FACT SHEET FOR PERMIT NO. ST 6118
SHELL OIL PRODUCTS US

State Waste Discharge Permit

Permittee:
Shell Oil Products US
7370 Linderson Way Southwest
Tumwater, Washington 98501

Facility:
Tumwater Storage and Distribution Terminal

Permitting Authority:
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

3/10/2005

SUMMARY

A new permit application was received in February of 1997, after five years elapsed under a temporary permit. A revision of that permit application was received February 16, 2000. The application is for a permit to discharge potentially contaminated storm water and incidental wastewaters associated with fuel storage and loading operations to ground water (via spray irrigation and infiltration through the natural soil strata).

A tentative decision has been made by the permitting authority to issue a permit, based on a determination that compliance with the permit conditions will satisfy the requirement that all known available and reasonable methods of control of discharges of pollutants has been applied, and that the discharge, in compliance with the technology-based controls will not cause violations of the numeric ground water criteria or degradation of use of the receiving ground water.

PUBLIC INVOLVEMENT OPPORTUNITY

Interested persons are invited to comment on this tentative decision. Comments on the draft permit will be received for 30 days following the day of publication of the notice in the local newspaper, *The Olympian*.

All written comments submitted during the comment period will be retained by the permitting authority and considered in making the final decision on the application for a permit. The permitting authority will provide copies of the application, the tentative decision and the fact sheet on request. Persons who submit written comments will be notified of the final decision.

The applicant or anyone affected by or interested in the tentative decision may request a public hearing. The request must be filed within the 30-day comment period, and must indicate the interest of the party filing such a request and the reasons why a hearing is warranted. The permitting authority will hold a public hearing if it determines there is sufficient public interest.

Please submit written comments to the permitting authority at the address shown on the cover page of this fact sheet, to the attention of Industrial Permit Coordinator.

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INTRODUCTION

This fact sheet is intended to accompany the draft State Waste Discharge Permit No. ST 6118. The fact sheet explains the nature of the proposed discharge, the Department of Ecology's (Department) decisions on limiting the pollutants in the discharge, and the regulatory and technical bases for those decisions.

Washington State law [Revised Code of Washington (RCW) 90.48.080 and 90.48.162] requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Attending regulations adopted by the state include procedures for issuing permits and required permit conditions [Chapter 173-216 Washington Administrative Code (WAC)]. Other regulations (Chapter 173-200 WAC) establish ground water quality standards which shall be taken into account in issuing and conditioning this permit.

GENERAL INFORMATION	
Applicant	Shell Oil Products US
Facility Name and Address	7370 Linderson Way Southwest Tumwater, WA 98501
Type of Facility	Bulk Petroleum Storage and Distribution
Type of Treatment	Gravity separation, activated carbon adsorption, and natural soil filtration
Discharge Location	Latitude: 46° 58' 50" N Longitude: 122° 55' 00" W
Contact Person	Chuck Kolesar Telephone # (206) 224-0460

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

INDUSTRIAL ACTIVITY

The Shell Tumwater Distribution Terminal is a major, modern petroleum bulk storage and distribution facility for gasoline and diesel fuels (SIC Code 5171). It receives the fuels directly by pipeline from the Olympic Pipeline Company. The terminal receives two grades of gasoline, two grades of diesel fuel and fuel additives by pipeline and/or truck. The storage capacities are about 1.8 million gallons of gasoline, 1.6 million gallons of diesel fuel and 18,000 gallons of additives in eight tanks. The largest tanks are 700,000 gallons.

Average annual throughput of all fuels is over 2,000,000 barrels. Except for the addition of fuel additives and blending of mid-grade gasoline, there is no processing at the site. Trucks are loaded from these tanks at loading "racks" connected by piping to the storage tanks. (In a reversal of the normal operation, a truck is occasionally unloaded to the storage tanks). The current fuel additives are HiTec 6531, ME-S1, Stadis 425, and red dye. These are themselves made up of petroleum derivatives. A list of their components is included as Exhibit A.

SOURCES OF DISCHARGE

There is no industrial processing on site. Potentially contaminated waters that originate from the site are only:

1. Rain water runoff from the “tank farm” containment area.

2. Rain water and washdown water from the truck loading rack (covered) and the smaller return-to-stock and truck pump-off areas (uncovered).

