

ENGINEERING REPORT
on
PETROLEUM CONTAMINATED SOIL REMOVAL
and
SITE CLOSURE
for
PEDERSON FRYER FARMS
1404 Birchfield Road
Yakima, Washington

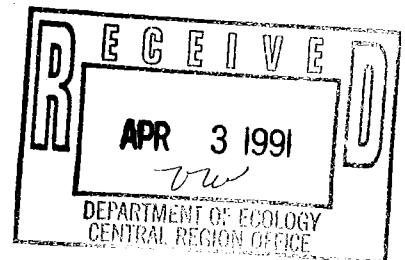


March 1991

Job No. 90079

Prepared by

PLSA ENGINEERING & SURVEYING
(WDOE License No. S000210)
1120 West Lincoln Avenue
Yakima, WA 98902
(509) 575-6990



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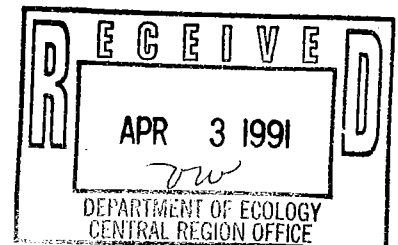
PEDERSON FRYER FARMS

1404 Birchfield Road
Yakima, Washington

INTRODUCTION

Pederson Fryer Farms recently contracted to have an underground, steel, gasoline storage tank removed from their premises at 1404 Birchfield Road, Yakima, Washington. Petroleum contaminated soil (PCS) was found. PLSA Engineering and Surveying was retained to investigate for the presence of contamination and to direct any cleanup effort required.

This report summarizes the results of the cleanup and includes the results of laboratory testing of representative soil and water samples for presence of benzene, toluene, ethylbenzene, and xylene (BTEX) and a sample for characterization of the contaminant by EPA 8015. A geotechnician from this office experienced with local soil conditions performed field testing for volatile organic compounds using a Photovac TIP 1 analyzer, and monitored for explosion hazard using a Gastech analyzer.



The owner's representative and contact person for this project is as follows:

Mr. John Chambers
Pederson Fryer Farms
1404 Birchfield Road
Yakima, Washington 98901
phone (509) 248 7633

CLEANUP STATUS

A former farmstead has been converted for use for product storage, truck parking, and general use for the purpose of fresh fryer distribution. The tank basin was located in a lawn and shrubbery area between the residence and the distribution and office building. Figure 1 depicts the extent of the cleanup excavation and shows salient horizontal relationship between various surface features and final test locations.

All PCS has been removed to below Washington State Department of Ecology (WDOE) February 28, 1991 cleanup; guidelines from all sides and bottom of the contaminant excavation. BTEX and TPH have been removed from ground water down to below analytical detection limits which is below WDOE February 28, 1991 cleanup guidelines as well.

PCS appeared to extend underneath the refrigerated storage building on the south side of the excavation. Laboratory samples from this location found contaminant concentrations below those listed in the cleanup guidelines.

Laboratory analytical reports on final cleanup samples may be found in Appendix II.

SUB-SURFACE CONDITIONS

A deep stratum of silt topsoil variable 6 to 8 feet thick overlies an alluvial stratum of gravel and sand. The water table is seasonally variable with the irrigation season. Groundwater was found at 12 feet below the surface in March 1991.

From general topography and water flowing into the excavation, it appears that the groundwater hydraulic gradient is to the south or southwest.

CONTAMINANT CHARACTERIZATION

Two samples were collected from the contaminated soil found at the south end of the gasoline tank basin where the spill had apparently occurred. Samples were refrigerated and shipped to a laboratory for analysis for BTEX and EPA 8015. Results of laboratory analysis are found in Appendix I. Gasoline was the only contaminant found.

CLEANUP METHOD

Excavation equipment consisting of a John Deere Model 790 track mounted backhoe, a John Deere Model 510 tractor mounted backhoe, and a fleet of 10 cubic yard dump trucks were used for removal of contaminated soil and clean overburden.

Petroleum contaminated water (PCW) was remediated within the excavation on-site by circulation through an oil separator and aeration of the water accumulated in the bottom of the excavation. The laboratory analytical report for samples 1-W, 2-W, and 3-W collected from the water in the bottom of the excavation show that this treatment strategy was effective in removing contaminants to below WDOE February 28, 1991 cleanup guidelines. See Appendix II.

