3705484

EMCON Northwest, Inc.

18912 North Creek Parkway • Suite 100 • Bothell Washington 98011-8016 • (206) 485-5000 • Fax (206) 486-9766

TRANSMITTAL

Project/Task No

TO MR. LARRY SILVA
TOSCO NORTHWEST CO.
601 UNION STREET
SEATTLE, WA 98101

DATE MAY 13, 1994

RE DRAFT BASELINE ASSESSMENT REPORTS FOR STATION NOS. 01640, 11033, 03144, 11047, 11064, 11067, 11027, & 11260

WE ARE SENDING

QUANTITY	DESCRIPTION
1 ea.	1 DRAFT OF THE ABOVE-REFERENCED
1	TRACKING TABLE OF "DRUMS ON SITE"

FOR YOUR

- ____ USE
- ✓ APPROVAL
- ✓ REVIEW/COMMENTS
- ____ INFORMATION
- ____ OTHER ____

SENT VIA

- ____ REGULAR MAIL
- ✓ FEDERAL EXPRESS
- ____ UPS
- ____ COURIER
- ____ OTHER

COMMENTS LARRY - EIGHT (8) REPORTS FOR YOUR REVIEW ON MONDAY. HOPE YOU HAD AN ENJOYABLE WEEKEND!

cc: PROJECT FILES

BY Lauree Robinson

(Carrie - to copy to each file listed below H.C

EMCON
Northwest, Inc
18912 North Creek Parkway • Suite 100 • Bothell, WA 98011-8016 • Office (206) 485-5000 • FAX (206) 486-9766

TRANSMITTAL

Date 3-31-94

Project 0328-166.02

To Peter DeSantis
BP Oil
295 SW 41st
Bldg 13
Renton, WA 98055

We are enclosing:

Copies	Description
1	Copy of lab results for soil stockpiles at the following sites: # 03132
	# 03156
	# 11047
	# 11059
	# 11066
	# 11071

For your ✓ Use
Approval
Information

Sent by First Class Mail
✓ Federal Express
Other

Comments. Site # 11071 has only minor diesel/gas hits - the stockpile contains Class 2 soil. Please call if you have questions.

cc:

Holly Corner

SITE SAFETY AND OPERATIONS PLAN

PROJECT INFORMATION

SITE: TOSCO Station #11047 DATE: February 14, 1994

LOCATION: 33520 21st Avenue SW PREPARED BY: Greg Mack

Federal Way, Washington PROJECT NUMBER: 0328-050.02

21st Avenue SW and SW 336th St PROJECT MANAGER: Mike Noll

CLIENT CONTACT: Larry Silva, TOSCO Northwest, 206-394-5261 or 206-575-4077

PROJECT OBJECTIVES: To determine the presence and/or extent of soil and groundwater contamination at the site.

SCOPE OF WORK: Drilling using hollow-stem auger, soil sampling, hand augering, and groundwater sampling. Cement coring for access.

START DATE: February 14, 1994 COMPLETION DATE: July 1, 1994

NOTE: This Site Safety Plan must be re-evaluated and updated annually or when site conditions or scope of work changes.

FACILITY DESCRIPTION AND BACKGROUND

TYPE OF FACILITY: Service station with USTs

SIZE: 190' x 230' BUILDINGS/STRUCTURES: One service building with 3 pump islands

ACCESS: Via 21st Avenue SW and SW 336th St.

TOPOGRAPHY: Slopes to the south and west

GENERAL GEOLOGIC/HYDROLOGIC SETTING: Glacial material (silt, sand, and gravel)

SITE STATUS: Active

PREVIOUS HAZARDOUS MATERIAL/WASTE STORAGE AND DISPOSAL METHOD(S): Underground storage tanks, product lines, and dispensers. The site has 5 USTs: one 12,000-gallon regular unleaded, one 6,000-gallon unleaded, one 10,000-gallon super unleaded, one 6,000-gallon regular unleaded, one unknown size waste oil

SITE HISTORY: Former Mobil

SPECIAL CONDITIONS/COMMENTS: Waste oil UST not in use

WASTE TYPE(S)/CHARACTERISTICS

ARE HAZARDOUS SUBSTANCES KNOWN TO HAVE BEEN STORED/SPILLED ON SITE? ☒ YES ☐ NO

SOURCE(S) OF INFORMATION: TOSCO project manager

Compound	Maximum Concentration Encountered or Anticipated			
	Soil (ppm)	Water (ppb)	Air (ppb)	Depth (ft below grade)
Benzene	—	—	—	—
TPH	24	—	—	—
TPH-D	—	—	—	—
TPH-O	—	—	—	—

SPECIAL CONSIDERATIONS/COMMENTS: Two of three wells were dry.

HAZARD EVALUATION

Petroleum hydrocarbons: chronic exposure to vapors has caused kidney damage and kidney cancer in rats and liver cancer in mice. Inhalation of hydrocarbon vapors should be avoided Work upwind of contaminated areas whenever possible. Particulates from soil also pose potential heavy metal and semivolatile inhalation hazards. Implement dust control measures whenever visible dust is generated by work activities. Avoid all contact with contaminated soil and groundwater by wearing nitrile or neoprene gloves.

Heavy equipment: potential physical hazard from working around drilling rigs and excavating equipment. Hard hat and steel-toed boots required at all times. Keep clear of equipment at all times. Signal equipment operator when approaching equipment.

Open excavations: Do not enter or stand near edge of excavations or trenches.

Vehicular traffic: Restrict access to work area with vehicles, traffic cones or barriers, or barrier tape. Be alert for inattentive drivers at operating job sites. Wear high-visibility orange safety vests when appropriate.

OPERATIONS PLAN

VICINITY MAP / EMERGENCY ROUTE: on the attached figure.
SITE SKETCH: on the attached figure or in the proposal.
UNDERGROUND UTILITY CLEARANCE PERFORMED ON: _____ BY: _____
EXCAVATION, DRILLING, AND/OR SAMPLING METHOD(S): Drilling with a hollow-stem auger, soil sampling using drill rig and/or hand auger, groundwater sampling using pumps and/or bailer.

COMMENTS: Exclusion zone extends 50 feet around drilling rig or open excavation or trench. Contaminant reduction zone is decon area next to EMCON field vehicle Clean zone is remainder of site. Restrict access to work area with caution/barrier tape, traffic cones, warning signs, or barricades as appropriate.

SAFETY EQUIPMENT AND PROCEDURES

INITIAL LEVEL OF PROTECTION: ☐ C ☒ D
REQUIRED PERSONAL PROTECTIVE EQUIPMENT: Hard hat, steel-toed boots, and eye protection required at all times.
Wear Scorpio or Solvex gloves when handling soil or groundwater. Wear Tyvek suit, coveralls, or rain gear as needed.

AIR MONITORING EQUIPMENT AND PROCEDURES: Monitor work area every 15 minutes with a photoionization detector calibrated to 100 ppm isobutylene. Record monitoring times, locations, and results in field log. Upgrade to Level B (supplied air respirators) or evacuate site when PID readings exceed 100 ppm in breathing zone.

ACTION LEVELS: Upgrade to Level C (half or full face respirators with OV cartridges) when PID readings exceed 20 ppm in the work area or when bailing free product from monitoring wells.

COMMUNICATIONS: A mobile phone will be available at the EMCON field vehicle if there is not a phone already on site.

DECONTAMINATION PROCEDURES: Discard Tyvek and gloves (if used). Clean dirt off boots. Wash hands and face prior to breaks and before leaving site. Bring soap and wash water if a wash room is not available at the site.

KEY PROJECT PERSONNEL

SITE TEAM (no.): 1 EMCON Northwest __ Client __ Agency __ Other

SITE WORK TEAM (name/responsibility):

1. Drilling company
2. Concrete coring company
3.
4.
5.

ENTRY BRIEFING DATE: _____ LOCATION: at the site or Bothell office

SPECIAL CONDITIONS (e.g., work schedule or limitations): Works areas will be clearly marked. Work to be performed during daylight hours only.

EMERGENCY PROCEDURES

ACUTE EXPOSURE SYMPTOM(S):	FIRST AID:
Eyes - slight to moderate irritation	Flush with water for 15 minutes
Skin - irritation, redness, drying	Wash with soap and water
Respiratory - dizziness, irritation of eyes, nose, or throat, headache, nausea	Remove to fresh air
Ingestion	Do not induce vomiting. Call a physician

NEAREST HOSPITAL/EMERGENCY MEDICAL CENTER

St. Francis Community Hospital (206) 927-9700
34515 - 9th Avenue South
Federal Way, Washington

EMERGENCY ROUTE: (also see attached map)

Go east on 336th Street SW. This turns into Campus. Go past 1st Way. Turn left (north) on 9th Avenue. Hospital is two blocks on left.

EMERGENCY PHONE NUMBERS

Ambulance, police, fire		Dial 911
Chemtrec	Emergency spill response	1-800-424-9300
Project Manager	Mike Noll	1-206-485-5000/794-4561
Health and Safety Manager	Robert Winkel	1-206-485-5000/483-9301
Branch Manager	Don Cordell	1-206-485-5000

HEALTH AND SAFETY EQUIPMENT CHECKLIST

**** THE FOLLOWING SAFETY EQUIPMENT IS REQUIRED ON YOUR JOB SITE ****

- ☒ Photoionization Detector or Flame Ionization Detector – PID calibrated to 100 ppm isobutylene
- ☐ Combustible Gas Detector – _____
- ☐ Oxygen indicator – _____
- ☐ Draeger/Sensidyne Pump and Detector Tubes – _____
- ☒ Respirator – half- or full-face respirator with OV cartridges, change cartridges daily
- ☐ Protective Clothing – _____
- ☒ Chemical Protective Gloves – Scorpio or Solvex gloves
- ☒ Decontamination Equipment – bring soap and water to wash hands and face if no facilities are available
- ☒ Steel-toed Boots – required on all job sites
- ☐ Disposable Boot Covers
- ☒ Hearing Protection – use when appropriate
- ☒ Safety Glasses – use when appropriate
- ☒ Hard Hat – use when appropriate
- ☒ Caution Tape, Traffic Cones, or Barriers
- ☒ Emergency Eye Wash Fountain
- ☒ First Aid Kit – located in EMCON field vehicle
- ☒ Fire Extinguisher – located in EMCON field vehicle
- ☒ Drinking Water
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

PLAN APPROVALS

Project Manager	Michael P. Hall	Feb 20, 1994
Office Safety Coordinator	[signature]	Feb 15, 94
Title	Signature	Date

SIGNATURE PAGE

SITE: TOSCO Station #11047, 33520 21st Avenue SW, Federal Way, Washington PROJECT NUMBER: 0328-050.02

NOTE. All EMCON personnel are to understand and comply with specific practices and guidelines as described in the EMCON Corporate Health and Safety Policy Manual regarding field safety and health hazards. This Health and Safety Plan has been developed for the use of EMCON personnel only. EMCON makes this plan available for review by other personnel on a work site; however, this plan does not cover the employees of any other employer on the work site

SIGN-OFF. I have read and understand the attached Site Safety and Operations Plan and attached General Safe Work Practices, and agree to comply with the requirements described within:

NAME	TITLE	DATE

GENERAL SAFE WORK PRACTICES

Field operations for this project shall be conducted in accordance with the minimum safety practices described below required for EMCON Northwest employees.

