Reviewed 7/24
E-mail sent

Draft

Site Hazard Assessment
Recommendation for No Further Action

Sun Mart #2
1401 George Washington Way
Richland, WA 99352
Benton County

Parcel ID=102983020732009
Section 02, Township 9N, Range 28
Ecology Facility Site ID: No. 7542129
Date: July 23, 2009

Background and Site Sampling

Sun Mart #2 is gas station currently owned by Sun Pacific Energy and is located on the northwest corner of Symons Street and George Washington Way in Richland, WA. The evaluation of the site is 350 feet and is approximately 1,200 feet due east of the Columbia River. Businesses surround Sun Mart#2, except to the west where there is a playground and residential area. The site has been used as a gas station since late 1960's, although the exact date ~~was~~ has been not confirmed.

In October, 1991, the owners hired Petroleum Pump Company of Kennewick, WA (now out of business) to install new gas pumps and underground storage tanks (USTs) for gasoline. The new site for the USTs was located about 40 feet due south of the old tank field. On October 3, 1991, workers encountered ground water at approximately 8 feet bgs when excavating at the site where the new tanks would be placed. Workers contacted PETCO Incorporated, an environmental cleanup company from Kennewick, WA. PETCO took two soil samples and one water sample from the pit to determine if any contamination was present. The soil samples were tested for Total Petroleum Hydrocarbons (TPH-HCID), and the water samples were tested for benzene, toluene, ethylbenzene, and xylene (BTEX). All three samples were "non-detect", and work at the excavation site continued. However, groundwater at the site was of concern and PETCO recommended that four groundwater monitoring wells be installed in order to detect any contaminants that might be released during construction at the site (see Appendix A, Figures 1 and 2). Installation of the wells was completed on November 20, 1991. The depth of all of the completed wells was 15 feet, with a static water level at eight and one-half feet. No observable contamination of the water from any of the wells was present (1).

In December 1991 the old tanks were prepared for removal. There were a total of four tanks, all aligned in a north-south orientation. Three were grouped together running parallel to one another and the fourth tank was located just north of the other three (see Appendix A, Figure 2). According to a PETCO report (2), all of the tanks were relined in

1988, and no leaks were noted at that time. On December 27, 1991, the evacuated tanks were removed from the ground. After removal, the groundwater showed evidence of petroleum contamination and the Department of Ecology (Ecology) was contacted by FAX within 24 hours of the discovery. Noticeable contamination was skimmed from the surface and stored for disposal. In addition, some soil was excavated from the pit and stored on a tarp. Three soil samples were taken from the excavation pile and analyzed for Total Petroleum Hydrocarbons (TPH-Gas) and one sample was also analyzed for BTEX. All three soil samples indicated that TPH-Gas was present in all three samples and two of the three exceeded the soil cleanup standard at the time (data not shown). In addition, xylenes also exceeded the cleanup standard in the sample tested for BTEX (data not shown). According to a PETCO report (2), the contaminated water was taken by the owner of the gas station and shipped with a routine waste oil disposal pickup. The contaminated soil was disposed of by Petroleum Pump Company. No records are present in the Site Hazard Assessment (SHA) file to indicate how much soil was hauled away or where the final soil was taken.

After skimming and excavation was complete, PETCO collected five soil samples from the tank pit at the soil/water interface using a hand auger. In addition, two water samples were collected. The samples were described as coming from either the "large pit" (excavation pit where the three tanks were grouped) or the "small pit" (the pit where the single UST was located). Samples were sent to Haymond and Associates, Inc. in Portland, OR. All samples were analyzed "in-house" except the lead analysis which was sub-contracted out to Pacific Environmental Laboratory, Inc, also located in Portland.

The results of the soil analysis are shown in Table 1. No gas or diesel was detected but there was some detectable contamination of benzene, toluene, ethylbenzene and xylene. All BTEX quantities were below cleanup levels at the time. Samples SX-4 and SX-5 benzene levels are above current cleanup standards-Model Toxic Control Act (MTCA), Method A Soil Cleanup Levels for Unrestricted Land Uses (3). A duplicate of sample of SX-5 was analyzed and that sample was non-detect for benzene. Total lead was determined for samples SX-2, SX-4 and SX-6. Lead was detected in all samples but is below current MTCA, Method A Soil Cleanup Levels for Unrestricted Land Uses.

Table 1. Analysis of Five Soil Samples Taken From the Contaminated Excavation Pits (Results listed=mg/kg, ppm)

	SX-1[1]	SX-2[2]	SX-4[1]	SX-5[2]	SX-6[2]
TPH-Gas	ND[3]	ND	ND	ND	ND
TPH-Diesel	Not Analyzed	Not Analyzed	ND	Not Analyzed	Not Analyzed
Benzene	ND	ND	**0.1**	**0.6**[4]	ND
Toluene	ND	0.1	0.5	0.1	ND
Ethylbenzene	ND	ND	0.1	ND	ND
Xylenes	0.5	1.0	2.0	2.0	ND
Total Lead	Not Analyzed	6	3	Not Analyzed	6

[1]Samples taken from the "large pit"
[2]Samples taken for the "small pit"
[3]ND=Non-detect
[4]A duplicate of sample SX-5 was analyzed with the following results: benezene=ND, toluene=ND, Ethylbenzene=0.1 mg/kg, xylene=2.01 mg/kg. **Bold-faced values** exceed MTCA A Soil cleanup Levels for Unrestricted Land Uses (11/2007).

