ENGINEERING REPORT

ON

LEAKING UNDERGROUND STORAGE TANK CLEANUP EXCAVATION DEWATERING DISPOSAL

KELLOGG'S CORNER

Sunnyside, Washington

November 1990

Job No. 90232

Prepared by

PLSA ENGINEERING & SURVEYING

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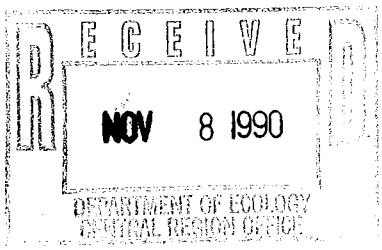

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UNDERGROUND STORAGE TANK CLEANUP
DEWATERING WATER DISPOSAL

for

KELLOGG'S CORNER

Sunnyside, Washington

INTRODUCTION

Cleanup operations are located at the Kellogg's Corner convenience store at Midvale and Emerald Roads, near Sunnyside, Washington, Southeast quarter, Southeast quarter, Section 35, Township 10 North, Range 22 East, W.M.

This report proposes a method of disposal of water from dewatering the excavation resulting from removing petroleum contaminated soil. The operations proposed herein are temporary, lasting only approximately 30 days until the contaminated soil has been removed.

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

Mr. Ron Long
Chinook Tower Box 4004
Suite 440
Yakima, Washington 98901
phone (509) 248-9439

WATER QUANTITY AND QUALITY

Water presently flows into the excavation at the rate of approximately 30 gallons per minute as measured by pumping into transport tanks. The amount is expected to decrease now that the irrigation season is over. Operations are expected to occur 5 days per week for 8 hours each day. The duration of the dewatering is expected to be 10 days. Thus, the sustaining total daily flow would be 14,440 gpd, weekly flow 72,000 gallons, and estimated total project flow 144,400 gallons. An initial, temporary increase in flow to 60 gpm is required to make it possible to pump down the existing excavation. The water table is expected to be temporarily locally lowered approximately 1.5 feet. Seasonal lowering of the water table may assist in reducing the need for the temporarily increased initial discharge.

All free product has been removed as evidence by lack of sheen on the water and the enclosed analytical results. Remaining product is fully absorbed into the soil. Experience has found that Yakima Valley soils do not readily release absorbed petroleum. Water presently found in the excavation is clean. However, it is possible that there may be minimal release as the soil is disturbed. The method of excavation will be to lower the water table below the elevation of soil contamination, 9.5 feet below the surface, so as to minimize water contamination. The water may contain a small amount of silt or have a muddy appearance as the soil is disturbed.

A water sample from the excavation has been collected and submitted for laboratory analysis. Analytical results may be found in Appendix I. Discharge of water exceeding exceeding 10 ppm Total Petroleum Hydrocarbons (TPH) to the sprinkling system will be avoided. A two-thirds reduction in TPH is expected to occur as a result of the sprinkling with the result that water

reaching the ground surface will be 3.3 ppm TPH. Addition decomposition of the residual TPH will occur on the surface and in the upper layer of soil. A groundwater sample will be collected and analyzed from a downgradient location prior to and after dewatering to verify that groundwater contamination has not occurred.

DEWATERING DISPOSAL ALTERNATIVES

The following alternatives have been identified and evaluated for disposal dewatering water:

1. **Aeration followed by land disposal.** This is the preferred alternative described later in this report.

2. **Treatment and discharge to surface water.** This alternative requires an NPDES permit and has been judged not to be cost-effective or timely.

3. **Containment on-site in tanks and transport to a treatment facility.** The nearest municipal treatment plant have in the past refused to accept such materials. Transport to other facilities would not be cost effective, timely, and would delay the ultimate goal of soil cleanup.

4. **Containment and on-site evaporation.** The site has insufficient area for such operations.

DEWATERING DISPOSAL

Mr.Laurie Woodworth owns a six acre parcel approximately 600 feet west of Kellogg's Corner that is available for water disposal by spray irrigation. This land is presently unused and is covered with a dense growth of volunteer vegetation. This soil is classified by the USDA Soil Conservation Service (SCS) as "Hezel loamy fine sand" and is listed in the classification as excessively drained. The listed sprinkler infiltration rate for such soil is 0.80 inches per hour. Nearby soils of other types are similarly listed at 0.25 and 0.35 inches per hour.

Using the most conservative USDZ sprinkler infiltration rate, one acre of land will accept 7,000 gallons of water at a 1/4 inch per day application rate. Thus the available 6 acres has the ability to accept more than 42,000 gallons per day, nearly three times to estimated amount generated. Furthermore, operations are planned for only five days per week, which provides the irrigated area with two days with out receiving any water at all.

