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DEPARTMENT OF ECOLOGY

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December 14, 2020

Mr. John Robbins
Equilon Enterprises LLC
20945 S. Wilmington Avenue
Carson, CA 90810
(john.robbins@shell.com)

Re: Final Determination of Liability for Release of Hazardous Substances at the following Contaminated Site:

- **Name: Texaco Strickland**
- **Address: 6808 196th St SW Lynnwood, 98036 WA**
- **Snohomish County Tax Parcel No.: 27042000200600**
- **Facility/Site No.: 27496218**
- **Cleanup Site No.: 12541**

Dear John Robbins:

On October 6, 2020, the Department of Ecology (Ecology) sent you written notice of our preliminary determination that Jiffy Lube International, Inc. (Jiffy Lube) is a potentially liable person (PLP) for a release of hazardous substances at the Texaco Strickland facility (Site). On November 10, 2020, the 30-day comment period on our preliminary determination expired. On November 5, 2020, Ecology received your written comments.

Jiffy Lube's Argument:

In your letter addressed to Ecology, dated November 5, 2020: *Response to Determination of Potentially Liable Person Status (Reference No. 11218575)* (GHD, 2020), you put forth that Jiffy Lube should not be considered a PLP for this Site because the release at Jiffy Lube's property has not commingled with the Texaco Strickland Site. In particular, you stated:

It was proposed by the consultant that the laboratory results for groundwater samples collected "*more closely reflects what would be expected from plant-based material including food-grade oils (such as a restaurant), or naturally occurring biogenic range organics.*"

Additionally, it is stated that "*The chromatography lacks the classic "hump" shape characteristic of a motor oil. The analytical response may possibly reflect presence of natural*

background organics, such as in wells MW-17, MW2 or MW6, based on the GC pattern. The oil-range response for the MW1 sample may be from the diesel range “hump” tailing out into the motor oil range, possibly attributable to a biogenic impact source. In any case, however, with the available information there is no pattern basis to infer motor oil is the source of the laboratory flagged TPH as “motor oil range results” in the Aspect report.”

Finally, “... it is our technical opinion that Ecology has not presented sufficient lines of evidence to demonstrate plume comingling, and therefore it is inappropriate to rescind the December 9, 2014 advisory opinion letter to SOPUS.”

As a result, it appears the basis for your proposal that there is no comingling of contamination on site was determined by the consultant from the assumption that the concentrations of contamination in the specific wells of interest was due to plant-based material including food-grade oils (such as a restaurant), or naturally occurring biogenic range organics.

Ecology’s Decision

It is the intent of this response to present multiple lines of evidence that the groundwater samples are not indicative of plant-based material including food-grade oils (such as a restaurant), or naturally occurring biogenic range organics. This is the second response from Ecology concerning contamination/co-mingling of plumes at this site. Previous Ecology correspondence detailed the use of silica gel for groundwater at this site (Ecology, 2020).

Discussion:

NWTPH-Dx is the qualitative and quantitative method (extended) for semi-volatile (“diesel”) petroleum products in soil and water. Petroleum applicability for this include: jet fuels, kerosene, diesel oils, hydraulic fluids, mineral oils, lubricating oils and fuel oils (Ecology, 1997). The method is applicable for the identification, by pattern matching (“fingerprinting”), and quantitation of semi-volatile petroleum products. In general, those petroleum products which do not contain a substantial volatile fraction, i.e. the majority of the components eluting outside of the gasoline range, should be analyzed by this method (Ecology, 1997). As a result, it is generally accepted that the NWTPH-Dx method could measure both naturally occurring organics and possibly food-grade oil (such as a restaurant).

However, Ecology has determined this is not the case at this Site. Ecology is presenting three lines of supporting evidence as to why the majority of the contamination in wells MW 1, 2, 10, 11 (and possibly 9) are the results of either petroleum products or the intermediary by-products (which are considered part of the petroleum mixture) from the original release.