The results of the water analysis are shown in Table 2. Both samples exceed current cleanup levels for ground water for TPH-Gas, benzene, and lead. Sample WX-1 also exceeds cleanup levels for toluene.

Table 2. Analysis of Two Water Samples Taken From the UST Excavation Pit. (Results listed=ug/L, ppb)

	Sample WX-1[1]	Sample WX-2[2]	Cleanup Level[3]
TPH-Gas	**8,102**	**5,797**	800
Benzene	**944**	**221**	5
Toluene	**1157**	850	1000
Ethylbenzene	165	122	700
Xylenes	95	799	1000
Total Lead	**77**	**96**	15

[1]Sample taken from the "small pit".
[2]Sample taken for the "large pit".
[3] MTCA, Method A Cleanup Levels for Ground Water (10/2007). **Bold-faced values** exceed cleanup level.

PETCO concluded that the release was confined to the loosely compacted soil and ground water immediately surrounding the old tanks. In a report (2), PETCO indicated that there were some reports from long-time Richland residents in the area that recalled a gas spill occurring at the site in the late 1960's. The report speculated that the contamination may have been a pocket of gasoline left over from that spill and the excavation disturbed the material. According to PETCO, there was no indication that the UST had leaked. PETCO concluded that the majority of the contamination was removed during the excavation and water skimming process. In addition, four groundwater monitoring wells had been installed. The ground water could be monitored and corrective action could be taken if contaminants continued to be detected. The site surrounding the tanks was filled with pea gravel followed by fill dirt.

In June 1992, PETCO installed qualitative leak detectors in each of the four groundwater monitoring wells. The leak detectors were manufactured by In-Situ Inc. of Laramie,

Wyoming and would be tripped if gasoline (and some other fuels) were present on the surface of the well water. PETCO indicated that the leak detectors were monitored on a regular basis but did not specify how frequent. No records of the inspections were found in the SHA file to verify that the detectors had been checked. The detectors were left in place for 10 years with no indication that gasoline was in the groundwater. It is also noteworthy that during the summer of 1992 the City of Richland installed new sewer lines near the site. The City drilled a number of dewatering wells near the site (Sun Mart #2) to remove shallow ground water that was interfering with the excavating that was being conducted.

In the fall of 2002 PETCO recommended to Sun Pacific Energy to enroll in the Voluntary Cleanup Program (VCP). Prior to doing so, PETCO began sampling the ground water from each of the monitoring wells on a quarterly basis starting in September of 2002 and concluding in June of 2003. The samples were analyzed for BTEX only. No explanation is given to why TPH-Gas was not analyzed. Most samples were non-detect and none of the samples exceeded current BTEX cleanup levels for ground water (data not shown). Data is missing from one well during one sampling event due to a jammed well cover. In addition, it appears that data for three wells sampled on December 11, 2002 is missing. The missing data was sent to the Benton-Franklin Health District by Roderick Pardee when he was notified that data was missing. The missing data was received on July 15, 2009 and is included in Appendix C. PETCO submitted the well monitoring data along with a short report describing the events since the initial tank removal in 1992 (2). The report included a completed application form from Sun Pacific Energy for the VCP and a request that the site be given a "No Further Action" (NFA) by Ecology. The report was received by Ecology on December 31, 2003 and given the identification number ~~X~~CE0186.

In January 2004, the review of the VCP was completed. The review was conducted by Norman T. Hepner, P.E. of the Toxic Cleanup Program. Hepner concluded that the remediation at the site did not qualify for a NFA citing that additional information was necessary. On August 18, 2005 Ecology sent Sun Pacific Energy a letter stating that no additional information regarding the remediation was received. The letter went on to state that the site would be removed from the VCP. In February of 2009 the site was assigned as a Site Hazard Assessment.

Site Hazard Assessment

On February 5, 2009 a notification letter was sent by Ecology to Ray Swain at Sun Pacific Energy informing him that a Site Hazard Assessment of Sun Mart #2 was being initiated. I contacted Ray Swain and he suggested that I contact Rod Pardee at PETCO. On April 30, 2009 I met with Rod Pardee at the site. The site is still being used as a gas station and is in the same configuration as it has been since the installation of the new tanks in 1991. The entire site is covered with concrete or asphalt. Mr. Pardee showed me the location of where the old tanks were excavated and also where the four monitoring wells are located. He explained to me that the In Situ Inc. leak detection system was still in place in all of the wells. We discussed the VCP review and why more information had been requested. He admitted that not having TPH-Gas data for the ground water

monitoring was problematic and that a chemist he had working for him at the time suggested that it was not needed.

It was decided that sampling water from each of the four ground water monitoring wells would be beneficial. If contaminants were still present, then further remediation might be needed. If the samples did not show contamination then attenuation may have occurred in which case a No Further Action may still be an option. Rod Pardee hired Shannon and Wilson Inc., Geotechnical and Environmental Consultants, (Richland, WA) to take the water samples from the wells because he did not have some of the equipment necessary to perform the water sampling. On June 16, 2009, Donna Parkes from Shannon & Wilson performed the water sampling (see Appendix B for water sampling protocol). The water samples were given to Rod Pardee who submitted them to Wy'East, Portland, OR, for analysis. I observed sampling at the monitoring wells MW-1 and MW-3. Mr. Pardee had the samples analyzed for BTEX (Method EPA 8021B), gasoline (NW-TPHGx), and dissolved lead in water (EPA 200.9). All samples were non-detect (see Appendix B for data).

