DRAFT
SITE HAZARD ASSESSMENT (SHA) REPORT

CASCADE NATURAL GAS
512 Decatur Avenue
Sunnyside, Washington
Yakima County

Prepared for:

Washington Department of Ecology
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Yakima, Washington 98902

Prepared by:

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May 1991

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EXHIBITS

ATTACHMENTS

1.0 INTRODUCTION

SAIC Incorporated and its subcontractor DPRA Incorporated conducted a Site Hazard Assessment (SHA) at the Cascade Natural Gas site in Sunnyside, Washington. The purpose of an SHA, in accordance with Washington Administrative Code 173-340-320, is to provide sufficient sampling data and other environmental information to:

a. Confirm or rule out that a release or threatened release of a hazardous substance has occurred;

b. Identify the hazardous substance and provide some information regarding the extent and concentration of the contamination;

c. Identify site characteristics that could result in the substance entering and moving through the environment; and

d. Evaluate the potential threat to human health and the environment.

This information is used to compute a score by the Washington Ranking Method (WARM) and to establish the priority of the site relative to other State Superfund sites.

This report includes a brief description of the site's environmental setting in Section 2.0, a discussion of waste management practices and previous investigations conducted at the site in Section 3.0, a summary of field activities completed under this work assignment in Section 4.0, and a list of references in Section 5.0.

Attachments include the following materials: (1) Data Collection Summary Sheets (DCSS), (2) photograph log, (3) soil boring and monitoring well logs, and (4) field notes. Information sources are referenced either as exhibits or tables in each section, as attachments to the report, or as references available in State of Washington files (see Section 5).

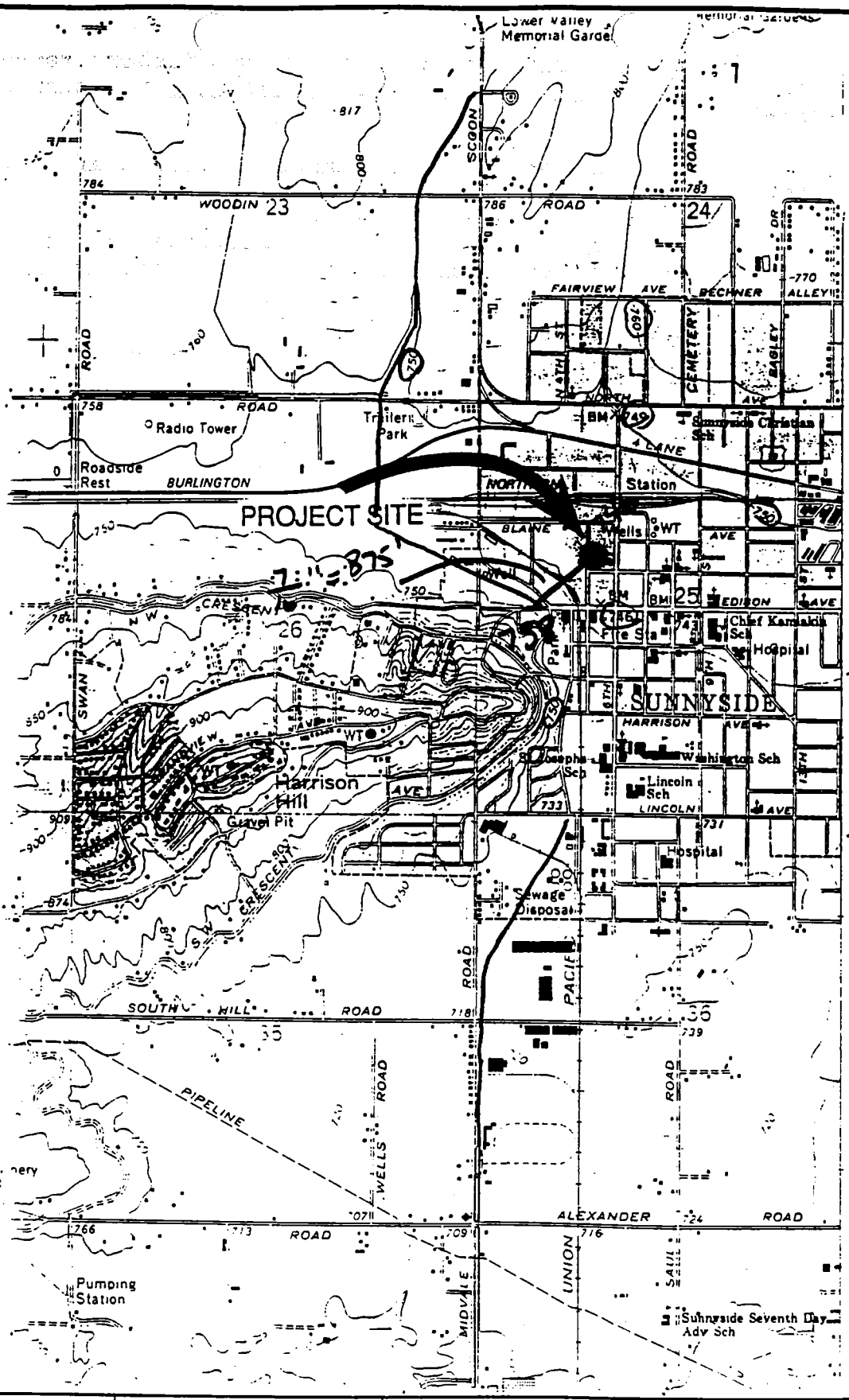


FIGURE 1.2

SITE LOCATION MAP

CASCADE NATURAL GAS
SUNNYSIDE, WA

DPRA

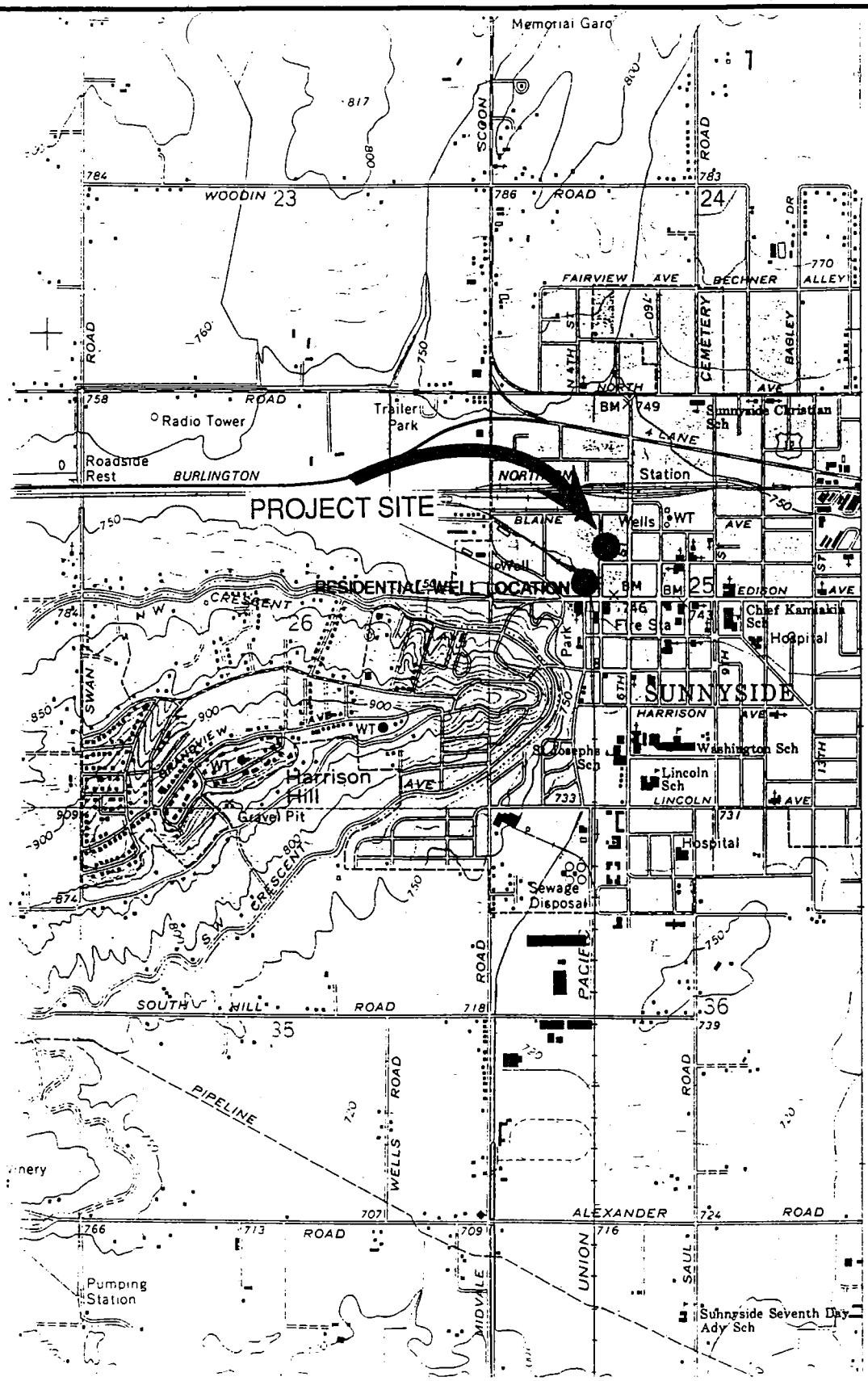
PROJECT NO.: 3751.007

2.0 ENVIRONMENTAL SETTING

The Cascade Natural Gas (Cascade) site is located at 512 Decatur Avenue in Sunnyside, Yakima County, Washington (Exhibit 2.1). Soil contamination was discovered at the site during excavation and removal of four underground storage tanks (USTs) ranging in age from 20 to 40 years. Approximately 2000 cubic yards of contaminated soil were removed and stockpiled at Terrace Heights Landfill; landfarming was expected to begin in April 1991. Soil samples revealed total petroleum hydrocarbons (TPH) concentrations as high as 53,000 parts per million (ppm). Benzene, toluene, ethyl benzene, and xylene (BTEX), other volatile organic compounds, and lead were also found at lower concentrations. Soil within one foot of the water table is contaminated with approximately 46 to 290 ppm TPH, but was left in place because the owner believes that groundwater is contaminated above those levels from off-site sources.

In 1942, this site was a maintenance yard operated by Yakima County, and was later owned by Sunnyside Dodge. Neighboring properties include a Ford dealer to the north and east, and a carwash on the east. The Ford dealership once housed a radiator repair shop.

Test wells installed by DPRA (Attachment III) indicates that soil is silt and silty sand to a depth of 20 feet (Exhibit 2.2). The water table is approximately 10 to 14 feet beneath the surface, and water is visible in the open excavation. At the time of the investigation, groundwater was flowing to the southwest (Exhibit 2.3). The nearest down-gradient water well is located approximately 900 feet from the site. This well is completed at 30 feet and used by the Sunnyside Pool.



0' 2000'

N

WASHINGTON

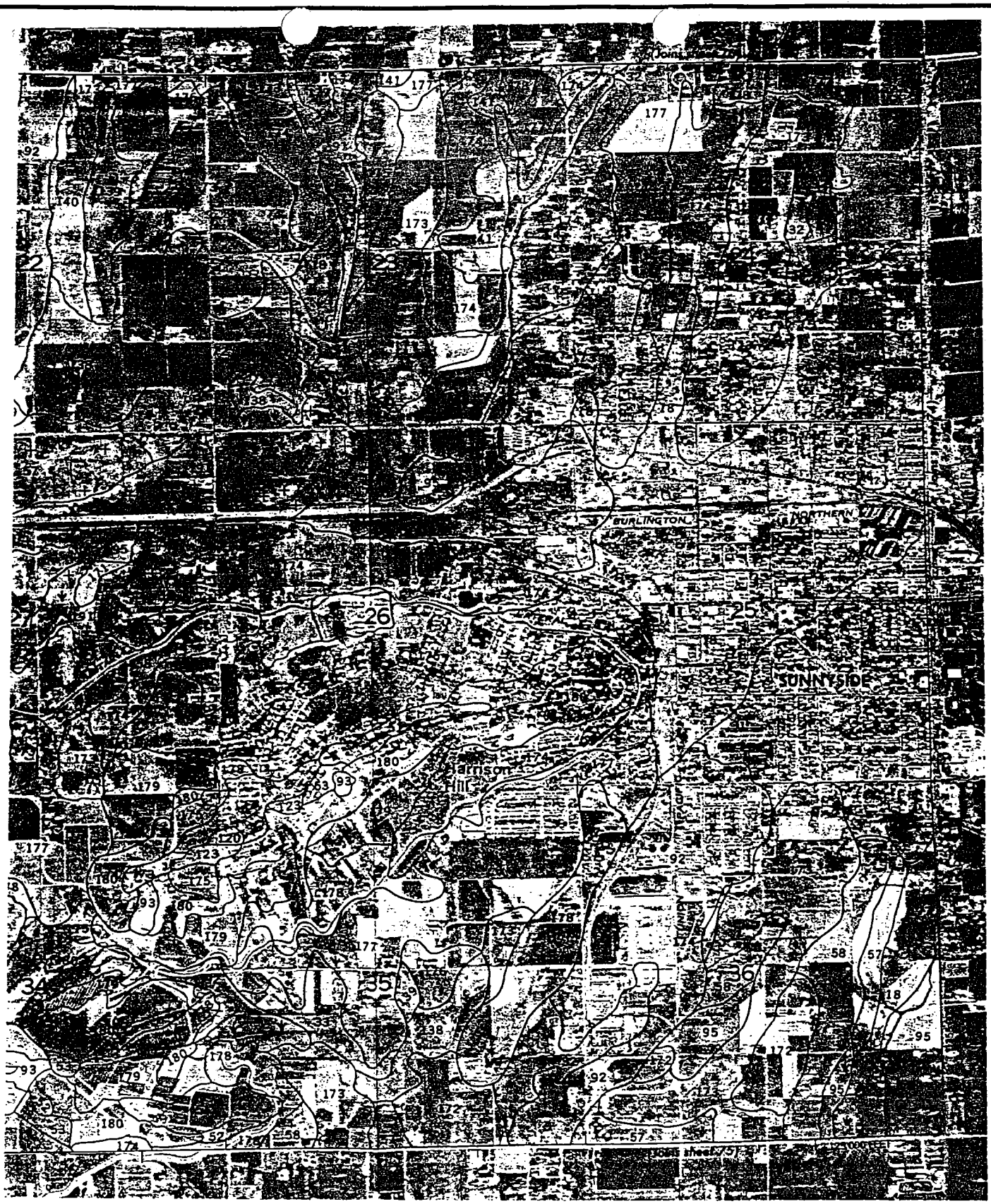
QUADRANGLE LOCATION
SUNNYSIDE, WA

EXHIBIT 2.1
TOPOGRAPHIC MAP

CASCADE NATURAL GAS
SUNNYSIDE, WA

DPRA

PROJECT NO.: 3751.007



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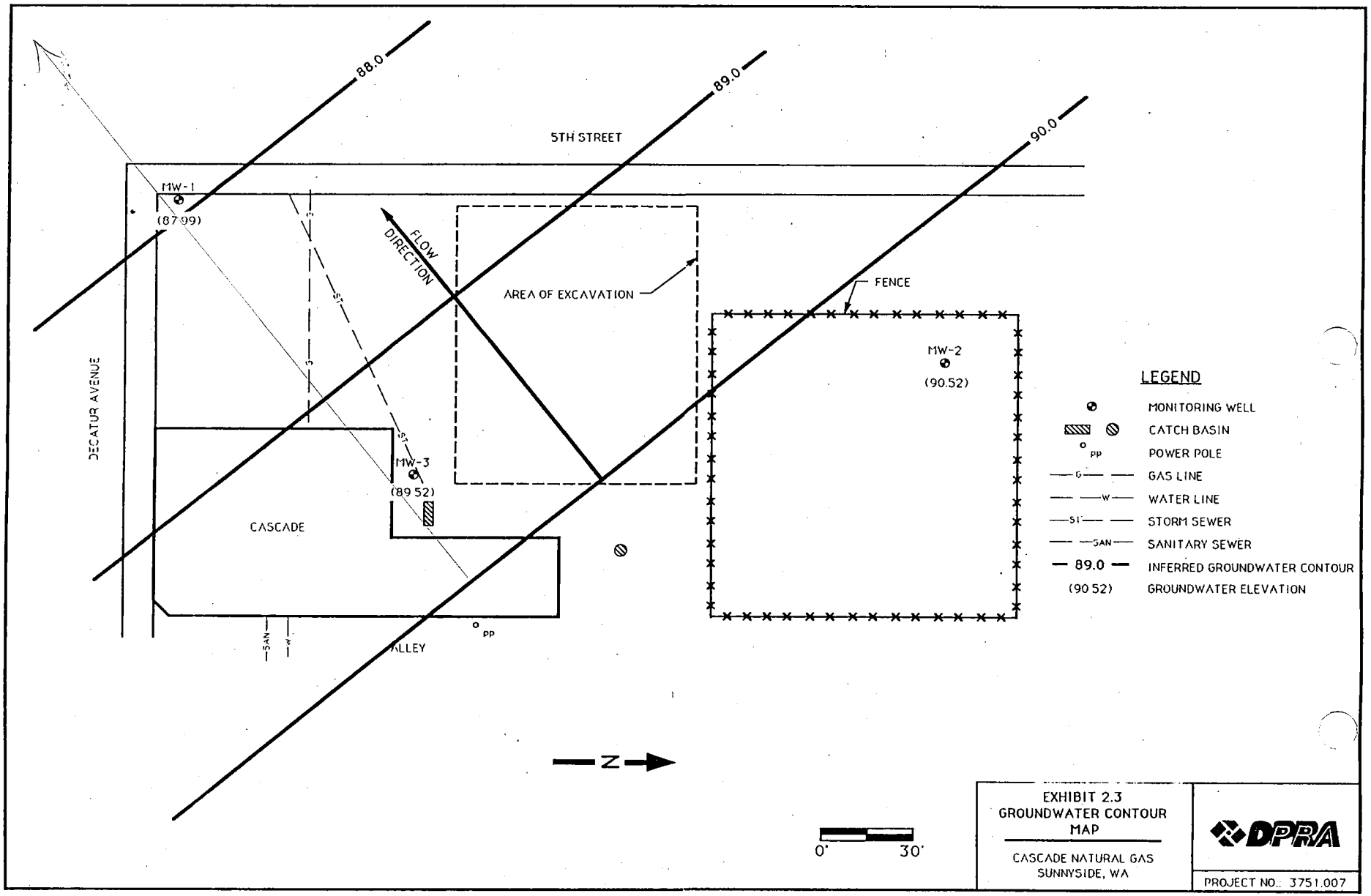
N

