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REPLY TO TACOMA OFFICE

February 1, 2018

**By Email & Regular Mail**

Tim Mullin  
Washington Department of Ecology  
P.O. Box 47775  
Olympia, WA 98504

Re: November 28, 2017 Further Action opinion letter  
Site Name: Gibraltar Senior Living  
Site Address: 10816 18<sup>th</sup> Ave. E., Tacoma, Pierce County, WA 98445  
Facility/Site ID No.: 6607  
Cleanup Site No.: 12686  
VCP Project No.: SW1472

Dear Mr. Mullin,

I represent Gibraltar Senior Living, a senior living facility located at the above-referenced address in Pierce County, Washington ("Property" or "Site"). I am writing in response to your November 28, 2017 further action opinion letter, specifically to inquire into the necessity for additional site characterization triggered by an off-property detection of petroleum hydrocarbon contamination that is, in all likelihood, not related to contamination on the Site.

**1. Site Background**

This Site has undergone several rounds of environmental investigation and remediation. In 2009, the previous owners of the property, Midland Manor LLC, hired Seattle Tank Services ("STS") to decommission and abandon in place one 1,000-gallon underground heating oil tank and two 675-gallon heating oil tanks. Each underground storage tank ("UST") had been used to store heating oil for the heating systems of three separate buildings comprising the Midland Manor Assisted Living Facility. In 2011, Midland Manor LLC hired STS again to excavate and dispose of the USTs, and conduct a remedial action.

UST 1 was the 1,000-gallon UST. It was buried in the east portion of the delivery receiving area at the north center of the main building. UST 2 was a 675-gallon UST. It was buried to the west of the northwest outbuilding of the complex. UST 3 was a 675-gallon UST buried to the south of the southernmost outbuilding of the complex. The complex and locations of the buildings and USTs is depicted on the enclosed site figure.

a. UST 1

After removing UST 1, STS excavated approximately 39 tons of petroleum-contaminated soils from the excavation pit. Confirmation sampling at the bottom of the excavation pit showed the presence of diesel-range organics at a concentration of 2,200 ppm, exceeding the Model Toxics Control Act ("MTCA") Method A cleanup level. Following repairs to broken water and sewer lines, STS excavated another 15 tons of soil from the UST 1 pit and obtained confirmation samples, which were submitted for laboratory analysis.

Laboratory analysis confirmed concentrations of diesel-range organics exceeding MTCA Method A cleanup levels in all five confirmation samples taken from the sides and bottom of the excavation pit. The sample taken from the south wall contained concentrations of diesel-range organics at 2,300 ppm. The sample taken from the north end of the east wall contained concentrations of diesel-range organics at 3,400 ppm. The sample taken from the west wall contained concentrations of 4,300 ppm. The other two samples contained concentrations of diesel-range organics at 780 ppm and 1,300 ppm, both below MTCA Method A cleanup levels.

Based on the analytical data, STS removed another .5 tons of impacted soils from the west portion of the south wall and south portion of the west wall. Confirmation sampling showed the west portion of the final excavation was non-detect for petroleum impacts. Based on analytical results, no additional remedial actions were required at UST 1, and the excavation was backfilled with clean imported pit run, over which was placed topsoil.

b. UST 2

After removing UST 2, STS excavated approximately 95 tons of petroleum-impacted soils from the excavation pit. Soil samples were analyzed for the presence of diesel and motor oil range total petroleum hydrocarbons ("TPH"). One of the samples contained a concentration of 1,600 ppm, below the MTCA Method A cleanup level. The second sample contained a concentration of 3,900 ppm, exceeding the MTCA Method A cleanup level. The third sample contained a concentration of 1,500 ppm, below the MTCA Method cleanup level. Confirmation sampling showed one sample still had concentrations exceeding MTCA Method A cleanup levels at 5,600 ppm. Because no more material could be removed from near the east wall without risking damage to the building, STS used a hand auger to take two more samples from one foot and two feet into the east wall of the excavation pit. Sampling showed the presence of petroleum contamination at 12,000 ppm at one foot, and a concentration of 2,900 ppm at two feet. The rest of the confirmation sampling at UST 2 met the MTCA Method A cleanup standard.

c. UST 3

After removing UST 3, STS submitted one soil sample to a laboratory. Analysis of the sample for diesel and motor oil range TPH contained a concentration of petroleum hydrocarbons at 43,000 ppm, exceeding the MTCA Method A cleanup level. Based on the analytical results, STS excavated about 154 tons of petroleum-impacted soils from the excavation pit.

