



Department of Energy

Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

0014538

91-ERB-109

MAY 30 1991  
May 30, 1991

Incoming:  
9102460

Mr. Timothy L. Nord  
Hanford Project Manager  
State of Washington  
Department of Ecology  
Mail Stop PV-11  
Olympia, Washington 98504-8711



Dear Mr. Nord:

CLOSURE OF UNDERGROUND STORAGE TANKS 3000-1/-2/-3/-4

There have been continuing dialogues between the U. S. Department of Energy, Richland Operations Office (DOE-RL) and the Washington State Department of Ecology (Ecology) concerning the closure of underground storage tanks (USTs) 3000-1/-2/-3/-4 release site. As you know, since the submittal of the intent to close the tanks, DOE-RL has been following the closure guidelines of WAC 173-360-385, which have led to performing corrective action required by WAC 173-360-390(2) pursuant to the Model Toxics Control Act (MTCA), WAC 173-340-450.

Your letter dated April 25, 1991, informed DOE-RL of Ecology's intent to deny the extension request for the closure of the tanks. However, as mentioned above, since remediation efforts are underway, denial of the request does not appear to be applicable or to be relevant at this time.

The letter also stated that Ecology's denial of the request was based on inadequacies of documents related not only to USTs 3000-1/-2/-3/-4 but also to other UST sites in the 3000 Area. With regards to this statement, and other items listed in the April 25, 1991 letter, DOE-RL would like to clarify the following:

1. The Status of Compliance with Relevant UST Regulations for Closure of USTs Located in the 3000 Area of the Hanford Site

At the present time, a total of 12 USTs have been removed in the 3000 Area in an effort to comply with 40 CFR 280/281 and WAC 173-360. USTs 3000-5/-6/-7/-8/-9/-10/-11/-13 were removed in accordance with 40 CFR 280/281. USTs 3000-1/-2/-3/-4 were removed in accordance with WAC 173-360, which became effective December 29, 1990. As shown on a 3000 Area map (Attachment #2), all the 3000 Area USTs were spread apart and were in actuality positioned on three separate geographical sites. Therefore, DOE-RL would like to emphasize that tanks 3000-1/-2/-3/-4 should be treated as a separate site and are not related to other tanks (e.g. 3000-11) that were previously removed in accordance with 40 CFR 280/281.

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2. Identified Release Sites

To date, DOE-RL has identified two UST release sites during its removal of inactive USTs at the 3000 Area under the Hanford Site UST Program; the site of 3000-5/-6 and the site of 3000-1/-2/-3/-4.

3. Notification of Release

Ecology's Concern Regarding Lack of Reporting on Spillage/Leakage

The letter states that Ecology has not received complete information on the environmental consequences resulting from spillage or tank/ancillary equipment at the 3000 area.

DOE-RL's Response

As mentioned above, there were only two release sites identified at the 3000 Area during their removal. For the USTs 3000-5/-6 release site, during their removal, a diesel fuel release from the 3000-5 UST was discovered. This event was verbally reported to the Ecology Central Region in Yakima on September 15, 1989, and followed by a formal 20-day Report transmittal on October 5, 1989. As also required by CFR 280, the 45-day Report was also transmitted on November 1, 1991. For the UST 3000-1/-2/-3/-4 release site, on January 11, 1991, the Ecology Central Office in Yakima (Paula Dunlop on (509) 575-2490 [see Attachment 3]) was notified that soil contamination was discovered under the 1207A Building, which was used as a gas filling station for the tanks. The required 20-day Status and 90-day Characterization Reports were issued to Ecology on February 7, 1991, and April 19, 1991, respectively.

4. UST 3000-5/-6

Ecology's Concern Regarding Inadequate Information Found on 45-day Report

Ecology states that no documentation is on file with Ecology showing that the site of 3000-5/6 has been remediated.

DOE-RL's Response

A 30-day advance notification was sent to Ecology on June 16, 1989, and the tanks were removed in September 1989, for the UST 3000-5/-6 release site. As reported in the 45-day Report, an additional excavation was required to fully remediate the site while the site was being bioremediated. The site remained open until January 1991, when an additional four feet of soil was removed and the site was resampled and then backfilled with clean fill. Field instrumentation did not indicate any remaining contamination. Analytical lab results for the confirmatory samples are being validated and will be made available to

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Ecology by the end of June, 1991. Final cleanup actions taken will be in accordance with WAC 173-340-450/700, Releases from Underground Storage Tanks and Part VII, Cleanup Standards. It is important to note that a significant quantity of information relative to the closure of this site was previously transmitted to Mr. Thom Lufkin of Ecology, prior to evolution of the Ecology Kennewick Office in January 1991. It is also important to note that DOE-RL was formally informed by Mr. Lufkin that the Ecology Kennewick Office has been given the responsibility for the oversight of the Hanford Site UST Program on April 11, 1991. Further, no comments have been received from Ecology concerning the closure of the tanks. If there were inadequacies found in these submittals, they should have been communicated to DOE-RL.

Ecology's Concern Regarding Lack of Groundwater Information on the Excavated Tank Site Found on the 45-day Report

It is stated that no documentation is on file with Ecology showing that a groundwater analysis has been done in connection with any of the 3000 Area tank sites.

DOE-RL's Response

The 3000-5/-6 site is currently undergoing remediation. Further, it is not yet known if a groundwater monitoring well will be required for the site. In accordance with WAC 173-340-450 (3)(iii), a well may not be required if the analysis of the soil samples does not indicate the presence of any contamination. As stated above, analytical lab results for the confirmatory samples are being validated and will be made available to Ecology by the end of June, 1991. Ecology also will be notified as to whether additional remedial work is warranted. If not, it will be notified of the final closure of the site in accordance with WAC 173-360-385/630 (12).

5. USTs 3000-1/-2/-3/-4 Release Site

Ecology's Concern Regarding Inadequate Documentation for the Tank

The letter implies that no advance notification was submitted for the closure of USTs 3000-1/-2/-3/-4.

DOE-RL's Response

Advance notification for the closure of tanks 3000-1/-2/-3/-4 was given twice to Ecology. The first was made via a letter dated June 25, 1990, and later notification made via a letter dated September 20, 1990, (the actual 30-day Advance Notification) entitled, "Advance Notification for Closure of Underground Storage Tanks at the Hanford Site." A copy of this letter was provided to the Ecology Kennewick Office via a letter dated March 7, 1991.

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Ecology's Concern Regarding Groundwater Investigation for the Excavated Tank Site

The letter states that no documentation is on file with Ecology showing that a groundwater analysis has been done in connection with any of the 3000 Area tank sites.

DOE-RL's Response

The 3000-1/-2/-3/-4 release site is currently in a state of remediation. It is anticipated that the remediation plan for 3000-1/-2/-3/-4 will require that additional groundwater evaluation be done as stated in WAC 173-340-450 (3) (iii). The draft plan is expected to be completed by June 21, 1991. Ecology will be provided with a copy of the plan for concurrence.

