



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

July 22, 1988

Judy Palermo
Environmental Division
Petroleum Equipment and Maintenance Co.
2310 NE Columbia Boulevard
Portland, OR 97211

Re: UST-Clackamas County
Safeway Distribution Terminal
NWR File # G-4

Dear Ms. Palermo,

We have completed our review of the information submitted concerning the contamination at the Safeway Distribution Terminal that resulted from leaking underground storage tanks. Oregon Revised Statute 466.645 requires the person responsible for a spill or release to immediately cleanup the spill under the direction of the department. This normally includes identifying the extent of contamination, the source and nature of the material spilled, and evaluating the extent of danger to the public health, safety, welfare, or the environment. Based on the information presented, we are satisfied that these concerns have been adequately addressed and we require no further actions at this time.

This decision resulted from our evaluation and judgement based on the regulations and facts as we now understand them, including:

1. The leaking tanks and adjacent heavy contamination have been removed and properly disposed of.
2. The material is a heavier oil with low levels of soluble constituents that could threaten groundwater and has a tendency to migrate very slowly.
3. The remaining contamination appears to be low level and of an extent reasonably delineated by the investigation.
4. Natural degradation of the remaining contamination would appear to reduce levels to near background within the time frame expected for any migration to receptors that could be adversely affected.
5. The overall property will be assessed or monitored in the future due to the presence and management of additional tanks.

Although we do not require further information at this time, we would recommend that the owner consider preserving the monitoring wells for future reference or voluntary monitoring of this contamination and the tanks remaining at the facility. Information concerning the tank removal and contamination should be maintained with the permanent facility records. Should you plan to disturb these soils or modify the current site

Judy Palermo
July 22, 1988
Page 2

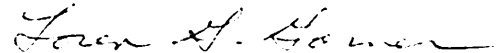
conditions, the contamination must be considered and you should discuss the situation with us.

As we have discussed in the past, additional regulations governing the management and cleanup of leaking underground tanks are expected at both Federal and State levels in the near future. We have tried to anticipate those requirements in this case but further work might be necessary once they are finalized.

We remind you that environmental compliance remains the responsibility of the landowners and that the current investigation in no way transfers any liability to the State of Oregon. Although we agree that the current conditions at the site do not appear to pose an environmental threat, the responsibility for environmental evaluation, reporting, and cleanup rests with the landowners.

If you have questions concerning this matter, please contact me at 229-6142.

Sincerely,



Loren G. Garner
Environmental Consultant
Northwest Region

IGG:IGG

cc: Regional Operations, DEQ
Environmental Cleanup Division, IUST Section
Safeway

14 July 88

I reviewed the report again with the data on the new well. After discussing it with Rick, we feel there is little threat at the site. The contaminants are heavy oils with slower movement and very little solubles.

I met with Judy Palermo and felt reasonably confident that their initial cleanup removed the source - heavy contamination was not left in the soils, though with the proximity of foundations and the shallowness to GW (≈ 3 ft) not all contamination was removed. With the fact that there will be continued watching of the site due to the remaining tanks, I don't feel a required monitoring program is needed.

Rick and I both feel the site is ready for closeout - but will encourage them to consider low-intensity internal monitoring of the site.

Loren Gauer

Environmental Laboratories

A division of Groundwater Technology, Inc.

Western Region

4080-C Pike Lane, Concord, CA 94520

(415) 685-7852

(800) 544-3422 from inside California

(800) 423-7143 from outside California

RECEIVED
JUL 06 1988

Water Quality Division
Dept. of Environmental Quality
TEST RESULTS

03-16-88 mh

Page 1 of 1

PROJECT MGR: Tim Veley
PEMCO

2310 N.E. Columbia Blvd
Portland, OR 97211

PROJECT #: SEA-0100-2

LOCATION: Safeway

SAMPLED: 03-10-88

BY: T. Veley

RECEIVED: 03-12-88

BY: M. Huth

ANALYZED: 03-15-88

BY: L. Hinson

MATRIX: Water

R. Craven

UNITS: ppb = ug/L

Pemco Project #: 1674

PARAMETER	MDL	I.D.#	LAB #	18539	1

Total Petroleum
Hydrocarbons
as Diesel

125

<125

MDL = Method Detection Limit.

METHODS: Modified 625/8015/3510

Safy Khalifa 10/7

SAFY KHALIFA, Ph.D., Director

Well located as ~~directed~~ recommended by geotechnical study.

Route Slip



Date

2/10

TO:	Name	Division/Section	Initial	Date
1.	Charles Gray			
2.				
3.				
4.				
5.				

	as requested		investigate		per conversation
	approval		justify		prepare reply
	comment		necessary action		return with more detail
	confer		initial and return		review and circulate
	for your information		note and file		signature

I agree with
the consultant's
recommendations

FROM:

Judy Pulano

Phone No.

Central Stores 51569



See Other Side

Recycled
Paper



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1390 PHONE (503) 229-5696

LJAG
RJV

February 18, 1988

Judy Palermo
Environmental Division
Petroleum Equipment and Maintenance Co.
2310 NE Columbia Blvd.
Portland, OR 97211

Re: UST-Clackamas County
Safeway Distribution Terminal

Dear Ms. Palermo:

We have reviewed a preliminary site assessment conducted by Groundwater Technology, Inc., dated December 18, 1987, at the Safeway Distribution Terminal located at 16800 SE Evelyn, Clackamas, Oregon. We concur with the recommendations of the consultant for further investigation at the site. In addition, we would recommend that one or more of the closest down gradient off-site wells be monitored for total volatile hydrocarbons, as well as gasoline components.

We have not visited the site, so we are making these observations based solely on our conversations with you and the review of the consultant's report. Any removal of soils must be consistent with our current policy of not being able to see or smell petroleum product. Based on the analytical results to date on the soil, it appears that soil removal is probably not needed. However, we will leave that up to your observations in the field.

If you should have any additional questions, please feel free to contact me at 229-5288.

Sincerely,

Charles H. Gray

Charles H. Gray
Regional Supervisor
Northwest Region

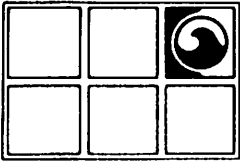
CHG:y
RY6807

cc: Remedial Action Section, DEQ

RECEIVED

APR 15 1988

NORTHWEST REGION



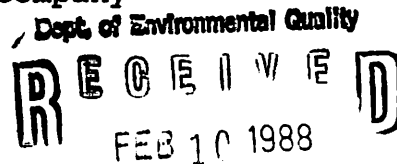
**GROUNDWATER
TECHNOLOGY, INC.**

OIL RECOVERY SYSTEMS

213 South West 41st Street, Bldg. 9B, Renton, Washington 98055, (206) 251-5441

December 18, 1987

Mr. Paul Braval
Petroleum Equipment and Maintenance Company
2310 N.E. Columbia Boulevard
Portland, Oregon 97211



Re: Preliminary Investigation

Dear Paul,

NORTHWEST REGION

This report presents the results of the preliminary site assessment conducted for the Petroleum Maintenance and Equipment Company. The investigation was conducted at the Safeway distribution terminal located at 16800 S.E. Evelyn, Clackamas, Oregon (See attached Site Location Map). The investigation entailed drilling and installing six monitoring wells, collecting soil and groundwater samples for analysis, and conducting a record search of water wells within approximately one quarter mile of the site.

SCOPE OF WORK

The work steps conducted for the investigation are presented below:

- o supervised the installation, sampling and logging of six 20 foot deep groundwater monitoring wells (See Attached Drilling logs for geologic, drilling and well installation descriptions);
- o collected a soil sample from each well at the water table.
- o developed each well to establish hydraulic connection with the shallow water bearing zone and collected a water sample from each well.
- o submitted soil and water samples to a certified environmental laboratory for analysis (Laboratory Results attached).
- o reviewed Oregon State Water Resources drilling records (Well Records attached).

Mr. Paul Braval
PEMCO
February 5, 1988

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SITE HISTORY

The site, presently in use as a fleet fueling terminal and maintenance facility, came under scrutiny during an upgrade of three small underground storage tanks. The tanks, approximately 1000- to 1500-gallon capacity each, were used to store diesel fuel, lube oil and waste oil. The diesel was used in a steam cleaning unit in the vehicle maintenance facility adjacent to the tanks.

During the removal of the three tanks petroleum contamination was found in the backfill and on the water table (approximately 4- to 5-feet below surface). The contamination appeared as a oily residue floating on the water table and adsorbed to the tank backfill material. Further excavation revealed extensive corrosion of piping leading to and from all three tanks.

SITE CONDITIONS

The site is located in Clackamas County, Oregon approximately 0.5 miles north of the Clackamas River. Land use in the vicinity of the site is a mixture of light industrial, commercial and rural residential.

REGIONAL GEOLOGY

An examination of Oregon Department of Water Resources records of water wells from the area indicates that the sediments beneath and surrounding the site are primarily alluvium. The records indicate several interfingered layers of fine grained overbank (silt and clay) and coarse to medium river channel deposits (fine sand to gravel) extend to several hundred feet below surface. The depths of exploration suggest at least 200 feet or more of these sediments beneath the site.

HYDROGEOLOGY

The well records also indicate groundwater in the area appears at several depths within the sediments with the shallowest occurring at 20 feet or less. Shallow groundwater conditions are generally unconfined with deeper water bearing zones confined or semi-confined. Due to the nearness of the Clackamas River it is probable that many of the shallower water bearing zones are hydraulically connected to the river.

The regional water table probably varies somewhat with the course

Mr. Paul Braval
PEMCO
February 5, 1988

of the river, but at the site the gradient is likely southerly toward the river.

SITE GEOLOGY

From analysis of boring logs obtained during monitoring well installation (See Attached Drilling Logs), near surface sediments from 0- to 20-feet below grade are predominantly silty gravel layers with some silt and clay.

GROUNDWATER CONDITIONS

Groundwater was encountered at approximately 7 feet below grade in soil borings for monitoring wells 1, 2, and 3. Water was encountered in boring 4 at approximately 4 feet below grade. In borings 5 and 6 water was encountered at approximately 9- to 10-feet. Subsequent monitoring of groundwater levels after monitoring well installation is presented in Table A, below.

TABLE A
INITIAL WATER LEVEL
MEASUREMENTS
(Approximately 24 hours after installation)

MONITORING WELL	DEPTH TO WATER (FEET AND TENTHS)
1.	4.86
2.	4.85
3.	13.00
4.	5.50
5.	18.92
6.	19.30

At no time during either drilling, installing or sampling of the monitoring wells was free product noted.

The water levels presented above are slightly unusual with large variations in water table elevations over relatively short distances. Without further measurements or investigation the anomalies are difficult to comment upon. One cause may be that the measurements were taken before equilibrium was established between the wells and the surrounding formation.

SUBSURFACE CONTAMINATION

As part of the investigation soil and water samples were collected from each boring and monitoring well. The soil samples were collected from cuttings brought up during drilling. The

Mr. Paul Braval
PEMCO
February 5, 1988

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water samples were collected after monitoring wells were installed and developed. The samples collected were placed on ice and shipped express delivery to GT Environmental Laboratories in Concord, California. The results of the sample analysis are attached.

One soil sample was taken from each boring at approximately 5- to 7-feet below ground surface. Each sample was submitted to the lab for analysis of total oil and grease (TOG) by EPA Method 413.2 (Attached). The results are presented in Table B.

TABLE B
RESULTS OF SOIL SAMPLE ANALYSIS
TOTAL OIL AND GREASE
(Concentrations in mg/kg)

<u>Boring Number</u>	<u>Concentrations</u>
1	6
2	36
3	9
4	10
5	8
6	6

The results indicate very low level soil contamination to be present in all samples collected. Only marginally higher than the other sample analyses, boring No. 2 located between the dispensing islands and the underground storage tanks showed the highest level of contamination from oil and grease constituents.

The concentrations of oil and grease found in the soil samples are very near the method detection limit of 1 mg/Kg.

In addition to the oil and grease analysis a second soil sample was collected from soil boring No. 2 and analyzed for polyaromatic hydrocarbons (EPA Method 8270). This analysis was performed to determine if contamination from waste oil products had occurred.

The results of the second soil analysis (EPA Method 8270) indicate the presents of four polyaromatic hydrocarbons:

- a) anthracene 6.000 ppm[?] (ug/Kg)
- b) di-n-butylphthalate 5.200 ppm
- c) butylbenzophthalate 9.800 ppm
- d) chrysene 0.750 ppm.

Mr. Paul Braval
PEMCO
February 5, 1988

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The remainder of EPA 8270 compounds were below the method detection limits.

In addition to the soil sample collection and analysis several water samples were collected. Two water samples were collected from each monitoring well and analyzed for total petroleum hydrocarbons as diesel. A water sample was also collected from monitoring wells 1, 3, 4 and 5 and analyzed for total oil and grease. The analysis for diesel was by modified EPA Method 625 and the oil and grease by EPA Method 413.2. The results of these analyses are presented in Table C below (See Attached Lab Results).

TABLE C
RESULTS OF ANALYSES
FOR
TOTAL PETROLEUM HYDROCARBONS AS DIESEL
AND
TOTAL OIL AND GREASE
(Concentrations in Parts Per Million)

<u>Sample Location</u>	<u>TPH</u>	<u>TOG</u>
1	0.840	1.0
2	0.095	nr
3	0.920	1.0
4	0.660	2.0
5	0.670	2.0
6	0.370	nr

Note: nr = not requested

Method Detection Limit: Diesel (TPH) 0.010 ppm, Oil and Grease (TOG) 1.0 ppm.

Additionally, one water sample from monitoring well 3 was analyzed for gasoline constituent compounds. The results indicate gasoline compounds are present at low levels. Dissolved benzene, toluene and total xylenes were noted at 0.006, 0.040 and 0.072 ppm, respectively.

