WORKSHEET 1
SUMMARY SCORE SHEET

Site Name/Location (Street, City, County, Section/Township/Range, TCP ID Number):

Ken's Auto Wash *SE 1/4 of the SW 1/4 S-36 T-18 R-18*
1013 East 10th *TCP#*
Ellensburg WA 98926

Site Description (Include management areas, substances of concern, and quantities):

The facility is occupied by a car wash and convenience store. Three (3) UST's are present on the property and are utilized to support retail sale of petroleum products. These UST's consist of: one (1) 6,000 gallon super unleaded gasoline UST (Tank #1), one (1) 10,000 gallon unleaded gasoline UST (Tank #2) and one (1) 10,000 regular (leaded) gasoline UST (Tank #3). Fuel dispensers are located approximately twenty-five (25) feet south of the convenience store. The area south of the building is covered by concrete, while to area north of the building is covered by asphalt pavement.

The property surrounding the site is predominately residential. Alder Street lies immediately east of the subject property. 10th Avenue lies immediately south of the subject property. The Dairy Queen Brazier is located east of the site, across Alder Street. An alley and a chiropractic clinic lie north of the subject site.

Three (3) UST's were previously removed from the subject property on February 24, 1988. The WSDOE UST list indicates that one of these removed UST's contained regular (leaded) gasoline, while the other two (2) UST's contained unleaded gasoline.

During tank tightness activities, a leak was discovered in a super unleaded fuel line coupler at the Ken's Auto Wash facility, Ellensburg, WA. After discovery and correction of the leak, gasoline odors were discovered in two (2) observation wells located adjacent to three (3) Underground Storage Tanks (UST's).

Upon confirming the existence of a gasoline release, three (3) groundwater monitoring wells were installed at the site on April 5, 1996. The wells were installed at the northeast, southeast and southwest corners of the subject property. Soil samples were collected during installation of the wells and groundwater samples upon developing the wells. Selected soil and groundwater samples were submitted for independent laboratory analysis.

The analysis found gasoline, benzene, toluene, ethylbenzene, xylenes and total lead in samples collected from the well located at the southwest corner of the property at concentrations exceeding the Cleanup Levels. Soil generated during installation of the southwest monitoring well was disposed of at New Waste, Inc., Pasco, WA in accordance with the WSDOE "End Use Criteria for Petroleum Contaminated Soils".

Based upon the data collected to date it appears that the release has likely migrated off-site to the lot located immediately west of the site and beneath 10th Avenue located south of the site.

Special Considerations (Include limitations in site file data or data which cannot be accommodated in the model, but which are important in evaluating the risk associated with the site, or any other factor(s) over-riding a decision of no further action for the site):

Since significant contamination at this site is predominately subsurface, therefore, only the groundwater route is applicable for scoring under the Washington Ranking Method (WARM).

ROUTE SCORES:

Surface Water/Human Health: *NS* Surface Water/Environ.: *NS*

Air/Human Health: *NS* Air/Environmental: *NS*

Ground Water/Human Health: *69.5* **OVERALL RANK:** *2*

WORKSHEET 2

ROUTE DOCUMENTATION

1. SURFACE WATER ROUTE

List those substances to be considered for scoring: Source: *NS*

Not applicable / Not scored

Explain basis for choice of substance(s) to be used in scoring.

List those management units to be considered for scoring: Source:_____

Explain basis for choice of unit to be used in scoring. Source:_____

2. AIR ROUTE

List those substances to be considered for scoring: Source: *NS*

Not applicable / Not scored

Explain basis for choice of substance(s) to be used in scoring.

List those management units to be considered for scoring: Source:_____

Explain basis for choice of unit to be used in scoring. Source:_____

WORKSHEET 2 (CONTINUED)
ROUTE DOCUMENTATION

3. GROUND WATER ROUTE

List those substances to be considered for scoring: Source: 3

TPH as gasoline, benzene, toulene and xylene

Explain basis for choice of substance(s) to be used in scoring.