Ecology's Concern Regarding Lack of Adequate Information Found in the 90-day Characterization Report

It is stated that the 90-day Report does not adequately discuss any actual or potential impact of this contamination on the City of Richland's recharge ponds or the north well field, both located east of and next to this site.

DOE-RL's Response

Regarding the 90-day Report, a meeting was held on May 1, 1991, with Ecology, Westinghouse Hanford Company (WHC), DOE-RL and representatives from the City of Richland and the Washington State Department of Health (WDOH) to discuss the impact of this site on the City of Richland recharge ponds and wells. A discussion was held on ground water flow and the results of the latest well sampling (which are sampled quarterly). Based on the discussion, the representatives from the City of Richland, the WDOH, and also WHC agreed that there have been no indications of any kind of contamination in the well fields or any indication that the ground water has been contaminated in this area due to the spillage at the 3000-1/-2/-3/-4 site.

Ecology's Concern Regarding Lack of Adequate Information Found on the 90-day Report

It is stated that the 90-day Report for the tank does not adequately discuss probable/actual direction(s) of flow of groundwater/contaminants from the site.

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DOE-RL's Response

At the May 1, 1991, meeting, Mr. Henckel, WHC Environmental Engineering, described the regional groundwater flows at the UST excavation site and its surrounding area as they are related to the City of Richland recharge basins. Basically, the regional groundwater flow is stagnant with a very small gradient in the vicinity of the excavation site. The natural direction of groundwater flow in this region would be from the Yakima River to the Columbia River that is to the east. However, when the City of Richland basins are operational (water being pumped in), a mound forms which will reverse the groundwater flow direction to west and southwest. Therefore, when the basins are not operational, the contaminants of concern, if there are any, due to the leaking UST site could migrate toward the water production wells located at the perimeter of the recharge basins. It was explained by Mr. Arlt, the City of Richland, that water is drawn from these wells mostly from mid-December through mid-February or as needed for peak demand. Attachment 4 includes the 300/1100 Area Water Table Well locations and topography maps.

As stated in our 90-day Report, there are three Hanford groundwater monitoring wells in the area. Well 699-S41-13A and 13B are located approximately 750 feet southwest of the excavation site and well 699-S40-14 which is located approximately 1000 feet northwest of the excavation site. These wells are part of the 1100-EM-1 operable unit groundwater monitoring network. Water level readings are taken and samples are collected quarterly from these wells. Additionally, the water produced from the west side of the Richland well field is sampled quarterly. Water quality data from these points for February, May, and August of 1990, are presented in Table 1 (Attachment #4). No indications of fuel contamination are evident from this data. The October 1990, water quality data are not available as yet because they are being validated. The results of the data will be documented in a PNL annual report scheduled to be completed in July 1991. A copy of this report will be transmitted to Ecology upon receipt of the document. Further, analytical results of soil confirmatory samples to be taken at the excavation site as part of the continuing remediation action will be made available to you as soon as they are taken and validated.

Ecology's Concern Regarding Lack of Adequate Information Found on the 90-day Report

It is stated that the 90-day Report does not adequately discuss actual distances between this site and Richland's recharge ponds/north well field or the Columbia River

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DOE-RL's Response

The tank excavation site is located approximately 1000 feet west-southwest of a public drinking water supply system operated by the City of Richland. Attachment 2 shows the vicinity of the facilities, tanks and proximity to the Richland basins. The system consists of three percolation/recharge basins, several groundwater extraction wells and associated piping and water storage equipment. The City of Richland pumps river water into the basins where it percolates into the ground and is then extracted by their wells. This process assists in the filtration of suspended solids from the river water.

Ecology's Concern Regarding Extension Request for Closure of the Release Site

The letter states that the DOE-RL's letter dated April 8, 1991, entitled "Extension Request for Closure of Underground Storage Tank Sites," was not received within 60 days after expiration of the 30-day notice.

DOE-RL's Response

The 30-day advance notification for the closure of these tanks was given by DOE-RL letter 90-ERB-117, dated September 20, 1990. The letter stated that the removal of tanks 3000-1/-2/-3/-4 was scheduled to begin in December and be completed prior to February, and that the actual removal dates could vary because of the winter weather conditions. Therefore, since the notification stated that they were to be removed prior to February, the expiration of the 30-day notice would be at the end of February and the extension request would have to be submitted within 60 days from the end of February or by the end of April. Since it is dated April 8, DOE-RL considers it to have been submitted in accordance with the regulations.

6. UST 3000-11Ecology's Concern Regarding the Types of the Tank Contents

Ecology states that no documentation for the 3000-11 tank was found which summarized all the types of products this tank may have contained during its service life.

DOE-RL's Response

The 3000-11 tank had been out of service for approximately 15 years (exactly how many is unknown). WHC was unable to locate any records which indicated what products it may have contained. The tank is suspected to have been a U. S. Army Corps of Engineers tank but they have no records of it nor does it show up on any drawings.

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Ecology's Concern Regarding the Designation of the Tank Contents

It is noted that the designation in the letter from Mr. Bo Colello, Northwest Enviro Services, to Mr. Mike Romsos, WHC, regarding what tank 3000-11 previously contained is in error.

DOE-RL's Response

The tank was shown to have "450 ppm suspected penta" apparently because of its association with tank 3000-7 which did contain a quantity of sodium lignosulfonate (of which "penta" is a constituent). The confusion most likely occurred because a portion of the contents of both tanks were pumped out into the same tanker truck and then all put back into tank 3000-7. The issue regarding the contents of these tanks is documented in a letter, dated October 4, 1989, from Mr. R. D. Izatt, DOE-RL, to Mr. Toby Michelena, Ecology, entitled "Unmanifested Waste Shipment." The analysis of the contents of tank 3000-11 is given in report #890623-N, prior to its being mixed with that of tank 3000-7. A copy of this information was provided to the Ecology Kennewick Office via a letter dated March 7, 1991.

Ecology's Concern Regarding Inadequate Documentation on Quantities and Disposal of the Tank Contents

Ecology states that no documentation found on file that provides information on exact quantities of liquids/sludges withdrawn from the 3000-11 tank or other tanks in the 3000 Area or where/how the contents were disposed.

DOE-RL's Response

The records (manifests) that document the exact quantities of liquids/sludges withdrawn from all the 3000 Area tanks and method/date of disposal are attached (Attachment #5). Tanks 3000-3/-4/-5/-6 were essentially empty prior to their removal.

Ecology's Concern Regarding No Follow-up Analysis of the F listed Dangerous Waste as Shown in Liquid Sample #890623 Taken at the Tank Excavation Site

Ecology states that no follow up analysis was found in the file which specifically identified the unknown solvent residue described in sample #890623 taken at the UST 3000-11 excavation site.