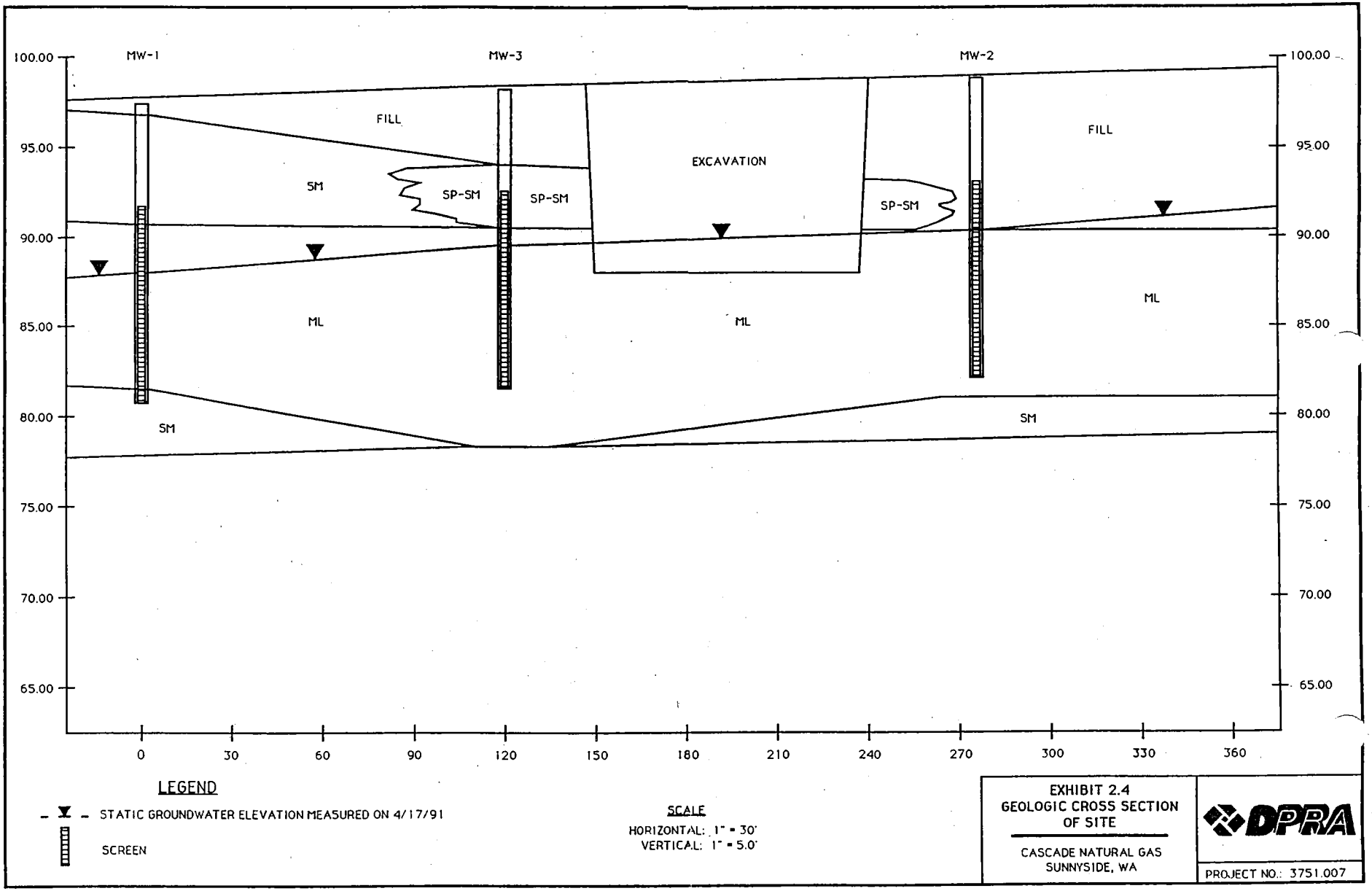
EXHIBIT 2.2
SOILS MAP

CASCADE NATURAL GAS
SUNNYSIDE, WA

DPRA

PROJECT NO. 3751.007


88.0
89.0
90.0
5TH STREET
MW-1
(87.99)
FLOW DIRECTION
AREA OF EXCAVATION
FENCE
MW-2
(90.52)
DECATUR AVENUE
MW-3
(89.52)
CASCADE
ALLEY
LEGEND
MONITORING WELL
CATCH BASIN
POWER POLE
GAS LINE
WATER LINE
STORM SEWER
SANITARY SEWER
89.0 INFERRED GROUNDWATER CONTOUR
(90.52) GROUNDWATER ELEVATION
N
0'
30'
EXHIBIT 2.3
GROUNDWATER CONTOUR MAP
CASCADE NATURAL GAS
SUNNYSIDE, WA
DPRA
PROJECT NO.: 3751.007


MW-1
MW-3
MW-2
100.00
95.00
90.00
85.00
80.00
75.00
70.00
65.00
FILL
SM
SP-SM
SP-SM
EXCAVATION
SP-SM
FILL
ML
ML
ML
SM
SM
0
30
60
90
120
150
180
210
240
270
300
330
360
LEGEND
STATIC GROUNDWATER ELEVATION MEASURED ON 4/17/91
SCREEN
SCALE
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5.0'
EXHIBIT 2.4
GEOLOGIC CROSS SECTION
OF SITE
CASCADE NATURAL GAS
SUNNYSIDE, WA
DPRA
PROJECT NO.: 3751.007

3.0 WASTE MANAGEMENT PRACTICES AND PREVIOUS INVESTIGATIONS

Contamination was discovered at this site when Cascade Natural Gas attempted to remove one 20-year old gasoline UST at their facility on September 18, 1990 (Exhibit 3.1). During the excavation, three more tanks were discovered. The additional tanks appeared to be about 40 years old; one had a hole on top, and the other two were visibly corroded. Each of the four tanks had a capacity of 550 gallons.

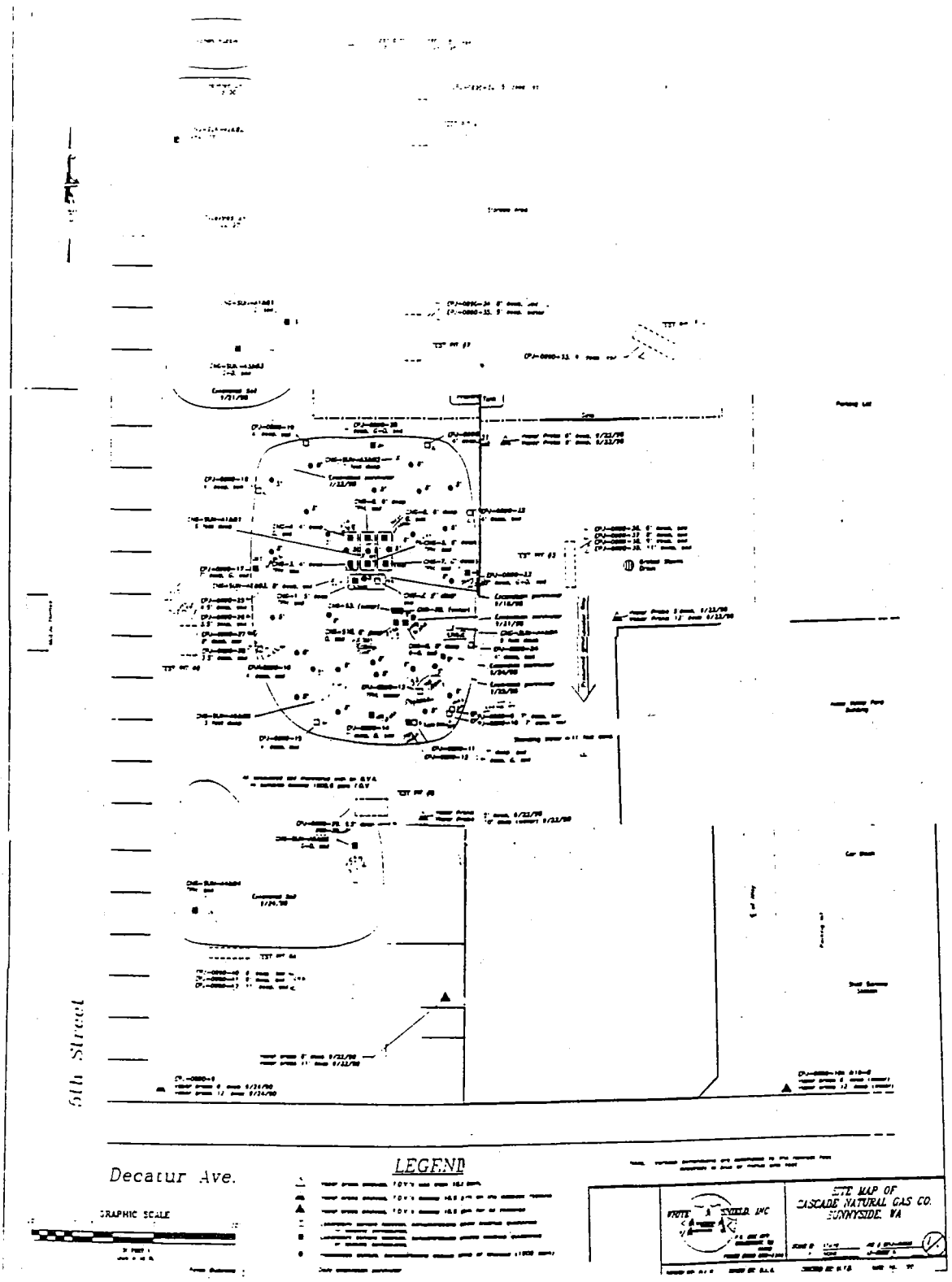
Both gasoline and diesel soil contamination were identified immediately, and the spill was reported to the WDOE. On-site air monitoring instruments indicated that concentrations were greater than 1000 ppm in air.

Soil samples collected between September 21, 1990 and October 12, 1990 demonstrated TPH concentrations between <2 ppm and 53,000 ppm. Benzene and ethylbenzene levels were as high as 11 and 20 ppm, respectively. Other contaminants found included lead at 4.65 ppm, butyl benzyl phthalate at 98 ppb, dibenzofuran at 79 ppb, 2-methylnaphthalene at 69 ppb, naphthalene at 166 ppb, and pentachlorophenol at 73 ppb. Concentrations of 1,2-dichloroethane ranged from 3 ppb to 54 ppb.

White Shield, Inc., Cascade's consultant, submitted a request to landfarm the contaminated soil, along with analytical results, on November 2, 1990. WDOE reviewed the landfill's permits and capacities, and approved two of the three suggested sites. On November 8, White Shield requested permission to transport the soil to Terrace Heights Landfill. In a letter dated November 26, 1990, White Shield requested permission to begin landfarming at Terrace Heights during the first week of April 1990. WDOE declined to approve or disapprove the landfarming, leaving the decision to the county health department.

White Shield, Inc. believes that because groundwater is more contaminated than the soil near the water table, groundwater contamination from off-site sources in the Sunnyside area is responsible for some of the contamination at the site, specifically the 1,2-dichloroethane.

Further action on the site is apparently awaiting negotiations with the county for cleanup expenses and advice from the WDOE regarding in-situ cleanup techniques for soil near the water table.



0' 2000'

N

EXHIBIT 3.1
PREVIOUS SITE INVESTIGATION

CASCADE NATURAL GAS
SUNNYSIDE, WA

DPRA

PROJECT NO.: 3751.007

4.0 FIELD ACTIVITIES

DPRA investigators Greg Uetrecht and Steve Wahlstrom were at the site from April 10 to April 11, 1991 to observe conditions and oversee the installation of monitoring wells (Exhibit 4.1). Their observations are recorded in Attachment IV. Documenting photographs are shown in Attachment III.

Mr. John Tade of Cascade Natural Gas showed DPRA the contaminated areas surrounding the excavation as well as utility locations. A single drum showed black liquid seeping through the top, apparently waste oil. A coffee can in the same area held a solvent such as kerosene or turpentine (Attachment III).

Mr. Uetrecht noted a crack in the asphalt near the north edge of the excavation by a bulk propane tank. Moisture through this crack could eventually cause the asphalt to break off and fall into the excavation, and erosion beneath the asphalt would continue. Therefore, Mr. Uetrecht recommended moving the propane tank further from the excavation.

Minnesota

On April 17, 1990, Greg Kvaal and Paul Meier of DPRA collected water samples from monitoring wells MW-1, MW-2, and MW-3 to be analyzed for volatile and semi-volatile organics. These samples were submitted to Weyerhaueser Analytical Laboratories. A summary of the analytic results are presented in Exhibit 4.2.

913-321-0869 - Kansas City

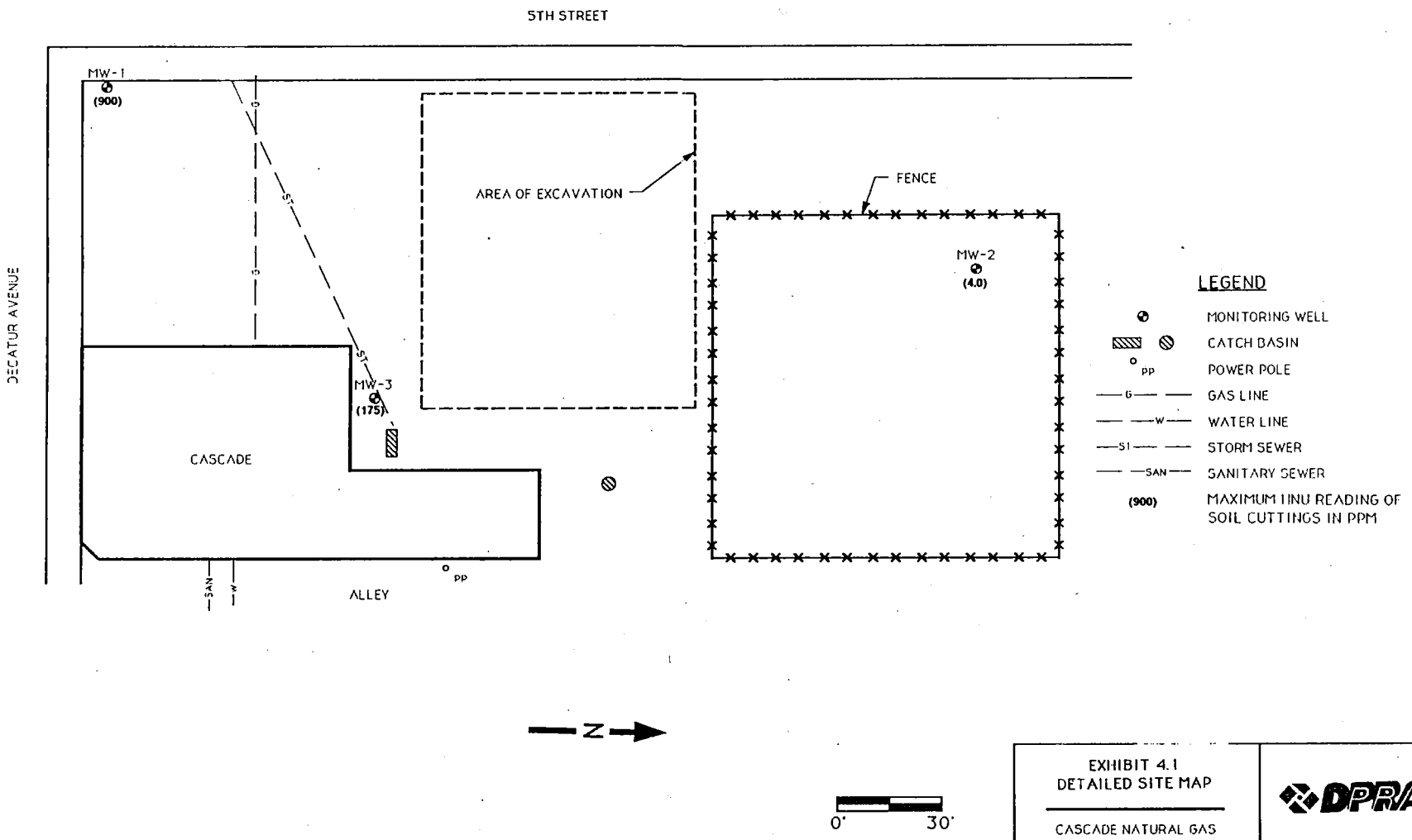


EXHIBIT 4.1
DETAILED SITE MAP

CASCADE NATURAL GAS
SUNNYSIDE, WA

DPRA

PROJECT NO.: 3751.007

EXHIBIT 4.2
ANALYTIC SUMMARY

CASCADE NATURAL GAS
512 Decatur Avenue
Sunnyside, Washington

GROUNDWATER CHEMICAL ANALYSIS SUMMARY

Sample Identification	Sample Date	Benzene (ug/l)	Ethyl-benzene (ug/l)	Toluene (ug/l)	Xylenes (ug/l)	Methylene Chloride (ug/l)
CNG-01-001-W	4/17/91	51	---	---	---	---
CNG-02-001-W	4/17/91	---	---	---	---	---
CNG-03-001-W	4/17/91	---	---	---	---	---
Trip Blank	4/17/91	---	---	---	---	53