The above substances were detected at elevated concentrations in subsurface soils and groundwater in excess of MTCA clean up levels.

List those management units to be considered for scoring: Source: 3

Contaminated subsurface soil

Explain basis for choice of unit to be used in scoring.

Analytical Results

WORKSHEET 3 (If Required)
SUBSTANCE CHARACTERISTICS WORKSHEET
FOR MULTIPLE UNIT/SUBSTANCE SITES

Combination 1 Combination 2 Combination 3

Unit:

1. SURFACE WATER ROUTE

Substance(s):
Human Toxicity Value:
Environ. Toxicity Value:
Containment Value:
Rationale:

Surface Water Human Subscore: (+3)(+1)= (+3)(+1)= (+3)(+1)=
( )( ) =__ ( )( ) =__ ( )( ) =__

Surface Water Environ. Subscore: (+3)(+1)= (+3)(+1)= (+3)(+1)=
( )( ) =__ ( )( ) =__ ( )( ) =__

2. AIR ROUTE

Substance(s):
Human Toxicity/Mobility Value:
Environ. Toxicity/ Mobility Value:
Containment Value:
Rationale:

Air Human Subscore: (+3)(+1)= (+3)(+1)= (+3)(+1)=
( )( ) =__ ( )( ) =__ ( )( ) =__

Air Environ. Subscore: (+3)(+1)= (+3)(+1)= (+3)(+1)=
( )( ) =__ ( )( ) =__ ( )( ) =__

3. GROUND WATER ROUTE

Substance(s):
Human Toxicity Value:
Containment Value:
Rationale:

Ground Water Subscore: (+3)(+1)= (+3)(+1)= (+3)(+1)=
( )( ) =__ ( )( ) =__ ( )( ) =__

Based on their respective highest scoring toxicity/containment combinations, the following management units will be used for route scoring:

Surface Water -
Air -
Ground Water -

WORKSHEET 6
GROUND WATER ROUTE

1.0 SUBSTANCE CHARACTERISTICS

1.1 Human Toxicity

Substance	Drinking Water Standard (ug/l)	Val.	Acute Toxicity (mg/kg-bw)	Val.	Chronic Toxicity (mg/kg/day)	Val.	WOE	Carcino-genicity PF*	Val.
1. *WTPH - Gas*	*5*	*8*	*3306*	*3*	-	-	*1.0*	*0.029*	*5*
2. *Benzene*	*5*	*8*	*3306*	*3*	-	-	*1.0*	*0.029*	*5*
3. *Toulene*	*2000*	*2*	*5000*	*3*	*0.02*	*1*	-	-	
4. *Xylene*	*10000*	*2*	*50*	*10*	*2*	*1*	-	-	
5.									
6.									

*Potency Factor

Source: *1*
Highest Value: *10* (Max.=10)

+2 Bonus Points? *2*
Final Toxicity Value: *12* (Max.=12)

1.2 Mobility (Use numbers to refer to above listed substances)
Cations/Anions: 1= ; 2= ; 3= ; 4= ; 5= 6= .
Source: *2* **Value:** *3* (Max.=3)

OR
Solubility(mg/l): 1=; *1.8E + 03* ; 2= *1.8 E + 03* ; 3= *5.4 E + 02* ; 4= *2.0 E + 02* ; 5= 6= .

