



Address 301 West Main Street

Address is approximate

03 05 0461

Save trees. Go green!

Download Google Maps on your phone at google.com/gmm



Project
Manager
Notes

[Handwritten signature]

UST/CLUST Issues
Get w/ Greg

03 of 0461

McAllen Kirk
Gar
ZCUT work

Timeline

3 Feb '06	Site Assessment Rept. due	(1/26/06 Ltr)
17 Oct 06	same as Above	(10/2/06 Ltr)
extension given to	11/13/06	10/11/06

call John Day

03-050461

Est. # 6024

- Greg Teran Msp. 3/15/05
Leakage & piping w. of office
only eval. steel produced piping
1 produced was not properly dispensing

WOT
Contractor

Installed new leak detector

Still problem

production failed Hydrostatic Test

20-foot section of piping removed & Replaced

cathodic prot. system, ~~may~~ need replacing
Greg was to schedule full Insp.

- 1 Day phone log
2 ~6.5', Centum, been under

03 05 0461

McLellan Unit Gas

Env. Compliance NW

4/17/07 Site Assess & decum Rept.

use

UST decum 3/2005 & 10/2006

| New former Gas station
| New auto Repair

- 4 10,000-gal USTs
P.S. S. of Station Building
- Mainly Non-paved prop.

3 Gas
1 Diesel

fac. up. 1977 - '06

4/2005 - piping leak

3/13/05 - ECNW - initial Site Assess.

2 H.A. PL-1 & 2

4/12/05 - Add. Site Assess & mt. Rem

Removed prod. piping, not all

- " ~15 yds seal

↙ soil to Hillsboro

- 4/26/05 9 Barings installed B1-9

TD - ~ ~~13~~ 13'

Refused @ some ~11-13

H₂O samples from B1, 2, 3, 9

- 9/24-10/6 2006

USTS decomm.

by NW Tank lining & Insp., Vance, UN

- Tanker to cherry cdx metals, selenium

NO GW in Exc. @ the time

— ~ 40 tons soil to Hillsboro Landfill

- During S. A. Acts.

Soil H₂O, Gx, Dx, BTEX only

GW - Gx, BTEX, PAHs

B3 & 9 had Dx also

- Decomm - Gx, Dx, BTEX

Backfill H₂O, Pb

✓ T1-S-13 VOCs 8260B

findings

Soil - Silty/Sandy Gravel to Silty/Gravelly Sand

11-13 - hard, fissaceous material

$\nabla \approx 6-9$

Soil: Gx-

B. 5.91 ppm (on place)

GW

up to 169,000 ppb Gx

3450

Benz.

determined 34 Matrix Score

RBDM

✓ Started initial Assessment based on this data

Soil Vap. Int. occ
outdoor occ

Soil mg, derm. & inh. Exc. water

GW vap Int.
outdoor
Exc.

* need to look @ Gx & Dx too //

Sum. + Conc.

propose add. Soil borings & MWs

W&P

Permit and Tabulation

✓ Make sure Greg has all Decem ppwt

Make sure John has all Licenses

What are Excavation Limits?

What Remains in-place

03 050461

Wkpln 5/17/2007

4 MWs

✓ 2" PVC ✓ TO 20'

✓ Scr 5-20

Prob. need 2 more MWs

Urc. of B-2 +

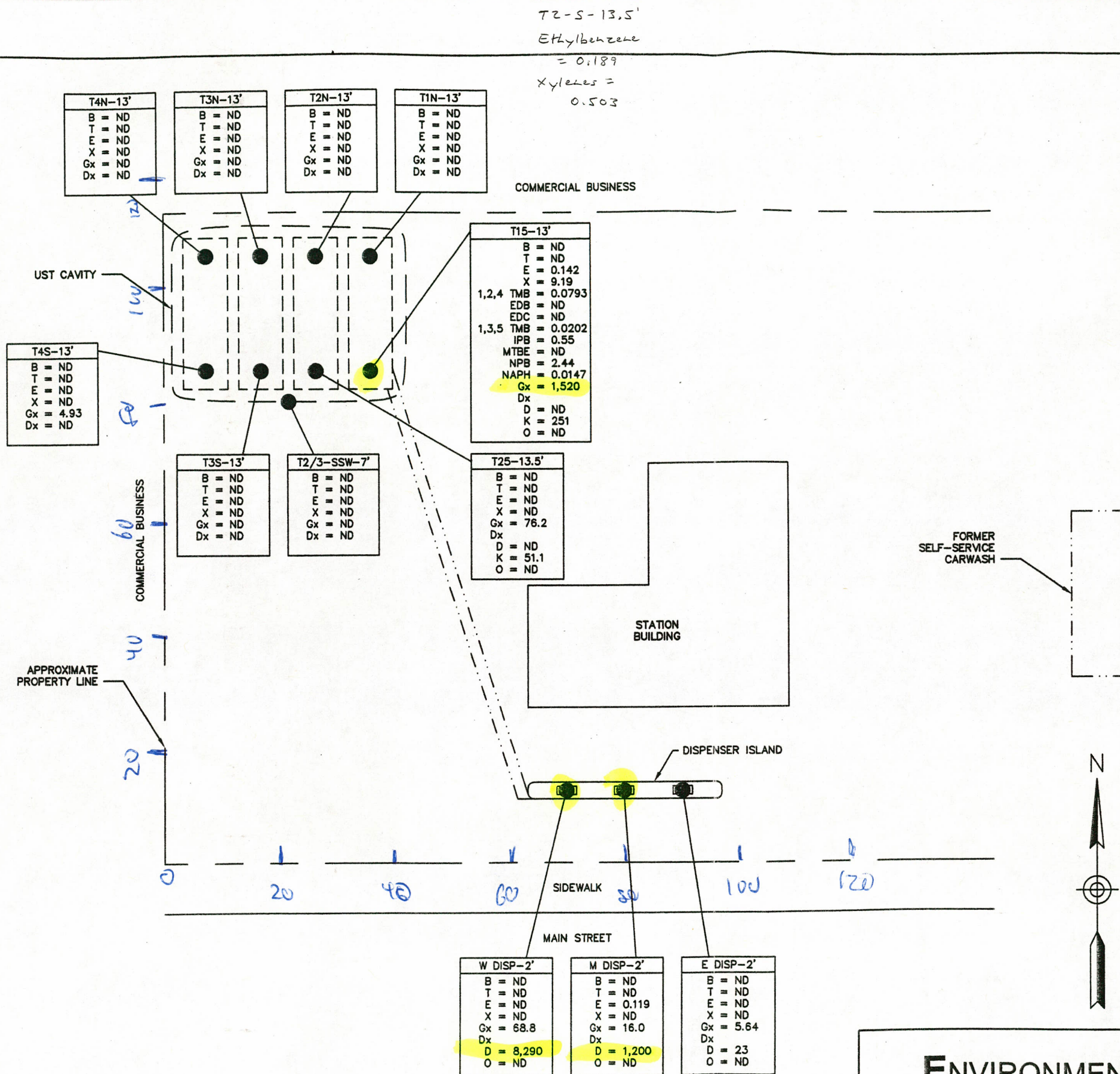
N2 of B-9

for Source
area + RBPM

Are add. borings going to ~~be~~ be installed
for extent purposes? When?

I would mainly guess toward the East

Could move MW @ the pt to B-9 +
do B-2 area so 5 wells instead of 6
+ bory @ W area to see if extent
defined
+ Get 23 extra Borings - East

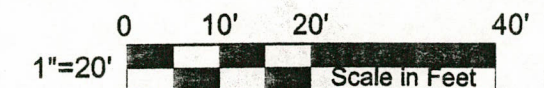


LEGEND

- Soil Sample
- T1S-13' Sample Identification
- UST Underground Storage Tank
- Former UST
- Former Underground Product Piping Trench
- B Benzene
- T Toulene
- E Ethylbenzene
- X Total Xylenes
- TMB Trimethylbenzene
- EDB Ethylene Dibromide
- EDC Ethylene Dichloride
- IPB Isopropylbenzene
- MTBE Methyl-Tertiary Butyl Ether
- NPB N-Propylbenzene
- NAPH Naphthalene
- TPH-Gx Total Petroleum Hydrocarbons Gasoline - Range
- TPH-Dx Total Petroleum Hydrocarbons Diesel extended
- D Diesel
- K Kerosene
- O Lube Oil
- ND Not Detected

Results are in milligrams per kilogram (mg/kg)

Mar. 2005



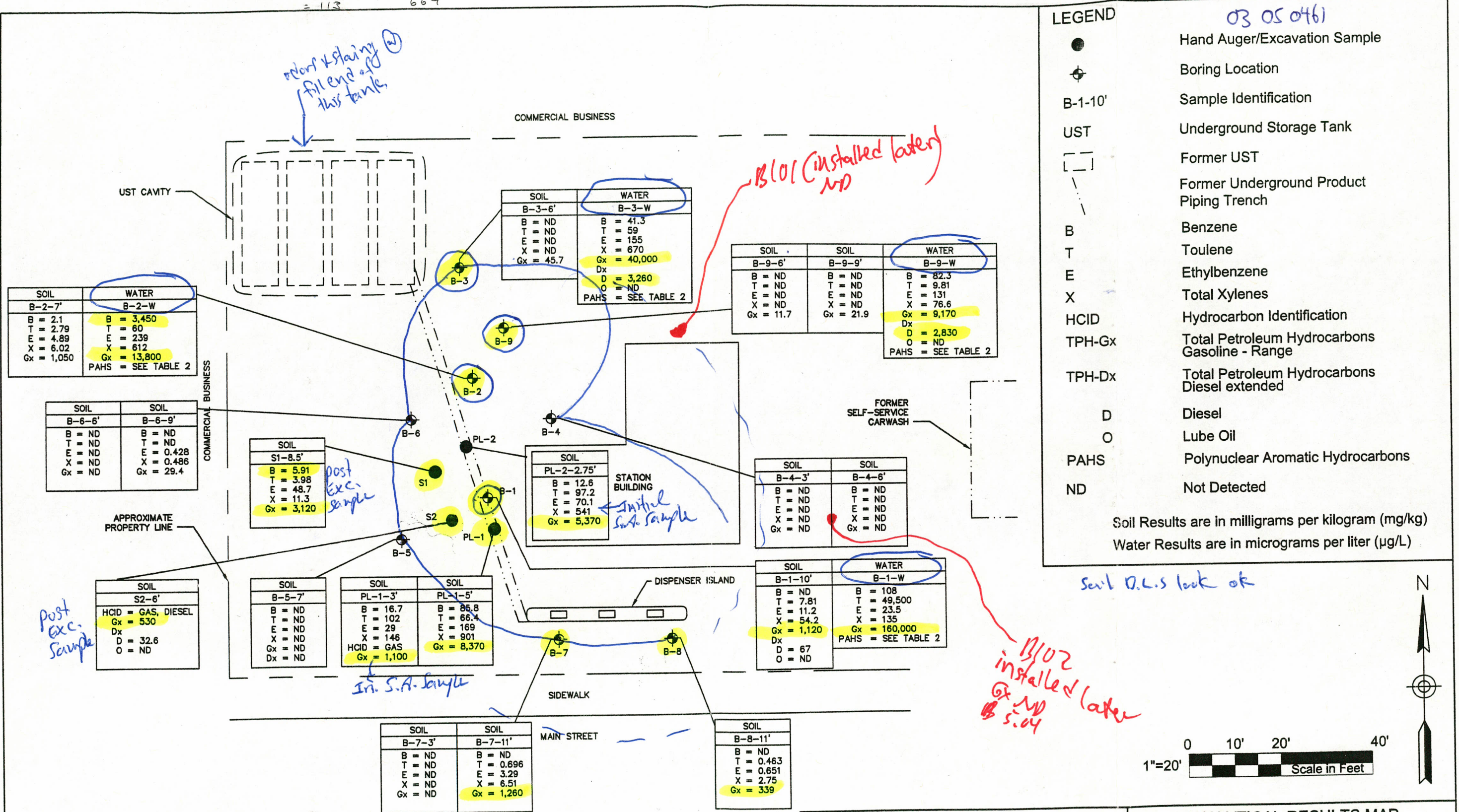
ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.