--- = analyzed but not detected
na = not analyzed
ug/l = micrograms per liter - equivalent to parts per billion (ppb)
mg/l = milligrams per liter - equivalent to parts per million (ppm)

EXHIBIT 4.2
ANALYTIC SUMMARY
(CONTINUED)

CASCADE NATURAL GAS
512 Decatur Avenue
Sunnyside, Washington

SOIL CHEMICAL ANALYSIS SUMMARY

Sample Identification	Sample Date	Benzene (ug/kg)	Ethyl-benzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	Naphthalene (ug/kg)	2-Methyl-naphthalene (ug/kg)	bis (2-ethylhexyl) phthalate (ug/kg)	Butylbenzyl-phthalate (ug/kg)
MW #1 (13' - 15')	4/11/91	1400E	2300 E	560	7400E	160J	150J	760J	---
MW #1 Duplicate (13' - 15')	4/11/91	---	---	---	---	260J	340J	500J	140J
MW #1 (18' - 20')	4/11/91	---	---	---	---	---	---	210J	210J
MW #2 (8' - 10')	4/11/91	---	---	---	---	---	---	220J	120J
MW #2 (18' - 20')	4/11/91	---	---	---	---	---	---	670J	85J
MW #3 (13' - 15')	4/11/91	---	44	10	140	---	---	1100J	220J
MW #3 (18' - 20')	4/11/91	---	---	---	---	---	---	600J	90J

--- = analyzed but not detected
na = not analyzed
ug/kg = micrograms per kilogram - equivalent to parts per billion (ppb)
mg/kg = milligrams per kilogram - equivalent to parts per million (ppm)
E = compound exceeds instrument calibration range - estimated value
J = value is estimated because less method quantitation reporting limit

EXHIBIT 4.2
ANALYTIC SUMMARY
(CONTINUED)

CASCADE NATURAL GAS
512 Decatur Avenue
Sunnyside, Washington

SOIL CHEMICAL ANALYSIS SUMMARY

Sample Identification	Sample Date	Di-n-Octyl Phthalate (ug/kg)	Diethyl-phthalate (ug/kg)	Di-n-butyl-phthalate (ug/kg)	Acetone (ug/kg)	Methylene Chloride (ug/kg)	1,1-Dichloroethane (ug/kg)	1,1,1-Trichloroethane (ug/kg)
MW #1 (13' - 15')	4/11/91	---	---	---	13,000E	---	---	---
MW #1 Duplicate (13' - 15')	4/11/91	110J	---	---	---	---	---	---
MW #1 (18' - 20')	4/11/91	140J	---	---	3300E	3900E	---	---
MW #2 (8' - 10')	4/11/91	---	160J	---	---	---	---	---
MW #2 (18' - 20')	4/11/91	---	---	---	12,000E	7300E	---	---
MW #3 (13' - 15')	4/11/91	160J	---	---	65	---	7	5
MW #3 (18' - 20')	4/11/91	---	---	98J	13	---	---	---

--- = analyzed but not detected
na = not analyzed
ug/kg = micrograms per kilogram - equivalent to parts per billion (ppb)
mg/kg = milligrams per kilogram - equivalent to parts per million (ppm)
E = compound exceeds instrument calibration range - estimated value
J = value is estimated because less method quantitation reporting limit

5.0 REFERENCES

1. "Initial LUST Report", White Shield to WDOE, 9/18/90
2. WDOE Site Visit Data Sheet, 9/21/90
3. WDOE Telephone Record, Michael Black of White Shield to S. Burgdorff, 10/31/90
4. "Request for Approval to Landfarm up to 2,500 Cubic Yards of Petroleum-Contaminated Soil (PCS)", White Shield to Susan Burgdorff, WDOE, 11/2/90
5. WDOE Telephone Record, Michael Black of White Shield to S. Burgdorff, 11/05/90
6. WDOE File Memorandum by Susan Burgdorff, RE: Cascade Natural Gas, Sunnyside, 11/05/90
7. WDOE Telephone Record, Michael Black of White Shield to S. Burgdorff, 11/06/90
8. WDOE File Memorandum by Tony Valero, Jr., RE: PCS from Cascade Natural Gas, Sunnyside, 11/08/90
9. "Request for Approval to Transport 2,500 Cubic Yards of PCS to Terrace Heights Landfill", White Shield to WDOE, 11/08/90
10. "Supplemental Requests for Treatment of PCS from Cascade Natural Gas, Sunnyside Site, at the Terace Heights Landfill", White Shield to Susan Burgdorff, 11/26/90
11. WDOE Telephone Record, Sue Smith of White Shield to S. Burgdorff, 12/10/90
12. WDOE Telephone Record, Ralph Boyd of Cascade Natural Gas to S. Burgdorff, 2/20/91
13. Water Well Report, Sunnyside Pool, 559 S. 4th St., Start Card #033769.

ATTACHMENT I

SHA DCSS- CASCADE NATURAL GAS

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
TOXICS CLEANUP PROGRAM

SITE HAZARD ASSESSMENT DATA COLLECTION SUMMARY SHEETS FOR WASHINGTON RANKING METHOD

Site Name: Cascade Natural Gas Corporation

Location: 512 Decatur Avenue

Site owner/operator: John W. Tade District Manager

Address: _____

Any other known PLP(s): _____

Address: _____

Site Number: _____

Date(s) of field site hazard assessment: 4/10 - 11/91

Samples or field measurements: 0 soil
_____ surface water
_____ air 0 ground water

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

Photographs: Refer to Photolog

Weather: Calm, clear, temp 40s - 60s, afternoon cooler, windy

Lead inspector: Greg Uetrecht

Other inspectors: Steve Wahlstrom

Signature: Greg Uetrecht

rev. 2/20/91

PART I: Hazardous Substances

NOTE: Page numbers (e.g. SW-2) shown in parentheses thoughout this checklist refer to the WARM Scoring Manual. WK- numbers refer to pages of the new scoring sheets (not those in the scoring manual).

A. LIST

List hazardous substances, known or suspected (check k or s), currently at the property, or that have been previously(check c or p) at the property (WK-2,3):

Hazardous Substance	(K)	S	C	(P)	Quantity	Units
1. 1,2-Dichloroethane					16 ppb (10-11-90)	Soil sample EPJ-089
2. 1,2-Dichloroethane					54 ppb (9-29-90) Duplicate 59 ppb	Water EPJ-0890-13
3. butyl benzyl phthalate					98	ppb
4. dibenzofuran					79	ppb
5. 2-methylnapthalene					69	ppb
6. Naphthalene					166	ppb
7. Pentachlorophenol					73	ppb
8. benzene					11	ppm
9. TPH					53,000	ppm

10. See Exhibit 4.2 for results of current study

Additional? * (list on attachment) *

Nov. 2, 1990 letter
Nov. 12, 1990 letter

By which routes are these available?

Number(from above)	Surface Water	Air	Groundwater
1. All			All
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

B. SOURCES

Check those known or observed (WK-3):

__X__ drums or other containers
_____ electrical transformers
__X__ above ground tanks propane
_____ 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.
__X__ other? Identify: 55-gallon drum oily waste and coffee can full of unknown (refer to photograph) in boneyard of old heating equipment parts, etc.

C. INDICATORS

Check those known or observed:

__X__ discolored soils drill hole and next to waste oil(?) drum
__X__ disturbed soils drilling
_____ discolored standing water
_____ unusual or noxious odors
_____ sick or dead vegetation
_____ 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: See photographs and Exhibit 4.1

PART II: Releases

A. KNOWN OR SUSPECTED RELEASES

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

Substance (#)	Quant.Released	Units	Medium released to
2	54	ppb	groundwater
8	51	ug/l	groundwater

Additional information/reference? _____

B. SOURCES AND IMPACTS (Pages SW-5,6; A-9,10; GW-6,7)

List those hazardous substances identified (by number) in II.A. and identify the source and impact:

Substance No.	Source	Impacts/affects To	Area
1-9	UST or drums	soil and groundwater	22,000 ft^2

Additional information/reference? Based upon soil contamination from three newly installed monitoring wells

III. Migration Potential

A. CONTAINMENT--LANDFILLS (SW-7; A-12; GW-8,9)

Present? No How many? 0

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 system or 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 <u>may</u> have been disposed of
17. ___ Liquid wastes <u>were</u> disposed of in landfill
18. ___ Reliable evidence <u>no</u> liquid wastes were disposed

Additional comments: _____

B. CONTAINMENT--SURFACE IMPOUNDMENTS (SW-7,8; A-13; GW-10,11)

Present No How many? 0

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)

Additional comments: _____

C. CONTAINMENT--DRUMS AND SMALL CONTAINERS (SW-9; A-11; GW-11)

Present Yes How many? 2

Check those that apply:

1. X 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% ofvolume of the largest container
4. ____ The secondary containment is less than 110% of the volume of the largest container
5. X The containers are stored in single, or double layers on pallets,or in racks
6. X The containers are stored in an unstable manner
7. X Some containers are open or have visible liquid
8. X Some containers are leaking
9. ____ Containers are protected from weather
10. ____ Containers showing deterioration
11. X Containment surface is impervious (blacktop)
12. ____ Containment surface has cracks or semi-permeable
13. ____ No base material/permeable base such as gravel/base materials unknown
13. ____ Containment is regularly inspected and maintained
14. ____ Evidence of containment failure

Additional comments: _____

D. CONTAINMENT--STORAGE TANKS (SW-9; A-11; GW-11)

Present? No How many? 0

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 _____

E. CONTAINMENT--WASTE PILES (SW-10; A-13; GW-12,13)

Present? Yes How many? 2

Check those that apply:

1. ____ Waste pile is outside, no protecting structure

2. ____ Waste pile is outside, in open structure with roof

3. X 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 is maintained

9. ____ Run-on/runoff control present, unknown condition

10. X No run-on/runoff control system present, or unknown if present

11. X Liner Blacktop and base present; ____ Not present.

12. ____ Single clay or compacted soil liner

13. X Single synthetic liner

14. ____ Double liner

15. ____ Maintained, functioning leachate collection system

16. ____ Leachate collection system; ____ Unknown condition; or ____ Not functioning.

Additional comments Most of the soil piles are covered with a black 4.2 mil polyethylene film cover

F. CONTAINMENT--SPILLS, DISCHARGES, AND CONTAMINATED SOIL (SW-10,11; A-13,14; GW-13)

Check those that apply:

1. _____ Spill, discharge, or contaminated soil only in the subsurface at the site--including dry wells, drain fields, 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. __X__ 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. __X__ Contaminated soil has been disturbed or excavated and stored above grade (refer to waste pile)

10. _____ A functioning vapor recovery system

11. _____ No vapor recovery system

Additional comments _____

G. CONTAINMENT--SITE CHARACTERISTICS
(SW-11,12; A-6; GW-14; WK-5,6,8)

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 sands 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 judgement by a soil expert? (circle) SCS Data

2. Total annual precipitation= 7.2 in./yr (SW-12; WK-5)

3. Max. 2-yr/24-hr precip.= 0.8 inches (SW-14; WK-5)

4. Net precipitation (see 2.2, GW-13)= 2 in. (WK-9)

5. Is the site not in a flood plain? X (SW-14; WK-5)
Is the site in a 500 year flood plain? _____ Best Professional
Is the site in a 100 year flood plain? _____ Judgement

6. What is the terrain slope to the nearest surface water?
0-2 (0.9%) (SW-14,15; WK-6) See attached sheet

7. What is the subsurface hydraulic conductivity?
$>10^{-5} - 10^{-3}$ cm/sec (GW-14; WK-9)

8. What is the vertical depth from the deepest point of known contamination to ground water? 0 feet
(GW-15; WK-9) Groundwater is contaminated

Additional comments: _____

IV. Targets

A. DISTANCE TO SURFACE WATER (SW-16; 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.
	Wasteway Creek	approx. 9200	X	
Either	Ditch, Stream, or Canal	875		X (see topo)

None? _____. Comments May be irrigation canal (See topo)

2. What drinking water intakes are within 2 miles of the site? (all lake intakes, river intakes downstream only) (SW-12; WK-6)

None? X

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-16; GW-18; WK-6,9)

None? _____

SURFACE WATER: Acres 0 (1600 acres max.)

Source(s) _____;

GROUNDWATER: Acres 40.5 (4500 acres max.)

Source(s) _____

CONTROL # / #OF PTS	SEC / P	QLD / LOC. OF POD/POW	OLD APPL / PERM / (CHG C#)	OLD CERT / PURPOSE OF USE	DATE OF PRIORITY	S C A M	CNTY / PERMIT DATE	NAME / USE TYPE	SOURCE OF APPROPRIATION TRIBUTARY OF / INST QI	C R S M U U	ANNUAL QA	C R S M U U	IRR AC	C S PRO M U VISOS	TIME OF USE	R R R I A C
WATER RESOURCE INVENTORY AREA- 37																
TOWNSHIP - 10 RANGE - 22 E																
G4*00057S	25	00057		00034	09/00/929		YAKI / /	SUNNYSIDE CITY OF	WELL							
1	L14 BL41 CITY SUNNYSIDE			DOMESTIC MUNICIPAL		C	230.0 G 2				62.0 2					
				COMMERCIAL/INDUSTRIAL		C	230.0 G 2				62.0 2					
G4*00058C	25	00058	00050	00049	12/12/945		YAKI 03/12/946	SUNNYSIDE CITY OF	WELL							
1	L11 BL1 TUEL IRVING SUBD			DOMESTIC MUNICIPAL		C	1000.0 G				1000.0					
G4*00058S	25	00058		00035	06/00/942		YAKI / /	SUNNYSIDE CITY OF	WELL							
1	L8 BL1 TUELL / IRVING SUBD			DOMESTIC MUNICIPAL		C	420.0 G 2				347.0 2					
				COMMERCIAL/INDUSTRIAL		C	420.0 G 2				347.0 2					
G4*03300C	25	03300	03099	02553	07/10/953		YAKI 11/13/953	SUNNYSIDE CITY OF	WELL							
1	SW4 SW4 NW4			DOMESTIC MUNICIPAL		C	1500.0 G				720.0 S			A		
G4-27519P	25				06/12/981		YAKI 12/03/982	MT VALLEY PROD INC	WELL							
1	SW4NW4			COMMERCIAL/INDUSTRIAL		C	400.0 G				95.0			RK		
G4-29589M	25				02/08/988		YAKI 04/24/989	SUNNYSIDE HOUSING	WELL							
1	E2NE4			IRRIGATION		C	120.0 G				48.0		12.0	RK	04011031	
G4-29976A	25				06/16/986		YAKI / /	MOUNTAIN VALLEY PR	WELL							
1	SE4NE4			COMMERCIAL/INDUSTRIAL		C	400.0 G									
G3+22579C	27				02/25/974		YAKI 04/02/975	GROEN JOHN G	WELL							
1	S2 S2 SW4			DOMESTIC SINGLE		C	30.0 G 2				2.0			R		
				STOCK WATERING		C	30.0 G 2				11.0					
G4*05896CBL	27	058968	05576B	04309B	04/06/961		YAKI 07/10/961	SEATTLE PACKING CO	WELL							
1	NE4NW4			STOCK WATERING		C	111.0 G				177.6			A		2 2 0
G4*03045C	28	03045	02917	02142	03/09/953		YAKI 07/17/953	COX M E	WELL							
1	S2 SE4			DOMESTIC SINGLE		C	60.0 G 2				42.0 2			A		
				IRRIGATION		C	60.0 G 2				42.0 2	P	14.0	AE	IS	
G4*05143C	28	05143	07575	05689	06/07/966		YAKI 08/26/966	MILLER E E	WELL							
1	NW4 NW4			DOMESTIC SINGLE		C	100.0 G 2				68.0 2			RE		
				IRRIGATION		C	100.0 G 2				68.0 2		17.0	RE	IS	
G4-24566C	28				02/09/977		YAKI 03/20/978	RIBAIL JERRY L	WELL							
1	SE4SW4			DOMESTIC SINGLE		C	150.0 G 2				2.0			RW		
				IRRIGATION		C	150.0 G 2				76.0 S		20.0	RW	04011031	
G4-24641P4L	28				02/14/977		YAKI 04/06/978	WOODWORTH ST CLAIR	WELL							
1	NW4SW4			DOMESTIC SINGLE		C	3150.0 G 2				2.0			RW		2 2 0
				IRRIGATION		C	3150.0 G 2				1292.0 S		315.0	RW	04011031	2 2 2
G4-24641P5L	29				02/14/977		YAKI 04/06/978	WOODWORTH ST CLAIR	WELL							
1	NE4SE4			DOMESTIC SINGLE		C	3150.0 G 2				2.0			RW		2 2 0
				IRRIGATION		C	3150.0 G 2				1292.0 S		315.0	RW	04011031	2 2 2