SAFETY PRACTICES FOR FIELD PERSONNEL

1. Eating, drinking, chewing gum or tobacco, smoking, or any practice that increase the probability of hand-to-mouth transfer and ingestion of materials is prohibited in any area where the possibility of contamination exists.

2. Hands must be thoroughly washed when leaving a contaminated or suspected contaminated area before eating, drinking, or any other activities.

3. Contaminated protective equipment shall not be removed from the work area until it has been properly decontaminated or containerized on site.

4. Avoid activities which may cause dust. Removal of materials from protective clothing or equipment by blowing, shaking, or any means which may disperse materials into the air is prohibited.

5. Field personnel must use the "buddy system" when wearing any respiratory protective devices. Communications between members must be maintained at all times. Emergency communications shall be prearranged in case unexpected situations arise. Visual contact must be maintained between pairs on site, and team members should stay close enough to assist each other in the event of an emergency.

6. Personnel should be cautioned to inform each other of subjective symptoms of chemical exposure such as headache, dizziness, nausea, and irritation of the respiratory tract.

7. No excessive facial hair which interferes with a satisfactory fit of the facepiece-to-face seal will be allowed on personnel required to wear respiratory protective equipment.

8. The selection, use, and maintenance of respiratory protective equipment shall meet the requirements of established EMCON procedures, recognized consensus standards (AIHA, ANSI, NIOSH), and shall comply with the requirements set forth in 29 CFR 1910.134.

9. At sites with known or suspected contamination, appropriate work areas for field personnel support, contaminant reduction, and exclusion will be designated and maintained.

10. EMCON field personnel are to be thoroughly briefed on the anticipated hazards, equipment requirements, safety practices, emergency procedures, and communications methods, both initially and in daily briefings.

11. All EMCON field vehicles shall contain a first aid kit and multipurpose portable fire extinguisher.

12 All field personnel will, whenever possible, remain upwind of drilling rigs, open excavations, boreholes, etc.

13. Subsurface work shall not be performed at any location until the area has been cleared by a utility locator firm to be free of underground utilities or other obstructions

14. Field personnel are specifically prohibited from entering into excavations, trenches, or other confined spaces deeper than 4 feet. Unattended boreholes must be properly covered or otherwise protected.

SAFETY PRACTICES FOR DRILLING RIG OPERATORS

1. Before raising the drill rig mast in the vicinity of electrical power lines, the operator shall walk completely around the drill rig to determine the distance from the rig to the nearest power line when the mast is being praised (should be greater than 20 feet). Any questions about the appropriateness of a drilling location should be brought to the attention of the project manager.

2. Prior to drilling, the location must be adequately cleared and leveled to accommodate the drill rig.

3. Suitable storage for all tools, materials, and supplies shall be provided. Pipe, well casing, augers, and other tools or materials shall be stacked in an orderly manner to prevent rolling spreading, or sliding.

4. Work areas and drilling platforms shall be kept free of materials, obstructions, and/or substances that could cause the surface to become slick or otherwise unsafe.

5. After stabilizing and leveling the drill rig, all unnecessary personnel should stand away from the drill rig while the mast is being raised.

6. Augers shall be used in accordance with the manufacturer's recommended methods of securing the augers to the power coupling. Additionally, the operator and tool handler shall establish a safe system of responsibilities for the drilling, auger connecting and disconnecting, and auger fork insert/ removal.

7. Augers shall be cleaned only when the drill rig is in neutral and the auger has stopped rotating.

SEE KNG 714 MAP

SEE 774 MAP

PUGET SOUND

POVERTY BAY

ADELAIDE

LAKOTA

DASH POINT

DASH POINT RD

SW DASH POINT RD

EAST SIDE RD

MIRROR LAKE

KING COUNTY

PIERCE CO

TWIN LAKES

FEDERAL WAY

MARINE VIEW DR

NORTHSHORE

PKWY

BROWNS POINT BLVD

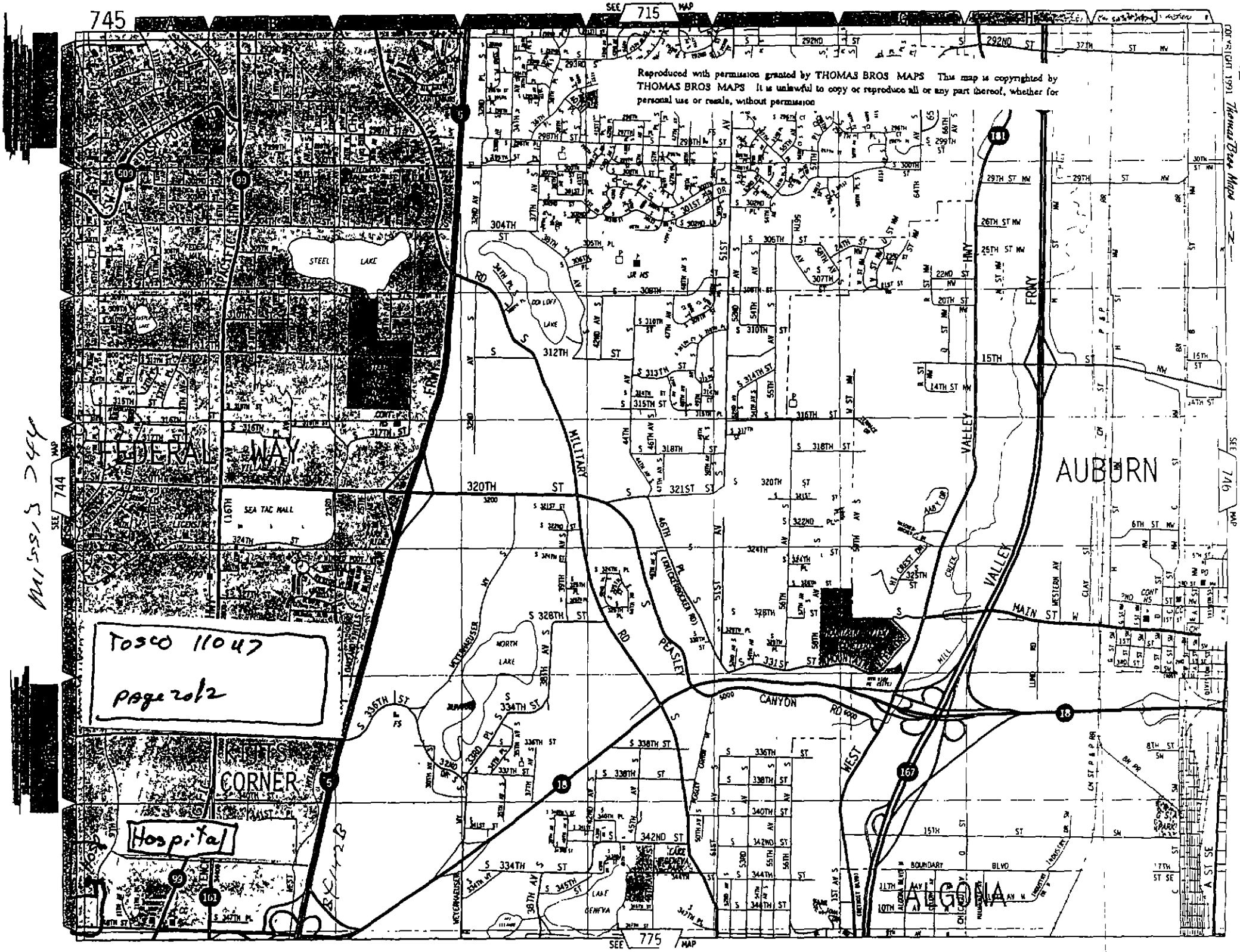
NORTH SHORE GOLF COURSE

PANTHER LAKE

CAMPUS

Tosco 11047
21st SW & 336th
Federal Way
1 of 2

Station 11047


745
SEE 715 MAP
SEE 744 MAP
SEE 746 MAP
SEE 775 MAP
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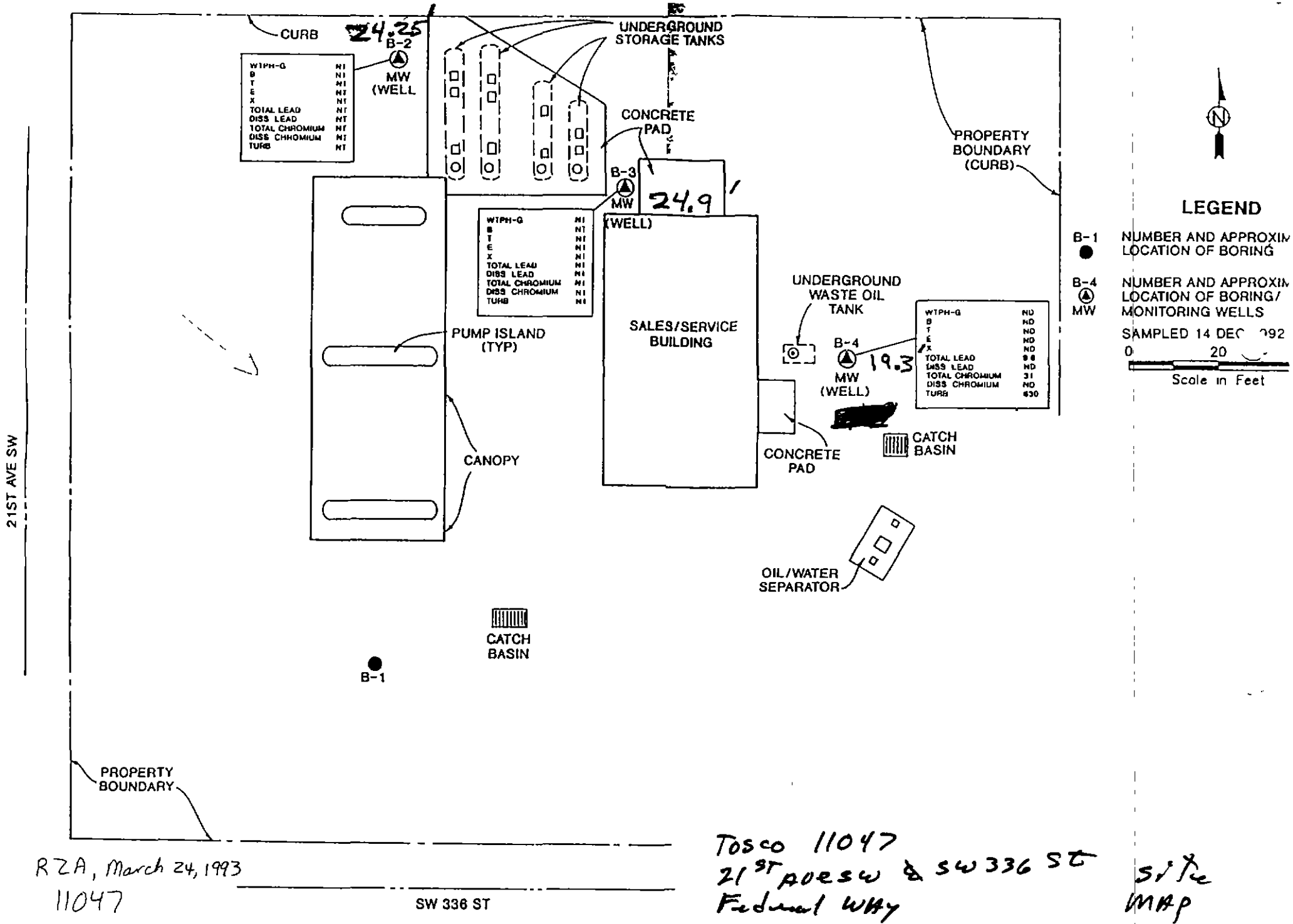
FEDERAL WAY
AUBURN
ALGONA
PUGET SOUND
PACIFIC HIGHWAY S
MILITARY RD S
PUGSLEY CANYON RD
WEST VALLEY HWY
VALLEY FRWY
MAIN ST W
320TH ST
312TH ST
304TH ST
324TH ST
328TH ST
334TH ST
342ND ST
348TH ST
292ND ST
15TH ST
STEEL LAKE
SEA TAC MALL
NORTH LAKE
LAKE DOLLOFF
LAKE GENEVA
MOUNTAIN VIEW CEMETERY
JR HS
HI CREST CREEK
Tosco 11047
page 2 of 2
Hospital