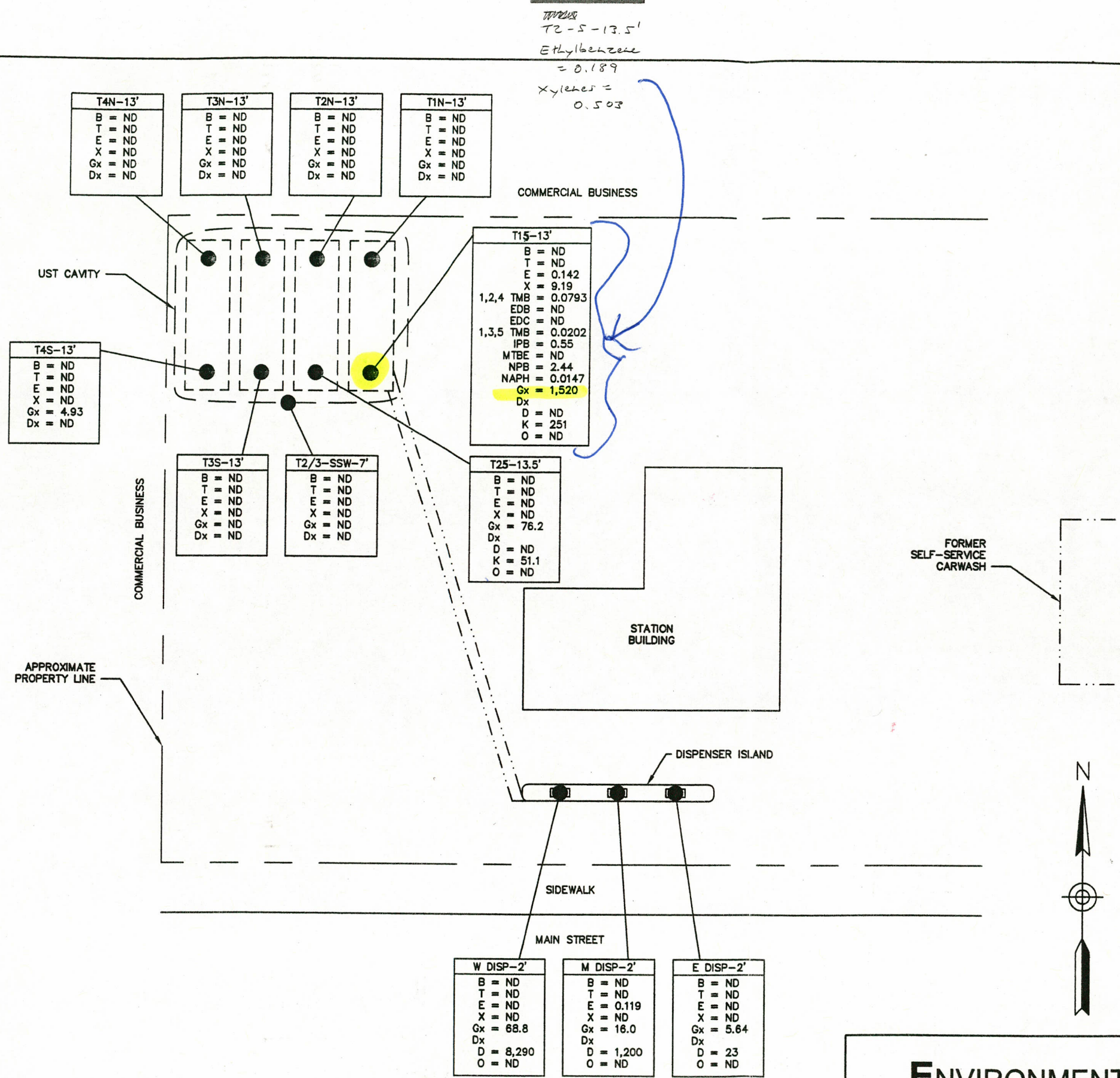
ANALYTICAL RESULTS MAP UST DECOMMISSIONING
KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 1

S1-8-5' PL-1-5'
Xylenes Toluene =
= 113 664





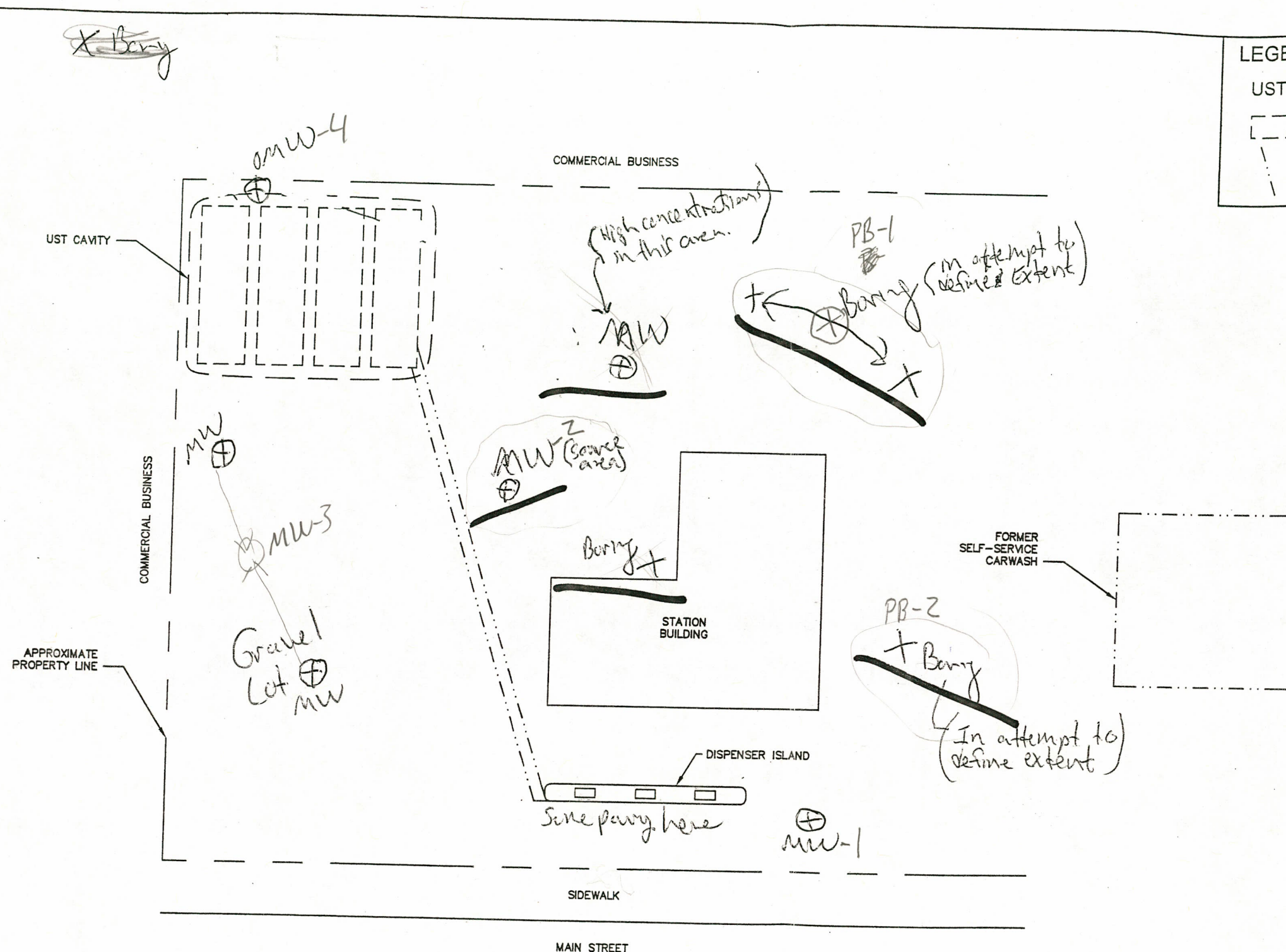
**ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.**

**ANALYTICAL RESULTS MAP
UST DECOMMISSIONING**

**KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON**

Project No. 05-106

FIGURE 4



03 05 0461
Molalla, Kwik Gas

LEGEND	
UST	Underground Storage Tank
[]	Former Underground Storage Tank
- - -	Former Underground Product Piping Trench

**ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.**

SITE PLAN

KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Service station Gone
Auto detailing

{ MW1-4 5/2007
Blot x102

MW5 - TID ~ 25'
BS - 15 HSA

NO LNAPL
Lith

Sandy Silt
Silty/Fine Sand
Sandy Silty
Gravel
Gravelly Sand
16
25

▽ 7.16 - 13.82

Grad: 0.11

Flow: W/SW

03 05 0461

Metallic Rust
Gas

MW Metall
- 2007

10 slot 5-25 MW-1: 25 5-25
MW-2 20 5-20
3 20 "
4 " "

Prelim RADM (occ. only)

Current

Sent VI - OCC

VO OCC

SS

GW VI OCC

VO

Exc.

ECN

Conclusions

• Extent Refined — No Net toward west

• Possibly do Passive Rem. near MW-4

• can drop PATHs

• Land use

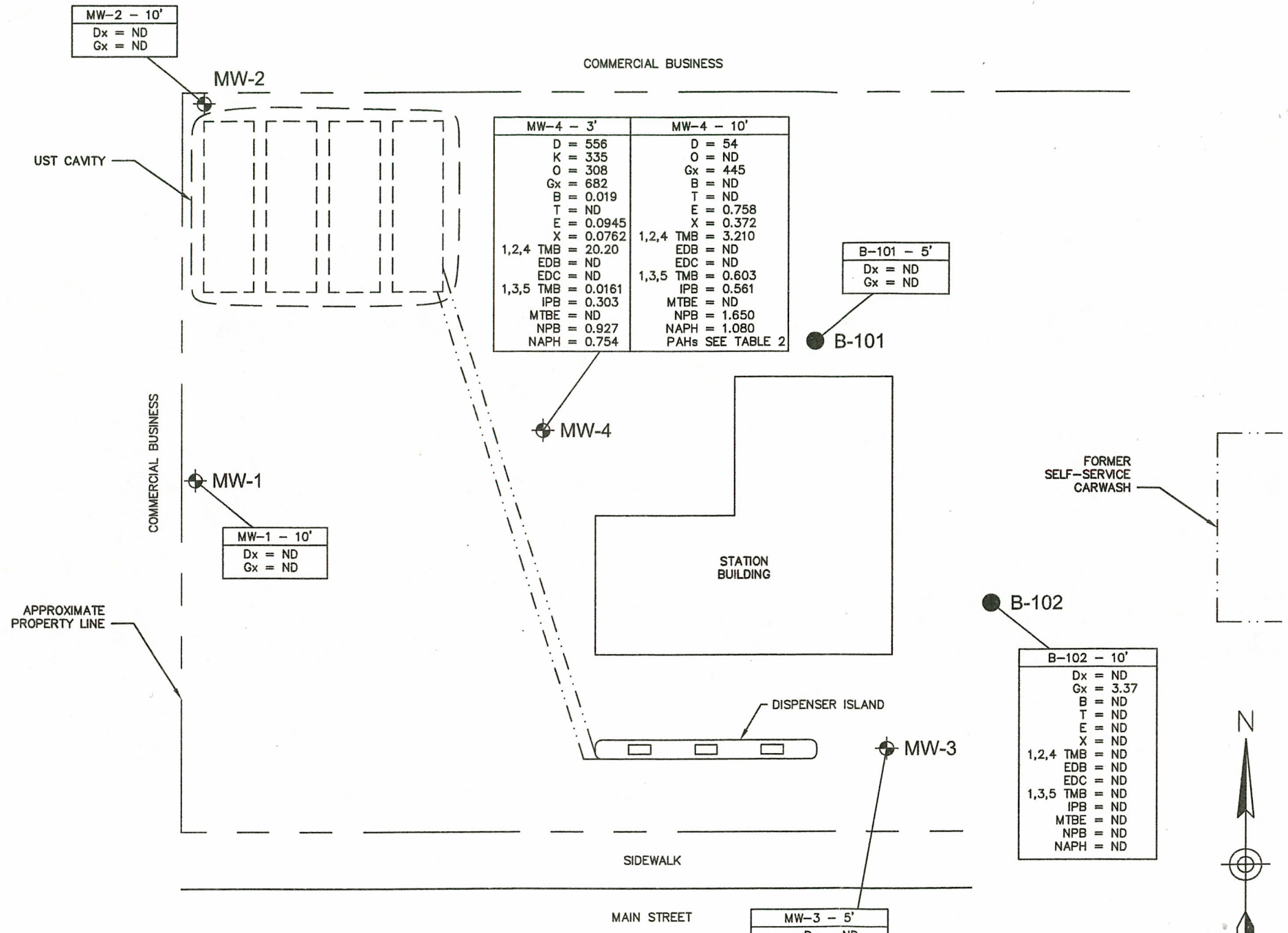
• BOUND

• Delin - west + N
(MW-2)

