Former Hardel Mutual Plywood Site
1210 West Bay Drive NW
Olympia, Washington

Post - Construction Quarterly Groundwater Monitoring Report

June 3, 2011

Prepared For: Hardel Mutual Plywood Corporation

Prepared By:

GREYLOCK CONSULTING LLC

GC Project No. 0401.4

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Attachments:

1.0 INTRODUCTION

This report documents the results of the third round of quarterly compliance monitoring for groundwater at the former Hardel Mutual Plywood Site, located at 1210 West Bay Drive NW in Olympia, Washington (Figure 1).

The goal of the quarterly groundwater monitoring is to evaluate the long-term effectiveness of the Interim Action cleanup that was completed in October, 2010. Nine monitoring wells from within and down gradient of excavated areas were sampled, and groundwater flow direction and gradient were assessed.

1.1 Site Description

The Former Hardel Mutual Plywood Site (Site) is located at 1210 West Bay Drive NW in Olympia, Washington (Thurston County tax parcel numbers 72600200100 & 91013100000). The property is 17.8 acres in size, consisting of approximately 6.7 acres of uplands and 11.1 acres of tide lands. The upland portion of the property consists primarily of crushed concrete surfacing and asphalt pavement. The property is generally level. It is bordered to the north by Budd Inlet and the former Delson Lumber Site, to the south by the former Reliable Steel Site, to the west by West Bay Drive NW and residential/commercial properties, and to the east by Budd Inlet. The Site is presently vacant.

1.2 Project Background

An Interim Action cleanup which included the excavation of diesel/heavy oil-impacted soils at the Site, was conducted between June and October of 2010 (Greylock, 2010). Greylock staff observed the direct excavation by Wyser Construction of diesel/heavy oil-impacted soils from a total of three areas on the Site in July-September 2010.

Approximately 23,331 tons of diesel/heavy oil-impacted soil and debris was excavated and transported off-site by Envirocon Trucking and Rock-On Trucking to Weyerhauser's permitted landfill in Cowlitz County, Washington.

Treated water from the work area was discharged to the sanitary sewer system between July 9th and September 21st, 2010 in accordance with the LOTT "Discharge Authorization Letter".

The Interim Action report concluded that the removal of free product, the removal of contaminated groundwater, and the removal of diesel/heavy oil-impacted soil in the three

excavated areas was successful in achieving compliance with the Model Toxics Control Act (MTCA) target soil cleanup levels.

Six of the groundwater monitoring wells previously installed at the site by Greylock were decommissioned by ESN Northwest during the Interim Action to accommodate soil excavation activities. The decommissioned wells included MW-1, MW-4, MW-5, MW-7, MW-8, and MW-9. The previously installed monitoring wells MW-2, MW-3, and MW-6 remained intact at the Site. Five new compliance monitoring wells were installed at the site in November, 2010 for post-construction groundwater monitoring (MW-10, through MW-15). Approximate monitoring well locations are shown on Figure 2.

1.3 Purpose

The purpose of this assessment was to acquire groundwater samples from the nine wells for laboratory analyses using low flow purging techniques, to determine groundwater flow direction and gradient, and to determine if groundwater analytical results were in compliance with site cleanup standards. Groundwater samples were submitted to the ESN Northwest's laboratory for the following analyses:

- Total Petroleum Hydrocarbons as Diesel and Motor Oil using Method NWTPH-Dx and
- Polyaromatic Hydrocarbons (PAHs) using EPA Method 8270.

2.0 FIELD ACTIVITIES

2.1 Water Level Measurements

Water levels were measured using a well probe at all nine well locations on May 16, 2011. Water level measurements are provided in Table 1. Shallow groundwater at the site occurred at depths ranging from 0.65 to 3.16 ft below the top of casing (TOC) of monitoring wells.

All monuments were filled with surface water upon removing the monument's lids. Surface water was removed from the monument until the water level was below the top of the well casing prior to removing the well cap.

Figure 3 shows the groundwater flow direction across the site on May 16, 2011. In general, groundwater flow is from west to east/northeast across the site.

At the northern part of the site, groundwater flow is to the east-northeast with a gradient of approximately 0.18 ft per ft near MW-13. At the southern part of the site, groundwater flow is

to the east with a gradient of approximately 0.003 ft per ft near MW-2. The groundwater gradient is steepest along the western boundary of the site, and flattens out across the center of the site.