Goal of the clean up process was to remove all contaminated soil to below Washington State Department of Ecology (WDOE) draft cleanup guidelines. This was achieved.

CONTAMINATED SOIL REMOVAL

A Photovac TIP 1 photoanalyzer was used to detect volatile organic compounds (VOC's) as contaminated soil was removed until significant readings were no longer obtained. Representative soil and water samples were then collected and submitted for laboratory analysis to verify the TIP results.

DISPOSAL OF CONTAMINATED SOIL

A total of 3,434 cubic yards of PCS were delivered to the Rocky Top PCS remediation facility located west of Yakima, Washington.

SITE CLOSURE

The excavated tank basin has been backfilled with compact, clean, structural fill and the surface restored to a graveled parking area. The tank and any associated piping that may have been present was removed by others in late 1989. The disposition of these items is not known at this time. It is understood that the tank had been in place for more than thirty years and was on the premises when the site was purchased by Pederson Farms.

WELLS

A location map and well logs for documented wells located within one half mile of the cleanup site may be found in Appendix III.

APPENDIX I

Analytical Results

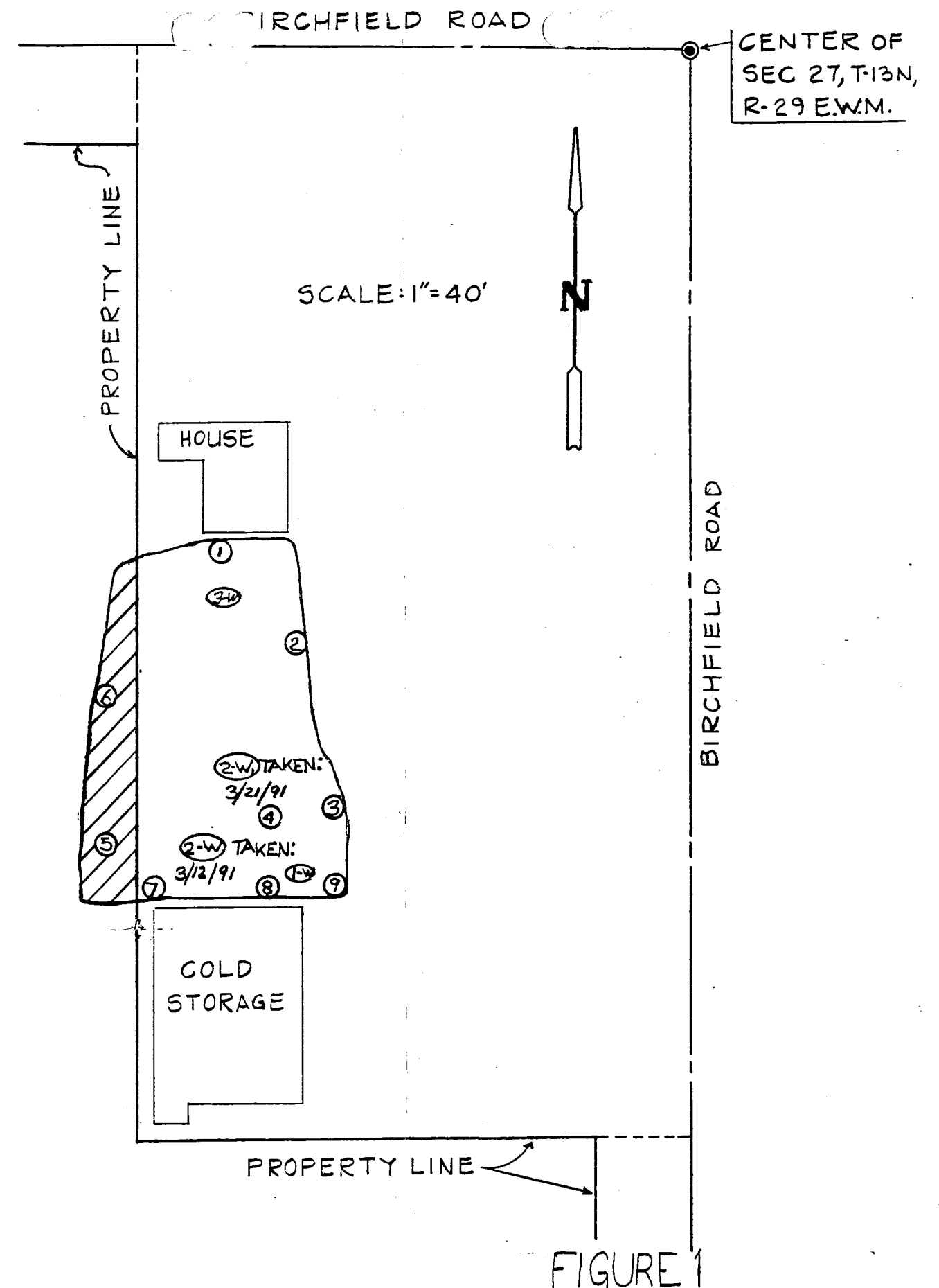
FINAL ANALYTICAL RESULTS

Sample No.	Matrix	TPH ¹ (ppm)	BTEX ² (ppm)	Lead (ppm)
1	Soil	14.8	ND ³	4.3
2	Soil	18.8	ND	5.4
3	Soil	16.9	ND	3.9
4	Soil	19.7	ND	1.6
5	Soil	20.7	ND	4.4
6	Soil	18.3	ND	5.2
7	Soil	33.0	ND	4.7
8	Soil	62.2	ND	4.6
9	Soil	32.2	ND	8.7
1-W	Water	<1.0	ND	NT ⁴
2-W	Water	<1.0	ND	<0.005
3-W	Water	<1.0	ND	<0.005

- 1 - Total Petroleum Hydrocarbons, EPA Method 418.1
- 2 - Benzene, Toluene, Ethylbenzene, and Xylenes
- 3 - Not Detectable
- 4 - Not Tested

KEY:

- ▨ - LOCATION OF EXCAVATION WITHIN NEIGHBORS PROPERTY
- ② - LOCATION AND SAMPLE NUMBER OF WATER/SOIL SAMPLE TAKEN



FINAL SAMPLE LOCATION MAP
PEDERSON FARMS
PREPARED BY: PLSA ENGINEERING SURVEYING
DATE: 3-2-91 BY: LV Job # 90019

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4630 PACIFIC HIGHWAY EAST, SUITE B-14, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: PLSA Engineering

Date: May 17, 1990

Report On: Analysis of Soil

Lab No.: 11329

IDENTIFICATION:

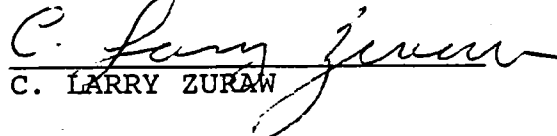
Samples Received on 05-15-90

Job No. 90079

ANALYSIS:

Lab Sample No.	1	2
Client Identification	Sample #1	Sample #2
Matrix/Units	Soil ppm	Soil ppm
Benzene	0.15	< 0.05
Toluene	75.3	23.8
Ethyl Benzene	38.8	20.2
Xylenes	347	159
BTEX by EPA SW-846 Method 8020		
Total Petroleum Fuel Hydrocarbons, by EPA SW-846 Modified Method 8015	7,893	1,967
TPH as	Gasoline	Gasoline

SOUND ANALYTICAL SERVICES


C. LARRY ZURAW

APPENDIX II

Final Analytical Results

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: PLSA Engineering

Date: March 15, 1991

Report On: Analysis of Soil

Lab No.: 16476-1

IDENTIFICATION:

Samples Received on 03-13-91

Project: 90079

ANALYSIS:

Lab Sample No.	RUSH 1	RUSH 2	RUSH 3
Client Identification	#1	#2	#3
Matrix/Units	Soil mg/kg	Soil mg/kg	Soil mg/kg
Benzene	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05
Ethyl Benzene	< 0.05	< 0.05	< 0.05
Xylenes	< 0.05	< 0.05	< 0.05
BTEX by EPA SW-846 Method 8020			
Total Petroleum Hydrocarbons by EPA Method 418.1	14.8	18.8	16.9
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	< 10	< 10	< 10
Total Lead	4.3	5.4	3.9

Note - BTEX, TPH 418.1, and TPH 8015 results reported on an as received basis.

Continued

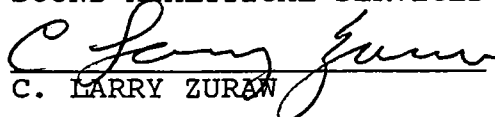
SOUND ANALYTICAL SERVICES, INC.