RZA, March 24, 1993
11047

Tosco 11047
21st Ave SW & SW 336 St
Federal Way

Site
Map

SITE SAFETY AND OPERATIONS PLAN

PROJECT INFORMATION

SITE: TOSCO Station #11047 DATE: February 14, 1994

LOCATION: 33520 21st Avenue SW PREPARED BY: Greg Mack

Federal Way, Washington PROJECT NUMBER: 0328-050.02

21st Avenue SW and SW 336th St. PROJECT MANAGER: Mike Noll

CLIENT CONTACT: Larry Silva, TOSCO Northwest, 206-394-5261 or 206-575-4077

PROJECT OBJECTIVES: To determine the presence and/or extent of soil and groundwater contamination at the site.

SCOPE OF WORK: Drilling using hollow-stem auger, soil sampling, hand augering, and groundwater sampling. Cement coring for access.

START DATE: February 14, 1994 COMPLETION DATE: July 1, 1994

NOTE: This Site Safety Plan must be re-evaluated and updated annually or when site conditions or scope of work changes.

FACILITY DESCRIPTION AND BACKGROUND

TYPE OF FACILITY: Service station with USTs

SIZE: 190' x 230' BUILDINGS/STRUCTURES: One service building with 3 pump islands

ACCESS: Via 21st Avenue SW and SW 336th St.

TOPOGRAPHY: Slopes to the south and west

GENERAL GEOLOGIC/HYDROLOGIC SETTING: Glacial material (silt, sand, and gravel)

SITE STATUS: Active

PREVIOUS HAZARDOUS MATERIAL/WASTE STORAGE AND DISPOSAL METHOD(S): Underground storage tanks, product lines, and dispensers. The site has 5 USTs: one 12,000-gallon regular unleaded, one 6,000-gallon unleaded, one 10,000-gallon super unleaded, one 6,000-gallon regular unleaded, one unknown size waste oil

SITE HISTORY: Former Mobil

SPECIAL CONDITIONS/COMMENTS. Waste oil UST not in use

WASTE TYPE(S)/CHARACTERISTICS

ARE HAZARDOUS SUBSTANCES KNOWN TO HAVE BEEN STORED/SPILLED ON SITE? ☒ YES ☐ NO

SOURCE(S) OF INFORMATION: TOSCO project manager

Compound	Maximum Concentration Encountered or Anticipated			
	Soil (ppm)	Water (ppb)	Air (ppb)	Depth (ft below grade)
Benzene	—	—	—	—
TPH	24	—	—	—
TPH-D	—	—	—	—
TPH-O	—	—	—	—

SPECIAL CONSIDERATIONS/COMMENTS: Two of three wells were dry.

HAZARD EVALUATION

Petroleum hydrocarbons: chronic exposure to vapors has caused kidney damage and kidney cancer in rats and liver cancer in mice. Inhalation of hydrocarbon vapors should be avoided. Work upwind of contaminated areas whenever possible. Particulates from soil also pose potential heavy metal and semivolatile inhalation hazards. Implement dust control measures whenever visible dust is generated by work activities. Avoid all contact with contaminated soil and groundwater by wearing nitrile or neoprene gloves.

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Open excavations Do not enter or stand near edge of excavations or trenches.

Vehicular traffic: Restrict access to work area with vehicles, traffic cones or barriers, or barrier tape. Be alert for inattentive drivers at operating job sites. Wear high-visibility orange safety vests when appropriate.

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VICINITY MAP / EMERGENCY ROUTE: on the attached figure.
SITE SKETCH: on the attached figure or in the proposal.
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EXCAVATION, DRILLING, AND/OR SAMPLING METHOD(S): Drilling with a hollow-stem auger, soil sampling using drill rig and/or hand auger, groundwater sampling using pumps and/or bailer.

COMMENTS: Exclusion zone extends 50 feet around drilling rig or open excavation or trench. Contaminant reduction zone is decon area next to EMCON field vehicle. Clean zone is remainder of site. Restrict access to work area with caution/barrier tape, traffic cones, warning signs, or barricades as appropriate.

SAFETY EQUIPMENT AND PROCEDURES

INITIAL LEVEL OF PROTECTION: ☐ C ☒ D
REQUIRED PERSONAL PROTECTIVE EQUIPMENT: Hard hat, steel-toed boots, and eye protection required at all times.
Wear Scorpio or Solvex gloves when handling soil or groundwater. Wear Tyvek suit, coveralls, or rain gear as needed.

AIR MONITORING EQUIPMENT AND PROCEDURES: Monitor work area every 15 minutes with a photoionization detector calibrated to 100 ppm isobutylene. Record monitoring times, locations, and results in field log. Upgrade to Level B (supplied air respirators) or evacuate site when PID readings exceed 100 ppm in breathing zone.

ACTION LEVELS: Upgrade to Level C (half or full face respirators with OV cartridges) when PID readings exceed 20 ppm in the work area or when bailing free product from monitoring wells.

COMMUNICATIONS: A mobile phone will be available at the EMCON field vehicle if there is not a phone already on site.

DECONTAMINATION PROCEDURES: Discard Tyvek and gloves (if used). Clean dirt off boots. Wash hands and face prior to breaks and before leaving site. Bring soap and wash water if a wash room is not available at the site.

Project Number: 0328-050.02

KEY PROJECT PERSONNEL

SITE TEAM (no.): 1 EMCON Northwest __ Client __ Agency __ Other

SITE WORK TEAM (name/responsibility):

1. Drilling company
2. Concrete coring company
3.
4.
5.

ENTRY BRIEFING DATE: _____ LOCATION: at the site or Bothell office

SPECIAL CONDITIONS (e.g., work schedule or limitations): Works areas will be clearly marked Work to be performed during daylight hours only.

EMERGENCY PROCEDURES

ACUTE EXPOSURE SYMPTOM(S):	FIRST AID:
Eyes - slight to moderate irritation	Flush with water for 15 minutes
Skin - irritation, redness, drying	Wash with soap and water
Respiratory - dizziness, irritation of eyes, nose, or throat, headache, nausea	Remove to fresh air
Ingestion	Do not induce vomiting. Call a physician

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EMERGENCY ROUTE: (also see attached map)

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EMERGENCY PHONE NUMBERS

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Project Manager	Mike Noll	1-206-485-5000/794-4561
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Project Number: 0328-050.02

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- ☐ Disposable Boot Covers
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- ☒ Safety Glasses – use when appropriate
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- ☒ Drinking Water
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

PLAN APPROVALS

Project Manager	Michael P. Hall	Feb 20, 1994
Office Safety Coordinator	[signature]	Feb 15, 94
Title	Signature	Date

SIGNATURE PAGE

SITE: TOSCO Station #11047, 33520 21st Avenue SW, Federal Way, Washington PROJECT NUMBER: 0328-050 02

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NAME	TITLE	DATE

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SAFETY PRACTICES FOR FIELD PERSONNEL (continued)

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12. All field personnel will, whenever possible, remain upwind of drilling rigs, open excavations, boreholes, etc.

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3. Suitable storage for all tools, materials, and supplies shall be provided. Pipe, well casing, augers, and other tools or materials shall be stacked in an orderly manner to prevent rolling spreading, or sliding.