1.3 Substance Quantity: *Unknown*
Source: *3* **Value:** *1* (Max.=10)
Explain basis:

2.0 MIGRATION POTENTIAL

2.1 Containment
Source: *3* **Value:** *10* (Max.=10)
Explain basis: *Discharge to groundwater from subsurface soil contamination*

2.2 Net Precipitation: *2.9* inches
Source: *7* **Value:** *1* (Max.=5)

2.3 Subsurface Hydraulic Conductivity: *> 1 x 10^{-2}*
Source: *3* **Value:** *4* (Max.=4)

2.4 Vertical Depth to Ground Water: *7.5* feet
Source: *3* **Value:** *8* (Max.=8)

WORKSHEET 6 (CONTINUED)
GROUND WATER ROUTE

3.0 TARGETS

3.1 Ground Water Usage: *Private alternate sources available with minimum hook up* — Source: *2* **Value:** *4* (Max.=10)

3.2 Distance to Nearest Drinking Water Well: *1500* ft — Source: *3* **Value:** *3* (Max.=5)

3.3 Population Served within 2 Miles: √pop.=√ *13000* = — Source: *12* **Value:** *100* (Max.=100)

3.4 Area Irrigated by (Groundwater) Wells within 2 miles: 0.75√no.acres= *0*
0.75√ *0* : 0.75 (*0*)= — Source: *13* **Value:** *0* (Max.=50)

4.0 RELEASE

Explain basis for scoring a release to ground water: *Documented lab analysis* — Source: *3* **Value:** *5* (Max.=5)

SOURCES USED IN SCORING

1. *Washington Department of Ecology, Toxicology Database for use in WARM Scoring, January 1992.*
2. *Washington Department of Ecology, WARM Scoring Manual April 1992.*
3. *Limited Site Characterization Report, Sage Earth Science, June 1996.*
4. *USGS 7.5 minute Topographic Quadrangle - North and South Ellensburg*
5. *Flood Insurance Rate Map Kittitas County, Washington - Community - Panel Number 530095 0557B, May 1981.*
6. *USDA Soil Conservation Survey, Soil Survey of Kittitas County 1945 and 1995.*
7. *Washington Climate for Kittitas County, May 1979.*
8. *Office of Finance Management Population Projects*
9. *Kittitas County Planning Department GIS.*
10. *Sole Source Aquifers in the State of Washington, EPA 1995.*
11. *Water well report, state of Washington.*
12. *City of Ellensburg Water Plan.*
13. *Water rights database, Department of Health, Spokane.*

DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM

SITE HAZARD ASSESSMENT DATA COLLECTION SUMMARY SHEETS FOR WASHINGTON RANKING METHOD

SURFACE WATER, AIR AND GROUND WATER ROUTES ONLY

Site Name: *Ken's Auto Wash S - 36 T - 18 R - 18*

Location: *1013 E 10th, Ellensburg WA 98926*

Site owner/operator: *Ken Peterson*

Address: *Same*

Any other known PLP (s): *N/A*

Address: *N/A*

Date (s) of field site hazard assessment: *6/24/96 & 12/17/96*

Samples or field measurements: *NA*

_____surface water _____soil

_____ air _____ ground water

(Attached copies of pertinent sampling and analytical data, as well as all other supporting documentation.)

Photographs: *No*

Weather: *Cold, 10° F, snow on ground*

Lead inspector: *Gerald L. Tousley*

Other inspectors: _____

Signature: _____

Part I. Hazardous Substances

Note: Page number shown by "route" (e.g. SW-2, A-13) in parentheses refer to the WARM Scoring Manual. WK-numbers refer to page numbers of the worksheets at the end of the scoring manual.

A. Hazardous substances

List specific hazardous substances, known or suspected (check k or s), currently, or that have been previously (check c or p), at the site property (WK-2, WK-3). Give an estimate, if available, of the **quantity** (not concentration):

Hazardous Substance	K	S	C	P	Quantity	Units
1. *Gasoline*						
2. *Benzene*						
3. *Toluene*						
4. *Xylenes*						
5.						

By which routes are these available? (WK-2, WK-3)

Number (from above)	Surface Water	Air	Groundwater
1. *1*			*X*
2. *2*			*X*
3. *3*			*X*
4. *4*			*X*
5.			

