

February 1, 2005

Mr. John Van Dijk The Bank of the Pacific 300 E. Market Street Aberdeen, WA 98520

Re: Butler Street Property
Groundwater Monitoring Report
Project No. 010120-002-02

#### Dear John:

This report documents the results of four groundwater monitoring events completed between January and December 2004 at the Bank of the Pacific's (the Bank) Butler Street property (the Site). The Site has been enrolled in the Washington State Department of Ecology's (Ecology) Voluntary Cleanup Program (VCP). Soil remediation activities were completed in August and September 2003 and are documented, along with previous groundwater sampling results, in the *Soil Remediation Report* (Aspect Consulting, April 2004).

The Site is located at 20 Butler Street in Cathlamet, Washington. A site location map is included as Figure 1, and a site plan showing the well locations is included as Figure 2. The following sections provide a synopsis of the groundwater elevation data, sampling procedures, and analytical results.

# **Groundwater Gauging Results**

Depth to groundwater in monitoring wells MW-1 through MW-4 was measured on January 28, April 13, August 16, and December 7, 2004 in conjunction with the groundwater sampling events. Groundwater elevation data for MW-1 through MW-4 are presented in Table 1. Groundwater elevation data generally point to a northwest groundwater flow direction, though local topography and drainage patterns suggest groundwater likely flows in a more northerly direction, following the topographic grade towards Birnie Creek (see Figure 2).

## **Groundwater Sampling and Analytical Results**

Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, and MW-4 during the January, April and August sampling events, and from monitoring wells MW-2 and 4 during the December event. Samples were collected using low flow techniques with a peristaltic pump. Field parameter including temperature, conductivity, pH, dissolved oxygen and oxygen reduction potential were collected using an YSI 556 flow through cell. New silicon and polyethylene tubing were used at each well. Field parameters were collected at approximately 5-minute intervals and samples collected after parameters had stabilized. Groundwater samples were refrigerated and delivered under industry-standard chain-of-

custody protocols to Friedman & Bruya Laboratory in Seattle for analysis. Purge water was drummed and stored on-site. Groundwater sampling forms are provided in Appendix A.

All groundwater samples collected in 2004 were analyzed for TPHs as gasoline, diesel and oil by Washington State Methods NWTPH-Gx and NWTPH-Dx, and for BTEX compounds by either EPA Method 8021B or 8260B. For selected samples collected during the January, April and August 2004 sampling events, total lead was analyzed by EPA Method 6020. The sample collected from monitoring well MW-4 in December 2004 was analyzed for total lead by EPA Method 200.8. Samples collected from all wells in the April 2004 event were also analyzed for PNAs by EPA Method 8270 SIM. Additionally, samples collected from monitoring well MW-4 in January and December 2004 were analyzed for historically detected volatile organic compounds (VOCs) by EPA Method 8260B. Laboratory reports for the 2004 sampling events are included in Appendix B.

Recent and historic groundwater sample results, and comparisons to MTCA Method A groundwater cleanup levels and Method B Formula Values, are presented in Tables 2 and 3. No exceedances of MTCA Method A groundwater cleanup levels for TPHs or BTEX compounds were recorded in any of the four Site monitoring wells for four consecutive quarters in 2004. Additionally, PNAs were not detected above the laboratory detection limits of  $0.01\mu g/L$  in any Site wells, and lead was not detected at concentrations above MTCA Method A groundwater cleanup levels in any of the samples analyzed. None of the VOCs previously detected in monitoring well MW-4 (in October 2002) were detected in either the January 2004 or December 2004 samples collected from this well. For both these events, laboratory reporting limits were equal to or lower than applicable MTCA Method A Cleanup Levels or Method B Formula Values for each of the previously detected VOCs.

# Summary

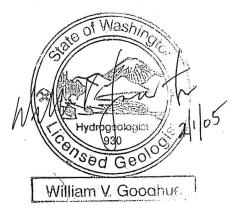
Pre-remediation investigations identified the presence of TPHs and benzene exceeding MTCA Method A cleanup levels in groundwater on the Site, including beneath the Bank's Butler Street Property, beneath Butler Street northwest of the Bank property, and beneath the "Hobson Cottage" property to the north of the Bank property. Soil remediation was completed on the Bank's Butler Street Property in 2003. Data from four consecutive quarters of groundwater sampling completed in 2004 confirm that groundwater at the Site is now in compliance with applicable MTCA groundwater cleanup levels for TPHs and benzene. Additionally, VOCs initially detected in well MW-4 in 2002 were not detected in samples collected from this well during 2004. Other potential contaminants of concern in groundwater, including PNAs, toluene, ethylbenzene, xylene and lead, were never detected in Site groundwater at concentrations above applicable MTCA Method A cleanup levels.