Pathway Information and Conclusions

The **Surface Water Pathway** is not likely a significant route of potential exposure at this site because the site is covered with concrete and asphalt.

Air Pathway. Due to the volatility of the contaminants and the fact that 17 years have elapsed since the contamination was documented, it is possible that contaminants are no longer present. No air sampling was performed at the site and water monitoring at the site indicates that gasoline and BTEX contaminants are no longer present.

Ground Water Pathway. Ground water at the site is shallow (~nine feet). Gasoline, benzene, toluene, and lead were found in the ground water in 1992 at levels above current cleanup standards. Benzene was also found in one soil sample that exceeded current cleanup levels. However, these samples were taken shortly after visible petroleum product had been detected and removed. At a later date, ground water monitoring was performed on four wells at the perimeter of the site. Water samples were taken on a quarterly basis for one year and while toluene and xylene were detected sporadically they were well below current cleanup levels. Water samples were not analyzed for gasoline during this time period. However, a leak detection system was in place in each of the four monitoring wells which was capable of detecting gasoline.

At the request of the Benton-Franklin Health District, ground water samples were taken from all four wells and analyzed. The water samples were taken by Donna Parkes of Shannon and Wilson Inc. and immediately transferred to Rod Pardee. Mr. Pardee had the samples analyzed for NW-TPHGx, BTEX and lead. All samples were non-detect (see Appendix B).

Recommendation

It is recommended that this site receive **no further action** under MTCA, based on WAC 173-340-310(5)(d)(ii): that a release of a hazardous substance has occurred at the site, but in the department's judgment, does not pose a threat to human health or the environment.

The basis for this recommendation is that water sampling that was conducted on June 16, 2009 indicated that neither gasoline nor BTEX contaminants were present in the ground water at the site. Following the remediation in 1992 some contaminants remained. However, due to the time that has passed (~17 years) and the volatility of the petroleum contaminants, it appears that natural attenuation of the contaminants has occurred. The large dewatering project that the City of Richland was conducting in close proximity to the site during the summer of 1992 may have also inadvertently removed some of the contaminated water.

References

1. *Site Assessement Report for Sun Mart #2, 1401 George Washington Way, Richland, WA*, prepared by PETCO Inc., January 1992.

2. *Report of Independent Remedial Action Association with Sun Mart #2 Site ID #3659*, prepared by PETCO Inc., December 2003.

3. *Model Toxics Control Act in Statute and Regulation*, Washington Stat Department of Ecology Toxics Cleanup Program, Publication No. 94-06, November 2007.

Appendix A: Figures 1-3 (3 pages)

Appendix B:

Letter from Roderick Pardee, PETCO, Inc., Water Sampling Procedures and Analytical Data (Total of 9 pages)

Appendix C:

Analysis Data from Wy'East Environmental Sciences, Inc. for Water Samples Taken from Wells W2, W3, and W4 in December of 2002 (3 pages)

Appendix A: Figures 1-3 (3 pages)