AS - mb M. Area

See MW-3

15-7/8



LEGEND	
UST	Underground Storage Tank
[]	Former Underground Storage Tank
- - -	Former Underground Product Piping Trench
⊕	Monitoring Well
●	Soil Boring
Dx	Diesel-Range Hydrocarbons
D	Diesel
K	Kerosene
O	Lube Oil
Gx	Gasoline-Range Hydrocarbons
B	Benzene
T	Toulene
E	Ethylbenzene
X	Total Xylenes
TMB	Trimethylbenzene
EDB	Ethylene Dibromide
EDC	Ethylene Dichloride
IPB	Isopropylbenzene
MTBE	Methyl-Tertiary Butyl Ether
NPB	N-Propylbenzene
NAPH	Naphthalene
PAHs	Polynuclear Aromatic Hydrocarbons



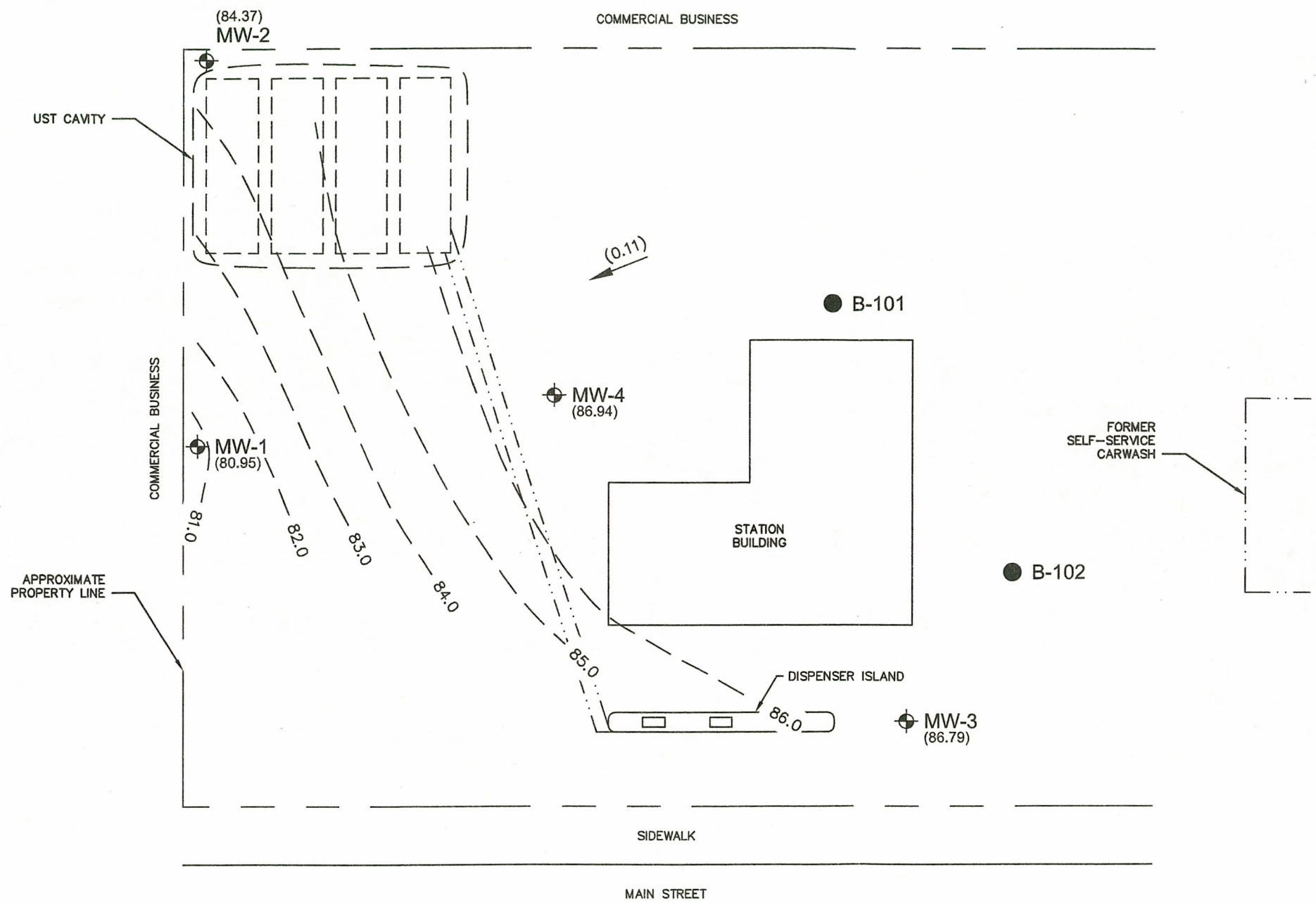
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COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

SOIL ANALYTICAL RESULTS MAP

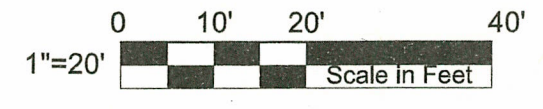
FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3



LEGEND	
UST	Underground Storage Tank
[]	Former Underground Storage Tank
- - -	Former Underground Product Piping Trench
⊕	Monitoring Well
●	Soil Boring
(80.95)	Groundwater Elevation (Relative to an arbitrary benchmark)
- - -	Groundwater Elevation Contour
→ (0.03)	Approximate Groundwater Flow Direction and Gradient in Feet per Foot



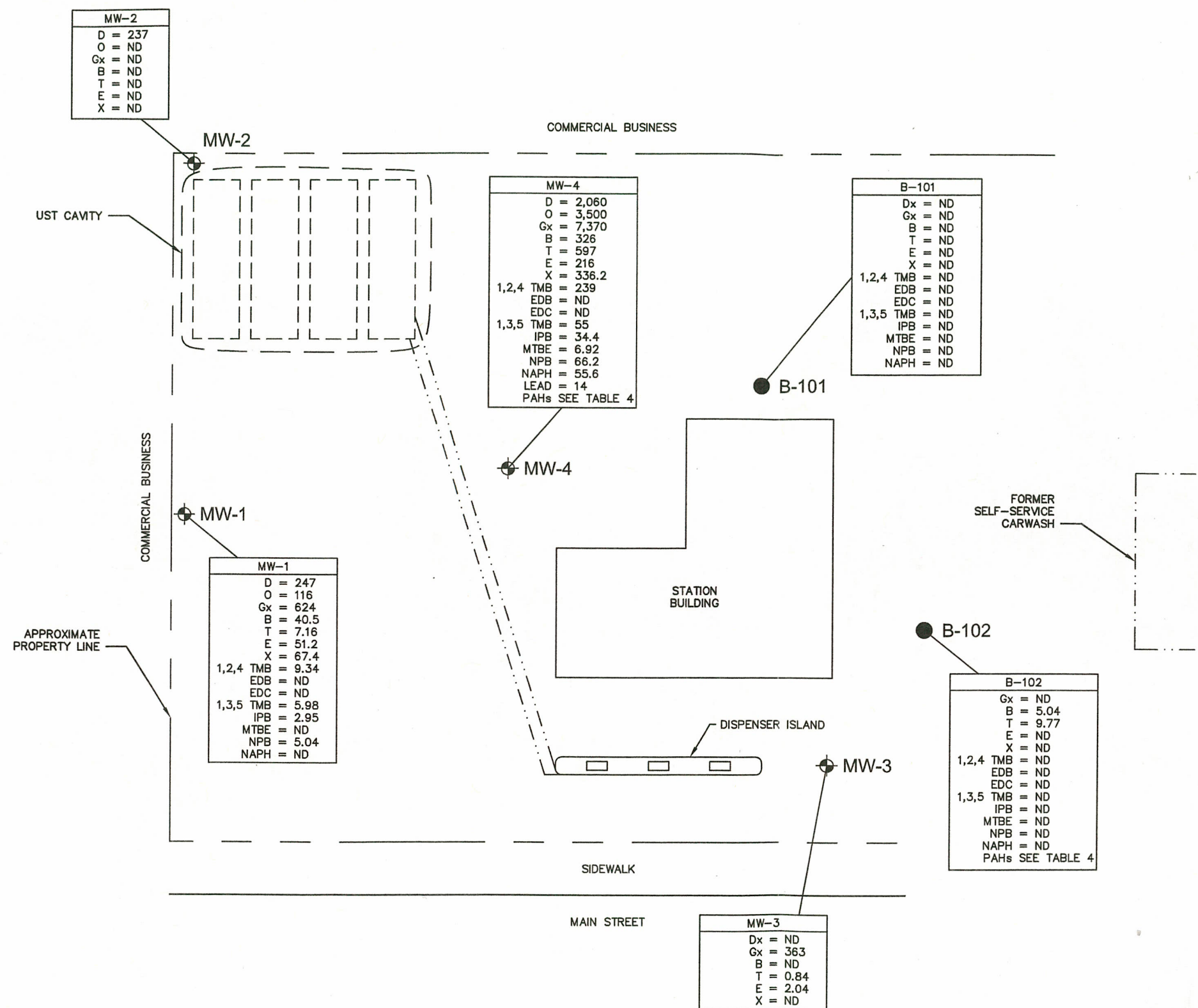
ECN ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.
(503) 372-9760

GROUNDWATER CONTOUR MAP

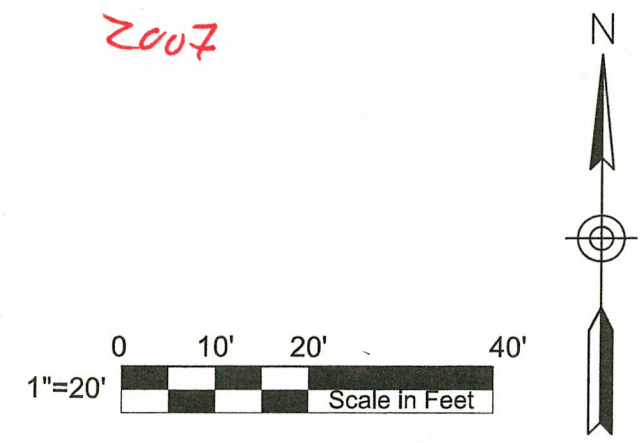
FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 4



LEGEND	
UST	Underground Storage Tank
[]	Former Underground Storage Tank
- - -	Former Underground Product Piping Trench
⊕	Monitoring Well
●	Soil Boring
Dx	Diesel-Range Hydrocarbons
D	Diesel
O	Lube Oil
Gx	Gasoline-Range Hydrocarbons
B	Benzene
T	Toulene
E	Ethylbenzene
X	Total Xylenes
TMB	Trimethylbenzene
EDB	Ethylene Dibromide
EDC	Ethylene Dichloride
IPB	Isopropylbenzene
MTBE	Methyl-Tertiary Butyl Ether
NPB	N-Propylbenzene
NAPH	Naphthalene
LEAD	Dissolved Lead
PAHs	Polynuclear Aromatic Hydrocarbons