## Closing

Site groundwater is now in compliance with applicable MTCA cleanup levels, and therefore no additional groundwater sampling is recommended. This report will be submitted to Ecology, in conjunction with other related required documentation, as part of a formal request by the Bank for No Further Action status.

Aspect Consulting appreciates the opportunity to assist the Bank with this project. Please feel free to call me at (206) 780-9370 if you have any questions or comments.

### Aspect consulting, LLC



William "Chip" Goodhue Associate Hydrogeologist cgoodhue@aspectconsulting.com

Attachments: Table 1 - Groundwater Elevation Data for 2004

Table 2 - Summary of Groundwater Analytical Data

Table 3 - Summary of Volatile Organic Compounds - Monitoring WellMW-4

Figure 1 - Site Location Map

Figure 2 - Site Plan with Monitoring Well Locations

Appendix A - Groundwater Sampling Forms

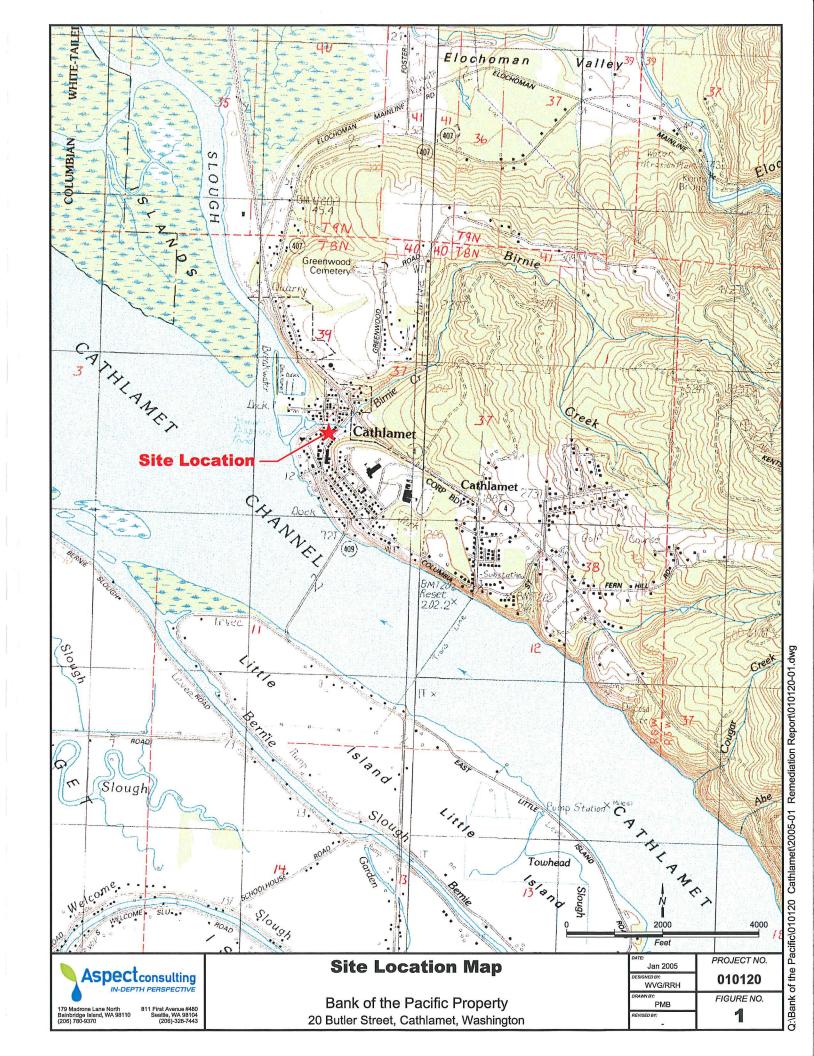
Appendix B – Laboratory Reports

cc: Martha Maggi, Department of Ecology SW Region Ms. Ronna Hobson

W:\Bank of the Pacific - Cathlamet 010120\GW Monitoring\Table 1.xls

TABLE 1
Groundwater Elevation Data for 2004
Bank of the Pacific Butler Street Property

		Top of Casing		Ground Water
Well Number	Date Measured	Elevation	Depth to Water	Elevation
MW-1	1/28/2004	85.70	10.89	74.81
MW-2	1/28/2004	101.27	11.72	89.55
K-WM	1/28/2004	100.00	99.7	92.34
MW-4	1/28/2004	91.16	8.76	82.40
MW-1	4/13/2004	85.70	11.01	74.69
MW-2	4/13/2004	101.27	11.91	98.68
E-WM	4/13/2004	100.00	8.42	91.58
MW-4	4/13/2004	91.16	5.30	85.86
MW-1	8/16/2004	85.70	11.18	74.52
MW-2	8/16/2004	101.27	12.13	89.14
E-WM	8/16/2004	100.00	8.46	91.54
MW-4	8/16/2004	91.16	89.9	84.48
MW-1	12/7/2004	85.70	10.90	74.80
MW-2	12/7/2004	101.27	12.14	89.13
MW-3	12/7/2004	100.00	7.75	92.25
MW-4	12/7/2004	91.16	9.48	81.68



