			
Surr: Toluene-d8	*2030*		"	*2000*		*102*	*70-130*			
Matrix Spike (0050532-MS1)		Source: P005360-01		Prepared: 05/18/00	Analyzed: 05/19/00					
Benzene	2630	100	ug/kg dry	2960	ND	88.9	60-135			
Chlorobenzene	2870	100	"	2960	ND	97.0	65-125			
1,1-Dichloroethene	2430	100	"	2960	ND	82.1	60-135			
Toluene	2750	100	"	2960	ND	92.9	60-125			
Trichloroethene	2530	100	"	2960	ND	85.5	60-125			
Surr: 4-BFB	*2250*		"	*2370*		*94.9*	*70-130*			
Surr: 1,2-DCA-d4	*2390*		"	*2370*		*101*	*70-130*			
Surr: Dibromofluoromethane	*2260*		"	*2370*		*95.4*	*70-130*			
Surr: Toluene-d8	*2370*		"	*2370*		*100*	*70-130*			
Matrix Spike Dup (0050532-MSD1)		Source: P005360-01		Prepared: 05/18/00	Analyzed: 05/19/00					
Benzene	2570	100	ug/kg dry	2960	ND	86.8	60-135	2.31	25	
Chlorobenzene	2830	100	"	2960	ND	95.6	65-125	1.40	25	
1,1-Dichloroethene	2210	100	"	2960	ND	74.7	60-135	9.48	25	
Toluene	2630	100	"	2960	ND	88.9	60-125	4.46	25	
Trichloroethene	2300	100	"	2960	ND	77.7	60-125	9.52	25	
Surr: 4-BFB	*2370*		"	*2370*		*100*	*70-130*			
Surr: 1,2-DCA-d4	*2500*		"	*2370*		*105*	*70-130*			
Surr: Dibromofluoromethane	*2290*		"	*2370*		*96.6*	*70-130*			
Surr: Toluene-d8	*2490*		"	*2370*		*105*	*70-130*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Polynuclear Aromatic Compounds per EPA 8270M-SIM - Quality Control

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050568 - EPA 3550										
Blank (0050568-BLK1)				Prepared: 05/18/00 Analyzed: 05/22/00						
Acenaphthene	ND	13.4	ug/kg wet							
Acenaphthylene	ND	13.4	"							
Anthracene	ND	13.4	"							
Benzo (a) anthracene	ND	13.4	"							
Benzo (a) pyrene	ND	13.4	"							
Benzo (b) fluoranthene	ND	13.4	"							
Benzo (ghi) perylene	ND	13.4	"							
Benzo (k) fluoranthene	ND	13.4	"							
Chrysene	ND	13.4	"							
Dibenzo (a,h) anthracene	ND	13.4	"							
Fluoranthene	ND	13.4	"							
Fluorene	ND	13.4	"							
Indeno (1,2,3-cd) pyrene	ND	13.4	"							
Naphthalene	ND	13.4	"							
Phenanthrene	ND	13.4	"							
Pyrene	ND	13.4	"							
Surr: 2-Fluorobiphenyl	*115*		"	*83.3*		*138*	*20-158*			
Surr: Nitrobenzene-d5	*64.5*		"	*83.3*		*77.4*	*26-146*			
Surr: p-Terphenyl-d14	*101*		"	*83.3*		*121*	*41-141*			
LCS (0050568-BS1)				Prepared: 05/18/00 Analyzed: 05/22/00						**Q-23**
Acenaphthene	90.7	13.4	ug/kg wet	83.3		109	33-139			
Benzo (a) pyrene	86.0	13.4	"	83.3		103	45-149			
Pyrene	71.3	13.4	"	83.3		85.6	39-138			
Surr: 2-Fluorobiphenyl	*107*		"	*83.3*		*128*	*20-158*			
Surr: Nitrobenzene-d5	*78.7*		"	*83.3*		*94.5*	*26-146*			
Surr: p-Terphenyl-d14	*78.0*		"	*83.3*		*93.6*	*41-141*			