3. Water used in periodic hydrostatic testing of storage tanks and piping.

This is a site which has undergone voluntary cleanup of soil and water contamination from past activities. Monitoring is continuing, but there is currently no point source discharge from this remediation activity.

RECEIVING WATER

Discharges from the site are presumed to be to ground water. (There is no defined surface water body in the vicinity, the topography is flat, and the soils are relatively pervious). All ground waters (except natural saline waters, waters within the root zone of agricultural plots, and waters subject to cleanup rules) are deemed “waters of the state” and are subject to the same standards (Water Quality Standards for Ground Waters of the state of Washington, WAC 173-200). These standards are predicated on maintaining a level of quality, in all ground waters, that is suitable for use as drinking water. Allowances are made for higher natural levels of constituents if they are naturally occurring, but no man-caused impact may degrade the designated use (drinking). The Standards also include an antidegradation policy which would assure that discharges do not degrade the existing quality of the ground water.

TREATMENT AND OTHER POLLUTION CONTROL MEASURES

A system has been installed to treat contaminated waters originating from the site prior to discharge to ground water. This treatment train is composed of gravity oil/water separation, followed by activated carbon adsorption, followed by filtration through the natural soil strata on site via spray irrigation.

Treatment System: Runoff from the loading area (Source 2) flow by gravity to the 10,000 gallon gravity oil/water separator. The separator has three chambers: the separation chamber the oil collector and the water collector. The oil portion is pumped to a 4000 gallon registered underground product storage tank (referred to by the applicant as the "co-mingle tank"). The water portion is pumped through the activated carbon canisters (two in series) to an open concrete tank (a former oil/water separator), which now serves as a wet well for the irrigation pumps. From this tank it is pumped by separate pumps to the irrigation system. This open tank is also used as the sampling point for effluent monitoring. The spray irrigation system consists of a single row of 200 spray nozzles, spaced at 18-inch intervals. The nozzle spray radius is nominally 2-3 ft. The occasional hydrotest waters and any detected contaminated water from the tank farm sump would also be directed through this treatment system.

Operation and Maintenance: Carbon canisters are changed when the first in the series indicates (through internal wastestream monitoring) "breakthrough" of any of the target contaminants, indicating carbon exhaustion. The first canister is then replaced by what was the second, and a new canister is placed in the second position. Exhausted canisters are returned to the carbon supplier for regeneration. (Carbon renewal has been required only once in the more than 10 years since the system was installed.) Retrieved product from oil/water separation is educted as needed from the co-mingle tank and trucked to the Shell refinery for reprocessing. (The co-mingle tank also receives mixed or contaminated product from the flushing between loads of different fuels, and might receive spilled product from the containment area sump, should such an event occur.) The irrigation area requires little or no operational or maintenance effort.

Tank Farm Runoff Control Provisions: Runoff from the contained storage (tank farm) area (Source 1) flows by gravity to a sump within the containment. The sump is equipped with a float switch which will start and stop the discharge pumps. It is also equipped with a floating electronic sensor which will override the pump start switch if hydrocarbons are detected in the sump. It uses fluid density and conductivity differences to sense a hydrocarbon layer as little as 1 millimeter in thickness and then activate the pump switch disabling relay. This sensor would be effective for all products stored in the tank farm area, including the additives, since they all are hydrocarbon-based. This collected runoff is typically (so far, always) discharged directly to the spray irrigation / infiltration system without treatment. If oil contamination were sensed by the sensor, and the pump start override engaged, depending on the severity of the contamination (as determined by visual observation), the contents of the sump would either be removed and shipped to the Shell refinery (for reprocessing) or would be directed through the on-site treatment system. To date, more than 20 years after the construction of the existing containment, no significant contamination of the tank farm runoff has been indicated, either by the sensor or visually observed.

Reliability Measures: Emergency power supply has been installed specifically to operate the storm water system pumps in the event of power outage. There is no pump redundancy provided, but the pipe manifolding makes it is possible to use the treatment system effluent irrigation pump to pump tank farm runoff, or vice versa. There is also a small gasoline-powered pump available. The tank farm sump has a storage capacity of about 20,000 gallons. The sump sensor, in addition to overriding the pump start

switch, activates an alarm. The oil/water separator also is equipped with a high-level alarm to indicate malfunctioning of the treatment system pumping system.