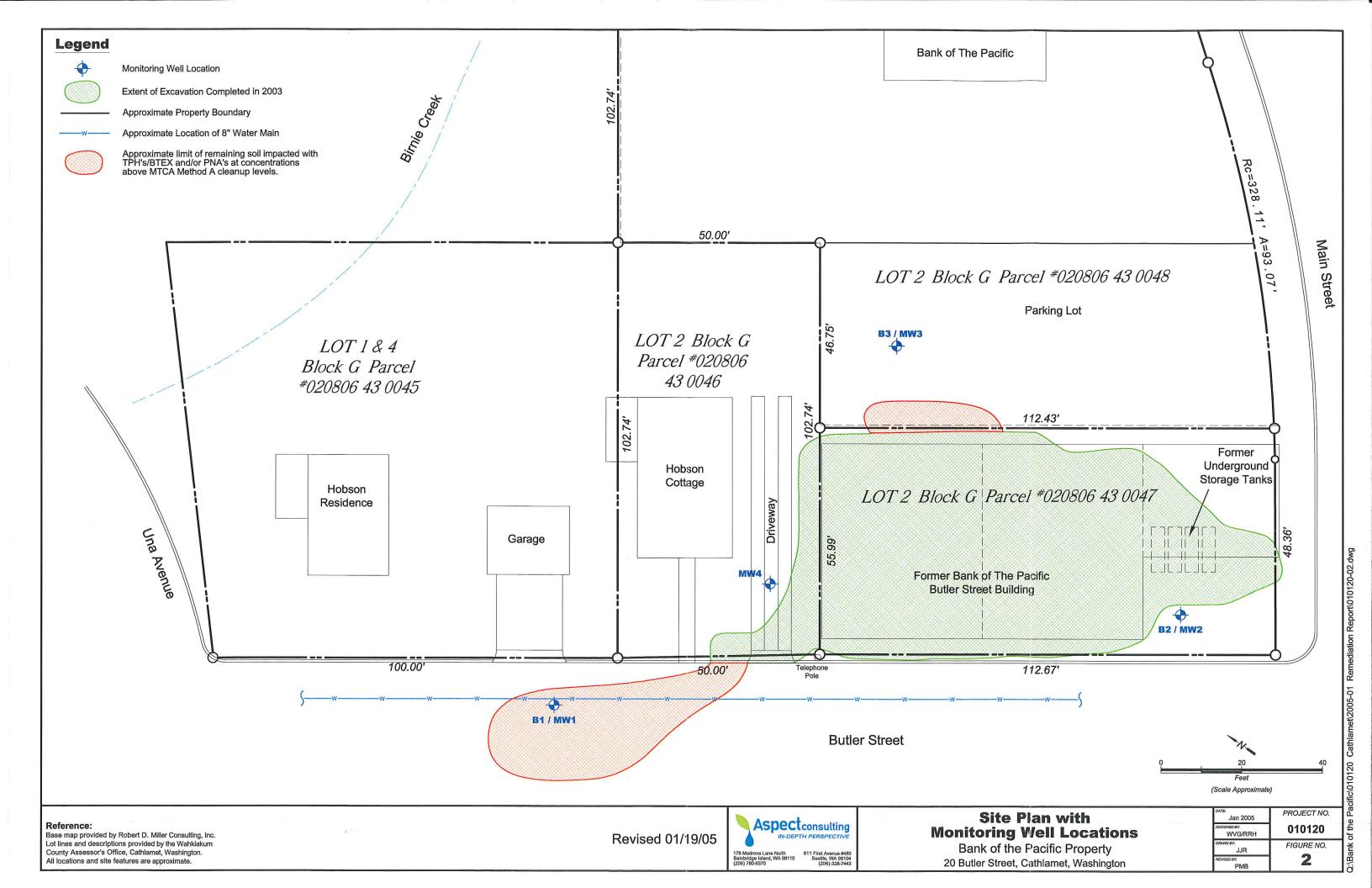


TABLE 2
Summary of Groundwater Analytical Data
Bank of the Pacific Butler Street Property