DOE-RL's Response

A complete analysis was done but only after the contents of tank 3000-11 were mixed with that of 3000-7. The results of this analysis are attached to the DOE-RL's letter of October 4, 1989, to Mr. Toby Michelena, Ecology. Please refer to the DOE-RL's Response #2.

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Ecology's Concern Regarding Groundwater Contamination Evaluation

Ecology states that no groundwater contamination evaluation in the vicinity of tank 3000-11 was performed.

DOE-RL's Response

Since the tank 3000-11 excavation site did not reveal any signs of a release, there were no requirements per 40 CFR 280/281 to perform additional soil/groundwater evaluations. Additional soil analysis was performed, however, as a matter of best management practice. The results were summarized in the DOE-RL's letter of October 4, 1989, to Mr. Michelena. Please refer to the DOE-RL's Response #2. It was felt that there was no need for additional sampling except TPH since it was not a release site.

7. USTs 3000-7/-8/-9/-10/-11/-13

Ecology's Concern Regarding Inadequate Documentation for the Tanks

Ecology states that no formal documentation is on file with the Kennewick Office in regard to removal/closure of tanks 3000-7/-8/-9/-10/-11 or /-13.

DOE-RL's Response

These tanks were removed/closed in 1989. The 30 day advance notification was made via a letter dated June 16, 1989, from Mr. R. D. Izatt, DOE-RL, to Mr. Thom Lufkin, Ecology, entitled "Information and Notifications for Underground Storage Tanks at the Hanford Site." Further, final closure notification was made via a letter dated June 25, 1990, Mr. L. E. Little, DOE-RL, to Mr. Thom Lufkin, Ecology, entitled "Information and Notifications for Underground Storage Tanks at the Hanford Site." This notification also included the Notice of Permanent Closure Forms for each tank. This information was also transmitted to the Ecology Kennewick Office via a letter dated March 7, 1991, Mr. R. D. Izatt, DOE-RL, to Mr. T. L. Nord, Ecology, entitled "Hanford Underground Tank Information Request."

In summary, to date, DOE-RL has identified two release sites during the course of removal of inactive USTs located at the 3000 Area. Based on the above response to concerns raised by the Ecology letter of April 25, 1991, it is felt that adequate documentation is in place to complete the remediation of the 3000-1/-2/-3/-4 site. However, DOE-RL recognizes that there were some areas of deficiencies in our 90-day Report as to determining whether contamination has reached the groundwater underneath the excavation site. These identified data gaps will be filled as we continue remediation of the site pursuant to MTCA and will be provided to Ecology as they become

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available. The remediation plan for the 3000-1/-2/-3/-4 site is currently being prepared and is scheduled to be issued as a draft by June 21, 1991.

As previously stated, it is important to note that, with the exception of tanks 3000-1/-2/-3/-4, the other tanks in the 3000 Area were closed in accordance with 40 CFR 280/281 in which case a closure extension was not required. It is also important to note that this site should be treated separately and not be related to the other tank sites in the 3000 Area. In the case of 3000-5/-6 tanks, the tanks were removed in September 1989, and the site remained open until it was backfilled in January 1991. The analytical results for samples taken at the 3000-5/-6 releases site is in validation and will be made available to you by the end of June, 1991. If no additional remedial action is warranted, Ecology will be notified of the final closure of the site.

In addition to the responses to Ecology's April 25, 1991 letter, DOE-RL has also addressed the questions/concerns in the Ecology letter dated May 17, 1991. These responses are contained in Attachment 1 to this letter. Ecology requested that specific responses be returned within 10 calendar days from receipt of the May 17, 1991 letter. The letter was received by DOE-RL on May 20, 1991. Within this short turn-around period, DOE-RL has attempted to provide Ecology with all readily available and pertinent information, data, documents etc.

Some of the information requested is not available and therefore it is stated in Attachment 1 as to when this can be provided. Please be advised that Attachments 1-16 will be provided directly to Mr. Mike Osweiler of your staff in the Kennewick office. It is recommended that a meeting be held between Ecology and DOE-RL to discuss in detail the information being submitted via this transmittal. Mr. Paul Pak of my staff will contact you and establish a time for the meeting at your convenience.

If you require additional information prior to meeting on this subject, please contact Mr. Paul Pak on (509) 376-4798.

Sincerely,



Steven H. Wisness  
Hanford Project Manager

ERD:PMP

Attachments: As stated

cc w/att #1 only:

P. T. Day, EPA

M. C. Hughes, WHC

~~██████████~~  
D. Nylander, Ecology

M. C. Osweiler, Ecology w/all att

R. F. Stanley, Ecology

T. F. Veneziano, WHC

Attachment 1

- a. WAC 173-360-360 (1) and 170-360-370 (2) call for a site check when released regulated substances are discovered at the UST site or surrounding area; such a site check must be conducted in accordance with Ecology' Guidance for Site Checks and Site Assessments for Underground Storage Tanks (herein referred to as UST Guidance Manual) which calls for:

*The items discussed in this section are responded to item by item as noted below; however, it should be noted that Ecology UST Guidance Manual referenced in the letter was not issued until February 1991 and not received by WHC until after the initial site assessments had already been completed. This guidance manual will be adhered to during the remediation phase.*

1. Data gathering (Section 3.1--UST Guidance Manual), including, but not limited to:
  - i. Location data:
    - The site vicinity maps (figures #1 and #5 of the ninety-day report) provide no scale or exact distances between the #3000-1, 2, 3 & 4 UST excavation and the City of Richland's recharge basin/north well field, the #3000-5 & 6 UST site/the #3000-7, 8, 9, 10, 11 & 13 UST site/local monitoring wells/the #325 (300 area) UST site; USDOE needs to provide this information to Ecology.
    - Nothing on file with this office in regard to the #3000-1, 2, 3 & 4 UST site gives a location description by quarter section, township and range; USDOE needs to provide this information to Ecology.

*A site vicinity map has been attached (Attachment 2) which gives site details and from which can be scaled the distances between the 3000-1/-2/-3/-4 site and other 3000 Area USTs that were previously removed. The distance from the 3000-1/-2/-3/-4 site to the recharge basins is approximately 1,000 feet due east.*

*The 3000-1/-2/-3/-4 site is located in the northwest quarter of southeast quarter of northwest quarter of northwest quarter of section 26 which is located in Benton County, R28E (see the attached Geological Survey Map), Attachment 6.*

- ii. UST System Data:
  - Although referenced in this site's 20 and 90 day reports as having been constructed around 1950, no other historical data (e.g. the date(s) of tanks' installation and the name(s) of the installers) were found in other material presented to date on this site; USDOE needs to provide these data to Ecology.