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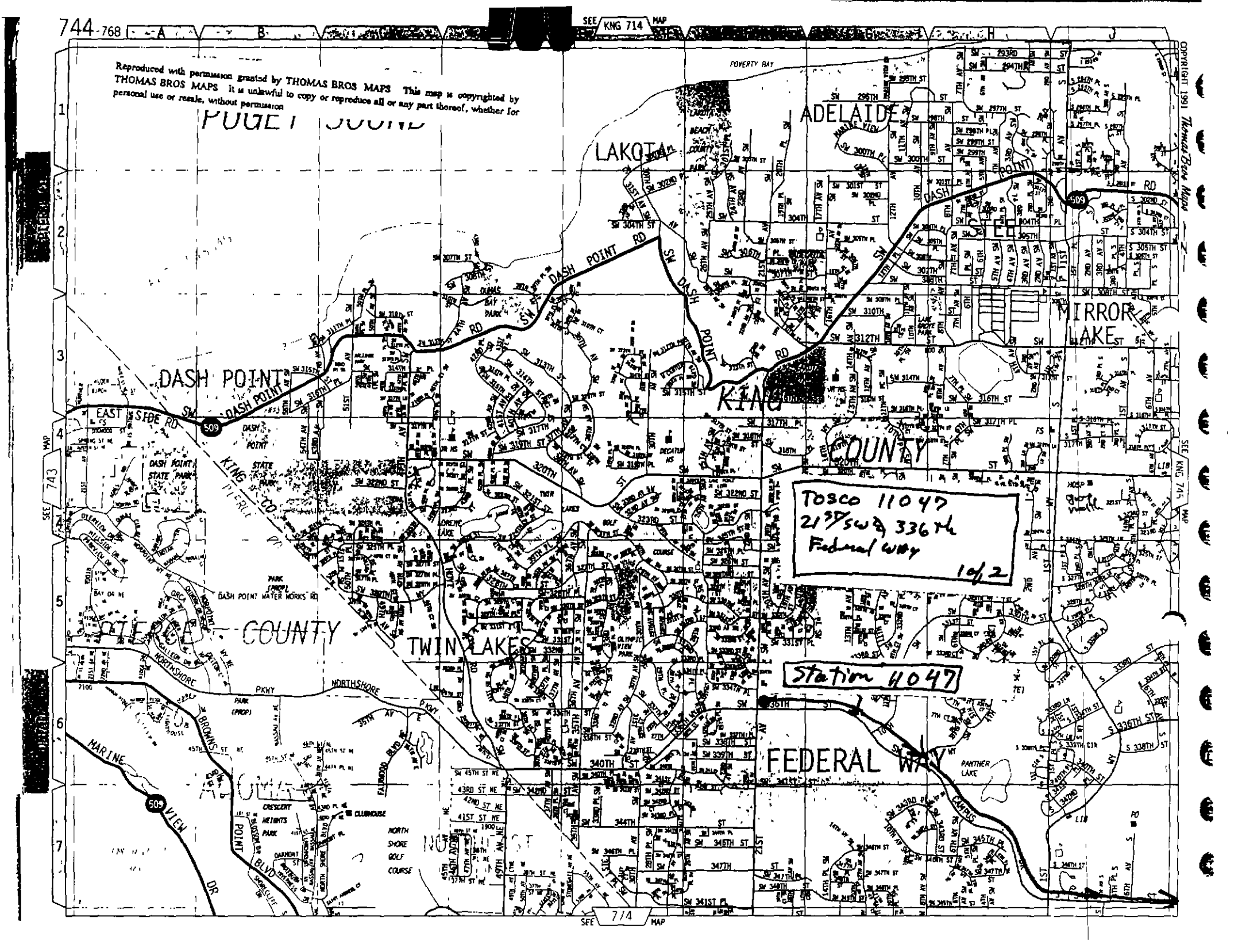
7. Augers shall be cleaned only when the drill rig is in neutral and the auger has stopped rotating.


744-768
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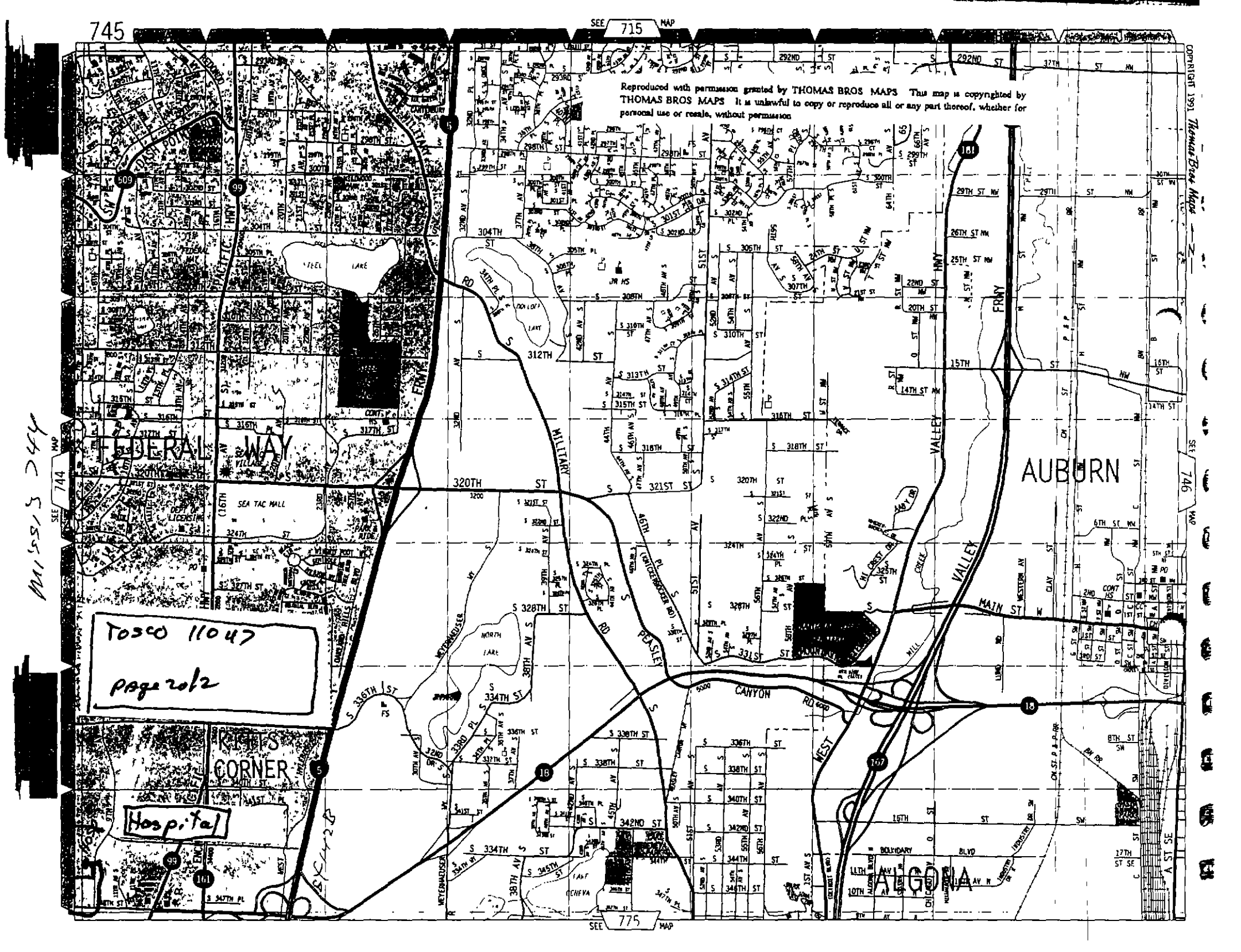
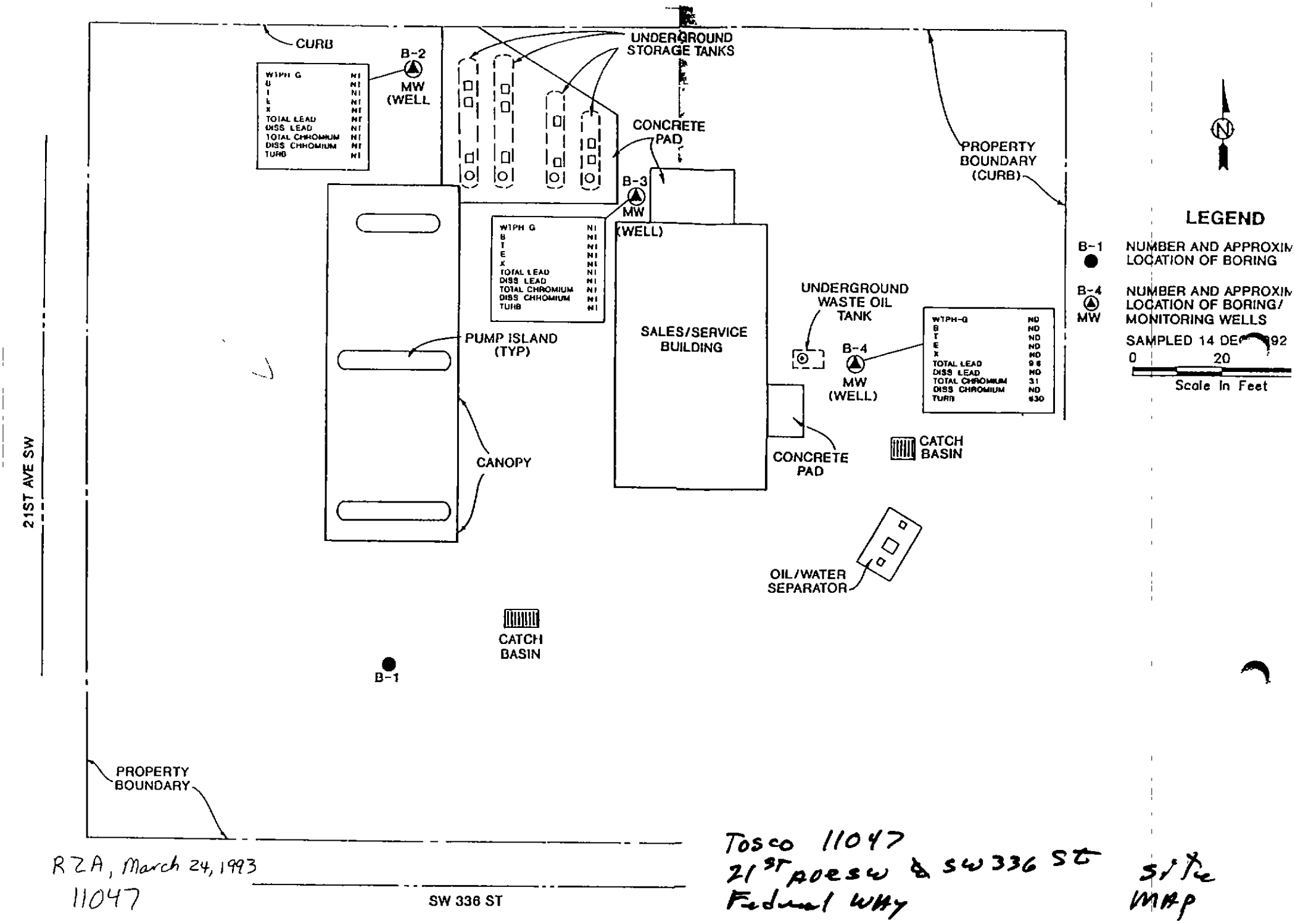
POVERTY BAY
ADELAIDE
LAKOTA
DASH POINT
SW DASH POINT RD
MIRROR LAKE
KING COUNTY
EAST SIDE RD
509
DASH POINT STATE PARK
DASH POINT WATER WORKS RD
PIERCE COUNTY
TWIN LAKES
NORTHSHORE PKWY
FEDERAL WAY
MARINE VIEW DR
BROWNS POINT BLVD
SEE 743 MAP
SEE KNG 745 MAP
SEE 714 MAP
Tosco 11047
21st SW & 336th
Federal Way
1 of 2
Station 11047


745
SEE 715 MAP
SEE 744 MAP
SEE 746 MAP
SEE 775 MAP
Reproduced with permission granted by THOMAS BROS MAPS This map is copyrighted by THOMAS BROS MAPS It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission
COPYRIGHT 1991 Thomas Bros Maps
FEDERAL WAY
AUBURN
ALGONA
PACIFIC HWY
MILITARY RD
PEASLEY CANYON RD
WEST VALLEY FRWY
320TH ST
324TH ST
328TH ST
331ST ST
334TH ST
336TH ST
342ND ST
344TH ST
304TH ST
312TH ST
292ND ST
SEA TAC MALL
PARK & RIDE
JR HS
MAIN ST
15TH ST
29TH ST NW
Tosco 11047
page 2 of 2
Hospital
RIGHTS CORNER



RZA, March 24, 1993
11047

Tosco 11047
21st Ave SW & SW 336 St
Federal Way

Site
Map

Recommended Future Assessment Work

BP Station No.: 11047
Ranking: DD (Significant additional assessment is needed.)