Confirmation sampling showed concentrations of petroleum contamination exceeding MTCA Method A cleanup levels in four of nine samples. Those samples were collected from the north wall of the excavation pit between the building footing (17,000 ppm); the west side of the bottom of the pit (5,400 ppm); the east end of the south wall of the pit (13,000 ppm); and the west end of the north wall of the pit (7,800 ppm). Of the four sampling locations, STS was able to safely remove material from the west side of the bottom of the pit.

STS reported that an undetermined quantity of petroleum-contaminated soils remained beneath the buildings adjacent to former UST 2 and UST 3. It also noted that groundwater was not encountered during any of the excavations.

d. EB-16

In 2015, Gibraltar hired Terracon Consultants, Inc. to conduct a limited site investigation to further delineate the extent of petroleum impacts on the Site and to determine whether groundwater was impacted. In July 2015, Terracon collected 43 soil samples, encountering groundwater in borings EB-8, EB-10, EB-12, EB-13, and EB-14. All soil and groundwater samples were analyzed for diesel- and oil-range petroleum hydrocarbons.

At the UST 1 location, Terracon advanced three soil borings (EB-9, EB-12, and EB-13) to 14 feet below ground surface ("bgs") and installed temporary wells at EB-12 and EB-13 to facilitate the collection of groundwater grab samples. The two soil samples submitted for laboratory analysis were non-detect for diesel- and oil-range petroleum hydrocarbons. The groundwater grab sample was non-detect for diesel- and oil-range petroleum hydrocarbon contamination. It is safe to say that the excavation at UST 1 area has been adequately characterized and remediated.

At the UST 2 location, Terracon advanced six soil borings (EB-1, EB-2, EB-3, EB-4, EB-10, and EB-14) to a depth of 14 feet bgs and installed temporary wells at EB-10 and EB-14. The four soil samples submitted for laboratory analysis were non-detect for diesel- and oil-range petroleum hydrocarbons. One groundwater grab sample was non-detect for oil-range TPH. Diesel-range TPH was detected at a concentration of 87 ug/L, below the MTCA Method A cleanup level of 500 ug/L. Notably, the chromatogram was unusual, and did not resemble the fuel standard used for quantitation, which Terracon concluded was the result of matrix interference from organics rather than the presence of weathered diesel. It is safe to say that the UST 2 area has been adequately characterized, and that the only remaining petroleum-impacted soils are inaccessible.

At the UST 3 location, Terracon advanced six soil borings (EB-5, EB-6, EB-7, EB-8, EB-11, and HA-1) to a depth of 15 feet bgs and installed a temporary well at EB-8. Laboratory analysis showed concentrations of diesel-range petroleum hydrocarbon as follows:

- EB-6, 9.5 to 10 feet bgs: 1,300 mg/kg

- EB-7, 8.5 to 9 feet bgs: 2,200 mg/kg
- EB-11, 7.5 to 8 feet bgs: 3,000 mg/kg
- Deeper soil samples were non-detect for TPH
- Diesel-range total petroleum hydrocarbon was not detected in other borings
- Oil-range total petroleum hydrocarbon was not detected at UST 3.

One groundwater grab sample was obtained from the UST 3 area. Oil-range petroleum hydrocarbon was non-detect. A concentration of diesel-range petroleum hydrocarbon was detected at 55 ug/L, below the MTCA Method A cleanup level of 500 ug/L. Similar to UST 2, the chromatogram was unusual, and did not resemble the sample used for quantitation, probably as a result of the presence of organics and not weathered diesel.

Based on the results of the limited site investigation, Terracon recommended additional investigation to determine the extent of contamination near UST 3, including drilling on the south-adjointing property. In October 2015, Terracon conducted a supplemental limited site investigation, during which it advanced soil boring EB-16 in the limited access right-of-way near UST 3. A soil sample obtained from EB-16 was non-detect for diesel- or oil-range total petroleum hydrocarbons.