CONTROL #	SEC	OLD APPL	OLD PERM	OLD CERT	DATE OF PRIORITY	S T	C M	CNTY	PERMIT DATE	NAME	SOURCE OF APPROPRIATION	TRIBUTARY OF
#OF PTS P LOC. OF POD/POW (CHG C#)					PURPOSE OF USE	USE TYPE	INST QI	C M	R U	S U	ANNUAL QA	C M	R U	S U	IRR AC	C M	S U	PRO-VISOS	TIME OF USE	R I	R A	R C
WATER RESOURCE INVENTORY AREA- 37																						
TOWNSHIP - 10 RANGE - 22 E																						
G4-25035G	29				05/23/977			YAKI	01/27/978	KOREVAAR JOE	WELL											
1 NE4 NW4					DOMESTIC MULTIPLE	C		40.0	G	2		4.0						RN				
					IRRIGATION	C		40.0	G	2	S	36.0		S	10.0			RN	04011031			
G4*09621C	30	09621	10233		07/19/968	S		YAKI	04/02/971	WA ST D N R	WELL											
1 GL-2					DOMESTIC MULTIPLE	C		1800.0	G	2		2.0						RS				
					IRRIGATION	C		1800.0	G	2		500.0			200.0			RS	04011001			
G4-23897C	30				04/07/975			YAKI	07/29/975	LUTHER ORVILLE L	WELL											
1 NW4 SW4					DOMESTIC SINGLE	C		150.0	G	2		2.0						R				
					COMMERCIAL/INDUSTRIAL	C		150.0	G	2		25.0						R				
G4-28438N	30				04/19/984			YAKI	12/13/984	WA ST D N R	WELLS											
1 SW4NW4					IRRIGATION	C		200.0	G			50.0			20.0			RKS	04011001			
					IRRIGATION	C		150.0	G		S			S	200.0			RKS	04011001			
G4-25795C	31				03/24/978			YAKI	09/18/978	NEWHOUSE J A ET AL	WELL											
1 SE4NW4					IRRIGATION	C		385.0	G			304.0		S	80.0			R	04011031			
G4-26021G	31				09/28/978			YAKI	02/20/979	CONNECTICUT MUT LI	WELL											
1 SW4NE4					DOMESTIC SINGLE	C		750.0	G	2		2.0						R				
					IRRIGATION	C		750.0	G	2		247.0		S	65.0			R	04011031			
G4-26119G	31				01/25/979			YAKI	04/22/980	CONNECTICUT MUT LI	WELL											
1 SE4NE4					DOMESTIC SINGLE	C		500.0	G	2		2.0						RK				
					IRRIGATION	C		500.0	G	2		190.0			50.0			RK	04011031			
G4-27347G	31				03/02/981			YAKI	10/29/982	D & G FARMS	WELL											
1 NW4NW4					IRRIGATION	C		300.0	G			129.0			34.0			RK	04011031			
G3+22244C	32				12/14/973			YAKI	02/21/975	NEWHOUSE MELVIN J	WELL											
1 NE4NW4SW4					IRRIGATION	C		350.0	G			133.0			35.0			R	04010930			
G4*07369C	32	07369	07015	05258	10/21/964			YAKI	05/14/965	HEFFRON L W / A	WELL											
1 NE4 NE4 NE4					DOMESTIC SINGLE	C		200.0	G	2		102.0	2					R				
					IRRIGATION	C		200.0	G	2		102.0	2		25.0			R	IS			
G4-24152G	32				12/19/975			YAKI	12/27/979	HEFFRON LYLE W	WELL											
1 NW4NE4					IRRIGATION	C		250.0	G			95.0			25.0			R	04011031			
G4-28579B	32				12/12/984			YAKI	05/09/985	NEWHOUSE STEVE	WELL											
1 NE4SE4					IRRIGATION	C		400.0	G			160.0			40.0			RK	04011031			
G4-23983E	32				03/04/980			YAKI	01/12/987	DURFEY TED R	WELL											
1 NE4SW4					FROST PROTECTION	C		500.0	G	2		5.8						RK				
					IRRIGATION	C		500.0	G	2		120.0			30.0			RK	04010930			
G4-29856A	32				12/01/988			YAKI	/ /	NEWHOUSE STEVE	WELL											

CONTROL # / # OF PTS	SEC / P LOC	OLD APPL	OLD PERM	OLD CERT	DATE OF PRIORITY / PURPOSE OF USE	CNTY / USE TYPE	PERMIT DATE / INST QI	NAME / ANNUAL QA	C R S M U U	SOURCE OF APPROPRIATION TRIBUTARY OF	IRR AC	PRO-VISOS	TIME OF USE
WATER RESOURCE INVENTORY AREA- 37													
TOWNSHIP - 10 RANGE - 22 E													
1	SE4SE4				IRRIGATION	C	700.0 G						
G3+20136C	33				04/21/972	YAKI	09/20/973	SURNS ROBERT JEROM		WELL			
1	SE4SW4				IRRIGATION	C	300.0 G	307.5			?0.0	R	03011030
G4*08610C	33	05610	08475	06836	03/20/967	YAKI	05/14/968	NEWHOUSE A		WELL			
1	S2SW4SW4				IRRIGATION	C	300.0 G	150.0			40.0	NR	04010831
G4-26118G	33				02/02/979	YAKI	06/15/979	HEFFRON ALAN		WELL			
1	NW4NW4				IRRIGATION	C	90.0 G	19.0			5.0	RK	04011031
G4-29487B	33				11/06/987	YAKI	05/24/988	NEWHOUSE STEVE		WELL			
1	SE4NE4				FROST PROTECTION	C	700.0 G 3	12.4			40.0	SRK	
					IRRIGATION	C	700.0 G 3	160.0			400040.0	SRK	04011031
					IRRIGATION	C	700.0 G 3	86.4	S		108.0	SRK	04011031
G4-26463B	34				11/14/979	YAKI	07/14/983	HEFFRON ALAN		WELL			
1	NW4NE4SW4				DOMESTIC SINGLE	C	250.0 G 2	2.0				RK	
					IRRIGATION	C	250.0 G 2	87.5			25.0	RK	04011031
G4-28402C	34				02/28/954	YAKI	12/03/954	U S GRAPE COOP		WELL			
1	SE4SE4				DOMESTIC MULTIPLE	C	250.0 G 2	4.5				RK	
					COMMERCIAL/INDUSTRIAL	C	250.0 G 2	122.0				RK	
G3+20404C	35				05/04/972	YAKI	11/30/973	LAGINESS RAYMOND L		WELL			
1	SE4SE4				DOMESTIC SINGLE	C	32.0 G 3	2.0	2			RS	
					STOCK WATERING	C	32.0 G 3	2.0	2			RS	
					IRRIGATION	C	32.0 G 3	14.1			3.5	RS	04011031
G3+21323C	36				06/28/973	YAKI	04/22/975	SUNNYSIDE PORT OF		WELL			
1	SW4NW4				DOMESTIC MUNICIPAL	C	950.0 G	1500.0				RH	
G4-25669A	36				04/22/985	YAKI	/ /	PAC WEST EXT PLAST		WELL			
1	NW4SW4				COMMERCIAL/INDUSTRIAL	C	100.0 G						
TOWNSHIP - 10 RANGE - 23 E													
G4-01305C	04	10990	10194		06/19/970	YAKI	03/04/971	YAKIMA VALLEY COLL		WELL			
1	NE4SE4				IRRIGATION	C	280.0 G	220.0			40.0	R	05011031
G4-23070C	06				06/25/974	YAKI	04/22/975	FLAVORLAND IND INC		WELL			
1	NW4 NW4				DOMESTIC SINGLE	C	50.0 G 2	2.0				R	
					IRRIGATION	C	50.0 G 2	40.0			30.0	R	IS
G4-23071C	06				06/25/974	YAKI	04/22/975	FLAVORLAND IND INC		WELL			
1	NW4NW4				IRRIGATION	C	1?0.0 G	152.0			37.0	RS	IS

ID NO. SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION — COUNTY / CITY, ST ZIP / TELEPHONE — CLASS — ACTOAL POTEN — JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

SOURCE NO. SOURCE NAME — CATEGORY TYPE INTERTIE DEPTH CAPACITY TREATMENT — TWP RNG SEC

18588C DEL MONTE COM WELL #3 — YAKIMA — Class: 3
% P O BOX 71 — TOPPENISH, WA 98948
Mgr: BOYD GRAY — (509) 865-4105 — 2 0
Bacti: Variable: — A A A BM q q A A A A A A
Perm: 7 Transitory: — 0 0 0 75 75 75 0 0 0 0 0 0
Source: 1 CAMP #15&18 — WELL PRI. — 303' — 100 — NONE. — 9N 21E 36

00868P JERRYS MEATS — YAKIMA — Class: 4
RT 1 BOX 1556 — SUNNYSIDE, WA 98944 — 1 0
Bacti: once/12 months
Perm: 3
Source: 1 — WELL PRI. — 90' — 5 — NONE. — 9N 22E 1H

991084 YAKIMA GOLDING FARMS #2 — YAKIMA — Class: 4
RT #1 BOX 1216 — SUNNYSIDE, WA 98944 — 0 0
Bacti: once/12 months
Perm: 15
Source: 1 — WELL PRI. — 76' — 5 — NONE. — 9N 22E 4

92790M WANITA GRANGE #270 — YAKIMA — Class: 4
315 S 5TH ST — SUNNYSIDE, WA 98944 — 2 0
Bacti: once/12 months
Perm: 2
Source: 1 — WELL PRI. — 90' — 8 — NONE. — 9N 22E 13R

295977 GREEN VALLEY ESTATES WATER ASSOC — YAKIMA — Class: 2
RT 1 BOX 108 L — MABTON, WA 98935
Mgr: MARGARET LOPEZ — (509) 837-2248 — 15 0
Bacti: 1/month
Perm: 60
Source: 1 — WELL PRI. — 100' — 70 — NONE. — 9N 22E 14N

59315Y NEWHOUSE FARMS A & J — YAKIMA — Class: 4
RT 1 BOX 1248 — SUNNYSIDE, WA 98944 — 8 0
Bacti: once/12 months
Perm: 20
Source: 1 — WELL PRI. — 30' — 20 — NONE. — 9N 22E 16

18589W DEL MONTE COM WELL #4 — YAKIMA — Class: 3
% P O BOX 71 — TOPPENISH, WA 98948
Mgr: BOYD GRAY — (509) 865-4105 — 2 0
Bacti: Variable: — A A A BM q q A A A A A A
Perm: 7 Transitory: — 0 0 0 85 85 85 0 0 0 0 0 0
Source: 1 CAMP #14&16 — WELL PRI. — 270' — 60 — NONE. — 9N 22E 32

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION / SOURCE NO. SOURCE NAME	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAC / POTEN	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CATEGORY	TYPE	INTERTIE	DEPTH	CAPACITY	TREATMENT	TWP	RNG	SEC
00279P	EBERLE WELL	YAKIMA	Class: 4																					
	RT 1 BOX 1710	GRANDVIEW, WA 98930																						
			4 0																					
	Bacti: once/12 months																							
	Perm: 14																							
	Source: 1															WELL	PRI.		150'	11	NONE.		9N	23E 2A
21793W	SYVERSON, JOHN E	YAKIMA	Class: 4																					
	RT 2 BOX 2208	SUNNYSIDE, WA 98944																						
	Mgr: JOHN E. SYVERSON	837-3532	2 0																					
	Bacti: once/12 months																							
	Perm: 6																							
	Source: 1 SYVERSON WELL															WELL	PRI.		90'	22	NONE.		9N	23E 7
218448	BENROY-JOHNSON WATER USER ASSN.	YAKIMA	Class: 4																					
	RT 1 BOX 1512	GRANDVIEW, WA 98930																						
	Mgr: PRESIDENT GLEN WARD	(509) 882-5505	4 4																					
	Bacti: once/12 months																							
	Perm: 20																							
	Source: 1 WELL															WELL	PRI.		120'	30	NONE.		9N	23E 7
18117J	DAVIS APTS	YAKIMA	Class: 4																					
	RT 2 BOX 2771	GRANDVIEW, WA 98930																						
			5 0																					
	Bacti: once/12 months																							
	Perm: 15																							
	Source: 1															WELL	PRI.		44'		NONE.		9N	23E 13
61235V	NORTH SIDE WATER CO	YAKIMA	Class: 2																					
	ROUTE 1, BOX 1920	GRANDVIEW, WA 98930																						
	Mgr: CLEATUS VINING	882-2654	11 0																					
	Bacti: once/ 3 months (*)																							
	Perm: 25																							
	Source: 1 VINING															WELL	PRI.		224'	125	NONE.		9N	23E 14B
035947	B P O E #2112 LOWER VALLEY	YAKIMA	Class: 3																					
	PO BOX 571	SUNNYSIDE, WA 98944																						
	Mgr: WILLIAM HOOD	(509) 837-4450	0 0																					
	Bacti: once/ 3 months																							
	Perm: 0 Transitory:			150	150	150	150	150	150	150	150	150	150	150	150									
	Source: 1 WELL #1															WELL	PRI.		64'	60	NONE.		9N	23E 15
91913A	VILLAGE COURT APTS	YAKIMA	Class: 3																					
	1401 W HIWAY 12	GRANDVIEW, WA 98930																						
	Mgr: ESTHER R. JACKSON, ESTHER R.	882-1975	2 0																					
	Bacti: (*) Variable:			A	A	A	BN	q	q	q	q	q	q	q	A									
	Perm: 2 Transitory:			0	0	0	100	100	100	100	100	100	100	100	0									
	Source: 1 WELL #1															WELL	PRI.		60'	20	NONE.		9N	23E 15
	Source: 2 WELL #2															WELL	PRI.		60'		CL2.		9N	23E 15

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAL / POTEN	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	SOURCE NO. SOURCE NAME	CATEGORY	TYPE INTERTIE	DEPTH	CAPACITY	TREATMENT									TWP RNG SEC
920641	WAGON WHEEL INN	YAKIMA	Class: 4												
	1201 HIWAY 12	GRANDVIEW, WA 00000						4	0						
	Bacti: once/12 months														
	Perm: 7														
	Source: 1	WELL	PRI.	175'	30	NONE.									9N 23E 15
65919K	PANORAMA PLACE WATER ASSOC	YAKIMA	Class: 2												
	ROUTE 1, BOX 1455	GRANDVIEW, WA 98930													
	Mgr: FRED CATLIN, JR.	(509) 837-5062						50	0						
	Bacti: 1/month														
	Perm: 150														
	Source: 1 WELL # 1	WELL	PRI.	280'	360	CL2.									9N 23E 19A
28970J	GRANDVIEW, CITY OF	YAKIMA	Class: 1												
	207 WEST SECOND	GRANDVIEW, WA 98930													
	Mgr: BILL STONEKING	(509) 882-9211						2,150	0						
	Bacti: 7/month														
	Perm: 6,300														
	Source: 1 WELL # 2 (SHOP)	WELL	PRI.	180'	400	CL2.									9N 23E 23C
	Source: 2 WELL NO.3(BALCOM)	WELL	SEC.	1,150'	800	CL2.									9N 23E 23G
	Source: 3 WELL NO.4(HILLCREST)	WELL	PRI.	1,650'	450	CL2.									9N 23E 22J
	Source: 4 WELL NO.5(ORCHARD)	WELL	PRI.	1,123'	130	CL2.									9N 23E 21K
	Source: 6 WELL NO 7(SAFEWAY)	WELL	SEC.	248'	50	NONE.									9N 23E 22A
	Source: 7 WELL NO 8(SPRINGS)	WELL	PRI.	112'	300	CL2.									9N 23E 12N
	Source: 8 WELL NO 9(CO HO)	WELL	EMER	240'	40	CL2.									9N 23E 22N
	Source: 9 WELL NO 11	WELL	PRI.	157'	50	CL2.									8N 23E 3H
	Source: 10 WILLOUGHBY,WELL#13	WELL	PRI.	620'	450	CL2.									9N 23E 13L
	Source: 11 WELL # 10 HIGHLAND	WELL	SEC.	245'	200	NONE.									9N 23E 24M
	Source: 12 WELL # 12 BUTTERNUT	WELL	EMER	320'	150	CL2.									9N 23E 22N
	Source: 13 WELL # 14 WILLOUGHBY	WELL	PRI.	954'	1,800	CL2.									9N 23E 13J
04089Y	MARBLE WELL	YAKIMA	Class: 4												
	PO BOX 280	GRANDVIEW, WA 98930													
								2	0						
	Bacti: once/12 months														
	Perm: 3														
	Source: 1	WELL	PRI.	90'	11	NONE.									9N 23E 26A
217803	SOULE, LAWRENCE E	YAKIMA	Class: 4												
	RT 1 BOX 1163A	GRANGER, WA 98932													
	Mgr: LAWRENCE E. SOULE	(509) 854-2572						2	0						
	Bacti: once/12 months														
	Perm: 5														
	Source: 1 WELL A	WELL	PRI.	150'	30	NONE.									10N 10E 21

