WINZLER & KELLY
CONSULTING ENGINEERS

Ref: 90-1222-02.11070

January 9, 2006

Mr. Robert Stone
Humboldt County Department of Health and Human Services
Division of Environmental Health
100 H Street, Suite 100
Eureka, CA 95501

Re: Quarterly Monitoring Data for September 2005
Nilsen Company, 424 Main Street, Ferndale, California
LOP #12070

Dear Mr. Stone:

On behalf of the Nilsen Company, Winzler & Kelly Consulting Engineers (Winzler & Kelly) is submitting the following quarterly monitoring data collected in September 2005 for the above-referenced site. The purpose of this letter report is to document the activities, results, and findings of the quarterly monitoring program. All figures referred to herein are included in Appendix A. All tables and charts are included in Appendix B, laboratory analytical reports are contained in Appendix C, Winzler & Kelly's Standard Operating Procedures (SOP) are contained in Appendix D, and field notes are contained in Appendix E.

Quarterly Monitoring Activities

On September 22, 2005 a Winzler & Kelly technician obtained water levels from monitoring wells MW-1, MW-2, MW-3, MW-5, MW-6, MW-8, MW-9 and MW-10 in order to calculate groundwater gradient. The site monitoring wells were then purged and sampled according to Winzler & Kelly's SOP for "*Monitoring Well Purging and Sampling Activities*" found in Appendix D. During purging, pH, temperature, dissolved oxygen, and specific conductivity readings were also measured. A regional map, site vicinity map, and site map with groundwater gradient and well locations are shown on Figures 1, 2, and 3 respectively (Appendix A).

Hydrographic Data

Depth to water measurements were collected after removing all well caps and allowing the wells to equalize for at least 15 minutes in accordance with Winzler & Kelly's SOP for "*Groundwater Level Measurements and Free Phase Hydrocarbon Measurements*" (Appendix D). Depth to water from the top of the well casing was measured for each well and results are included in Table 3, Appendix B.

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The calculated groundwater gradient using wells MW-1, MW-5, MW-6, MW-8, MW-9, and MW-10 was calculated to be 91.04° Azimuth at a magnitude of 1.06 feet per 100 feet (Table 3, Appendix B). Groundwater gradient calculated from data collected at MW-1, MW-5, MW-6, and MW-10 should be more closely representative of groundwater conditions nearest to the former UST. The calculated groundwater gradient using monitoring wells MW-1, MW-5, MW-6 and MW-10 for the September 2005 sampling event was similar to previously calculated groundwater gradients for this site with the calculated gradient being 86.34° Azimuth with a magnitude of 1.16 feet per 100 feet. Table 4 in Appendix B shows the historical groundwater gradient summary calculated using these wells and Figure 3 in Appendix A shows the groundwater gradient calculated for the September 2005 sampling event, using these monitoring wells.

Depth to water data for the September 2005 sampling event were submitted electronically to the State Water Resources Control Board Geotracker System on October 17, 2005.

Dissolved Oxygen Measurements

Field measurements of dissolved oxygen (DO) concentrations were performed during this quarterly monitoring event using a Hach titration kit due to the unavailability of the field meter. The historical DO readings are displayed in Table 5, Appendix B.

Water Sampling

On September 22-23, 2005, monitoring wells MW-1, MW-2, MW-3, MW-5, MW-6, MW-8, MW-9 and MW-10 were purged in accordance with Winzler & Kelly's Standard Operating Procedure for "*Monitoring Well Purging and Sampling Activities*" (Appendix D). As standard procedure, measurements of temperature, conductivity, and pH of purge water from each well are made to verify that equilibrium has been attained prior to sampling. After purging at least three wetted casing volumes of water from each monitoring well, the water level was allowed to recover to approximately 80% of its pre-purge level before sampling. Groundwater monitoring wells were sampled on September 23, 2005, within 24 hours of purging.

During purging and sampling, petroleum odor was noted at well MW-6, and petroleum odor and sheen was noted at monitoring well MW-1. Petroleum odor and sheen were not detected in any of the remaining monitoring wells.

As part of the quarterly groundwater monitoring program, groundwater samples collected from site monitoring wells MW-2, MW-3, MW-5, MW-9 and MW-10 were analyzed for the following:

- Total Petroleum Hydrocarbons as Gasoline (TPH-G) by EPA Method 5030/GCFID/8015B, and
- Benzene, Toluene, Ethylbenzene, and Xylenes, including m,p-Xylene and o-Xylene (BTEX) and Methyl Tertiary Butyl Ether (MTBE) by EPA Method 5030/8021B.

Monitoring wells MW-1, MW-6, and MW-8 were analyzed for the following:

- TPH-G by EPA Method 8260B,
- BTEX, and the five fuel oxygenates, MTBE, Di-isopropyl Ether (DIPE), Ethyl Tertiary Butyl Ether (ETBE), Tertiary Amyl Methyl Ether (TAME), Tertiary Butyl Alcohol (TBA), by EPA Method 8260B.

Groundwater Analytical Results

The sample collected from monitoring well MW-1 contained concentrations of TPH-G, Benzene, Toluene, Ethylbenzene, and Xylenes above the laboratory detection limits. The five fuel oxygenates were below the laboratory detection limits. The September 2005 sampling event reported a TPH-G level at 9,300 parts per billion (ppb). This result is lower than the June 2005 result for TPH-G, and lower than the average of previous readings and is consistent with a decreasing trend as shown on Chart 1, Appendix B. Benzene, Toluene, Ethylbenzene and Xylene levels also show a decreasing trend with concentrations of 31 ppb, 3.5 ppb, 25 ppb and 7.62 ppb, respectively (Table 1, Appendix B).

All constituents tested for in wells MW-2, MW-3 and MW-5 were reported concentrations below the laboratory detection limits.

The sample collected from MW-6 reported TPH-G and MTBE concentrations at 62 ppb and 20 ppb, respectively. Both TPH-G and MTBE concentrations are lower than the previous monitoring event and are continuing the decreasing trend. All other constituents were below the laboratory detection limits. TPH-G results have decreased slightly in this well as shown on Chart 3, Appendix B.