2.2 Groundwater Sampling

Groundwater samples were collected from nine onsite monitoring wells using a peristaltic pump. The wells were purged under low flow conditions until field parameters such as dissolved oxygen, turbidity, temperature, conductivity, and pH reached relatively constant values. Field parameters were measured with a YSI 6820 V2 Multi-meter fitted with a flow through cell. Once field parameters stabilized, the flow through cell was disconnected and the sample containers were filled directly from the tubing. New tubing was used for each groundwater sample.

All samples were collected in accordance with Greylock's standard operating and decontamination procedures. Samples were collected with gloved hands. New nitrile gloves were worn at each sample location. Samples were placed in preconditioned sterilized-containers provided by ESN Northwest, an Ecology accredited analytical laboratory. Samples were stored on ice in a sealed cooler and transported directly to ESN Northwest in Olympia, Washington in this condition.

No sediment was observed in any of the groundwater samples collected.

3.0 ANALYTICAL LABORATORY RESULTS

Groundwater samples were submitted to ESN Northwest for laboratory testing as outlined below.

1. Total Petroleum Hydrocarbons by Ecology Method NWTPHD-Dx, and
2. Polyaromatic Hydrocarbons by EPA Method 8270.

Analytical test reports are included in Appendix A. Table 2 compares the results against published Model Toxics Control Act (MTCA) Method A or Method B Cleanup Levels (CLARC, 2011). MTCA Method A cleanup levels were used for screening when available. MTCA Method B Cleanup Levels were used for screening when no Method A Levels were available.

3.1 NWTPH-Dx Results

The NWTPH-Dx Method provides analytical results for diesel and heavy oil range total petroleum hydrocarbons. All nine of the collected groundwater samples analyzed by this method revealed no detectable concentrations above the laboratory's lower reporting limits.

3.2 PAH Results

The EPA 8270 Method provides analytical results for polyaromatic hydrocarbons (PAHs). Groundwater samples from the wells indicated that five wells had no detectable concentrations above the laboratory's reporting limit of 0.1 ug/L. Napthalene was detected at MW-2 at 21 ug/L, MW-10 at 6.1 ug/L, MW-11 at 120 ug/L, and MW-15 at1.1 ug/L. This reported PAH concentration was below the published WDOE target Method B cleanup standard of 160 ug/L. At MW-10, 1-Methylnaphthalene was detected at 1.3 ug/L. Acenaphthylene and Phenanthrene were also detected at MW-10 at 2.2 ug/L and 5.7 ug/L.

No carcinogenic PAHs by test method 8270 were detected above the laboratory's lower reporting limit of 0.1 ppb for all nine of the analyzed groundwater samples.

4.0 CONCLUSIONS

Based on the results of laboratory testing, groundwater at the nine monitoring well locations sampled during the third quarterly "compliance monitoring" event is compliant with Ecology's target Method A or Method B groundwater cleanup levels for diesel/heavy oil-range total-petroleum hydrocarbons and polynuclear aromatic hydrocarbons (PAHs). No carcinogenic PAHs were detected in the nine lab tested groundwater samples collected in the course of this sampling event.

The low concentrations of non-carcinogenic PAHs detected in groundwater sampled from wells MW-2, MW-10, MW-11, and MW-15 may be attributable to the presence of remaining buried treated timber piling supports which were historically installed to provide building foundation and floor support for the former on-site plywood/lumber mill structures.

5.0 LIMITATIONS

We have prepared this report for the exclusive use of Hardel Mutual Plywood Corp. and their authorized agents and regulatory agencies as part of their evaluation of the environmental conditions of the site. This report is not intended for use by others, and the information contained herein is not applicable to other sites. No one except Hardel Mutual Plywood Corp. and their authorized agents should rely on this report without first conferring with Greylock.

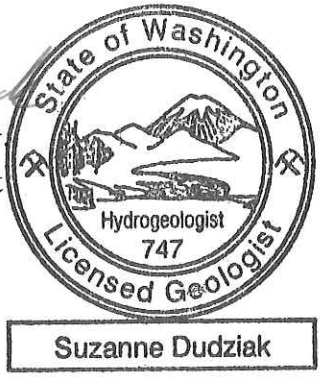
Greylock personnel performed this study in accordance with generally accepted standards of care that existed in the state of Washington at the time of this study. We make no other warranty, either expressed or implied.

This report is based on conditions that existed at the time the study was completed. The findings of this report may be affected by the passage of time or events such as a change in property use or occupancy, or by natural events, such as floods, earthquakes, or groundwater fluctuations.

If you have any questions regarding this report, please call us at (253) 661-3520.