Application is planned to be by sprinkler hand lines equipped with Rainbird 30, or equivalent sprinklers having 50 by 60 foot spacing delivering 3 gpm through 9/64 " nozzles operating at 25 psi. Each sprinkler discharges 2.90 gpm. Ten sprinklers will be required.

SPRINKLER SYSTEM OPERATION

Operation of the handline sprinkler system will be consistent with the following procedures:

1. No ponding or runoff allowed.
2. Sprinkler operation and sprayfield condition will be inspected twice daily.
3. Sprinkling shall be suspended if petroleum odor from the site is detected beyond the property line or if ponding or runoff is observed.
4. Sprinkling shall not resume until the conditions in 3, above, are mitigated.

AIR QUALITY

Clean water is expected to be the norm for the dewatering operations. However, there is the possibility that a small amount of gasoline will be present from time to time. Gasoline evaporates quickly from the water into the air. The sprayfield

APPENDIX I

Analytical Results

SOUND ANALYTICAL SERVICES, INC.

SPECIALIZING IN INDUSTRIAL & TOXIC WASTE ANALYSIS

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

Report To: PLSA Engineering

Date: November 2, 1990
Revised: November 5, 1990

Report On: Analysis of Water

Lab No.: 14256

IDENTIFICATION:
Samples Received on 11-01-90
Project: 90232
Client ID: RUSH 1

ANALYSIS:

	Concentration, ppm
Benzene	0.338
Toluene	< 0.001
Ethyl Benzene	< 0.001
Xylenes	5.04

BTEX by EPA SW-846
Method 8020

Lead	< 0.05

Total Petroleum Hydrocarbons by EPA Method 418.1	10

SOUND ANALYTICAL SERVICES

LARRY ZURAW

State of Washington
Department of Ecology

For Office Use Only

Date Received _____
Application/Permit No. _____
Type of Industry _____
Waterway Segment No. _____

INDUSTRIAL/COMMERCIAL WASTE DISCHARGE
PERMIT APPLICATION FORM

Application is hereby made for a permit to discharge wastewater to state waters or to a municipal sewerage system in accordance with Chapter 90.48 RCW and Chapter 372.24 WAC.

1. NAME OF FIRM Arthur Lyendekker

Type of Industry (description of industrial or commercial activity) gas station + convenience store

2. MAILING ADDRESS 1741 Holaday Road, Mabton, WA 98935

3. PLANT LOCATION Midvale & Emerald Roads, Sunnyside, WA

PHONE 509 837 3372 CONTACT PERSON Ron Long 248 9439

EMERGENCY PHONE (nights, weekends) _____

4. TYPE OF WASTEWATER TREATMENT (if any) oil separator

5. WASTE FLOW: (Submit on separate sheet)
excavation → oil sep. → pump → spray field
Describe in detail the sources, treatment and disposal of all liquid wastes at the plant. Include a schematic flow diagram showing the sources and flow pattern of all wastes.

6. SOLID WASTE DISPOSAL: (Submit on separate sheet)
no solid waste
Describe the types of solid wastes accumulated at the plant and list the source, volume, storage provision, frequency of removal, and final disposal of each solid waste. Include all sludges, dusts, scraps, trimmings and left-over, spoiled or returned products.

7. WASTEWATER DISPOSAL:

	Maximum Gallons/Day
spray field	24000 gal. max.
☐ Evaporation Lagoon or Pond	14400 gal. avg.
☐ Subsurface Ground Disposal	
☐ To Surface Waterway _____ (name of waterway)	
☐ To Sanitary Sewerage System _____ (name of municipal system)	

Location of Discharge Point(s) and/or connection to municipal sewer system:
(Include latitude and longitude)

Approximately 46 15 20, 120 01 10 Approx 600 feet west of Midvale Road on ~~Alameda~~ Emerald Road

ECY 040-2-52

8. WATER SUPPLY:

☒ Private Well not used — Recorded Water Right No. _____

☐ Surface Water _____ (name of waterway) — Recorded Water Right No. _____

☐ Public System _____ (name of system)

Location of private well or plant surface water intake:

Section _____, Township _____, Range _____

9. WATER SUPPLY VOLUMES:	Average Gallons/Day	Maximum Gallons/Day
Private Well	not used	
Surface water		
Public System		
TOTAL		

10. WASTEWATER DESCRIPTION:	Average Gallons/Day	Maximum Gallons/Day
Sanitary Wastes		
Process Wastewater		
Cooling Water Discharge		
Other (Specify) excavation dewatering	14,400	24,000
TOTAL		

11. EFFLUENT ANALYSIS: (Submit on separate sheet)

List the significant physical and chemical properties of the effluent(s) to be discharged, and include a description of the sampling and analytical methods used to derive this information. Include BOD, COD, suspended solids, pH, fecal coliform bacteria, heavy metals, etc. ground water possibly containg gasoline intermittantly up to 25 ppm TPH.