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION / SOURCE NO.	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAL / POTEN	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	SOURCE NAME	CATEGORY	TYPE	INTERTIE	DEPTH	CAPACITY	TREATMENT	TWP RNG SEC
29000M	GRANGER WATER DEPARTMENT	YAKIMA	Class: 1									
	DRAWER M	GRANGER, WA 98932										
	Mgr: BILLY DAVIS	(509) 854-2770	520 0									
	Bacti: 2/month											
	Perm: 1,580											
	Source: 1				WELL NO 1(NEW WELL)	WELL	PRI.		80'	1,000	CL2.	10N 21E 21H
	Source: 2				WELL NO 2(PARK WELL)	WELL	PRI.		80'	500	CL2.	10N 21E 21C
	Source: 3				WELL NO 3(RAILROAD)	WELL	PRI.		80'	450	CL2.	10N 21E 21H
28997N	GRANGER JEEP RODEO GROUNDS	YAKIMA	Class: 4									
	P.O. BOX 401	SUNNYSIDE, WA 98944	1 0									
	Bacti: once/12 months											
	Perm: 0											
	Source: 1					WELL	PRI.		19'	7	NONE.	10N 21E 21Q
471608	LIBERTY MARKET	YAKIMA	Class: 4									
	RT 1 BOX 266A	GRANGER, WA 98932	2 0									
	Bacti: once/12 months											
	Perm: 5											
	Source: 1					WELL			169'	11	NONE.	10N 21E 24D
	Source: 2					WELL			32'	10	NONE.	10N 21E 23J
155042	COUNTRY CORNER MARKET	YAKIMA	Class: 4									
	RT 3 BOX 3040	SUNNYSIDE, WA 98944	1 0									
	Bacti: once/12 months											
	Perm: 0											
	Source: 1					WELL	PRI.		30'	10	NONE.	10N 22E 17N
43120Y	KOZY KORNER GROCERY	YAKIMA	Class: 4									
	RT 1 BOX 19	OUTLOOK, WA 98938	3 0									
	Bacti: once/12 months											
	Perm: 6											
	Source: 1					WELL	PRI.		80'	20	NONE.	10N 22E 17Q
77730B	SHEPPARD WELL	YAKIMA	Class: 4									
	RT 1 BOX 117	OUTLOOK, WA 98938	5 0									
	Bacti: once/12 months											
	Perm: 2											
	Source: 1					WELL	PRI.		120'		NONE.	10N 22E 19

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAL / FUTURE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TWP RNG SEC
	SOURCE NO. SOURCE NAME	CATEGORY	TYPE INTERTIE	DEPTH	CAPACITY	TREATMENT										
64940M	OUTLOOK ELEMENTARY SCHOOL	YAKIMA	Class: 3													
	1110 S. 6TH ST	SUNNYSIDE, WA 98944														
	Mgr: DAVID PLESHA	(509) 837-5851	0 0													
	Bacti: (*m) Variable:			0	0	1	0	0	1	0	0	1	0	0	1	
	Perm: 0 Transitory:			178	180	193	194	198	0	0	0	181	180	181	178	
	Source: 1 WELL #1	WELL	PRI.		80'	25	IRON/MN,OTH.									10N 22E 20
78734B	SCHRODER HEATS	YAKIMA	Class: 4													
	RT 2 BOX 2078	SUNNYSIDE, WA 98944														
			2 0													
	Bacti: once/12 months															
	Perm: 6															
	Source: 1	WELL			240'	15	NONE.									10N 22E 23
	Source: 2	WELL			95'	7	NONE.									10N 22E 23
98155T	WOODIN ROAD WATER ASSOC	YAKIMA	Class: 4													
	RT 1 BOX 3389	SUNNYSIDE, WA 98944														
			4 0													
	Bacti: once/12 months															
	Perm: 14															
	Source: 1	WELL	PRI.		220'	40	NONE.									10N 22E 23N
71897Q	REEVES COURT WELL	YAKIMA	Class: 4													
	724 REEVES COURT	SUNNYSIDE, WA 98944														
			6 0													
	Bacti: once/12 months															
	Perm: 18															
	Source: 1	WELL	PRI.		33'	6	NONE.									10N 22E 25
85400J	SUNNYSIDE, CITY OF	YAKIMA	Class: 1													
	818 E. EDISON	SUNNYSIDE, WA 98944														
	Mgr: STEVE SCHUT	(509) 837-5206	2,767 0													
	Bacti: 11/month															
	Perm: 9,630															
	Source: 1 WELL # 1	WELL	PRI.		166'	500	CL2.									10N 22E 25L
	Source: 3 WELL # 3	WELL	SEC.		1,162'	900	CL2.									10N 22E 25F
	Source: 4 WELL # 4	WELL	SEC.		1,576'	900	CL2.									10N 22E 25F
	Source: 5 WELL # 5	WELL	SEC.		458'	1,000	CL2.									10N 22E 25E
	Source: 6 WELL # 6	WELL	PRI.		760'	1,000	CL2.									10N 22E 36N
	Source: 7 WELL # 7	WELL	PRI.		1,057'	1,100	CL2.									10N 22E 36E
18236N	ORIN DAYTON WATER USERS	YAKIMA	Class: 4													
	P O BOX 308	SUNNYSIDE, WA 98944														
			4 0													
	Bacti: once/12 months															
	Perm: 11															
	Source: 1	WELL	PRI.		136'	11	NONE.									10N 22E 26

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION / SOURCE NO. SOURCE NAME	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAL / POTEN	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	CATEGORY	TYPE	INTERTIE	DEPTH	CAPACITY	TREATMENT	TWP RNG SEC
911709	VANBELLE WELL RT 3 BOX 3560 Bacti: once/12 months Perm: 5 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 2 0		WELL	PRI.		154'		NONE.	10N 22E 26
55443K	MOBIL PLAZA 13390 HIWAY 24 Mgr: DANIEL MARTINEZ Bacti: 1/month Perm: 50 Source: 1 MARTINEZ	YAKIMA MOXEE, WA 98936 (509) 452-4689	Class: 2 17 0		WELL	PRI.		130'	30	FILT.	10N 22E 26A
00425L	HAZEN WELL 611 NW CRESENT Bacti: once/12 months Perm: 9 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 3 0		WELL	PRI.		200'	25	NONE.	10N 22E 26K
86587Y	SWAN ROAD WATER CO P O BOX 163 Bacti: once/12 months Perm: 20 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 4 0		WELL	PRI.		95'	15	NONE.	10N 22E 27
98610U	WRIGHT WATER RT 3 BOX 3554 Bacti: once/12 months Perm: 7 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 2 0		WELL	PRI.		200'		NONE.	10N 22E 27
71084D	RAMOS WELL %RT 3BOX 3543 Bacti: once/12 months Perm: 9 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 3 0		WELL	PRI.		90'	6	NONE.	10N 22E 27D
83683U	STAR LITE DRIVE IN THEATRE MORGAN ROAD Bacti: once/12 months Perm: 135 Source: 1	YAKIMA SUNNYSIDE, WA 98944	Class: 4 1 0		WELL	PRI.		164'	40	NONE.	10N 22E 30

ID NO.	SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION / SOURCE NO. SOURCE NAME	COUNTY / CITY, ST ZIP / TELEPHONE	CLASS / ACTUAL / POTEN	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	CATEGORY	TYPE	INTERTIE	DEPTH	CAPACITY	TREATMENT	TWP RNG SEC
23280K	EMERALD ACRES RT 1 BOX 1164 Bacti: 1/month Perm: 15	YAKIMA SUNNYSIDE, WA 98944	Class: 2 23 0																			
	Source: 1															WELL	PRI.		114'	20	NONE.	10N 22E 31G
90460B	U S GRAPE INC P O BOX 784 Bacti: once/12 months Perm: 36	YAKIMA SUNNYSIDE, WA 98944	Class: 4 8 0																			
	Source: 1															WELL			220'	600	NONE.	10N 22E 34R
	Source: 2															WELL			450'	250	NONE.	10N 22E 34R
37928B	KELLOGGS KORNER RT 1 BOX 1052 Bacti: once/12 months Perm: 3	YAKIMA SUNNYSIDE, WA 98944	Class: 4 1 0																			
	Source: 1															WELL	PRI.		96'	10	NONE.	10N 22E 35R
98830L	Y V C AGRI-SCIENCE % P O BOX 1647 Bacti: once/12 months Perm: 25	YAKIMA YAKIMA, WA 98907	Class: 4 1 0																			
	Source: 1															WELL	PRI.		600'	20	NONE.	10N 23E 4
11183U	GUSTAFSON DAIRY RT 1 BOX 58 Mgr: WAYNE GUSTAFSON Bacti: once/12 months Perm: 6	YAKIMA OUTLOOK, WA 98938 837-7708	Class: 4 4 0																			
	Source: 1 GUSTAFSON															WELL	PRI.		220'		NONE.	10N 23E 6F
71425W	RAY RD WELL RT 3 BOX 151 Bacti: once/12 months Perm: 21	YAKIMA SUNNYSIDE, WA 98944	Class: 4 4 0																			
	Source: 1															WELL	PRI.		100'	20	NONE.	10N 23E 28
00011R	BEN ROY RAY RD WELL PO BOX 151 Bacti: once/12 months Perm: 12	YAKIMA SUNNYSIDE, WA 98944	Class: 4 4 0																			
	Source: 1															WELL	PRI.		175'	25	NONE.	10N 23E 28D

ID NO. SYSTEM NAME / SYSTEM MAILING ADDRESS / MANAGER/OWNER NAME / BACTI SAMPLING SCHEDULE / POPULATION — COUNTY / CITY, ST ZIP / TELEPHONE — CLASS / ACTUAL / POTEN — JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC — SOURCE NO. SOURCE NAME — CATEGORY TYPE INTERTIE DEPTH CAPACITY TREATMENT — TWP RNG SEC

20820L EAKINS TRAILER PARK
RT 1 BOX 1469 B
Mgr: MAVIS DAVIS
Bacti: 1/month
Perm: 90
YAKIMA Class: 2
SUNNYSIDE, WA 98944
(509) 837-2430 35 0
Source: 1 WELL PRI. 160' 15 NONE. 10N 23E 30L

416400 MARQUEZ MOBILE HOME PARK
P.O. BOX 328
Mgr: ROBERT MARQUEZ
Bacti: 1/month
Perm: 120
YAKIMA Class: 2
SUNNYSIDE, WA 98944
837-6230 24 0
Source: 1 WELL #1 WELL PRI. 242' 200 NONE. 10N 23E 31G

99107L YAKIMA GOLDING FARMS #1
RT #1 BOX 1622
Bacti: once/12 months
Perm: 12
YAKIMA Class: 4
SUNNYSIDE, WA 98944
0 0
Source: 1 WELL PRI. 142' 5 NONE. 10N 23E 33

47379D LINDSEY'S LOCKERS
RT 3 BOX 3207
Bacti: once/12 months
Perm: 2
YAKIMA Class: 4
WAPATO, WA 98951
2 0
Source: 1 WELL PRI. 8 NONE. 11N 18E 16R

31400N HARRAH WATER SYSTEM
% CITY HALL, BOX 13
Mgr: GARRY DECKER
Bacti: 1/month
Perm: 325 Transitory: 40 40 45 45 45 50 50 50 45 45 40 40
YAKIMA Class: 1
HARRAH, WA 98933
848-2366 114 0
Source: 1 WELL #1 WELL PRI. 1,475' 350 NONE. 11N 18E 26C

364633 JACK PLACE TAVERN
P O BOX 5
Own: JOE & RITA CASTILLEJA
Bacti: once/ 3 months
Perm: 0 Transitory: 50 50 50 50 50 50 50 50 50 50 50 50
YAKIMA Class: 3
BROWNSTOWN, WA 98920
0 0
Source: 1 WELL # 1 WELL PRI. 250' 12 NONE. 11N 18E 30

46462L LAZY R TAVERN
BOX 135
Bacti: once/12 months
Perm: 50
YAKIMA Class: 4
HARRAH, WA 98933
1 0
Source: 1 WELL PRI. 60' 7 NONE. 11N 18E 34

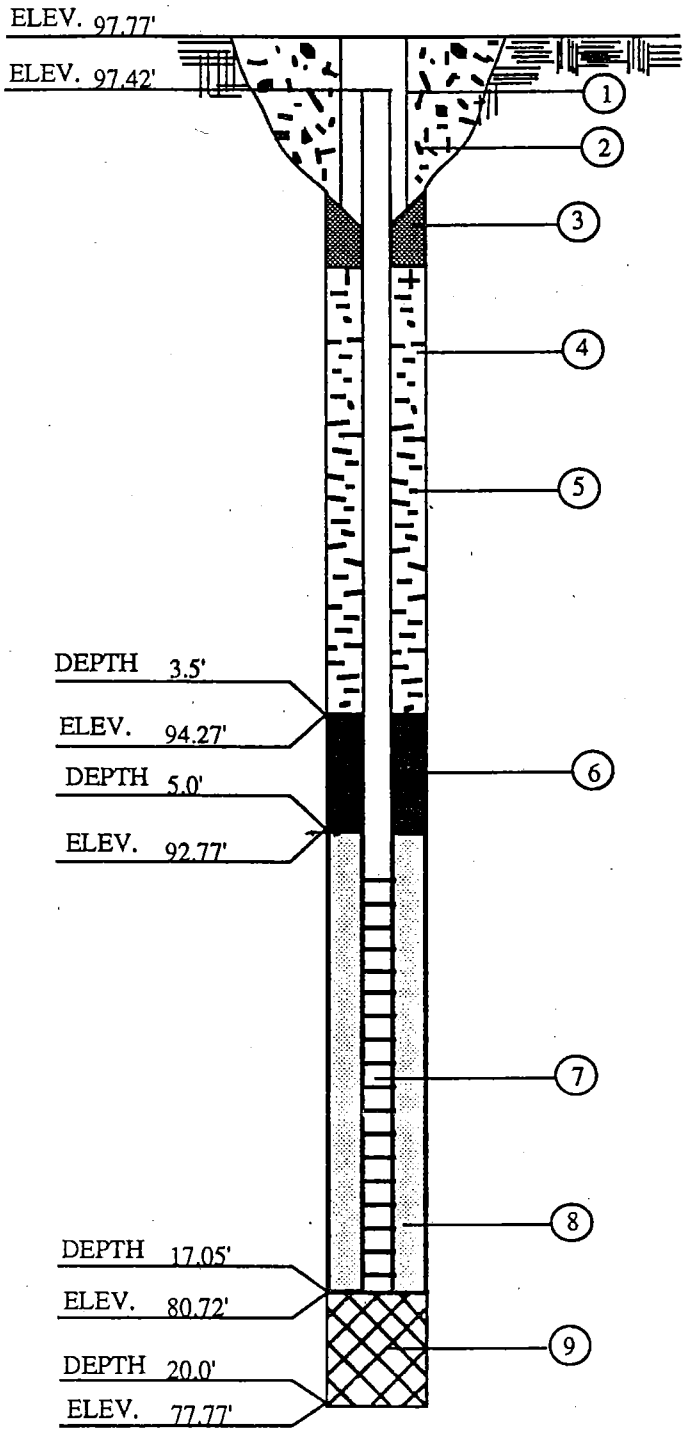
ATTACHMENT II

PHOTOGRAPH LOG - CASCADE NATURAL GAS

ATTACHMENT III

WELL AND BORING LOGS - CASCADE NATURAL GAS

DPRA



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. CASCADE NATURAL GAS COMPANY

BORING/WELL NO. MW-1

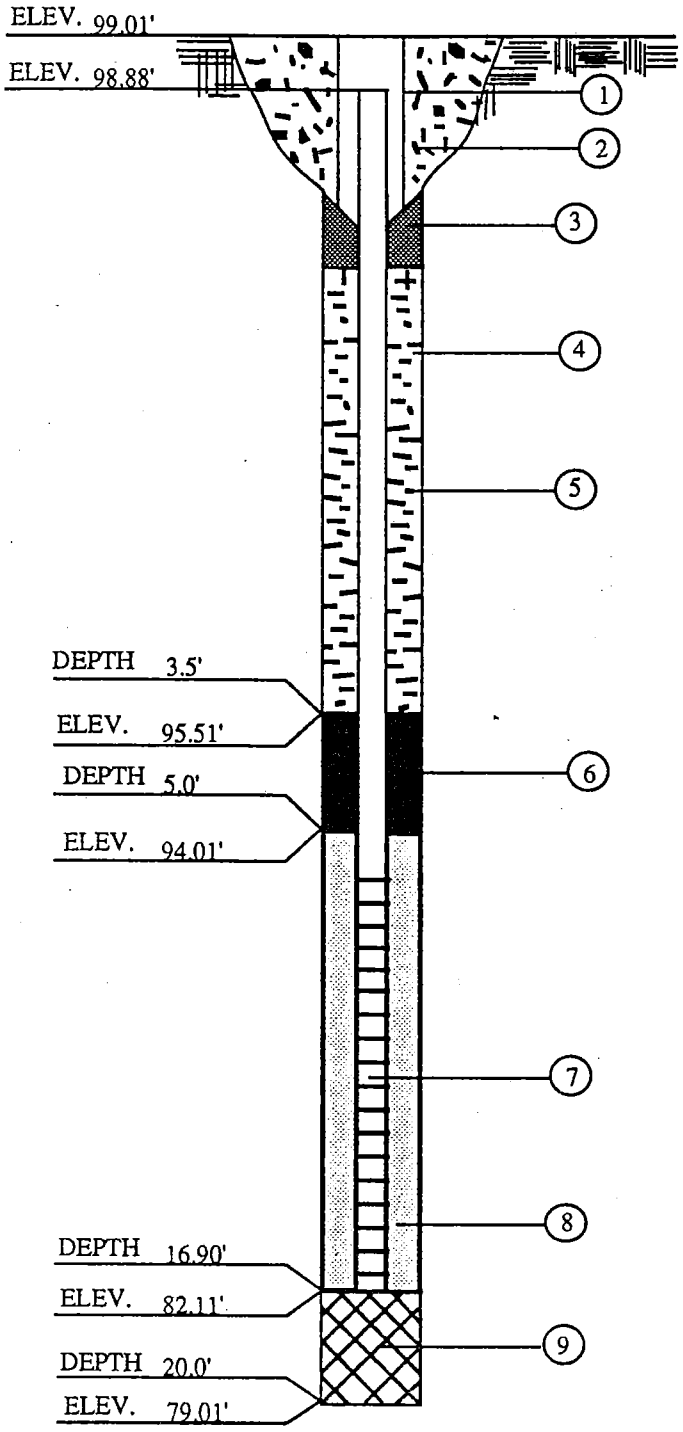
DATE 04/10/91

FIELD REPRESENTATIVE GU/SKW

1. PROTECTIVE CASING (YES) NO
   LOCKING (YES) NO
2. CONCRETE SEAL (YES) NO
3. TYPE OF SURFACE SEAL (IF INSTALLED)
   BENTONITE CHIPS
4. SOLID PIPE TYPE PVC
   SOLID PIPE LENGTH 5.7 ft.
   JOINT TYPE SLIP/GLUED/(THREADED)
5. TYPE OF BACKFILL BENTONITE CHIPS
   HOW INSTALLED - ~~TREMIE~~ (FROM SURFACE)
6. TYPE OF LOWER SEAL (IF INSTALLED)
   BENTONITE CHIPS
7. SCREEN TYPE PVC
   SCREENED PIPE LENGTH 11.0 ft.
   SLOT-SIZE 0.010 in. SLOTTED LENGTH 9.4 ft.
   SCREEN DIAMETER 4.0 in.
8. TYPE OF BACKFILL AROUND SCREEN
   FILTER SAND
9. TYPE OF BACKFILL FILTER SAND
10. DRILLING METHOD AIR HAMMER
11. ADDITIVES USED (IF ANY)
    POTABLE WATER

WATER LEVEL 9.78' DATE 04/10/91

DPRA



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. CASCADE NATURAL GAS COMPANY

BORING/WELL NO. MW-2

DATE 04/10/91

FIELD REPRESENTATIVE GU/SKW

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL (YES) NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)

   BENTONITE CHIPS

4. SOLID PIPE TYPE PVC

   SOLID PIPE LENGTH 5.77 ft.