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Bridgewater Group	Project: Premier Edible Oil	
4640 SW Macadam Ave. Suite 222	Project Number: n/a	Reported:
Portland, OR 97201	Project Manager: Bill Cobb	08/03/00 09:15

Notes and Definitions

A-01	Detected hydrocarbons include distinct peaks that have elution patterns similar to that of PAH's.
D-15	Detected hydrocarbons have non-petroleum peaks or elution pattern that suggests the presence of biogenic interference.
Q-23	The Matrix Spike/Duplicate for this batch could not be reported. Source sample contains high levels of target analyte, non-target analyte, and/or matrix interference requiring high dilution.
R-05	Reporting limits raised due to dilution necessary for analysis. Sample contains high levels of reported analyte, non-target analyte, and/or matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

nca
North Creek Analytical, Inc.
Environmental Laboratory Network
www.ncalabs.com

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (425) 420-9200 FAX 420-9210
East 11115 Montgomery, Suite B, Spokane, WA 98206-4776 (509) 924-9200 FAX 924-9290
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 906-9200 FAX 906-9210
20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 (541) 383-9310 FAX 382-7588

COPY

CHAIN OF CUSTODY REPORT

Work Order #: P005140

CLIENT: Schnitzer Investment Corp
REPORT TO: Bridgewater Group
ADDRESS: 4640 SW Macadam Suite 222 Portland OR 97201
PHONE: FAX:
PROJECT NAME: Premier Edible Oil
PROJECT NUMBER:
SAMPLED BY: Bill Cobb

INVOICE TO: Bridgewater Group
P.O. NUMBER:

TURNAROUND REQUEST in Business Days*
Organic & Inorganic Analyses: 10 | 7 | 5 | 4 | 3 | 2 | 1 | <1 — STD.
Petroleum Hydrocarbon Analyses: 6 | 4 | 3 | 2 | 1 | <1 — STD.
OTHER — Please Specify
*Turnaround Requests less than standard may incur Rush Charges.

REQUESTED ANALYSES

	CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	TPH-Gx	TOH-Dx	PAH	8260									MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA ID
1.	TP-4-A	5/4/00 2:45	✓	✓	X										S	1		
2.	TP-5-A	3:10	✓	✓														
3.	TP-5-B	3:20	✓	✓	X	X												
4.	TP-5-C	3:30	✓	✓	X													
5.	TP-5-D	3:45	✓	✓														
6.	TP-6-A	4:10	✓	✓														
7.	TP-6-B	4:35	✓	✓														
8.																		
9.																		
10.																		
11.																		
12.																		
13.																		
14.																		
15.																		