A groundwater sample, however, contained concentrations of diesel-range petroleum hydrocarbon at 690 ug/L and oil-range total petroleum hydrocarbons at 1,300 ug/L, both of which exceed the MTCA Method A cleanup level of 500 ug/L. The chromatogram for the groundwater sample indicated an unidentified diesel-range product and lube oil.

Terracon compared the chromatograms from the diesel-impacted soil samples to the chromatogram for the EB-16 groundwater sample. The response times for the on-Site soil samples were considerably shorter than the response time for the off-Site groundwater sample, and the shape of the chromatogram and the associated peaks differed, which Terracon concluded suggested different petroleum products. The samples obtained from the Site indicate a diesel-range product. The EB-16 groundwater grab sample appears to contain more of an oil-range product. Furthermore, no analytes were detected in the soil at EB-16. Based on its review of the chromatograms suggesting different products, the upgradient position of the off-Site sample, and the lack of soil impacts at EB-16, Terracon concluded to Ecology that the petroleum hydrocarbon detection at EB-16 was not associated with UST 3.

## **2. January 27, 2016 FA**

In a further action opinion letter dated January 27, 2016 (January 2016 FA”), Ecology asked Gibraltar to determine the source and nature of the TPH groundwater impacts at EB-16. In response, and in an effort to work cooperatively with Ecology, Gibraltar engaged Terracon’s

services to review regional topography. Based on its analysis, Terracon inferred the direction of groundwater flow to be to the east-northeast, toward the Site.

Terracon also compared chromatograms from EB-8 and EB-14 to EB-16. Following its review, Terracon opined that, based on the differences in the chromatograms and the direction of groundwater flow, the heating oil release at the Site is not the source of the product detected in EB-16. Terracon also reviewed the two reported releases on the adjoining properties owned by the Franklin Pierce School District and concluded that the releases there were not the source of the product detected in EB-16.

Terracon conducted a thorough review and concluded that the Property was not the source of the contamination at EB-16, and that Site characterization was complete. Gibraltar's previous site manager, Jason Cook, agreed. While it is axiomatic that Ecology staff are not bound by the decisions of past personnel, in this case, it is clear that Mr. Cook based his determination on the evidence and analysis that Terracon conducted. It is, therefore, reasonable to conclude that Site characterization is complete.

### **3. November 28, 2017 FA**

In Ecology's November 28, 2017 further action opinion letter ("November 2017 FA"), Ecology requests additional information to further demonstrate that the contamination at EB-16 does not originate on the Property. Though Gibraltar's environmental consultant compared the chromatograms at Ecology's request, Ecology now is not satisfied that the comparisons provide enough information because the diesel and heavy oil standards used by ALS have not been presented to Ecology for comparison to the EB-16 chromatogram. The laboratories use the same standards for their analyses. However, for clarification purposes, the standards that were used by ALS in the EB-16 sample batch are enclosed with this letter.

Moreover, despite asking Gibraltar to compare the chromatograms, Ecology now seems to state that the standards and chromatograms cannot be directly compared because the response times for individual components of the analyses are different. There is no scientific basis for this determination. Differing response times are the result of the different ovens used at each laboratory. However, the chromatograms still can be compared based on their shapes and the relative peak locations. Based on a comparison of the chromatograms for the groundwater samples collected from EB-8 (on-site), EB-14 (on-site), and EB-16 (off-site, inferred upgradient) to the respective standards used in the analyses, the compounds detected in EB-8 and EB-14 represent polar metabolites resulting from diesel breakdown. The data indicates they are consistent with polar organics. In contrast, the EB-16 chromatogram reveals a heavy or waste oil type of product. Therefore, comparisons of the on- and off-site chromatograms to the appropriate standards, and to each other, clearly indicate that the compounds are not related to each other.

In its November 2017 FA, Ecology suggests that Gibraltar install another groundwater monitoring well to determine if the EB-16 exceedances are attributable to the Site. The cost of installing the groundwater monitoring well and conducting groundwater monitoring is expected

to be \$6,450, and may not be conclusive, or provide sufficient data to satisfy Ecology that the Site is not the source of the contamination at EB-16. Additionally, as a practical matter, EB-16 is not located on Gibraltar's property. Gibraltar does not have permission to install groundwater monitoring wells on property it does not own, nor does it have permission to conduct ongoing groundwater monitoring activities.