					Analytical Methods							
		NWTPH-Gx	NWTPH-Dx			EPA Method	EPA 6000/7000 Series Methods	EPA Method 8270 SIM				
Well Designation	Sampling Date	TPHs as Gasoline (ug/L)	TPHs as Diesel (ug/L)	TPHs as Oil (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Total Lead (ug/L)	PAHs <sup>3</sup> and Napthalene (ug/L)		
Standpipe	6/9/1999	3,630	ND/HCID	ND/HCID	na	na	na	na	na	na		
("PNE Well")	1/30/2001	<250	<250	<500	<2	<2	<2	<2	na	na		
	8/17/2000	ND/HCID	ND/HCID	ND/HCID	<2	<2	<2	<2	na	na		
MW-1	1/30/2001	<250	<250	670	<2	<2	<2	<2	na	na		
	10/14/2002	<50	150	<250	<1	<1	<1	<1	na	na		
	1/28/2004	<50	150	<250	<1	<1	<1	<2	<1	<0.14		
	4/13/2004	<50	<50	<250	<1	<1	<1	<3	na	<0.14		
	8/16/2004	<50	68	<250	<1	<1	<1	<3	na	na		
	12/7/2004	na	na	na	na	na	na	na	na	na		
	1/30/2001	<250	<250	650	<2	<2	2	<2	na	na		
	10/14/2002	86	740	<250	<1	<1	<1	3	na	na		
MW-2	1/28/2004	70	250	<250	<1	<1	<1	<2	<1	<0.14		
	4/13/2004	<50	<50	<250	<1	<1	<1	<3	na	<0.14		
	8/16/2004	<50	120	<250	<1	<1	<1	<3	na	na		
	12/7/2004	<50	74	<250	<1	<1	<1	<3	0.3	na		
MW-3	8/17/2000	ND/HCID	1,000	<500	2	<2	<2	<2	na	na		
	1/30/2001	<250	<250	<500	2	<2	<2	<2	na	na		
	10/14/2002	<50	120	<250	<1	<1	<1	<1	na	na		
	1/28/2004	<50	<50	<250	<1	<1	<1	<2	<1	<0.14		
	4/13/2004	<50	92	<250	<1	<1	<1	<3	na	<0.14		
	8/16/2004	<50	150	<250	<1	<1	<1	<3	na	na		
	12/7/2004	na	na	na	na	na	na	na	na	na		
MW-4	10/14/2002	770	1,300	330	150	2	51	18	na	na		
	2/20/2003	1,300	740	<250	560	3	17	3	na	na		
	1/28/2004	<50	190	<250	<1	<1	<1	<2	1,	<0.14		
	4/13/2004	120	67	<250	4	<1	<1	<3	3	<0.14		
	8/16/2004	<50	na <sup>5</sup>	na <sup>5</sup>	<1	<1	<1	<3	86	na		
	12/7/2004	<50	51	<250	<1	<1	<1	<3	2.4	na		
MTCA Method A Cleanup Levels		800 2	500	500	5	1,000	700	1,000	15	0.10		

#### Notes:

na - not analyzed

ND/HCID - Not detected by Method HCID (Hydrocarbon Identification Scan)

Detections are noted in **bold**.

MTCA Method A exceedences are noted in red.

<sup>&</sup>lt;sup>1</sup> BTEX compounds for samples collected from well MW-4 in October 2002, and from all wells sampled in January and December 2004, were analyzed by EPA Method 8260B.

<sup>&</sup>lt;sup>2</sup> Cleanup level for gasoline when benzene is present.

<sup>&</sup>lt;sup>3</sup>PAHs: Acenaphthylene, Acenaphthylene, Fluorene, Phenanthrene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene

<sup>&</sup>lt;sup>4</sup> Not detected for any analyte at concentration indicated.

 $<sup>^{\</sup>rm 5}$  Well purged dry - no diesel or oil analyses due to inadequate sample volume.

<sup>&</sup>lt;sup>6</sup> Poor yield, well purged dry, elevated turbidity in sample.

TABLE 3
Summary of Volatile Organic Compounds - Monitoring Well MW-4
Bank of the Pacific Butler Street Property

	Anal	Analytical Method - EPA Method 8260B - Detected Concentrations in micrograms/li								ms/liter	(ug/l)		
Sampling Date	Acetone	Chloroform	Benzene <sup>1</sup>	Bromodichloromethane	Toluene	Ethylbenzene	Total Xylenes	Isopropylbenzene	n-Propylbenzene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	Napthalene
10/14/2002	16	6	150	2	2	51	18	4	12	2	45	1	15
1/28/2004	<10	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1
12/7/2004	<10	<1	<1	<0.7	<1	<1	<2	<1	<1	<1	<1	<1	<1
MTCA Method A Cleanup Levels	NA	NA	5	NA	1,000	700	1,000	NA	NA	NA	NA	NA	160
MTCA Method B Formula Levels (from CLARC 3.1)	800	7	0.8	0.7	1,600	800	16,000	NA	NA	NA	NA	NA	160

MTCA Method A/Method B formula value exceedences are noted in red.

<sup>&</sup>lt;sup>1</sup> See Table 2 for additional benzene results