Sincerely,
GREYLOCK CONSULTING LLC

Suzanne Dudziak, L.H.G.
Principal Hydrogeologist



6.0 REFERENCES

CLARC, 2011. *Cleanup Levels and Risk Calculations (CLARC) Washington State Department of Ecology.*

Greylock, 2010. Interim Action Closure Report, *Former Hardel Mutual Plywood Site, 1210 NW West Bay Drive, Olympia, Washington.* December 2010.

FIGURES

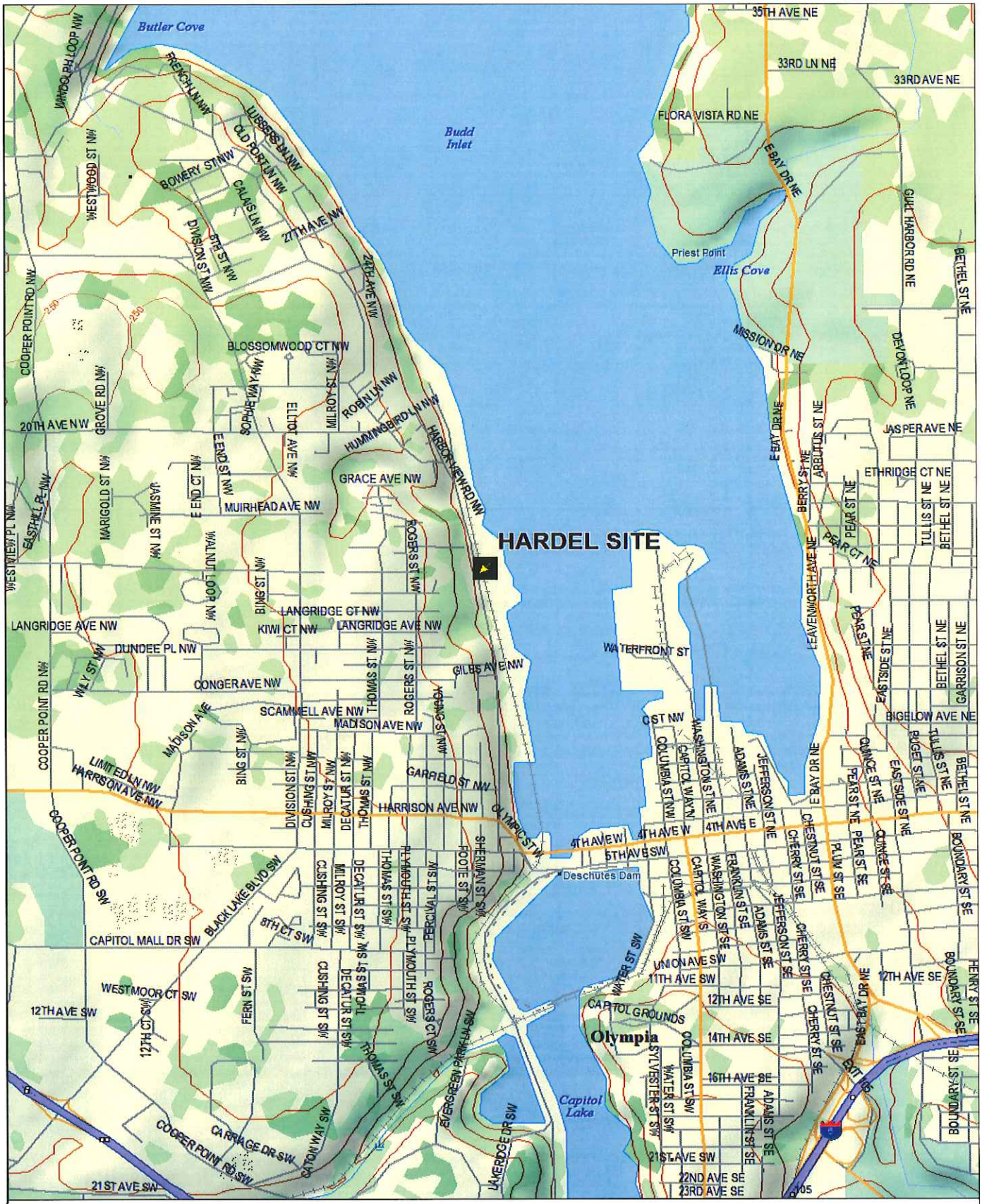
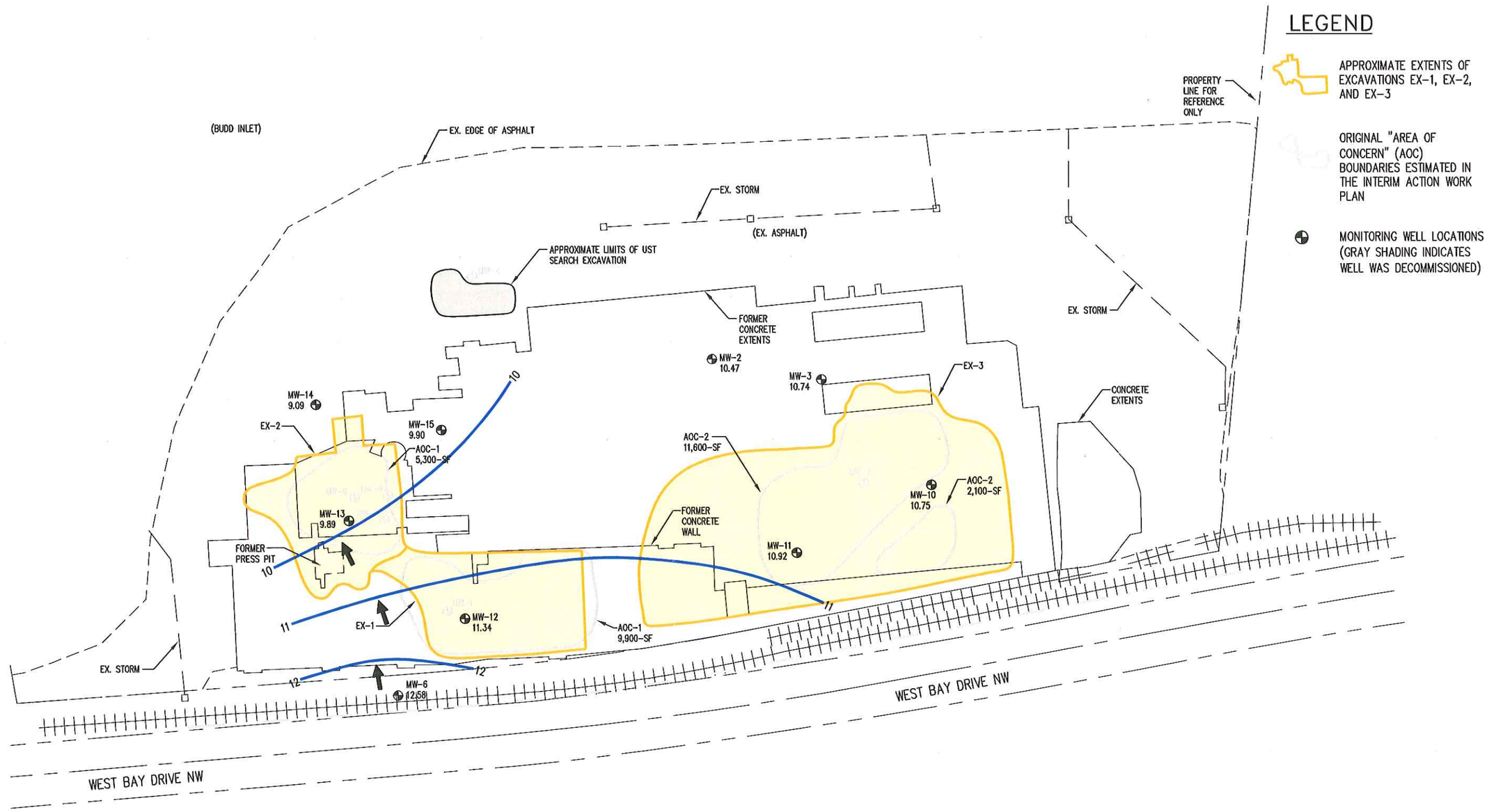