Monitoring wells MW-8, MW-9 and MW-10 were tested for a third time since being installed on February 24, 2005. MW-8 reported MTBE at 14 ppb, which is similar to the March and June 2005 reported concentrations of 10 ppb and 11 ppb, respectively. All other constituents were below laboratory detection limits for this monitoring event.

Monitoring wells MW-9 and MW-10 did not report any constituent above laboratory detection limits for this September 2005 monitoring event. This is consistent with the June 2005 monitoring event.

Laboratory analytical results for the September 2005 sampling event were submitted electronically to the State Water Resources Control Board Geotracker System on October 17, 2005.

Disposition of Wastewater

Two 55-gallon drums of purge water are stored at the site. One of the drums holds purge water generated during groundwater sampling of the contaminated wells MW-1, MW-6, and MW-8. The other drum is storing purge water from the sampling of wells MW-2, MW3, MW-5, MW-9, and MW-10. When full, the drum containing purged water from the contaminated wells will be disposed of at the City of Eureka's wastewater treatment plant. Arrangements for this disposal will be made when necessary. The drum containing purge water from wells MW-2, MW3, MW-5, MW-9, and MW-10 will be spray irrigated at the site in a manner that will avoid runoff or ponding.

Quality Assurance/Quality Control (QA/QC)

A trip blank was submitted with the groundwater samples, but was not analyzed since at least one of the groundwater samples was below the detection limits for all analytes tested. Laboratory QA/QC was provided by the use of lab Method Blanks to preclude false positive analysis of analytes and the use of Laboratory Control Spike samples (LCS) to evaluate the percentage recovery of target analytes during analysis. Toluene, Ethylbenzene and Xylenes were detected below quantitation limits in the Method Blank.

The lab also noted:

Gasoline Components/Additives:

- The reporting limit for MTBE was raised for sample MW-1 due to matrix interference.
- Sample MW-6 does not present a peak pattern consistent with that of gasoline. The reported result represents the amount of material in the gasoline range.
- The gasoline value for sample MW-1 includes the reported gasoline components in addition to other peaks in the gasoline range.
- The relative percent difference (RPD) for the laboratory control samples was above the upper acceptance limit for TBA. This indicates that the results could be variable. Since there were no detectable levels of the analyte in the samples, the data were accepted.

Conclusions & Recommendations

- The groundwater gradient on September 22, 2005, calculated at 1.06 feet per 100 feet and flowed at 91.04°Azimuth, is within the range of previous calculations.
- Groundwater contaminant levels continue to show a declining trend.
- Groundwater from MW-1 had concentrations of TPH-G, Benzene, Toluene, Ethylbenzene, and Xylenes above laboratory detection limits, but lower than the previous monitoring event.
- MW-6 reported concentrations of TPH-G and MTBE above laboratory detection limits, but lower than the previous sampling event.
- MW-8 reported concentrations of MTBE, which were similar to that of the two previous sampling events.
- The next quarterly monitoring event is scheduled for December 2005.

If you have any questions or comments, please do not hesitate to call.

Sincerely,
WINZLER & KELLY

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Enclosures:

Appendix A:		Figures
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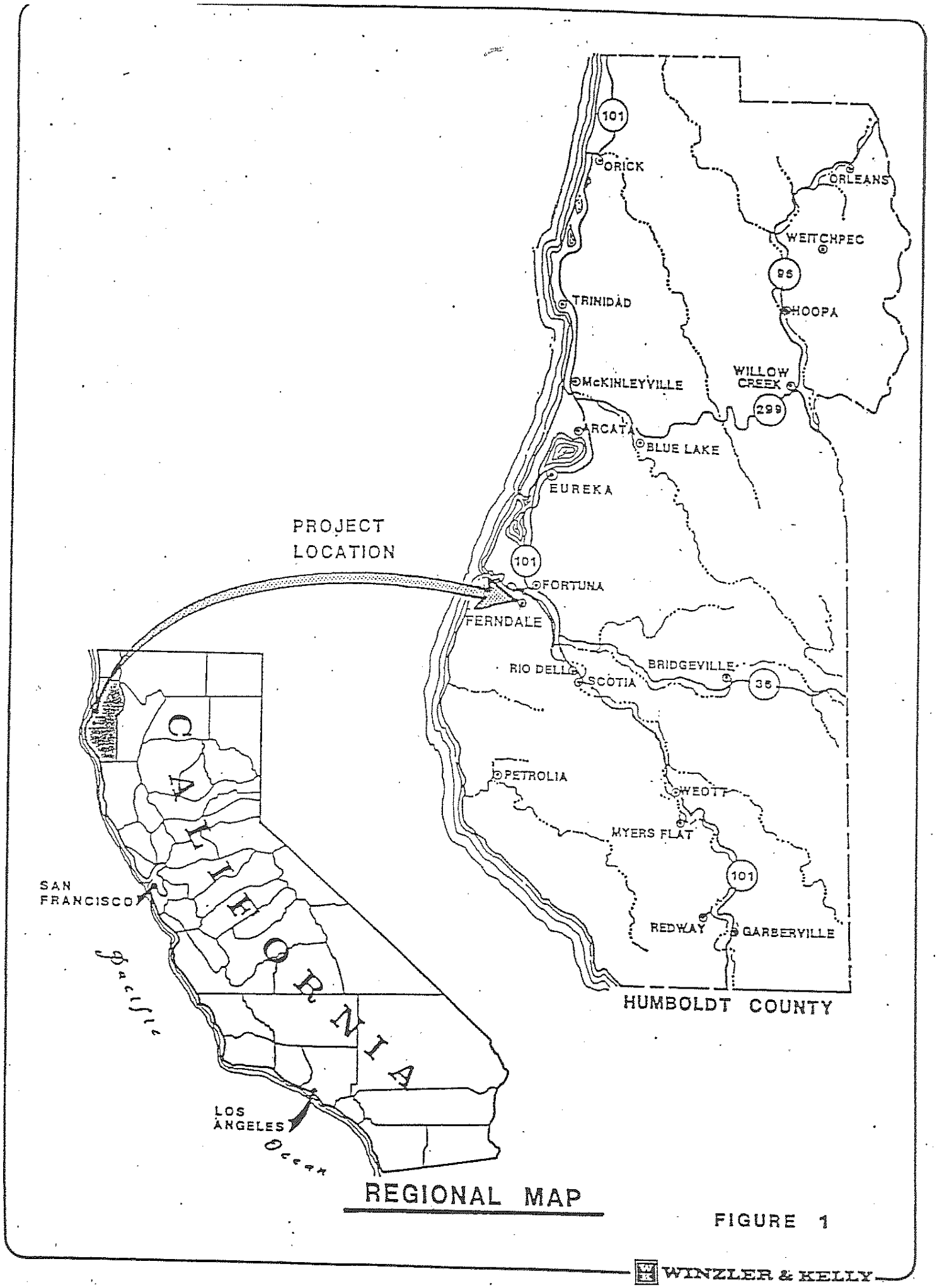
	Chart 1	MW-1, TPH-G Concentrations and Groundwater Elevations
	Chart 2	MW-6, TPH-G Concentrations and Groundwater Elevations