Ecology has the authority to require the owner of contaminated property to determine the nature and extent of the contamination and to fully characterize the Site. But, in this case, Gibraltar has done so to a reasonable degree of certainty. In our view, it is unreasonable of Ecology to demand that Gibraltar conduct this level of investigation and ongoing monitoring for an off-Property hot spot that by all appearances originates from an entirely different source. Gibraltar has established that the contamination at EB-16 did not originate on the Gibraltar Property, and therefore respectfully requests that Ecology make the determination that the Site investigation is complete, the extent of contamination has been characterized, and a Sitewide NFA is appropriate.

#### **4. Request for on-property NFA**

Gibraltar respectfully requests that Ecology reconsider the requirement that it conduct extensive analysis into contamination that is not located on its property and that, based on analysis already conducted and submitted to Ecology by Gibraltar's environmental consultant, does not appear to originate on or emanate from its Property.

However, even if Ecology requires additional Site characterization, Gibraltar requests that Ecology issue an on-Property NFA. In the November 2017 FA, Ecology notes that its discussion of the Site contamination was limited to off-Property diesel and oil concentrations in groundwater at EB-16. In light of the fact that it appears the Property is "clean," Gibraltar renews its request for an on-Property NFA.

We look forward to resolving this issue promptly so that Gibraltar can move forward with its plans for the Property. If you have any questions, please do not hesitate to contact me. I can be reached by telephone at (253) 591-8563 or by email to edoctor@vjglaw.com.