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GROUNDWATER ANALYTICAL RESULTS	
FORMER KWIK GAS 305 WEST MAIN STREET MOLALLA, OREGON	
Project No. 05-106	FIGURE 5

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

MW-2

FORMER UST CAVITY

COMMERCIAL BUSINESS

MW-4	
D	= 1,410
O	= 244
Gx	= 18,100
B	= 470
T	= 7.34
E	= 776
X	= 432.2
1,2,4 TMB	= 65.0
EDB	= ND
EDC	= ND
1,3,5 TMB	= 665
IPB	= 153
MTBE	= 2.80
NPB	= 554
NAPH	= 756
LEAD	= 2.4
PAHs	SEE TABLE 2

MW-4

SG

MW
Historic Groundwater
Flow Direction

COMMERCIAL BUSINESS

MW-1

APPROXIMATE
PROPERTY LINE

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

SG

SS

STATION
BUILDING

FORMER
SELF-SERVICE
CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 257
O	= ND
Gx	= 338
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.01
MTBE	= ND
NPB	= ND
NAPH	= ND

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST Piping

Former Underground Product Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

LEAD

Dissolved Lead

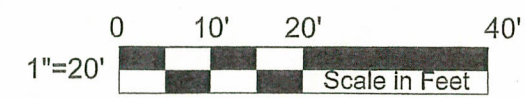
PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)



Proposed Monitoring Well Location



ECN ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
3RD QUARTER 2010
AND PROPOSED MONITORING WELL LOCATIONS
FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 1

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

MW-2

COMMERCIAL BUSINESS

MW-4	
D	= 1,410
O	= 244
Gx	= 18,100
B	= 470
T	= 7.34
E	= 776
X	= 432.2
1,2,4 TMB	= 65.0
EDB	= ND
EDC	= ND
1,3,5 TMB	= 665
IPB	= 153
MTBE	= 2.80
NPB	= 554
NAPH	= 756
LEAD	= 2.4
PAHs	SEE TABLE 2

1,2,4 TMB = 65.0
EDB = ND
EDC = ND
1,3,5 TMB = 665
IPB = 153
MTBE = 2.80
NPB = 554
NAPH = 756
LEAD = 2.4
PAHs SEE TABLE 2

MW-4

MW-1

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

APPROXIMATE
PROPERTY LINE

MW-1

Historic Groundwater
Flow Direction

12/10/2010
Work Plan

FORMER
SELF-SERVICE
CARWASH

STATION
BUILDING

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 257
O	= ND
Gx	= 338
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.01
MTBE	= ND
NPB	= ND
NAPH	= ND

1,2,4 TMB = ND
EDB = ND
EDC = ND
1,3,5 TMB = ND
IPB = 1.01
MTBE = ND
NPB = ND
NAPH = ND

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST

Former Underground Product
Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

LEAD

Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

Proposed Monitoring Well Location

0 10' 20' 40'
1"=20' Scale in Feet

ECN

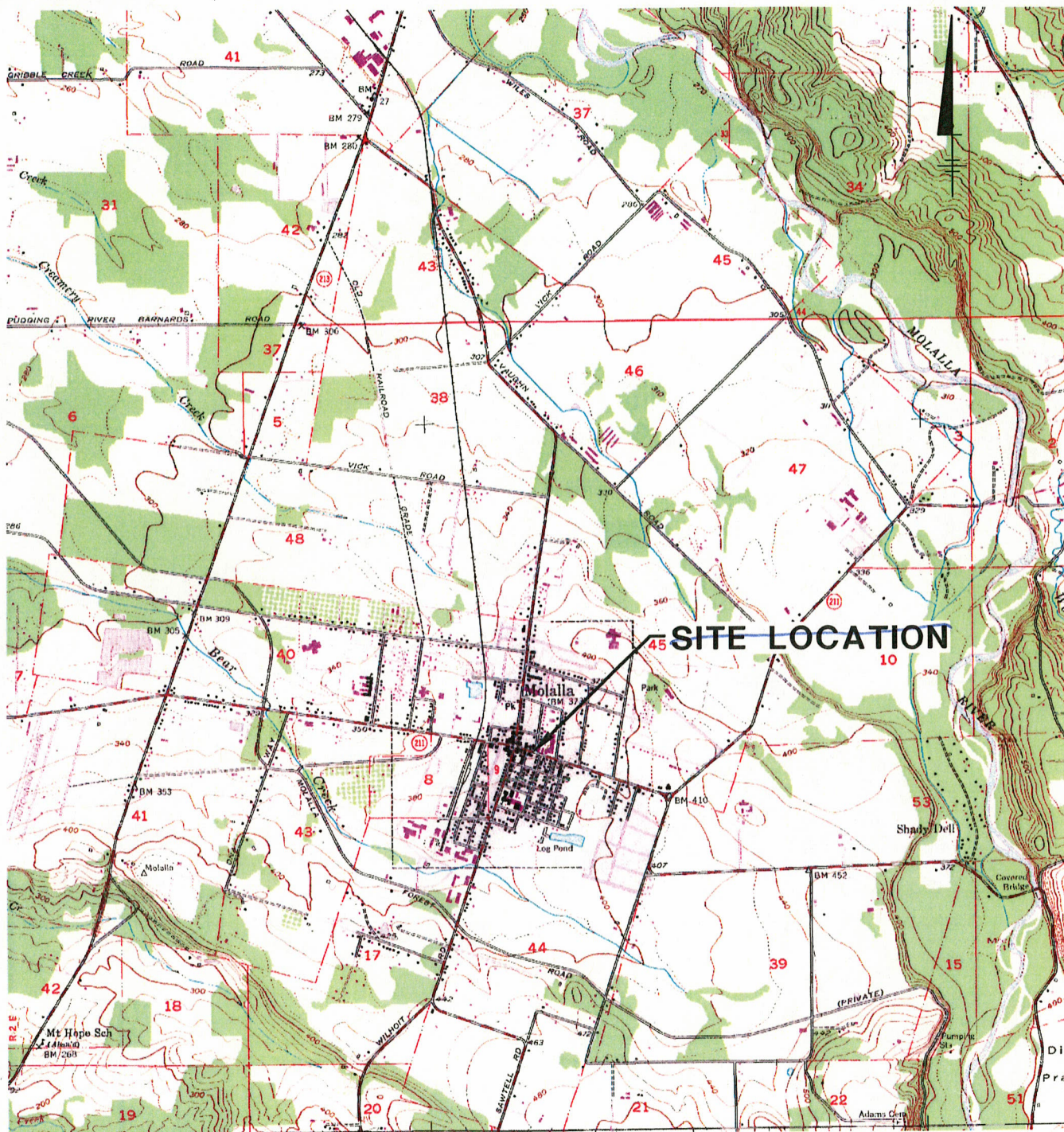
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(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
3RD QUARTER 2010
AND PROPOSED MONITORING WELL LOCATIONS
FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

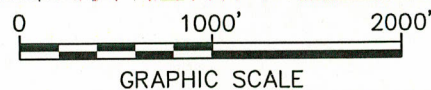
FIGURE 1

PROJECTNAME: ---
 IMAGES: 45448\02.JPG
 XREFS: 45448\01.TIF



SOURCE:
 USGS QUADRANGLE MAP,
 MOLALLA, OREGON

Molalla

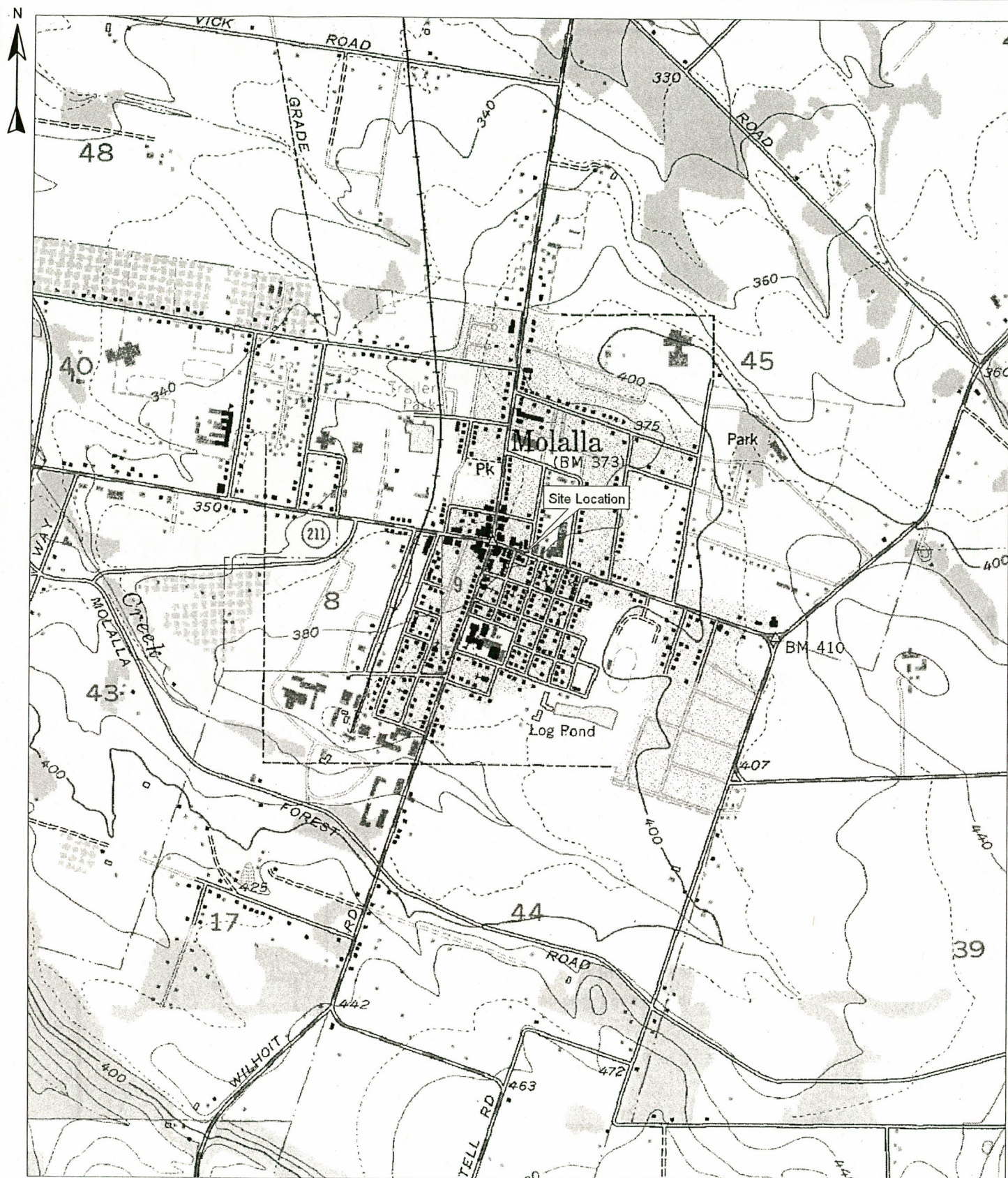


GRAPHIC SCALE



CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY
 CHEVRON RETAIL STATION NO 211-517
 204 EAST MAIN STREET, MOLALLA, OREGON
**SECOND QUARTER 2007 GROUNDWATER
 MONITORING/OPERATION AND
 MAINTENANCE REPORT**

SITE LOCATION MAP



Scale 1:25,000

Reference:
Topographic Map from
Delorme® 3-D Topo Quads - 2002
from USGS Topographic Map
Molalla, OR - 1985



Proj #: 06-6102-00-7482-160

Site Location.dwg

Site Location Map

Former Texaco Service Station 211-517
204 East Main Street
Molalla, Oregon

Date: 5-20-04

Drawn By: RCM

FIGURE

1

Environmental Compliance Northwest
PO Box 230163
Portland, Oregon 97281

LOG OF BORING MW-1

(Page 1 of 1)