POLLUTION PREVENTION AND CONTROL MEASURES

Overhead Piping: This is a modern facility of its type, with overhead rather than underground distribution piping at the truck loading rack. This avoids the corrosive underground environment, and with all the piping visible, if there should be a leak, it is obvious, and can be quickly dealt with.

Spill Control Measures: Spill prevention measures include tank farm containment provisions (concrete perimeter walls and clay bottom liner) sufficient to hold the contents of the largest tank, and a grate-covered channel around the perimeter of the truck loading rack area which drains by underground pipe (not valved) to the treatment system oil/water separator.

Tanker Flushing Provisions: Depositories have been installed in each lane of the loading rack which allows the small amount of mixed product generated when the tanker is flushed between loads of different products, to be deposited directly to the co-mingle tank via pipeline connection.

Rain Cover: The loading racks are covered well beyond the perimeter drains to eliminate most rainfall onto the loading area (minimizing contaminated runoff) and the area is contoured and bermed such that any rainfall or spilled product would be contained and directed to the grated perimeter drains and by underground piping to the on-site treatment system. The small product unloading areas are not covered but are similarly contained and drain into the treatment system.

Runoff Not Associated with the Industrial Activity: Uncontaminated stormwater from areas not considered exposed to the "industrial activity" is conveyed to a constructed compost filter and retention/infiltration pond, as required by the City of Tumwater. This runoff is not subject to State Waste Discharge or NPDES permitting requirements.

PERMIT STATUS

There has been no formal permit issued for discharges from this site. Applications have been received (January 1992 and February 1997, revised February 2000) but no action has been taken as yet to issue or deny a permit. As provided for by rule (RCW 90.48.200) in such cases, after 60 days the applicant is deemed to have a "temporary permit" to discharge in accordance with the description of the discharge provided in the application. In this case, the department acknowledged this "permit-by-rule" by letter (July 23, 1992), and also set out in this letter certain discharge limitations and monitoring requirements corresponding to the information provided in the application. Limits and monitoring are specified for "oil & grease," pH, benzene, ethylbenzene, toluene and xylenes.

It is not clear how long a "temporary permit" is valid, but issued permits may not have terms of more than five-years and this limitation has been construed to apply to these default permits as well. Action on the most recent application, which requested an increase in the volume of the permitted discharge because of a projected expansion, was held up when the permitting authority was notified that the expansion was in question. The applicant has informed the permitting authority that the expansion plan has indeed been cancelled, and modified application information was provided. Another change noted was that Texaco's and Shell's downstream operations in the U.S. formed a joint venture called Equilon Enterprises LLC and the applicant requested that the new permit be issued in this name. (Equilon has subsequently been acquired in whole by Shell.) No action has been taken on this permit application until now. Meanwhile, until this current action is completed, the "temporary permit" continues in effect.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

Inspection Record: The facility last received a compliance evaluation inspection (without sampling) on March 21, 2002. All areas appeared exceptionally clean at this unannounced inspection. There was no sign of product release in the storage area. There has never been a sign of any impact of the discharge in the storm water discharge irrigation area. Wintertime inspections, during periods of fairly heavy rainfall, have revealed the soil infiltration to be dry, i.e. there was no standing water. Neither was there overflow from treatment tanks and ponds in the system.

Monitoring Reports: Discharge monitoring reports show that monitoring of the discharge during the last five years has been in substantial compliance with the requirements set out in the July 23, 1992, letter, and that the discharge concentrations of limited pollutants over the same period have been within the limits set by the letter.

WASTEWATER CHARACTERIZATION

Regular monthly monitoring at the effluent pumping station has been carried out since September of 1992, in compliance with the July 23, 1992, letter. Samples have been analyzed for benzene, ethylbenzene, toluene, xylenes, total oil & grease and pH. As shown in Exhibit B, during a representative period from January 1999 through March 2002, in 39 samplings, there were only two detections of any of the four specific hydrocarbons and two detections of "oil & grease" (EPA 1664). The four detections have been only marginally above the detection or reporting limits and well below the limitations indicated in the July 23, 1992, Department letter. The pH ranged between 6.8 and 7.9. Flow volumes were not measured. Based on rainfall intensities and the catchment area, flow to the treatment system has been estimated in the permit application to be about 35,000 gallons per day maximum, and 3,000 gallons per day average.