LOCAL WATER USE

Domestic use of groundwater in the vicinity of the site appears to be relatively heavy. From a request of the Oregon State

Mr. Paul Braval
PEMCO
February 5, 1988

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Department of Water Resources for well records within one mile of the site 37 records were found. Of the records supplied approximately half were located along the opposite (south) side of the Clackamas River or greater than one mile from the site. Another eight were located within approximately 0.5 miles of the site; accurate locations are difficult to determine due to less than clear well location descriptions. The remaining well logs lack enough detail to locate even approximately.

The eight wells which may be within 0.5 or less miles from the site appear to cluster to the west and south (See Attached Site Location Map). It is likely that one or more of these wells are within 0.25 miles of the site and down gradient. However, determining exact locations and potential risk will require an inspection and/or canvass of the neighboring properties.

CONCLUSIONS

The investigation conducted for this site assessment entailed drilling and sampling six shallow groundwater wells and analyzing the results of those analysis as well as surveying groundwater use in the vicinity of the site.

The information obtained indicates groundwater and soil contamination does exist at the site. From groundwater monitoring and sample analyses the extent of contamination appears confined to the general area of the lube oil, waste oil and steam cleaner diesel tanks. Low level dissolved contamination exists outward as far down gradient as monitoring well 6. However, the levels determined by sample analysis suggest very minor diesel and negligible lube or waste oil contamination. From the levels observed the extent of hydrocarbon migration is probably restricted to within the site boundaries.

As was noted in the analysis of monitoring well 3 dissolved gasoline constituents were also identified. However, the levels noted are also quite low and are likely the result of spillage during tank filling or a small chronic leak.

The anomalous water levels observed in the monitoring wells are unexplainable at present, however we do not believe that they have interfered in the sample results or analysis of the lab data. Further investigation should determine the reason for the anomaly, however the conclusions of this report will probably remain unchanged.

Regarding the findings of the polynuclear aromatic analysis the compounds identified are possible carcinogens. We are determining the health risk associated with these compounds and will follow this report with a letter of our findings.

Mr. Paul Braval
PEMCO
February 5, 1988

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RECOMMENDATIONS

Based on the observation and data obtained during this investigation the following recommendation are made.

- o Continue to monitor the installed wells for the appearance of free phase hydrocarbons.
- o Install an additional monitoring well directly south, 50- to 100-feet, and slightly west of monitoring well 6.
- o Analyze a water sample from the additional well for total petroleum hydrocarbons, as diesel.
- o Collect and analyze a water sample from both monitoring well 5, 6 and the additional well for total volatile hydrocarbons, as gasoline.
- o Conduct a search of the adjacent properties which border the sites southern boundary for water wells which may not have been registered with the Department of Water Resources.
- o Survey the existing monitoring wells and, when installed, additional well for well head elevation.

The recommendations above are presented as work steps that should characterize the site and develop as complete a picture of the potential risk due to the contamination found. A final recommendation is that a storage tank management program be instituted at the site; and, if one is currently in effect, that tank integrity test and careful inventory reconciliation be included and performed on a regular schedule.

Mr. Paul Braval
PEMCO
February 5, 1988

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CLOSURE

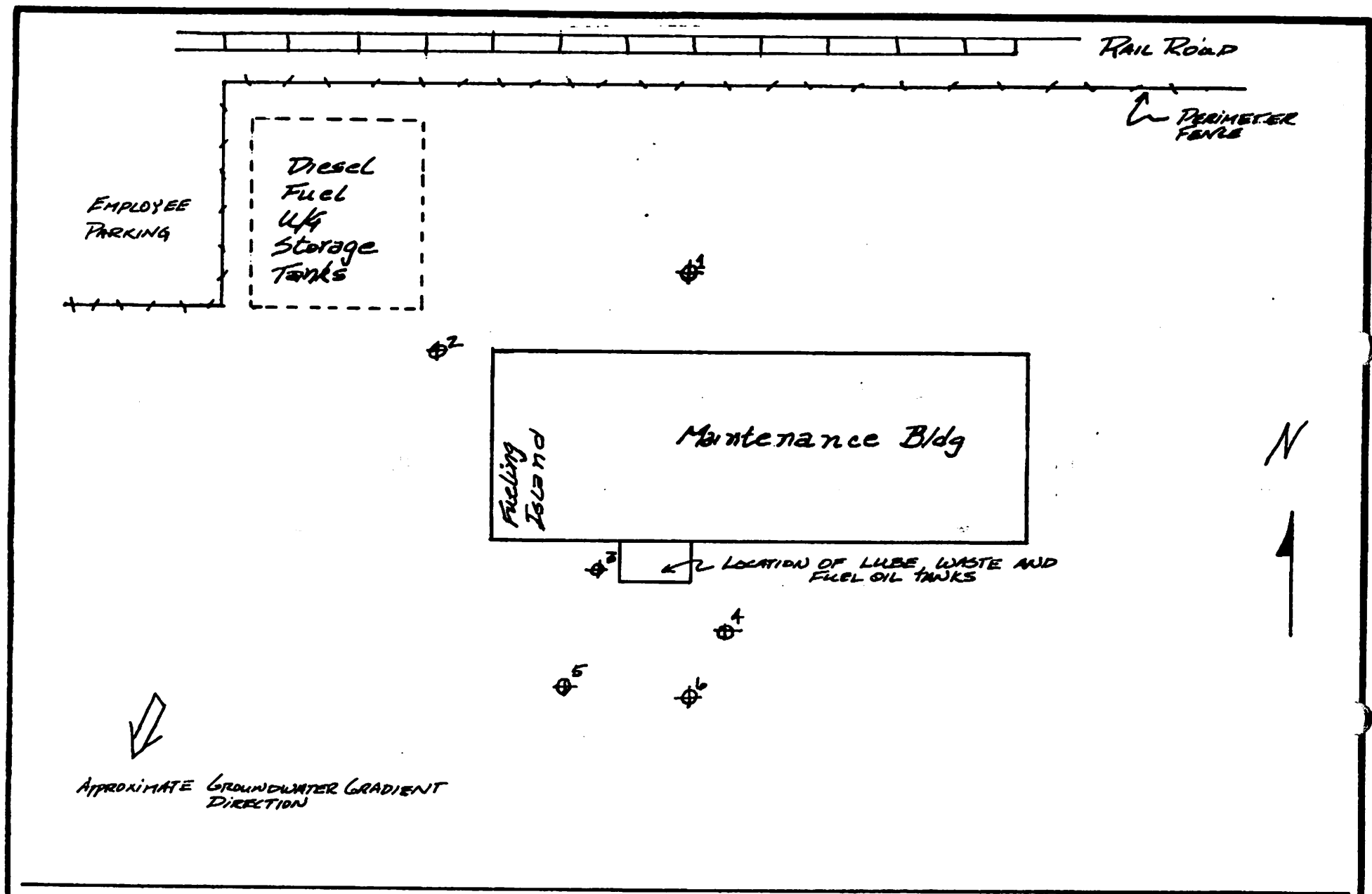
The evaluations and conclusions in this report are based on conditions encountered at the time of our observations, information you provided, and our experience and geologic judgement. Our work has been performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions and consistent with current regulatory requirements. No other warranty, express or implied, is made.

This concludes this report of investigation. We appreciate the opportunity to have been of service to PEMCO in this investigation and hope that we continue work together in the future.

Sincerely,
Groundwater Technology, Inc.


Mark E. Nichols
Project Hydrogeologist

Attachments.



LEGEND:

Φ^1 - MONITORING WELL

SITE SKETCH
(NO SCALE)



GROUNDWATER TECHNOLOGY

Western Region
 4080-C Pike Lane, Concord, CA 94520
 (415) 685-7852
 (800) 544-3422 from inside California
 (800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
 Groundwater Technology, Inc.
 213 S. W. 41st Street
 Renton, WA. 98055

PROJECT #: 201-799-5005-1

LOCATION: Portland, OR.

SAMPLED: 12/24/87 BY: K.Kline

RECEIVED: 12/31/87 BY: K.Biava

ANALYZED: 01/05/88 BY: R.Craven

MATRIX: Water

V.O.A.

A TEST RESULTS ppb = ug/L

COMPOUNDS	MDL ug/L	LAB # I.D.#	13325 MW-3A
Chloromethane	10		<10
Bromomethane	10		<10
Vinyl Chloride	10		<10
Chloroethane	10		<10
Methylene Chloride	5		<5
Acetone	10		--
Carbon Disulfide	5		--
1,1-Dichloroethene	5		<5
1,1-Dichloroethane	5		<5
Trans-1,2-Dichloroethene	5		<5
Chloroform	5		<5
1,2-Dichloroethane	5		<5
2-Butanone	10		--
1,1,1-Trichloroethane	5		<5
Carbon Tetrachloride	5		<5
Vinyl Acetate	10		<10
Bromodichloromethane	5		<5
1,2-Dichloropropane	5		<5
cis-1,3-Dichloropropene	5		<5
Trichloroethene	5		<5
Dibromochloromethane	5		<5
1,1,2-Trichloroethane	5		<5
Benzene	5		6
Trans-1,3-Dichloropropene	5		<5
2-Chloroethylvinylether	10		<10
Bromoform	5		<5
4-Methyl-2-Pentanone	10		--
2-Hexanone	10		--
Tetrachloroethene	5		<5
1,1,2,2-Tetrachloroethane	5		<5
Toluene	5		40
Chlorobenzene	5		<5
Ethylbenzene	5		<5



A division of Groundwater Technology, Inc.

Western Region

4080-C Pike Lane, Concord, CA 94520

(415) 685-7852

(800) 544-3422 from inside California

(800) 423-7143 from outside California

Page One Continued

PROJECT MGR: Mark Nichols

PROJECT #: 201-799-5005-1

LOCATION: Portland, OR.

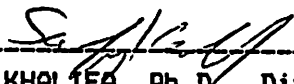
B ppb = ug/L

COMPOUNDS	MDL	LAB #	13325			
		I.D.#	MW-3A			
Styrene	5		--			
1,2-Dichlorobenzene	5		<5			
1,3-Dichlorobenzene	5		<5			
1,4-Dichlorobenzene	5		<5			
Total Xylenes	5		72			
Trichlorofluoromethane	5		<5			

MDL = Method Detection Limit; compound below this level would not be detected.

METHOD: EPA 624.

-- = Not requested.


 SAFY KHALIFA, Ph.D., Director



A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
Groundwater Technology, Inc.
213 S. W. 41st Street
Renton, WA. 98055

PROJECT #: 201-799-5005-2
LOCATION: Portland, OR.
SAMPLED: 12/24/87 BY: K.Kline
RECEIVED: 12/31/87 BY: K.Biava
ANALYZED: 01/12/88 BY: R.Heines
MATRIX: Water

TEST RESULTS ppm = mg/L

Table with columns: PARAMETER, MDL, LAB #, I.D.#, 13326, 13327, 13328, 13329. Row: Total Oil & Grease (413.2) with values 1, 1, 1, 2, 2.

MDL = Method Detection Limit.
METHOD: EPA 413.2

Safy Khalifa / RWS
SAFY KHALIFA, Ph.D., Director

Western Region
 4080-C Pike Lane, Concord, CA 94520
 (415) 685-7852
 (800) 544-3422 from inside California
 (800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
 Groundwater Technology, Inc.
 213 S. W. 41st Street
 Renton, WA. 98055

PROJECT #: 201-799-5005-3
LOCATION: Portland, OR.
SAMPLED: 12/24/87 **BY:** K. Kline
RECEIVED: 12/31/87 **BY:** K. Biava
ANALYZED: 01/07/88 **BY:** L. Hinson
MATRIX: Water **R. Craven**

TEST RESULTS	ppb = ug/L					
PARAMETER	MDL	I. D. #	LAB #	13332	13333	13334
				MW-1B	MW-2B	MW-3B
Total Petroleum Hydrocarbons as Diesel	10			840	95	920

MDL = Method Detection Limit.
 METHOD: Modified 625/3510.

NOTE: Detected unidentified hydrocarbons of the volatile range higher than #2 Diesel.

Western Region
 4080-C Pike Lane, Concord, CA 94520
 (415) 685-7852
 (800) 544-3422 from inside California
 (800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
PROJECT #: 201-799-5005-3
LOCATION: Portland, OR.

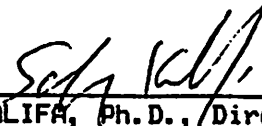
TEST RESULTS		ppb = ug/L			
PARAMETER	MDL	LAB #	13335	13336	13338
		I.D.#	MW-4B	MW-5B	MW-6B
Total Petroleum Hydrocarbons as Diesel	10		660	670 *	370

MDL = Method Detection Limit.

METHOD: Modified 625/3510.

NOTE: Detected unidentified hydrocarbons of the volatile range higher than #2 Diesel.

* = Matrix effects reduced recovery on Sample #MW-5B (13336).


 SAFY KHALIFA, Ph.D., Director



A division of Groundwater Technology, Inc.

01-11-88 MH

Page 1 of 2

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
Groundwater Technology, Inc.
213 S. W. 41st Street
Renton, WA. 98055

PROJECT #:201-799-5005-4

LOCATION: Portland, OR.

SAMPLED: 12/22/87 BY: K.Kline

RECEIVED: 12/24/87 BY: S.Khalifa

ANALYZED: 01/08/88 BY: R. Heines

MATRIX: Soil

TEST RESULTS ppm = mg/kg

Table with 8 columns: PARAMETER, MDL, LAB # I.D.#, 13339 MW-1A, 13340A MW-2A, 13341 MW-3B. Row 1: Total Oil & Grease (413.2), 1, 6, 36, 9.

MDL = Method Detection Limit.
METHOD: EPA 413.2.



A division of Groundwater Technology, Inc.

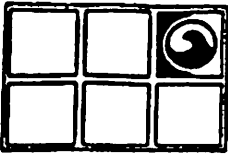
Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

PROJECT MGR: Mark Nichols
PROJECT #:201-799-5005-4
LOCATION: Portland, OR.

Table with columns: TEST RESULTS, ppm = mg/kg, PARAMETER, MDL, I.D.#, LAB #, 13342, MW-4A, 13343, MW-5B, 13344, MW-6B. Row: Total Oil & Grease (413.2) with values 1, 10, 8, 6.