Powell Distributing Co.
305 West Main Street
Molalla, Oregon

Project # 05-106

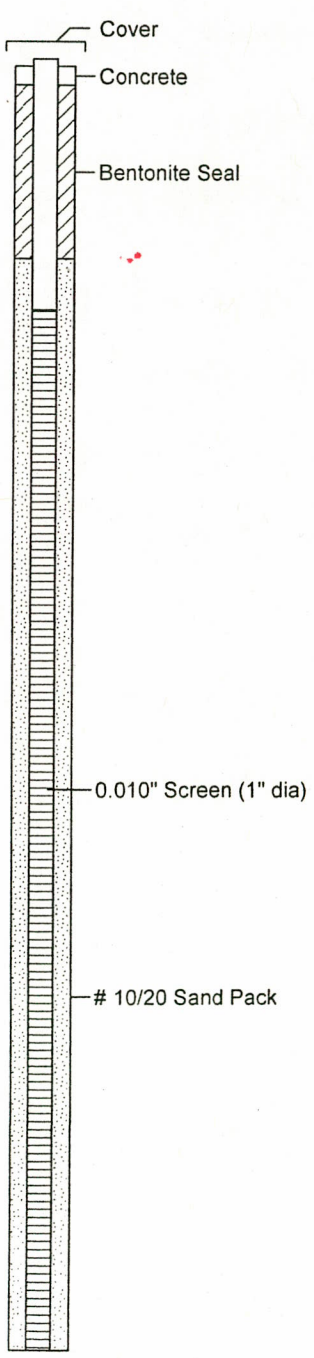
Additional Site Assessment

Date Started : 5/24/07
Date Completed : 5/24/07
Hole Diameter : 10"
Drilling Method : Hollow-Stem Auger
Sampling Method : Split Spoon

Company Rep. :
Northing Coord. :
Easting Coord. :
Survey By :
Logged By : J. Day

Depth in Feet	Blow Count	USCS	GRAPHIC	Water Levels		Samples	REMARKS
				▼ During Drilling	▽ After Completion		
DESCRIPTION							
0		GW		Sandy Gravel (fill)			
				Sandy Silt: olive brown to brown, moist, some fine to coarse sand, occasional gravel, medium firm, no odor.			
5		ML					
8				Silty/Sandy Gravel: brown, moist to dry, fine to coarse sand, fine to 2"+ gravel, dense, no odor.			
10						1	
15		GM		Grades to silty sand in places			
20							
25				Drilling refusal at 25'			

Well: MW-1
Elev.:



Cover
Concrete
Bentonite Seal
0.010" Screen (1" dia)
10/20 Sand Pack

Environmental Compliance Northwest
PO Box 230163
Portland, Oregon 97281

LOG OF BORING MW-2

(Page 1 of 1)

Powell Distributing Co.
305 West Main Street
Molalla, Oregon

Date Started : 5/24/07
Date Completed : 5/24/07
Hole Diameter : 10"
Drilling Method : Hollow-Stem Auger
Sampling Method : Split Spoon

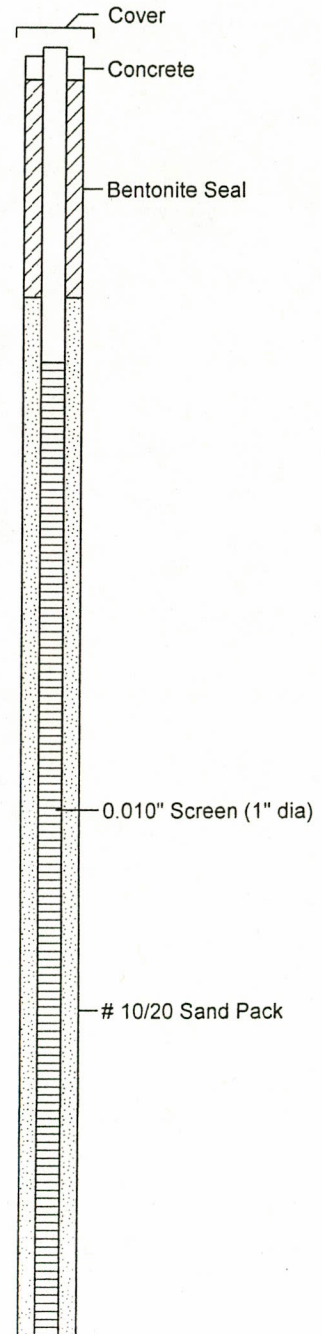
Company Rep. :
Northing Coord. :
Easting Coord. :
Survey By :
Logged By : J. Day

Project # 05-106

Additional Site Assessment

Depth in Feet	Blow Count	USCS	GRAPHIC	Water Levels		Samples	REMARKS
				▼ During Drilling	▽ After Completion		
				DESCRIPTION			
0				Sandy Silt: dark brown, moist, fine to medium sand, some clay, soft to medium firm, no odor.			
		ML					
5				Silty Sand: brown, moist to wet, fine to coarse sand, occasional gravel, medium dense, no odor.			
		SM					
10				Silty/Sandy Gravel: brown, moist to wet, fine to coarse gravel and sand, occasional clay, medium dense, no odor.		1	
		GW					
15							
20				Being terminated at 20'			

Well: MW-2
Elev.:



Environmental Compliance Northwest
PO Box 230163
Portland, Oregon 97281

LOG OF BORING MW-3

(Page 1 of 1)

Powell Distributing Co.
305 West Main Street
Molalla, Oregon

Date Started : 5/24/07
Date Completed : 5/24/07
Hole Diameter : 10"
Drilling Method : Hollow-Stem Auger
Sampling Method : Split Spoon

Company Rep. :
Northing Coord. :
Easting Coord. :
Survey By :
Logged By : J. Day

Project # 05-106

Additional Site Assessment

Water Levels

- ▼ During Drilling
- ▽ After Completion

Depth in Feet

Blow Count

USCS

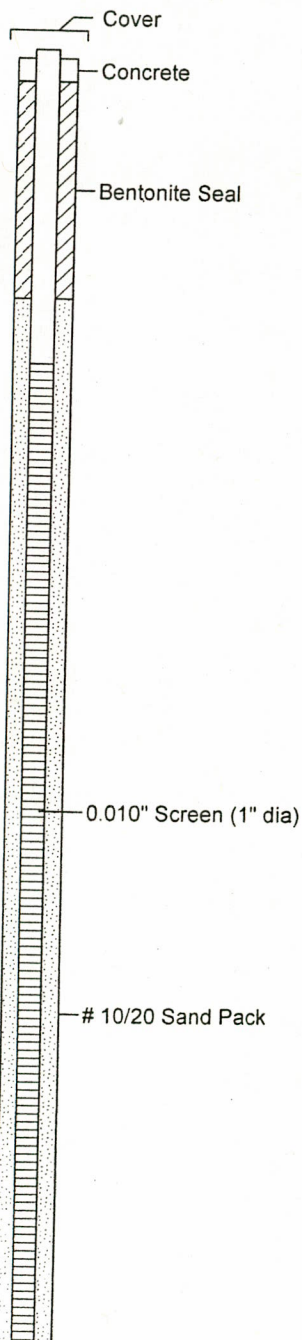
GRAPHIC

DESCRIPTION

Samples

REMARKS

Well: MW-3
Elev.:



FB
GW

Asphalt
Gravel (fill)
Sandy Silt: dark olive, moist, fine to coarse sand,
some gravel gravel, soft to meium firm, indistinct
odor.

ML

Silt/Gravelly Sand: light brown, moist to dry, fine to
coarse sand sand, fine to coarse gravel, occasional
cobbles, no odor.

SW

1

Boring Terminated at 20'

Environmental Compliance Northwest
PO Box 230163
Portland, Oregon 97281

LOG OF BORING MW-4

(Page 1 of 1)

Powell Distributing Co.
305 West Main Street
Molalla, Oregon

Date Started : 5/24/07
Date Completed : 5/24/07
Hole Diameter : 10"
Drilling Method : Hollow-Stem Auger
Sampling Method : Split Spoon

Company Rep. :
Northing Coord. :
Easting Coord. :
Survey By :
Logged By : J. Day

Project # 05-106

Additional Site Assessment

Depth in Feet	Blow Count	USCS	GRAPHIC	Water Levels		Samples	REMARKS
				▼ During Drilling	▽ After Completion		
DESCRIPTION							
0		GW		Gravel (fill)			
				Sandy Silt/ Silty Sand: dark olive brown, moist, soft to medium firm, fine to coarse sand, some gravel, petroleum odor.		1	
5				very moist to wet below 6'			
		ML					
10				organic material (tree root?) in sample at 10", petroleum odor		2	
15							
		GW		Silty/Sandy Gravel: brown, moist, fine to coarse sand, fine to coarse gravel and cobble.			
20				Drilling Refusal at 20'			

Well: MW-4
Elev.:

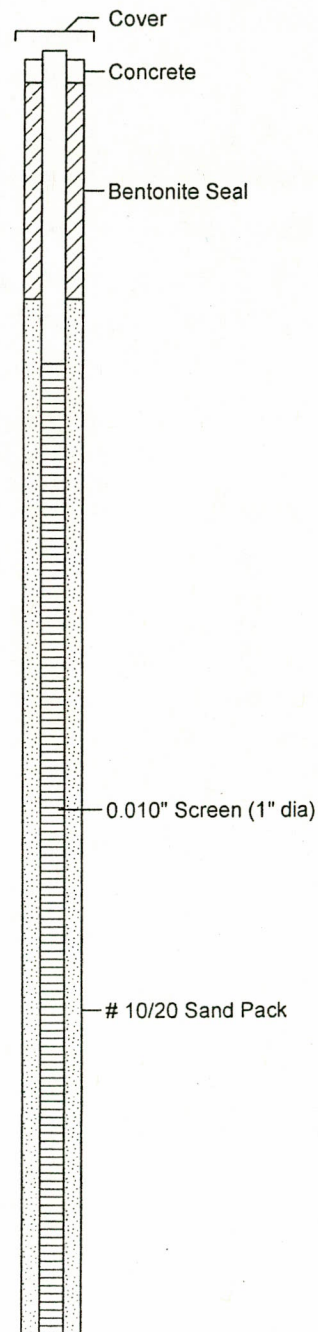


TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 0461
3/30/08 event
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB	
						Diesel	Lube Oil																
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA	
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA	
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	SA	
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA	
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA	
Risk-Based Concentrations [5]																							
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV		
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV		
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S		

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Metyl tertiary-butyl ether
ND: Not detected at or above the indicated laboratory reporting limit
NE: Not established by DEQ
>S: The groundwater RBC exceeds the solubility limit.
NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

Results are in micrograms per liter (µg/L)
(1) Northwest Method NWTPH-Dx
(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B Or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

3/30/2008

Current Use Auto detail Facility

Had 4 19000 gal WBS

operated 1977-2005

② IZ.35-8.06

SW

0.06 ft/A

using OLC.

V_i

V_o

6W ~~ex.~~

TABLE 2
Groundwater Analytical Results (PAHs)
Former Molalla Kwik Gas
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106



Polynuclear Aromatic Hydrocarbons (µg/L) [1]		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoroanthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	LAB
Sample Identification	Sample Date																	
MW-1	6/5/2007	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	2.81	ND<0.0503	ND<0.0503	SA
MW-2	6/5/2007	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	SA
MW-3	6/5/2007	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	0.0792	ND<0.0495	0.287	ND<0.0495	ND<0.0495	SA
MW-4	6/5/2007	0.115	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	0.136	ND<0.0525	83.4	0.0630	ND<0.0525	SA
	3/30/2008	0.231	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	0.0868	0.482	ND<0.0482	115	0.415	0.0868	SA
Risk-Based Concentrations [2]		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	16,000	NE	NV	
- Occ. Volatilization to Outdoor Air		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	10,000	NE	NV	
- Occ. Vapor Intrusion Into buildings		>S	NE	>S	9.1	0.53	>S	NE	>S	>S	0.21	>S	>S	>S	500	NE	>S	
- Groundwater in an Excavation																		
Construction and Excavation Worker																		

ND not detected at or above the indicated laboratory reporting limit
SA Specialty Analytical
µg/L Micrograms per Liter

[1] DEQ Method 8270SIM
[2] Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs) (DEQ, 2009).
NE A Risk-Based Concentration has not been determined for this constituent
NV This chemical is considered "nonvolatile" for purposes of the exposure calculation
>S This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present. If solubility is not listed, data was not listed in Appendix D of the DEQ RBDM guidance document (DEQ, 2009).