Site Maps

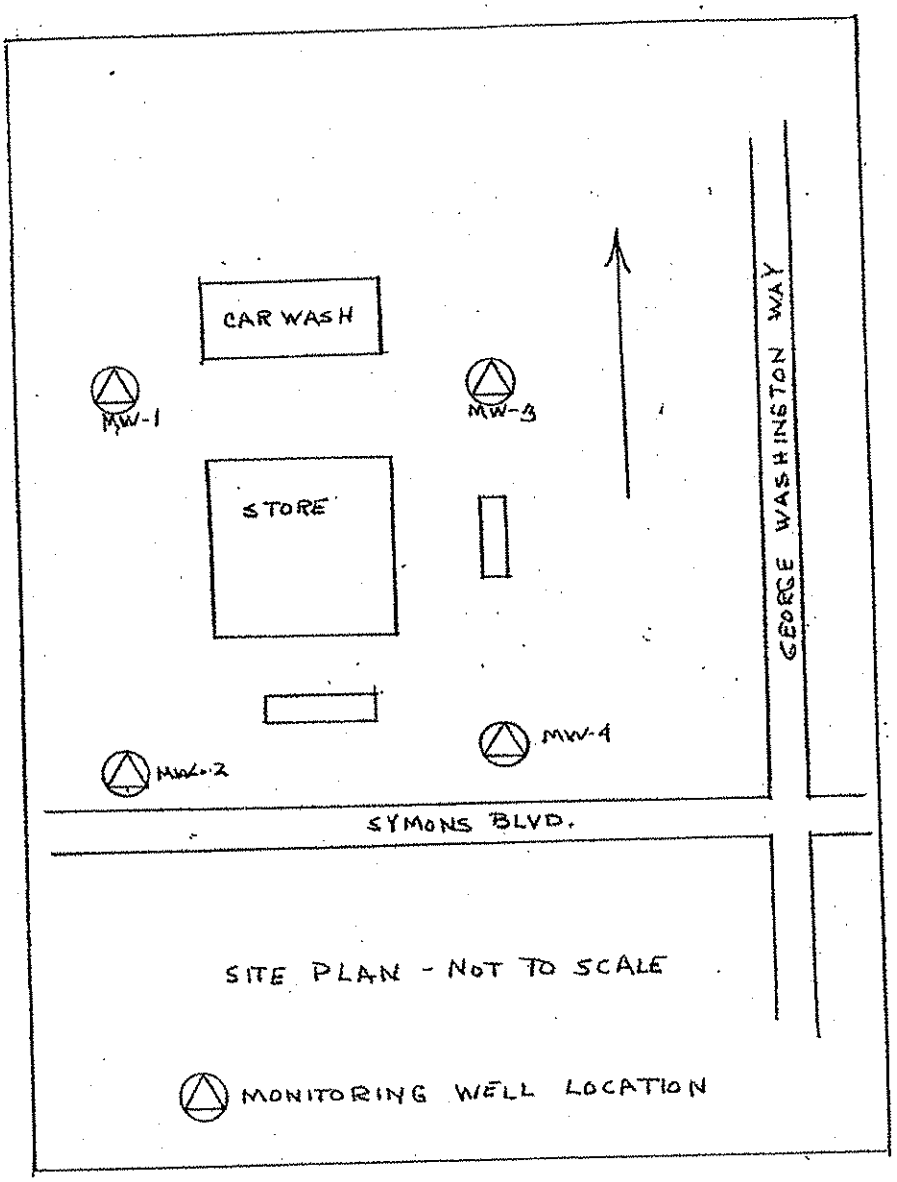
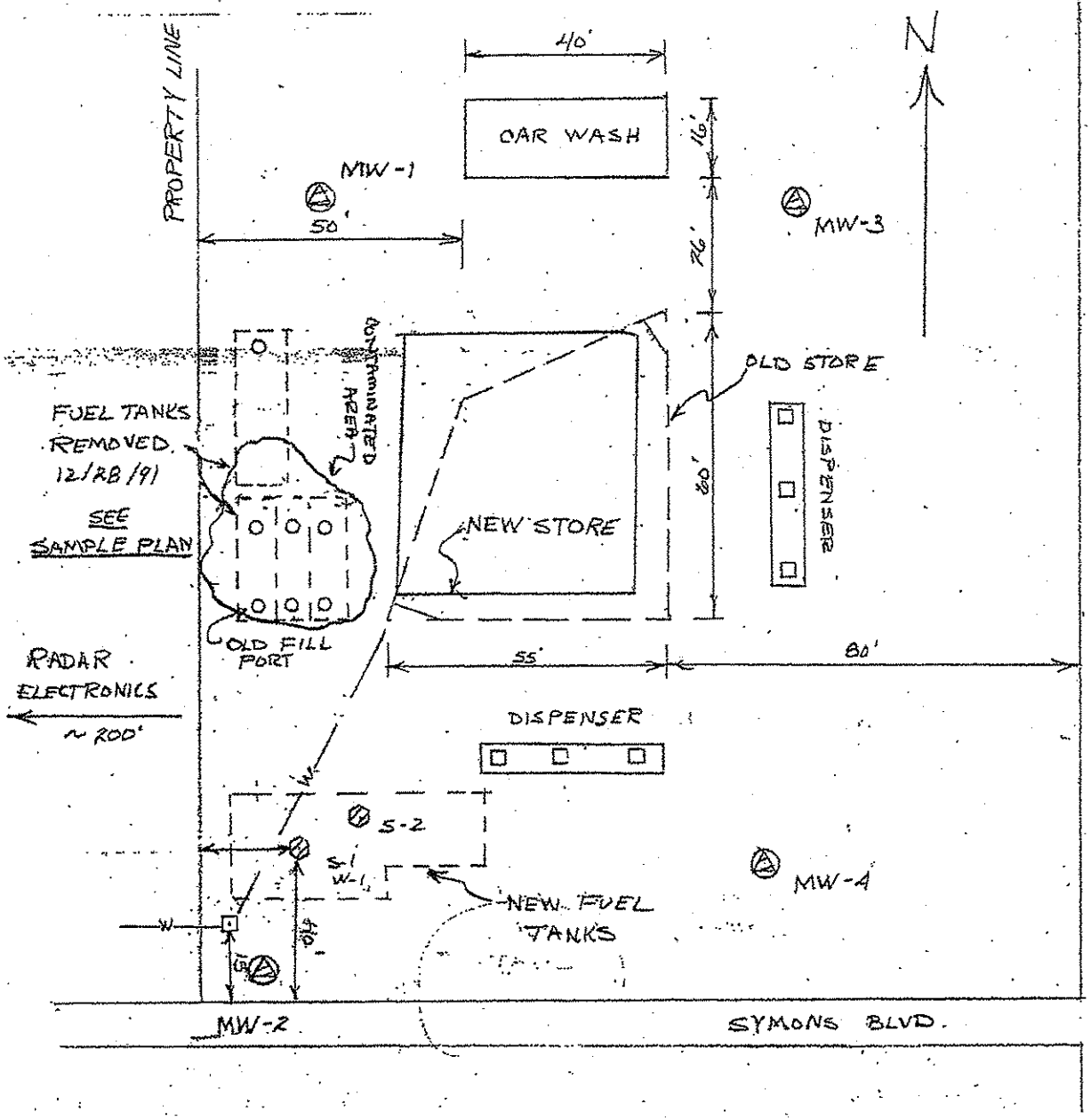


Figure 1.



GROUND WATER WAS ENCOUNTERED 10/25/91 @ 7" BELOW GRADE.