MDL = Method Detection Limit.
METHOD: EPA 413.2.

Safy Khalifa
SAFY KHALIFA, Ph.D., Director



Monitoring Well 1

Drilling Log

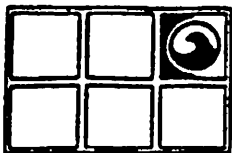
Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/22/87 Total Depth of Hole 21 ft. Diameter _____
 Surface Elevation _____ Water Level, Initial 7 ft. 24-hrs _____
 Screen: Dia. 4 in. Length _____ Slot Size _____
 Casing: Dia. 4 in. Length 2 ft. Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A. Kline

Sketch Map

See Site Plan

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
0 - 2					Brown silty gravel with cobbles (moist, no product odor)
2 - 4				GM	
4 - 6				CL	Brown silty clay with gravel (moist, no product odor)
6 - 8					▼ Encountered water 12/22/87 (1030 hours)
8 - 10					Brown silty gravel (wet, no product odor)
10 - 12				GM	
12 - 14					Brown silty gravel with cobbles (wet, no product odor)
14 - 16				GM	
16 - 18				SM	Brown silty sand with gravel (wet, no product odor)
18 - 20					Brown silty gravel (wet, no product odor)
20 - 22				GM	
22 - 24					End of boring, monitoring well installed



Monitoring Well 2

Drilling Log

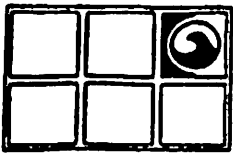
Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/22/87 Total Depth of Hole 20 ft Diameter _____
 Surface Elevation _____ Water Level, Initial 8 ft 24-hrs _____
 Screen: Dia. 4 in. Length _____ 18 ft Slot Size _____
 Casing: Dia. 4 in. Length _____ 2 ft Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A. Kline

Sketch Map

See Site Plan

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
0 - 2					Brown silty clay (moist, no product odor)
2 - 4				CL	(grades lighter brown)
4 - 8				GC	(slight product odor)
8					Brown silty, clayey gravel (wet, slight product odor) ▼ Encountered water 12/22/87 (1230 hours)
8 - 20				GM	Brown silty gravel with cobbles (wet, slight product odor)
20					End of boring, monitoring well installed



Monitoring Well 3

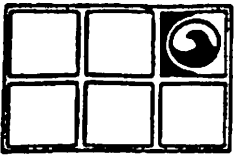
Drilling Log

Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/22/87 Total Depth of Hole 20 ft Diameter _____
 Surface Elevation _____ Water Level, Initial 9 ft 24-hrs _____
 Screen: Dia. 4 in. Length _____ 18 ft Slot Size _____
 Casing: Dia. 4 in. Length _____ 2 ft Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A. Kline

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
2					Black silty gravel with cobbles (moist, no product odor)
4					
6					
8					
10					▼ Encountered water 12/22/87 (1430 hours)
12					
14					
16					
18					
20					End of boring, monitoring well installed
22					
24					



Monitoring Well 4

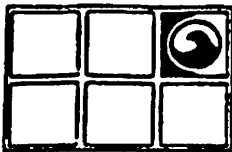
Drilling Log

Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/23/87 Total Depth of Hole 20 ft. Diameter _____
 Surface Elevation _____ Water Level, Initial 5 ft. 24-hrs. _____
 Screen: Dia. 4 in. Length _____ Slot Size 18 ft.
 Casing: Dia. 4 in. Length _____ 2 ft Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A Kline

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
2					Brown silty clay (moist, no product odor)
4				CL	▼ Encountered water 12/23/87 (0900 hours)
6					Brown silty gravel with cobbles (wet, no product odor)
8					
10					
12				GM	
14					
16					
18					
20					End of boring, monitoring well installed
22					
24					



Monitoring Well 5

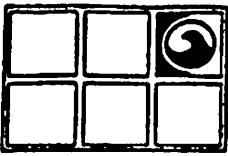
Drilling Log

Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/23/87 Total Depth of Hole 20 ft Diameter _____
 Surface Elevation _____ Water Level, Initial 9 ft 24-hrs. _____
 Screen: Dia. 4 in. Length _____ Slot Size _____
 Casing: Dia. 4 in. Length _____ Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A. Kline

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
2					Dark brown silty gravel with cobbles (moist, no product odor)
4					
6					
8				GM	
10					▼ Encountered water 12/23/87 (1130 hours)
12					
14					Dark brown silty, clayey gravel (wet, no product odor)
16				GC	
18					
20					End of boring, monitoring well installed
22					
24					



Monitoring Well 6

Drilling Log

Project Pemco/Portland Owner Safeway
 Location Clackamas, Oregon Project Number 201 799 5005
 Date Drilled 12/23/87 Total Depth of Hole 20 ft. Diameter _____
 Surface Elevation _____ Water Level, Initial 10 ft. 24-hra. _____
 Screen: Dia. 4 in. Length _____ 18 ft. Slot Size _____
 Casing: Dia. 4 in. Length _____ 2 ft. Type PVC
 Drilling Company Hansen Drilling Drilling Method Air Rotary
 Driller Ron Aspaas Log by Kelly A. Kline

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					6 inch Asphalt over 6 inch base course
2					Dark brown silty gravel with cobbles
4					
6					
8					
10					Encountered water 12/23/87 (1330 hours)
12					
14					
16					
18					
20					End of boring, monitoring well installed
22					
24					

MAY 29 1961

STATE ENGINEER WATER WELL REPORT SALEM, OREGON STATE OF OREGON

State Well No. 26 2-16 State Permit No.

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON

(1) OWNER: Name Paul D. Bankston Address 9448 S.E. Molissa Box 1144 Ore

(2) LOCATION OF WELL: County Clackamas Owner's number, if any- SU 1/4 NE 1/4 Section 1 T. 25 R. 2E W.M. Bearing and distance from section or subdivision corner From N.W. Cor Sect. 1 to S. 2550' Then W. 200'

(3) TYPE OF WORK (check): New Well [X] Deepening [] Reconditioning [] Abandon [] If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check): Domestic [X] Industrial [] Municipal [] Irrigation [X] Test Well [] Other [] (5) TYPE OF WELL: Rotary [] Driven [] Cable [X] Jetted [] Dug [] Bored []

(6) CASING INSTALLED: Threaded [] Welded [X] 6" Diam. from 0 ft. to 90 ft. Gage 17 LB

(7) PERFORATIONS: Perforated? [] Yes [X] No Type of perforator used SIZE of perforations in. by in. perforations from ft. to ft.

(8) SCREENS: Well screen installed [] Yes [X] No Manufacturer's Name Type Model No. Slot size Set from ft. to ft.

(9) CONSTRUCTION: Was well gravel packed? [] Yes [] No Size of gravel: Gravel placed from ft. to ft. Was a surface seal provided? [] Yes [] No To what depth? Material used in seal- Did any strata contain unusable water? [] Yes [] No Type of water? Depth of strata Method of sealing strata off

(10) WATER LEVELS: Static level 80 ft. below land surface Date May 24 Artesian pressure lbs. per square inch Date

Log Accepted by [Signature] (Signed) [Signature] Date 5-24, 1961

(11) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? [] Yes [] No Yield: gal./min. with ft. drawdown after hrs. Baller test 15 gal./min. with 60 ft. drawdown after 2 hrs. Artesian flow g.p.m. Date Temperature of water Was a chemical analysis made? [X] Yes [] No

(12) WELL LOG: Diameter of well 6 inches. Depth drilled 168 ft. Depth of completed well 168 ft. 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.

Table with columns MATERIAL, FROM, TO. Entries include Topsoil, Brn Clay, Conglomerate Rock, Lava Rock hard with soft layers, Brn Clay sand gravel, SOME WATER AT 115 FEET, 3 gpm increased to 20 gpm at 168.

Work started May 17 1961 Completed May 24 1961

(13) PUMP: Manufacturer's Name Fairbanks Morse Type Submersible H.P. 1

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 Tolleson Drilling Co (Person, firm, or corporation) (Type or print) Address P.O. Box 268 Driller's well number 44 Molino Ore (Signed) Richard P. Tolleson (Well Driller) License No. 264 Date May 24, 1961

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON

RECEIVED NOV 27 1962 STATE ENGINEER

WATER WELL REPORT STATE OF OREGON

State Well No. 2/2-16 State Permit No.

(1) OWNER: SALEM, OREGON Name: Walter G. Call Address: Rt. 2, Box 824 Oregon City, Oregon

(2) LOCATION OF WELL: County: Clackamas Owner's number: 16 T. 2S R. 2E W.M. Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check): New Well [] Deepening [] Reconditioning [] Abandon []

PROPOSED USE (check): Domestic [x] Industrial [] Municipal [] Irrigation [] Test Well [] Other [] (5) TYPE OF WELL: Rotary [] Driven [] Cable [x] Jetted [] Dug [] Bored []

(6) CASING INSTALLED: 6" Diam. from 0 ft. to 43' 7" ft. Gage 1/4"

(7) PERFORATIONS: Perforated? [] Yes [x] No Type of perforator used SIZE of perforations in. by in. ft. to ft.

(8) SCREENS: Well screen installed [] Yes [x] No Manufacturer's Name Type Model No. Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION: Was well gravel packed? [] Yes [x] No Size of gravel: Gravel placed from ft. to ft. Was a surface seal provided? [] Yes [] No To what depth? ft. Material used in seal— Did any strata contain unusable water? [] Yes [] No Type of water? Depth of strata Method of sealing strata off

(10) WATER LEVELS: Static level 20 ft. below land surface Date Artesian pressure lbs. per square inch Date

Log Accepted by: [Signed] _____ Date _____, 19____ (Owner)

(11) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? [] Yes [x] No If yes, by whom? Yield: gal./min. with ft. drawdown after hrs. Bailer test 26 gal./min. with 10 ft. drawdown after 1 hrs. Artesian flow g.p.m. Date Temperature of water Was a chemical analysis made? [] Yes [x] No

(12) WELL LOG: Diameter of well _____ inches. Depth drilled 51 ft. Depth of completed well 51 ft. 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.

Table with columns: MATERIAL, FROM, TO. Rows: Top soil (0-7), heavy gravel (7-29), gravel (29-34), heavy sand (34-40), light sand (40-46), clay (Blue) (46-49), sand (49-51)

Work started Nov. 1 19 61 Completed Nov. 7 19 61

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

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: Skyles Drilling & Supply 19215 S. E. McLoughlin Blvd Gladstone, Oregon

Driller's well number [Signed] George H. Skyles (Well Driller) License No. 58 Date Nov. 10 1961

37
 JAN 27 1959
 STATE ENGINEER
 SALEM, OREGON

WATER WELL REPORT
 STATE OF OREGON

State Well No. 2/2-16R
 State Permit No. _____

File Original and
 First Copy with the
 STATE ENGINEER,
 SALEM, OREGON

(1) OWNER:
 Name Edwin P. Benth
 Address Rt 2 Benth Road Benth's Brook
Oregon City Oregon

(2) LOCATION OF WELL:
 County Clackamas Owner's number, if any—
SE 1/4 SE 1/4 Section 16 T. 25 R. 2E W.M.
 Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
 New Well Deepening Reconditioning Abandon
 If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
 Domestic Industrial Municipal
 Irrigation Test Well Other

(5) TYPE OF WELL:
 Rotary Driven
 Cable Jetted
 Dug Bored

(6) CASING INSTALLED:
 Threaded Welded
6 " Diam. from 6.75 ft. to _____ ft. Gage 1202
 " Diam. from 7.1 ft. to 6.75 ft. Gage _____
 " Diam. from _____ ft. to _____ ft. Gage _____

(7) PERFORATIONS:
 Perforated? 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.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

(8) SCREENS:
 Well screen installed Yes No
 Manufacturer's Name _____
 Type _____ Model No. _____
 _____ in. Slot size _____ Set from _____ ft. to _____ ft.
 _____ in. Slot size _____ Set from _____ ft. to _____ ft.

(9) CONSTRUCTION:
 Was well gravel packed? Yes No Size of gravel: _____
 Gravel placed from _____ ft. to _____ ft.
 Was a surface seal provided? Yes No To what depth? _____ ft.
 Material used in seal—
 Did any strata contain unusable water? Yes No
 Type of water _____ Depth of strata _____
 Method of sealing strata off _____

(10) WATER LEVELS:
 Static level 24 ft. below land surface Date Jan 17
 Artesian pressure _____ lbs. per square inch Date _____

Log Accepted by Edwin P. Benth
 [Signed] _____ Date 1-17-58
 (Owner)

(11) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 _____ gal./min. with _____ ft. drawdown after _____ hrs.
 _____ " " " " " "
 _____ " " " " " "
 Baller test 22 gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water 52 Was a chemical analysis made? Yes No

(12) WELL LOG: Diameter of well 6 inches.
 Depth drilled 67 ft. Depth of completed well 68 ft.
 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
Bumpy Clay	2	10
clayey sand	10	27
Coarse gravel & clay	27	25
Gravel (mostly 5 galls)	25	47
Coarse gravel	47	65
Gravel	65	67

Work started Dec 1 19 58 Completed Jan 16 19 58

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

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 C. G. Westerberg
 (Person, firm, or corporation) (Type or print)
 Address Rt 1 Box 151 Mulino Ore
 Driller's well number 224
 [Signed] C. G. Westerberg
 (Well Driller)
 License No. 86 Date Jan 17, 19 58

NOTICE TO WATER WELL CONTRACTOR

The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT

STATE OF OREGON

(Please type or print) (Do not write above this line)

State Well No. 2/2-16

State Permit No. _____

(1) OWNER:

Name Oscar Beyl
Address Rt. 5 Box 735 Oregon City, Ore.

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) CASING INSTALLED:

Threaded Welded
6" Diam. from 0 ft. to 220 ft. Gage .25
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

(6) PERFORATIONS:

Perforated? 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.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

(7) SCREENS:

Well screen installed? Yes No.
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WATER LEVEL: Completed well.