*Item a.1.ii: WHC has done an extensive search of existing files on site (including the KEH files) and at the Seattle record storage facility. No additional information was located on these tanks. The files and records of the Corps of Engineers (in Seattle and Walla Walla) were also checked and no information was found. Some of the tanks (3000-7 and -13, for example) did not even appear on any of the site drawings.*

- Information submitted to date on this site does not show exact dimensions or ages of these tanks/piping, materials of construction for piping, piping layout, numbers/locations of tank vents and other tank orifices and location/description of valving; USDOE needs to provide this information to Ecology.

*ii (cont'd.): 2nd item: The information requested on piping location, vents, valves, etc. has been researched by WHC. The information is currently not available in any of the files that WHC has checked. The only known drawing showing a sketch of the station piping layout is attached.(Attachment 7) It should be noted that all the available information required by Ecology on their Washington State Underground Storage Tank Forms (form ECY 020-32) was provided in the DOE-RL letter, "Information and Notifications for Underground Storage Tanks at Hanford," R. D. Izatt to Tom Lufkin, dated June 16, 1989. This information is in the files previously provided to the Ecology Kennewick Office. The field logbook provides some discussion of drains and fittings as noted during tank removal.*

- Information supplied to this department to date does not show exactly what was stored individually in each of the #3000-1, 2, 3 and 4 USTs either at the time of removal or during the service life of each of these USTs; USDOE needs to provide this information to Ecology.

*ii 3rd item: Attached (Attachment 5) are the Waste Manifests for tanks 3000-7/-8/-9/-10,-11,-13, as well as for the cleaning rinsate from all the tanks removed during this timeframe (3000-1/-2/-3/-4, included). It should be noted that tanks 3000-1 through -6 were essentially empty prior to being turned over to the UST Program; therefore, there are no shipping manifests associated with these tanks. No other records were found which document the contents during their service life.*

- Depth, width and type of bedding/backfill materials used to surround this site's tanks and piping is not included in information supplied to date to this department: USDOE needs to provide this information to Ecology.

*ii 4th item: As noted previously, no information could be located which indicated the type of backfill/bedding that surrounded the tanks. Personnel at the site during removal indicated that the backfill appeared to be native soil. Site photographs taken during removal would also seem to indicate that the bedding was native soil. (See attached photo #91012332-4CN, Attachment 8)*

- Types and location (if any) of leak detection systems/secondary containment systems are not described in documents made available to

date to this department; USDOE needs to provide this information to Ecology.

*ii 5th item: No leak detection or secondary containment was installed with these tanks.*

- Location(s) of any hold-down pads or deadman anchoring systems have not been given to date; USDOE needs to provide this information to Ecology.

*ii 6th item: There were no hold-down pads or deadman anchors used with these tanks. (See site photo, Attachment 8)*

- Repair records, permits (and dates of issue) previously known leaks, tank/line tightness test results, tank pump out records, other inspection records have not been supplied to date; USDOE needs to provide this information to Ecology.

*ii 7th item: Tightness testing documentation for these tanks is attached. (Attachment 9) This documentation describes the tanks as being tight and describes the manway gasket problem that was mentioned in the 90-day report. Also included with the tightness test report is a spill report describing the leak from the bolted flange area (approximately 3/4 to 1 gallon). Once the leak was discovered in the first tank's gasket, a decision was made not to overfill the remaining tanks and assume that their manway covers were not sealed tight as well. The product used for testing the tanks was removed after the final test was performed to be used as boiler fuel. No other information relative to repair records, permits, inspection records, etc. is available.*

iii. Site data:

- Property line locations are not given in any documentation submitted to date to this Department; USDOE needs to provide this information to Ecology.

*iii 1st item: Property line locations are as indicated on the attached (Attachment 6) Geological Survey map.*

- Distances from this UST site to nearby structures has not been furnished to date; USDOE needs to provide this information to Ecology.

*iii 2nd item: An updated Site Map is Attachment 2.*

- Types and locations of below ground utility lines (including water, sewer, septic, telephone, and natural gas service lines) have not been given to date; USDOE needs to provide this information to Ecology.

*iii 3rd item: A site utilities map is being obtained and will be furnished to Ecology within the 15 days time frame.*

iv. Hydrogeological and Soil Characteristics:

- Neither soil type(s)/characteristics nor surface drainage characteristics are discussed in any of the documents presented to date in connection with this site; USDOE needs to provide this information to Ecology.
- Seasonal fluctuations in ground water depth/flow direction are not discussed in any documentation received to date; USDOE needs to provide this information to Ecology.
- Potential hydraulic connections between ground water and nearby surface water as well as actual/potential uses of ground water are not adequately discussed in any documentation presented to date; USDOE needs to provide this information to Ecology.
- Effects of drawdown induced by Richland's north well field on local ground water flows are not adequately discussed in any information submitted to date; USDOE needs to provide this information to Ecology.
- Available data with regard to this site from previous ground water/soil sampling has not been presented to date; USDOE needs to provide this information to Ecology.
- Aquifer characteristics and properties are not adequately discussed in any data submitted to date; USDOE needs to provide this information to Ecology.

*Current information pertinent to the groundwater flow, other groundwater data, and soil is included in the report title, "Phase 1 Remedial Investigation Report for the Hanford Site 1100-EM-1 Operable Unit," (DOE/RL-90-18) dated August 1990. This report is attached (Attachment 10) for your use and information. This report is updated quarterly with the next update being available in mid-July and will also be made available to Ecology.*

*Additional groundwater analysis will also be available from the groundwater samples that will be taken as part of the remediation of the 3000-1/-2/-3/-4 site. As noted previously, the remediation plan is being prepared and the first draft is expected to be completed by approximately June 21.*

*Also attached (Attachment 11) are the analytical results of the initial soil samples that were taken from the 3000-1/-2/-3/-4 tank site. The validation of these analysis is also included and was completed on May 16, 1991.*

*In addition, the 300/1100 Area Water Table Well Locations and Topography Maps have been attached (Attachment 4) which will help explain the seasonal fluctuations in groundwater depth.*

*Specifically, the soil type(s) characterization for this overall area is discussed on pages 3-39, 3-40, and 3-41 of the Phase I Remedial Investigation Report for the Hanford Site 1100-EM-1 Operable Unit Volume 1 (Attachment 10). Surface drainage is very limited in this area based on the annual rainfall, topography, and soil characterization. Section 3.6.2 on page 3-83 and Figure 3-35 on page 3-84 in the 1100 EM-1 report Volume 1 discusses local*

*hydrogeology. Season fluctuations in groundwater depth/flow direction and aquifer characteristics/properties are discussed in Section 3.6 on page 3-74 in the 1100 EM-1 report volume 1. The City of Richland well field is discussed in some detail on page 3-93 of the 1100 EM-1 report Volume 1. Historic "old" data from previous groundwater/soil sampling is unavailable.*

v. Land Use Data:

- Locations of other active/inactive UST systems at this site are not adequately described in information submitted to date: USDOE needs to provide this information to Ecology.