⊘ SAMPLES OBTAINED 10/26/91

SOIL - DEPTH 6 FEET

S-1

S-2

WATER - DEPTH 7 FEET

W-1

SCALE: 1" = ~30'

△ GROUND WATER MONITOR WELL

REV 1: 12/30/91

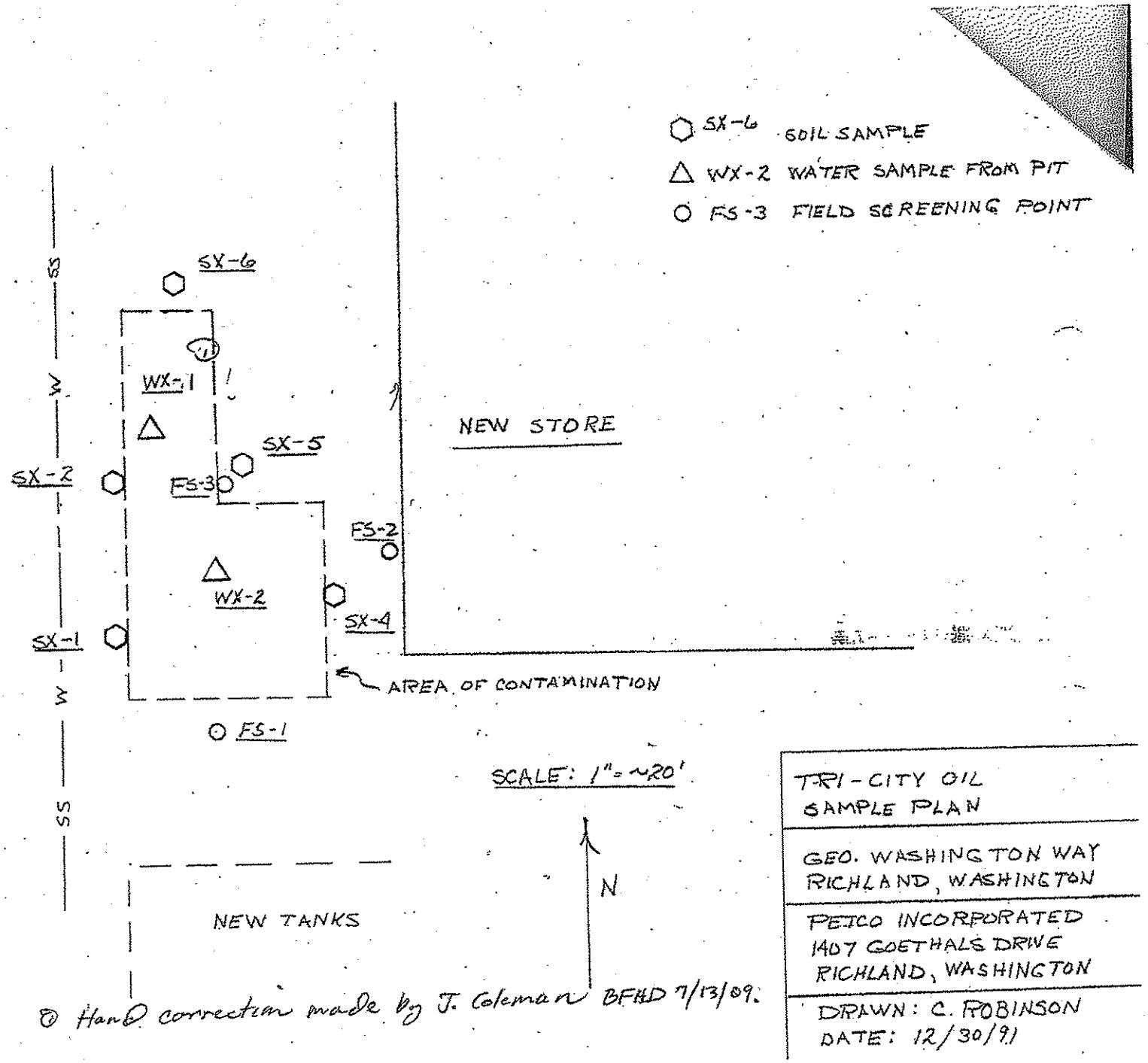
TRI-CITY OIL
SITE PLAN

GEO. WASHINGTON WAY
RICHLAND, WASHINGTON

PETCO INCORPORATED
1407 GOETHALS DRIVE
RICHLAND, WASHINGTON

DRAWN: C. ROBINSON
DATE: 10/25/91

Figure 2



① Hand correction made by J. Coleman BFHD 7/13/09.

Figure 3

Appendix B:

Letter from Roderick Pardee, PETCO, Inc.,
Water Sampling Procedures and Analytical Data
(Total of 9 pages)

PETCO INCORPORATED

June 23, 2009

Jim Coleman,
Benton-Franklin Environmental Health Deparment
7102 W. Okanogan Place
Kennewick, Washington 99336

Re: Groundwater sampling, corner Symons and George Washington Way, Richland.

Greetings,

I have completed the groundwater sampling and analysis per your request. The results were ND (non-detect) across the board on all three analyses of the samples from each of the four monitoring wells. Copies of the laboratory reports are included with this letter.

The sampling event on June 16, 2009, was conducted by Donna Parks of Shannon & Wilson, Inc. Using their procedures and protocols, three well volumes were purged prior to sampling. It is noteworthy that the In-Situ devices installed in the wells and unchecked for several years were still operative and did not show alarm. This supports the assumption that the site has been clean since the last go round of sampling in 2001.