Static level 150 ft. below land surface Date 3-12-68
Artesian pressure _____ lbs. per square inch Date _____

(9) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?
id: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Bailer test 25 gal./min. with 33 ft. drawdown after 2 hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) CONSTRUCTION:

Well seal—Material used BENTONITE
Depth of seal 15.0' ft.
Diameter of well bore to bottom of seal 10 in.
Were any loose strata cemented off? Yes No Depth _____
Was a drive shoe used? Yes No
Did any strata contain unusable water? Yes No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(11) LOCATION OF WELL:

County Clackamas Driller's well number 1968-12
Section 16 T. 2S R. 2E W.M.

Bearing and distance from section or subdivision corner _____

(12) WELL LOG:

Diameter of well below casing 6"
Depth drilled 226 ft. Depth of completed well 226 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
Top soil	0	10	
Quick sand	10	17	
Sand, grey, fine, brown	17	36	
Sand, grey fine	36	57	
Gravel, cemented, med	57	124	
Clay, grey	124	138	
Gravel, cemented, med	138	177	
Gravel & Sand cementeu	177	192	177
(Water trace)			
Sand & gravel, Black, Med. coarse, water bearing	192	226	150

Work started Feb 2-26 1968 Completed Mar. 12 1968
Date well drilling machine moved off of well Mar. 12 1968

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Dorothy Skyles Date 3/12, 1968
(Drilling Machine Operator)

Drilling Machine Operator's License No. 277

Water Well Contractor's Certification:

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

NAME SKYLES DRILLING & SUPPLY
(Person, firm or corporation) (Type or print)

Address GLADSTONE, OREGON

[Signed] George J. Skyles
(Water Well Contractor)

Contractor's License No. 58 Date 3-15, 1968

WATER WELL REPORT
STATE OF OREGON

JUL 5 1985

WATER RESOURCES DEPT
SALEM, OREGON
PLEASE TYPE or PRINT IN INK

State Well No. 25/2E-16

State Permit No. _____

prob. cross grad.
1/2 mile

(1) OWNER:

Name Northwest Natural Gas Co. #Rec. #294
Address 220 NW. Second Avenue
City Portland State Oregon

(2) TYPE OF WORK (check): Groundbed

New Well Deepening Reconditioning Abandon

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL (4) PROPOSED USE (check):

Rotary Air Driven Domestic Industrial Municipal
Rotary Mud Dug Irrigation Test Well Other
 Bored Thermal Withdrawal Reinjection

(5) CASING INSTALLED: Steel Plastic
Threaded Welded
10" Diam. from 0 ft. to 39 ft. Gauge .250
" Diam. from _____ ft. to _____ ft. Gauge _____

(6) LINER INSTALLED:
" Diam. from _____ ft. to _____ ft. Gauge _____

(6) PERFORATIONS: Perforated? 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.

(7) SCREENS: Well screen installed? Yes No

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

(8) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes No If yes, by whom? _____
_____ id: _____ gal./min. with _____ ft. drawdown after _____ hrs.
" _____ gal./min. with _____ ft. drawdown after _____ hrs.
Air test _____ gal./min. with drill stem at _____ ft. _____ hrs.
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m.
Temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION: Special standards: Yes No

Well seal—Material used Cement
Well sealed from land surface to 39 ft.
Diameter of well bore to bottom of seal 14 in.
Diameter of well bore below seal 8 3/4 in.
Number of sacks of cement used in well seal 30 sacks
How was cement grout placed? pumped
Was pump installed? _____ Type _____ HP _____ Depth _____ ft.
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of Water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number _____
Tax Lot # _____ Lot _____ Blk _____ Subdivision _____
Address at well location: Site: 82nd Dr. North of Manfield Ct.

(11) TYPE OF WELL: Completed well.

Depth at which water was first found _____ ft.
Static level _____ ft. below land surface. Date _____
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG: Diameter of well below casing _____

Depth drilled 350 ft. Depth of completed well 0 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Top soil & gravel	0	4	
Sandy clay	4	9	
Boulders, gravel & sand loose layers	9	37	
Cemented gravel & boulders loose layers	37	61	
Sandy clay little gravel	61	66	
Gravel & clay	66	80	
Gravel & sand semi cemented	80	170	
Clay & gravel	170	190	
clay	190	340	
Sand & gravel	340	350	

Work started June 13 19 85 Completed June 19 19 85
Date well drilling machine moved off of well June 20 19 85

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
(Signed) _____ Date _____, 19 _____

Bonded Water Well Constructor Certification:
Bond 68-0130-11384-82-1 issued by: UFS&G
number _____ Surety Company Name _____

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Hansen Drilling Co. Inc.
Address 6711 NE. 58th Ave. Vancouver, Wa, 98661
(Signed) Jim J. Hansen Water Well Constructor
Date June 20, 19 85

12
 The original and duplicate of this report are filed with the
WATER WELL REPORT
 AUG 20 1971
 STATE OF OREGON
 STATE ENGINEER (Please type or print)
 SALEM, OREGON (Do not write above this line)

State Well No. 2/2-16
 State Permit No. _____

(1) OWNER: Prob. not prob
 Name I. S. ORMANDY
 Address 8505 S. E. SPANISH
Cason Rd. Gladstone, Oregon

(2) TYPE OF WORK (check):
 New Well Deepening Reconditioning Abandon
 If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL: (4) PROPOSED USE (check):
 Rotary Driven Domestic Industrial Municipal
 Cable Jetted Irrigation Test Well Other
 Dug Bored

() CASING INSTALLED: Threaded Welded
 6" Diam. from 0 ft. to 58 1/2 ft. Gage 28
 5 9/16" Diam. from 36 ft. to 80 ft. Gage 188
 " Diam. from _____ ft. to _____ ft. Gage _____

() PERFORATIONS: Perforated? Yes No.
 Type of perforator used Torch
 Size of perforations 1/8 in. by 12 in.
104 perforations from 50 ft. to 80 ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

(7) SCREENS: Well screen installed? Yes No
 Manufacturer's Name _____
 Type _____ Model No. _____
 Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
 Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? driller
 Yield: 42 gal./min. with 19 ft. drawdown after 1 hrs.
32 " " 10 " " 1 "
18 " " 4 " " 1 "
 Baller test gal./min. with _____ ft. drawdown after _____ hrs.
 Artesian flow g.p.m. _____
 Temperature of water 57 Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:
 Well seal—Material used Bentonite
 Well sealed from land surface to 56 ft.
 Diameter of well bore to bottom of seal 10 in.
 Diameter of well bore below seal 6 in.
 Number of sacks of cement used in well seal n one sacks
 Number of sacks of bentonite used in well seal 3 sacks
 Brand name of bentonite National
 Number of pounds of bentonite per 100 gallons of water 50 lbs./100 gals.
 Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
 Did any strata contain unusable water? Yes No
 Type of water? _____ depth of strata _____
 Method of sealing strata off _____
 Was well gravel packed? Yes No Size of gravel: _____
 Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:
 County CLACKAMAS Driller's well number 50-1921
 1/4 Section 16 T. 2S R. 2E W.M.
 Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.
 Depth at which water was first found 75 ft.
 Static level 61 ft. below land surface. Date 7/30/71
 Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG: Diameter of well below casing 6 in.
 Depth drilled 100 ft. Depth of completed well 80 ft.
 Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
TOP SOIL	0	6	
SAND	6	8	
GRAVEL, MED.	8	30	
CLAY, BRWN.	30	35	
GRAVEL, SMALL & MED.	35	35	
CLAY, GREY	35	58	
SHAL E, BL UR	58	63	
SAND & MED. & FIN E GRAVEL	63	81	61
GRAVEL, FINE & SAND	81	81	
SAND FINE	81	100	61

Work started July 26 19 _____ Completed July 30 19 71
 Date well drilling machine moved off of well July 30 19 71

Drilling Machine Operator's Certification:
 This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
 [Signed] _____ Date 7/2, 19 71
 (Drilling Machine Operator)
 Drilling Machine Operator's License No. 672

Water Well Contractor's Certification:
 This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
 Name Stiles Drilling & Supply (Type or print)
 (Person, firm or corporation)
 Address Gladstone, Oregon
 [Signed] _____ (Water Well Contractor)
 Contractor's License No. 58 Date July 2, 19 71

The original and first of this report are to be filed with the

AUG 1 1971

WATER WELL REPORT STATE OF OREGON

State Well No. 2/2-16

STATE ENGINEER, SALEM, OREGON STATE ENGINEER (Please type or print) within 30 days from the date of well completion. SALEM, OREGON (Do not write above this line)

State Permit No.

(1) OWNER:

Name L. S. ORVANDY Address 8505 S. E. Cason Rd. Gladstone, Oregon

(2) TYPE OF WORK (check):

New Well [x] Deepening [] Reconditioning [] Abandon [] If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [x] Cable [] Dug [] Driven [] Jetted [] Bored []

(4) PROPOSED USE (check):

Domestic [x] Industrial [] Municipal [] Irrigation [] Test Well [] Other []

() CASING INSTALLED:

Threaded [] Welded [x] 6" Diam. from 0 ft. to 58 ft. Gage 25 5 9/16" Diam. from 36 ft. to 80 ft. Gage 188

() PERFORATIONS:

Perforated? [x] Yes [] No.

Type of perforator used Torch Size of perforations 1/8 in. by 12 in. 104 perforations from 50 ft. to 80 ft.

(7) SCREENS:

Well screen installed? [] Yes [x] No

Manufacturer's Name Type Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [x] Yes [] No If yes, by whom? Driller Yield: 42 gal./min. with 19 ft. drawdown after 1 hrs. 32 " 10 " 1 " 18 " 4 " 1 "

(9) CONSTRUCTION:

Well seal-Material used Bentonite Well sealed from land surface to 56 ft. Diameter of well bore to bottom of seal 10 in. Diameter of well bore below seal 6 in. Number of sacks of cement used in well seal 0 sacks Number of sacks of bentonite used in well seal 3 sacks Brand name of bentonite National Number of pounds of bentonite per 100 gallons of water 50 lbs./100 gals. Was a drive shoe used? [x] Yes [] No Plugs Size: location ft. Did any strata contain unusable water? [] Yes [x] No Type of water? depth of strata Method of sealing strata off Was well gravel packed? [] Yes [x] No Size of gravel: Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County CLACKAMAS Driller's well number 16 T. 2S R. 2E W.M. Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 75 ft. Static level 61 ft. below land surface. Date 7/30/71 Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6" Depth drilled 100 ft. Depth of completed well 80 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

Table with columns: MATERIAL, From, To, SWL. Rows include Top soil, Sand, Gravel, med, Clay, brown, Gravel, small & medium, Clay, grey, Shale, blue, Sand & med fine gravel, Sand, fine fine gravel.

Work started 7-26 19 71 Completed 7-30 19 71 Date well drilling machine moved off of well 7-30 19 71

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] [Signature] Date 8/30, 1971 (Drilling Machine Operator) Drilling Machine Operator's License No. 672

Water Well Contractor's Certification:

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

Name SKYLES DRILLING & SUPPLY (Type or print) Address GLADSTONE, OREGON [Signed] [Signature] (Water Well Contractor) Contractor's License No. 58 Date Aug 28, 19 71

STATE ENGINEER
Salem, Oregon

prob. so. of Riv
Well Record

STATE WELL NO. 2/2-16P(1)
COUNTY Clackamas
APPLICATION NO. _____

OWNER: T. H. Copple

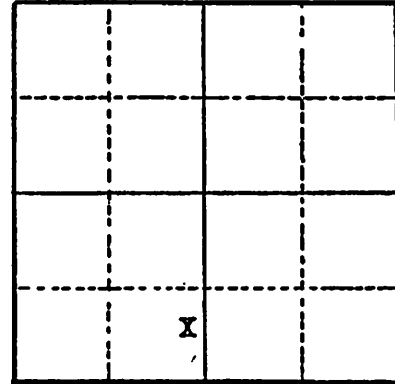
MAILING ADDRESS: Route 2, Box 836

LOCATION OF WELL: Owner's No. _____

CITY AND STATE: Oregon City, Oregon

SE ¼ SW ¼ Sec. 16 T. 2 S., R. 2 N, W.M.

Bearing and distance from section or subdivision corner _____



Section 16

Altitude at well _____

TYPE OF WELL: Drilled Date Constructed 1951

Depth drilled 183 ft. Depth cased _____

CASING RECORD: 6 inch

FINISH:

AQUIFERS:

WATER LEVEL: Flowing 2 to 3 gpm over top of casing which is 2' above LSD 3-18-57

PUMPING EQUIPMENT: Type _____ H.P. _____
Capacity _____ G.P.M.

WELL TESTS:
Drawdown _____ ft. after _____ hours _____ G.P.M.
Drawdown _____ ft. after _____ hours _____ G.P.M.

USE OF WATER Domestic Temp. _____ °F. _____, 19____

SOURCE OF INFORMATION OBS & Mr. Copple

DRILLER or DIGGER Barron & Stroyer

ADDITIONAL DATA:

Log _____ Water Level Measurements _____ Chemical Analysis _____ Aquifer Test _____

REMARKS: During February test of the Oak Park well 2/2-16L(1), water level dropped 2½ ft. below top of casing.

STATE ENGINEER
Salem, Oregon

Well Record

Loc. appr to be Sec. 16
STATE WELL NO. 2/2-160(1)
COUNTY Clackamas
APPLICATION NO. _____

OWNER: Dr. John Cleland

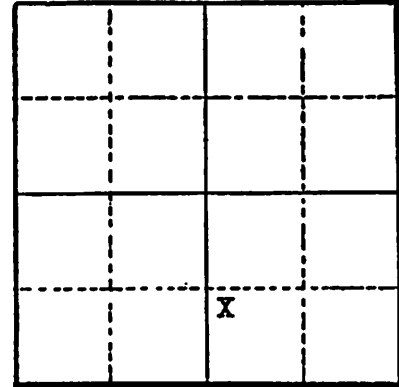
MAILING ADDRESS: Route 2

LOCATION OF WELL: Owner's No. _____

CITY AND STATE: Oregon City, Oregon

SW 1/4 SE 1/4 Sec. 16 T. 2 S., R. 2 E., W.M.