Best regards,

**VANDEBERG JOHNSON & GANDARA, LLP**



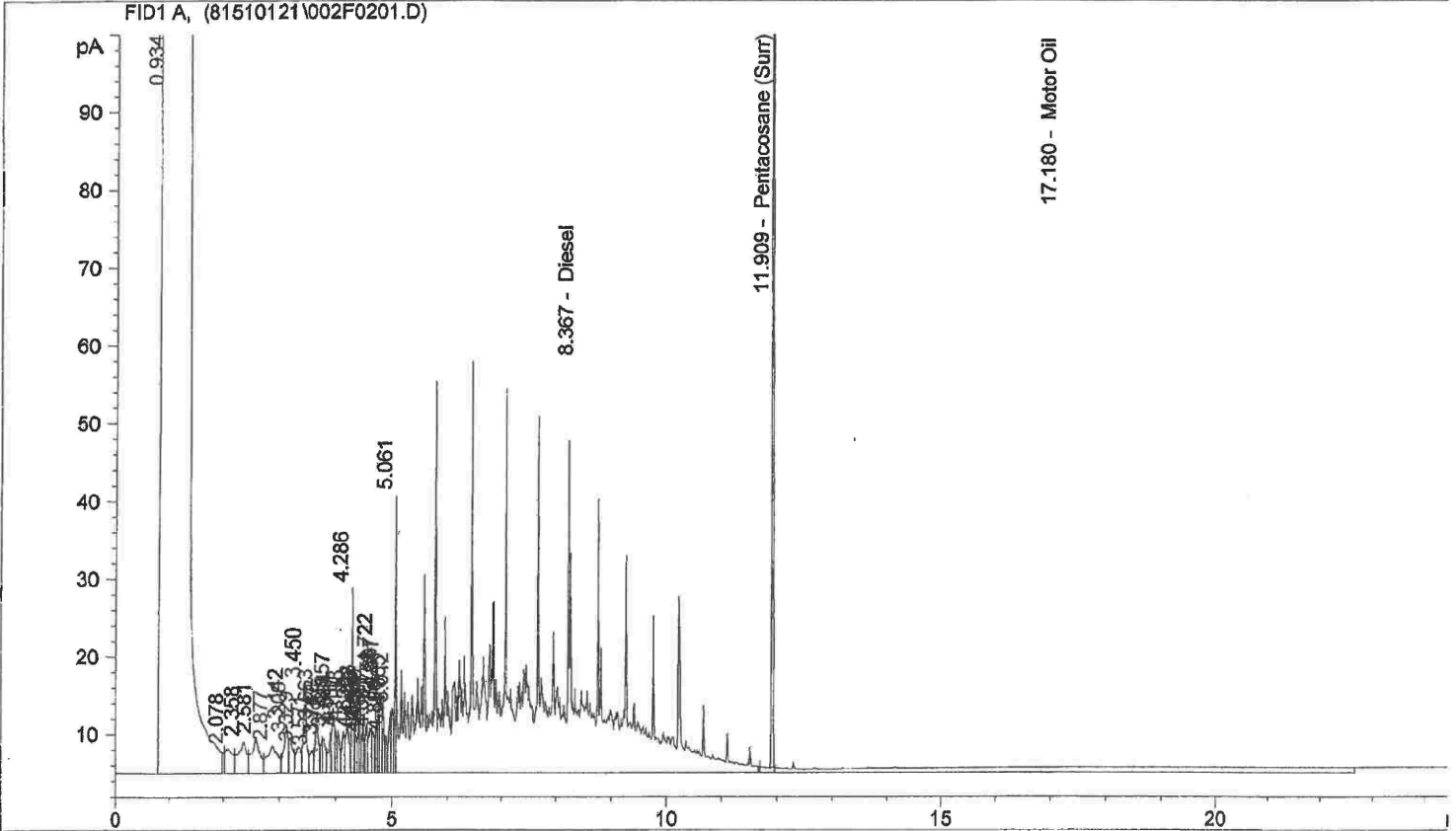
**ERICA A. DOCTOR**

EAD:ead

Enclosures: Site Figure  
Diesel and MO Standards 10-12-15

Instrument #81      Data File: C:\HPCHEM\1\DATA\81510121\002F0201.D  
 Operator:    DLC  
 Method:     C:\HPCHEM\1\METHODS\FDMO0914.M  
 Injection Date & Time: 10/12/2015 7:33:19 AM      10/12/2015 7:33:19 AM  
 Report Creation:      10/12/2015                      9:51:19 AM

Sample Name: DSL STD W358-8



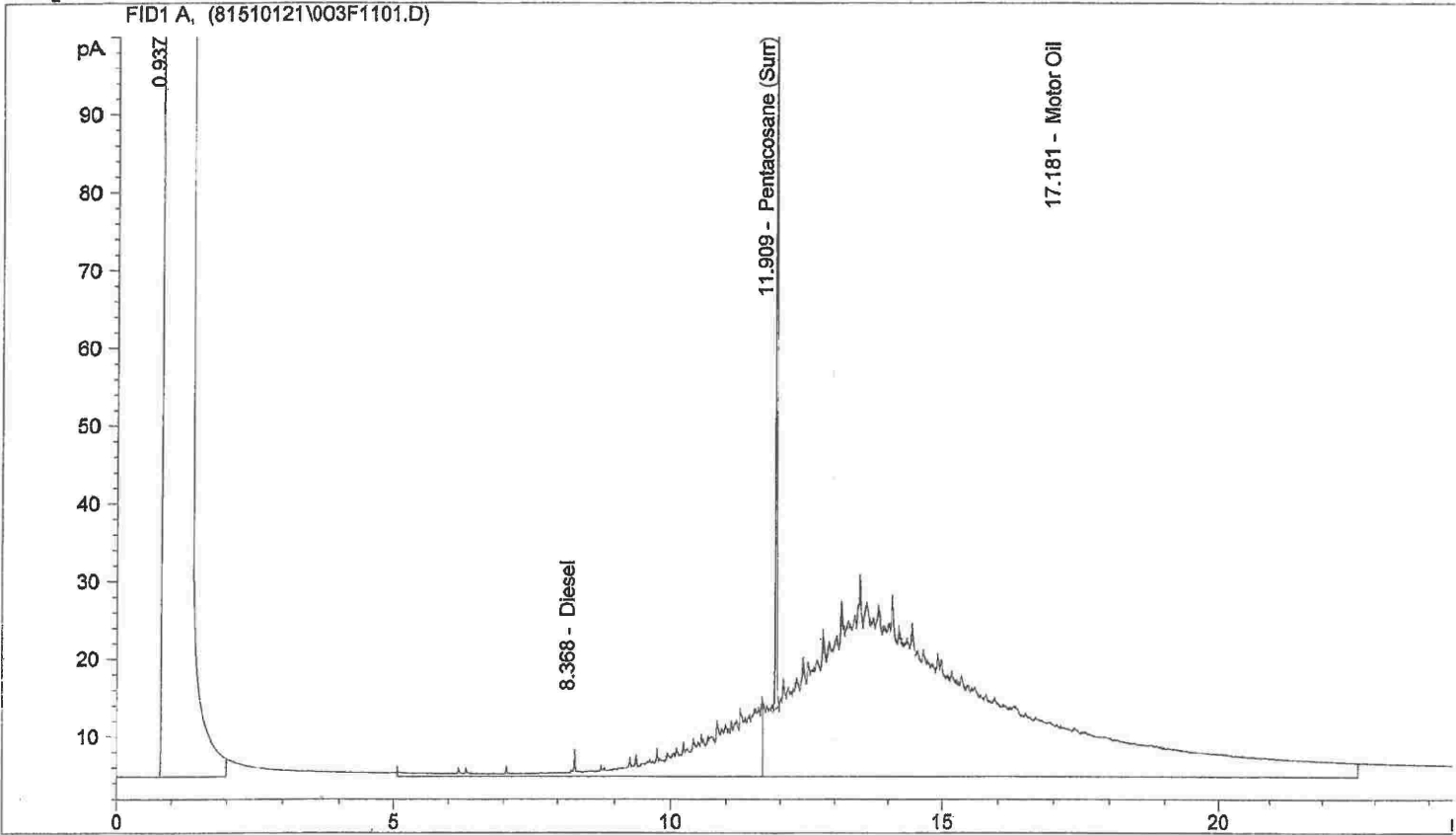
Ret. Time	Signal	Compound Name	Response	Amount ug/mL
8.367	FID1 A,	Diesel	2973.699	256.742
11.909		Pentacosane (Surr)	269.305	11.091
17.180		Motor Oil	416.519	38.357