The following additional work is recommended:

- **Advance a minimum of four soil borings adjacent to the UST complex. Convert one of the soil borings into a monitoring well.**

- **Advance a minimum of two soil borings adjacent to each of the three dispensing island locations. Convert one of the borings into a monitoring well.**

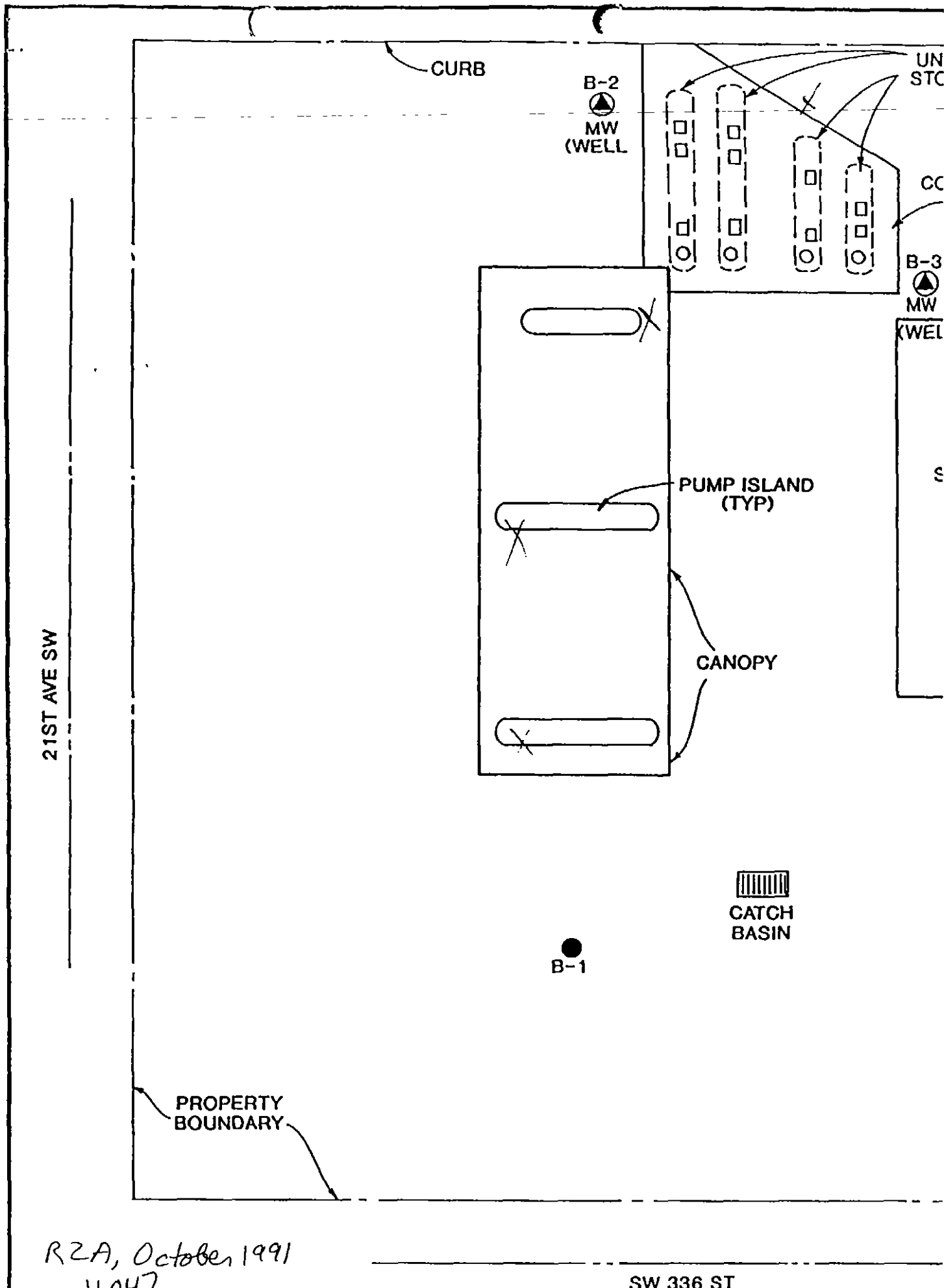
- **Advance a minimum of two soil borings adjacent to the waste oil/fuel oil tanks. Convert a minimum of one soil boring to a monitoring well.**

- **Perform a confirmatory groundwater sampling event to determine present groundwater quality.**

- Advance a minimum of two soil borings adjacent to the product lines Convert to monitoring wells, as necessary.

- Review former owner files, other than those at BP, to obtain further information regarding former locations of potential contamination sources/tank removal activities, etc.

- Advance a soil boring adjacent to each former hoist and oil/water separator Convert soil borings to monitoring wells, as necessary



RZA, October 1991
11047

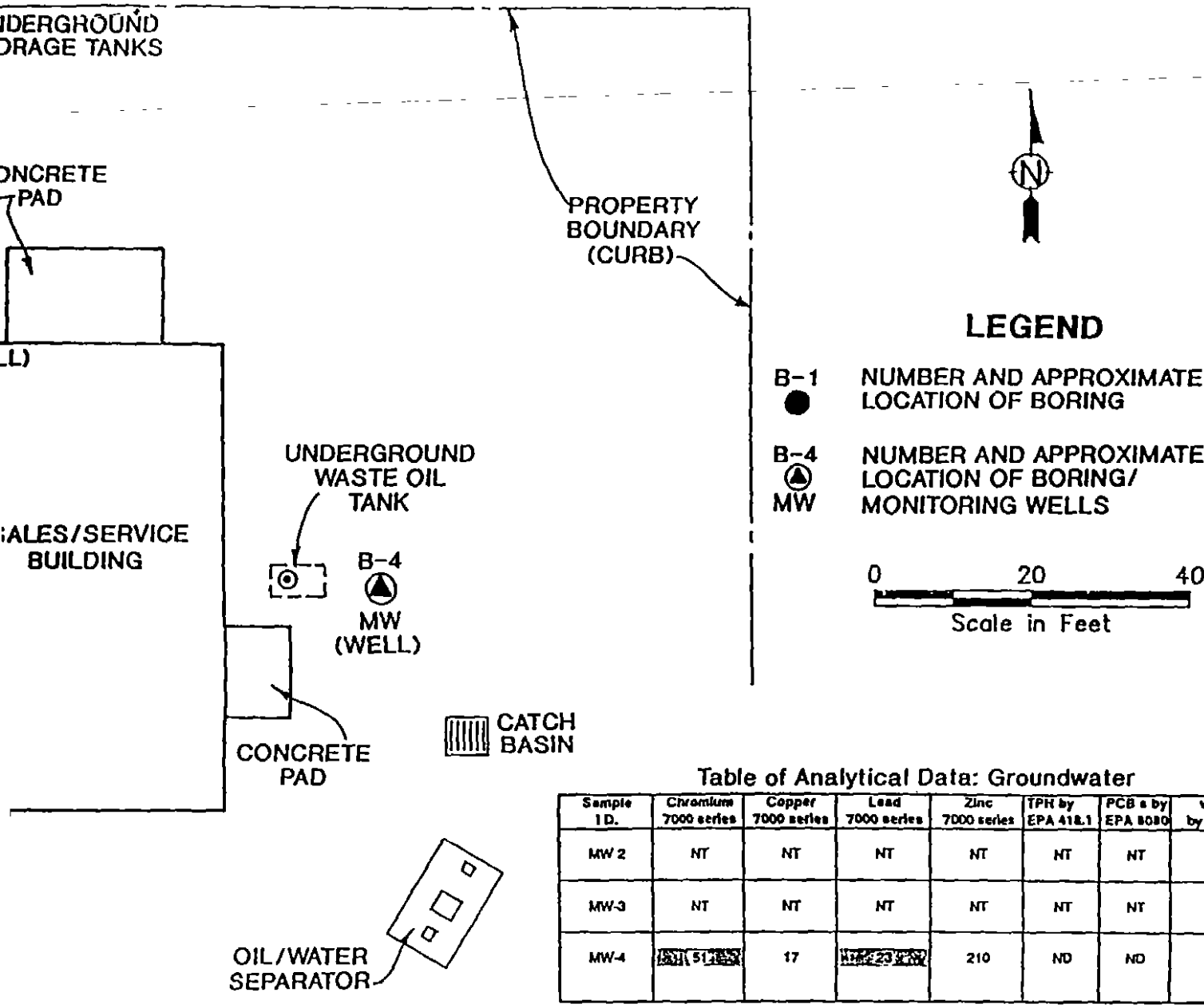


Table of Analytical Data: Groundwater

Sample I.D.	Chromium 7000 series	Copper 7000 series	Lead 7000 series	Zinc 7000 series	TPH by EPA 418.1	PCB s by EPA 8080	volatiles by EPA 8240
MW 2	NT	NT	NT	NT	NT	NT	NT
MW-3	NT	NT	NT	NT	NT	NT	NT
MW-4	[illegible] 51	17	[illegible] 23	210	ND	ND	ND
MTCA Cleanup Criteria	50	1000	5.0	5000	1000	0 1	* variable

See Table 2 for Notes

BP SERVICE STATION
SW 336th ST.& 21st AVE SW
FEDERAL WAY, WASHINGTON

SITE & EXPLORATION PLAN

FIGURE 2

W O W-7448
BY NLH
DATE MAR 1991
SCALE 1"=20'

RITTENHOUSE-ZEMAN & ASSOCIATES, INC.
Geotechnical & Environmental Consultants
1400 140th Avenue N.E.
Bellevue, Washington 98005