*1st item: The attached site map (Attachment 2) shows the locations of all other known UST sites in this area. All USTs except for 3000-12 (which is active) were out of service and have been removed.*

- Previous site users are not discussed in information given to date; USDOE needs to provide this information to Ecology.

*2nd item: The 3000 Area site was used as a construction, storage, and maintenance facility since the early 1940's to support construction of the Hanford Project. Previous use was either farmland or largely undeveloped.*

- Other potential sources of contamination (including but not limited to, petroleum, solid and dangerous wastes) are not adequately discussed in information submitted to date; USDOE needs to provide this information to Ecology.

*3rd item: Potential sources of contamination are discussed in Attachment 12.*

- Potentially sensitive receptors, both human and ecological, are not adequately addressed in information submitted to date: USDOE needs to provide this information to Ecology.

*4th item: Potentially sensitive receptors include the Columbia River located approximately .9 mile east of the site and the City of Richland Well Field which is located approximately 1,000 feet east of the site. There are also approximately 19 groundwater monitoring wells located in the near vicinity and are shown on the attached 300/1100 Area Water Table Well Locations and Topography Maps. (Attachment 4)*

- On-site waste handling practices, current and past (including, but not limited to, petroleum, solid and dangerous wastes), are not adequately covered in material submitted to date; USDOE needs to provide this information to Ecology.

*5th item: The current use of the existing facilities with regard to waste handling and the general usage of the facilities is given in the Attachment 12.*

The UST Guidance Document calls for collecting and reviewing the information described under a.1., above, prior to conducting field sampling activities at any UST site; USDOE needs to provide Ecology with completion dates for collection and review of the above information as well as a statement of whether or not this was done prior to field sampling.

2. No information was presented to this department indicating whether or not a site inspection had been undertaken prior to, and in preparation for, field sampling at this site; USDOE needs to provide this information to Ecology. USDOE must coordinate future/planned activities with this office.

*2. A site inspection was conducted by the licensed supervisor prior to the actual tank removal and used for planning the removal. Ground penetrating radar studies were also conducted to locate the tank outlines, any piping, and any other structures or utilities that could be present. The site inspection was not documented or in accordance with the UST Guidance Document, as it was not yet available.*

3. Field Sampling Plan (Section 3.3--UST Guidance Manual). No field sampling plan is on file with this office. This plan should have identified procedures which were to be used in gathering samples at the #3000-1, 2, 3, and 4 UST site; if such a plan was developed, this needs to be provided to Ecology. USDOE must coordinate future/planned activities with this office.

*3. A field sampling plan was prepared and attached to the Decommissioning Work Plan, DWP-G-020-00001, dated December 12, 1990. This document was included in the files previously provided to the Ecology Kennewick Office.*

4. Health and Safety (Section 4.0--UST Guidance Manual). No information was found on file showing whether a safety plan had been developed and used in association with this UST site; USDOE needs to provide this information to Ecology. USDOE must coordinate future/planned activities with this office.

*4th item: A Job Safety Analysis had been completed and is normally part of the Detailed Work Plan prepared for each job. A copy of the generic UST removal Job Safety Analysis has been attached. (Attachment 13) It should also be noted, as indicated in the field logbook, that daily safety meetings were held at the site prior to starting work.*

5. Field sampling procedures (Section 5.0--UST Guidance Manual), including:

i. Maximum holding times and storage (prior to lab analysis) for samples collected in association with this site check are not discussed in any documents presented to date; USDOE needs to provide this information to Ecology. These procedures must be coordinated with Ecology in the future.

ii. Types and volumes of containers used to collect samples in association with this site check are not described in any information presented to

date; USDOE needs to provide detailed sample container information to Ecology.

*5.i/ii: Maximum holding times and storage, along with the volume and types of containers, are included in the "Underground Storage Tank: Sampling Plan for Detection of Hydrocarbon Inventory in the Soil," which was included with the Decommissioning Work Plan, DWP-G-020-00001. See Item 3.*

iii. Documentation on file with this department does not indicate whether:

- Ground water monitoring wells referenced in the 90 day report are properly located to provide samples that accurately and consistently represent ground water quality in the proximate vicinity of and downgrade from the #3000-1, 2, 3 and 4 UST site; USDOE needs to provide this information to Ecology.
- Monitoring wells were properly purged prior to collecting samples and what was done with purge water, if any, collected during sampling activities; USDOE needs to provide this information to Ecology.

*iii. Information regarding the placement of ground water monitoring wells and if they were properly purged is being researched by WHC and will be provided at a later date, within the 15 day timeframe.*

6. Sample Analytical Requirements (Section 6.0--UST Guidance Manual):

- i. Information on file with this department does not indicate whether or what EPA approved methods were employed for soil/water sample analyses. The 90 day report for the #3000-1, 2, 3 and 4 UST site states that ground water samples were reportedly analyzed for total organic carbon and lead; no results were found for the analysis of ground water samples in regard to total petroleum hydrocarbons, volatile organic compounds, ethylbenzene, benzene, toluene, xylene, lead et al. USDOE needs to provide this information to Ecology.

*The soil sampling plan (See response to Item 3) indicates that the analysis is to be done using a Level III analysis in accordance with EPA method 418.1, "Petroleum Hydrocarbons, Total Recoverable," (EPA 1983).*

ii. Information on file with this department does not indicate whether:

- Water samples collected from monitoring wells were discrete-grab or composite samples; USDOE needs to provide this information to Ecology.
- Water samples were submitted to an accredited laboratory for analyses (pursuant to WAC 173-50); USDOE needs to provide this information to Ecology.

*6.ii: Ground water sampling and analysis is addressed in the 1100-EM-1 report (Attachment 10) in Section 2.6.4.*

7. Quality Assurance and Quality Control (QA/QC) Requirements (Section 7.0--UST Guidance Manual):

- i. Information on file with this department does not indicate whether field and laboratory QA/QC procedures were used in association with #3000-1, 2, 3 and 4 UST site sampling activities; USDOE needs to provide this information to Ecology.

*7.i: Quality Control measures for both the field and laboratory are discussed in the "Underground Storage Tank: Sampling Plan for Detection of Hydrocarbons in the Soil" Section 4.3. This plan is attached to DWP-G-020-00001 which was previously transmitted to the Ecology Kennewick office.*

- ii. Information on file with this department does not indicate whether a field log was kept to document activities conducted at the #3000-1, 2, 3 and 4 UST site; USDOE needs to provide a copy of this field log to Ecology.

*7.ii: A field log was kept for all tank removal/sampling activities. Attached are those portions of the log that are applicable to the 3000-1/-2/-3/-4 tanks. (Attachment 14)*

- iii. Information on file with this department does not indicate whether chain of custody was maintained over samples collected in connection with the #3000-1, 2, 3 and 4 UST site; USDOE needs to provide this information to Ecology..