12. DOES YOUR DISCHARGE CONTAIN ONE OR MORE OF THE FOLLOWING SUBSTANCES: cyanide, aluminum, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols.

☒ Yes ☐ No

possibly intermittantly lead in excess of 5.0 ug/l

13. PLANNED WASTE TREATMENT IMPROVEMENTS: (Submit on separate sheet)

Describe any additional treatment or changes in waste disposal methods in planning or under construction.

none

14. STORMWATER TREATMENT AND CONTROL: Name of Waterway or Storm Sewer

☑ No Treatment — soaks into ground on site

☐ Treated Stormwater to Waterway _____

Type of Treatment: _____

☐ Contaminated Stormwater to Sanitary Sewer — Type of Treatment (if any)

Size of Intercepted Area _____

_____ Square Feet

15. PLANT OPERATION:

	Days per Year	Number of Employees per Shift		
		Day	Night	Swing
Average	30	2		
Maximum				

16. RAW MATERIALS AND CHEMICALS USED IN PROCESSES:

NONE

Brand Name	Chemical, Scientific or Actual Name	Quantity Used per Day Average	Maximum

17. Are there any oil products or hazardous materials stored or used at the plant site?

☐ Yes ☑ No

If yes, give quantities and type and indicate whether a spill could reach a sewer, storm drain, or public waters.

gasoline has been released from a leaking underground storage tank

The information given on this application is complete and accurate to the best of my knowledge.

Bradley J. Card PE
Signature

Bradley J. Card
Printed

Engineer
Title

Date

KELLOGG'S CORNER

LAND APPLICATION OF CLEANUP EXCAVATION DEWATERING

SEPA CHECKLIST FOR PROPOSED PROJECT

A. BACKGROUND

A.1. Name of proposed project, if applicable:

Land application of dewatering water from cleanup excavation.

A.2. Name of applicant:

Arthur Leyendekker

A.3. Address and phone number of applicant and contact person:

Mr. Ron Long
Chinook Tower Box 4004
Suite 440
Yakima, WA 98901
(509) 234 9439

A.4. Date checklist prepared:

October 24, 1990

A.5. Agency requesting checklist:

Washington State Department of Ecology

A.6. Proposed timing or schedule (including phasing, if applicable).

Immediately

A.7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal?

Not at this time

A.8. List any environmental information you know about that has been prepared, or will be prepared, directly relating to this proposal.

Engineering report prepared in accordance with WAC 173-240 dated October 1990.

A.9. Do you know whether applications are pending for governmental approvals for other proposals directly affecting the property covered by your proposal? If yes, explain.

Yes, State Discharge Permit

A.10 List any government approvals or permits that will be needed for your proposal, if known.

Washington State wastewater discharge permit

A.11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to described certain aspects of your proposal. You do not need to repeat those answers on this page.

The project will consist of spray irrigation on unused land of water from dewatering a petroleum cleanup operation.

A.12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps of detailed plans submitted with any permit application related to this checklist.

Emerald Road at Wells Road, Sunnyside, Washington

A.13. Taxation Parcel Number(s):

44015

B. ENVIRONMENTAL ELEMENTS (Attach additional sheets if necessary)

B.1. Earth

B.1.a. General description of the site (Flat, rolling, hilly, steep slopes, mountainous)

Gently sloping farmland with topsoil approximately ten feet deep.

B.1.b. What is the steepest slope on the site (approx. %)

Five percent

B.1.c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soils are predominantly very deep loams and sand loams, are well-drained or excessively-drained.

B.1.d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No

B.1.e. Describe the purpose, type, and approximate quantities of any filling or grade proposed. Indicate source of fill.

No filling planned

B.1.f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

No. No construction or tilling is contemplated.

B.1.g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

None. No buildings or roadways are proposed.

B.1.h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Existing ground cover will not be disturbed. This ground cover will protect against erosion.

B.2 Air

B.2.a. What types of emissions to the air would result from the proposal(i.e. dust, automobile, odors,industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Possible occasional dilute gasoline fumes.

B.2.b. Are there any off-site sources of emissions or odors that may affect your proposal? If so, generally describe.

No

B.2.c. Proposed measures to reduce or control emissions or other impacts to air, if any.

The proposed very light application rates. Engineering report requires suspension of sprinkling when petroleum odor from the operations are detected off the premises. Operation will be in accordance with State Department of Ecology Discharge Permit.

B.3. Water

B.3.a. Surface:

B.3.a.1 Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No

B.3.a.2 Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

N/A

B.3.a.3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

B.3.a.4. Will the proposal require surface water withdrawals or diversions? Give general description, purpose and approximate quantities if known.