① No assessment near pump islands
② Two of 3 wells are dry

EMCON Reviewer PAT B

INITIAL SCREENING CHECKLIST

SITE NUMBER 11047
PROJECT NUMBER 0328-050.01

B/0324-TOS/00/SCREEN-T o25/ch.4

1	Location (Address), State		21st SW & 336th, NEC, Federal Way, WA — Former mobil
2	Consultant(s)		RZA
3	Past Documented Release? (Y/N)		No data
4	Soil Contamination (Y/N)	On-site	Y
		Off-site	No data
5	Max Hydrocarbon Concentration Soil (Y/N)	On-site	24 ppm TPH by 418.1
		Off-site	No data
6	Groundwater Contamination (Y/N)	On-site	Y — Cr and Pb Cr < MTCA after second sampling 12-92
		Off-site	No data
7	**Product Present on Water Table (Y/N)**		N
8	Max Hydrocarbon Concen in GW (TPH, BTEX)		ND in one sample 3-27-91
9	**Extent of Groundwater Contamination Known**		N
10	**Extent of Soil Contamination Known**		N
11	Number of Soil Borings	On-site	4
		Off-site	0
12	Number of Monitoring Wells	On-site	3 - 2 are dry
		Off-site	0
13	Type of Remediation System		None
14	Type of Monitoring Program		
15	Number of Tanks and Tank Capacities		4 12k 10k 6k 6k ?
16	Type of Tank (fiberglass/steel)		fiberglass
17	Type of Product (gas/diesel/oil)		unlead Reg Super Super Waste oil
18	Tanks Replaced (Y/N/D)		Y 1984
19	Number of Pump Islands		3
20	Auto Repair & Product Distribution (Y/N)		Y
21	Drywell Identified On Site? (Y/N)		No data
22	Sensitive Receptor Survey Items of Interest		None identified
23	Closure Requested (Y/N/A)		N
24	Priority (1 to 5 with 1 = Most Important)		C 3
25	Comments (lithology, depth to groundwater, year station built)		~20 but discontinuous

NOTE Y = Yes, N = No, A = Approved, D = Date

CURB

B-2
MW
(WELL

WTPH-G	NI
B	NI
T	NI
E	NI
X	NI
TOTAL LEAD	NI
DISS LEAD	NI
TOTAL CHROMIUM	NI
DISS CHROMIUM	NI
TURB	NI

UNDERGROUND STORAGE TANKS

12,000 | 10,000 | 6,000 | 6,000

CONCRETE PAD

PROPERTY BOUNDARY (CURB)

B-3
MW
(WELL)

WTPH-G	NI
B	NI
T	NI
E	NI
X	NI
TOTAL LEAD	NI
DISS. LEAD	NI
TOTAL CHROMIUM	NI
DISS CHROMIUM	NI
TURB	NI

PUMP ISLAND (TYP)

SALES/SERVICE BUILDING

UNDERGROUND WASTE OIL TANK

B-4
MW
(WELL)

WTPH-G	ND
B	ND
T	ND
E	ND
X	ND
TOTAL LEAD	9.6
DISS LEAD	ND
TOTAL CHROMIUM	31
DISS CHROMIUM	ND
TURB	630

CANOPY

CONCRETE PAD

CATCH BASIN

OIL/WATER SEPARATOR

CATCH BASIN

B-1

PROPERTY BOUNDARY

21ST AVE SW

SW 336 ST

LEGEND

B-1 ● NUMBER AND APPROXIMATE LOCATION OF BORING

B-4 ▲ MW NUMBER AND APPROXIMATE LOCATION OF BORING/ MONITORING WELLS

SAMPLED 14 DEC 1992.

0 20 40

Scale in Feet

RZA-AGRA ENGINEERING & ENVIRONMENTAL SERVICES 11335 N.E. 122nd Way Suite 100 Kirkland, Washington 98034-6918	WO W-7448 DESIGN NLH DRAWN DMW DATE FEB 1993 SCALE NOTED

BP SERVICE STATION
SW 336th ST. & 21st AVE. SW
FEDERAL WAY, WASHINGTON

SITE & EXPLORATION PLAN

FIGURE 2

NICK GARSON
11/10/93

SITE SURVEY CHECKLIST

Site Number: 11047
Project Number: 0328-050 01
Address: 21st SW and 336th
City, State: Federal WAY, WA
County: KING
Cross Streets:
Manager's Name: Debbie HANN
Station Phone Number: 927-1638

PLEASE DOCUMENT ALL INFORMATION

1. Site Facility Features:

(Y)/N Does the station perform auto repairs in addition to fuel dispensing?

Include on rough sketch map:

a. Number, locations, and types of buildings.
See MAP

b. Last renovation of facility (when, what was done).
1984? According to Station Mgr at least 10 years

c. Surface type (asphalt, concrete) and condition.
See MAP

d. Are there major structural problems with the building(s)? (cracks, leaks, etc.)
NO

e. Has stage II recovery been installed? What type is it (vapor/vac, balance)?
ND

f. Number, locations, and types of USTs/ASTs.
See MAP

g. Number and locations of fuel dispenser islands.
See MAP

h. Number and locations of hoists.
Removed 1993

i. Number and locations of oil/water separators.
Yes but not used

j. Number and locations of remote fill areas (used oil tanks).
See MAP

k. Number and locations of dry wells.
NO

l. Drain field location (septic/other).
NONE

m. Locations of major utilities (underground/overhead).
See MAP

n. On-site surface drainage features.
Site slopes to South + WEST

o. Do the site features compare with the available BP site drawing?
YES

p. Do the dispensers have spill contaminant boxes?
NO

q. What type of leak monitoring do the tanks have?
NONE

r. Is there a car wash on site? System?
NO

s. Does the station have a storm water pollution prevention plan?
NO

2. Site History:

a. Provide a rough sketch site map showing historical locations of pump islands, tanks, buildings, dry wells, etc., if necessary.

3. Available Tank Information:

a. Number of tanks.
5

b. Capacity (length, width).
12,000 UNLEAD
1,000 [illegible]
[illegible]
2 WASTE-OIL

c. Orientation (location).
See MAP

d. Tank material.
Fiberglass

e. Age.
~ 10 years

f. Type of protection (double walled, cathodic protection, etc.). ? ?

g. Are tanks equipped with spill protection?
NO (COAXIAL VAPOR RECOVERY used when TANKS are Filled

Y/N h. Does tank testing information exist?

Y/N i. Were buildings heated with heating oil? (orphan tanks)

4. Adjacent Surrounding Properties:

a. North
See MAP

b. South
See MAP

c. East
See MAP

d. West
See MAP

NOTE: If roads are adjacent, consider property across street.

Are there any surface water bodies within 1,000 feet of the site?
No

5. Documented Release(s):

a. When?
NO

b. How much?

c. Remedial action
d. Off-site impacts (sewers, surface waters, etc.)
e. On-site impacts (soil, groundwater, etc.)

6. Waste Disposal Practices:

a. Solid waste disposal.
Federal Way disposal

b. Used oils and lubricant disposal.
NO

c. Antifreeze disposal.
NO

d. Solvents and engine cleaner disposal.
NO

NOTE: Consider current and historical practices.

7. Existing Assessment and/or Remediation Conditions:

a. Number of wells on site and off site. Condition?
3 - good

b. Number of borings on site and off site (if possible).
1

c. Existing type of remediation system.
NONE

Y/N d. Is the remediation system operating?

e. Are there drums located on site relative to assessment activities (are they properly labelled)?
YES

8. Photo Log:

✓ a. Take pictures of overall site (two perspectives).
✓ b. Take pictures of tank complexes.
✓ c. Take pictures of various pump islands.
___ d. Take pictures of remediation systems (if necessary).
___ e. Take pictures of service bays (if necessary).

NOTE: Document pictures with facility site numbers (i.e., it will be difficult to tell one site from another if this is not done).

9. Other Concerns:

a. Are the service bay floor slabs cracked?
NO

b. Where is the drum storage area?
See MAP

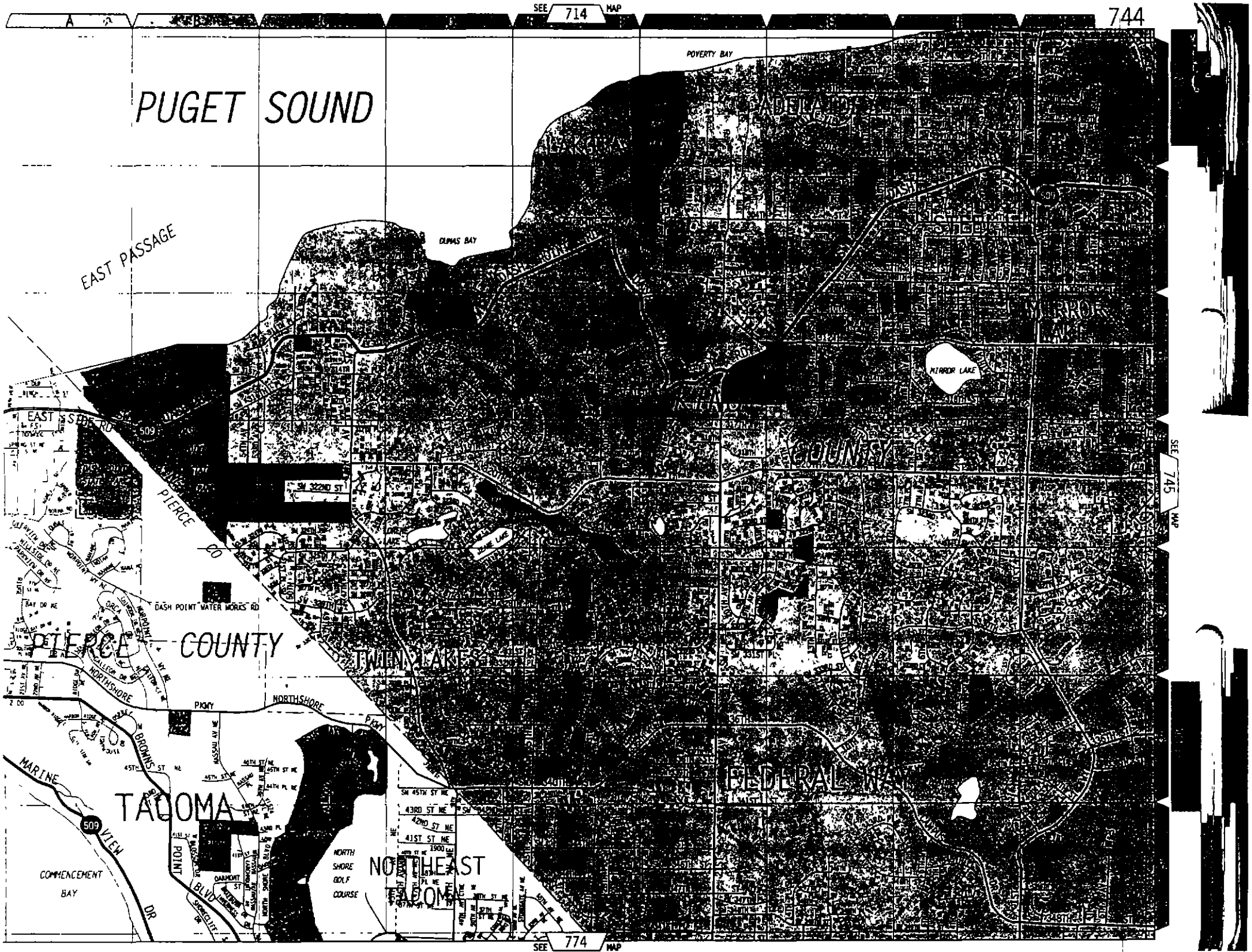
c. Is there leakage or spillage evident at drum storage area?
NO

d. Is there stressed vegetation evident on site?
NO

e. What is the character of the site topography?
Slopes to South and West

	Historical	Current
Used Oil		
Engine Cleaners (solvents)		
Antifreeze		
Solid Waste		