Bearing and distance from section or subdivision corner _____



Section 16

Altitude at well _____

TYPE OF WELL: Drilled Date Constructed 1920

Depth drilled 132 1/2 to 136 Depth cased _____

CASING RECORD: 6 inch

FINISH:

AQUIFERS: Troutdale form.?

WATER LEVEL: Flowing 3+ gpm over top of casing which is 2' ± above LSD

PUMPING EQUIPMENT: Type S.W. Piston H.P. 1
Capacity _____ G.P.M.

WELL TESTS:
Drawdown 3' ft. after 30' hours pumping 10(?) G.P.M.
Drawdown _____ ft. after _____ hours _____ G.P.M.

USE OF WATER Domestic & stock Temp. _____ °F., 19

SOURCE OF INFORMATION Mrs. Cleland & Obs.

DRILLER or DIGGER Joe Plant

ADDITIONAL DATA:
Log _____ Water Level Measurements _____ Chemical Analysis _____ Aquifer Test _____

REMARKS: Well stopped flowing in February during test on Oak Park test well.

25/2E-16D

STATE OF OREGON WATER WELL REPORT (as required by ORS 537.785)

WATER RESOURCES DEPT. SALEM, OREGON

(1) OWNER: Name RON WALP Well Number: 634 Address 14421 S CLACKAMAS RIVER DRIVE City OREGON CITY State OREGON Zip 97045

(2) TYPE OF WORK: [X] New Well [] Deepen [] Recondition [] Abandon

(3) DRILL METHOD [] Rotary Air [] Rotary Mud [X] Cable [] Other

(4) PROPOSED USE: [X] Domestic [] Community [] Industrial [] Irrigation [] Thermal [] Injection [] Other

(5) BORE HOLE CONSTRUCTION: Depth of Completed Well 123 ft. Explosives used [] [X] Type Amount

Table with columns: HOLE Diameter, SEAL Material, Amount sacks or pounds. Rows: 2-30 CEMENT 23, 30-75 CEMENT 13

How was seal placed: Method [] A [] B [] C [] D [] E [] Other

Backfill placed from 94 ft. to 123 ft. Material Gravel placed from 94 ft. to 123 ft. Size of gravel 1/4"

(6) CASING/LINER: Table with columns: Diameter, From, To, Gauge, Steel, Plastic, Welded, Threaded. Rows for Casing and Liner.

Final location of shoe(s)

PERFORATIONS/SCREENS: [X] Perforations Method SKILL SAW [] Screens Type SLOT Material

Table with columns: From, To, Slot size, Number, Diameter, Tele/pipe size, Casing, Liner. Row: 3-123 6x1/8 120

(8) WELL TESTS: Minimum testing time is 1 hour. Table with columns: Yield gal/min, Drawdown, Drill stem at, Time. Rows: 25-75 BAILEY 1 hr., 25-77 PUMP TEST 4 HR.

Temperature of water Depth Artesian Flow Found Was a water analysis done? [] Yes By whom Did any strata contain water not suitable for intended use? [] Too little [] Salty [] Muddy [] Odor [] Colored [] Other Depth of strata:

(9) LOCATION OF WELL by legal description: County CLACKAMAS Latitude Longitude Township 2S N or S. Range 2E E or W. WM. Section 16D Tax Lot 1700 Lot Block Subdivision Street Address of Well (or nearest address) 14421 S CLACKAMAS RIVER DRIVE

(10) STATIC WATER LEVEL: +3.2 ft. below land surface. Date 6/24/87 Artesian pressure 1.5 lb. per square inch. Date 6/24/87

(11) WATER BEARING ZONES: Depth at which water was first found 108

Table with columns: From, To, Estimated Flow Rate, SWL. Row: 108-119 25 G.P.M +3.2

(12) WELL LOG: Ground elevation

Table with columns: Material, From, To, SWL. Rows: TOP SOIL 0-2, BROWN CLAY 2-8, CLAY AND GRAVEL SOME SMALL BOULDERS 0-18, BLUE CLAY 18-108, VERY SOFT BLACK SANDSTONE 108-119 +3.2, BLUE CLAY 119-123

Date started 6/19/87 Completed 6/24/87

(unbonded) Water Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief. Signed Date WWC Number

(bonded) Water Well Constructor Certification: I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief. Signed [Signature] Date 6/25/87 WWC Number 462

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 637.785)

WATER RESOURCES DEPT JUL 1 1987
SALEM, OREGON
WATER RESOURCES DEPT.
SALEM, OREGON

OP. SIDE RIVER SO.

25/2E-160

(1) OWNER: Well Number. 635
Name DORA CALIF
Address 14435 S. CLACKAMAS RIVER RD.
City OREGON CITY State OREG. Zip _____

(2) TYPE OF WORK:
 New Well Deepen Recondition Abandon

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable
 Other _____

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION:
Construction approval Yes No Depth of Completed Well 134 ft.
Yes No
Explosives used Type _____ Amount _____

HOLE			SEAL			Amount sacks or pounds
Diameter	From	To	Material	From	To	
	0	75	CEMENT	0	25	14
	6	75	CEMENT	66	75	6

How was seal placed: Method A B C D E
 Other _____
Backfill placed from 25 ft. to 66 ft. Material 1/2" CRUSHED BRK + CUTTINGS
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6	+1	121	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:	5	131	134		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	5	120	126		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:

Perforations Method JOHNSON
 Screens Type _____ Material STAINLESS STEEL

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
2	131	25			5	<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour

Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
25	15		1 hr.

Temperature of water 56° Depth Artesian Flow Found _____
Was a water analysis done? Yes By whom _____
Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County CLATSOP Latitude _____ Longitude 535
Township 25 N or S, Range 2E E or W, WM.
Section 160 1/4 _____ 1/4 _____
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) _____

(10) STATIC WATER LEVEL:
+7 ft. below land surface. Date 7/1/87
Artesian pressure 2.5 lb. per square inch. Date 7/1/87

(11) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL
128	130	50 G.P.M	+7

(12) WELL LOG: Ground elevation _____

Material	From	To	SWL
TOP SOIL	0	2	
BROWN CLAY	2	8	
CEMENTED GRAVEL	8	18	
BLUE CLAY	18	128	
LOOSE COARSE SAND	128	130	+7
SANDSTONE	130	134	

Date started 6/25/87 Completed 7/1/87

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
WWC Number _____
Signed _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 462
Signed OKEL Date 7/6/87

3

RECEIVED

OR SIDE RIVER. SO.

23/25-1/2da
Record

STATE OF OREGON
WATER WELL REPORT
 (as required by ORS 537.765) **WATER RESOURCES DEPT**

MAR 18 1986

(1) OWNER: **SALEM, OREGON**
 Name Albert W. Parson
 Address 11646 S. Clackamas River Road Drive
 City Oregon City State Oregon Zip 97045

(2) TYPE OF WORK:
 New Well Deepen Recundition Abandon

(3) DRILL METHOD:
 Rotary Air Rotary Mud Cable Other

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Other

(5) BORE HOLE CONSTRUCTION:
 Depth of Completed Well 45 ft.
 Special Standards date of approval _____

HOLE		SEAL		Amount sacks or pounds
Diameter	From To	Material	From To	
inch	0 to 45	Unknown		

How was seal placed? Method A B C D E
 Other _____

Backfill placed from _____ ft. to _____ ft. Material _____
 Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6-inch	-1	45	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Added:	6-inch	+1	-1	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoes) _____

(7) PERFORATIONS/SCREENS:
 Perforations Method _____
 Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						<input type="checkbox"/>	<input type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
 Yield gal/min 20 Pumping level 35 feet Drill stem at _____ Time 1 hr

Temperature of water 53° Depth Artesian Flow Found _____
 Was a water analysis done? Yes By whom _____
 Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
 Depth of strata: _____

(9) LOCATION OF WELL by legal description:
 County Clack. Latitude _____ Longitude _____
 Township 2-South N or S, Range 2-East E or W, WM.
 Section 16 S.E. $\frac{1}{4}$ N.E. $\frac{1}{4}$
 Tax Lot _____ Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) 11646 S. Clackamas River Drive, Oregon City, Oregon 97045

(10) STATIC WATER LEVEL:
 _____ 19 ft. below land surface. Date 2-7-86
 Artesian pressure _____ lb. per square inch. Date _____

(11) WELL LOG: Ground elevation _____

Material	From	To	WB?	SWL
This is a very old well. The geology at 45 feet is loose gravel. The well has a high iron content.				



Date started Feb. 6, 1986 Completed Feb. 8, 1986

(unbonded) Water Well Constructor Certification:
 I constructed this well in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed _____ Date _____

(bonded) Water Well Constructor Certification:
 I accept responsibility for construction of this well and its compliance with all Oregon water well standards. This report is true to the best of my knowledge and belief.

Signed Ronald F. McConnell Date March 5, 1986

Company Steinman Bros. Drilling Co. Job No. 4-86
 Oregon Well Constructor's License #1

WATER WELL REPORT
STATE OF OREGON

OCT 17 1980

State Well No. 25/2E-16d
State Permit No. _____

WATER RESOURCES DEPT
SALEM, OREGON

> 1. m. l. u

(1) OWNER:

Name Beverly Cleland
Address 14343 S. Clackamas River Dr.
City Oregon City State Oregon

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Air Driven
Rotary Mud Dug
Cable Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other
Thermal: Withdrawal ReInjection

(5) CASING INSTALLED:

Steel Plastic
Threaded Welded

" Diam. from .0 ft. to 230 ft. Gauge .25
" Diam. from _____ ft. to _____ ft. Gauge _____

LINER INSTALLED:

" Diam. from _____ ft. to _____ ft. Gauge _____

(6) PERFORATIONS:

Perforated? 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.

(7) SCREENS:

Well screen installed? Yes No

Manufacturer's Name _____

Type _____ Model No. _____

Diam. _____ Slot Size _____ Set from _____ ft. to _____ ft.

Diam. _____ Slot Size _____ Set from _____ ft. to _____ ft.

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.

test 30 gal./min. with drill stem at 235 ft. 1 hrs.

_____ test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Artesian flow _____ g.p.m.

Temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Special standards: Yes No

Well seal—Material used Cement .5% Bentonite

Well sealed from land surface to 19 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 8 sacks

How was cement grout placed? pumped

Was pump installed? NO Type _____ HP _____ Depth _____ ft.

Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.

Did any strata contain unusable water? Yes No

Type of Water? _____ depth of strata _____

Method of sealing strata off _____

Was well gravel packed? Yes No Size of gravel: _____

Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number 4080

Section 16 T. 2S R. 2E W.M.

Tax Lot # _____ Lot _____ Blk _____ Subdivision _____

Address at well location: End of Highland Rd.

Oregon City

(11) WATER LEVEL: Completed well.

Depth at which water was first found 115 ft.

Static level 175 ft. below land surface. Date 9-9-80

Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 240 ft. Depth of completed well 240 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil	0	2	
Clay brown	2	17	
Sand grey	17	22	
Clay brown sandy	22	48	
Clay grey	48	54	
Gravel med. & clay brown	54	88	
Sand brown	88	101	
Gravel med. dirty	101	115	
Gravel med. clean (5gpm)	115	125	
Clay brown	125	134	
Gravel & clay brown	134	228	
Gravel med (water)	228	238	175
Gravel & clay brown	238	240	

Work started 9-4 19 80 Completed 9-8 19 80

Date well drilling machine moved off of well 9-9 19 80

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

(Signed) William D. Skyles Date 9-10, 1980
(Drilling Machine Operator)

Drilling Machine Operator's License No. 224

Water Well Contractor's Certification:

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

Name Skyles Drilling & Supply, Inc.

Address 1169 Molalla Ave. Oregon City, OR

(Signed) William D. Skyles

(Water Well Contractor)

Contractor's License No. 553 Date 9-10, 19 80

The original and first copy of this report are to be filed with the

WATER WELL REPORT

RECORDED

STATE OF OREGON

DEC 6 1973 State Well No. 25/2E-16

(Please type or print)

STATE ENGINEER Permit No.

(Do not write above this line) SALEM, OREGON

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

(1) OWNER:

Name Carl Stewe Address 14710 S. Clackamas River Rd, Oregon City, Oregon

(2) TYPE OF WORK (check):

New Well [X] Deepening [] Reconditioning [] Abandon [] If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [] Cable [] Jetted [] Dug [] Bored []

(4) PROPOSED USE (check):

Domestic [X] Industrial [] Municipal [] Irrigation [] Test Well [] Other []

(5) CASING INSTALLED:

6" Diam. from 0 ft. to 100 ft. Gage 250 Threaded [] Welded [X]

(6) PERFORATIONS:

Type of perforator used Size of perforations in. by in. Perforated? [] Yes [X] No

(7) SCREENS:

Well screen installed? [] Yes [X] No Manufacturer's Name Type Model No. Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level Was a pump test made? [] Yes [X] No Yield: gal./min. with ft. drawdown after hrs. Bailor test 20 gal./min. with 40 ft. drawdown after 1 hrs.

(9) CONSTRUCTION:

Well seal—Material used Bentonite Well sealed from land surface to 20 ft. Diameter of well bore to bottom of seal 10 in. Diameter of well bore below seal 6 in. Number of sacks of cement used in well seal sacks Number of sacks of bentonite used in well seal 4 sacks Brand name of bentonite Wilbur Ellis Number of pounds of bentonite per 100 gallons of water lbs./100 gals. Was a drive shoe used? [X] Yes [] No Plugs Size: location ft. Did any strata contain unusable water? [] Yes [X] No Type of water? depth of strata Method of sealing strata off Was well gravel packed? [] Yes [X] No Size of gravel: Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number 1/4 Section 16 T. 2S R. 2E W.M. Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

100 ft. Depth at which water was first found Static level 50 ft. below land surface. Date 10/16/73 Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6 Depth drilled 122 ft. Depth of completed well 122 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

Table with 4 columns: MATERIAL, From, To, SWL. Rows include Topsoil, Brown; Clay, Brown; Gravel, Cemented; Sand, Black, WB; Clay, Gray, Sandy.