103%  
 111%    ± 15% OK

10-12-15 DC

Instrument #81      Data File: C:\HPCHEM\1\DATA\81510121\003F1101.D  
 Operator:    DLC  
 Method:     C:\HPCHEM\1\METHODS\FDMO0914.M  
 Injection Date & Time: 10/12/2015 1:43:55 PM      10/12/2015 1:43:55 PM  
 Report Creation:      10/12/2015                      2:17:01 PM

Sample Name: MO STD W358-9



Ret. Time	Signal	Compound Name	Response	Amount ug/mL
8.368	FID1 A,	Diesel	764.839	66.034
11.909		Pentacosane (Surr)	266.076	10.958 110%
17.181		Motor Oil	5418.986	499.026 100% ±15% OK

10-12-15 DC



Former 675-gallon heating oil UST (UST #2)

Slab-on-grade mechanical closet

EB-3, SSV-1  
EB-2, SSV-1  
EB-14

Grass

Asphalt Parking

Driveway

Fence

Stairs

Walkway

HA-1

EB-17

Former 675-gallon heating oil UST (UST #1)

EB-12, SSV-1  
EB-13

Former 675-gallon heating oil UST (UST #3)

EB-8, SSV-1  
UST #3  
EB-5, SSV-1  
EB-7, SSV-1  
EB-6, SSV-1  
EB-11, SSV-1

Franklin Pierce High School

EB-16

18th Avenue E

**LEGEND:**

□ APPROXIMATE SITE BOUNDARY

⊕ EB-1 SOIL BORING APPROXIMATE LOCATION

⊕ HA-1 HAND AUGER BORING APPROXIMATE LOCATION

⊕ SSV-1 SUB-SLAB SOIL VAPOR APPROXIMATE LOCATION

⊕ UST APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK (UST)



Prepared By:	EAD
Checked By:	HRG
Approved By:	EAD
MW:	MW

Project No.:	B2151004
Scale:	Not to Scale
Date:	November 2015

**Terracon**  
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**SITE DIAGRAM**  
Gibraltar Senior Living  
10816 18th Avenue East  
Tacoma, Pierce County, Washington

FIG. 2