*7.iii: Chain of custody for sampling was maintained as indicated by the attached chain-of-custody records for the 3000-1/-2/-3/-4 tanks. (Attachment 15)*

8. Results Evaluation and Reporting Requirements (Section 8.0--UST Guidance Manual):

- i. Section 5.4 (page 5.7) of the UST Guidance Manual states that: "When liquid-free product or highly contaminated soil is discovered, the release is considered to be "confirmed" and no further sampling is required for completion of the UST site check or site assessment beyond collecting one sample of each contaminated media (i.e.-soil/ground water). The person performing the site check or site assessment shall report to the department and the tank owner the existence of the confirmed release as specified in WAC 173-360-630."

- WAC 173-360-630(12)(a) requires that: "A checklist must be provided for each regulated activity performed. The service provider shall submit the checklist to the department within 30 days following the completion of an underground storage tank installation, retrofit, decommissioning, or test, using the appropriate form provided by the department. This checklist must be signed by the owner or operator, by an executive officer of the service provider firm, or his or her designee, and by the licensed tank services supervisor." This checklist was not found on file with Ecology and must be submitted.

*8.i 1st item: These forms were not previously submitted to Ecology because of confusion regarding the terminology used in WAC 173-360-630(12) (a) regarding when the "completion of decommissioning" actually occurs. WHC interpreted this as meaning when the tank was removed, disposed of, and the site backfilled or the final site assessment completed. Ecology needs to clarify this timeframe. However, the forms (form ECY 010-182), "Underground Storage Tank Permanent Closure/Change In Service Checklists) have been filled out and will be provided within the 15 day timeframe.*

- WAC 173-360-630 (12)(b) requires that: "A checklist be completed for each site check or site assessment performed. The person performing the site check or site assessment shall submit the checklist to the department within 30 days following the completion of the site check or site assessment. A checklist for a site check or site assessment must be signed by the person registered to perform site assessments (rather than a licensed supervisor) and an executive officer of the firm or his or her designee, and the tank owner or operator." This checklist was not found on file with Ecology and must be submitted.

*8.i 2nd item: The Underground Storage Tank Site Check/Site Assessment Checklist (form ECY 010 158) will be submitted to Ecology following completion of the remediation of the 3000-1/-2/-3/-4 site. The remediation plan as discussed previously is being prepared and the first draft is expected to be completed by June 21. A schedule for the site remediation will be finalized shortly thereafter and provided to Ecology.*

- WAC 173-360-630 (13) requires that: "A licensed tank services provider, or person qualified to conduct a site assessment or site check shall report to the department and the tank owner or operator the existence of any confirmed release from an underground tank system that poses a threat to human health and the environment. This report shall be provided to the tank owner or operator immediately, and the department within 72 hours of the discovery of the condition. If the owner or operator are not immediately made available, the report shall be made immediately to the department."

Documentation was not presented by USDOE/WHC to show who at Ecology was contacted in regard to this UST release (see also b., below); further, this department was not made aware of the proximity of the #3000-1, 2, 3, and 4 UST site to Richland Water Works' north well field until receipt of the 90 day report. Future notification requirements must be complied with by USDOE.

Closure extension pursuant to WAC 173-360 will not be recognized by this department until all required components of that process have been complied with by USDOE.

- b. WAC 173-360-399 requires: "Except as provided in WAC 173-360-375, upon confirmation of a release in accordance with WAC 173-360-370 or WAC 173-360-390, or after a release from the UST system is identified in any other manner, owners and operators shall immediately undertake appropriate measures in accordance with chapter 173-340 WAC and/or this

chapter, and any additional measures as directed by the department under 90.48 RCW. Owners and operators shall also report such releases to the department or delegated agency within 24 hours in accordance with WAC 173-360-371."

Documentation was not available from USDOE/WHC to show who with Ecology was contacted in regard to this UST release incident; nothing was found on file with Ecology showing this agency had been notified of this incident. USDOE must improve its procedures and record keeping with regard to documenting compliance with notification requirements.

c. WAC 173-340-450 requires:

1. In the case of an initial response (WAC 173-340-450 (2)), USDOE must report UST releases to this office in accordance with rules adopted under 90.76 RCW and any other applicable law; see comments under items a.8 and b., above--USDOE has not adequately documented its reporting of an UST release with regard to the #3000-1, 2, 3, and 4 site (see memo of May 6, 1991 which states that the WHC Occurrence Notification Center does not have the name of the Ecology person contacted with regard to this site's release). Again, USDOE (and WHC) must improve its procedures and record keeping in regard to documenting compliance with notification requirements.

*8.i 3rd item/b/c.1: DOE/WHC is in full compliance with the reporting of occurrences and has been since the inception of the UST program. DOE-RL has a copy of the logbook page that documented that Ecology (Yakima) had been notified of this release and has provided it to Ecology. It is agreed that the person notified should have been documented and the WHC Occurrence Notification Center has been made aware of this fact. It is also questioned as to why the Yakima office had no record of the notification. DOE-RL is in process of revising the notification requirements to include the Kennewick Office on occurrences involving USTs.*

2. In the case of interim actions (WAC 173-340-450 (3)):

- i. Reduce the threat to human health and the environment posed by contaminated soils that are excavated or discovered as a result of investigation/cleanup activities. Treatment, storage and disposal of soils must be carried out in compliance with all applicable federal, state and local requirements.

Petroleum contaminated soils resulting from the #3000-1, 2, 3, and 4 UST excavation were stockpiled south of/next to this excavation until April, 1991 when these were moved to an open area west of this excavation and spread out for evaporation/biodegradation. While stockpiled this contaminated soil was left uncovered--this presented an opportunity for leachate formation from rainfall onto this exposed soil, the release of which could cause substantial environmental/health problems. It is recommended that in the future prolonged outdoor storage of contaminated soil should include its being covered with plastic sheeting to control undesired leachate formation; it should be kept in mind that failure to

take appropriate steps to prevent release of hazardous substance to the environment may subject USDOE to enforcement actions under RCW 70.105, RCW 70.105D, RCW 90-48 and RCW 90.76 et seq. Nothing on file shows that USDOE had any formal plan for treating, storing or disposing of contaminated soils; USDOE needs to provide such plan(s) to this office.