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

FORMER UST CAVITY

MW-4	
D	= 2,050
O	= ND
Gx	= 15,900
B	= 985
T	= 8.93
E	= 397
X	= 343.0
1,2,4 TMB	= 386
EDB	= ND
EDC	= ND
1,3,5 TMB	= 43.4
IPB	= 92.2
MTBE	= 11.3
NPB	= 261
NAPH	= 150
LEAD	= 2.5
PAHs	SEE TABLE

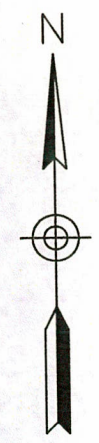
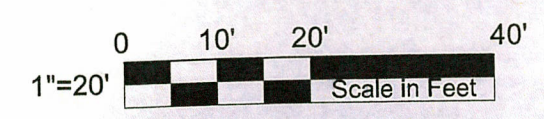
MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

MW-3	
D	= 269
O	= ND
Gx	= 589
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND
LEAD	= ND

LEGEND

- UST Underground Storage Tank
- [] Former Underground Storage Tank
- - - Former Underground Product Piping Trench
- ⊕ Monitoring Well
- Dx Diesel-Range Hydrocarbons
- D Diesel
- O Lube Oil
- Gx Gasoline-Range Hydrocarbons
- B Benzene
- T Toulene
- E Ethylbenzene
- X Total Xylenes
- TMB Trimethylbenzene
- EDB Ethylene Dibromide
- EDC Ethylene Dichloride
- IPB Isopropylbenzene
- MTBE Methyl-Tertiary Butyl Ether
- NPB N-Propylbenzene
- NAPH Naphthalene
- LEAD Dissolved Lead
- PAHs Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)



ECN ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
1ST QUARTER 2008

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 0461
Sept 2008 event
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB	
						Diesel	Lube Oil																
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA	
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	0.65	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA	
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA	
	9/28/2008	94.10	7.69	86.41	-3.4	2,070	665	14,000	979	9.74	743	167.8	332	ND<1.00	ND<1.00	88.3	125	ND<1.00	460	766	0.34	SA	
Risk-Based Concentrations [5]																							
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV		
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV		
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S		

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Methyl tertiary-butyl ether
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Results are in micrograms per liter (µg/L)
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(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B Or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

2 G.46-17.41
0.16 ft/ft - pretty steep
SW

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

MW-2

COMMERCIAL BUSINESS

MW-4	
D	= 2,070
O	= 665
Gx	= 14,000
B	= 979
T	= 9.74
E	= 743
X	= 167.8
1,2,4 TMB	= 332
EDB	= ND
EDC	= ND
1,3,5 TMB	= 88.3
IPB	= 125
MTBE	= ND
NPB	= 460
NAPH	= 766
LEAD	= 0.34
PAHs	SEE TABLE 2

MW-4

STATION BUILDING

FORMER
SELF-SERVICE
CARWASH

COMMERCIAL BUSINESS

MW-1

APPROXIMATE
PROPERTY LINE

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 350
O	= ND
Gx	= 787
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.00
MTBE	= ND
NPB	= ND
NAPH	= ND
LEAD	= .65

LEGEND

UST

Underground Storage Tank

[-]

Former Underground Storage Tank

Former Underground Product
Piping Trench

+

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

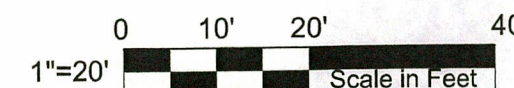
LEAD

Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)



ECN

ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
3RD QUARTER 2008

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 0461
3/2009 QM
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB	
						Diesel	Lube Oil																
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA	
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA		
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA	
	3/26/2009	94.77	9.54	85.23	7.87	ND<238	ND<476	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA	
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	---	SA	
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	93.73	3.50	90.23	7.6	ND<236	ND<473	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	---	SA
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	0.65	---	SA
	3/26/2009	93.44	4.62	88.82	1.84	277	ND<478	429	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	---	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	---	SA
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	---	SA
	9/28/2008	94.10	7.69	86.41	-3.4	2,070	665	14,000	979	9.74	743	167.8	332	ND<1.00	ND<1.00	88.3	125	ND<1.00	460	766	0.34	---	SA
	3/26/2009	94.10	4.54	89.56	3.15	1,700	893	8,010	480	4.49	356	91.4	125	ND<1.00	ND<1.00	23.7	87.6	1.80	185	119	0.82	---	SA
Risk-Based Concentrations [5]																							
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV		
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV		
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S		

ABBREVIATIONS:
B: Benzene
T: Toluene
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MTBE: Methyl tertiary-butyl ether
ND: Not detected at or above the indicated laboratory reporting limit
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NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

Results are in micrograms per liter (µg/L)
(1) Northwest Method NWTPH-Dx
(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

3.50'-9.54'
0.08
SW

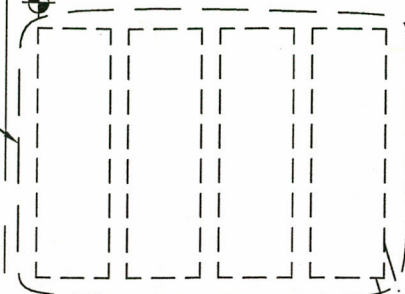
MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

COMMERCIAL BUSINESS

APPROXIMATE
PROPERTY LINE

MW-2



MW-1

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

COMMERCIAL BUSINESS

MW-4	
D	= 1,700
O	= 893
Gx	= 8,010
B	= 480
T	= 4.49
E	= 356
X	= 91.4
1,2,4 TMB	= 125
EDB	= ND
EDC	= ND
1,3,5 TMB	= 23.7
IPB	= 87.6
MTBE	= 1.80
NPB	= 185
NAPH	= 119
LEAD	= 0.82
PAHs	SEE TABLE 2

MW-4

STATION
BUILDING

FORMER
SELF-SERVICE
CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 277
O	= ND
Gx	= 429
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND
LEAD	= 1.1

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST Product

Former Underground Product
Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

LEAD

Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

1"=20' 0 10' 20' 40'
Scale in Feet



ECN

ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
1ST QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 0461
 June 2004 event
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB
						Diesel	Lube Oil															
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	94.77	9.54	85.23	7.87	ND<238	ND<476	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	94.77	14.43	80.34	-4.89	ND<86.3	ND<216	---	0.910	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	93.73	3.50	90.23	7.6	ND<236	ND<473	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	93.73	9.36	84.37	-5.86	ND<82.5	ND<206	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	0.65	SA
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	3/26/2009	93.44	4.62	88.82	1.84	277	ND<478	429	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	6/30/2009	93.44	6.79	86.65	-2.17	194	ND<203	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.21	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA
	9/28/2008	94.10	7.69	86.41	-3.4	2,070	665	14,000	979	9.74	743	167.8	332	ND<1.00	ND<1.00	88.3	125	ND<1.00	460	766	0.34	SA
	3/26/2009	94.10	4.54	89.56	3.15	1,700	893	8,010	480	4.49	356	91.4	125	ND<1.00	ND<1.00	23.7	87.6	1.80	185	119	0.82	SA
	6/30/2009	94.10	7.65	86.45	-3.11	1,460	310	---	682	7.28	769	248.2	594	ND<1.00	ND<1.00	76.7	133	2.62	438	347	1.4	SA
Risk-Based Concentrations [5]																						
- Volatilization to Outdoor Air (Occupational)																						
- Vapor Intrusion Into Buildings (Occupational)																						
- Groundwater in an Excavation (Construction and Excavation Worker)																						

ABBREVIATIONS:

B: Benzene
 T: Toluene
 E: Ethylbenzene
 X: Total Xylenes
 MTBE: Methyl tertiary-butyl ether
 ND: Not detected at or above the indicated laboratory reporting limit
 NE: Not established by DEQ
 >S: The groundwater RBC exceeds the solubility limit.
 NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

Results are in micrograms per liter (µg/L)

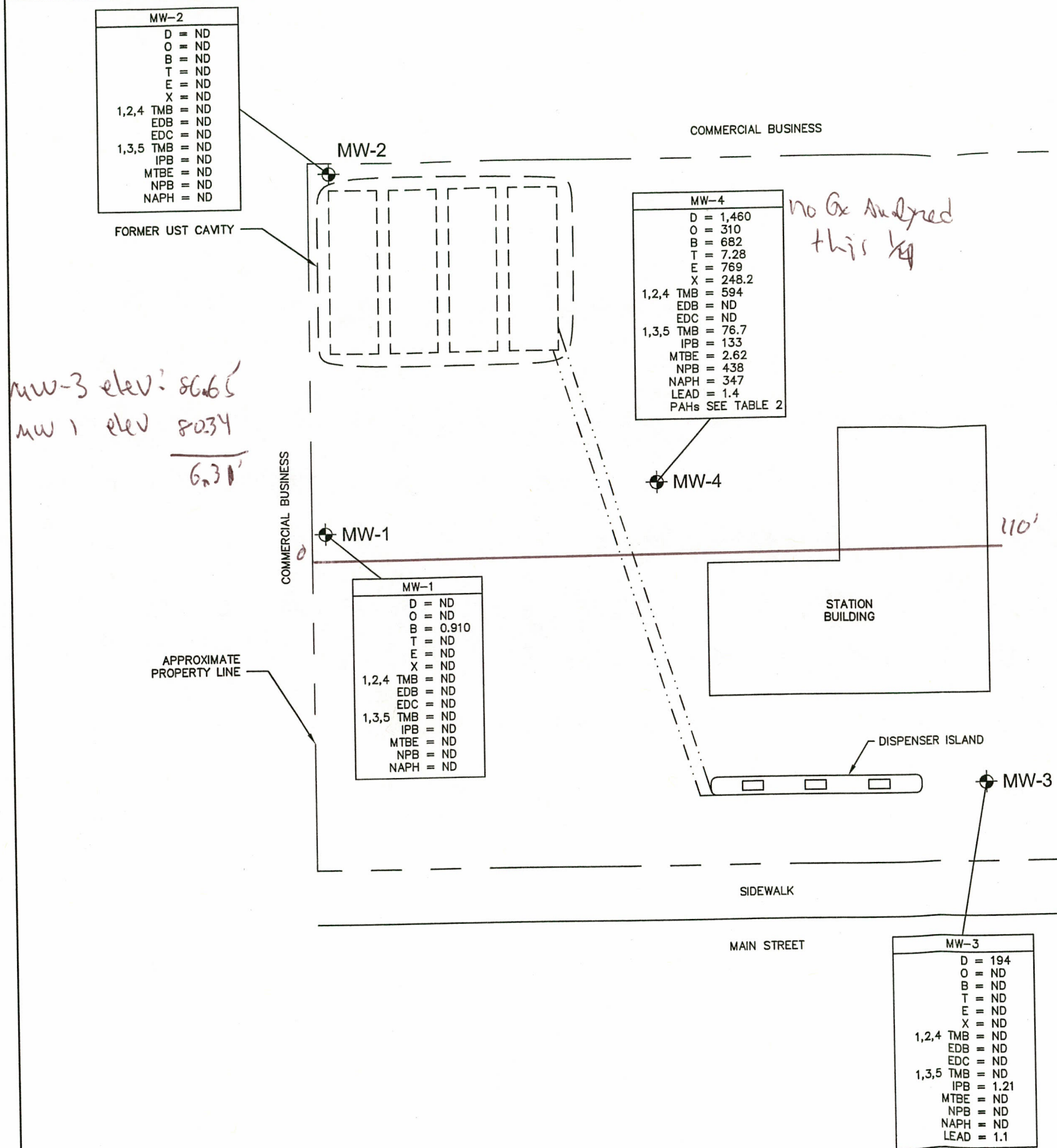
- (1) Northwest Method NWTPH-Dx
 - (2) Northwest Method NWTPH-Gx
 - (3) EPA Method 8021B or 8260B
 - (4) EPA Method 6011
 - (5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
- SA Specialty Analytical
BOLD Exceeds the RBC