Work started 10/16/73 19 Completed 10/16/73 19 Date well drilling machine moved off of well 10/16/73 19

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief. [Signed] Harvey Blackman Date 10/19/73 19 Drilling Machine Operator's License No. 681

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Name Harvey Blackman (Person, firm or corporation) (Type or print) Address Rt 1 Box 181K, Mulino, Oregon [Signed] Harvey Blackman (Water Well Contractor) Contractor's License No. 537 Date 10/19/73 19

The original and first copy of this report are to be filed with the

WATER WELL REPORT

STATE OF OREGON

STATE ENGINEER, SALEM, OREGON 97310
within 30 days from the date of well completion.

RECEIVED

(Please type or print)
(Write above this line)

State Well No. 2S/2E-116d c

State Permit No. _____

(1) OWNER:

OCT 27 1977

Name PHIL SETER WATER RESOURCES DEPT.
Address 14714 S. FORSYTHE EM. OREGON
OREGON CITY, OREGON

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(10) LOCATION OF WELL:

County CLACKAMAS Driller's well number 399
SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 16 T. 2S R. 2E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well

Depth at which water was first found 190 ft.

Static level 179 ft. below land surface. Date 10/7/77

Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG: Diameter of well below casing 6"

Depth drilled 240 ft. Depth of completed well 235 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
TOP SOIL	0	1	
BROWN CLAY	1	9	
SANDY BROWN CLAY	9	42	
BLUE CLAY	42	57	
CLAY GRAVEL AND SMALL BOULDERS	57	98	
CEMENTED GRAVEL	98	196	
BLACK SANDSTONE AND GRAVEL	196	225	179
BLUE CLAY	225	227	179
SOFT BLUE SANDSTONE	227	235	179
BLACK SAND	235	240	179

Work started 9/27 1977 Completed 10/7 1977

Date well drilling machine moved off of well 10/7 1977

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] OK Keller Date 10/7, 1977
(Drilling Machine Operator)

Drilling Machine Operator's License No. 329

Water Well Contractor's Certification:

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

Name Keller Well Drilling Co.
(Person, firm or corporation) (Type or print)

Address 6350 SE BROWNLEE MILWAUKEE

[Signed] OK Keller
(Water Well Contractor)

Contractor's License No. 462 Date 10/7, 1977

(6) CASING INSTALLED:

Threaded Welded
6" Diam. from +1 ft. to 231 ft. Gage 250"
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

(7) PERFORATIONS:

Perforated? Yes No
Type of perforator used MILLS KNIFE

Size of perforations _____ in. by _____ in.
160 perforations from 191 ft. to 231 ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

(8) SCREENS:

Well screen installed? Yes No

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

(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.

Baller test 27 gal./min. with 15 ft. drawdown after 1 hrs.

Artesian flow _____ g.p.m.
Temperature of water _____ Depth artesian flow encountered _____ ft.

(9) CONSTRUCTION:

Well seal—Material used CEMENT-BENTONITE
Well sealed from land surface to 120 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 12 sacks

Number of sacks of bentonite used in well seal 8 sacks

Brand name of bentonite NATIONAL

Number of pounds of bentonite per 100 gallons of water 2000 lbs./100 gals.

Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.

Did any strata contain unusable water? Yes No

Type of water? _____ depth of strata _____

Method of sealing strata off _____

Was well gravel packed? Yes No Size of gravel: _____

Gravel placed from _____ ft. to _____ ft.

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16K(1)
COUNTY Clackamas
APPLICATION NO.

OWNER: Allen

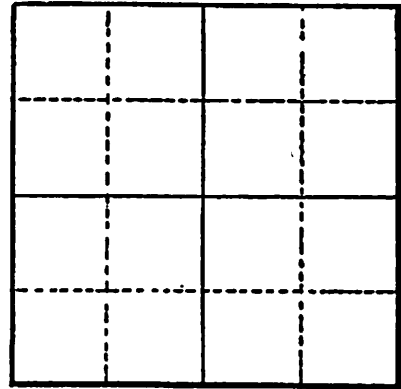
MAILING ADDRESS: Route 2

LOCATION OF WELL: Owner's No.

CITY AND STATE: Oregon City, Oregon

NW 1/4 SE 1/4 Sec. 16 T. 2 S., R. 2 E., W.M.

Bearing and distance from section or subdivision corner



Section 16

Altitude at well

TYPE OF WELL: Drilled Date Constructed 1938

Depth drilled 80 ft. Depth cased

CASING RECORD: 8 inch

FINISH:

AQUIFERS:

WATER LEVEL: Flowing well

PUMPING EQUIPMENT: Type jet H.P.
Capacity G.P.M.

WELL TESTS:
Drawdown ft. after hours G.P.M.
Drawdown ft. after hours G.P.M.

USE OF WATER Domestic Temp. °F., 19

SOURCE OF INFORMATION

DRILLER or DIGGER

ADDITIONAL DATA:
Log Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

STATE ENGINEER
Salem, Oregon

Prob So. ... Rine ?

Well Record

STATE WELL NO. 2/2-16K(2)
COUNTY Clackamas
APPLICATION NO. _____

OWNER: Warnick MAILING ADDRESS: Route 2

LOCATION OF WELL: Owner's No. _____ CITY AND STATE: Oregon City, Oregon

NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 16 T. 2 N. S., R. 2 E. W.M.

Bearing and distance from section or subdivision corner _____

Section 16

Altitude at well _____

TYPE OF WELL: Drilled Date Constructed _____

Depth drilled _____ Depth cased _____

CASING RECORD:

FINISH:

AQUIFERS:

WATER LEVEL: Flows

PUMPING EQUIPMENT: Type _____ H.P. _____
Capacity _____ G.P.M.

WELL TESTS:

Drawdown _____ ft. after _____ hours _____ G.P.M.
Drawdown _____ ft. after _____ hours _____ G.P.M.

USE OF WATER Domestic Temp. _____ °F. _____, 19____

SOURCE OF INFORMATION _____

DRILLER or DIGGER _____

ADDITIONAL DATA:

Log _____ Water Level Measurements _____ Chemical Analysis _____ Aquifer Test _____

REMARKS:

20

5 up grad?

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16B
COUNTY Clackamas
APPLICATION NO. _____

OWNER: H. Niklas, President of
Clackamas Greenhouses Inc.

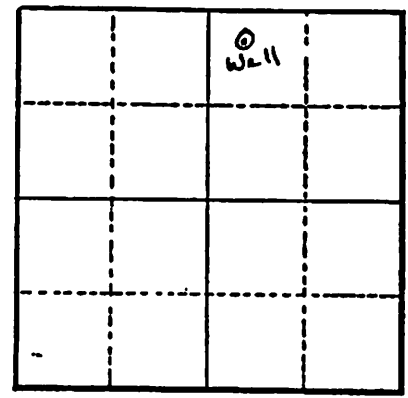
MAILING ADDRESS: _____

LOCATION OF WELL: Owner's No. _____

CITY AND STATE: Clackamas, Oregon

NW 1/4 NE 1/4 Sec. 16 T. 2 S., R. 2 E., W.M.

Bearing and distance from section or subdivision corner _____



Section 16

Altitude at well 15 ft.

TYPE OF WELL: Drilled Date Constructed _____

Depth drilled 29 ft. Depth cased _____

CASING RECORD:
6 inch

FINISH:

AQUIFERS:

1

WATER LEVEL:
20 ft.

PUMPING EQUIPMENT: Type Turbine H.P. 3
Capacity _____ G.P.M.

WELL TESTS:
Drawdown _____ ft. after _____ hours _____ G.P.M.
Drawdown _____ ft. after _____ hours _____ G.P.M.

USE OF WATER Irrigation Temp. _____ °F. _____, 19

SOURCE OF INFORMATION Related registration statement

DRILLER or DIGGER Strasser Drilling Co.

ADDITIONAL DATA:
Log _____ Water Level Measurements _____ Chemical Analysis _____ Aquifer Test _____

REMARKS:
Irrigation of approx. 2 acres.

18
All originals and first copy of this report are to be filed with the

WATER WELL REPORT

STATE ENGINEER, SALEM, OREGON
within 30 days from the date of well completion.

RECEIVED

JAN 10 1977

STATE OF OREGON
(Please type or print)

(Do not write above this line)

State Well No. 25/2E-16 bb

State Permit No. _____

(1) OWNER:

Name Johnson City Water & Sewer Co.
Address 8000 S.E. Roots Rd.
Milwaukie, Oregon, 97222

(2) TYPE OF WORK (check):

New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Driven
Cable Jetted
Dug Bored

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) CASING INSTALLED:

Threaded Welded
8" Diam. from 2 ft. to 158 ft. Gage 250
" Diam. from " ft. to " ft. Gage "
" Diam. from " ft. to " ft. Gage "

(6) PERFORATIONS:

Perforated? Yes No.
Type of perforator used Mills Knife
Size of perforations in. by $\frac{1}{4}$ in. 2
260 perforations from 103 ft. to 156 ft.
perforations from " ft. to " ft.
perforations from " ft. to " ft.

(7) SCREENS:

Well screen installed? Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?
Yield: 125 gal./min. with 81 ft. drawdown after $\frac{1}{2}$ hrs.
180 " 131 " 2 $\frac{1}{2}$ "
" " " " "
" " " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.

(9) CONSTRUCTION:

Well seal—Material used Cement
Well sealed from land surface to 36 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 38 sacks
Number of sacks of bentonite used in well seal 1 sacks
Brand name of bentonite National
Number of pounds of bentonite per 100 gallons of water _____ lbs./100 gals.
Was a drive shoe used? Yes No Plugs _____ Size: location _____ ft.
Did any strata contain unusable water? Yes No
Type of water? _____ depth of strata _____
Method of sealing strata off _____
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number D19-77
NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 16 T. 2S R. 2E W.M.
Bearing and distance from section or subdivision corner _____

(11) WATER LEVEL: Completed well.

Depth at which water was first found 16 ft.
Static level 19 ft. below land surface. Date 12-21-76
Artesian pressure _____ lbs. per square inch. Date _____

(12) WELL LOG:

Diameter of well below casing 8"
Depth drilled 172 ft. Depth of completed well 172 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Top soil	0	2	
Brown clay	2	10	
Gravel, boulders, cemented	10	18	
Gravel, sand, water	18	23	
Gravel, cemented	23	70	
Gravel, water	70	80	
Gravel, cemented	80	97	
Gravel, loose, water	97	160	19
Clay, grey	160	163	
Sand, gravel, water	163	168	19
Clay, grey	168	172	

RECEIVED

DEC 27 1976

WATER RESOURCES DEPT.
SALEM, OREGON

Work started 12-16 1976 Completed 12-22 1976
Date well drilling machine moved off of well 12-22 1976

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] David Danville Date 12-22, 1976
(Drilling Machine Operator)
Drilling Machine Operator's License No. 883

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name S & M Drilling & Supply, Inc.
(Person, firm or corporation) (Type or print)
Address 399 S.E. Walnut St., Canby, Or., 9701
[Signed] Walter Mace
(Water Well Contractor)
Contractor's License No. 497 Date 12-22, 1976

WATER WELL REPORT
STATE OF OREGON

State Well No. 2/2-16 B(1)
State Permit No. _____

(1) OWNER:
Name Southern Pacific RR for Mr. Moorey
Address Clackamas Ore.
Rt. 1, Box 22A

(2) LOCATION OF WELL:
County Clackamas Owner's number, if any—
1/4 1/4 Section T. R. W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic Industrial Municipal
Irrigation Test Well Other
(5) TYPE OF WELL:
Rotary Driven
Cable Jetted
Dug Bored

(6) CASING INSTALLED:
8" Diam. from 0 ft. to 34 ft. Gage 5/16"
" Diam. from _____ ft. to _____ ft. Gage _____
" Diam. from _____ ft. to _____ ft. Gage _____

(7) PERFORATIONS:
Type of perforator used _____ Perforated? Yes No
SIZE of perforations in. by in.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.
_____ perforations from _____ ft. to _____ ft.

(8) SCREENS:
Well screen installed Yes No
Manufacturer's Name _____
Type _____ Model No. _____
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.
Diam. _____ Slot size _____ Set from _____ ft. to _____ ft.

(9) CONSTRUCTION:
Was well gravel packed? Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.
Was a surface seal provided? Yes No To what depth? 10 ft.
Material used in seal—pea gravel & cuttings
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(10) WATER LEVELS:
Static level 3 1/2 ft. below land surface Date 1-22-58
Artesian pressure _____ lbs. per square inch Date _____
Log Accepted by: _____
[Signed] _____ Date _____, 19____
(Owner)

(11) 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.
" " " " " "
" " " " " "
Baller test 10 gal./min. with 32 ft. drawdown after hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(12) WELL LOG: Diameter of well 8 inches.
Depth drilled 51 ft. Depth of completed well 51 ft.
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
<u>brown clay with gravel</u>	<u>0</u>	<u>4</u>
<u>cobblestones & gravel lightly cemented</u>	<u>4</u>	<u>15</u>
<u>loose gravel</u>	<u>15</u>	<u>16</u>
<u>lightly cemented gravel & cobblestones</u>	<u>16</u>	<u>19</u>
<u>cemented gravel & cobblestones with streaks of brown clay</u>	<u>19</u>	<u>31</u>
<u>cemented gravel & cobblestones</u>	<u>31</u>	<u>39</u>
<u>gray shale</u>	<u>39</u>	<u>45</u>
<u>cemented gravel & cobblestones</u>	<u>45</u>	<u>51</u>
<u>aquifers: 15'-16' & 39'</u>		

Work started Dec. 31 1957 Completed Jan. 22 1958

(13) PUMP:
Manufacturer's Name _____
Type: _____ H.P. _____
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 O. E. Janssen Drilling Co.
(Person, firm, or corporation) (Type or print)
Address Box 38, Clackamas, Ore.
Driller's well number _____
[Signed] J. A. Janssen
(Well Driller)
License No. 3 Date Jan 22, 1958

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16B1
COUNTY MULTNOMAH
APPLICATION NO. _____

OWNER: F. J. Mooney

MAILING
ADDRESS: _____

LOCATION OF WELL: Owner's No. _____

CITY AND
STATE: _____

..... $\frac{1}{4}$ $\frac{1}{4}$ Sec. T. N. E.
..... S., R. W., W.M.