* Waste Oil UST is not in use


SEE 714 MAP
744
PUGET SOUND
POVERTY BAY
EAST PASSAGE
DUMAS BAY
DASH POINT RD
MIRROR LAKE
EAST SIDE RD
509
SW 322ND ST
PIERCE CO
DASH POINT WATER WORKS RD
PIERCE COUNTY
TWIN LAKE
NORTHSHORE PKWY
BROWNS
45TH ST NE
MARINE VIEW DR
509
TACOMA
POINT BLVD
COMMENCEMENT BAY
NORTH SHORE GOLF COURSE
NORTHEAST TACOMA
SW 45TH ST NE
43RD ST NE
42ND ST NE
41ST ST NE
FEDERAL WAY
SEE 745 MAP
SEE 774 MAP

EMCON Reviewer: R. Stolsa
Today's Date 11-15-93

ECOLOGY FILE REVIEW CHECKLIST

B.P. Site Number: 1~ 11047
Project Number: 2~ 0328-050.01
Address. 3~ 33520 21st Ave. SW
City, State: 4~ Federal Way, WA
County: 5~ King
Ecology Site No.: Not Applicable

1. Most **recent correspondence** from agency to owner (date, names of individuals involved and their titles, significant issues discussed).
none found

2. Most **recent correspondence** from owner to agency (date, names of individuals involved and their titles, significant issues discussed).
none found

3. Independent cleanup or **Consent Order?**
none found

4 Record **Notice of Noncompliance or Violation** issued (date, violations cited). Copy any NONs or NOVs.
none found

BP Site #: 1~
EMCON #. 2~
Page 2 of

5. Participating in **Cost Recovery** program?

none found

6. Record any significant **correspondence or telephone logs** found (date, names of individuals involved and their affiliation, significant issues discussed).

The only correspondence in file are two letters from Laurence Ashley of Ecology to Ecology File in Regards to New Notifiers of Dangerous waste Activites. Nothing Significant to Report

A completed Notification of Dangerous Waste Activities form is on file.

7. List **tanks replaced** - year, size, number.

none found

8. List **operating tanks** - year, size, number.

none found

9. Provide record of each **report** on file, including title, date, and consultant.

None found

10. Routine **monitoring data** being submitted? If so, record frequency, date of latest submittal. Copy most recent site map and groundwater data, if available for 1993 (table or map).

None found

11. Describe any **remediation system** in operation (type, year started).

None found

12. Any documented **releases**?
Date Discovered: None found
Date Reported:

13. **Closure** requested/approved?

None found

14. Name of Ecology Project Manager.

None found

15. Any air quality or water quality discharge permits?
Date of Issue: None found
Date of Expiration.

BP Site # 1~
EMCON # 2~
Page _____ of _____

ECOLOGY FILE REVIEW CHECKLIST
Supplementary Pages

BP Site # 1~
EMCON # 2~
Page _____ of _____

ECOLOGY FILE REVIEW CHECKLIST
Supplementary Pages

TABLE 1: Summary of Analytical Data: Soils
BP Service Station No. 11047
33520 21st Avenue S.W.
Federal Way, Wa.
RZA Job No 7448

Collected: 17 and 18 March, 1991

Sample	Depth (feet)	Field Headspace	TPH by EPA 8015	Benzene by EPA 8020	Toluene by EPA 8020	Ethylbenzene by EPA 8020	Xylenes by EPA 8020	Total Lead by EPA 7420	TPH by EPA 418 1	Halogens by EPA 8010	Cadmium & Chromium
B-1, #1	5 0-6 5	0	ND	ND	ND	ND	ND	7.9	NT	NT	ND
B-1, #8	40-41	0	1 2	ND	ND	ND	ND	9 9	NT	NT	ND
B-2, #9A	2 0-3 0	91	24	ND	ND	ND	1 5	9 4	NT	NT	ND
B-2, #12	17 5-19 ft	0	ND	ND	ND	ND	ND	8.7	NT	NT	ND
B-3, #18	20-21 5	0	ND	ND	ND	ND	ND	ND	NT	NT	ND
B-4, #23	20-21 5	0	ND	ND	ND	ND	ND	7.6	ND	ND	1.6 & 32

MTCA Cleanup Levels	--	*100 **200	0.5	40	20	20	20	*100 *200	***variable	2.0 & 100

Notes:

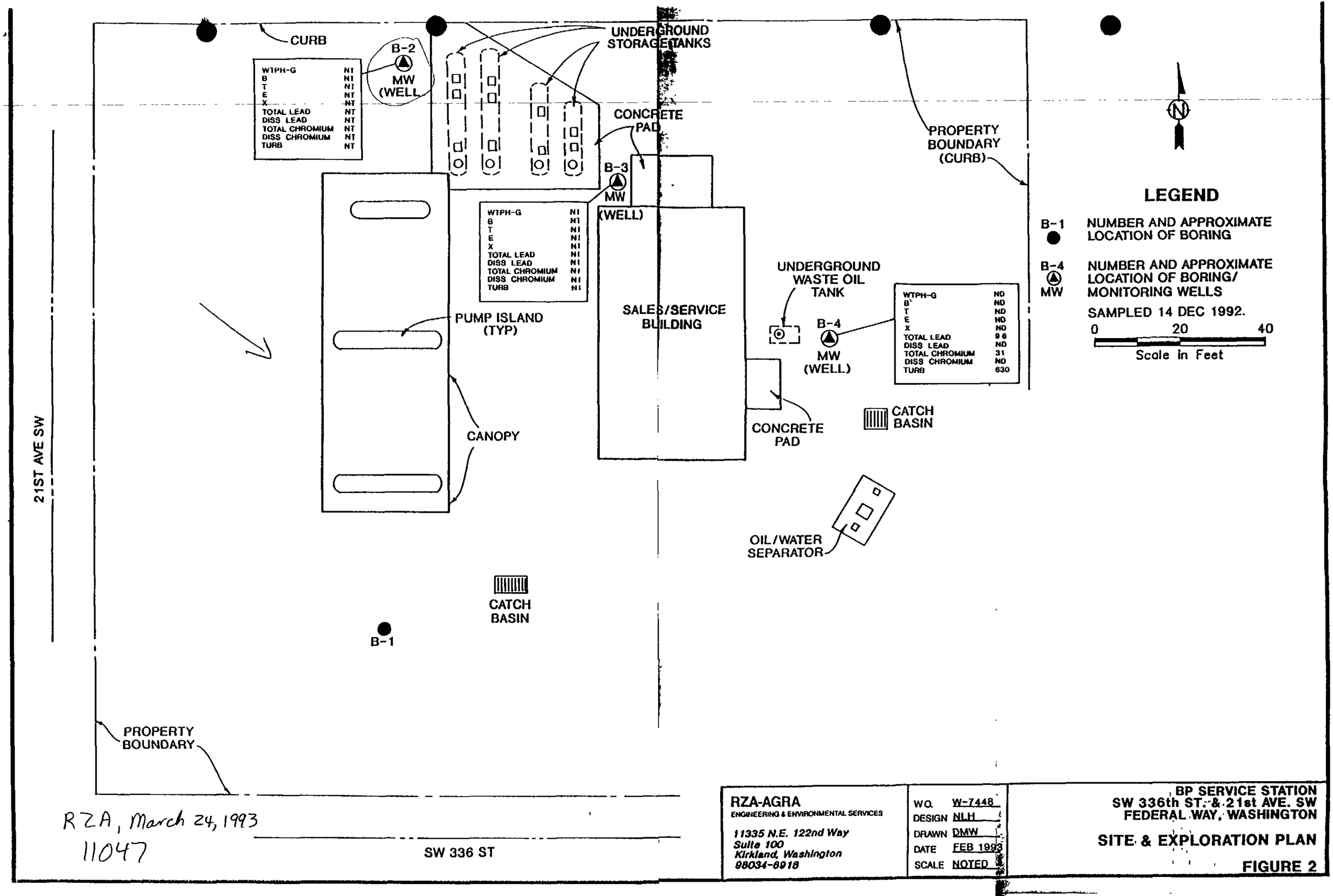
ND = Not detected, below laboratory method detection limit
NT = Not tested
* = TPH-as-gasoline
** = non-gasoline TPH
*** = 28 compounds were tested for. See lab reports
TPH = Total petroleum hydrocarbons
Concentrations expressed in parts per million (ppm)
Field Headspace readings obtained using an OVM equipped with aa 10.0 eV photoionization detector.

Table 2: **Summary of Analytical Data: Groundwater**
BP Service Station No. 11047
33520 21st Avenue S.W.
Federal Way, Wa.
RZA Job No. 7448

Collected: 27 March 1991

Sample I.D.	Chromium 7000 series	Copper 7000 series	Lead 7000 series	Zinc 7000 series	TPH by EPA 418.1	PCB's by EPA 8080	volatiles by EPA 8240
MW-2	NT	NT	NT	NT	NT	NT	NT
MW-3	NT	NT	NT	NT	NT	NT	NT
MW-4	51	17	23	210	ND	ND	ND
MTCA Cleanup Criteria	50	1000	5 0	5000	1000	0 1	* variable

Notes:
NT = Not tested
TPH = Total Petroleum Hydrocarbons
ND = Not detected, Below Method Detection Limit
* = 36 compounds were tested for. See lab report
All concentrations are reported in parts per billion (ppb)
= Concentrations above MTCA Cleanup Levels
Monitoring wells MW-2 and MW-3 did not contain enough water for recovery



RZA, March 24, 1993
11047

RZA-AGRA
ENGINEERING & ENVIRONMENTAL SERVICES
11335 N.E. 122nd Way
Suite 100
Kirkland, Washington
98034-8918

W.O. W-7448
DESIGN NLH
DRAWN DMW
DATE FEB 1993
SCALE NOTED

BP SERVICE STATION
SW 336th ST. & 21st AVE. SW
FEDERAL WAY, WASHINGTON

SITE & EXPLORATION PLAN

FIGURE 2

TABLE 1: Summary of Fluid Level Data
BP Service Station No. 11047
33520 21st Avenue S.W.
Federal Way, Washington
RZA AGRA Job No. W-7448-1

Date	MW-2	TOC el:	101.02	MW-3	TOC el:	100.91	MW-4	TOC el:	100.58
	Depth to Water	Apparent LPH Thickness	Ground-water Elevation	Depth to Water	Apparent LPH Thickness	Ground-water Elevation	Depth to Water	Apparent LPH Thickness	Ground-water Elevation
01-Oct-92	23.84	--	77.18	24.54	--	76.37	21.25	--	79.77
14-Dec-92	23 86	--	77.16	24.53	--	76.38	21.15	--	79.87

Notes:

LPH - Liquid Petroleum Hydrocarbons

TOC - Top of PVC Casing

-- - Not Detected

* - Indicates that depth to groundwater is greater than (>) the depth to the bottom of the well

TABLE 2: Summary of Groundwater Analytical Results
BP Service Station No. 11047
33520 21st Avenue S.W.
Federal Way, Washington
RZA AGRA, Inc. Job No. W-7448-1

Well No.	Date	WTPH-G	B	T	E	X	Total Lead	Dissolved Lead	Total Chromium	Dissolved Chromium	Turbidity
MW-2	01-Oct-92	Dry Well									
	14-Dec-92										
MW-3	01-Oct-92	Dry Well									
	14-Dec-92										
MW-4	01-Oct-92	<50.0	<0 5	<0.5	<0.5	<1.0	15	<2.0	81	5.7	1,600
	14-Dec-92	<50	<0 50	<0.50	<0 50	<1.0	9.6	<2 0	31	<4.0	630
MTCA		1000	5	40	20	20	5	5	50	50	

Notes:
All concentrations expressed in micrograms per liter/parts per billion except turbidity
Turbidity given in Nephelometer Turbidity Units (NTUs).
< - Indicates less than the method detection limit.
MTCA - Model Toxics Control Act Method A numeric cleanup criteria.
[redacted] - Indicates results above MTCA Method A numeric cleanup criteria.