Figure 1 HARDEL SITE
1210 West Bay Drive NW, Olympia, WA 98502



Modified from KPFF Demolition and Site Plan, March 2010

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Water Resources & Environmental Services

N E S W

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APPROXIMATE SCALE IN FEET

FIGURE 2 : INFERRED & GENERALIZED GROUNDWATER CONTOUR MAY 16, 2011

Project : Hardel Mutual Plywood Site
Location : Olympia, Washington
Client : Hardel Mutual Plywood Corp.
Project No : 0401.2

TABLES

Table 1. Groundwater Elevations
Hardel Mutual Plywood Site: 1210 West Bay Drive NW, Olympia, WA

16-May-2011		Low Tide -2.69 ft MLLW @ 1135 AM		
Station	Time	MW Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
MW-2	1059	11.68	1.21	10.47
MW-3	1050	11.40	0.66	10.74
MW-6	1132	15.74	3.16	12.58
MW-10	1125	11.14	0.39	10.75
MW-11	1119	11.32	0.40	10.92
MW-12	1115	12.25	0.91	11.34
MW-13	1111	10.95	1.06	9.89
MW-14	1108	10.53	1.44	9.09
MW-15	1104	11.51	1.61	9.90

Table 2: Groundwater Analytical Results

May 16, 2011 Sampling Event
Former Hardel Mutual Plywood Site, 1210 West Bay Drive NW, Olympia, WA
Test Methods: NWTPH-DX/DX Extended & EPA 8270
All results and limits in parts-per-billion (ppb) or ug/L

Test Method NWTPH-DX Extended / EPA 8270	MTCA Method A or Method B Criteria[1] (ug/L)	Sample ID: / Date Sampled:	MW-2 05/16/11	MW-3 05/16/11	MW-6 05/16/11	MW-10 05/16/11	MW-11 05/16/11	MW-12 05/16/11	MW-13 05/16/11	MW-14 05/16/11	MW-15 05/16/11
Diesel	500	Results (ug/L):	<250	<250	<250	<250	<250	<250	<250	<250	<250
Heavy Oil	500	Results (ug/L):	<500	<500	<500	<500	<500	<500	<500	<500	<500
Acenapthene	960	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	NP[2]	Results (ug/L):	<0.1	<0.1	<0.1	2.2	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	4,800	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	0.1	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	640	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	640	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	NP	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Napthalene	160	Results (ug/L):	21	<0.1	<0.1	6.1	120	<0.1	<0.1	<0.1	1.1
1-Methylnaphthalene	NP	Results (ug/L):	<0.1	<0.1	<0.1	1.3	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	32	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	NP	Results (ug/L):	<0.1	<0.1	<0.1	5.7	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	480	Results (ug/L):	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:
1- Method A soil cleanup level for unrestricted land use as published in the Model Toxics Control Act (MTCA), Chapter 173-340 WAC. MTCA Method B cleanup levels were used for screening when no Method A were available.
2- NP- Not Published: No Method A or Method B standard formula value published in CLARC database for the listed analyte.

APPENDIX A

Analytical Report

ESN NORTHWEST CHEMISTRY LABORATORY

Greylock Consulting
HARDEL MUTUAL PLYWOOD CORP PROJECT
Client Project #0401-3
Olympia, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Water by Method NWTPH-Dx

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	5/20/2011	5/23/2011	110%	nd	nd
MW-2	5/20/2011	5/23/2011	139%	nd	nd
MW-3	5/20/2011	5/23/2011	136%	nd	nd
MW-6	5/20/2011	5/23/2011	108%	nd	nd
MW-10	5/20/2011	5/23/2011	75%	nd	nd
MW-11	5/20/2011	5/23/2011	122%	nd	nd
MW-12	5/20/2011	5/23/2011	67%	nd	nd
MW-13	5/20/2011	5/23/2011	125%	nd	nd
MW-14	5/20/2011	5/23/2011	88%	nd	nd
MW-15	5/20/2011	5/23/2011	102%	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

Greylock Consulting
HARDEL MUTUAL PLYWOOD CORP PROJECT
Client Project #0401-3
Olympia, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Polynuclear Aromatic Hydrocarbons in Water by Method 8270

Analytical Results

	Reporting	MTH BLK	LCS	MW-2	MW-3	MW-6	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15
Date extracted	Limits	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11	05/20/11
Date analyzed	(ug/L)	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
Acenaphthene	0.1	nd	128%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Acenaphthylene	0.1	nd	96%	nd	nd	nd	2.2	nd	nd	nd	nd	nd
Anthracene	0.1	nd	125%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)anthracene*	0.1	nd	100%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(a)pyrene*	0.1	nd	115%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(b)fluoranthene*	0.1	nd	126%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(ghi)perylene	0.1	nd	127%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Benzo(k)fluoranthene*	0.1	nd	124%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Chrysene*	0.1	nd	99%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Dibenzo(a,h)anthracene*	0.1	nd	115%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluorene	0.1	nd	146%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	0.1	nd	106%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)pyrene*	0.1	nd	119%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Naphthalene	0.1	nd	123%	21	nd	nd	6.1	120	nd	nd	nd	1.1
1-Methylnaphthalene	0.1	nd	ns	nd	nd	nd	1.3	nd	nd	nd	nd	nd
2-Methylnaphthalene	0.1	nd	ns	nd	nd	nd	nd	nd	nd	nd	nd	nd
Phenanthrene	0.1	nd	103%	nd	nd	nd	5.7	nd	nd	nd	nd	nd
Pyrene	0.1	nd	98%	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total Carcinogens				nd	nd	nd	nd	nd	nd	nd	nd	nd
Surrogate recoveries:												
2-Fluorobiphenyl		134%	73%	113%	52%	51%	51%	52%	53%	78%	56%	53%
p-Terphenyl-d14		88%	72%	112%	109%	87%	120%	139%	54%	100%	143%	82%