PLSA Engineering
Project: 90079
Page 2
Lab No. 16476-1
March 15, 1991

Lab Sample No.	RUSH 4	RUSH 5	RUSH 6
Client Identification	#4	#5	#6
Matrix/Units	Soil mg/kg	Soil mg/kg	Soil mg/kg
Benzene	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05
Ethyl Benzene	< 0.05	< 0.05	< 0.05
Xylenes	< 0.05	< 0.05	< 0.05
BTEX by EPA SW-846 Method 8020			
Total Petroleum Hydrocarbons by EPA Method 418.1	19.7	20.7	18.3
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	< 10	< 10	< 10
Total Lead	1.6	4.4	5.2

Note - BTEX, TPH 418.1, and TPH 8015 results reported on an as received basis.

SOUND ANALYTICAL SERVICES


C. LARRY ZURAW

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: PLSA Engineering

Date: March 15, 1991

Report On: Analysis of Soil

Lab No.: 16476-2

IDENTIFICATION:

Samples Received on 03-13-91

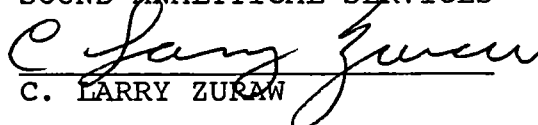
Project: 90079

ANALYSIS:

Lab Sample No.	RUSH 7	RUSH 8	RUSH 9
Client Identification	#7	#8	#9
Matrix/Units	Soil mg/kg	Soil mg/kg	Soil mg/kg
Benzene	< 0.05	< 0.05	< 0.05
Toluene	< 0.05	< 0.05	< 0.05
Ethyl Benzene	< 0.05	< 0.05	< 0.05
Xylenes	< 0.05	< 0.05	< 0.05
BTEX by EPA SW-846 Method 8020			
Total Petroleum Hydrocarbons by EPA Method 418.1	33.0	62.2	32.2
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	< 10	< 10	< 10
Total Lead	4.7	4.9	8.7

Note - BTEX, TPH 418.1, and TPH 8015 results reported on an as received basis.

SOUND ANALYTICAL SERVICES


C. LARRY ZURAW

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: PLSA Engineering

Date: March 15, 1991

Report On: Analysis of Water

Lab No.: 16476-3

IDENTIFICATION:

Samples Received on 03-13-91

Project: 90079

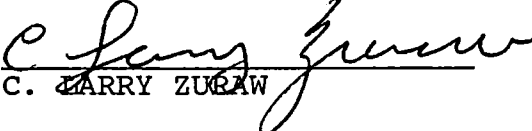
ANALYSIS:

Lab Sample No.	RUSH 10	RUSH 11
Client Identification	1-W	2-W
Matrix/Units	Water mg/l	Water mg/l
Benzene	< 0.001	< 0.001
Toluene	< 0.001	< 0.001
Ethyl Benzene	< 0.001	< 0.001
Xylenes	< 0.001	< 0.001
BTEX by EPA SW-846 Method 8020		
Total Petroleum Hydrocarbons by EPA Method 418.1	< 1.0	< 1.0
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	< 1.0	< 1.0

Note - BTEX, TPH 418.1, and TPH 8015 results reported on an as received basis.

Note - Samples were received unpreserved in one liter containers on 03-13-91, they were then preserved with H₂SO₄ at Sound Analytical Services.

SOUND ANALYTICAL SERVICES


C. LARRY ZUREW

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: PLSA Engineering

Date: March 21, 1991

Report On: Analysis of Water

Lab No.: 16582

IDENTIFICATION:

Samples Received on 03-19-91

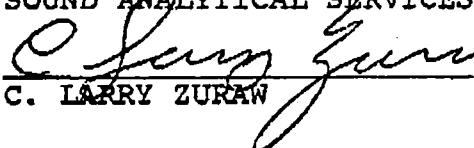
Project: 90079

ANALYSIS:

Lab Sample No.	RUSH 1	RUSH 2
Client Identification	2-W	3-W
Matrix/Units	Water ppm	Water ppm
Benzene	< 0.001	< 0.001
Toluene	< 0.001	< 0.001
Ethyl Benzene	< 0.001	< 0.001
Xylenes	< 0.001	< 0.001
BTEX by EPA SW-846 Method 8020		
Total Lead	< 0.005	< 0.005
Total Petroleum Fuel Hydrocarbons by EPA SW-846 Modified Method 8015	NT	< 1.0
Total Petroleum Hydrocarbons by EPA Method 418.1	NT	< 1.0