   JOINT TYPE SLIP/GLUED/(THREADED)

5. TYPE OF BACKFILL BENTONITE CHIPS

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)

   BENTONITE CHIPS

7. SCREEN TYPE PVC

   SCREENED PIPE LENGTH 11.0 ft.

   SLOT-SIZE 0.010 in. SLOTTED LENGTH 9.4 ft.

   SCREEN DIAMETER 4.0 in.

8. TYPE OF BACKFILL AROUND SCREEN

   FILTER SAND

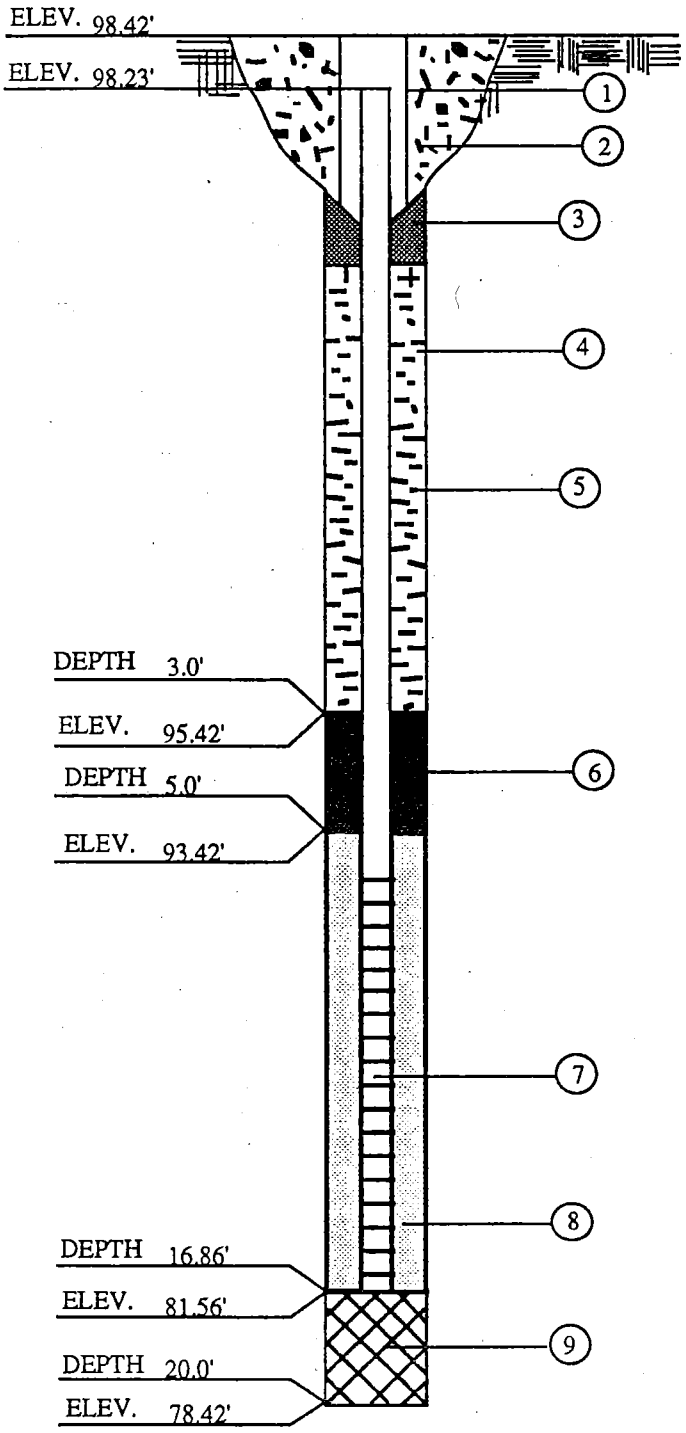
9. TYPE OF BACKFILL FILTER SAND

10. DRILLING METHOD AIR HAMMER

11. ADDITIVES USED (IF ANY)

    POTABLE WATER

WATER LEVEL 8.65' DATE 04/10/91



MONITORING WELL CONSTRUCTION INFORMATION

JOB NO. CASCADE NATURAL GAS COMPANY

BORING/WELL NO. MW-3

DATE 04/10/91

FIELD REPRESENTATIVE GU/SKW

1. PROTECTIVE CASING (YES) NO

   LOCKING (YES) NO

2. CONCRETE SEAL (YES) NO

3. TYPE OF SURFACE SEAL (IF INSTALLED)

   BENTONITE CHIPS

4. SOLID PIPE TYPE PVC

   SOLID PIPE LENGTH 5.86 ft.

   JOINT TYPE SLIP/GLUED/(THREADED)

5. TYPE OF BACKFILL BENTONITE CHIPS

   HOW INSTALLED - TREMIE (FROM SURFACE)

6. TYPE OF LOWER SEAL (IF INSTALLED)

   BENTONITE CHIPS

7. SCREEN TYPE PVC

   SCREENED PIPE LENGTH 11.0 ft.

   SLOT-SIZE 0.010 in. SLOTTED LENGTH 9.4 ft.

   SCREEN DIAMETER 4.0 in.

8. TYPE OF BACKFILL AROUND SCREEN

   FILTER SAND

9. TYPE OF BACKFILL FILTER SAND

10. DRILLING METHOD AIR HAMMER

11. ADDITIVES USED (IF ANY)

    POTABLE WATER

WATER LEVEL 8.90' DATE 04/10/91

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-6500

LOG OF TEST BORINGS

PROJECT NAME: CASCADE NATURAL GAS CO.	PROJECT NUMBER: 3751.007
LOCATION: 512 DECATUR AVENUE, SUNNYSIDE, WASHINGTON	
BORING NUMBER: MW-1	SURFACE ELEVATION: 97.77'

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
								.2 BLACKTOP	FILL
1	AUGER	-	M	-	15	FILL		Brown, Fine Grained, SILTY SAND WITH A LITTLE GRAVEL.	COARSE ALLUVIUM
2	SS	20	M	14	15	SM	5	Brown, Fine Grained, Medium Dense, SILTY SAND.	
3	SS	20	Wb	4	15	ML	10	Brown with Gray, Soft to Stiff, SILT.	FINE ALLUVIUM
4	SS	20	W	13	900	ML	15		
								Brown, Fine Grained, Dense, SILTY SAND.	COARSE ALLUVIUM
5	SS	20	Wb	24	20	SM	20		
								END OF BORING 20.0'	
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
04/10/91	1150	20.0	18.0	17.8	12.4
04/10/91	-	WELL INSTALLED			9.78

START 04/10/91 COMPLETION 04/10/91 @

Drilling Method 6" I.D. HOLLOW STEM AUGER

Backfill Method INSTALL WELL

Field Representative SKW/GU

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-6500

LOG OF TEST BORINGS

PROJECT NAME: CASCADE NATURAL GAS CO.	PROJECT NUMBER: 3751.007
LOCATION: 512 DECATUR AVENUE, SUNNYSIDE, WASHINGTON	
BORING NUMBER: MW-2	SURFACE ELEVATION: 99.01'

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
1	AUGER	-	M	-	1.0	FILL		.2 BLACKTOP Brown, Fine Grained, SILTY SAND WITH A LITTLE GRAVEL, Black Top, and Roots.	FILL
2	SS	15	M	16	3.0	FILL	5		
								Brown,Soft to Very Stiff, SILT, with a lens of Silty Clay at 14.0'.	FINE ALLUVIUM
3	SS	20	Wb	1	3.0	ML	10		
4	SS	20	W	23	3.0	ML	15		
5	SS	20	Wb	25	4.0	SM	20	Brown, Fine Grained, Dense, SILTY SAND with lenses of Silt.	COARSE ALLUVIUM
								END OF BORING 20.0'	
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
04/10/91	1555	20.0	18.0	17.4	11.0
04/10/91	-	WELL INSTALLED			8.65

START 04/10/91 COMPLETION 04/10/91 @

Drilling Method 6" I.D. HOLLOW STEM AUGER

Backfill Method INSTALL WELL

Field Representative SKW/GU

DPRA E-1500 First National Bank Bldg. 332 Minnesota Street St. Paul, Minnesota 55101 612-227-6500

LOG OF TEST BORINGS

PROJECT NAME: CASCADE NATURAL GAS CO.	PROJECT NUMBER: 3751.007
LOCATION: 512 DECATUR AVENUE, SUNNYSIDE, WASHINGTON	
BORING NUMBER: MW-3	SURFACE ELEVATION: 98.42'

Sample No. or Time	Sample Type	Recovery (inches)	Moisture	N	PID Reading (ppm)	USCS Symbol	Depth (feet)	DESCRIPTION	Geologic Origin
1	AUGER	-	M	-	1.0	FILL		.3 BLACKTOP Dark Brown, Fine Grained, SILTY SAND WITH A LITTLE GRAVEL.	FILL
2	SS	20	M	19	3.0	FILL SP-SM	5	Brown, Fine Grained, Dense, SILTY SAND.	COARSE ALLUVIUM
3	SS	20	Wb	3	4.0	ML	10	Brown with streaks of Gray, Soft to Very Stiff, SILT.	FINE ALLUVIUM
4	SS	20	Wb	14	175	ML	15		
5	SS	20	Wb	19	12.0	SM	20		
								END OF BORING 20.0'	
							25		
							30		
							35		

WATER LEVEL MEASUREMENTS (feet)

Date	Time	Sampled Depth	Casing Depth	Cave-in Depth	Water Level
04/11/91	1315	20.0	18.0	17.6	10.0
04/11/91	-	WELL INSTALLED			8.90

START 04/11/91 COMPLETION 04/11/91 @

Drilling Method 6" I.D. HOLLOW STEM AUGER

Backfill Method INSTALL WELL

Field Representative SKW/GU

ATTACHMENT IV

FIELD NOTES - CASCADE NATURAL GAS

Property of DPRA

Address E-1500 First National Bank Bldg.
332 E. Minnesota St. St. Paul Mn. 55101

Telephone (612) 227-6500

This Book is manufactured of a High Grade 50% Rag Paper having a Water Resisting Surface, and is sewed with Nylon Waterproof Thread.

INDEX

3751.007
Cascade Natural Gas
5/2 Decatur Avenue
Sunnyside Wa.

Yakima County

48° 4/10/91

1030 Arrived at site
Got in a call to
Susan Rungdorff that
we are going to start
drilling. Also called
Barb Morson and in-
formed her that we
are starting to drill
at Cascade Gas and
gave her the phone
no. where I can be
reached while I'm
(Steve) overseeing
the drilling operation.
Greg C. is over at
La Rosita developing
the well with a bailer
since the drillers
Acumps wouldn't work.

1110 0'-2' Sample taken
Brown, Fine Grained,
moist silty Sand

1115 MW #1 (3-5) Blows 3/2/2/7
Brown, Fine Grained, Medium Dense, moist, SILTY Sand

1125 mw #1 (8-10) Blows 2/2/2/2
Brown with Stains of grey wet, Soft, Silt. Contamanated with a petroleum odor.

1130 mw #1 (13-15) Blows 2/4/9/10
Brown with Stains of grey, wet, stiff, Silt. Contamanated with a petroleum odor.

1135 mw #1 (18-20) Blows 7/12/12/13
Brown, fine Grained, Dense, Silty Sand. Contamanated with a petroleum odor.

1150 water level in casing 12.4

1157 HNU back ground at 0.0 Calibrated to Isobutylene and cumulated to petroleum product (Benzene) 78 ppm

1210 10 gallons of water must be added to boring to help with installing the well, the silt is sluffing into the augers

1215 Cuttings are being drummed up because of contamination found in boring. Bottom of well will be set at 17.0', the screen has a 1.0' slump on the bottom so the screened portion will be at 16.0 to 6.0'

1239 Spoke with John Tadie (Cascade gas co.) he gave me some information of the areas that were

Contaminated ground excavation and where some of the utilities run on site. Drillers installing sand pack around screen.

1245 Start taking photo's: Starting with N, S, E, W, shots when standing on the corner of Decatur and S. Fifth Sts. Going down the north side of property taking pictures to East at Building, Stock piles, and open pit, Go shots. Going down East side of property and taking pictures north looking at stock pile and front of Bldg, (Gas company). 2 photos.

1310 Finished installing well to the bentonite seal. Will clean up cuttings, install

vault box, and clean decon Augers and equipment.

1330 (Steve) I am leaving the site to check on Greg at La Posita. The drillers are decanning and setting the vault box at this time.

1350 Back on site. When I arrived Susan Burghardt with WDOE was at the site. I spoke with her and told her that [redacted] was making one boring to a new location, she said that was fine

1450 Start of MW# 2

1500 MW# 2 (5-5) Blows 3/7/5/10 Brown, Fine Grained, Dense, Silty Sand with a little Gravel, Black top and roots.

1510 WDOE West Site

1505 MW#2 (8'-10') Blows 1/0/1/1
Brown, fine grained, Soft
SILT.

1515 MW#2 (13'-15') Blows 12/10/13/16
Brown, Fine grained,
Very Stiff, Silt with
a lens of Silty Clay at
14.0'

1525 MW#2 (18'-20') Blows 8/12/13/18
Brown, Fine grained, Dense
Silty Sand with lenses
of Silt.

1550 Drillers are drumming well
and will be installing. Sample
(8-10) & (18-20) will be
sent in for testing.

1608 Went to ~~[illegible]~~
Greg at La Rosita we
discussed about getting
a pump to develop the
well to speed things
up.

1635 Back on site, the
rental place didn't have
any pumps at the time.

1710 ~~MW~~ MW# 2 complete to
bentonite seal. Starting
to decon augers and
clean up area. Also
going over daily charge
sheet from the drilling
company.

1535 Went to pick up
Greg at La Rosita site.
Help him finish develop
well and clean up equipment.

1815 returned to room will fill out chain of custody for samples and drive them to Yakima to be sent to the lab

1900 Finished chain & expense sheets

4/10/91 Sam Wahlstrom

4/11/91

0800 on site and started photo's of site

0850 The north side of the excavation is near the bulk propane tank, there is a crack in the black top near the base of the tank which is letting moisture run through and will cause that area to break off and fall into the excavation. This process of undermining may continue, so it should be advised that the propane tank be moved further from the excavation.

0910 Drillers finished converting mw#2 and are moving →

To MW# 3.

0930 From 0910 to 0930 the drillers can not get the rig started

0935 Mr. John Tade was upset with my documenting the waste oil drum and coffee can. He stuck his finger in the can smelled the liquid said that it could be paint thinner. He wants all photographing to be approved by him. Three photographs were taken.

1130 Left site, drillers still working on rig, drove over to La Posita look at private well survey.

1150 back on site

1200 Rig back work, down from 9:00 - 12:00
Rig set up on MW-3.

1230 Started drilling

1240 MW# 3 (0-2) Auger Samples
0-.3 Black Top
.3-3.0 Brown, Fine Grained Silty Sand with a little gravel

1250 MW# 3 (3-5) Blows 4/9/10/9
Brown, Fine grained, Dense Silty Sand, moist

1255 MW# 3 (8-10) Blows 11/11/11
Brown, wet, Soft, water bearing, Silt. (Slight odor)

1305 mw #3 (13-15) Blows 4/6/8/12 Brown with streaks of grey (contaminated) Stiff, Silt

1310 mw #3 (18-20) Blows 6/8/10/14 Brown, Very stiff, Silt with fine Sand in Tip of Samplers.