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
M - matrix interference
J - estimated value
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%
ns-not in the spiking solution

ESN NORTHWEST, INC. Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: Greylock Consulting

ADDRESS: 720 333rd St Suite 210, Federal Way WA

PHONE: 253-661-3520 FAX:

CLIENT PROJECT #: 0401-3 PROJECT MANAGER: Suzanne Dudziak

DATE: 5-16-11 PAGE 1 OF 1

PROJECT NAME: Hardel Mutual Plywood Corp

LOCATION: 1210 W. Bay Drive Olympia WA

COLLECTOR: Mark Willoughby DATE OF COLLECTION

Sample Number	Depth	Time	Sample Type	Container Type	TPH-HCID	TPH - DIESEL & OIL	TPH - GASOLINE	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos-PLM	GRO Suite	DRO Suite	WO Suite	NOTES	Total Number of Containers	Laboratory Note Number
1. MW-3		1214	water	500ml amber	X						X													
2. MW-2		1253			X						X													
3. MW-15		1333			X						X													
4. MW-14		1406			X						X													
5. MW-13		1446			X						X													
6. MW-12		1530			X						X													
7. MW-11		1610			X						X													
8. MW-10		1650			X						X													
9. MW-6		1733	↓	↓	X						X													
10.																								
11.																								
12.																								
13.																								
14.																								
15.																								
16.																								
17.																								
18.																								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
Mark Willoughby	5-16-11/1604	Julie Woods	
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
			5/16/11

SAMPLE DISPOSAL INSTRUCTIONS

☐ ESN DISPOSAL @ $2.00 each ☐ Return ☐ Pickup

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

APPENDIX B

Well Monitoring Data Sheets

Hardel Water Levels 5-16-11

Wells	Time	DTW	
MW-3	1050	0.65	Water in Monument
MW-2	1059	1.21	"
MW-15	1104	1.61	"
MW-14	1108	1.44	"
MW-13	1111	1.06	"
MW-12	1115	0.91	"
MW-11	1119	0.40	"
MW-10	1125	0.60	"
MW-6	1132	3.16	"

Greylock Consulting LLC
720 S. 333rd St. Ste 210, Federal Way, WA 98003
(253) 661-3520

Project:	Hardel, Mutual Plywood Site	Well ID:	MW-2
Client:	Hardel Plywood Corp	Well Diameter:	2"
Date:	5-16-11	Well Depth:	
Sampler:	Mark Willoughby	Pump Depth:	6'
Depth to Product:	NA	Thickness of Product:	NA
Flow Rate:	4L/min	Measuring Point:	TOP of ~~the~~ PVC
Type of Pump:	Peristaltic Pump		
Depth to Water	Pre: 0.79	Post:	

Time	Temp (C or F) ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1232	11.83	8.90	239	3.58	25.4	-	Purge Clear
1236	11.65	8.36	235	1.04	24.0	-	
1240	11.60	8.11	239	0.63	22.5	-	
1244	11.46	7.82	243	0.49	20.5	-	
1248	11.51	7.88	241	0.43	19.1	-	

Did well dewater?	Yes / No	Amt. actually evacuated:	2½ Gallons
Sampling Time:	1253	Sampling Date:	5-16-11
Sample ID:	MW-2	Laboratory:	ESN
Analyzed For:	TPH-DX & BTEX		
Equip. Blank ID:			

Greylock Consulting LLC
720 S. 333rd St. Ste 210, Federal Way, WA 98003
(253) 661-3520