References: *Limited Site Characterization Report dated June, 1996.*

B. SOURCES

Check those known or observed (WK-2, WK-3):

_____ drums or other containers
_____ electrical transformers
_____ above ground tanks
X below ground tanks
_____ ponds, pits, or other impoundments
_____ pipelines (other than water, sewer, or gas)
_____ floor drains
X exterior drains for rainwater, surface waters, spills, etc.
_____ Other? Identify: _____

C. INDICATORS Check those known or observed (SW-5; A-8, A-9; GW-6):

__X__ discolored soils
_____ disturbed soils
_____ discolored standing water
__X__ unusual or noxious odors
_____ sick or dead vegetation
__X__ groundwater monitoring wells
_____ other? Identify: _____

If any are checked in B or C, explain details including exact locations (identify location on a map or drawing).

Additional information/references:
Documented in Limited Site Characteriztion Report dated June, 1996

PART II: Releases

A. KNOWN OR SUSPECTED RELEASES

List those hazardous substances identified (by number) in I.A. which are know, or suspected, to have been released (WK-2, WK-3):

Substance (#)	Quant. Released	Units	Medium Released to
1	*Unknown*		*Groundwater, soil*
2	*Unknown*		*Groundwater, soil*
3	*Unknown*		*Groundwater, soil*
4	*Unknown*		*Grounwater, soil*

Additional information/references: *Limited Site Characterization Report dated June 1996*

III. Migration Potential

A. CONTAINMENT - - LANDFILLS (SW-7; A-11; GW-8, GW-9)

Present? *N/A* How many? _____

Check those that apply:

1. _____ An engineered, maintained run-on/run-off control system
2. _____ An engineered/maintained cover without ponding
3. _____ Unmaintained run-on/runoff control or no cover
4. _____ No run-on/runoff control or no cover
5. _____ Uncontaminated soil cover greater than 6″ thick
6. _____ Uncontaminated soil cover less than 6″ thick
7. _____ Contaminated soil used as cover
8. _____ A functioning vapor collection system
9. _____ Mixing or agitation used
10. _____ No liner
11. _____ Single clay or compacted soil liner (permeability _____cm/sec)
12. _____ Single synthetic liner (permeability _____ cm/sec)
13. _____ Double liner system (permeability _____ cm/sec)
14. _____ Leachate collection system, maintained and functioning
15. _____ Leachate collection system, unknown condition or not functioning
16. _____ Liquid wastes may have been disposed of
17. _____ Liquid wastes were disposed of in landfill
18. _____ Reliable evidence no liquid wastes were disposed

Additional comments/references: _____

_____

_____

_____

_____

B. CONTAINMENT - - SURFACE IMPOUNDMENTS (SW-8; ..-12; GW-9)

Present *N/A* How many? _____

Check those that apply:

1. _____ The dike is apparently sound
2. _____ The dike is regularly inspected and maintained
3. _____ There is evidence of failure, erosion, slumping, or release of contents
4. _____ Two feet of freeboard maintained automatically
5. _____ The freeboard is manually controlled so that there is at least 2 feet of freeboard
6. _____ Evidence of insufficient freeboard (<2 ft.)
7. _____ A maintained cover
8. _____ Unmaintained cover, no cover
9. _____ No liner
10. _____ Single synthetic liner
11. _____ Single clay or compacted soil liner
12. _____ Double liner
13. _____ Working leak detection system
14. _____ Evidence of loss of fluid (other than by evaporation)
15. _____ Mixing/agitation processes used

Additional comments/references: _____

C. CONTAINMENT - - DRUMS AND SMALL CONTAINERS (SW-9; A-10; GW-10)

Present *N/A* How many? _____

Check those that apply:

1. _____ No functional containment
2. _____ There is secondary containment capacity for the total volume of containers
3. _____ There is secondary containment with capacity for at least 110% of the volume of the largest container
4. _____ The secondary containment is less that 110% of the volume of the largest container
5. _____ The containers are stored in single, or double layers on pallets, or in racks
6. _____ The containers are stored in an unstable manner
7. _____ Some containers are open or have visible liquid
8. _____ Some containers are leaking
9. _____ Containers are protected from weather
10. _____ Containers showing deterioration
11. _____ Containment surface is impervious
12. _____ Containment surface has cracks or semi-permeable
13. _____ No base material/permeable base such as grave/base materials unknown
14. _____ Evidence of containment failure