1400 Soil from mw #2 and mw #3 will be put with stock pile already on site.

1415 Drillers finished Installing well up to the bentonite seal

1435 mw #2 8.65' to water 16.55' to Bottom Will Start to develop

mw #2 with the Mono pump on the drill rig. The pump is able to suck dry the well

1515 Drillers finished setting concrete and vault box on mw #3 and are de-conning egg and starting to develope mw #1 with a 2" S.S. Bailer From Top of casing to water 7.11' Total depth 16.7

1530 Starting to develope mw #1

1600 Pulled 45 gal and the water is clear Temp 61.9 P.H. 7.5 Cond. 1000

1615 Developed 30 gallons
From mw #2
Temp 64.8
P.H. 7.9
Cond. 900

1620 Greg left at 1330 to
bring samples to
Yakima Fed-X and
returned at 1625

1645 Starting to develop.
mw # 3, Driller helper
is picking up all of their
equipment and getting
ready for next site, and
Greg and the Crew chief
are going over soil test
sing of sheet.

1715 Purged 25 gallons from
mw # 3
Turbidity Heavy to Mod.
odor Moderate to Slight

1720 mw # P.H. 6.9
Cond ~~60.3~~ 800
Temp 60.3
Greg is taking photos
of the monitoring wells

1755 Drillers left site
and headed to
Selah Site

1800 Locked up gate
and left site
(Steve & Greg)

4/17/91 Greg Wood + P.M.M.

Purged well of the arriving at Site

~~Sampled~~ GKK

Took parameters at 1628 for temp, pH, and conductivity
Sampled wells at 1710 for VOCs + Semi Vols.
530 - Survey well elevation
600 stabilize MW-3
Depth to water MW-3 8.86
Total depth of well 17.86

MW 3 Sampled for VOCs and Semi Vols at 1845

Purged MW 1 at 1910

Sampled MW-1 at 2025 for VOCs + Semi Vols

Left the site at 2045

ATTACHMENT V

NEARBY WELL LOGS - CASCADE NATURAL GAS

File Original and First Copy with Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

3534 Start Card No. 033769

Water Right Permit No. _____

(1) OWNER: Name Sunnyside Pool Address 559 S. 4th St. Sunnyside

(2) LOCATION OF WELL: County Benton Parcel # 221025 32492 ¼ Sec 25 T. 10 N., R. 22 W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) 559 S. 4th St. NW SW

(3) PROPOSED USE: Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater ☒

(4) TYPE OF WORK: Owner's number of well (if more than one) #3

Abandoned ☐ New well ☒ Method: Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 8 inches. Drilled 30 feet. Depth of completed well 30 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 8" PVC Diam. from 0 ft. to 30 ft.

Welded ☐ Liner installed ☐ Threaded ☐ _____ Diam. from _____ ft. to _____ ft.

Perforations: Yes ☐ No ☒

Type of perforator used _____

SIZE of perforations _____ in. by _____ in.

_____ perforations from _____ ft. to _____ ft.

_____ perforations from _____ ft. to _____ ft.

_____ perforations from _____ ft. to _____ ft.

Screens: Yes ☒ No ☐

Manufacturer's Name Wesco

Type 5' 8" PVC 12 slot Model No. _____

Diam. 8" Slot size 12 from 15 ft. to 20 ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes ☐ No ☒ Size of gravel _____

Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes ☐ No ☒ To what depth? _____ ft.

Material used in seal _____

Did any strata contain unusable water? Yes ☐ No ☐

Type of water? _____ Depth of strata _____

Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____

Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level 18 ft. below top of well Date 8-8-90

Artesian pressure _____ lbs. per square inch Date _____

Artesian water is controlled by _____ (Cap, valve, etc.))

(9) WELL TESTS: Drawdown is amount water level is lowered below static level

Was a pump test made? Yes ☐ No ☒ If yes, by whom? _____

Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

" " " "

" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____

Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest 2 gal./min. with stem set at 28 ft. for ½ hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
Topsoil	0	2
Silty sand	2	18
" clay	18	30

RECEIVED
AUG 1990
DEPARTMENT OF ECOLOGY
CENTRAL REGIONAL OFFICE

Work started 8-8 19. Completed 8-8 1990

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME Bach Well Drilling CO. (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 2111 Birchfield Rd. Yakima, Wa.

(Signed) Scott DeVaney (WELL DRILLER) License No. 1436

Contractor's Registration No. BACHWEC137NU Date 8-8 1990

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) -1329- 3

ATTACHMENT VI

ANALYTIC RESULTS - CASCADE NATURAL GAS

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130

Name: WEYERHAEUSER Contract: MORSON

Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523

Sample wt/vol: 30.7 (g/mL) G Lab File ID: BN0430D

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1600	U
111-44-4	bis(2-Chloroethyl)Ether	1600	U
95-57-8	2-Chlorophenol	1600	U
541-73-1	1,3-Dichlorobenzene	1600	U
106-46-7	1,4-Dichlorobenzene	1600	U
100-51-6	Benzyl Alcohol	1600	U
95-50-1	1,2-Dichlorobenzene	1600	U
95-48-7	2-Methylphenol	1600	U
108-60-1	bis(2-Chloroisopropyl)Ether	1600	U
106-44-5	4-Methylphenol	1600	U
621-64-7	N-Nitroso-Di-n-Propylamine	1600	U
67-72-1	Hexachloroethane	1600	U
98-95-3	Nitrobenzene	1600	U
78-59-1	Isophorone	1600	U
88-75-5	2-Nitrophenol	1600	U
105-67-9	2,4-Dimethylphenol	1600	U
65-85-0	Benzoic Acid	8000	U
111-91-1	bis(2-Chloroethoxy)Methane	1600	U
120-83-2	2,4-Dichlorophenol	1600	U
120-82-1	1,2,4-Trichlorobenzene	1600	U
91-20-3	Naphthalene	160	J
106-47-8	4-Chloroaniline	1600	U
87-68-3	Hexachlorobutadiene	1600	U
59-50-7	4-Chloro-3-Methylphenol	1600	U
91-57-6	2-Methylnaphthalene	150	J
77-47-4	Hexachlorocyclopentadiene	1600	U
88-06-2	2,4,6-Trichlorophenol	1600	U
95-95-4	2,4,5-Trichlorophenol	8000	U
91-58-7	2-Chloronaphthalene	1600	U
88-74-4	2-Nitroaniline	8000	U
131-11-3	Dimethyl Phthalate	1600	U
208-96-8	Acenaphthylene	1600	U
606-20-2	2,6-Dinitrotoluene	1600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523

Sample wt/vol: 30.7 (g/mL) G Lab File ID: BN0430D

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8000	U
83-32-9	Acenaphthene	1600	U
51-28-5	2,4-Dinitrophenol	8000	U
100-02-7	4-Nitrophenol	8000	U
132-64-9	Dibenzofuran	1600	U
121-14-2	2,4-Dinitrotoluene	1600	U
84-66-2	Diethylphthalate	1600	U
7005-72-3	4-Chlorophenyl-phenylether	1600	U
86-73-7	Fluorene	1600	U
100-01-6	4-Nitroaniline	8000	U
534-52-1	4,6-Dinitro-2-Methylphenol	8000	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
101-55-3	4-Bromophenyl-phenylether	1600	U
118-74-1	Hexachlorobenzene	1600	U
87-86-5	Pentachlorophenol	8000	U
85-01-8	Phenanthrene	1600	U
120-12-7	Anthracene	1600	U
84-74-2	Di-n-Butylphthalate	1600	U
206-44-0	Fluoranthene	1600	U
129-00-0	Pyrene	1600	U
85-68-7	Butylbenzylphthalate	1600	U
91-94-1	3,3'-Dichlorobenzidine	3300	U
56-55-3	Benzo(a)Anthracene	1600	U
218-01-9	Chrysene	1600	U
117-81-7	bis(2-Ethylhexyl)phthalate	760	J
117-84-0	Di-n-Octyl Phthalate	1600	U
205-99-2	Benzo(b)Fluoranthene	1600	U
207-08-9	Benzo(k)Fluoranthene	1600	U
50-32-8	Benzo(a)Pyrene	1600	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1600	U
53-70-3	Dibenz(a,h)Anthracene	1600	U
191-24-2	Benzo(g,h,i)Perylene	1600	U

Used in vacuum pumps

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

MW1-1130

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523

Sample wt/vol: 30.7 (g/mL) G Lab File ID: BN0430D

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.17	19000	JX
2.		UNKNOWN	6.17	640	JX
3.	5911-04-6	NONANE, 3-METHYL-	6.87	470	JX
4.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	7.48	890	JX
5.	124-18-5	DECANE	8.25	1400	JX
6.	17302-28-2	NONANE, 2,6-DIMETHYL-	8.72	640	JX
7.	17301-32-5	UNDECANE, 4,7-DIMETHYL-	10.32	700	JX
8.		UNKNOWN	12.29	1000	JX
9.	17301-23-4	UNDECANE, 2,6-DIMETHYL-	12.55	370	JX
10.	62016-34-6	OCTANE, 2,3,7-TRIMETHYL-	13.65	340	JX
11.		UNKNOWN	14.15	480	JX
12.		UNKNOWN	15.90	600	JX
13.	62238-13-5	DECANE, 2,3,7-TRIMETHYL-	16.95	580	JX
14.		UNKNOWN	17.57	530	JX
15.	544-76-3	HEXADECANE	19.12	780	JX
16.		UNKNOWN	20.62	590	JX
17.	74645-98-0	DODECANE, 2,7,10-TRIMETHYL-	20.70	1000	JX
18.	31081-18-2	NONANE, 3-METHYL-5-PROPYL-	22.17	690	JX
19.		UNKNOWN	23.37	380	JX
20.		UNKNOWN	29.01	4600	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1135

ab Name: WEYERHAEUSER Contract: MORSON

ab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69524

ample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430E

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 18 dec. Date Extracted: 04/22/91

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

PC Cleanup: (Y/N) Y pH: 8.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1600	U
111-44-4	bis(2-Chloroethyl)Ether	1600	U
95-57-8	2-Chlorophenol	1600	U
541-73-1	1,3-Dichlorobenzene	1600	U
106-46-7	1,4-Dichlorobenzene	1600	U
100-51-6	Benzyl Alcohol	1600	U
95-50-1	1,2-Dichlorobenzene	1600	U
95-48-7	2-Methylphenol	1600	U
108-60-1	bis(2-Chloroisopropyl)Ether	1600	U
106-44-5	4-Methylphenol	1600	U
621-64-7	N-Nitroso-Di-n-Propylamine	1600	U
67-72-1	Hexachloroethane	1600	U
98-95-3	Nitrobenzene	1600	U
78-59-1	Isophorone	1600	U
88-75-5	2-Nitrophenol	1600	U
105-67-9	2,4-Dimethylphenol	1600	U
65-85-0	Benzoic Acid	7700	U
111-91-1	bis(2-Chloroethoxy)Methane	1600	U
120-83-2	2,4-Dichlorophenol	1600	U
120-82-1	1,2,4-Trichlorobenzene	1600	U
91-20-3	Naphthalene	1600	U
106-47-8	4-Chloroaniline	1600	U
87-68-3	Hexachlorobutadiene	1600	U
59-50-7	4-Chloro-3-Methylphenol	1600	U
91-57-6	2-Methylnaphthalene	1600	U
77-47-4	Hexachlorocyclopentadiene	1600	U
88-06-2	2,4,6-Trichlorophenol	1600	U
95-95-4	2,4,5-Trichlorophenol	7700	U
91-58-7	2-Chloronaphthalene	1600	U
88-74-4	2-Nitroaniline	7700	U
131-11-3	Dimethyl Phthalate	1600	U
208-96-8	Acenaphthylene	1600	U
606-20-2	2,6-Dinitrotoluene	1600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1135

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69524

Sample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430E

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 18 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	7700	U
83-32-9	Acenaphthene	1600	U
51-28-5	2,4-Dinitrophenol	7700	U
100-02-7	4-Nitrophenol	7700	U
132-64-9	Dibenzofuran	1600	U
121-14-2	2,4-Dinitrotoluene	1600	U
84-66-2	Diethylphthalate	1600	U
7005-72-3	4-Chlorophenyl-phenylether	1600	U
86-73-7	Fluorene	1600	U
100-01-6	4-Nitroaniline	7700	U
534-52-1	4,6-Dinitro-2-Methylphenol	7700	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
101-55-3	4-Bromophenyl-phenylether	1600	U
118-74-1	Hexachlorobenzene	1600	U
87-86-5	Pentachlorophenol	7700	U
85-01-8	Phenanthrene	1600	U
120-12-7	Anthracene	1600	U
84-74-2	Di-n-Butylphthalate	1600	U
206-44-0	Fluoranthene	1600	U
129-00-0	Pyrene	1600	U
85-68-7	Butylbenzylphthalate	210	J
91-94-1	3,3'-Dichlorobenzidine	3200	U
56-55-3	Benzo(a)Anthracene	1600	U
218-01-9	Chrysene	1600	U
117-81-7	bis(2-Ethylhexyl)phthalate	210	J
117-84-0	Di-n-Octyl Phthalate	140	J
205-99-2	Benzo(b)Fluoranthene	1600	U
207-08-9	Benzo(k)Fluoranthene	1600	U
50-32-8	Benzo(a)Pyrene	1600	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1600	U
53-70-3	Dibenz(a,h)Anthracene	1600	U
191-24-2	Benzo(g,h,i)Perylene	1600	U

(1) - Cannot be separated from Diphenylamine

F

EPA SAMPLE NO.

MW1-1135

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

ab Name: WEYERHAEUSER Contract: MORSON

ab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69524

ample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430E

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 18 dec. Date Extracted: 04/22/91

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

PC Cleanup: (Y/N) Y pH: 8.6 Dilution Factor: 1.0

umber TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.15	19000	JX
2.		UNKNOWN	29.01	4000	JX
3.		UNKNOWN	33.31	2100	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW2-1505

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69525

Sample wt/vol: 30.4 (g/mL) G Lab File ID: BN0430F

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 23 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8200	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8200	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8200	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW2-1505

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69525

Sample wt/vol: 30.4 (g/mL) G Lab File ID: BN0430F

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 23 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8200	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8200	U
100-02-7	4-Nitrophenol	8200	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	160	J
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8200	U
534-52-1	4,6-Dinitro-2-Methylphenol	8200	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8200	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	120	J
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	220	J
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW2-1505

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69525

Sample wt/vol: 30.4 (g/mL) G Lab File ID: BN0430F

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 23 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.17	25000	JX
2.		UNKNOWN	26.92	390	JX
3.		UNKNOWN	29.01	5000	JX
4.		UNKNOWN	34.41	290	JX
5.		UNKNOWN	33.31	1900	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW2-1525

ab Name: WEYERHAEUSER Contract: MORSON

ab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69526

ample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430G

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 18 dec. Date Extracted: 04/22/91

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

PC Cleanup: (Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1600	U
111-44-4	bis(2-Chloroethyl)Ether	1600	U
95-57-8	2-Chlorophenol	1600	U
541-73-1	1,3-Dichlorobenzene	1600	U
106-46-7	1,4-Dichlorobenzene	1600	U
100-51-6	Benzyl Alcohol	1600	U
95-50-1	1,2-Dichlorobenzene	1600	U
95-48-7	2-Methylphenol	1600	U
108-60-1	bis(2-Chloroisopropyl)Ether	1600	U
106-44-5	4-Methylphenol	1600	U
621-64-7	N-Nitroso-Di-n-Propylamine	1600	U
67-72-1	Hexachloroethane	1600	U
98-95-3	Nitrobenzene	1600	U
78-59-1	Isophorone	1600	U
88-75-5	2-Nitrophenol	1600	U
105-67-9	2,4-Dimethylphenol	1600	U
65-85-0	Benzoic Acid	7700	U
111-91-1	bis(2-Chloroethoxy)Methane	1600	U
120-83-2	2,4-Dichlorophenol	1600	U
120-82-1	1,2,4-Trichlorobenzene	1600	U
91-20-3	Naphthalene	1600	U
106-47-8	4-Chloroaniline	1600	U
87-68-3	Hexachlorobutadiene	1600	U
59-50-7	4-Chloro-3-Methylphenol	1600	U
91-57-6	2-Methylnaphthalene	1600	U
77-47-4	Hexachlorocyclopentadiene	1600	U
88-06-2	2,4,6-Trichlorophenol	1600	U
95-95-4	2,4,5-Trichlorophenol	7700	U
91-58-7	2-Chloronaphthalene	1600	U
88-74-4	2-Nitroaniline	7700	U
131-11-3	Dimethyl Phthalate	1600	U
208-96-8	Acenaphthylene	1600	U
606-20-2	2,6-Dinitrotoluene	1600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW2-1525