Appendix C:	Laboratory Analytical Reports
Appendix D:	Winzler & Kelly's Standard Operating Procedures
Appendix E:	Field Notes

c: Mr. Dennis Nilsen, Nilsen Company, 502 Broadway, Eureka, CA 95501

Appendix A
Figures



REGIONAL MAP

FIGURE 1

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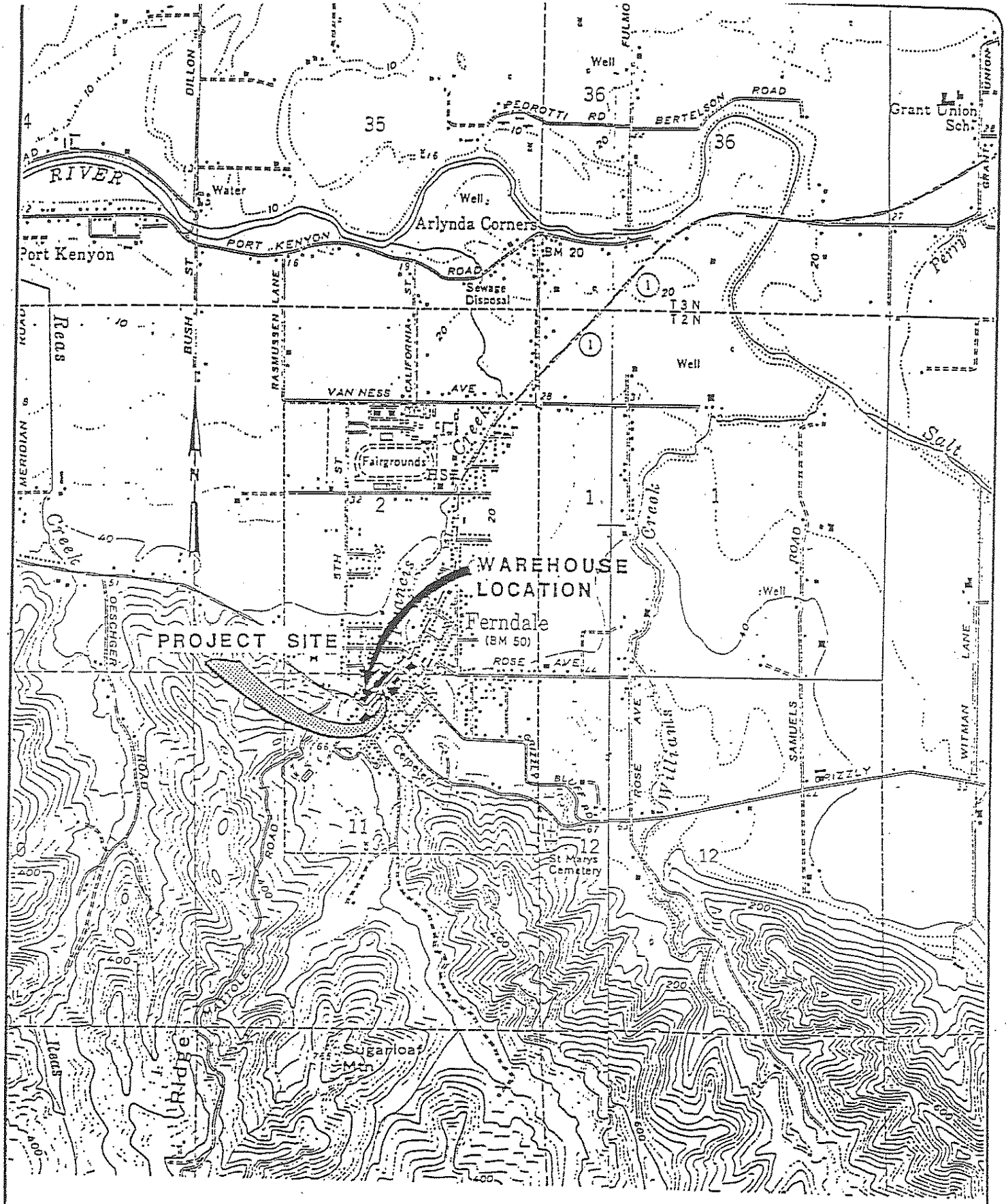

VICINITY MAP

Scale: 1" = 2000'