Line of Evidence #1

The proposal that the measured concentrations of Diesel/Oil Range Organics is due to naturally occurring organics/food-grade oils because the chromatogram does not match “motor oil” does not appear to be a viable argument. See Line of Evidence #3 – It appears the release should be considered waste oil – instead of strictly motor oil/heavy oil. Waste oil is defined as any used heavy oil and includes the following products (Ecology, 2016):

- Engine lubricating oil; and
- Hydraulic fluid; and
- Industrial process oils; and
- Metalworking oils and lubricants; and
- Refrigeration/compressor oil; and
- Transmission/differential fluid; as well as all products generally within the C12 – C34 carbon ranges after use, which includes:
 - Bunker C; and
 - No. 4 fuel oil; and
 - No. 5 fuel oil; and
 - No. 6 fuel oil.

Based on the information above, the proposal that because the chromatogram does not match a classic “motor oil” shape – “*The chromatography lacks the classic “hump” shape characteristic of a motor oil. The analytical response may possibly reflect presence of natural background organics, such as in wells MW-17, MW2 or MW6, based on the GC pattern.*” – does not mean the measured concentration(s) should be automatically assumed to be naturally occurring or a food-grade oil. Lacking the traditional “hump” of motor oil should not be considered applicable as a line of evidence for the identification of naturally occurring organics at the site.

Additionally to this point, as diesel and heavy oil range organics (waste oil) weather (through natural processes), the polar metabolites that are found in the bound petroleum are released to the environment. This weathering process (release of polar metabolites) should also account for changes in the chromatographic pattern – resulting in no typical “hump”.

Line of Evidence #2

Monitoring Wells MW-6, MW-7, and possibly MW-9 (with less confidence) could be proposed by the consultant as possible background wells (see figure 1 and figure 2) due to the fact that most groundwater does not contain significant levels of naturally occurring organic matter (Ecology, 2016) (see figure 2). This could be measured using the NWTPH-Dx method (see discussion section). These wells (that could possibly be considered background) have significantly lower concentrations of measured diesel/heavy oil range organics. In contrast, monitoring wells MW-1, MW-2, MW-10, MW-11, and possibly MW-9 have significantly higher measured concentrations (see figure 2). As a result, Ecology has determined that a release has occurred and caused an impact (as determined by a measured concentration) to those individual wells of interest, instead of the proposal by the consultant that those wells were specifically impacted by high concentrations of naturally occurring organics or food-grade oils.

Line of Evidence #3

The Model Toxics Control Act (MTCA), Table 830-1 (Ecology, 2001) indicates Required Testing for Petroleum Releases. Under the column headed Waste Oil and Unknown Oils, required testing includes Benzene, Toluene, Ethylbenzene, Xylenes, EDB, EDC, MTBE, Lead, Carcinogenic PAHs, Naphthalenes, PCBs, and VOCs. Because many of these contaminants were found in the well of interest (MW-1, MW-2, MW-10, MW-11, and to a limited extent MW-9),

the release should not be considered exclusive to Heavy Oils/Motor Oil, but instead as Waste Oils and Unknown Oil.

Monitoring Well MW-1, MW-2, MW-10, and MW-11 (see figure 2) show additional contamination of:

- Benzene; and
- Toluene; and
- Ethylbenzene; and
- Total Xylenes; and
- Naphthalene.

Again, MW-9 does show some impacts, however not nearly to the extent of the other wells. As a result, it is Ecology's interpretation that because those wells exhibit the additional contamination (indicated above), that a petroleum release has occurred, and that those wells have not been specifically impacted by high concentrations of naturally occurring organics and/or food-grade oils.

Figure 1: Map of wells (Kennedy Jenks, 2020).