Project:	Harded Mutual Plywood	Well ID:	MW-3
Client:	Harded Mutual Plywood Corp	Well Diameter:	2"
Date:	5-16-11	Well Depth:	
Sampler:	Mark Willoughby	Pump Depth:	6'
Depth to Product:	NA	Thickness of Product:	NA
Flow Rate:	4L/min	Measuring Point:	Top of well casing
Type of Pump:	Peristaltic Pump		
Depth to Water	Pre: 0.7	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1153	12.08	11.33	471	9.59	6.7	-	Purge clear
1157	11.57	11.52	445	7.34	6.6	-	
1201	11.31	11.29	450	6.62	7.5	-	
1205	11.28	11.28	452	6.60	7.3	-	
1209	11.25	11.26	449	6.58	7.7	-	

Did well dewater?	Yes No	Amt. actually evacuated:	3 Gallons
Sampling Time:	1214	Sampling Date:	5-16-11
Sample ID:	MW-3	Laboratory:	ESN
Analyzed For:	TPH-DX & PAHS		
Equip. Blank ID:			

Greylock Consulting LLC
720 S. 333rd St. Ste 210, Federal Way, WA 98003
(253) 661-3520

Project:	Hardel Mutual Plywood Site	Well ID:	MW-6
Client:	Hardel Mutual Plywood Corp	Well Diameter:	
Date:	5-16-11	Well Depth:	
Sampler:	Mark Willoughby	Pump Depth:	
Depth to Product:	NA	Thickness of Product:	NA
Flow Rate:	4L/min	Measuring Point:	TOP OF PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 3.10	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1710	11.19	7.15	167.4	4.58	590.3	-	Purge murky
1714	11.15	6.74	166.7	6.75	555.4	-	
1718	11.06	6.68	175	11.23	558.7	-	
1722	11.05	6.67	181	12.74	477.9	-	
1726	11.02	6.66	185	13.44	417.5		
1730	11.00	6.66	184	13.96	2669		Turbidity not stabilizing took sample

Did well dewater? (Yes) No		Amt. actually evacuated:	2 Gallons
Sampling Time:	1733	Sampling Date:	5-16-11
Sample ID:	MW-6	Laboratory:	ESN
Analyzed For:	TPH-dx & PAHs		
Equip. Blank ID:			

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Project:	Hardel Mutual Plywood Site	Well ID:	MW-10
Client:	Hardel Mutual Plywood Corp	Well Diameter:	1"
Date:	5-16-11	Well Depth:	13'
Sampler:	Mark Willoughby	Pump Depth:	7'
Depth to Product:	NA	Thickness of Product:	NA
Flow Rate:	4 L/min	Measuring Point:	TOS @ PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 0.45	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1630	11.45	7.03	216	8.17	996	-	Purge Cloudy
1634	11.17	6.72	346	2.62	15.8	-	Purge Clear
1638	10.98	6.74	401	1.22	19.1	-	
1642	10.90	6.75	406	1.12	12.2	-	
1646	10.92	6.74	405	1.08	18.7	-	

Did well dewater?	Yes / No	Amt. actually evacuated:	7 Gallons
Sampling Time:	1650	Sampling Date:	5-16-11
Sample ID:	MW-10	Laboratory:	ESN
Analyzed For:	TPH-Dx & PAHs		
Equip. Blank ID:			

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Project:	Hardel Mutual Plywood Site	Well ID:	MW-11
Client:	Hardel Mutual Plywood Corp	Well Diameter:	1"
Date:	5-16-11	Well Depth:	13'
Sampler:	Mark W. Houghby	Pump Depth:	7'
Depth to Product:	NA	Thickness of Product:	NP
Flow Rate:	4L/min	Measuring Point:	Top of PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 0.33	Post:	

Time	Temp (C or F) ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1552	11.84	6.32	292	6.21	6.8	-	Purge Clear
1556	11.56	6.33	290	1.27	2.4	=	
1600	11.33	6.37	2.86	0.64	2.1	=	
1604	11.71	6.42	298	0.52	1.6	=	
1608	11.33	6.46	290	0.50	1.3	=	

Did well dewater?	(Yes) No	Amt. actually evacuated:	7 Gallons
Sampling Time:	1610	Sampling Date:	5-16-11
Sample ID:	MW-11	Laboratory:	ESN
Analyzed For:	TPH-Dx & PAHs		
Equip. Blank ID:			