*Item c.2.i (page 10): It should be noted that with regard to the temporary storage of the petroleum contaminated soil from the 3000-1/-2/-3/-4 site, the soil has been carefully placed on plastic sheeting and a berm built around all the soil piles. Placing the soil in such a manner is very effective for natural bioremediation and with the limited amount of rainfall in this region, the chance of releasing additional contaminants to the ground is limited. WHC's future plans are to place any contaminated soil in the 100-C area on concrete pads and conduct solid phase remediation. A plan entitled, "Solid Phase Remediation Strategy and Site Proposal," WHC-MR-0121, dated April 10, 1990, was submitted to Ecology for their concurrence by DOE/RL letter, R. D. Izatt, DOE-RL, to Timothy L. Nord, "Request for Review and Concurrence of a Solar Phase Remediation Proposal," dated June 4, 1990. DOE-RL is still awaiting Ecology's response. A copy of this report is attached. (Attachment 16)*

- ii. Test for hazardous substances in the environment where they are most likely to be present. Such testing shall be done in accordance with a sampling and analysis plan prepared under WAC 173-340-820. The sample types, sample locations, and measurement methods shall be based on the nature of the store substance, type of subsurface soils, depth to ground water and other factors as appropriate for identifying the presence and source of the release. If contaminated soil is found in contact with the ground water or soil contamination appears to extend below the lowest soil sampling depth, then testing shall include the installation of ground water monitoring wells to test for the present of possible ground water contamination in accordance with WAC 173-340-450 (3) (iii). (Information gathered for the site check or closure site assessment conducted pursuant to rules adopted under chapter 90.76 RCW, which sufficiently characterizes the releases at the site, may be substituted for testing required under interim actions.)

The above reference sampling and analysis plan (per WAC 173-340-820) has not been submitted to Ecology to date; conclusive information has not been provided to Ecology showing that existing monitoring wells are properly located to yield samples that accurately and consistently represent ground water quality in the proximate vicinity of and downgrade from the #3000-1, 2, 3, and 4 UST site. USDOE needs to provide this information to Ecology. See also comments under items a.1 and a.5., above and d.3., below.

*The remediation plan which will include a sampling and analysis section is currently in the process of being prepared by an outside consultant. The first draft of this plan is scheduled to be completed by June 21. An additional well(s) will be placed at strategic locations as recommended in the plan to assure that water samples taken and analyzed represent the actual*

*groundwater conditions near the 3000-1/-2/-3/-4 site. Ecology will be given a copy of this plan for their concurrence.*

- iii. Sampling analysis performed for samples taken under interim actions at this site needs to include:
- Benzene-ethylbenzene-toluene-xylene (BETX), lead and total petroleum hydrocarbons (TPH) where leaded gasoline may be present.
  - BETX and TPH where unleaded gasoline may be present.
  - TPH and other appropriate indicator tests where any other petroleum product than gasoline may be present.
  - Any other analyses that Ecology may deem necessary at this site.

See also comments under a.6. and a.7., above.

*The analysis results for the samples taken to date at the 3000-1/-2/-3/-4 site are attached. (Attachment 11) Additional sampling/analysis will be described in the remediation plan and will include the constituents named.*

- iv. No discussion was given in any documentation presented to date about efforts at free product removal at the #3000-1, 2, 3, and 4 UST site. USDOE needs to provide Ecology with information on action(s) taken (if any) to investigate, and if possible, remove free product at this site.

*During the initial excavation for the removal of the 3000-1/-2/-3/-4 tanks, no free product was encountered. Following removal of the tanks, additional excavation was conducted to determine the extent of the contamination. The excavation continued to a depth of approximately 40 feet and, while field instrumentation indicated the presence of hydrocarbons, again, no free product was encountered. The field logbook indicates that on January 23, 1991, while conducting additional excavation under Tank 3000-1, that some wet coarse, cobbly sand with layers of gravel were encountered. This was removed and no mention of any free product is discussed again. The presence of free product will again be evaluated upon the placement of the additional groundwater sampling well(s). Note: This completes submittal Item g.*

3. In the case of reporting requirements:

- i. The twenty day (status) report dated February 7, 1991 shows that diesel and leaded/unleaded gasoline were stored in the #3000-1, 2, 3, and 4 USTs, but does not give estimated quantities or types of petroleum products believed to have been released at the site (or any statement that quantities/types of products released are unknown); individual tanks at this site are not characterized as to types of products they contained over their service life. Further, this report does not adequately discuss actions required to be taken pursuant to WAC 173-340-450 (3)--see c.2., above; this information must be provided to Ecology in a timely manner.

It was also noted that UST site #3000-1, 2, 3 & 4 tank volumes were given in the 20 day report as 12,000 gallons (as well as in the advance notification of closure dated September 20, 1990). These tanks' volumes were reported as 15,000 gallons in the 90 day report dated April 19, 1991 with no explanation for the change in reported volume; USDOE needs to explain this discrepancy.

*3.i: Because of the long service life of these tanks and the lack of records indicating the amount of product annually used at this station, repair records, or even any records with regard to spills and leaks, it is not possible even to make an estimate of the amount of petroleum product that was actually released. The only information available indicates that it was most likely gasoline (leaded and unleaded) and diesel fuel. As noted previously, no documentation was found with regard to the service life of the tanks or what product they contained.*

*Additional information required per WAC 173-340-450 (3):*

*(a)i: WHC will continue to monitor the site for any safety hazards (including fire) posed by any vapors associated with the release. There are no sewers or basements in the immediate vicinity into which the vapors could flow. A sewer line was encountered near the 1207A Building, but it had been previously capped (date unknown).*

*(a)ii: The temporary storage of the contaminated soils is being conducted as indicated in item c.2.i.*

*(a)iii/iv: Testing for hazardous substances was conducted at various stages of the excavation. (The analysis results have been attached as Attachment 11. Additional excavation was still ongoing at the time of the 20-day report, along with additional sample gathering.*

*(a)v: Investigations were conducted for free product through the additional excavation being done. At the time of this report, no free product was encountered other than as noted in the field logbook on January 23, 1991. (See response to item c.2.iv).*

*Item 3.i (cont'd) The correct volume of all the tanks (3000-1/-2/-3/-4) is approximately 15,000 gallons. This discrepancy was because of the poor historical data and conflicting information available at that time. Actual field measurements (9 feet diameter x 32 feet 2 inches long) confirms the size.*

*ii. The 90 day (site characterization) report dated April 19, 1991 does not meet the needs of WAC 173-340-450 (4) because of the following inadequacies found to date:*

*- Details called for under c.3.i., above for the 20 day (status) report.*

*3.ii 1st item: Addressed in c.3.1 for the 20-day report.*

- A site conditions map which shows approximate boundaries of the property and all areas where hazardous substances are known or suspected to be located as well as sampling locations (soil and ground water) see also a.1.; see also a.1., above) at a scale sufficient to illustrate this information.

*3.ii 2nd item: Site maps have been attached (Attachments 2, 4, & 6) (see response to item a.1.i) and also the locations of all existing wells (see response to item v, land use data).*

- Data regarding surrounding populations, surface and ground water quality, use and approximate location of wells potentially affected by the release, subsurface soil conditions, depth to ground water, proximity to and potential for affecting surface water, locations of sewers and other potential conduits for vapor or free product migration, surrounding land use, proximity to sensitive environments.