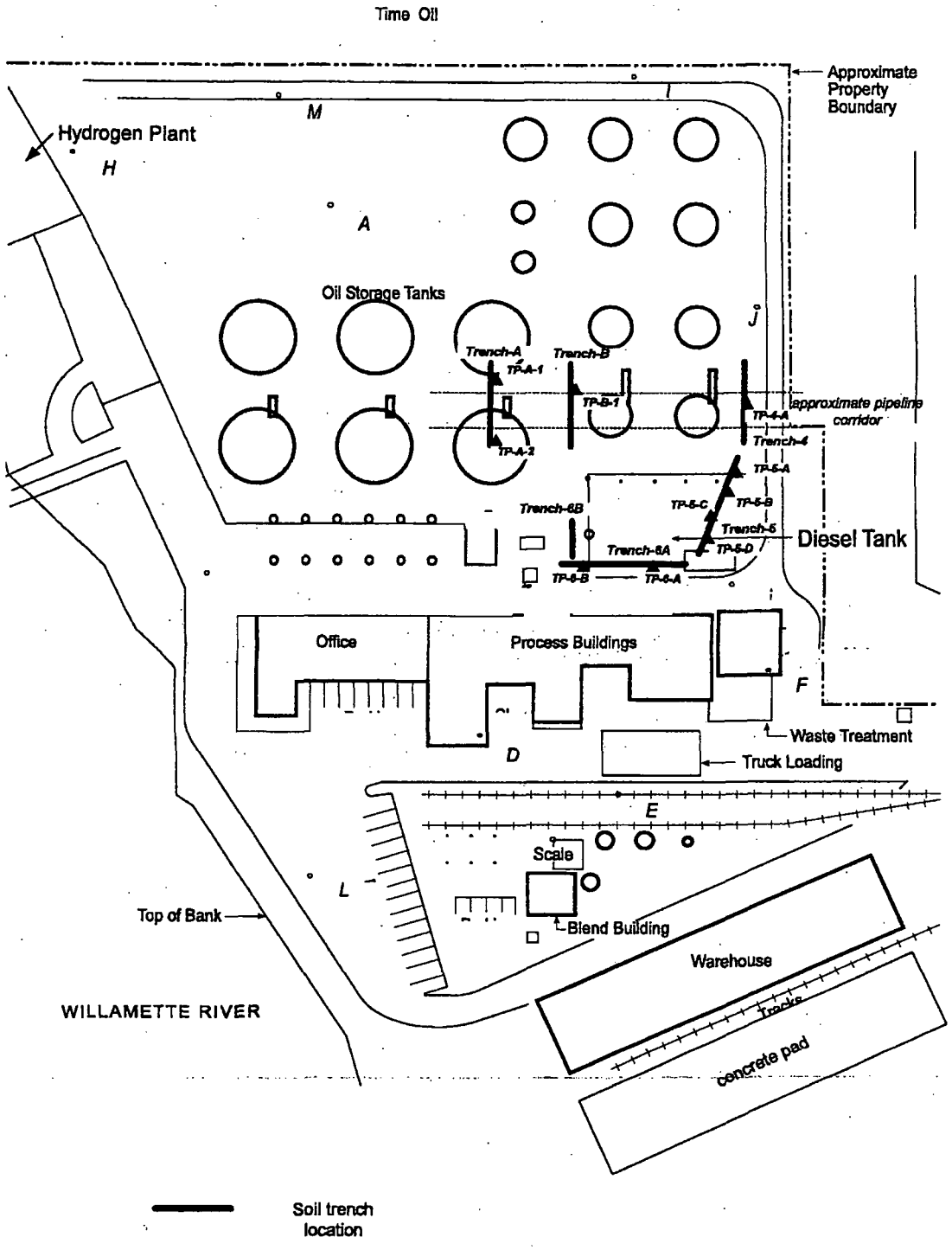
RELINQUISHED BY: PRINT NAME: Bill Cobb FIRM: BGI DATE: 5/5 TIME: 1:40pm
RECEIVED BY: [signature] PRINT NAME: Larry Spangler FIRM: NCA DATE: 5-5-00 TIME: 1340
RELINQUISHED BY: [signature] PRINT NAME: Larry Spangler FIRM: NCA DATE: 5-5-00 TIME:
RECEIVED BY: Bob Fahshoh PRINT NAME: Bob Fahshoh FIRM: NCA DATE: 5/5/00 TIME: 15:00

ADDITIONAL REMARKS:
TEMP: 0.7
PAGE OF

COC REV 1/99

SCHN00259877

Figure 1 – August 30, 2000 Memo



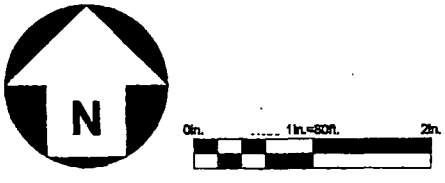


Figure 1
Soil Trench Lcations

Premier Edible Oils
BRIDGEWATER GROUP, INC.