NT = Not Tested

SOUND ANALYTICAL SERVICES


C. LARRY ZURAW

APPENDIX III

Documented Well Logs

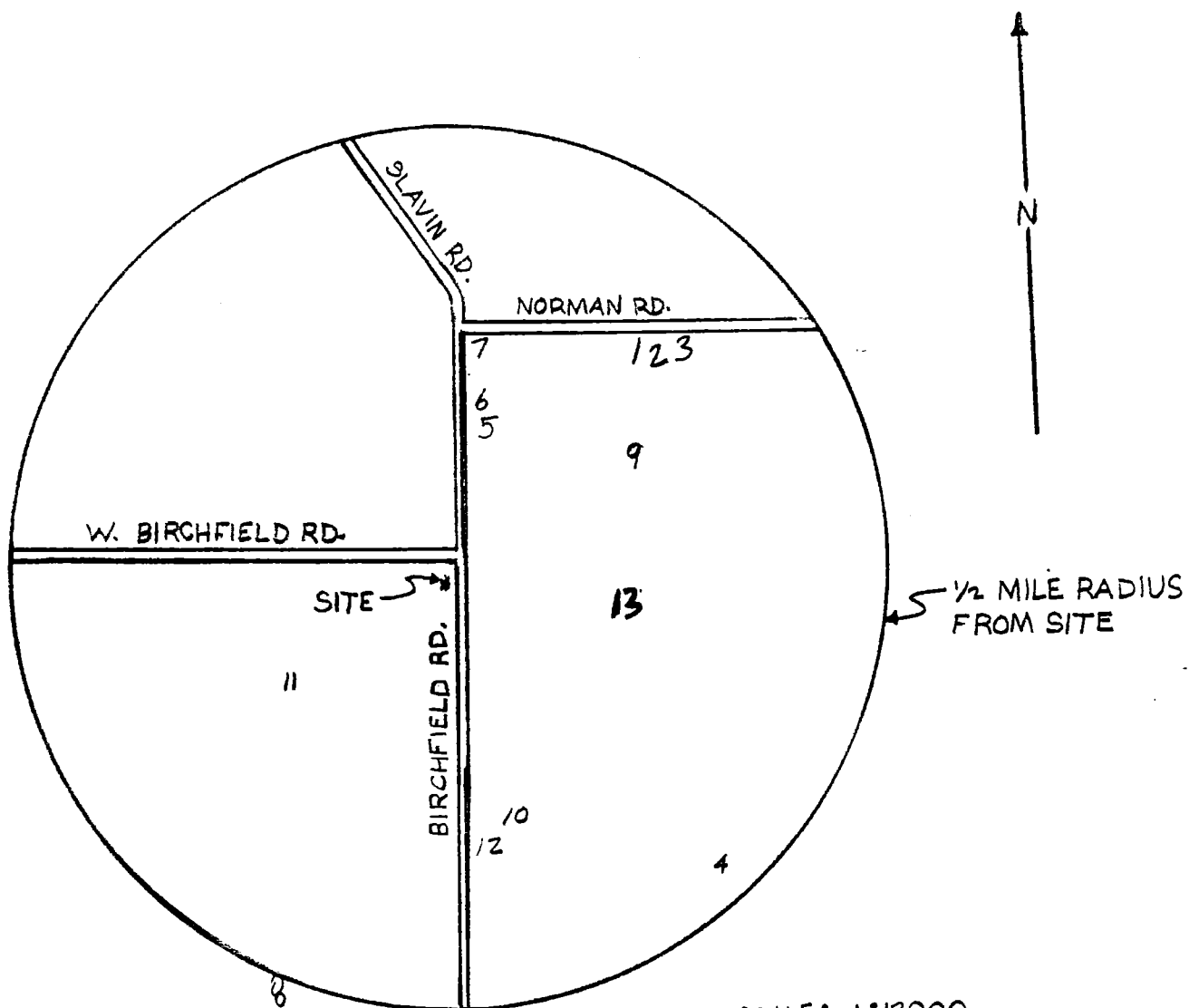


FIGURE 3
WELL LOCATION MAP
PEDERSON FARMS
YAKIMA, WA.