*3.ii 3rd item: Groundwater depth has been included with the well locations in Attachment 4. In addition, the results from the subsurface soil sampling completed to date are included in Attachment 11. The 3000 area is zoned as industrial and/or restricted use and is used mainly for construction-related activities, i.e., shops, field operations, office space, lay-down yards, etc. The 3000-1/-2/-3/-4 site is barricaded/roped off and posted to prevent access by workers located in this general vicinity. A significant amount of background data for this overall area is contained in Section 6 of the 1100-EM-1 Operable Unit Report, attached (Attachment 10) for your use. Additional data specific to the 3000-1/-2/-3/-4 site will be available and transmitted to Ecology based upon the remediation of this site and the final characterization results.*

- Results of tests for hazardous substances required pursuant to WAC 173-340-450 (3).

*3.ii 4th item: The current results for hazardous substances present in the subsurface soil per WAC 173-340-450 (3) for analysis done to date has been attached. (Attachment 11)*

- Results of free product investigation required pursuant to WAC 173-340-450 (3).

*3.ii 5th item: The results of the free product investigation per WAC 173-340-450 (3) (v) currently done to date is as follows:*

*Initial investigations did not indicate the presence of any free product. The investigations did reveal the presence of detectable hydrocarbons below the tanks. Additional excavation and sampling was done after the tanks were removed to determine the extent of the contamination and to evaluate if any free product could be found. The excavation continued to a depth of approximately 40 feet and the presence of hydrocarbons was still detectable so the excavation was stopped. No free product was encountered with the exception of a small amount of wet soil that was indicated in the field logbook on January 23, 1991. This was removed and stored on plastic located*

nearby and was not considered to be free product. The soil was not segregated from the other soil because of the small quantity. Additional investigation for free product will be done when the site is remediated in accordance with the remediation plan now being prepared.

- Results of all completed site investigations, interim actions and cleanup actions and a description of any remaining investigations, cleanup actions and compliance monitoring which are planned or underway.

*3ii 6th item: The analysis of all the sampling done to date at this site has been attached. (Attachment 11) It is now planned because of the extent of the contamination that a site remediation plan must be prepared. This plan is currently being prepared by a consultant with the first draft scheduled to be completed by June 21. It is anticipated that the first stage of the remediation will be the placement of a groundwater monitoring well(s) whose location will be determined by the consultant. Based on the results of the groundwater evaluation and as indicated in the plan, final site remediation will occur. Ecology will be given a copy of the plan for their concurrence. A schedule will be prepared during the final stages of preparing the remediation plan.*

iii. Other information omitted from the 90 day report includes:

- Problems with the UST manway gaskets (page 1-3rd paragraph-Introduction) were alluded to, but not described in detail, in this report.

*3.iii: 1st item: The problem with the UST manway gaskets alluded to in the 90-day report was that the gasket on the 3000-1 UST leaked product when the tank was filled to "overfilled" capacity (in the fill pipe) to support tightness testing. It was assumed that because the gasket on the 3000-1 tank was not tight, the gaskets on the three remaining tanks were not tight either. Therefore, the remaining tanks were not "overfilled" for testing (See response to item 1.ii.7 (Repair Records....)). As stated in the 90-day report, it is unknown when the gaskets began to leak, or if the tanks were ever filled to full capacity (into the fill pipes).*

- Safety concerns in the excavation (page 2-Initial Excavations and Field Investigation-3rd paragraph) were also alluded to, but not described in detail, in this report.

*3.iii: 2nd item: The safety concerns in the excavation that were alluded to in the 90 day report were based on the potential for cave-in around the excavation site. When the excavation depth exceeded 20 feet, personnel were not allowed to enter the excavation (per OSHA excavation standards) and all sampling was performed from soils removed from the backhoe bucket. At the approximate depth of 40 feet, it was determined by the site supervisor that the equipment being used could no longer safely support soil removal and the excavation was stopped.*

- Site illustration in figure one shows a sandblast facility, x-ray facility, RDT plate shop, weld test lab and storage as well as other unidentified buildings--no information was given in this report as to

what types of products/wastes might be present and which might potentially impact ground water quality.

3iii: 3rd Item: This information is provided in Attachment 12. (This is the KEH letter.)

The above described missing information must be provided in detail to Ecology in accordance with WAC 173-340-450 (4)(b)(viii).

d. 90.48 RCW/WAC 173-200 require:

1. Per RCW 90.48.325: "any person owning or having control over oil (including gasoline, fuel oil, diesel oil et al.) entering waters of the state (including surface water and ground water) is obliged to immediately collect and remove the same. If it is not feasible to collect and remove, said person shall take all practicable actions to contain.....the same." Documentation to date does not show this as having been done by USDOE.

d.1. (Page 14): *Following the removal of the 3000-1/-2/-3/-4 tanks, soil contaminated with diesel product was removed from the site via excavation. This effort has been temporarily stopped due to potential industrial safety concerns regarding the depth of the excavation and to develop a more comprehensive remediation plan for the conditions encountered. The remediation plan is currently being prepared and will be implemented following Ecology's review. A draft of the plan is scheduled to be completed by June 21, 1991. The plan will address remediation alternatives that can be implemented in the event product has reached the groundwater at the 3000-1/-2/-3/-4 site. Actions have been taken to prevent future potential leakage of petroleum products by emptying the tanks and removing them from the ground.*

2. Per RCW 90.48.360: "It shall be the duty of any person discharging oil or otherwise causing, permitting, or allowing the same to enter the waters of the state, unless the discharge or entry was expressly authorized, to immediately notify Ecology of such discharge or entry." Per the #3000-1, 2, 3 & 4 UST site 90 day report, monitoring well data results (for TOC's) reportedly have indicated some ground water contamination in the #3000-1, 2, 3 & 4 UST area (last sampled 2-9-90 with no other information as to who, when, what, how, where or why other ground water samples were taken in the area). Documentation presented to Ecology to date does not show that RCW 90.48-360's immediate notification requirement was complied with by USDOE.

*The Ecology Central Office in Yakima (Paula Dunlop on (509) 575-2490 (see Attachment 3)) was notified within the 24-hour period.*

3. In accordance with WAC 173-200-080: "If the department determines a potential to pollute the ground water exists, this department shall request a permit holder or responsible person to prepare and submit for departmental approval a ground water quality evaluation program for its activity. Each evaluation program shall be based on soil and

hydrogeologic characteristics and be capable of assessing impacts on ground water at the point of compliance." This department has sufficient reason per available information on file to request a ground water quality evaluation program from USDOE in associated with the #3000-1, 2, 3, and 4 UST site.

#### DOCUMENTATION SUBMITTAL SCHEDULE

*The information as requested has been submitted via the responses provided in the letter and/or the attachments, with the exceptions as noted in the narrative section of this attachment (1).*

# CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
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143/33

Subject: CLOSURE OF UNDERGROUND STORAGE SITE 3000-1/-2/-3/-4

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