FIGURE 2

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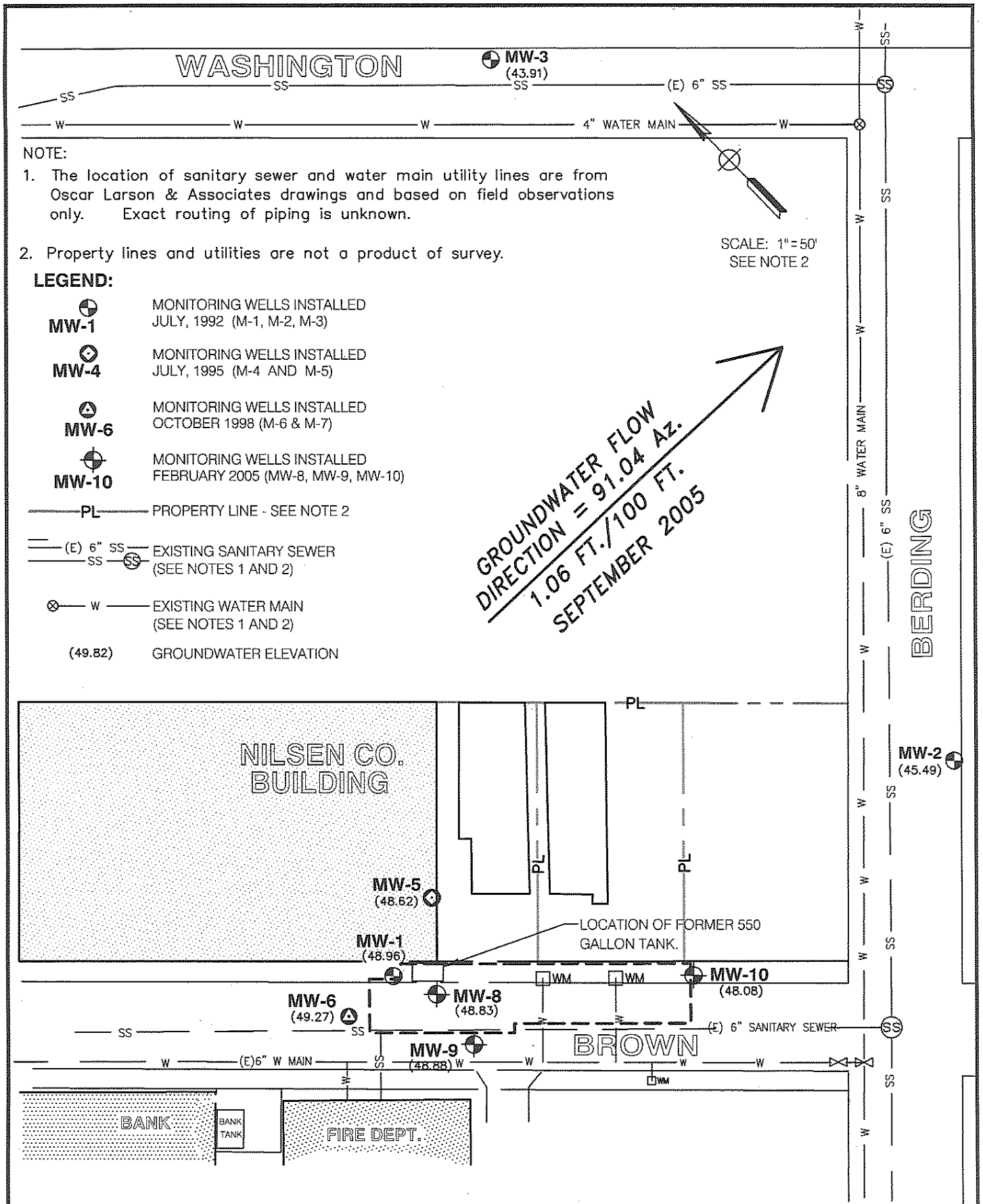

GROUNDWATER GRADIENT

NILSEN COMPANY, FERNDALE

FIGURE 3

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Appendix B
Tables and Charts

TABLE 1
QUARTERLY GROUNDWATER MONITORING RESULTS
Nilsen Co. Ferndale LOP #12070
All results reported in parts per billion (ppb)