BASIS FOR DRAFT PERMIT CONDITIONS

GENERAL REQUIREMENTS FOR STATE WASTE DISCHARGE PERMITS TO GROUND WATER

Permit Required: The Revised Code of Washington states: "Any person who conducts a commercial or industrial operation of any type which results in the disposal of solid or liquid waste material into water s of the state shall procure a permit." (RCW 90.48.160)

Minimum Pollution Control Measures: The Revised Code of Washington declares it "to be the public policy of the state of Washington to maintain the highest possible standards to insure the purity of all waters of the state and to that end will require the use of all known available and reasonable treatment and other measures by industries and others to prevent and control the pollution of the waters of the state." (RCW 90.48.010)

Permitting Authority: Chapter 173-216 of the Washington Administrative Code (WAC) obliges and authorizes the Department of Ecology to establish in permits "conditions necessary to prevent and control waste discharges into waters of the state."

Receiving Water Standards: Chapter 173-200 WAC establishes water quality standards for ground water.

In general, discharges of pollutants to waters of the state must be permitted and the permits must assure that the discharge meets any applicable and appropriate technology-based requirements (these can be numerical limitations, specified technology applications or "best management practices") and that it does not in any case cause or contribute to violations of the applicable receiving water standards.

BASIS FOR SPECIAL CONDITION S1. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

Benzene, ethylbenzene, toluene and xylene (BTEX); Oil & Grease; and "total petroleum hydrocarbons" (TPH) analyses are standard general indicators of water pollution from petroleum sources. Regular monitoring of the discharge for all these parameters is therefore required as a condition of the permit to indicate any failure of the on-site pollution control systems. Similarly, monitoring of 1,2,4-trimethylbenzene, an ingredient of the major fuel additive kept on site, is required as an indicator of the pollution control effectiveness in the case of a release of this fuel additive.

Effluent limits are established for some of the monitored parameters, based on the capability of reasonable pollution control measures. These effluent limits are deemed to reflect the application of "all known available and reasonable methods of treatment, prevention and control," as required by state law. Of the limited and/or monitored parameters, only benzene is limited by a numeric receiving water quality standard. The technology-based maximum permit effluent limit of 1 microgram per liter is equivalent to the receiving water standard. Thus, a compliant discharge would have no potential to violate the water quality standard.

The discharge monitoring point (and point at which effluent limits apply) is the wet well for the spray irrigation pumps, representing the discharge quality prior to land application. The minimum monitoring frequencies specified in the permit represent a practical compromise between the benefits derived and costs incurred.

The authority to establish monitoring requirements and effluent limits in the permit is from WAC 173-216-110(1).

BASIS FOR SPECIAL CONDITION S2. SAMPLING AND ANALYSIS REQUIREMENTS

The specified sampling and analysis standards and laboratory accreditation requirements are authorized by WAC 173-216-110 and WAC 173-216-125.

BASIS FOR SPECIAL CONDITION S3. REPORTING AND RECORDKEEPING

The requirements of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges [WAC 173-216-110].

BASIS FOR SPECIAL CONDITION S4. OPERATION AND MAINTENANCE

This condition is authorized under Chapter 173-216-110(4) WAC. Its purpose is to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

BASIS FOR SPECIAL CONDITION S5. SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee

to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

BASIS FOR SPECIAL CONDITION S6. CONDITIONAL GROUND WATER MONITORING PLAN

The authority for this condition is WAC 173-216-110(1)(d).

BASIS FOR GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

EXHIBIT A

Tab	Ingredient	Cas No.
	HiTec 6531 Fuel Additive	
1	2-ethyl hexanol	104-76-7
	Solvent naptha (petroleum) light aromatic	64742-95-6
2	1, 2, 4-trimethylbenzene	95-63-6
3	Xylene	1330-20-7
4	Cumene (syn Isopropylbenzene)	98-82-8
5	O-Xylene	95-47-6
6	N-propylbenzene	103-65-1
7	1, 3, 5-trimethylbenzene	526-73-8
8	1, 2, 3-trimethylbenzene	108-67-8
	ME-Si	
3	Xylene	1330-20-7
	Solvent naptha (petroleum) heavy aromatic	64742-95-5
	Solvent naptha (petroleum) light aromatic	64742-95-6
9	Napthalene	91-20-3
	Four NJ Trade Secret	
	TC-5 (no longer used)	
3	Xylene	1330-20-7
10	Ethylbenzene	100-41-4
11	Vinyl Acetate Monomer	108-05-4
	Solvent naptha (petroleum) heavy aromatic	64742-95-5
	Three NJ Trade Secret	
	Stadis 425	
	Kerosene	8008-20-06
12	Toluene	108-88-3
13	Benzene	7 1-43-2
14	Dodecylbenzene sulfonic acid	27 176-87-0
	(**syn**. Linear Alkylbenze [Sulfonic Acids	
	Solvent naptha (petroleum) heavy aromatic	64742-95-5
	Two NJ Trade Secret	