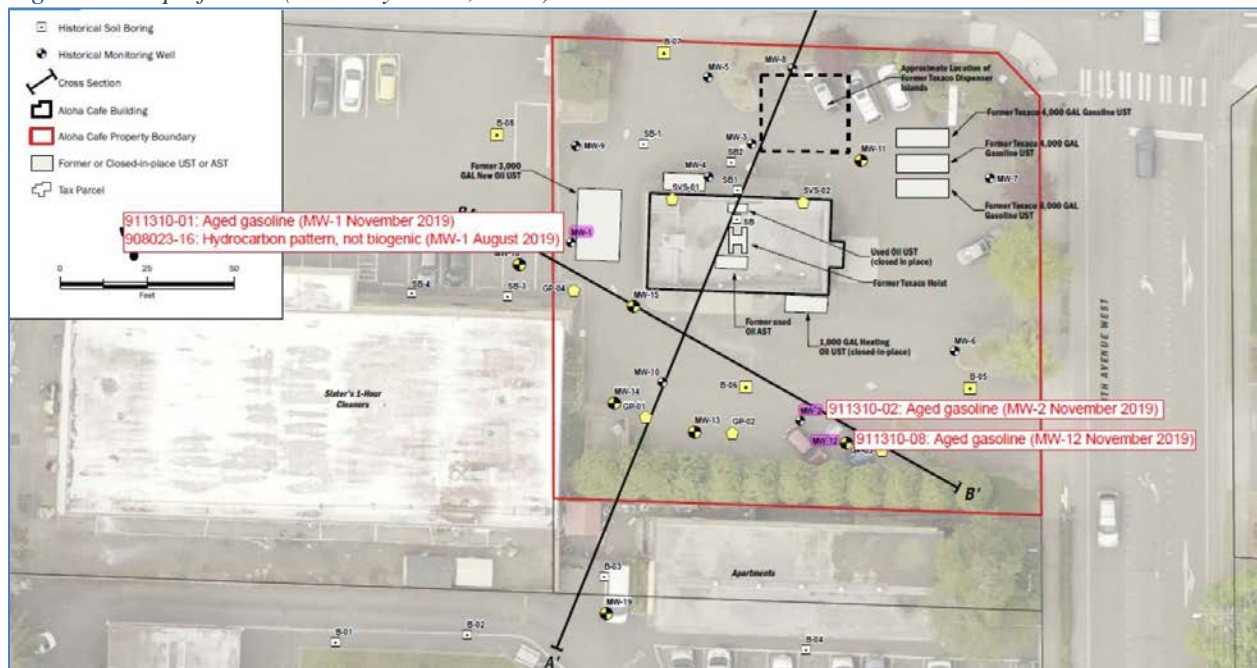


Figure 2: Measured concentrations of contamination in wells (Kennedy Jenks, 2020).