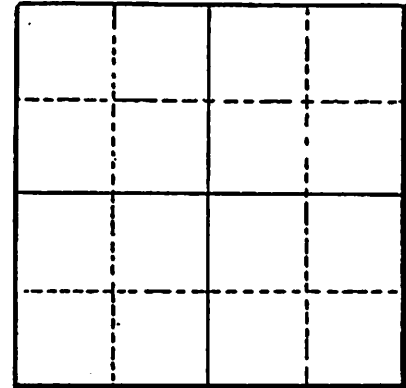
Bearing and distance from section or subdivision

corner _____

Altitude at well 95

TYPE OF WELL: Drilled Date Constructed

Depth drilled 51 Depth cased 34



Section

CASING RECORD:

8 inch

FINISH:

AQUIFERS:

Gravel, Troutdale Formation-depth to top 15 feet

WATER LEVEL:

3.5 feet below land surface on January 22, 1958

PUMPING EQUIPMENT: Type None H.P.
Capacity G.P.M.

WELL TESTS:

Drawdown ft. after hours G.P.M.

Drawdown ft. after hours G.P.M.

USE OF WATER None Temp. °F., 19.....

SOURCE OF INFORMATION USGS

DRILLER or DIGGER

ADDITIONAL DATA:

Log X Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

Bailed 10 gpm, drawdown 32 ft.

MAP APPROX. indicate > 1 mi.

< 5 down road.

RECEIVED

NOTICE TO WATER WELL CONTRACTOR

The original and first copy of this report are to be filed with the

WATER WELL REPORT

STATE OF OREGON

STATE ENGINEER, SALEM 10, OREGON within 30 days from the date of well completion.

STATE ENGINEER SALEM OREGON

(Please type or print)

State Well No. 2/2-16G State Permit No.

(1) OWNER:

Name Elmer Sanetel Address 8302 Star Strawberry Lane Clackamas, Ore.

(2) LOCATION OF WELL:

County Clackamas Driller's well number 8-62 S W 1/4 N W 1/4 Section 16 T.2 S R. 2 E W.M. Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):

New Well [X] Deepening [] Reconditioning [] Abandon [] bandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic [X] Industrial [] Municipal [] Irrigation [] Test Well [] Other []

(5) TYPE OF WELL:

Rotary [] Driven [] Cable [X] Jetted [] Dug [] Bored []

(6) CASING INSTALLED:

6" Diam. from 1 ft. to 69 ft. Gage 280

(7) PERFORATIONS:

Perforated? [] Yes [X] No Type of perforator used Size of perforations in. by in.

(8) SCREENS:

Well screen installed [] Yes [X] No Manufacturer's Name Model No. Slot size Set from ft. to ft. Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Well seal—Material used in seal drill cuttings Depth of seal 38 ft. Was a packer used? NO Diameter of well bore to bottom of seal 8 in. Were any loose strata cemented off? [] Yes [X] No Depth Was a drive shoe used? [X] Yes [] No Was well gravel packed? [] Yes [X] No Size of gravel: Gravel placed from ft. to ft. Did any strata contain unusable water? [] Yes [X] No Type of water? Depth of strata Method of sealing strata off

(10) WATER LEVELS:

Static level 39 ft. below land surface Date 2/1/62 Artesian pressure lbs. per square inch Date

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level Was a pump test made? [] Yes [X] No If yes, by whom? Yield: gal./min. with ft. drawdown after hrs. Baller test 40 gal./min. with 20 ft. drawdown after 1 hrs. Artesian flow a.p.m. Date Temperature of water 53 Was a chemical analysis made? [] Yes [X] No

(12) WELL LOG:

Diameter of well below casing 6 Depth drilled 70 ft. Depth of completed well 69 ft.

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.

Table with columns MATERIAL, FROM, TO. Rows include Brown clay, Brown silty sand, Cement gravel & boulders, Brown silty clay, Loose cement gravel & boulders, Loose sand & gravel.

Work started 1/26/62 Completed 2/1/62 Date well drilling machine moved off of well 2/2/62

(13) PUMP:

Manufacturer's Name Type: H.P.

Water Well Contractor's Certification:

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

NAME Steirman Bros. Address 15112 S.E. McLoughlin Milwaukie 22, Ore.

Drilling Machine Operator's License No.

[Signed] Steirman Bros. (Water Well Contractor)

Contractor's License No. 1 Date 2/12/62, 19

Appears to be w/i .5 mi, however, prob up str. across sm. creek, intermittent.

The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT

RECEIVED

STATE OF OREGON (Please type or print)

NOV 7 1978 Do not write above this line)

NC

State Well No. 25/2E-16 State Permit No.

(1) OWNER: WATER RESOURCES DEPT. SALEM, OREGON

Name Ralph Chaney Address 17726 S.E. 82nd Drive Clackamas, Oregon 97015

(2) TYPE OF WORK (check): New Well [x] Deepening [] Reconditioning [] Abandon []

(3) TYPE OF WELL: Rotary [x] Cable [] Dug [] Driven [] Jetted [] Bored [] (4) PROPOSED USE (check): Domestic [x] Industrial [] Municipal [] Irrigation [] Test Well [] Other []

CASING INSTALLED: 6" Diam. from 0 ft. to 57 ft. Gage 250

PERFORATIONS: Perforated? [] Yes [x] No. Type of perforator used Size of perforations in. by in.

(7) SCREENS: Well screen installed? [] Yes [x] No

(8) WELL TESTS: Drawdown is amount water level is lowered below static level. Was a pump test made? [x] Yes [] No

(9) CONSTRUCTION: Well seal—Material used Granular Bentonite 16 sack

(10) LOCATION OF WELL: County Clackamas Driller's well number 40 Section 16 T.2S R.2E W.M. Bearing and distance from section or subdivision corner 17302 SE 82nd Drive Clackamas, Oregon 97015

(11) WATER LEVEL: Completed well. Depth at which water was first found 17 ft. Static level 14 ft. below land surface. Date 11-4-78

(12) WELL LOG: Diameter of well below casing 6" Depth drilled 61 ft. Depth of completed well 59 ft.

Table with columns: MATERIAL, From, To, SWL. Rows include Topsoil, Clay Sandy Brown, Gravel Small & Medium, and Shallow.

Work started Nov. 1 1978 Completed Nov. 4 1978 Date well drilling machine moved off of well November 4, 1978

Drilling Machine Operator's Certification: This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

Water Well Contractor's Certification: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Name Skyles Drilling & Supply, Inc.

File Original, and Duplicate with the STATE ENGINEER, SALEM, OREGON

STATE ENGINEER WATER WELL DRILLERS REPORT STATE OF OREGON

Not State Well No. 42-16 K(13) Fill In State Permit No.

(1) OWNER: SALEM, OREGON Name Oak Lodge Water District Address Oak Grove, Oregon

(2) LOCATION OF WELL: County Clackamas Owner's number, if any-Test Well #1 R. F. D. or Street No. Bearing and distance from section or subdivision corner See Attached Map

(3) TYPE OF WORK (check): Test Well # 1 New well [] Deepening [] Reconditioning [] Abandon []

(4) PROPOSED USE (check): Domestic [] Industrial [] Municipal [] Irrigation [] Test Well [X] Other [] (5) EQUIPMENT: Rotary [] Cable [X] Dug Well []

CASING INSTALLED: Threaded [] Welded [X] FROM 0 ft. to 34 ft. Diam. 8 Gage or Wall 8 If gravel packed Diameter of Bore from ft. to ft. Type and size of shoe or well ring Standard Size of gravel: Describe joint Butt Weld

(7) PERFORATIONS: Type of perforator used SIZE of perforations in., length, by in. FROM ft. to ft. perf per foot No. of rows

SCREENS: Give Manufacturer's Name, Model No. and Size

CONSTRUCTION: Was a surface sanitary seal provided? [] Yes [] No To what depth ft. Were any strata sealed against pollution? [] Yes [] No If yes, note depth of strata FROM ft. to ft.

METHOD OF SEALING

(9) WATER LEVELS: Depth at which water was first found 14 ft. Standing level before perforating 16 ft. Standing level after perforating ft. Log Accepted by: [Signature] Dated 3-27-1957 [Signed] E. GREEN & ASSOCIATES CONSULTING ENGINEERS 510 HENRY BUILDING :: PORTLAND 4, OREGON For Oak Lodge W.D.

(10) WELL TESTS: Was a pump test made? [] Yes [X] No If yes, by whom? Yield: gal./min. with ft. draw down after hrs. Artesian flow g.p.m. Shut-in pressure lbs. per square inch. Baller test g.p.m. with ft. drawdown Temperature of water 53 Was a chemical analysis made? [] Yes [X] No Was electric log made of well? [] Yes [X] No

(11) WELL LOG: Diameter of well 8 inches. Total depth 50 ft. Depth of completed well 50 ft. 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. 0 ft. to 14 ft. Top soil & sandy loam 14 " 21 " Cement gravel (brown clay binder) 21 " 26 " Boulders & large gravel with brown clay binder 26 " 27'6" " Sand & gravel (water) 27'6" 50 " Blue clay (marine sedimentary) Removed casing and filled hole with gravel

Ground elevation at well site 450 feet above mean sea level Work started Jan. 9 1957. Completed Jan. 12 1957

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 John W. Beck Well Drilling (Person, firm, or corporation) (Typed or printed) Address Rt. 3, Box 45, Canby, Oregon Driller's well number 379 [Signed] John W. Beck (Well Driller) License No. 95 Dated March 1, 1957

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16k(3)
COUNTY Clackamas
APPLICATION NO. _____

OWNER: Oak Lodge Test Well #1

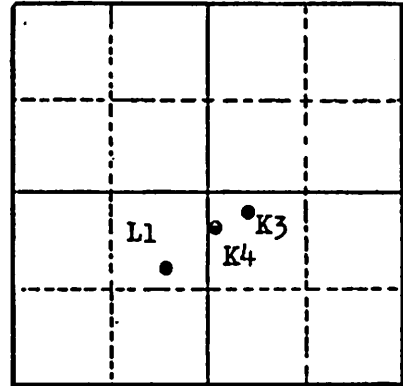
MAILING ADDRESS: _____

LOCATION OF WELL: Owner's No. #1

CITY AND STATE: _____

N. E.
...NW ¼ ...SE ¼ Sec. 16 T. 2 S., R. 2 W., W.M.

Bearing and distance from section or subdivision corner _____



Section _____

Altitude at well _____

TYPE OF WELL: Drilled Date Constructed Jan. '57

Depth drilled 50 Depth cased _____

CASING RECORD:

FINISH:

AQUIFERS:

WATER LEVEL:

18.5 feet below land surface

PUMPING EQUIPMENT: Type _____ H.P. _____
Capacity _____ G.P.M.

WELL TESTS: No test made
Drawdown _____ ft. after _____ hours _____ G.P.M.
Drawdown _____ ft. after _____ hours _____ G.P.M.

USE OF WATER _____ Temp. _____ °F. _____, 19_____

SOURCE OF INFORMATION Carl Green Engr.

DRILLER or DIGGER John W. Beck

ADDITIONAL DATA:

Log Water Level Measurements _____ Chemical Analysis _____ Aquifer Test _____

REMARKS:

Test well, unsuccessful in obtaining adequate supply, well filled in.

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16K(4)
COUNTY Clackamas
APPLICATION NO.

OWNER: Oak Lodge Test Well #2

MAILING ADDRESS:

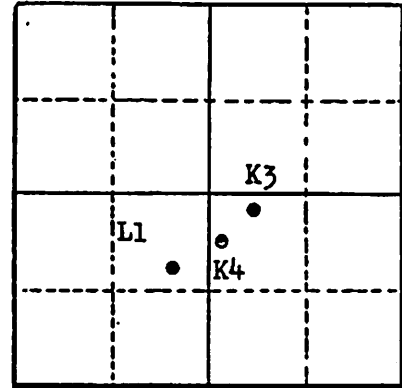
LOCATION OF WELL: Owner's No. #2

CITY AND STATE:

NW 1/4 SE 1/4 Sec. 16 T. 2 N. S. R. 2 W. W.M.

Bearing and distance from section or subdivision

corner



Section 16

Altitude at well

TYPE OF WELL: Drilled Date Constructed 1957

Depth drilled 50 Depth cased

CASING RECORD:

8-inch casing set to 50'

FINISH:

Slots cut with torch, slots 1/4" x 6" six rows in the 10' section from 17' to 27'
Slots are from 5 to 6" apart

AQUIFERS:

WATER LEVEL:

PUMPING EQUIPMENT: Type 6" turbine pump H.P.
Capacity G.P.M.

WELL TESTS:

Drawdown ft. after hours G.P.M.

Drawdown ft. after hours G.P.M.

USE OF WATER Temp. °F. 19

SOURCE OF INFORMATION

DRILLER or DIGGER

ADDITIONAL DATA:

Log Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

Well filled in.

MAR 23 1957

STATE OF OREGON

Fill In

State Permit No.