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69526

Sample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430G

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 18 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	7700	U
83-32-9	Acenaphthene	1600	U
51-28-5	2,4-Dinitrophenol	7700	U
100-02-7	4-Nitrophenol	7700	U
132-64-9	Dibenzofuran	1600	U
121-14-2	2,4-Dinitrotoluene	1600	U
84-66-2	Diethylphthalate	1600	U
7005-72-3	4-Chlorophenyl-phenylether	1600	U
86-73-7	Fluorene	1600	U
100-01-6	4-Nitroaniline	7700	U
534-52-1	4,6-Dinitro-2-Methylphenol	7700	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
101-55-3	4-Bromophenyl-phenylether	1600	U
118-74-1	Hexachlorobenzene	1600	U
87-86-5	Pentachlorophenol	7700	U
85-01-8	Phenanthrene	1600	U
120-12-7	Anthracene	1600	U
84-74-2	Di-n-Butylphthalate	1600	U
206-44-0	Fluoranthene	1600	U
129-00-0	Pyrene	1600	U
85-68-7	Butylbenzylphthalate	85	J
91-94-1	3,3'-Dichlorobenzidine	3200	U
56-55-3	Benzo(a)Anthracene	1600	U
218-01-9	Chrysene	1600	U
117-81-7	bis(2-Ethylhexyl)phthalate	670	J
117-84-0	Di-n-Octyl Phthalate	1600	U
205-99-2	Benzo(b)Fluoranthene	1600	U
207-08-9	Benzo(k)Fluoranthene	1600	U
50-32-8	Benzo(a)Pyrene	1600	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1600	U
53-70-3	Dibenz(a,h)Anthracene	1600	U
191-24-2	Benzo(g,h,i)Perylene	1600	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGA CS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW2-1525

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69526

Sample wt/vol: 30.5 (g/mL) G Lab File ID: BN0430G

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 18 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.4 Dilution Factor: 1.0

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.17	24000	JX
2.		UNKNOWN	26.92	370	JX
3.		UNKNOWN	29.01	4300	JX
4.		UNKNOWN	33.31	2600	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3-1305

b Name: WEYERHAEUSER Contract: MORSON

b Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69527

mple wt/vol: 30.3 (g/mL) G Lab File ID: BN0430H

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

PC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8100	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8100	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8100	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3-1305

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69527

Sample wt/vol: 30.3 (g/mL) G Lab File ID: BN0430H

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8100	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8100	U
100-02-7	4-Nitrophenol	8100	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8100	U
534-52-1	4,6-Dinitro-2-Methylphenol	8100	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8100	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	220	J
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	J
117-84-0	Di-n-Octyl Phthalate	160	J
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGA_CS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW3-1305

b Name: WEYERHAEUSER Contract: MORSON

-b Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69527

mple wt/vol: 30.3 (g/mL) G Lab File ID: BN0430H

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 22 dec. Date Extracted: 04/22/91

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

C Cleanup: (Y/N) Y pH: 8.9 Dilution Factor: 1.0

umber TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.17	21000	JX
2.		UNKNOWN	26.92	340	JX
3.		UNKNOWN	29.01	4000	JX
4.		UNKNOWN	33.31	2400	JX

1B

SEMIVOLATILE ORGA CS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3-1315

ab Name: WEYERHAEUSER Contract: MORSON

ab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

atrix: (soil/water) SOIL Lab Sample ID: 69528

ample wt/vol: 30.2 (g/mL) G Lab File ID: BN0430I

evel: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 24 dec. Date Extracted: 04/22/91

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

PC Cleanup: (Y/N) Y pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8400	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8400	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8400	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW3-1315

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69528

Sample wt/vol: 30.2 (g/mL) G Lab File ID: BN0430I

Level: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 24 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-Methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	98	J
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	90	J
91-94-1	3,3'-Dichlorobenzidine	3500	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	600	J
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGA CS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW3-1315

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69528

Sample wt/vol: 30.2 (g/mL) G Lab File ID: BN0430I

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 24 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 8.3 Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.17	21000	JX
2.		UNKNOWN	29.01	3500	JX
3.		UNKNOWN	33.31	2200	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKS1

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: SBLKS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: BN501M

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) Y pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1300	U
111-44-4	bis(2-Chloroethyl)Ether	1300	U
95-57-8	2-Chlorophenol	1300	U
541-73-1	1,3-Dichlorobenzene	1300	U
106-46-7	1,4-Dichlorobenzene	1300	U
100-51-6	Benzyl Alcohol	1300	U
95-50-1	1,2-Dichlorobenzene	1300	U
95-48-7	2-Methylphenol	1300	U
108-60-1	bis(2-Chloroisopropyl)Ether	1300	U
106-44-5	4-Methylphenol	1300	U
621-64-7	N-Nitroso-Di-n-Propylamine	1300	U
67-72-1	Hexachloroethane	1300	U
98-95-3	Nitrobenzene	1300	U
78-59-1	Isophorone	1300	U
88-75-5	2-Nitrophenol	1300	U
105-67-9	2,4-Dimethylphenol	1300	U
65-85-0	Benzoic Acid	6400	U
111-91-1	bis(2-Chloroethoxy)Methane	1300	U
120-83-2	2,4-Dichlorophenol	1300	U
120-82-1	1,2,4-Trichlorobenzene	1300	U
91-20-3	Naphthalene	1300	U
106-47-8	4-Chloroaniline	1300	U
87-68-3	Hexachlorobutadiene	1300	U
59-50-7	4-Chloro-3-Methylphenol	1300	U
91-57-6	2-Methylnaphthalene	1300	U
77-47-4	Hexachlorocyclopentadiene	1300	U
88-06-2	2,4,6-Trichlorophenol	1300	U
95-95-4	2,4,5-Trichlorophenol	6400	U
91-58-7	2-Chloronaphthalene	1300	U
88-74-4	2-Nitroaniline	6400	U
131-11-3	Dimethyl Phthalate	1300	U
208-96-8	Acenaphthylene	1300	U
606-20-2	2,6-Dinitrotoluene	1300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKS1

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: SBLKS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: BN501M

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) Y pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	6400	U
83-32-9	Acenaphthene	1300	U
51-28-5	2,4-Dinitrophenol	6400	U
100-02-7	4-Nitrophenol	6400	U
132-64-9	Dibenzofuran	1300	U
121-14-2	2,4-Dinitrotoluene	1300	U
84-66-2	Diethylphthalate	1300	U
7005-72-3	4-Chlorophenyl-phenylether	1300	U
86-73-7	Fluorene	1300	U
100-01-6	4-Nitroaniline	6400	U
534-52-1	4,6-Dinitro-2-Methylphenol	6400	U
86-30-6	N-Nitrosodiphenylamine (1)	1300	U
101-55-3	4-Bromophenyl-phenylether	1300	U
118-74-1	Hexachlorobenzene	1300	U
87-86-5	Pentachlorophenol	6400	U
85-01-8	Phenanthrene	1300	U
120-12-7	Anthracene	1300	U
84-74-2	Di-n-Butylphthalate	1300	U
206-44-0	Fluoranthene	1300	U
129-00-0	Pyrene	1300	U
85-68-7	Butylbenzylphthalate	1300	U
91-94-1	3,3'-Dichlorobenzidine	2600	U
56-55-3	Benzo(a)Anthracene	1300	U
218-01-9	Chrysene	1300	U
117-81-7	bis(2-Ethylhexyl)phthalate	1300	U
117-84-0	Di-n-Octyl Phthalate	1300	U
205-99-2	Benzo(b)Fluoranthene	1300	U
207-08-9	Benzo(k)Fluoranthene	1300	U
50-32-8	Benzo(a)Pyrene	1300	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1300	U
53-70-3	Dibenz(a,h)Anthracene	1300	U
191-24-2	Benzo(g,h,i)Perylene	1300	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKS1

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: SBLKS1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: BN501M

Level: (low/med) LOW Date Received:

Moisture: not dec. dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) Y pH: Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.27	15000	JX

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130MS

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523MS

Sample wt/vol: 30.3 (g/mL) G Lab File ID: BN0430J

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8100	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	260	J
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	340	J
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8100	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8100	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130MS

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523MS

Sample wt/vol: 30.3 (g/mL) G Lab File ID: BN0430J

Level: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8100	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8100	U
100-02-7	4-Nitrophenol	8100	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8100	U
534-52-1	4,6-Dinitro-2-Methylphenol	8100	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8100	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	140	J
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	500	J
117-84-0	Di-n-Octyl Phthalate	110	J
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130MSD

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523MSD

Sample wt/vol: 30.3 (g/mL) G Lab File ID: BN0430K

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
108-60-1	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8100	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	330	J
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	460	J
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8100	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8100	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW1-1130MSD

Lab Name: WEYERHAEUSER Contract: MORSON

Lab Code: WEYER Case No.: 05443 SAS No.: SDG No.: 69523

Matrix: (soil/water) SOIL Lab Sample ID: 69523MSD

Sample wt/vol: 30.3 (g/mL) G Lab File ID: BN0430K

Level: (low/med) LOW Date Received: 04/12/91

Moisture: not dec. 22 dec. Date Extracted: 04/22/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/01/91

GPC Cleanup: (Y/N) Y pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8100	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8100	U
100-02-7	4-Nitrophenol	8100	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8100	U
534-52-1	4,6-Dinitro-2-Methylphenol	8100	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8100	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	3400	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)phthalate	420	J
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

SAMPLES ADDED RUSH

Weyerhaeuser | ANALYTICAL LABORATORY SERVICES REQUEST
Research and Development - Analysis and Testing

Request Number: 05443

Title: SAIC - CASCADE NATURAL GAS - PROJECT NUMBER 3751.007

Number of Samples: 10	Project Number: 046-5751	Groups: 1,6
Date Received: 04/12/91	Date Desired: 04/30/91	Estimated Completion Date: 04/30/91
Submitted By: MORSON, BARB	Location: SAIC	Telephone: 754-7077
Reviewed By: DOXSEE, Kari	Location: 2F 25	Telephone: 924-6148
Project Title: SMALL OUTSIDE JOBS-ANAL	Project Leader: DO NOT DISTRIBUTE	

Copy To: BILL ROHRER DPRA INC E-1500 FIRST NAT'L BANK BLDG 332 MINNESOTA ST. ST. PAUL, MN 55101

Sample Description and History:

6 SOIL JARS / Waters = 2 VOA's, 1 LORG

Group	Series	Test Code	Test Description	Report Range	Report Basis	Lower Limit of Sensitivity
1	A	BNA-S	BNA on solids (semi-volatiles)			
1	A	VOA-S	VOA by GC/MS on solids method 8240			
1	B	VOA-W	VOA by GC/MS on waters method 624 or 8240			
1	C	BNA-W	BNA on waters (semi-volatiles)			

Sample Number	Series to Be Evaluated	Submitter's Designation
69523	A wet.	MW#1 (13' - 15') 04/10 1130 REC'D 4/12
69524	A 54	MW#1 (18' - 20') 04/10 1135 REC'D 4/12
69525	A	MW#2 (8' - 10') 04/10 1505 REC'D 4/12
69526	A wet.	MW#2 (18' - 20') 04/10 1525 REC'D 4/12
69527	A	MW#3 (13' - 15') 04/11 1305 REC'D 4/12
69528	A	MW#3 (18' - 20') 04/11 1315 REC'D 4/12
69900	BC	CNGW-02-01-W 4/17 1710 REC'D 4-19
69901	BC	CNGW-03-01-W 4/17 1845 REC'D 4-19
69902	BC	CNGW-01-01-W 4/17 2025 REC'D 4-19
69903	B	TRIP BLANK 4/18 1500 REC'D 4-19

Interim Report Desired?	Hazardous Samples? Yes		No	

Reference: 5442

Record Book:

Results Approved:	Date:	Signature applies to attached pages	Page Number:

Printed on: 04/19/91

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#1 (13'-15')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1

Matrix: (soil/water) SOIL Lab Sample ID: 69523

Sample wt/vol: 1.0 (g/mL) G Lab File ID: A7723

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. _____ Date Analyzed: 04/23/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl chloride	50	U
75-00-3	Chloroethane	50	U
75-09-2	Methylene chloride	25	U
67-64-1	Acetone	13000	E
75-15-0	Carbon disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
540-59-0	1,2-Dichloroethene (total)	25	U
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon tetrachloride	25	U
108-05-4	Vinyl acetate	55	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	25	U
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	1400	E
10061-02-6	trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	560	
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	2300	E
100-42-5	Styrene	25	U
1330-20-7	Xylene (total)	7400	E

1A

VOLATILE ORGAN[illegible]S ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#1 (13'-15')DL

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1

Matrix: (soil/water) SOIL Lab Sample ID: 69523DL

Sample wt/vol: 4.0 (g/mL) G Lab File ID: A7723

Level: (low/med) MED Date Received: 04/12/91

% Moisture: not dec. ____ Date Analyzed: 04/23/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1300	U
74-83-9	Bromomethane	1300	U
75-01-4	Vinyl chloride	1300	U
75-00-3	Chloroethane	1300	U
75-09-2	Methylene chloride	630	U
67-64-1	Acetone	1300	U
75-15-0	Carbon disulfide	630	U
75-35-4	1,1-Dichloroethene	630	U
75-34-3	1,1-Dichloroethane	630	U
540-59-0	1,2-Dichloroethene (total)	630	U
67-66-3	Chloroform	630	U
107-06-2	1,2-Dichloroethane	630	U
78-93-3	2-Butanone	630	U
71-55-6	1,1,1-Trichloroethane	630	U
56-23-5	Carbon tetrachloride	630	U
108-05-4	Vinyl acetate	1300	U
75-27-4	Bromodichloromethane	630	U
78-87-5	1,2-Dichloropropane	630	U
10061-01-5	cis-1,3-Dichloropropene	630	U
79-01-6	Trichloroethene	630	U
124-48-1	Dibromochloromethane	630	U
79-00-5	1,1,2-Trichloroethane	630	U
71-43-2	Benzene	630	U
10061-02-6	trans-1,3-Dichloropropene	630	U
75-25-2	Bromoform	630	U
108-10-1	4-Methyl-2-pentanone	1300	U
591-78-6	2-Hexanone	1300	U
127-18-4	Tetrachloroethene	630	U
79-34-5	1,1,2,2-Tetrachloroethane	630	U
108-88-3	Toluene	630	U
108-90-7	Chlorobenzene	630	U
100-41-4	Ethylbenzene	630	U
100-42-5	Styrene	630	U
1330-20-7	Xylene (total)	630	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#1 (18'-20')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) SOIL Lab Sample ID: 69524

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A7805

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. _____ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3900	E —
67-64-1	Acetone	3300	E —
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#2 (8'-10')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) SOIL Lab Sample ID: 69526 25 8/30/91

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A7705

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. _____ Date Analyzed: 04/22/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

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VOLATILE ORGA CS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#2 (18'-20')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: SDG No.: MW #1 [24m

Matrix: (soil/water) SOIL Lab Sample ID: 69526

Sample wt/vol: 1.0 (g/mL) G Lab File ID: A7806

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl chloride	50	U
75-00-3	Chloroethane	50	U
75-09-2	Methylene chloride	7300	E
67-64-1	Acetone	12000	E
75-15-0	Carbon disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
540-59-0	1,2-Dichloroethene (total)	25	U
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon tetrachloride	25	U
108-05-4	Vinyl acetate	50	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	25	U
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
100-42-5	Styrene	25	U
1330-20-7	Xylene (total)	25	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#3 (13'-15')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) SOIL Lab Sample ID: 69527

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A7707

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. ____ Date Analyzed: 04/22/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	65	
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	7	
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	10	
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	44	
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	140	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW#3 (18'-20')

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) SOIL Lab Sample ID: 69528

Sample wt/vol: 5.0 (g/mL) G Lab File ID: A7708

Level: (low/med) LOW Date Received: 04/10/91

% Moisture: not dec. ____ Date Analyzed: 04/22/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	13	
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	~~115~~ 4.	gm 4.24.91
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNGW-01-001-W

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) WATER Lab Sample ID: 69902

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B4896

Level: (low/med) LOW Date Received: 04/19/91

% Moisture: not dec. ____ Date Analyzed: 04/23/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene chloride	5	U	
67-64-1	Acetone	10	U	
75-15-0	Carbon disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	~~145~~ 5	U	gm 4-24
540-59-0	1,2-Dichloroethene (total)	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon tetrachloride	5	U	
108-05-4	Vinyl acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	5	U	
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	51		
10061-02-6	trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylene (total)	5	U	

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VOLATILE ORGA[illegible]S ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNGW-02-001-W

Lab Name: WEYERHAEUSER Contract: 046-5751

Lab Code: WEYER Case No.: 5443 SAS No.: _____ SDG No.: MW #1 [24m

Matrix: (soil/water) WATER Lab Sample ID: 69900

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: B4853

Level: (low/med) LOW Date Received: 04/12/91

% Moisture: not dec. ____ Date Analyzed: 04/21/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

ATTACHMENT VII

CHAIN-OF-CUSTODY FORMS - CASCADE NATURAL GAS

DPRA Incorporated

E-1500 First National Bank Building
332 Minnesota Street
St. Paul, MN 55101

CHAIN OF CUSTODY RECORD

PROJECT NUMBER: 3751.001

PROJECT NAME: [illegible] Natural Gas

LOCATION: [illegible], WY

SAMPLERS: (Signature) [signature]

SAMPLE NO.	DATE	TIME	COMP.	GRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	Volatile Organics	Semi Volatiles					REMARKS
CNGW-02-01-W	4/17	1710		X	MW-2	3	X	X					Water
CNGW-03-01W	4/17	1845		X	MW-3	3	X	X					Water
CNG-01-01W	4/17	2025		X	MW-1	3	X	X					Water
Trip Blank	4/16/91	1500		X	Trip Blank	2	✓						water

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/18/91 1:30				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Results to Bill [illegible] DPRA	

Distribution: White - Accompanies Shipment; Pink - Project File; Yellow - Laboratory

[illegible] 1, 2