X 6.79-14.43

0.11 ft/ft

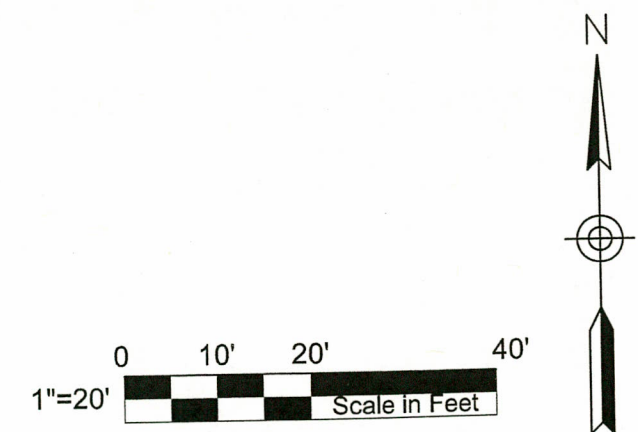
SW

No Gx Analysis, not sure why



LEGEND

- UST Underground Storage Tank
 - [] Former Underground Storage Tank
 - - - Former Underground Product Piping Trench
 - Monitoring Well
 - Dx Diesel-Range Hydrocarbons
 - D Diesel
 - O Lube Oil
 - B Benzene
 - T Toulene
 - E Ethylbenzene
 - X Total Xylenes
 - TMB Trimethylbenzene
 - EDB Ethylene Dibromide
 - EDC Ethylene Dichloride
 - IPB Isopropylbenzene
 - MTBE Methyl-Tertiary Butyl Ether
 - NPB N-Propylbenzene
 - NAPH Naphthalene
 - LEAD Dissolved Lead
 - PAHs Polynuclear Aromatic Hydrocarbons
- Results are in micrograms per liter (µg/L)



ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
2ND QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 04 61
Sept 2009 QM
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB
						Diesel	Lube Oil															
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	94.77	9.54	85.23	7.87	ND<238	ND<476	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	94.77	14.43	80.34	-4.89	ND<86.3	ND<216	---	0.910	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/29/2009	94.77	20.13	74.64	-5.7	ND<249	ND<498	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	93.73	3.50	90.23	7.6	ND<236	ND<473	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	93.73	9.36	84.37	-5.86	ND<82.5	ND<206	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/29/2009	93.73	14.09	79.64	-4.73	ND<485	ND<971	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA	
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.00	ND<1.00	ND<1.00	ND<1.00	0.65	SA
	3/26/2009	93.44	4.62	88.82	1.84	277	ND<478	429	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	6/30/2009	93.44	6.79	86.65	-2.17	194	ND<203	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.21	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	9/29/2009	93.44	8.96	84.48	-2.17	275	ND<482	631	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.26	ND<1.00	ND<1.00	ND<1.00	1.8	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA
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	3/26/2009	94.10	4.54	89.56	3.15	1,700	893	8,010	480	4.49	356	91.4	125	ND<1.00	ND<1.00	23.7	87.6	1.80	185	119	0.82	SA
	6/30/2009	94.10	7.65	86.45	-3.11	1,460	310	---	682	7.28	769	248.2	594	ND<1.00	ND<1.00	76.7	133	2.62	438	347	1.4	SA
	9/29/2009	94.10	12.75	81.35	-5.1	2,760	805	13,300	925	7.07	889	30.00	30.4	ND<1.00	ND<1.00	34.3	115	7.16	395	540	1.5	SA
Risk-Based Concentrations [5]																						
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV	
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV	
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S	

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Methyl tertiary-butyl ether
ND: Not detected at or above the indicated laboratory reporting limit
NE: Not established by DEQ
>S: The groundwater RBC exceeds the solubility limit.
NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

Results are in micrograms per liter (µg/L)
(1) Northwest Method NWTPH-Dx
(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B Or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

under 870 - N was 145 ppb

9/29/09
8.96-20.13
w/sw
17.5 ft/A

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

COMMERCIAL BUSINESS

APPROXIMATE
PROPERTY LINE

MW-2

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

COMMERCIAL BUSINESS

MW-4	
D	= 2,760
O	= 805
Gx	= 13,300
B	= 925
T	= 7.07
E	= 889
X	= 30.00
1,2,4 TMB	= 30.4
EDB	= ND
EDC	= ND
1,3,5 TMB	= 34.3
IPB	= 115
MTBE	= 7.16
NPB	= 395
NAPH	= 540
LEAD	= 1.5
PAHs	SEE TABLE 2

MW-4

STATION
BUILDING

FORMER
SELF-SERVICE
CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 275
O	= ND
Gx	= 631
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.26
MTBE	= ND
NPB	= ND
NAPH	= ND
LEAD	= 1.8

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST Piping Trench

Former Underground Product Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

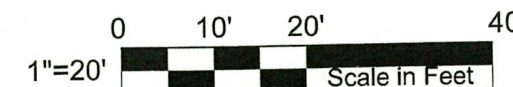
LEAD

Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)



ECN

ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
3RD QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

03 08 0461
12/2009 QM

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

MW-4	
D	= 2,730
O	= 1,020
Gx	= 21,100
B	= 397
T	= 4.84
E	= 435
X	= 361.2
1,2,4 TMB	= 451
EDB	= ND
EDC	= ND
1,3,5 TMB	= 25.5
IPB	= 114
MTBE	= 1.43
NPB	= 245
NAPH	= 509
LEAD	= ND
PAHs	SEE TABLE 2

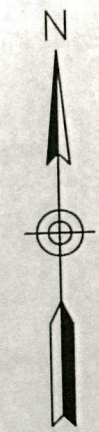
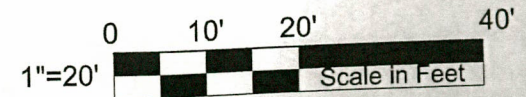
MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

MW-3	
D	= 336
O	= ND
Gx	= 245
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.26
MTBE	= ND
NPB	= 0.96
NAPH	= ND
LEAD	= ND

LEGEND

- UST Underground Storage Tank
 - [-] Former Underground Storage Tank
 - - - Former Underground Product Piping Trench
 - ⊙ Monitoring Well
 - Dx Diesel-Range Hydrocarbons
 - D Diesel
 - O Lube Oil
 - Gx Gasoline-Range Hydrocarbons
 - B Benzene
 - T Toulene
 - E Ethylbenzene
 - X Total Xylenes
 - TMB Trimethylbenzene
 - EDB Ethylene Dibromide
 - EDC Ethylene Dichloride
 - IPB Isopropylbenzene
 - MTBE Methyl-Tertiary Butyl Ether
 - NPB N-Propylbenzene
 - NAPH Naphthalene
 - LEAD Dissolved Lead
 - PAHs Polynuclear Aromatic Hydrocarbons
- Results are in micrograms per liter (µg/L)

4.03-10.54
SW
1057/ft



ECN ENVIRONMENTAL COMPLIANCE NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
4TH QUARTER 2009

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106 **FIGURE 3**

03 05 0461

3/30/10 evnd

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

FORMER UST CAVITY

COMMERCIAL BUSINESS

MW-4	
D	= 1,094
O	= 532
Gx	= 12,200
B	= 594
T	= 5.31
E	= 634
X	= 330.9
1,2,4 TMB	= 530
EDB	= ND
EDC	= ND
1,3,5 TMB	= 60.4
IPB	= 128
MTBE	= ND
NPB	= 515
NAPH	= 274
LEAD	= 1.8
PAHs	SEE TABLE 2

MW-2

MW-4

MW-1

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND

APPROXIMATE PROPERTY LINE

COMMERCIAL BUSINESS

STATION BUILDING

FORMER SELF-SERVICE CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 216
O	= 235
Gx	= 477
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 2.58
MTBE	= ND
NPB	= ND
NAPH	= 1.48

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST Piping Trench

Former Underground Product Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

Gx

Gasoline-Range Hydrocarbons

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

LEAD

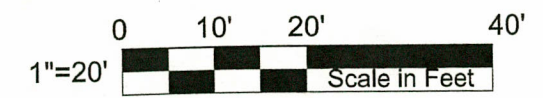
Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

3.42 - 8.74
SW
.087 f/ft



ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
1ST QUARTER 2010

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

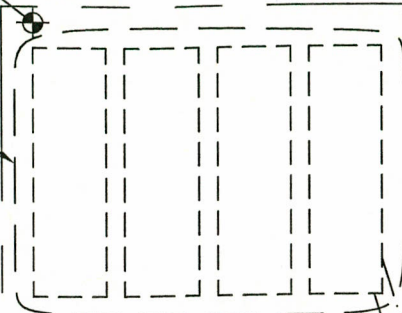
MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

FORMER UST CAVITY

COMMERCIAL BUSINESS

APPROXIMATE PROPERTY LINE

MW-2



MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

COMMERCIAL BUSINESS

MW-4	
D	= 2,350
O	= 585
Gx	= 11,600
B	= 705
T	= 5.27
E	= 419
X	= 396.2
1,2,4 TMB	= 115
EDB	= ND
EDC	= ND
1,3,5 TMB	= 35.6
IPB	= 117
MTBE	= 2.17
NPB	= 368
NAPH	= 136
PAHs	SEE TABLE 2

MW-4

STATION BUILDING

FORMER SELF-SERVICE CARWASH

DISPENSER ISLAND

MW-3

SIDEWALK

MAIN STREET

MW-3	
D	= 291
O	= 215
Gx	= 749
B	= 1.26
T	= ND
E	= 1.70
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= ND
MTBE	= ND
NPB	= ND
NAPH	= ND
PAHs	SEE TABLE 2

LEGEND

UST

Underground Storage Tank

Former UST

Former Underground Storage Tank

Former UST Piping Trench

Former Underground Product Piping Trench

Monitoring Well

Monitoring Well

Dx

Diesel-Range Hydrocarbons

D

Diesel

O

Lube Oil

B

Benzene

T

Toulene

E

Ethylbenzene

X

Total Xylenes

TMB

Trimethylbenzene

EDB

Ethylene Dibromide

EDC

Ethylene Dichloride

IPB

Isopropylbenzene

MTBE

Methyl-Tertiary Butyl Ether

NPB

N-Propylbenzene

NAPH

Naphthalene

LEAD

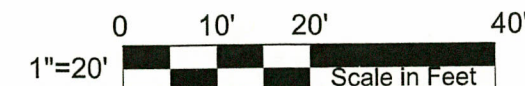
Dissolved Lead

PAHs

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

116.31-12.63
119.54
SW



ECN

ENVIRONMENTAL
COMPLIANCE
NORTHWEST, INC.
(503) 372-9760

GROUNDWATER ANALYTICAL RESULTS
2ND QUARTER 2010

FORMER KWIK GAS
305 WEST MAIN STREET
MOLALLA, OREGON

Project No. 05-106

FIGURE 3

TABLE 1
Groundwater Analytical Results - TPH-Dx, TPH-G, RBDM VOCs, and Dissolved Lead
Former Kwik Gas Station
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106