Sample ID	Sample Date	TPH-G	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	Ethanol	Methanol	TBA	DIPE	ETBE	TAME
MW-1	27-May-93	17,000	380	130	500	590	NT	NT	NT	NT	NT	NT	NT
	3-Jan-94	14,000	360	86	190	190	NT	NT	NT	NT	NT	NT	NT
	24-Feb-94	15,000	470	99	330	330	NT	NT	NT	NT	NT	NT	NT
	8-Jun-94	17,000	500	100	340	340	NT	NT	NT	NT	NT	NT	NT
	18-Aug-94	14,000	290	84	230	230	NT	NT	NT	NT	NT	NT	NT
	15-Nov-94	14,000	450	91	250	250	NT	NT	NT	NT	NT	NT	NT
	22-Feb-95	16,000	420	86	300	290	NT	NT	NT	NT	NT	NT	NT
	26-Jun-95	14,000	390	30	180	220	NT	NT	NT	NT	NT	NT	NT
	26-Sep-95	15,000	400	78	280	270	NT	NT	NT	NT	NT	NT	NT
	24-Jan-96	14,000	310	38	250	220	NT	NT	NT	NT	NT	NT	NT
	29-Apr-96	19,000	300	36	250	240	NT	NT	NT	NT	NT	NT	NT
	18-Jul-96	14,000	360	80	230	230	NT	NT	NT	NT	NT	NT	NT
	23-Oct-96	15,000	230	18	140	150	NT	NT	NT	NT	NT	NT	NT
	9-Apr-97	14,000	230	22	190	180	<85	NT	NT	NT	NT	NT	NT
	24-Jul-97	12,000	200	13	120	120	<85	NT	NT	NT	NT	NT	NT
	21-Oct-97	14,000	290	18	180	190	<85	NT	NT	NT	NT	NT	NT
	13-Jan-98	12,000	360	25	190	160	<90	NT	NT	NT	NT	NT	NT
	15-Oct-98	17,000	110	290	50	110	NT	NT	NT	NT	NT	NT	NT
	25-Feb-99	15,000	440	24	200	150	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	17,000	380	<220	84	40	<160	NT	NT	NT	NT	NT	NT
	26-Sep-03	5,300	140	4.0	16	2.6	1.3	<5.0	<50	<20	<2.0	<2.0	<2.0
	24-Dec-03	12,000	170	12	68	28.3	<1.0	<500	<500	<20	<1.0	<1.0	<1.0
	5-Mar-04	5,100	180	14	60	25.7	<1.0	NT	NT	<10	<1.0	<1.0	<1.0
	14-Jul-04	11,000	140	13	54	23.7	<8.0	NT	NT	<10	<1.0	<1.0	<1.0
	26-Oct-04	11,000	53	8.6	45	20.3	<5.0	<500	<500	<10	<1.0	<1.0	<1.0
	7-Dec-04	12,000	53	8.3	48	22.4	<6.0	<500	<500	<10	<1.0	<1.0	<1.0
	03-Mar-05	7,100	58	<60	34	11	<60	NT	NT	NT	NT	NT	NT
	28-Jun-05	9,400	35	4.1	28	10.7	<8.0	<500	<500	<10	<1.0	<1.0	<1.0
	23-Sep-05	9,300	31	3.5	25	7.62	<15	NT	NT	<10	<1.0	<1.0	<1.0
MW-2	27-May-93	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	3-Jan-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	24-Feb-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	8-Jun-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	18-Aug-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Sep-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	24-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	5-Mar-04	<50	<0.50	<0.50	<0.50	<1.0	<1.0	NT	NT	NT	NT	NT	NT
	14-Jul-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Oct-04	<50	<0.50	<0.50	<0.50	0.54	<3.0	NT	NT	NT	NT	NT	NT
	6-Dec-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	03-Mar-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
MW-3	27-May-93	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	3-Jan-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	24-Feb-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	8-Jun-94	<50	<0.30	<0.30	<0.50	1.7*	NT	NT	NT	NT	NT	NT	NT
	18-Aug-94	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Sep-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	24-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	5-Mar-04	<50	<0.50	<0.50	<0.50	<1.0	<1.0	NT	NT	NT	NT	NT	NT
	14-Jul-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Oct-04	<50	<0.50	1.2	0.71	2.64	<3.0	NT	NT	NT	NT	NT	NT
	6-Dec-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	03-Mar-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
MW-4	3-Aug-95	60	1.1	<0.30	<0.50	0.72	NT	NT	NT	NT	NT	NT	NT
	26-Sep-95	<50	<0.30	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	24-Jan-96	240	1.1	<0.30	0.56	<0.50	NT	NT	NT	NT	NT	NT	NT
	29-Apr-96	330	1.8	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	18-Jul-96	100	0.37	<0.30	<0.50	<0.50	NT	NT	NT	NT	NT	NT	NT
	23-Oct-96	210	0.72	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	9-Apr-97	150	0.34	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	24-Jul-97	55	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	21-Oct-97	220	0.78	<0.30	0.58	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	13-Jan-98	420	1.9	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	15-Oct-98	860	6.80	1.2	2.1	0.86	NT	NT	NT	NT	NT	NT	NT
	25-Feb-99	310	0.56	<0.30	<0.50	<1.0	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	190	<0.50	<1.2	<1.0	<2.6	<3.0	NT	NT	NT	NT	NT	NT
	26-Sep-03	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<5.0	<50	<5.0	<0.50	<0.50	<1.0
	24-Dec-03	58	<0.50	<0.50	<0.50	<1.0	<1.0	<500	<500	<20	<1.0	<1.0	<1.0
	4-Mar-04	<50	<0.50	<0.50	<0.50	<1.0	<1.0	NT	NT	<10	<1.0	<1.0	<1.0
	14-Jul-04	170	<0.50	<0.50	<0.50	<1.0	<1.0	NT	NT	<10	<1.0	<1.0	<1.0
	Monitoring Well 4 abandoned												

TABLE 1
QUARTERLY GROUNDWATER MONITORING RESULTS
Nilsen Co. Ferndale LOP #12070
All results reported in parts per billion (ppb)

Sample ID	Sample Date	TPH-G	Benzene	Toluene	Ethyl benzene	Xylenes	MTBE	Ethanol	Methanol	TBA	DIPE	ETBE	TAME
MW-5	3-Aug-95	<50	< 0.30	< 0.30	< 0.50	<1.0	NT	NT	NT	NT	NT	NT	NT
	26-Sep-95	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	24-Jan-96	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	29-Apr-96	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	18-Jul-96	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	23-Oct-96	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	9-Apr-97	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	24-Jul-97	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	21-Oct-97	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	13-Jan-98	<50	<0.30	<0.30	<0.50	<0.50	<1.0	NT	NT	NT	NT	NT	NT
	15-Oct-98	<50	<0.30	<0.30	<0.50	<1.0	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Sep-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	24-Dec-03	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	4-Mar-04	<50	<0.50	<0.50	<0.50	<1.0	<1.0	NT	NT	NT	NT	NT	NT
	14-Jul-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	26-Oct-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	7-Dec-04	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	03-Mar-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
MW-6	14-Oct-98	**210**	**7.1**	**2.7**	<0.50	**2.2**	NT	NT	NT	NT	NT	NT	NT
	25-Feb-99	**140**	**5.1**	<1.2	<1.5	**1.7**	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	**130**	<1.1	<1.8	<0.50	<1.0	**100**	NT	NT	NT	NT	NT	NT
	26-Sep-03	**77**	<0.50	<0.50	<0.50	<1.0	**68**	<5.0	<50	<5.0	<1.0	<1.0	**2.6**
	24-Dec-03	**200**	<0.50	<0.50	<0.50	<1.0	**110**	<500	<500	<20	<1.0	<1.0	**4.1**
	4-Mar-04	**140**	<0.50	<0.50	<0.50	<1.0	**110**	NT	NT	<10	<1.0	<1.0	**3.1**
	14-Jul-04	**99**	<0.50	<0.50	<0.50	<1.0	**67**	NT	NT	<10	<1.0	<1.0	**3.0**
	26-Oct-04	**160**	**0.57**	<0.50	<0.50	<1.0	**54**	<500	<500	<10	<1.0	<1.0	**2.3**
	7-Dec-04	**160**	**0.57**	<0.50	<0.50	<1.0	**62**	<500	<500	<10	<1.0	<1.0	**2.4**
	03-Mar-05	**86**	<0.50	<0.50	<0.50	<1.0	**49**	NT	NT	NT	NT	NT	NT
	28-Jun-05	**89**	<0.50	<0.50	<0.50	<1.0	**53**	<500	<500	<10	<1.0	<1.0	**2.1**
	23-Sep-05	**62**	<0.50	<0.50	<0.50	<1.0	**20**	NT	NT	<10	<1.0	<1.0	<1.0
MW-7	14-Oct-98	**3,000**	**7.1**	**2.7**	**17**	**3.4**	NT	NT	NT	NT	NT	NT	NT
	25-Feb-99	**3,200**	**5.6**	**2.8**	**19**	**150**	NT	NT	NT	NT	NT	NT	NT
	1-Jul-03	**1,400**	**11**	<13	**4.2**	**1.0**	<32	NT	NT	NT	NT	NT	NT
	26-Sep-03	**280**	**1.2**	**0.67**	**0.74**	<1.0	<0.50	<5.0	<50	<5.0	<1.0	<1.0	<1.0
	Monitoring Well 7 abandoned												
MW-8	3-Mar-05	**78**	**0.83**	<0.50	<0.50	<1.0	**10**	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	**11**	<500	<500	<10	<1.0	<1.0	<1.0
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	**14**	NT	NT	<10	<1.0	<1.0	<1.0
MW-9	3-Mar-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
MW-10	3-Mar-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	28-Jun-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT
	23-Sep-05	<50	<0.50	<0.50	<0.50	<1.0	<3.0	NT	NT	NT	NT	NT	NT