Additional comments/references: _____

D. CONTAINMENT - STORAGE TANKS (SW-9; A-10; GW-10)

Present? *N/A* How many? _____

Check those that apply:

1. _____ Secondary containment with a capacity of 110% of the volume of the tanks
2. _____ Secondary containment at least 50% of the volume of all tanks
3. _____ Containment system with capacity for at least 10% of volume of containers or tanks
4. _____ No containment, or less than 10% capacity
5. _____ Tank volumes maintained
6. _____ Automatic controls used for volume maintenance
7. _____ Tanks are covered
8. _____ Uncovered tanks have aeration, mixing, or heating of tank contents
9. _____ Containers sealed, protected
10. _____ Containers sealed, not protected
11. _____ Containers deteriorated
12. _____ Containers leaking
13. _____ Record the #s of above which apply only to above ground tank _____
14. _____ Record the #s of above which apply only to below ground tanks _____
15. _____ Record the #s of above which apply to both above and below ground tanks:

_____

Additional comments/references: _____

_____

_____

_____

_____

_____

_____

E. CONTAINMENT -- WASTE PILES (SW-10; A-11; GW-11)

Present? *N/A* How many? _____

Check those that apply:

1. _____ Waste pile is outside, no protecting structure
2. _____ Waste pile is outside, in open structure with roof
3. _____ Waste pile is outside, with partial or unmaintained cover
4. _____ Waste pile is outdoors, with maintained cover
5. _____ No cover is present
6. _____ Waste pile is fully enclosed, intact building
7. _____ There is an engineered run-on/run-off control
8. _____ The run-on/run-off control is maintained
9. _____ Run-on/run-off control system present, unknown condition
10. _____ No run-on/run-off control system present, or unknown if present
11. _____ Liner or base present; _____ Not present
12. _____ Single clay or compacted soil liner
13. _____ Single synthetic liner
14. _____ Double liner
15. _____ Maintained, functioning leachate collection system
16. _____ Leachate collection system; _____ Unknown condition; or _____ Not functioning

Additional comments/references: _____

F. CONTAINMENT - - SPILLS, DISCHARGES, AND CONTAMINATED SOIL

(SW-10; A-12; GW-12)

Check those that apply:

1. _X_ Spill, discharge, or contaminated soil only in the subsurface at the site -- including dry wells, drainfields, leaking underground storage tanks

2. ___ Soil contamination that has been covered *partially excavated* and filled with at least 6 inches of clean soil

3. ___ Soil contamination that has been covered or partially excavated and filled with less than 6 inches of clean soil

4. ___ Uncontaminated soil cover >2 feet thick

5. ___ No cover; or _____ Cover <2 feet, but > 6" thick

6. ___ Spill, discharge, or contaminated soil present at the surface in an area with maintained run-on/run-off control

7. ___ Spill, discharge, or contaminated soil present at the surface in an area with unmaintained run-on/run-off controls?

8. _____ Spill, discharge, or contaminated soil present at the surface with no run-on/run-off control or unknown controls.
9. _____ Contaminated soil has been disturbed or excavated and stored above grade

10. ___ A functioning vapor recovery system

11. ___ No vapor recovery system

Additional comments/references: *Limited Site Characterization Report June 1996*

G. CONTAINMENT - - SITE CHARACTERISTICS

(SW-11, SW-12, SW-13, SW-14; GW-12, GW-13; WK-5-9)

1. How would you evaluate the site soils? Circle predominant textural class.

_X_ Sand, gravel, sandy gravel, well-graded sand, well-graded gravel, gravelly sand, gravelly sand loam, silty sandy loam?