EXHIBIT B

Date	pH	O&G mg/L	Benzene µg/L	Ethyib. µg/L	Toluene µg/L	Xylenes µg/L	BTEX µg/L	
		5.00	**0.500**	**0.500**	**0.500**	**1.00**		**Reporting**
		EPA 1664						
Jan-99	6.9	ND	ND	ND	ND	ND	ND	
Feb-99	6.7	ND	ND	ND	ND	ND	ND	
Mar-99	6.8	ND	ND	ND	ND	ND	ND	
Apr-99	7.4	ND	ND	ND	ND	ND	ND	
May-99	7.3	ND	ND	ND	ND	ND	ND	
Jun-99	8.6	ND	ND	ND	ND	ND	ND	
Jul-99	7.5	ND	ND	ND	ND	ND	ND	
Aug-99	7.7	ND	ND	ND	ND	ND	ND	
Sep-99	7.7	ND	ND	ND	ND	ND	ND	
Oct-99	7.4	ND	ND	ND	ND	ND	ND	
Nov-99	6.8	ND	ND	ND	ND	ND	ND	
Dec-99	6.9	ND	ND	ND	ND	ND	ND	
Jan-00	6.8	ND	ND	ND	ND	ND	ND	
Feb-00	6.9	ND	ND	ND	ND	ND	ND	
Mar-00		Report could not be found in file						
Apr-00	7.57	ND	ND	ND	ND	ND	ND	
May-00	7.52	ND	ND	ND	ND	ND	ND	
Jun-00	7.53	ND	ND	ND	ND	ND	ND	
Jul-00	7.91	ND	ND	ND	ND	ND	ND	
Aug-00	7.81	5.31	ND	0.866	ND	ND	ND	
Sep-00	7.51	ND	ND	ND	ND	ND	ND	
Oct-00	7.56	7.0	ND	ND	ND	ND	ND	
Nov-00	7.47	5.0	ND	ND	ND	ND	ND	
Dec-00	7.2	ND	ND	ND	ND	ND	ND	
Jan-01	6.75	ND	ND	ND	ND	ND	ND	
Feb-01	6.78	ND	ND	ND	ND	ND	ND	
Mar-01	7.32	ND	ND	ND	ND	ND	ND	
Apr-01	7.53	ND	ND	ND	ND	ND	ND	
May-01	7.12	ND	ND	ND	ND	ND	ND	
Jun-01	6.74	ND	ND	ND	ND	ND	ND	
Jul-01	7.78	ND	ND	ND	ND	ND	ND	
Aug-01	7.17	5.0	ND	ND	ND	ND	ND	
Sep-01	7.88	ND	ND	ND	ND	ND	ND	
Oct-01	7.32	ND	ND	ND	ND	ND	ND	
Nov-01	7.43	ND	ND	ND	ND	ND	ND	
Dec-01	6.64	ND	ND	ND	ND	ND	ND	
Jan-02	7.05	ND	ND	ND	ND	ND	ND	
Feb-02	6.82	ND	ND	ND	ND	1.03	1.03	
Mar-02	6.84	ND	ND	ND	ND	ND	ND	

RESPONSES TO COMMENTS

After a tentative decision was made to issue a permit, interested parties were invited to comment on the draft permit during a 30-day period ending on or about December 20, 2004. One respondent, representing the City of Tumwater Water Resources Program, submitted comments. No public hearing on the draft permit was requested or held. The agency response to each comment, including any changes to the permit as a result of the comment, follow. The final decision may be contested as provided for in Section 310 of Chapter 43.21B of the Revised Code of Washington. (Please follow the directions for appeal as set out in the cover letter.)

PERMIT

Comment 1 – S1 Discharge Limitations & Monitoring:

A. The method of discharge should provide all known, available, and reasonable control technology for treatment and disposal.

B. What is the purpose of "irrigation" at this site? What is being "irrigated" at what agronomic rates, and does "irrigation" achieve the rate of biological uptake that would justify "irrigation" use as a method of disposal?