(USE ADDITIONAL SHEETS IF NECESSARY)

WATER WELL REPORT

STATE OF WASHINGTON

Application No. 3

Permit No. _____

(1) OWNER: Name W. C. MALLORY Address 3902 POLLY APT. B-8 YAKIMA 989

(2) LOCATION OF WELL: County YAKIMA — SW 1/4 NE 1/4 Sec 27 T 13N. R. 19W.M.
ing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 5 inches.
Drilled _____ ft. Depth of completed well 96 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 5" Diam. from 0 ft. to 26' 1 1/2"
Threaded ☐ " Diam. from _____ ft. to _____ ft.
Welded ☒ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 19' ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ HP _____

(8) WATER LEVELS: Land-surface elevation App 1050 ft.
above mean sea level. Static level 60' ft. below top of well Date 5-18-76
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____
Yield: 20 gal./min. with _____ ft. drawdown after _____ hrs.
" WITH AIR " " " " " " " " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Rate of test _____
Pump test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water 58° Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL		FROM	TO
TOP SOIL		0	2
CLAY (HARD PAK) (MED B)		2	28
COMBLOMERATE (MED B)		28	36
CLAY (HARD PAK) (YELLOW BROWN)		36	40
" " (LIGHT B)		40	50
" " (WHITE)		50	54
" " (LIGHT B)		54	68
" " (MED B)		68	70
" " (LIGHT B)		70	85
SANDSTONE (MED B)		85	92
" (LIGHT B)		92	96

RECEIVED

JUN - 9 1976

DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL OFFICE

Work started 5-18 1976 Completed 5-18 1976

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME JENSEN'S WELL DRILLING & DRIVING
(Person, firm, or corporation) (Type or print)

Address 1603 So. 10TH AVE.

[Signed] Chris B. Jensen
(Well Driller)

License No. 0217 Date 5-21 1976

WATER WELL REPORT

STATE OF WASHINGTON

Application No.

Permit No.

(1) OWNER: Name LESTER ROM Address RT 1 Box 41 NEKEE, W.V.
(2) LOCATION OF WELL: County YAKIMA — SE 1/4 SE 1/4 Sec 27 T 13 N. R. 19 W.M.
Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Other ☐

(4) TYPE OF WORK: ☐ Repair or
New well ☒ Method: ☐ Auger ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Used ☐

(5) DIMENSIONS: Diameter of well 5 inches.
Drilled Depth of completed well 56 feet.

(6) CONSTRUCTION DETAILS:
Casing installed: 5 Diam. from 0 ft. to 30' 8"
Threaded ☐ Diam. from 0 ft. to 0 ft.
Welded ☒ Diam. from 0 ft. to 0 ft.

Perforations: Yes ☐ No ☒
Type of perforator used:
Number of perforations 1
Perforations from 0 ft. to 0 ft.
Perforations from 0 ft. to 0 ft.
Perforations from 0 ft. to 0 ft.

Screens: Yes ☐ No ☒
Manufacturer's Name:
Type: Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 19 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes ☐ No ☐
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name:
Type: H.P.

(8) WATER LEVELS: Land-surface elevation APP. 1020 ft.
Static level 21 ft. below top of well Date 2-17-78
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: 30 gal./min. with ft. drawdown after hrs.
" WITH AIR " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Pump test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water 54.0 Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

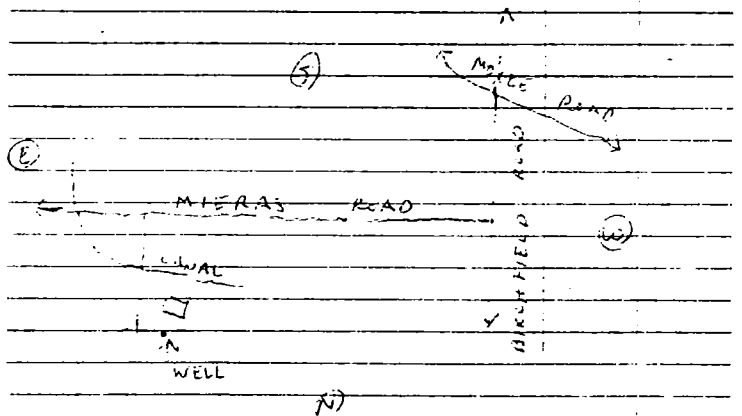
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	THICKNESS	FROM	TO
TOP SOIL (MED. B.)	EAST	0	12
CONGLOMERATE (LIGHT GRAY B.)	MED	12	26
CLAYSTONE (MED. A.)	EAST	26	29
" (LIGHT B.)	"	29	54
SANDSTONE (MED. B.)	"	54	56

RECEIVED

FEB 22 1978

DEPARTMENT OF ECOLOGY
GENERAL REGIONAL OFFICE



Work started 2-17 19 78 Completed 2-17 19 78

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME JENSEN'S WELL DRILLING & DRIVING
(Person, firm, or corporation) (Type or print)

Address 1603 SO. 10TH AVE.