I trust this documentation and your investigation in the matter will result in reclassification of this site as needing no further action. The property owner is anxious about having the Monitoring Wells closed as this is an additional risk factor should there ever be a spill at this site. Abandoning and closing the wells is the final step in this process and will be completed after release of findings.

Please feel free to contact me should you need additional information. I thank you for your prompt attention to this matter.

Regards

Roderick L. Pardee
General Manager

Cc: Tri-City Oil Co. Kennewick

210 East Albany Avenue - Kennewick, Washington 99336 - 509/582-1101

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

PROJECT NO.:	22-1-11250-001
REPORT DATE:	June 16, 2009
REPORT NO.:	1
SW FIELD REP.:	Donna Parkes
PERMIT NO.:	

DAILY FIELD ACTIVITY REPORT

PROJECT NAME/LOCATION	Tri-City Oil, Sun Mart No. 2, Richland, Washington

REPORT SUBMITTED TO:	CONTRACTOR NAME AND CONTACT:	WEATHER & TEMP.	Clear, 85°
Client Petco, Inc. 210 East Albany Ave. Kennewick, WA 99336	General Subcontractors	TIMES OF SITE VISITS:	
		from 1000 to 1220	
		from to	

NO.	TOPIC AND LOCATION	DESCRIPTION OF FIELD ACTIVITY, OBSERVATIONS	ACTIONS RECOMMENDED TO OWNER
1	Groundwater sample collection from 4 on-site monitoring wells	Met at site (1401 George Washington Way) with Rod Pardee of Petco, and Jim Coleman of Benton-Franklin Health District. Jim asked if lab tests would include lead, since lead was initially detected in water samples from the tank excavation. Mr. Pardee indicated that he is willing to have the lab analyze for lead, in addition to the planned analyses for NWTPH-Gx/BTEX. I returned to the office to get additional bottles for total lead analyses (500 mL HDPE with nitric acid preservative). The following table summarizes water level data, purge water volumes, and sample information. (Note: the top of casing was used as the measuring point in all of the wells; the casing top is below ground level, and is significantly lower in MW-4 than in the other wells).	

Well ID and Location	Depth to water below top of casing, ft	Water in well casing, gallons	Purged water, gallons	Sample ID	Sample Time
MW-1, NW	9.08	0.96	3	9513-1	10:50
MW-2, SW	9.22	0.92	3	9513-2	12:10
MW-3, NE	9.84	0.83	2.5	9513-3	11:20
MW-4, SE	9.13	0.94	3	9513-4	11:45

Procedures at each well included the following: take water level reading, purge three times the well volume using a disposable bailer, collect water samples (two 40-mL VOA vials and one 500 mL HDPE bottle), and decontaminate water level indicator. The VOA vials were filled first, using a slow emptying device that reduces turbulence and loss of volatile constituents. Purge water was placed in a 55-gallon drum in a fenced storage area on the west side of the main building.

All samples were transferred to Mr. Pardee immediately upon collection.

REVIEW BY (initial/date)

6/16/09

17 3705

Wy'East Environmental Sciences, Inc.
2415 SE 11th Ave. Portland Oregon 97214

CHAIN OF CUSTODY

Report Number ________

Phone(503) 231-9320 FAX(503) 231-9344

Company: PETCO INCORPORATED
Project #: 9513
Project Name: TCO #2
Site:
Samples: Temperature 19 BLUE On Ice? Yes / No

Phone: 509 / 582-1101
FAX: 509 / 586-7773
Purchase Order #: PRE-PAID
Report Attention: Rod
Collected By: Rod
Turnaround Time: [X] Regular [ ] 3-5 Business Days

Comments: Print Cromatograph on any "HIT"

LAB ID	Field ID	Sampling Date	Sampling Time	Matrix	Container	Volume	NW-TPH-Dx	NW-TPH-GX	NW-TPH-HCID	EPA 8021B (BTEX)	EPA 8270 SIM (PAH)	EPA 8260B	Analysis Requested
Z7214	9513 - W1			Water	40ml			X		X			
	W1 (dup)												
Z7215	9513 - W2							X		X			
	W2 (dup)												
Z7216	9513 - W3							X		X			
	W3 (dup)												
Z7217	9513 W4							X		X			ALSO DO A
	W4 (dup)												TOTAL LEAD ON
													EACH SAMPLE

Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time
[signature]	PETCO	6/16/05	3PM	FED EX	[signature]	6/17/05	11:00pm
Relinquished by	Affiliation	Date	Time	Received by	Affiliation	Date	Time

LABORATORY REPORT

Petco Inc.
210 E. Albany
Kennewick, WA 99336

SITE NAME: TCO#2
SITE LOCATION:
PROJECT NUMBER: 9513

REPORT NUMBER: 73705
REPORT DATE: 6/18/09
PAGE: 1 of 1

EPA 8021B
Analytes: BTEX for water (Benzene, Toluene, Ethylbenzene, Xylenes)

Field ID	LAB ID	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Surrogate Recovery (%)
9513-W1	Z7214	ND	ND	ND	ND	97%
9513-W2	Z7215	ND	ND	ND	ND	98%
9513-W3	Z7216	ND	ND	ND	ND	97%
9513-W4	Z7217	ND	ND	ND	ND	97%
Reporting Limit:	--	0.2	1	1	3	

Surrogate is p-Bromofluorobenzene, Internal Standard is α,α,α-Trifluorotoluene

LAB ID	Analytical Batch	Sampling Date
Z7214	HPID090617-1	6/16/2009
Z7215	HPID090617-1	6/16/2009
Z7216	HPID090617-1	6/16/2009
Z7217	HPID090617-1	6/16/2009