TABLE 2
GROUNDWATER MEASUREMENTS
Nilsen, LOP #12070

Well No.	Sample Date	TOC	DTW	GWE
MW-1	3-Aug-95	51.68	4.07	47.61
N =2101294.7449	24-Aug-95	51.68	3.95	47.73
E = 5933038.33434	26-Sep-95	51.68	3.92	47.76
	18-Oct-95	51.68	4.18	47.50
	17-Nov-95	51.68	4.39	47.29
	24-Jan-96	51.68	2.77	48.91
	15-Feb-96	51.68	4.71	46.97
	8-Mar-96	51.68	3.46	48.22
	29-Apr-96	51.68	3.40	48.28
	31-May-96	51.68	5.04	46.64
	17-Jun-96	51.68	4.43	47.25
	18-Jul-96	51.68	4.20	47.48
	26-Aug-96	51.68	5.46	46.22
	10-Sep-96	51.68	4.77	46.91
	23-Oct-96	51.68	4.09	47.59
	14-Nov-96	51.68	4.92	46.76
	24-Dec-96	51.68	3.28	48.40
	9-Apr-97	51.68	3.50	48.18
	24-Jul-97	51.68	6.45	45.23
	21-Oct-97	51.68	5.15	46.53
	13-Jan-98	51.68	3.87	47.81
	30-Jun-02	51.68	5.53	46.15
	26-Sep-03	51.68	4.95	46.73
	22-Dec-03	51.68	3.55	48.13
	4-Mar-04	51.68	3.82	47.86
	13-Jul-04	51.68	4.94	46.74
	26-Oct-04	51.68	3.25	48.43
	6-Dec-04	51.68	3.14	48.54
	3-Mar-05	53.03	3.21	49.82
	28-Jun-05	53.03	3.61	49.42
	22-Sep-05	53.03	4.07	48.96
MW-2	18-Jul-96	47.87	3.19	44.68
N = 2101203.89767	26-Aug-96	47.87	3.34	44.53
E = 5933252.62818	10-Sep-96	47.87	3.41	44.46
	23-Oct-96	47.87	3.67	44.20
	14-Nov-96	47.87	3.68	44.19
	24-Dec-96	47.87	1.97	45.90
	9-Apr-97	47.87	3.23	44.64
	24-Jul-97	47.87	4.46	43.41
	21-Oct-97	47.87	3.55	44.32
	13-Jan-98	47.87	1.79	46.08
	30-Jun-02	47.87	3.51	44.36
	26-Sep-03	47.87	2.80	45.07
	22-Dec-03	47.87	2.99	44.88
	4-Mar-04	47.87	3.29	44.58
	13-Jul-04	47.87	3.71	44.16
	26-Oct-04	47.87	3.15	44.72
	6-Dec-04	47.87	3.32	44.55
	3-Mar-05	49.23	3.11	46.12
	28-Jun-05	49.23	3.36	45.87
	22-Sep-05	49.23	3.74	45.49

TABLE 2
GROUNDWATER MEASUREMENTS
Nilsen, LOP #12070

Well No.	Sample Date	TOC	DTW	GWE
MW-3	18-Jul-96	48.47	4.17	44.30
N = 10402.72	26-Aug-96	48.47	4.37	44.10
E = 20689.67	10-Sep-96	48.47	4.97	43.50
	23-Oct-96	48.47	4.66	43.81
	14-Nov-96	48.47	4.59	43.88
	24-Dec-96	48.47	4.17	44.30
	9-Apr-97	48.47	4.24	44.23
	24-Jul-97	48.47	5.45	43.02
	21-Oct-97	48.47	4.41	44.06
	13-Jan-98	48.47	3.83	44.64
	30-Jun-02	48.47	4.54	43.93
	26-Sep-03	48.47	5.33	43.14
	22-Dec-03	48.47	4.27	44.20
	4-Mar-04	48.47	4.70	43.77
	13-Jul-04	48.47	4.32	44.15
	26-Oct-04	48.47	5.41	43.06
	6-Dec-04	48.47	5.48	42.99
	28-Jun-05	48.47	4.26	44.21
	22-Sep-05	48.47	4.56	43.91
MW-4	3-Aug-95	51.28	3.89	47.39
	24-Aug-95	51.28	4.07	47.21
	26-Sep-95	51.28	4.49	46.79
	18-Oct-95	51.28	4.07	47.21
	17-Nov-95	51.28	4.62	46.66
	24-Jan-96	51.28	2.06	49.22
	15-Feb-96	51.28	3.37	47.91
	8-Mar-96	51.28	2.95	48.33
	29-Apr-96	51.28	3.17	48.11
	31-May-96	51.28	3.76	47.52
	17-Jun-96	51.28	3.88	47.40
	18-Jul-96	51.28	4.17	47.11
	26-Aug-96	51.28	4.63	46.65
	10-Sep-96	51.28	4.95	46.33
	23-Oct-96	51.28	3.97	47.31
	14-Nov-96	51.28	3.82	47.46
	24-Dec-96	51.28	2.66	48.62
	9-Apr-97	51.28	3.61	47.67
	24-Jul-97	51.28	5.50	45.78
	21-Oct-97	51.28	3.81	47.47
	13-Jan-98	51.28	2.19	49.09
	30-Jun-02	51.28	3.35	47.93
	26-Sep-03	51.28	4.25	47.03
	22-Dec-03	51.28	2.95	48.33
	4-Mar-04	51.28	3.03	48.25
	13-Jul-04	51.28	3.75	47.53
	Monitoring Well 4 abandoned			