[Signed] Chris B. Jensen
(Well Driller)

License No. 0217 Date 2-21 19 78

ECY 050-1-20

WATER WELL REPORT

STATE OF WASHINGTON

Application No. _____

Permit No. _____

(1) OWNER: Name Anneth Lester Address 1205 Birchfield Rd, Yakima, Wa
(2) LOCATION OF WELL: County Yakima Sec. 27 T. 13 N. R. 10 W.M.
Bearing and distance from section or subdivision corner _____

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well _____
(if more than one) _____
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 65 ft. Depth of completed well 65 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 31 ft. to 60 ft.
Threaded ☐ " Diam. from _____ ft. to _____ ft.
Welded ☒ " Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒

Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☐ No ☒

Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____ ft.
above mean sea level _____ ft.
Static level 25 ft. below top of well Date 1/5/87
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____
(Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is
lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____
Yield: gal./min. with _____ ft. drawdown after _____ hrs.
" " " " " "
" " " " " "

Recovery data (time taken as zero when pump turned off) (water level
measured from well top to water level)

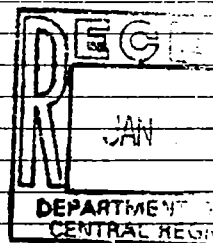
Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Bailer test 100 gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and
show thickness of aquifers and the kind and nature of the material in each
stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Topsoil	0	7
Sand & soil	7	10
Brown clay	10	23
Brown clay & gravel	23	25
Sand & gravel	25	42
Sand, gravel, brown clay	42	55
Sand & water	55	65



Work started 1/5/87, 19____ Completed 1/5/87, 19____

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is
true to the best of my knowledge and belief.

NAME Vernon L. Rank
(Person, firm, or corporation) (Type or print)

Address 5503 Ahtanum R., Yakima, W. 98903

[Signed] Vernon L. Rank
(Well Driller)

0854 1/5/87
License No. _____ Date _____, 19____

Bearing and distance from section or subdivision corner

FCY 050-1-20

License No. 0357 Date 7/1, 1980

WATER WELL REPORT

STATE OF WASHINGTON

Application No. 510
Permit No. Est. Location

(1) OWNER: Name Tim Egland Address 220 S. 41st St.
LOCATION OF WELL: County Yakima Parcel # 191327-43402
Bearing and distance from section or subdivision corner SW 1/4 Sec. 27 T. 13 N. R. 19 W.M.

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one) 1
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☒
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 90 ft. Depth of completed well 90 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6" Diam. from 0 ft. to 80 ft.
Threaded ☐ " Diam. from ft. to ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: Yes ☐ No ☒

Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes ☐ No ☒

Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 30 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: HP

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 9 ft. below top of well Date 10-7-86
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Bach
Yield: gal./min. with ft. drawdown after hrs.
" " " " " " " " " " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
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Date of test 10-7-86

Recovery test: 100 gal./min. with 71 ft. drawdown after 1 hrs.

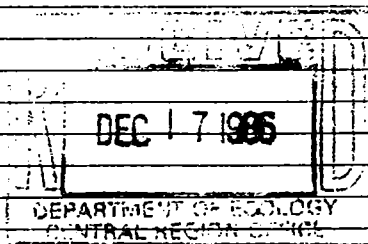
Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sandy loam	0	1
Brown sandy clay	1	11
Gravel	11	30
Coarse sand	30	33
Gravel	33	48
Fine sand	48	55
Tan sandy clay	55	73
Fine sand	73	76
Brown sandstone	76	90



Work started 10-6, 19 86 Completed 10-7, 19 86

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bach Well Drilling Company
(Person, firm, or corporation) (Type or print)

Address Rt. 1 Box 1401 Moxee, Wa. 98936

[Signed] Scott A. Dell
(Well Driller)

License No. 1436 Date October 7, 19 86

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ECY 050-1-20