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Project:	Hardel Mutual Plywood Site	Well ID:	MW-12
Client:	Hardel Mutual Plywood Corp	Well Diameter:	2"
Date:	5-16-11	Well Depth:	13'
Sampler:	Mark Willoughby	Pump Depth:	7'
Depth to Product:	ND	Thickness of Product:	ND
Flow Rate:	4L/min	Measuring Point:	Top of PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 1.02	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1504	11.60	7.03	754	9.53	530	-	Water Murky. Tubing hit the bottom of well Casing Purge to be Murky.
1508	11.56	6.73	352	3.22	161	-	
1512	11.22	6.62	356	1.40	70.4	-	
1516	11.26	6.57	354	0.82	47.5	-	
1520	11.31	6.55	356	0.67	30.9	-	
1524	11.20	6.56	360	0.60	33	-	
1528	11.29	6.55	357	0.58	29	-	

Did well dewater?	Yes / No	Amt. actually evacuated:	4 Gallons
Sampling Time:	~~5-16-11 1530~~ MW	Sampling Date:	5-16-11
Sample ID:	MW-12	Laboratory:	CSN
Analyzed For:	TPH-DX & PAHs		
Equip. Blank ID:			

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Project:	Hardel Mutual Plywood Site	Well ID:	MW-13
Client:	Hardel Mutual Plywood Corp	Well Diameter:	1"
Date:	5-16-11	Well Depth:	13'
Sampler:	Mark Willoughby	Pump Depth:	7'
Depth to Product:	ND	Thickness of Product:	ND
Flow Rate:	4L/min	Measuring Point:	TOP OF PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 11	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1419	11.97	7.78	101.9	10.07	35.1	-	Purge Cloudy
1423	11.79	7.03	278	3.26	15.7	-	Purge Clearing Slit
1427	11.69	6.87	375	1.61	8.2	-	Purge Clear
1431	11.67	6.83	423	1.14	3.7	-	
1435	11.62	6.83	614	0.87	2.0	-	
1439	11.65	6.82	618	0.73	1.5	-	
1443	11.61	6.82	620	0.70	1.2	-	

Did well dewater?	[Yes] No	Amt. actually evacuated:	3½ Gallons
Sampling Time:	1446	Sampling Date:	5-16-11
Sample ID:	MW-13	Laboratory:	ESN
Analyzed For:	TPH-Dx & PAHs		
Equip. Blank ID:			

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Project:	Harbel Mutual Plywood site	Well ID:	MW-14
Client:	Harbel Mutual Plywood Corp	Well Diameter:	1"
Date:	5-16-11	Well Depth:	13'
Sampler:	Mark Williams	Pump Depth:	7'
Depth to Product:	N/A	Thickness of Product:	N/A
Flow Rate:	4L/min	Measuring Point:	Top of PVC
Type of Pump:	Peristaltic		
Depth to Water	Pre: 1.50	Post:	

Time	Temp (C) or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1346	11.70	6.96	633	4.06	7.9	=	Purge Clear
1350	11.45	6.91	693	1.01	2.3	=	
1354	11.30	6.89	743	0.71	0.9	=	
1358	11.23	6.86	750	0.63	1.1	=	
1402	11.09	6.86	747	0.57	0.9	=	

Did well dewater?	Yes / No	Amt. actually evacuated:	2 Gallons
Sampling Time:	1406	Sampling Date:	5-16-11
Sample ID:	MW-14	Laboratory:	ESN
Analyzed For:	TPH-Dx & PAHs		
Equip. Blank ID:			

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Project:	Hardel Mutual Plywood	Well ID:	MW-15
Client:	Hardel Mutual Plywood Corp	Well Diameter:	1"
Date:	5-16-11	Well Depth:	
Sampler:	Mark Willoughby	Pump Depth:	7'
Depth to Product:	NA	Thickness of Product:	NA
Flow Rate:	4 mL/min	Measuring Point:	Top of PVC
Type of Pump:	Peristaltic Pump		
Depth to Water	Pre: 1.62	Post:	

Time	Temp C or F ± 0.2°C	pH ± 0.1	Cond. uS ± 3%	DO mg/L ± 10%	Turbidity NTUs ± 10%	Redox millivolts ± 10	Observations
1312	11.24	6.77	490	6.10	56.9	-	Purge Cloudy
1316	10.81	6.61	474	0.99	19.4	-	Purge Clearing Up
1320	10.64	6.63	473	0.76	12.7	-	Purge Clear
1324	10.53	6.63	471	0.70	8.8	-	
1328	10.54	6.63	471	0.67	9.7	-	

Did well dewater?	Yes / No	Amt. actually evacuated:	2 1/2 Gallons
Sampling Time:	1333	Sampling Date:	5-16-11
Sample ID:	MW-15	Laboratory:	ESN
Analyzed For:	TPH-Dx & PAHs		
Equip. Blank ID:			