TABLE 2
GROUNDWATER MEASUREMENTS
Nilsen, LOP #12070

Well No.	Sample Date	TOC	DTW	GWE
MW-5	3-Aug-95	52.27	4.97	47.30
N = 2101306.27261	24-Aug-95	52.27	5.02	47.25
E = 5933070.12554	26-Sep-95	52.27	5.13	47.14
	18-Oct-95	52.27	4.92	47.35
	17-Nov-95	52.27	5.19	47.08
	24-Jan-96	52.27	2.73	49.54
	15-Feb-96	52.27	4.57	47.70
	8-Mar-96	52.27	2.87	49.40
	29-Apr-96	52.27	4.08	48.19
	31-May-96	52.27	4.76	47.51
	17-Jun-96	52.27	4.81	47.46
	18-Jul-96	52.27	5.10	47.17
	26-Aug-96	52.27	5.50	46.77
	10-Sep-96	52.27	5.61	46.66
	23-Oct-96	52.27	4.80	47.47
	14-Nov-96	52.27	4.97	47.30
	24-Dec-96	52.27	3.68	48.59
	9-Apr-97	52.27	4.42	47.85
	24-Jul-97	52.27	6.44	45.83
	21-Oct-97	52.27	5.10	47.17
	13-Jan-98	52.27	3.31	48.96
	30-Jun-02	52.27	3.96	48.31
	26-Sep-03	52.27	5.11	47.16
	22-Dec-03	52.27	4.58	47.69
	4-Mar-04	52.27	4.22	48.05
	13-Jul-04	52.27	4.46	47.81
	26-Oct-04	52.27	3.07	49.20
	6-Dec-04	52.27	2.71	49.56
	3-Mar-05	53.64	3.30	50.34
	28-Jun-05	53.64	4.30	49.34
	22-Sep-05	53.64	5.02	48.62
MW-6	30-Jun-02	52.40	4.51	47.89
N = 2101295.52491	26-Sep-03	52.40	4.54	47.86
E = 5933015.13194	22-Dec-03	52.40	4.37	48.03
	4-Mar-04	52.40	4.41	47.99
	13-Jul-04	52.40	4.49	47.91
	26-Oct-04	52.40	4.03	48.37
	6-Dec-04	52.40	3.97	48.43
	3-Mar-05	53.86	4.18	49.68
	28-Jun-05	53.86	4.38	49.48
	22-Sep-05	53.86	4.59	49.27
MW-7	30-Jun-02	50.44	3.34	47.10
	26-Sep-03	50.44	3.57	46.87
	Monitoring Well 7 abandoned			
MW-8	3-Mar-05	52.81	3.00	49.81
N = 2101278.10988	28-Jun-05	52.81	3.49	49.32
E = 5933045.49179	22-Sep-05	52.81	3.98	48.83
MW-9	3-Mar-05	52.86	8.15	44.71
N = 2101254.31199	28-Jun-05	52.86	3.21	49.65
E = 5933042.47497	22-Sep-05	52.86	3.98	48.88
MW-10	3-Mar-05	51.36	2.42	48.94
N = 2101214.18928	28-Jun-05	51.36	2.85	48.51
E = 5933122.15667	22-Sep-05	51.36	3.28	48.08

Top of Casing Elevation data for and subsequent to December 2004 event is based on Winzler and Kelly survey data.
Top of Casing Elevation data for and after March 2005 event is based on Ontiveros & Associates survey data performed on June 1, 2005.

Table 3
Groundwater Gradient Summary
Nilsen Company, LOP #12070

Date	Gradient Direction (Degrees Azimuth)	Gradient Magnitude (feet/ 100 feet)
25-Sep-03	92	1.40
22-Dec-03	90.04	1.45
04-Mar-04	101.01	1.49
13-Jul-04	99.39	1.47
26-Oct-04	83.86	1.85
06-Dec-04	85.80	1.97
28-Jun-05	82.63	1.73
22-Sep-05	91.04	1.06

Note:

September 2003 gradient calculated using monitoring wells MW-1 through MW-7.

From December 2003 to July 2004, gradient calculated using MW-1 through MW-6.

From October '04 until June '05, gradient calculated using monitoring wells MW-1, MW-2, MW-3, MW-5, and MW-6.

Sept 2005, gradient calculated using monitoring wells MW-1, MW-5, MW-6, MW-8, MW-9 and MW-10.

TABLE 4
GROUNDWATER GRADIENT SUMMARY
Nilsen Company, LOP #12070

Date	Gradient Direction (Degrees Azimuth)	Gradient Magnitude (feet/ 100 feet)
03-Aug-95	79.70	0.94
24-Aug-95	99.97	1.66
26-Sep-95	117.48	2.77
18-Oct-95	125.92	0.81
18-Nov-95	138.73	1.80
24-Jan-96	246.10	1.87
15-Feb-96	288.52	2.81
08-Mar-96	222.91	3.89
29-Apr-96	125.06	0.48
31-May-96	276.52	2.91
17-Jun-96	259.98	0.63
18-Jul-96	104.80	1.13
26-Aug-96	264.02	1.69
10-Sep-96	131.97	1.63
23-Dec-96	132.14	0.79
14-Nov-96	288.84	2.09
24-Dec-96	283.30	0.68
09-Apr-97	116.94	1.48
24-Jul-97	271.62	1.93
21-Oct-97	294.68	2.72
13-Jan-98	281.32	4.03
01-Jul-03	266.47	6.71
25-Sep-03	258.96	1.29
22-Dec-03	21.45	1.93
04-Mar-04	308.03	1.10
13-Jul-04	261.42	3.25
MW-4 was abandoned after the July 2004 monitoring event		
6-Dec-04	85.8	1.97
3-Mar-05	202.63	2.15
28-Jun-05	149.54	0.79
22-Sep-05	86.34	1.16
Average	193.04	1.99