C. For either "spray irrigation" or "native soil infiltration," what is the design configuration, function, and operation of the facilities?

D. Absent additional information about the potential water quality impacts of disposal, the permit should reflect a conservative approach. This is an area of known high groundwater, near several sources of municipal water supply.

E. The city requests clarification as to whether purge water from monitoring well water quality testing events is subject to regulation under this permit. If so, how will the purge water be treated before discharge? If not, what treatment and disposal methods are used for the purge water?

F. The draft permit states that "Stormwater discharges from areas of the site not included in the above descriptions are…not subject to the requirements of this permit." Chapter 13.12.020 TMC provides that "it is unlawful for any person to drain or otherwise discharge into the city's stormwater system, or to cause or permit to be drained or discharged into the stormwater system, any organic or inorganic matter that shall cause or tend to cause pollution of the system's receiving waters beyond that caused by normal and expected runoffs from streets and other impervious surfaces as a result of stormwater runoff or routine residential activities." Any waters that may pick up pollutants from traffic, spills, well purging, or other sources, and that may impact groundwater, surface water, the city's stormwater system and/or the city's drinking water if not captured and treated, should be covered by Ecology's permit or should be treated and managed consistent with the city's stormwater standards. Please clarify which waters may not be covered by Ecology's permit.

Response 1:

A. As the fact sheet states, we have determined that the control measures in place satisfy the regulatory requirement for application of all known available and reasonable methods of control of the discharge of pollutants.

B. This is an irrigation system in the sense that it distributes the discharge evenly over an area of permeable soils. There is no crop culture or harvest associated the practice—only native plants and trees are "irrigated."

C. It is simply a distribution system. No other function (such as treatment) is claimed or implied.

D. The state ground water quality standards consider all ground waters to be potential drinking water sources. Thus, the most conservative standards that can be applied have been applied in this permit decision, and they have been applied very conservatively, i.e., to the discharge stream itself.

E. No permission to discharge purge waters was requested, and purge water discharges are not authorized by this permit.

F. The permit applied for is for discharges to ground water, not to the city's storm system. No discharges to the city's stormwater system are authorized by this permit. All the stormwater runoff from areas of industrial activity is directed to the land application system. Stormwater runoff to surface waters from areas of an industrial site that are not associated with the industrial activity are not deemed subject to NPDES permitting requirements. The city may have its own rules relating to storm water, but we have no authority to implement them through this permit.

Comment 2 – S2 Sampling & Analysis Requirement:

The provisions relating to proposed sampling requirements include mention of "by-passes," "upset," and "maintenance." Please clarify what would constitute a "by-pass" or "upset" and how they will be handled. All pollutant-laden by-pass or upset waters should be detained until adequate treatment and disposal can be effectuated.

Response 2:

This is a standard condition applicable to all state waste discharge permits. The intent of the provision referred to is to assure that samples taken for the self-monitoring program are representative of the actual discharge during the period that the sample represents, including if treatment is compromised or bypassed during some of that period. In this case, where effluent must be pumped to disposal, the discharge can be interrupted and stored, with no bypass necessary. In any case, the permit effluent limits apply, no matter what.

Comment 3 – S3 Reporting & Record Keeping Requirements:

Please add an additional Item 5 to Subsection E, Noncompliance Notification, requiring that the Permittee notify the city within 24 hours in the event of a by-pass, upset, or spill that may result in discharge of contaminated water potential affecting surface waters (including the city's stormwater system) or groundwater. For exceedances of water quality limits under Subsections E(1)-(4), please include a requirement that the Permittee notify the city when notifying Ecology

of any exceedance, and require that the Permittee promptly provide a copy of any reports to Kathleen Callison, Water Resources Program Manger, City of Tumwater, 555 Israel Road Southwest, Tumwater, Washington 98501.

Response 3:

This is a standard condition included in all state waste discharge permits. We can exercise only our own legal authority.

Comment 4 – S5 Spill Plan:

A. The Permittee should already have a spill plan on file. If not, or if the plan requires revisions, it should not take six months to prepare. In the interest of protection of the city's groundwater resources, please shorten the time for completion. Two months should be more than adequate to complete internal review.