Table 3. Groundwater Analytical Results
 Project No. 180287, Lynwood, Washington

Analyte	Unit	MW-1		MW-2		MW-6		MW-7		MW-9		MW-10		MW-11	
		Date		Date		Date		Date		Date		Date		Date	
		08/12/2015	11/20/2015	08/12/2015	11/20/2015	07/31/2015	11/20/2015	07/31/2015	11/19/2015	08/12/2015	11/20/2015	08/12/2015	11/20/2015	07/31/2015	11/19/2015
MTCA Method A Cleanup Level		MW-1-080119	MW-1-112019	MW-2-080119	MW-2-112019	MW-6-073119	MW-6-112019	MW-7-073119	MW-7-111919	MW-9-080119	MW-9-112019	MW-10-080119	MW-10-112019	MW-11-073119	MW-11-111919
PHS															
Gasoline Range Organics	ug/L	500	24000	44000	1600	4500	< 100 U	< 100 U	< 100 U	< 100 U	560	19000	21000	13000	20000
Distillate Range Organics	ug/L	500	2100 X	3000 X	700 X	2200 X	60 X	< 50 U	80 X	< 50 U	80 X	290 X	1900 X	1900 X	3400 X
Motor Oil Range Organics	ug/L	500	1000 X	870 X	< 250 U	260 X	< 250 U	< 250 U	< 250 U	< 250 U	< 250 U	240 X	240 X	< 250 U	310 X
Creosote and Oil Extended Range Organics	ug/L	500	3100 X	3750 X	700 X	2400 X	60 X	< 250 U	80 X	< 250 U	80 X	2100 X	4200 X	1100 X	2710 X
BTEX															
Benzene	ug/L	5	4360	4760	13	30	< 0.35 U	< 0.35 U	< 0.35 U	< 0.35 U	6.4	2400	2800	530	270
Toluene	ug/L	1000	410	1600	2.2	5.5	< 1 U	< 1 U	< 1 U	2.7	< 1 U	< 1 U	44	< 100 U	1600
Ethylbenzene	ug/L	700	520	860	6.5	28	< 1 U	< 1 U	< 1 U	1.6	< 1 U	6.6	670	1000	410
Total Xylenes	ug/L	1000	1450	5000	7.4	25.9	< 2 U	< 2 U	< 2 U	8.8	< 2 U	3.3	1185	1500	1400
PCBs															
Naphthalene	ug/L	180	130	210	33	180	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	160	270	42
Metals															
Lead	ug/L	15	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3.48 J	1.66
VOCs															
1,1,1-Trichloroethane	ug/L	200	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane (E:50)	ug/L	0.01	< 1 U	< 100 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 100 U	< 1 U	< 100 U
1,2-Dichloroethane (E:50)	ug/L	5	< 1 U	< 100 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 100 U	< 1 U	< 100 U
Chloroethane	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o,p'-Dichlorodiphenyl ether (DDE)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p,p'-DDE	ug/L	1500	2800	5.8	19	< 2 U	< 2 U	< 2 U	7.1	< 2 U	< 2 U	1190	1300	1000	2100
Methyl tert-butyl ether (MTBE)	ug/L	20	< 1 U	< 100 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 100 U	< 1 U	< 100 U
Methylene Chloride	ug/L	5	350	680	1.8	4.3	< 1 U	< 1 U	< 1 U	1.7	< 1 U	3.3	2.7	< 100 U	400
o-Xylene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene (PCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene (TCE)	ug/L	5	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	ug/L	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes
 Bold = detected
 Blue = exceeded
 U = nondetect
 J = estimated
 UJ = nondetect, estimated
 X = chromatographic pattern did not match fuel standard

Ecology's Determination:

Based on available information, Ecology finds that credible evidence exists that Jiffy Lube International, Inc. is liable for a release of hazardous substances at the Site. On the basis of this finding, Ecology has determined that Jiffy Lube International, Inc. is a PLP with regard to the Site.

The purpose of the Model Toxics Control Act (MTCA) is to identify, investigate, and cleanup facilities where hazardous substances have been released. Liability for environmental contamination under MTCA is strict, joint and several (RCW 70.105D.040(2)). Ecology ensures that contaminated sites are investigated and cleaned up to the standards set forth in the MTCA statute and regulations. Ecology has determined that it is in the public interest for remedial actions to take place at this Site. Ecology will contact you regarding the actions necessary for the Jiffy Lube International, Inc. to bring about the prompt and thorough cleanup of hazardous substances at this Site. Failure to cooperate with Ecology or comply with MTCA in this matter will result in Ecology employing enforcement tools as it deems necessary and appropriate. This includes, but is not limited to, the issuance of an administrative order. Failure to comply with such an order may result in a fine of up to \$25,000 per day and liability for up to three times the costs incurred by the state (RCW 70.105D.050(1)).

Your rights and responsibilities as a PLP are outlined in Chapter 70.105D RCW, and Chapters 173-340 and 173-204 WAC. Ecology's cleanup project manager for the Site, Dale Myers, will contact you with information about how Ecology intends to proceed with the cleanup.

John Robbins
December 14, 2020
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If you have any questions regarding this notice, please contact Dale Myers by phone at (425) 649-4446 or by email at dale.myers@ecy.wa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Warren", is positioned above the typed name.

Robert W. Warren
Section Manager
Toxics Cleanup Program, NWRO

cc: Adam Griffin, Aspect, (agriffin@aspectconsulting.com)
James Kiernan, CEMC, (JKiernan@chevron.com)
Ivy Anderson, Office of the Attorney General, (ivy.anderson@atg.wa.gov)
Ecology Site File