03 05 0461
9/28/10
ECN

Well I.D.	Date of Sampling	Casing Elevation (Feet)	Depth to Water (Feet)	Groundwater Elevation (Feet)	Change in Elevation (Feet)	TPH-Dx [1]		TPH-G [2]	B [3]	T [3]	E [3]	X [3]	1,2,4-TMB [3]	EDB [3]	EDC [3]	1,3,5-TMB [3]	IPB [3]	MTBE [3]	NPB [3]	Naphthalene [3]	Dissolved Lead [4]	LAB
						Diesel	Lube Oil															
MW-1	6/5/2007	94.77	13.82	80.95	---	247	116	624	40.5	7.16	51.2	67.4	9.34	ND<1.00	ND<1.00	5.98	2.95	ND<1.00	5.04	ND<1.00	---	SA
	3/30/2008	94.77	8.06	86.71	5.76	ND<245	ND<491	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	94.77	17.41	77.36	-9.35	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	94.77	9.54	85.23	7.87	ND<238	ND<476	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	94.77	14.43	80.34	-4.89	ND<86.3	ND<216	---	0.910	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/29/2009	94.77	20.13	74.64	-5.7	ND<249	ND<498	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	12/26/2009	94.77	10.54	84.23	9.59	ND<243	ND<487	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2010	94.77	8.74	86.03	1.8	ND<77.1	ND<193	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	6/30/2010	94.77	12.83	81.94	-4.09	ND<76.1	ND<190	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	9/28/2010	94.77	16.38	78.39	-3.55	ND<82.6	ND<210	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
MW-2	6/5/2007	93.73	9.36	84.37	---	237	ND<100	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.73	3.35	90.38	6.01	ND<248	ND<495	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.73	11.10	82.63	-7.75	ND<242	ND<483	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/26/2009	93.73	3.50	90.23	7.6	ND<236	ND<473	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	6/30/2009	93.73	9.36	84.37	-5.86	ND<82.5	ND<206	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/29/2009	93.73	14.09	79.64	-4.73	ND<485	ND<971	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	12/26/2009	93.73	4.03	89.70	10.06	ND<275	ND<552	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2010	93.73	3.42	90.31	0.61	ND<77.8	ND<195	ND<100	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	6/30/2010	93.73	8.12	85.61	-4.7	ND<76.6	ND<192	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	9/28/2010	93.73	9.23	84.50	-1.11	ND<78.7	ND<197	ND<100	ND<0.300	ND<0.500	ND<0.500	ND<1.50	---	---	---	---	---	---	---	---	---	SA
MW-3	6/5/2007	93.44	6.65	86.79	---	ND<49.9	ND<49.9	363	ND<0.300	0.84	2.04	ND<1.50	---	---	---	---	---	---	---	---	---	SA
	3/30/2008	93.44	4.31	89.13	2.34	269	ND<485	589	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2008	93.44	6.46	86.98	-2.15	350	ND<541	787	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.00	ND<1.00	ND<1.00	ND<1.00	0.65	SA
	3/26/2009	93.44	4.62	88.82	1.84	277	ND<478	429	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	6/30/2009	93.44	6.79	86.65	-2.17	194	ND<203	---	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.21	ND<1.00	ND<1.00	ND<1.00	1.1	SA
	9/29/2009	93.44	8.96	84.48	-2.17	275	ND<482	631	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.26	ND<1.00	ND<1.00	ND<1.00	1.8	SA
	12/26/2009	93.44	4.39	89.05	4.57	336	ND<513	245	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	1.26	ND<1.00	ND<1.00	ND<1.00	0.96	SA
	3/30/2010	93.44	4.09	89.35	0.3	216	235	477	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	2.58	ND<1.00	ND<1.00	ND<1.00	---	SA
	6/30/2010	93.44	6.31	87.13	-2.22	291	215	749	1.26	ND<1.00	1.70	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
	9/28/2010	93.44	5.71	87.73	0.6	257	ND<193	338	ND<0.300	ND<1.00	ND<1.00	ND<3.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	ND<1.00	---	SA
MW-4	6/5/2007	94.10	7.16	86.94	---	2,060	3,500	7,370	326	5.97	216	336.2	239	ND<1.00	ND<1.00	55	34.4	6.92	66.2	55.6	14	SA
	3/30/2008	94.10	4.29	89.81	2.87	2,050	ND<489	15,900	985	8.93	397	343.0	386	ND<1.00	ND<1.00	43.4	92.2	11.3	261	150	2.5	SA
	9/28/2008	94.10	7.69	86.41	-3.4	2,070	665	14,000	979	9.74	743	167.8	332	ND<1.00	ND<1.00	88.3	125	ND<1.00	460	766	0.34	SA
	3/26/2009	94.10	4.54	89.56	3.15	1,700	893	8,010	480	4.49	356	91.4	125	ND<1.00	ND<1.00	23.7	87.6	1.80	185	119	0.82	SA
	6/30/2009	94.10	7.65	86.45	-3.11	1,460	310	---	682	7.28	769	248.2	594	ND<1.00	ND<1.00	76.7	133	2.62	438	347	1.4	SA
	9/29/2009	94.10	12.75	81.35	-5.1	2,760	805	13,300	925	7.07	889	30.00	30.4	ND<1.00	ND<1.00	34.3	115	7.16	395	540	1.5	SA
	12/26/2009	94.10	4.36	89.74	8.39	2,730	1,020	21,100	397	4.84	435	361.2	451	ND<1.00	ND<1.00	25.5	114	1.43	245	509	ND<0.10	SA
	3/30/2010	94.10	4.55	89.55	-0.19	1,094	532	12,200	594	5.31	634	330.9	530	ND<1.00	ND<1.00	60.4	128	ND<1.00	515	274	1.8	SA
	6/30/2010	94.10	6.49	87.61	-1.94	2,350	585	11,600	705	5.27	419	396.2	115	ND<1.00	ND<1.00	35.6	117	2.17	368	136	---	SA
	9/28/2010	94.10	7.12	86.98	-0.63	1,410	244	18,100	470	7.34	776	432.2	65.0	ND<1.00	ND<1.00	665	153	2.80	554	756	2.4	SA
Risk-Based Concentrations [5]																						
- Volatilization to Outdoor Air (Occupational)						>S	NE	>S	14,000	>S	41,000	>S	>S	960	9,500	6,800	>S	1,000,000	NE	16,000	NV	
- Vapor Intrusion Into Buildings (Occupational)						>S	NE	>S	2,800	>S	7,400	>S	>S	690	3,800	41,000	>S	590,000	NE	10,000	NV	
- Groundwater in an Excavation (Construction and Excavation Worker)						>S	NE	13,000	1,700	210,000	4,400	23,000	1,700	28	630	1,400	>S	62,000	NE	500	>S	

ABBREVIATIONS:
B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Methyl tertiary-butyl ether
ND: Not detected at or above the indicated laboratory reporting limit
NE: Not established by DEQ
>S: The groundwater RBC exceeds the solubility limit.
NV: This chemical is considered "nonvolatile" for purposes of the exposure calculations

2 5.71 - 16.38
1.13 ft/A

W-SW

Results are in micrograms per liter (µg/L)
(1) Northwest Method NWTPH-Dx
(2) Northwest Method NWTPH-Gx
(3) EPA Method 8021B or 8260B
(4) EPA Method 6011
(5) Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs)
SA Specialty Analytical
BOLD Exceeds the RBC

TABLE 2
Groundwater Analytical Results (PAHs)
Former Molalla Kwik Gas
305 West Main Street
Molalla, Oregon
ECN Project No. 05-106



Polynuclear Aromatic Hydrocarbons (µg/L) [1]		Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoroanthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	LAB
Sample Identification	Sample Date																	
MW-1	6/5/2007	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	ND<0.0503	2.81	ND<0.0503	ND<0.0503	SA
MW-2	6/5/2007	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	ND<0.0498	SA
,MW-3	6/5/2007	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	ND<0.0495	0.0792	ND<0.0495	0.287	ND<0.0495	ND<0.0495	SA
	3/26/2009	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	ND<0.0479	0.211	ND<0.0479	ND<0.0479	SA
	6/30/2009	0.0572	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	0.124	ND<0.0477	0.734	ND<0.0477	ND<0.0477	SA
	6/30/2010	0.0576	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	ND<0.0480	0.182	ND<0.0480	0.480	ND<0.0480	ND<0.0480	SA
MW-4	6/5/2007	0.115	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	ND<0.0525	0.136	ND<0.0525	83.4	0.0630	ND<0.0525	SA
	3/30/2008	0.231	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	ND<0.0482	0.0868	0.482	ND<0.0482	115	0.415	0.0868	SA
	9/28/2008	0.203	0.0676	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	ND< 0.0483	0.126	0.261	ND< 0.0483	94.7	0.300	0.126	SA
	3/26/2009	0.138	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	ND<0.0429	0.138	ND<0.0429	ND<0.0429	56.9	0.0984	0.0591	SA
	6/30/2009	0.191	0.0765	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	ND<0.0478	0.229	ND<0.0478	179	0.143	0.0478	SA
	9/29/2009	0.172	0.0858	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	ND<0.0477	0.210	ND<0.0477	145	0.0953	ND<0.0477	SA
	12/26/2009	0.282	0.126	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	ND<0.0523	0.366	ND<0.0523	200	0.209	ND<0.0523	SA
	3/30/2010	0.209	0.112	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	ND<0.0500	0.316	ND<0.0500	150	0.179	ND<0.0500	SA
	6/30/2010	0.165	0.0778	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	ND<0.0486	0.223	ND<0.0486	30.9	0.0973	ND<0.0486	SA
	9/28/2010	0.265	0.128	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	ND<0.0491	0.402	ND<0.0491	244	0.275	ND<0.0491	SA
Risk-Based Concentrations [2]																		
- Occ. Volatilization to Outdoor Air		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	16,000	NE	NV	
- Occ. Vapor Intrusion Into buildings		>S	NE	>S	NV	NV	NV	NE	NV	NV	NV	NV	>S	NV	10,000	NE	NV	
- Groundwater in an Excavation		>S	NE	>S	9.1	0.53	>S	NE	>S	>S	0.21	>S	>S	>S	500	NE	>S	
Construction and Excavation Worker																		

ND not detected at or above the indicated laboratory reporting limit
SA Specialty Analytical
µg/L Micrograms per Liter

[1]
[2]

NE
NV
>S

DEQ Method 8270SIM
Oregon Department of Environmental Quality (DEQ) Generic Risk Based Concentrations (RBCs) (DEQ, 2009).
A Risk-Based Concentration has not been determined for this constituent
This chemical is considered "nonvolatile" for purposes of the exposure calculation
This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present. If solubility is not listed, data was not listed in Appendix D of the DEQ RBDM guidance document (DEQ, 2009).

MW-2	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

MW-4	
D	= 1,410
O	= 244
Gx	= 18,100
B	= 470
T	= 7.34
E	= 776
X	= 432.2
1,2,4 TMB	= 65.0
EDB	= ND
EDC	= ND
1,3,5 TMB	= 665
IPB	= 153
MTBE	= 2.80
NPB	= 554
NAPH	= 756
LEAD	= 2.4
PAHs	SEE TABLE 2

MW-1	
D	= ND
O	= ND
Gx	= ND
B	= ND
T	= ND
E	= ND
X	= ND

MW-3	
D	= 257
O	= ND
Gx	= 338
B	= ND
T	= ND
E	= ND
X	= ND
1,2,4 TMB	= ND
EDB	= ND
EDC	= ND
1,3,5 TMB	= ND
IPB	= 1.01
MTBE	= ND
NPB	= ND
NAPH	= ND

LEGEND

UST

Former UST

Former UST Product Piping Trench

Monitoring Well

Dx

D

O

Gx

B

T

E

X

TMB

EDB

EDC

IPB

MTBE

NPB

NAPH

LEAD

PAHs

Underground Storage Tank

Former Underground Storage Tank

Former Underground Product Piping Trench

Monitoring Well

Diesel-Range Hydrocarbons

Diesel

Lube Oil

Gasoline-Range Hydrocarbons

Benzene

Toulene

Ethylbenzene

Total Xylenes

Trimethylbenzene

Ethylene Dibromide

Ethylene Dichloride

Isopropylbenzene

Methyl-Tertiary Butyl Ether

N-Propylbenzene

Naphthalene

Dissolved Lead

Polynuclear Aromatic Hydrocarbons

Results are in micrograms per liter (µg/L)