B. The plan should include contact information for notification of the following city staff in the event of a spill:

Dan Smith, Water Resource Specialist
Public Works Department @ (360) 754-4140

John Carpenter, Assistant Fire Chief
Fire Department @ (360) 754-4170

After hours call 911

Response 4:

A. This is a new (first) permit issuance, and this condition is a standard condition which applies to all first-time State Waste Discharge Permits (and this the standard time allowed to prepare a plan). The fact is; the permit applicant does already have its own company-sponsored spill plan, which is part of its overall "Integrated Contingency Plan." Under this plan, spill drills are routinely required, with participation by the Tumwater Fire Department. The plan includes the kind of notifications and cooperative arrangements with the city that the commenter is looking for and these are already in effect.

B. We can only exercise our own legal authority in this permit.

Comment 5 – S6 Conditional Groundwater Monitoring Plan:

A. The subject property is a listed MTCA contaminated site, with a voluntary cleanup program underway including monitoring requirements. Please confirm that an ongoing monitoring program exists, relating to cleanup. Please explain how monitoring requirements under the proposed permit relate to the existing monitoring program for MTCA site cleanup

B. The monitoring plan under this permit should be tied to explicit steps towards site cleanup and problem remediation, in the event of excursions beyond regulated water quality limits.

C. Periodic hydrostatic testing should be limited to facilities onsite and should not include testing facilities offsite (i.e. Olympic Pipeline).

Response 5:

This permit has no relationship to any cleanup activity, and does not authorize any discharges from such activity. The monitoring described in Condition S6 is for the spray field

The permit does not authorize discharge of hydro-testing waters from any other source than the one described in the permit.

FACT SHEET

Comment 6 – Background: Description:

Is MTBE an ingredient in any of the additives (e.g. proprietary ingredients)?

Response 6:

The permit applicant has stated that MTBE is not an ingredient in any of the products or additives. No permission to discharge MTBE was requested, and the permit does not authorize any discharge of MTBE.

Comment 7 – Background: Sources of Discharge:

Regarding the statement that there is currently no point source discharge from remediation activity, is this because there is no remediation activity?

If there is remediation underway, what discharges may be associated with that activity, and how are those discharges handled? For example, purging of resource protection wells may be required prior to sampling. Please explain the method of treatment and disposal of this water.

Response 7:

There is no remediation activity ongoing and, in any case, the draft permit does not include remediation discharges among the specific discharges it allows.

See response to comment no. 2 on Permit Condition S1.

Comment 8 – Description: Treatment:

A. An underground storage tank of 4,000 gallons, designated by the applicant as a "co-mingle tank," is discussed. The applicant should be advised that the tank is currently no approved by the city. Please provide a site map locating this tank, as well as other portions of the treatment and discharge facilities associated with this permit.

B. Why is the discharge system called an "irrigation" system? Please describe the purpose and rate of "irrigation."

C. Regarding "breakthrough" of any of the "target contaminates" on the carbon canister. When and how frequently is the canister checked for "breakthrough?" Is the system for checking frequent enough and sensitive enough to catch "breakthrough" before accumulations of pollutants are collected beyond the canister? More frequent change-out of canisters may be appropriate based, for example, on manufacturer's recommendations, rather than on observation of breakout. What are the "target contaminants?" Describe "internal waste-stream monitoring" (location, method, frequency). Please reference other portions of the permit, if appropriate, to better describe this monitoring.

D. "The irrigation area requires little or no operation or maintenance effort." Please describe the "irrigation" area and show it on a site map. What, if any, operation or maintenance is undertaken? How frequently?

E. The trigger for removal of water from the sump appears to be "visual observation." How often is visual observation conducted? Under what circumstance would chemical or other testing, rather than or in addition to, visual observation be used to detect contamination if the facilties sensed contamination and the pump override engaged?

F. Is there an alert system for equipment malfunction? Is an employee either on-site, or notified, in the event of any malfunction?

Response 8:

The activated carbon adsorption unit consists of two columns in series. Samples are taken semi-annually of the effluent from the first and second columns. They are analyzed for benzene, ethyl benzene, toluene, and xylene (BETX). When the effluent from the first column starts showing detections of any of these constituents, that column is returned to the supplier. The second column is moved to the first position, and a new column is installed to replace the second column. Experience has shown that the "filter" runs are long—several years. There is no permit condition to impose this practice. The permit establishes effluent limits, and the permittee takes measures to meet them.