Chemist Initials: C.Y Chan

2415 SE 11th Ave., Portland, OR 97214
Phone (503) 231-9320 FAX (503) 231-9344

Quality Control Report for BTEX Water By 8021B

HPID090617-1	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	BFB (Surrogate)
CCV	**5**	**5**	**5**	**16**	
Theoretical Value	5	5	5	15	
Percent Difference	5%	10%	6%	8%	
Acceptable Range	± 20%	± 20%	± 20%	± 20%	
CONTROL	**PASS**	**PASS**	**PASS**	**PASS**	
Blank	**0.00**	**0.06**	**0.14**	**2.07**	**95%**
Acceptable Range	0.2	<1	<1	<3	50%-150%
CONTROL	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**
LCS	**5**	**5**	**5**	**16**	**94%**
Theoretical Value	5	5	5	15	
Percent Recovery	105%	110%	106%	108%	
Acceptable Range	70%-130%	70%-130%	70%-130%	70%-130%	50%-150%
CONTROL	**PASS**	**PASS**	**PASS**	**PASS**	**PASS**

2415 SE 11th Ave., Portland, OR 97214

Phone (503) 231-9320 FAX (503) 231-9344

LABORATORY REPORT

Petco Inc.
210 E. Albany
Kennewick, WA 99336

PROJECT NAME: TCO#2
SITE LOCATION:
PROJECT NUMBER: 9513

REPORT NUMBER: 73705
REPORT DATE: 6/18/2009
PAGE: 1 of 1

NW-TPHGx
Analytes: Gasoline in Water

Field ID	LAB ID	Gasoline (µg/L)	Surrogate Recovery (%)	Analytical Batch	Sampling Date
9513-W1	Z7214	**ND**	**124%**	58PI090617-2	6/16/2009
9513-W2	Z7215	**ND**	**122%**	58PI090617-2	6/16/2009
9513-W3	Z7216	**ND**	**122%**	58PI090617-2	6/16/2009
9513-W4	Z7217	**ND**	**122%**	58PI090617-2	6/16/2009
Reporting Limit:	--	**100**			

Surrogate is p-Bromofluorobenzene

This is a NELAP accredited method
Results relate only to samples

Chemist Initials: C.Y Chan

Quality Control for Gasoline in Water by NWTPH-Gx

Batch Date: 6/17/2009

Calibration Verification	Analytical Batch	Result (µg/L)	Theoretical Result (µg/L)	Percent Difference	Acceptable Range
CCV2	58PI090617-2	1,034	1,000	-3%	±20%
CCV3	58PI090617-2	1,069	1,000	-7%	±20%

Matrix Blank	Analytical Batch	Result (µg/L)	Theoretical Result (µg/L)	Surrogate Recovery	Surrogate Acceptable Range
WBLANK	58PI090617-2	84	<200	112%	50%-150%
WBLANK	58PI090617-2	84	<200	112%	50%-150%

Matrix Spike	Analytical Batch	Result (µg/L)	Theoretical Result (µg/L)	Percent Recovery	Acceptable Range
CCVLCS	58PI090617-2	1,112	1,000	111%	70%-130%