(1) OWNER:

Name Oak Lodge Water District
Address Oak Grove, Oregon

(2) LOCATION OF WELL:

County Clackamas Owner's number, if any—Test Well #3
R. F. D. or Street No. _____
Bearing and distance from section or subdivision corner
See Attached Map

(3) TYPE OF WORK (check):

Test Well #3
New well Deepening Reconditioning Abandon
Abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic Industrial Municipal
Irrigation Test Well Other

(5) EQUIPMENT:

Rotary
Cable
Dug Well

CASING INSTALLED:

FROM	ft. to	Diam.	ft.	Gage or Wall	Diameter of Bore	from ft.	to ft.
	0 to 193	8"					
	"	"	"	"		"	"
	"	"	"	"		"	"
	"	"	"	"		"	"
	"	"	"	"		"	"

Type and size of shoe or well ring Standard Size of gravel: _____
Describe joint Butt Weld

(7) PERFORATIONS:

SIZE of perforations	in.	length, by	in.
FROM ft. to ft.	ft.	perf per foot	No. of rows
" " "	"	" " "	" " "
" " "	"	" " "	" " "
" " "	"	" " "	" " "

SCREENS:

Give Manufacturer's Name, Model No. and Size
An 8" O.D. slotted casing

CONSTRUCTION:

Was a surface sanitary seal provided? Yes No To what depth _____ ft.
Were any strata sealed against pollution? Yes No
If yes, note depth of strata _____
FROM _____ ft. to _____ ft.

METHOD OF SEALING

(9) WATER LEVELS:

Depth at which water was first found 18 ft.
Standing level before perforating bottom sealed ft.
Standing level after perforating Flowed 135 G.P.M. ft.
Log Accepted by: _____

[Signed] Carl E. Green Dated 3-27, 1957
CARL E. GREEN & ASSOCIATES
CONSULTING ENGINEERS
510 HENRY BUILDING :: PORTLAND 4, OREGON For Oak Lodge W.D.

(10) WELL TESTS:

Was a pump test made? Yes No If yes, by whom? Driller
Yield: 570 gal./min. with 61 ft. draw down after 4 hrs.
150 555 " 68 " 4 "
103 300 " 86 " 4 "
Artesian flow _____ g.p.m.
Shut-in pressure 5 lbs. per square inch.
Bailer test _____ g.p.m. with _____ ft. drawdown
Temperature of water 53 Was a chemical analysis made? Yes No
Was electric log made of well? Yes No

(11) WELL LOG:

Diameter of well, 8 inches.
Total depth 193 ft. Depth of completed well 0 ft.
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.
0 ft. to 16 ft. Sandy Loam
16 " 18 " Cement gravel
18 " 27 " Large boulders in clay binder
27 " 60 " Blue clay
60 " 72 " Small gravel - clay binder
72 " 92 " Light blue clay
92 " 103'6" " Dark sand & pumice (water)
103'6" 111 " Dark silt with humus & wood
111 " 116 " Sand & gravel (dry)
116 " 118'6" " Small gravel (dark)
118'6" 127 " Light green clay
127 " 154 " Dark sand & pumice
154 " 189 " Medium gravel (mostly quartz)
" " very small amount of sand
189 " 193 " Very dark clay with small gravel

The three water stratum was tested separately by placing slotted liners in the stratum series and pulling the pipe back.

After the last stratum was tested the pipe was pulled back into the clay. The water was sealed off by stopping gravel in bottom of pipe. Ten ft. of casing was left (70-80'). Hole was back filled with sand, gravel and cement as pipe was removed (40-70'). The remainder of the hole 0 to 40' was filled with sand.

Ground elevation at well site ± 50 feet above mean sea level.
Work started Jan. 22 19 57 Completed 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 John W. Beck Well Drilling
(Person, firm, or corporation) (Typed or printed)

Address Rt. 3, Box 45, Canby, Oregon
Driller's well number 381

[Signed] John W Beck
(Well Driller)

License No. 95 Dated March 1, 1957

STATE ENGINEER
Salem, Oregon

Well Record

STATE WELL NO. 2/2-16L(1)
COUNTY Clackamas
APPLICATION NO:

OWNER: Oak Lodge Test Well MAILING ADDRESS:

LOCATION OF WELL: Owner's No. #3 CITY AND STATE:

NE 1/4 SW 1/4 Sec. 16 T. 2 S, R. 2 E, W.M.

Bearing and distance from section or subdivision corner

Altitude at well

TYPE OF WELL: Drilled Date Constructed 1957

Depth drilled 192 ft. Depth cased

		X	

Section 16

CASING RECORD:

FINISH:

AQUIFERS:

WATER LEVEL:

PUMPING EQUIPMENT: Type H.P.
Capacity G.P.M.

WELL TESTS:
Drawdown ft. after hours G.P.M.
Drawdown ft. after hours G.P.M.

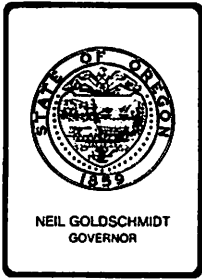
USE OF WATER Temp. °F., 19.....

SOURCE OF INFORMATION

DRILLER or DIGGER

ADDITIONAL DATA:
Log Water Level Measurements Chemical Analysis Aquifer Test

REMARKS: Test well, casing pulled and well plugged



Department of Environmental Quality

811 SW SIXTH AVENUE, PORTLAND, OREGON 97204-1334 PHONE (503) 229-5696

December 24, 1987

Ms. Charlotte Potts
Petroleum Equipment Maintenance Co.
P.O. Box 11569
Portland, OR 97211-0566

Re: SW-Multnomah County
Riedel Waste Disposal Systems
Landfill
Solid Waste Permit No. 330

Dear Ms. Potts:

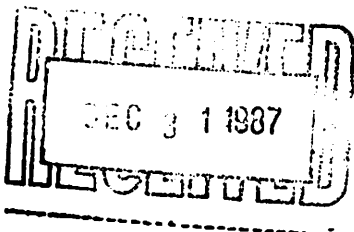
This letter will confirm your request to dispose of contaminated soil at the Riedel Waste Disposal System Landfill. You requested to dispose of approximately 50 cubic yards of contaminated soil resulting from leakage from diesel tanks at the Safeway Stores warehouse located at 16800 SE Evelyn Street in Clackamas. We have reviewed the laboratory data which you submitted. Permission is hereby granted to dispose of the contaminated soil at Riedel Waste Disposal Systems Landfill.

If you should have any additional questions, please feel free to contact me at 229-5288.

Sincerely,

Charles R. Clinton
Regional Supervisor
Northwest Region

CRC:y
RY6537
cc: Solid Waste Section, DEQ
Riedel Waste Disposal Systems
Attn: Gary Newbore





Department of Environmental Quality

811 S.W. SIXTH AVENUE, PORTLAND, OREGON 97204 PHONE (503) 229-5696

December 4, 1987

Charlotte Potts
Petroleum Equipment Maintenance Co.
P.O. Box 11569
2310 N.E. Columbia Blvd.
Portland, OR 97211-0566

Dear Charlotte:

The Department of Environmental Quality has reviewed and approved the method of oil recovery for Safeway Stores, Inc. located at 16800 S.E. Evelyn Street.

The Department of Environmental Quality would like to be kept abreast of the progress of the clean-up.

Sincerely,

Chuck Clinton
Regional Supervisor
Northwest Region

CRC:1
cc: Hazardous Waste, DEQ



PETROLEUM EQUIPMENT MAINTENANCE CO.

P.O. BOX 11569 • 2310 NE COLUMBIA BLVD.
PORTLAND, OREGON 97211-0566
(503) 288-7541



December 4, 1987

Dept. of Environmental Quality
N. W. Region
811 S. W. 6th Ave.
Portland, Oregon 97204-1334

Dept. of Environmental Quality
RECEIVED
DEC 4 1987

NORTHWEST REGION

Attn: Chuck Clinton

Dear Chuck:

As discussed on the phone December 3, 1987 regarding the Safeway tank removal located at 16800 S. E. Evelyn St., Clackamas, Oregon we have cleaned, gas free, and removed (4) 1,000 gallon fuel tanks and have encountered contamination as well as an extremely high water table. Due to this high water table and contaminants, see attached lab analysis, we feel that the removal of the contaminated soil will become extremely expensive as well as the possibility of damaging the existing building as the water table will continually spread the oil and grease into the surrounding areas.

Our approach is to install their new (1) 1,000 gallon and (1) 2500 gallon fiberglass tanks in another area and pipe up system meeting all applicable codes. We shall backfill existing excavation using pea rock to allow water to flow freely for our oil recovery system.

At that time our intentions are to employ a hydrogeologist and drill various locations in the surrounding area. After drilling is performed, we will be able to determine where we shall place our recovery well. Our intention is to create a cone of depression to allow us to pump the water through an oil and water separator and then into the sanitary system. A scavenger pump will be placed above the water depression pump which will be activated by the oil and grease that are drawn to the recovery well. A holding tank will be placed on site to retain the recovered product.

After the oil recovery system has been installed we shall fill the previous test wells with bacteria which will consume the hydrocarbons in the soil.

We would appreciate your review as soon as possible and to receive DEQ's approval of our method of recovery as Safeway is anxious to bring their facility into compliance with the state and federal regulations.

Sincerely,

PETROLEUM EQUIPMENT MAINTENANCE CO.

Charlotte Potts

Charlotte Potts

CP/jb
CC Minor Meyer , Safeway

NORTHWEST TESTING LABORATORIES, INC.

CONSTRUCTION INSPECTION
 MATERIALS INSPECTION
 CHEMICAL ANALYSIS
 PHYSICAL TESTING

5405 N. Lagoon Avenue
 P.O. Box 17126
 Portland, Oregon 97217-0126
 Phone: (503) 289-1778

NON-DESTRUCTIVE TESTING
 WELDING CERTIFICATION
 SOIL TESTING
 ASSAYING

December 4, 1987

PEMCO
 P.O. Box 11569
 Portland, Oregon 97211

Attention: Mr. Royal Proctor

Subject: Analysis on five (5) samples received on 12/1/87,
 per your P.O. Number 1660.

REPORT:

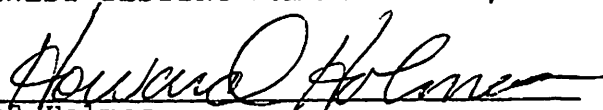
Items: Four (4) Soils
 One (1) Water

Job No.: 1660

Analysis:

	Clean Motor Oil Tank Soil-1	Clean Motor Oil Tank Soil-2	Clean Motor Oil Tank Water-1	Diesel Tank Soil-1	Diesel Tank Soil-1
Benzene, ppm	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene, ppm	<0.1	<0.1	<0.1	<1	<0.1
Xylene, ppm	<0.1	<0.1	<1	<1	<0.1
Total Volatile Hydrocarbons, ppm	10	170	1,400	1,400	36
Oil and Grease, ppm	8,413	1,417	4,668	7,624	8,243
Total Petroleum Hydrocarbons, ppm	8,423	1,587	6,068	9,024	8,279

Respectfully,
 NORTHWEST TESTING LABORATORIES, INC.



 Howard Holmes,
 Assistant Supervisor, Chemistry

Report Number: 310298

* * * OREGON DEQ LUST REPORT * * *

INITIAL INFORMATION

UST FACILITY I.D. #: _____ EMERGENCY RESPONSE TAKEN: Y N
 LUST INCIDENT #: County 03 - Year 87 - Number 039
 DATE RECEIVED: 12/3/87 RECEIVED BY: CRC
 LEAK REPORTED BY: PEMCO TANK LOCATION: Safeway Dist Terminal LUST CONTACT: _____ RP: _____
16800 SE Evelyn St.
Clackamas
 Ph#: _____ Ph#: _____ Ph#: _____ Ph#: _____

CONFIRMATION OF RELEASE:

Staff Site Inspection (Name: _____) Lab Sample: DEQ RP Other
 Written Report by RP Other { _____ }
 Date Release Confirmed: / /
 (Results: _____)

SITE ASSESSMENT

HOW DISCOVERED: _____ Date Release Discovered: / /
 Routine Monitoring Inventory Control Decommissioning
 Site Assessment Complaint { _____ } Other { _____ }
 AMOUNT RELEASED: _____ TYPE OF MATERIAL RELEASED: oil

SOURCE OF RELEASE: Tank Leak Overfill
 Pipe Leak Other { _____ }

EXTENT OF CONTAMINATION: Minor Moderate Major PRIORITY: _____
 POTENTIAL IMPACTS:

AQ/SW/WQ: Soil	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	%	?
AQ: Vapors	Y	<input type="checkbox"/> N	%	?
Fire: Vapors or Free Product	Y	<input type="checkbox"/> N	%	?
WQ: Groundwater	Y	<input type="checkbox"/> N	%	?
WQ: Surface Water or Storm Drain	Y	<input type="checkbox"/> N	%	?
WQ: Drinking Water { _____ }	Y	<input type="checkbox"/> N	%	?

EXPOSURE ASSESSMENT RESULTS: _____

SITE MANAGEMENT

DATE RELEASE STOPPED: / / GUIDELINE: Matrix Non-Matrix
 DISPOSAL OF MATERIAL REMOVED: Free Product Soil
 Estimated Quantity: _____ 50
 Party Responsible: _____ Pemco
 Location of Disposal: _____ Reidell
 Date of Evacuation: _____ 12/24/87

ENFORCEMENT ACTION UNDERTAKEN: Y N
 Action Date: Notice of Violation: / / NOI: / /
 Administrative Order: / / Court Action: / /

CLEANUP ACTIVITY:

Date Cleanup Started: / / Date Site Under Control: / /
 Date Cleanup Finished: / / Contractor's Name: _____

SOURCE OF PAYMENT FOR CLEANUP ACTIVITY:

Responsible Party State With Trust State Without Trust
 COST RECOVERY INITIATED: Y N OFF-SITE MIGRATION: Y N ?
 ESTIMATIONS: Cost of Cleanup: _____ Staff Time On Project: _____

COMMENTS: _____

PAPER TRAIL:

INCOMING	Suspense	Received	OUTGOING	Suspense	Date
*Spill Report	_____	_____	*Confirmation Letter	_____	_____
*Assessment/ Remedial Action Plan	_____	_____	*Compliance Agreement	_____	_____
*Notification to Off-Site Owners	_____	_____			
*Monitoring Permit Request	_____	_____	*Monitoring Permit	_____	_____
*Progress/ Final Report	_____	_____	*Closeout Letter	_____	_____
*Other	_____	_____	*Other	_____	_____