_____ Poorly-graded sand with fines, silt-sand mixtures, loam, silt loam, sandy silt loam, clayey sand, clay sand loam?

_____ Clayey sands, sand-clay mixtures, clayey gravels, clay-sand-gravel mixtures, inorganic silts, clayey silt loam, silty clay loam, porous rock outcrop, sandy silty clay, sandy clay loam?

_____ Clay (organic and inorganic), clay loam, rock outcrop, peat, peaty clay?

Is the above based on personal observation, lab analysis, or professional judgment by a soil expert? (Circle)

2. Total annual precipitation = _5.8_ in./yr. (SW-11; WK-6)
   Nov - Apr
3. Max. 2-Yr./24-hr precip. = _1.5_ inches (SW-12; WK-6)

4. Net precipitation (see 2.2, GW-12) = _2.9_ in. (WK-9)
   5.8 - 2.9

5. Is the site not in a flood plain? _____ (SW-12; WK-6)
   Is the site in a 500 year flood plain? _____
   Is the site in a 100 year flood plain? _X_

6. What is the terrain slope to the nearest surface water? _1.45_ % (SW-14; WK-6)
   3800 feet = X Y = 1595 - 1540
7. What is the subsurface hydraulic conductivity? _$> 1 \times 10^{-2}$_ cm/sec (GW-13; WK-9)

8. What is the vertical depth from the deepest point of known contamination to ground water? _7.5_ feet (GW-13; WK-9)

Additional comments/references: _____

IV. Targets

A. DISTANCE TO SURFACE WATER (SW-15; WK-6)

1. What surface water (s) (lake, stream, river, pond, bay, etc.) is/are within 10,000 feet (downgradient) of the site?

Name	Dist. - ft.	Obs.	Meas.
Mercer Creek	*3800*		*X*

None? _____. Comments/references: _____

2. What drinking water intakes are within 2 miles of the site? (All lake intakes, river intakes downstream only) (SW-15; WK-6)

None? *None*

Source	Location	Pop. Served

3. How much acreage (anywhere) is irrigated by surface water intakes (downstream only) or wells (anywhere) within 2 miles of the site? (SW-15; GW-15; WK-6, WK-10)

None? *None*

SURFACE WATER: Acres _____
Source (s) *WRIS*
GROUNDWATER: Acres *0*

Reference (s) : *WRIS - Downgradient, in city limits*

4. What is the distan[illegible] the nearest fishery resource (overlan[illegible]w distance to nearest surface water which is a fishery resource)? (SW-16, SW-17, SW-18; WK-6)

   Over 10,000 feet? ___X___ Distance if less than 10,000 feet? _____ ft

5. What are the names of, and the distances to, the nearest sensitive environments (total of overland distances plus downgradient distances, count only overland flow distance if nearest sensitive environment is a fishery)? (SW-18; A-15; WK-6)

   Over 10,000 feet? ___X___ Names and distances if less than 10,000 feet: _____

   _____

   _____

   _____

   _____

6. Is the aquifer a federally-designated sole source aquifer? ___No___ (GW-14; WK-9)

7. Is the ground water used for: (GW-14; WK-10)
   - ___X___ private supply
   - _____ public supply
   - ___X___ irrigation of human food crops or livestock
   - _____ non-food (human) vegetation
   - _____ not used due to natural contaminants
   - _____ ground water not used, but usable

8. Distance to nearest drinking water well? ___1500 Feet_____
   (GW-15; WK-10) *City of Ellensburg - screen at ≈ 700 feet*

9. Is there an alternate source available to groundwater for private or public water supply?
   (GW-14, WK-10) ___Yes___

10. Population served by drinking water wells within 2 miles? ___13,000_____
    (GW-115; WK-10)

11. Distance to the nearest population?___50 feet___(A-13,; WK-8)

12. Population within one-half mile radius? 2,000
    (A-15; WK-8)

Additional comments (e.g. potential for natural resource damage, or other ecological concerns, references): _____

_____

_____

_____

_____

_____