No maintenance of the irrigation area is necessary because the effluent continues to infiltrate and does not leave any accumulation of residuals. The irrigation area is a strip running north/southeast/west just behind (east of) the tank farm area, in the treed area, east of the active area of the site. The location of the spray field area is shown in Exhibit C of the Fact Sheet. (The irrigation distributor pipe is visible on the ground surface.)

This preventive measure does not depend on visual observation. Sump evacuation is automatic, but will not occur if the hydrocarbon sensing device in the sump engages and disables the pumps (and activates the alarm). The sensing device operates continuously.

There is an equipment-malfunction alarm system, including a telephone-alarm system, connected to the Alarm Center in Lacey. This system will call the plant operator until there is an answer, and staff of the security company will be dispatched if there is no answer. Again, there is no permit condition to impose this system, but it is a measure taken by the permit applicant to assure that other permit conditions (e.g., effluent limits) are not violated. The operation is not manned continuously, but is always manned when product is being received. There are normally two full-time employees.

Comment 9 – Pollution Prevention and Control Measures:

Is tanker flushing considered to be the state of the art in operation and maintenance? If not, what alternative methods or locations are available? Does the underground tank for collection of this flushing water meet regulatory standards for construction, maintenance and testing? Again, this tank has not been approved by the city as required.

Response 9:

There is no tanker flushing, as the commenter apparently envisions it. Sometimes, when a product different from the previous product carried by the tanker is to be loaded, small amounts of residual contents from the previous load are merely drained to the so-called "commingle tank." This tank is not associated with the permitted discharge; its presence and construction are not within the scope of this permit.

Comment 10 – Summary of Compliance:

A. Inspections "have revealed the soil infiltration to be dry." Might that indicate that the system is not functional or is not being used? What assurance does Ecology have that the system is being used?

B. Monitoring indicates "substantial compliance," yet there is free product on the groundwater surface. The city encourages the Permittee to complete cleanup of the entire site.

Response 10:

A. The statement that the infiltration area was "dry" meant to convey that there was no ponding, that is, that saturated soils conditions were not evident. These observations were made during inspections in wet weather, and the system operation has been witnessed during both announced and unannounced inspections. There is no reason for the permitting authority to believe that the spray area is not being used. The fact that the area is visually and olefactorily "clean" attests to the effectiveness of the pollution control measures that are being applied not that is not being used.

B. If there is free product on the ground water surface, it is unrelated to the applied-for discharge, and the issue of site cleanup related to past practices is not deemed relevant to this permit decision.

Comment 11 – Exhibit B:

A. If the system is being properly maintained, and oil and gas and other constituents are being removed from the waste-stream, why are these constituents showing up in the sampling results?

B. The city is concerned that "irrigation" may be undertaken in the summer when the contaminant loading is highest in the water that is used for "irrigation." Please show on a site map a schematic of the facilities and where the samples are being taken. Where in the system and how frequently is the chemical loading of "irrigation" water checked before discharge? What is the effect of "irrigation" contaminated water on local biota?

Response 11:

A. Exhibit B shows that detections of these indicator constituents have been very infrequent (four detections in 190 tests), and when they have been detected, they have never exceeded a water quality standard (and this is in the discharge, itself). It may be useful to note that in the 30-plus monthly samplings since the period depicted in the exhibit, there have been no detections of any of the monitored constituents.

B. Regular monthly testing of the discharge, summer and winter for more than ten years, has never shown a level of anything that would violate a ground water quality standard in the discharge, itself.

Comment 12 – Summary:

The city appreciates the opportunity to comment on this permit. We request that the Permittee expedite the cleanup and removal of petroleum products and related chemicals from the ground at this site, which is in the immediate vicinity of city wells. At a minimum, Shell should upgrade treatment and discharge facilities to the standard of all known, available, and reasonable control technologies as required under the federal Clean Water Act, Chapter 90.48 RCW and city standards as described above.

Response 12:

This discharge permit application and decision are not related to any cleanup effort, ongoing or not, at this site. The applicant has dutifully applied for a permit to discharge inevitable rain water runoff from the areas of its industrial activities. This storm water is subject to contamination only through releases of the products stored and transferred at the site. The permitting authority is satisfied that all known available and reasonable methods of pollution prevention and control are being applied to minimize these releases and their potential to impact ground water quality, and that with these measures applied, there is no potential for the permitted discharge to cause or contribute to a violation of any water quality standard.