2415 SE 11th Ave., Portland, OR 97214 Phone (503) 231-9320 FAX (503) 231-9344

WyEast *Wy'East Environmental Sciences, Inc.*

LABORATORY REPORT

Petco Inc.
210 E. Albany
Kennewick, WA 99336

PROJECT NAME: TCO#2
SITE LOCATION:
PROJECT NUMBER: 9513

REPORT NUMBER: 73705
REPORT DATE: 6/18/09
PAGE: Page 1 of 1

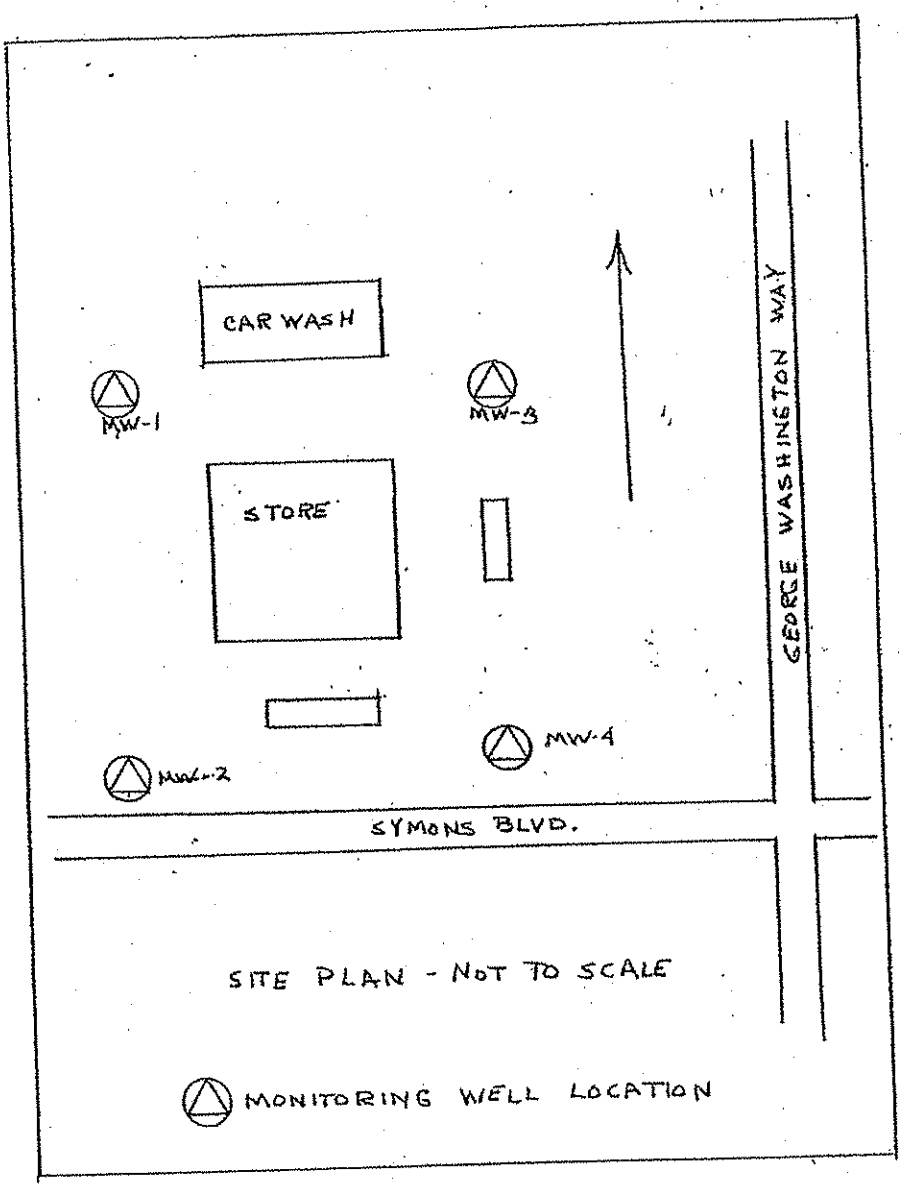
Dissolved Pb in Sample (Water) by EPA 200.9

Field ID	LAB ID	Pb Result (ug/L)	Reporting Limit (ug/L)	Run Date	Batch
9513-W1	Z7214	ND	7	6/18/2009	PB06-18-09
9513-W2	Z7215	ND	7	6/18/2009	PB06-18-09
9513-W3	Z7216	ND	7	6/18/2009	PB06-18-09
9513-W4	Z7217	ND	7	6/18/2009	PB06-18-09

Quality Control Report: Pb in Water by 200.9

PB06-18-09	Measured Conc. (µg/L)	Theoretical Concentration (µg/L)	Recovery (%)	Lower Limit	Upper Limit	
Prep Blank	1	0	--	7 µg/L	--	PASS
LCS	45	50	90%	70%	130%	PASS
QC Check	45	50	90%	80%	120%	PASS
Calibration R^2:	*0.9999*	*(Lower Limit: 0.995)*				*PASS*

2415 SE 11th Ave., Portland, OR 97214 Phone (503) 231-9320 FAX (503) 231-9344


CAR WASH
MW-1
MW-3
STORE
GEORGE WASHINGTON WAY
MW-4
MW-2
SYMONS BLVD.
SITE PLAN - NOT TO SCALE
MONITORING WELL LOCATION

Appendix C:

Analysis Data from Wy'East Environmental Sciences, Inc. for Water Samples Taken from Wells W2, W3, and W4 in December of 2002 (3 pages)

Wy'East Environmental Sciences, Inc.

EPA Method 8260
Analyte: Volatile Organics in water
Field ID: 2275 - W2
Lab ID: J9346 D
Analysis date: 12/6/02

Site Name: TCO
Site Number: 2275
Report Number: 44658

CAS#	Compound	Sample (µg/L)	Blank	Detection Limit
71-43-2	Benzene	ND	ND	0.50
100-41-4	Ethylbenzene	ND	ND	1
108-88-3	Toluene	ND	ND	1
1330-20-7	Total Xylenes	ND	ND	1
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	112		
107-06-2	1,2-Dichloroethane-d4	122		
108-88-3	Toluene-d8	113		

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Wy'East Environmental Sciences, Inc.

EPA Method 8260

Analyte: Volatile Organics in water

Field ID: 2275 - W3 Site Name: TCO

Lab ID: J9547.D Site Number: 2275

Analysis date: 12/6/02 Report Number: 44658

CAS#	Compound	Sample (µg/L)	Blank	Detection Limit
71-43-2	Benzene	ND	ND	0.50
100-41-4	Ethylbenzene	ND	ND	1
108-88-3	Toluene	ND	ND	1
1330-20-7	Total Xylenes	ND	ND	1
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	109		
107-06-2	1,2-Dichloroethane-d4	116		
108-88-3	Toluene-d8	105		

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Wy'East Environmental Sciences, Inc.

EPA Method 8260
Analyte: Volatile Organics in water

Field ID: **2275 - W4**
Lab ID: J9348.D
Analysis date: 12/6/02

Site Name: **TCO**
Site Number: 2275
Report Number: 44658

CAS#	Compound	Sample (µg/L)	Blank	Detection Limit
71-43-2	Benzene	ND	ND	0.50
100-41-4	Ethylbenzene	ND	ND	1
108-88-3	Toluene	ND	ND	1
1330-20-7	Total Xylenes	ND	ND	1
	Surrogates:	Percent Recovery:		
460-00-4	4-Bromofluorobenzene	110		
107-06-2	1,2-Dichloroethane-d4	118		
108-88-3	Toluene-d8	106		

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