No

B.3.a.5. Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

No

B.3.a.6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

B.3.b. Ground

B.3.b.1. Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Dewatering itself is a withdrawal of groundwater, although it does not constitute a beneficial use. No ground water will be withdrawn from the application site. A fraction of the applied liquid may reach ground water, but the very low application rates and the large excess of evaporation over precipitation in the area will minimize the potential for percolation beneath the root zone.

B.3.b.2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage, industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Water from below the water table resulting from dewatering an excavation to remove petroleum contaminated soil.

B.3.c. Water Runoff (including storm water):

The engineering report requires that no ponding or runoff will be allowed.

B.3.c.1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will the water flow? Will this water flow into other waters? If so, describe.

No runoff is anticipated.

B.3.c.2. Could waste materials enter ground or surface waters? If so, generally describe.

Very unlikely.

B.3.d. Proposed measures to reduce or control surfaces, ground, and runoff water impacts, if any:

Land disposal of dewatering liquid will be at agronomic application rates.

B.4 Plants

B.4.a. Types of vegetation found on the site:

herbs and forbs

B.4.b. What kind and amount of vegetation will be removed or altered?

None

B.4.c. List threatened or endangered species known to be on or near the site.

None known

B.4.d. Proposed landscaping, use of native plans, or other measures to preserve or enhance vegetation on the site, if any:

None

B.5 Animals

B.5.a. Any birds and animals which have been observed on or near the site or are known to be on or near the site:

Small birds, game birds and hawks are known to frequent the area.

B.5.b. List any threatened or endangered species known to be on or near the site.

None known

B.5.c. Is the site part of a migration route? If so, explain.

No

B.5.d. Proposed measures to preserve or enhance wildlife, if any:

None

B.8. Land and Shoreline Use

B.8.a. What is the current use of the site and adjacent properties?

Agricultural

B.8.b. Has the site been used for agriculture? If so, describe.

Yes, the site is presently non used.

B.8.c. Describe any structures on the site.

None

B.8.d. Will any structures be demolished? If so, what?

No

B.8.e. What is the current zoning classifications of the site?

Industrial

B.8.f. What is the current comprehensive plan designation of the site?

Heavy Industry

B.8.g. If applicable, what is the current shoreline master program designation of the site?

N/A

B.8.h. Has any part of the site been classified as an "environmentally sensitive" area?

No

B.8.i. Approximately how many people would reside or work in the completed project.

Part time for changing sprinkler lines.

B.8.j. Approximately how may people would the completed project displace?

None

B.8.k. Proposed measures to avoid or reduce displacement impacts, if any:

None

B.8.i. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Not applicable

B.9. Housing

B.9.a. Approximately how may units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

B.9.b. Approximately how many units, if any would be eliminated? Indicate whether high, middle, or low-income housing.

None

B.9.c. Proposed measures to reduce or control housing impacts, if any:

N/A

B.10. Aesthetics

B.10.a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

No building proposed

B.10.b. What views in the immediate vicinity would be altered or obstructed?

None

B.10.c. Proposed measures to reduce or control aesthetic impacts, if any:

N/A

B.11. Light and Glare

B.11.a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

B.11.b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

B.11.c. What existing off-site sources or light or glare may affect your proposal?

None

B.11.d. Proposed measures to reduce or control light and glare impacts, if any:

None

B.12. Recreation

B.12.a. What designated and informal recreational opportunities are in the immediate vicinity?

None. The entire site and surrounding properties are private property and not open to the public.

B.12.b. Would the proposed project displace any existing recreational uses? If so, describe.

No

B.12.c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or application, if any:

None

B.13 Historic and Cultural Preservation

B.13.a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None known

B.13.b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known

B.13.c. Proposed measures to preclude or control impacts, if any:

N/A

B.14. Transportation

B.14.a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Emerald Road

B.14.b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No

B.14.c. How many parking spaces would the completed project have? How many would the project eliminate?

*N*B.14.d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways. If so, generally describe (indicate whether public or private).

No

B.14.e. Will the project use (or occur in the immediate vicinity of) water, rail or air transportation? If so, generally describe.

No

B.14.f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur?

one.

B.14.g. Proposed measures to reduce or control transportation impacts, if any:

None

B.15 Public Services

B.15.a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No

B.15.b. Proposed measures to reduce or control direct impacts on public services, if any.

None

B.16 Utilities

B.16.a. Utilities currently available at the site:

Electric power, telephone

B.16.b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electric power for a pump

C. SIGNATURE

The above answers are true and complete to the best of my knowledge, I understand that the lead agency is relying on them to make it decision.

Proponent or Person Completing Form