Analytical Tests:
WTPH-G - Gasoline range Total Petroleum Hydrocarbons by Washington State Department of Ecology (Ecology) method WTPH-G/BTEX.
B T E X - Benzene, Toluene, Ethylbenzene, Xylenes by Ecology method WTPH-G/BTEX.
Total Lead - by EPA Method 7421.
Dissolved Lead - by EPA Method 7421
Total Chromium - by EPA Method 7191
Dissolved Chromium - by EPA Method 7191.
Turbidity - by EPA Method 180.1.

BP OIL COMPANY - REMEDIAL COST PROJECTIONS

SITE NUMBER: 11047
ADDRESS: 33520 21 AVENUE SW
CITY, STATE: FEDERAL WAY

FORMER MOBIL STATION NO.: 500

BACKGROUND:

- BP Oil acquires former Mobile Service Station.
- RZA has no record of previous environmental studies.

SITE CHARACTERISTICS:

- Groundwater Table = 20 Feet
- Inferred Groundwater Flow Direction = southeast
- Soils are fill materials underlain by sands, silty sands, and glacial till.

WORK COMPLETED:

- 1991 Initial site characterization. Lead and chromium present in groundwater near the waste oil tank.

COST TO DATE: **$23,998.20**

WORK TO COMPLETE:

- Resample groundwater monitoring wells.
- Other future assessment and remediation work is directly related to plans for removal and replacement of the USTs at this site.

COST TO COMPLETE:

Resample Groundwater Monitoring Wells	$ 4,000 00
TOTAL:	**$4,000.00**

The estimated costs to complete this project and the projected scope of work to be completed are based upon existing information and current costs Based upon the results of future investigations, these costs may increase or decrease in accordance with new information. This sheet was prepared by RZA AGRA, Inc. in April 1992.

① No assessment near pump islands

② Two of 3 wells are dry

EMCON Reviewer PATB

B/0324-TOS/00/SCREEN-T.o25/ch.4

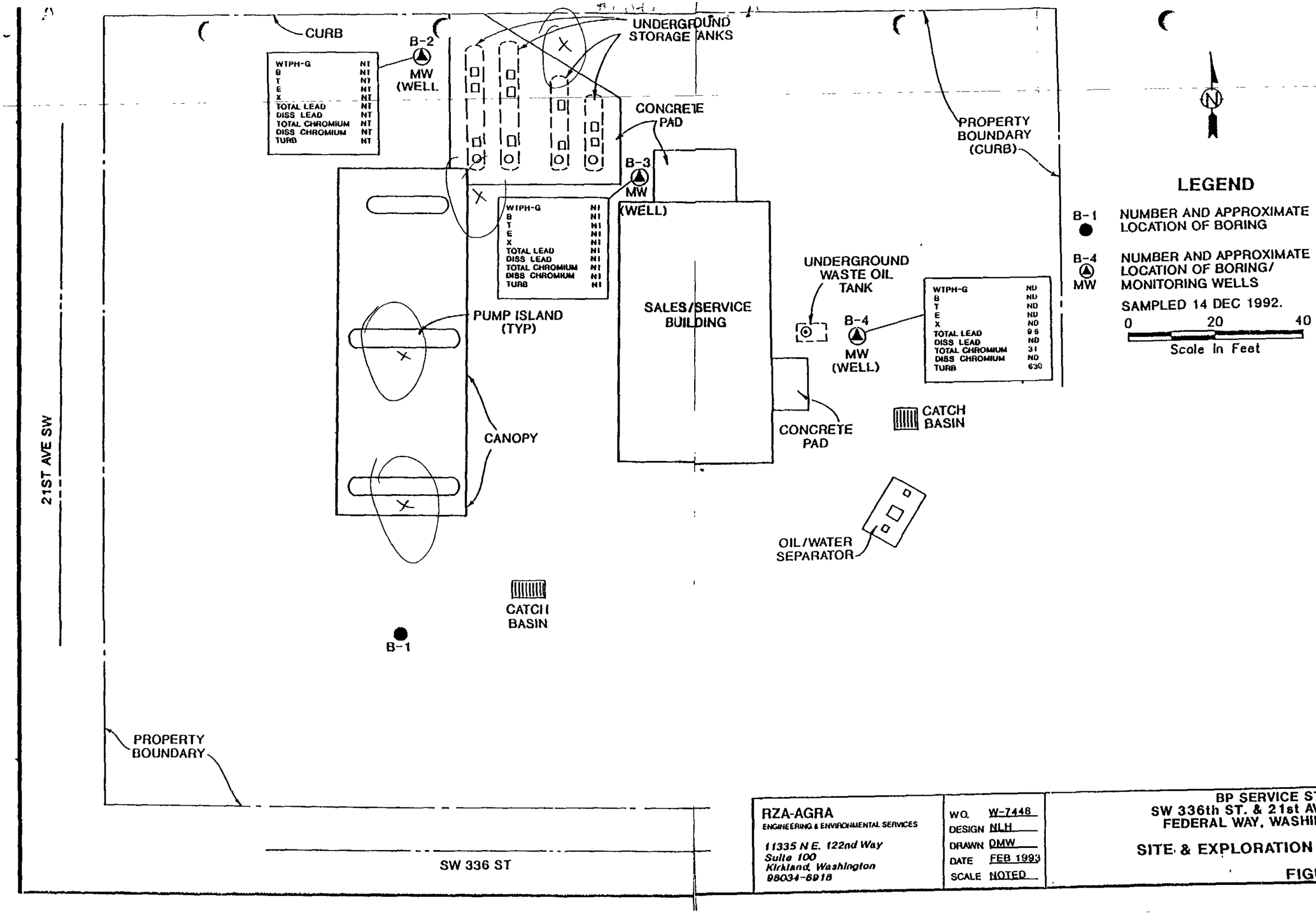
INITIAL SCREENING CHECKLIST

SITE NUMBER 11047

PROJECT NUMBER 0328-050.01

1	Location (Address), State		21st SW & 336th, NEC, Federal Way, WA — Former Mobil
2	Consultant(s)		RZA
3	Past Documented Release? (Y/N)		No data
4	Soil Contamination (Y/N)	On-site	Y
		Off-site	No data
5	Max Hydrocarbon Concentration Soil (Y/N)	On-site	24ppm TPH by 418.1
		Off-site	No data
6	Groundwater Contamination (Y/N)	On-site	Y — Cr and Pb Cr < MTCA after second sampling 12-92
		Off-site	No data
7	**Product Present on Water Table (Y/N)**		N
8	Max. Hydrocarbon Concen. in GW (TPH, BTEX)		ND in one sample 3-27-91
9	**Extent of Groundwater Contamination Known**		N
10	**Extent of Soil Contamination Known**		N
11	Number of Soil Borings	On-site	4
		Off-site	0
12	Number of Monitoring Wells	On-site	3
		Off-site	0
13	Type of Remediation System		None
14	Type of Monitoring Program		
15	Number of Tanks and Tank Capacities		4 12K 10K 6K 6K ?
16	Type of Tank (fiberglass/steel)		fiberglass
17	Type of Product (gas/diesel/oil)		unlead Reg Super Super Waste oil
18	Tanks Replaced (Y/N/D)		Y 1984
19	Number of Pump Islands		3
20	Auto Repair & Product Distribution (Y/N)		Y
21	Drywell Identified On Site? (Y/N)		No data
22	Sensitive Receptor Survey Items of Interest		None identified
23	Closure Requested (Y/N/A)		N
24	Priority (1 to 5 with 1 = Most Important)		C3
25	Comments (lithology, depth to groundwater, year station built)		~~S~~ ~20 but discontinuous

NOTE Y = Yes, N = No, A = Approved, D = Date



RZA-AGRA
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W.O. W-7448
DESIGN NLH
DRAWN DMW
DATE FEB 1993
SCALE NOTED

BP SERVICE STATION
SW 336th ST. & 21st AVE. SW
FEDERAL WAY, WASHINGTON

SITE & EXPLORATION PLAN

FIGURE 2

PROJECT PHOTO LOG

Sweet, Edwards & Associates, Inc.

Sheet ____ of ____

PROJECT NO: 11047/0328-050.01
PROJECT NAME: TOSCO/B.P.
PROJECT LOCATION: 21ST SW + 336th Federal Way
CLIENT: _____
PHOTOGRAPHER: NICK GARSON
Slides ____ Prints ____ Negatives ____

SITE CATEGORY (CHECK ONE):

- ☐ Chemical Plant
- ☐ Sanitary Landfill
- ☐ Sludge
- ☐ Hazardous Waste
- ☐ Fabrication Facility
- ☐ Water Supply
- ☐ Woodwaste
- ☐ Wood Treatment
- ☐ Light Industry
- ☐ Metal Plating
- ☐ Other _____

TYPE OF WORK:

Geotechnical Exploration
- ☐ Test Pits
- ☐ Drilling
- ☐ Mapping
- ☐ Waste Characterization

Water Quality Monitoring
- ☐ Drilling
- ☐ Well Installation
- ☐ Ground Water Sampling
- ☐ K-testing
- ☐ Surface Monitoring
- ☐ Surface Sampling

Gas Monitoring
- ☐ Drilling
- ☐ Well Installation
- ☐ Recovery Systems
- ☐ Sampling

Water Supply
- ☐ Drilling
- ☐ Well Installation
- ☐ Aquifer Testing
- ☐ Sampling
- ☐ Pump Installation

Other
_____

PHOTO NO.	DATE	DESCRIPTION
22	11/10/93	Site facing North
21		Site facing East
20		TANK Complex
19		Pump Island
18		Pump Island

PHOTO NO.	DATE	DESCRIPTION