Note:

Gradient, from August 95 through July 2004,
calculated using data from wells MW-1, MW-4, and MW-5.
Gradient, from December 2004
calculated using data from MW-1, MW-2, MW-3, MW-5, and MW-6
Gradient, from March 2005
calculated using data from MW-1, MW-2, MW-3, MW-5, and MW-6
Gradient, for September 2005
calculated using MW-1, MW-5, MW-6, and MW-10

TABLE 5
DISSOLVED OXYGEN MEASUREMENTS
Nilsen Company, LOP # 12070
(All results in mg/L)

Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
25-Sep-03	1.4	2.8	2.1	0.6	4.9	0.9	7.4	NA	NA	NA
22-Dec-03	3.1	3.3	3.4	3.0	3.6	3.7	NT	NA	NA	NA
04-Mar-04	2.1	2.9	3.2	1.6	4.4	1.5	NT	NA	NA	NA
13-Jul-04	6.5	6.4	0.7	4.6	7.3	7.7	NT	NA	NA	NA
26-Oct-04	2.2	1.3	1.3	NT	1.5	2.1	NT	NA	NA	NA
06-Dec-04	0.6	0.8	0.5	NT	0.6	0.7	NT	NA	NA	NA
02-Mar-05	3.0	4.0	3.0	NT	5.0	0.8	NT	1.4	3.0	5.0
28-Jun-05	No measurments taken during this monitoring event									
23-Sep-05	0.6	1.4	6.0	NT	5.0	0.8	NT	0.4	1.0	3.0

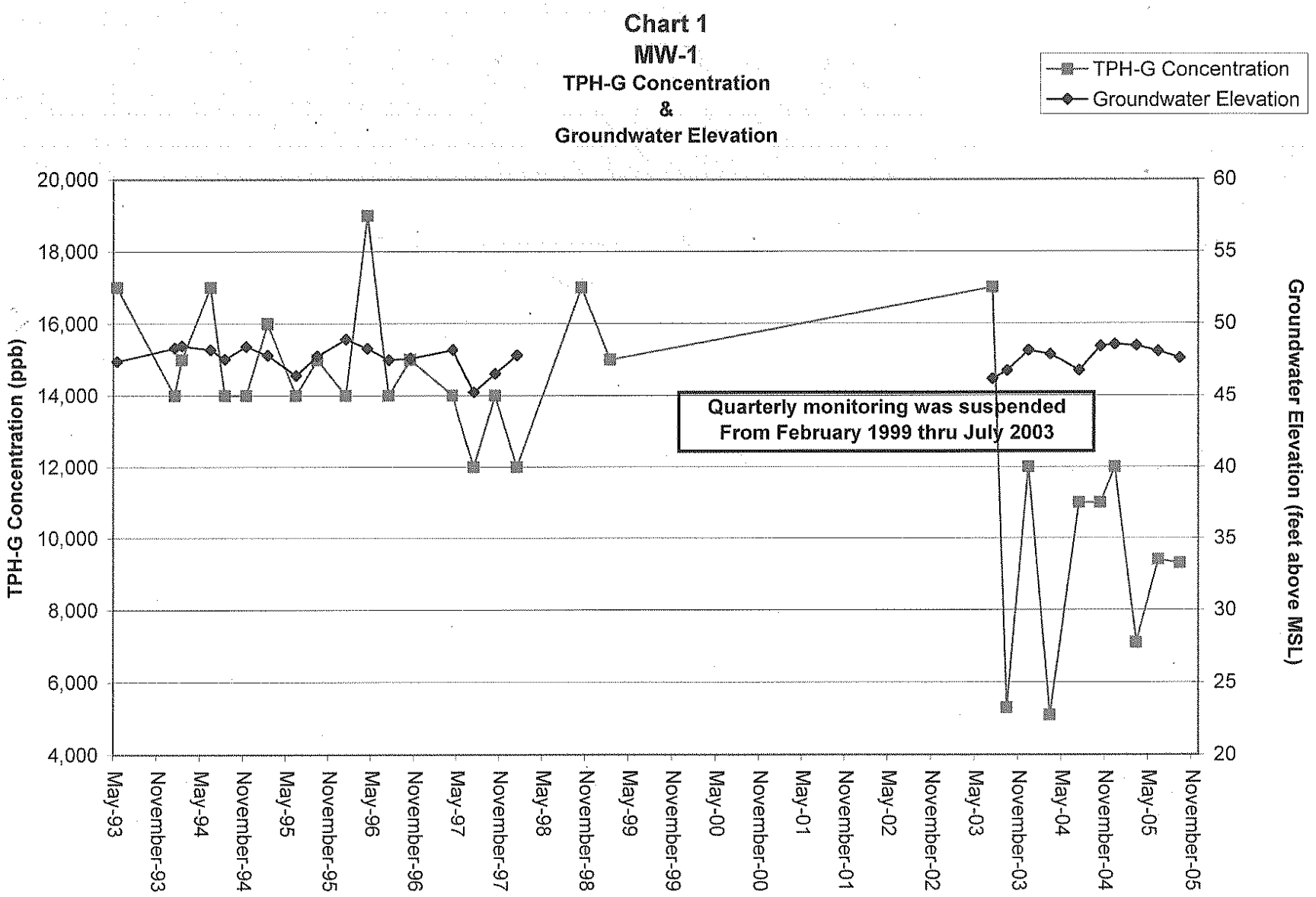
Chart 1
MW-1
TPH-G Concentration
&
Groundwater Elevation
TPH-G Concentration
Groundwater Elevation
TPH-G Concentration (ppb)
Groundwater Elevation (feet above MSL)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
60
55
50
45
40
35
30
25
20
Quarterly monitoring was suspended
From February 1999 thru July 2003
May-93
November-93
May-94
November-94
May-95
November-95
May-96
November-96
May-97
November-97
May-98
November-98
May-99
November-99
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May-04
November-04
May-05
November-05

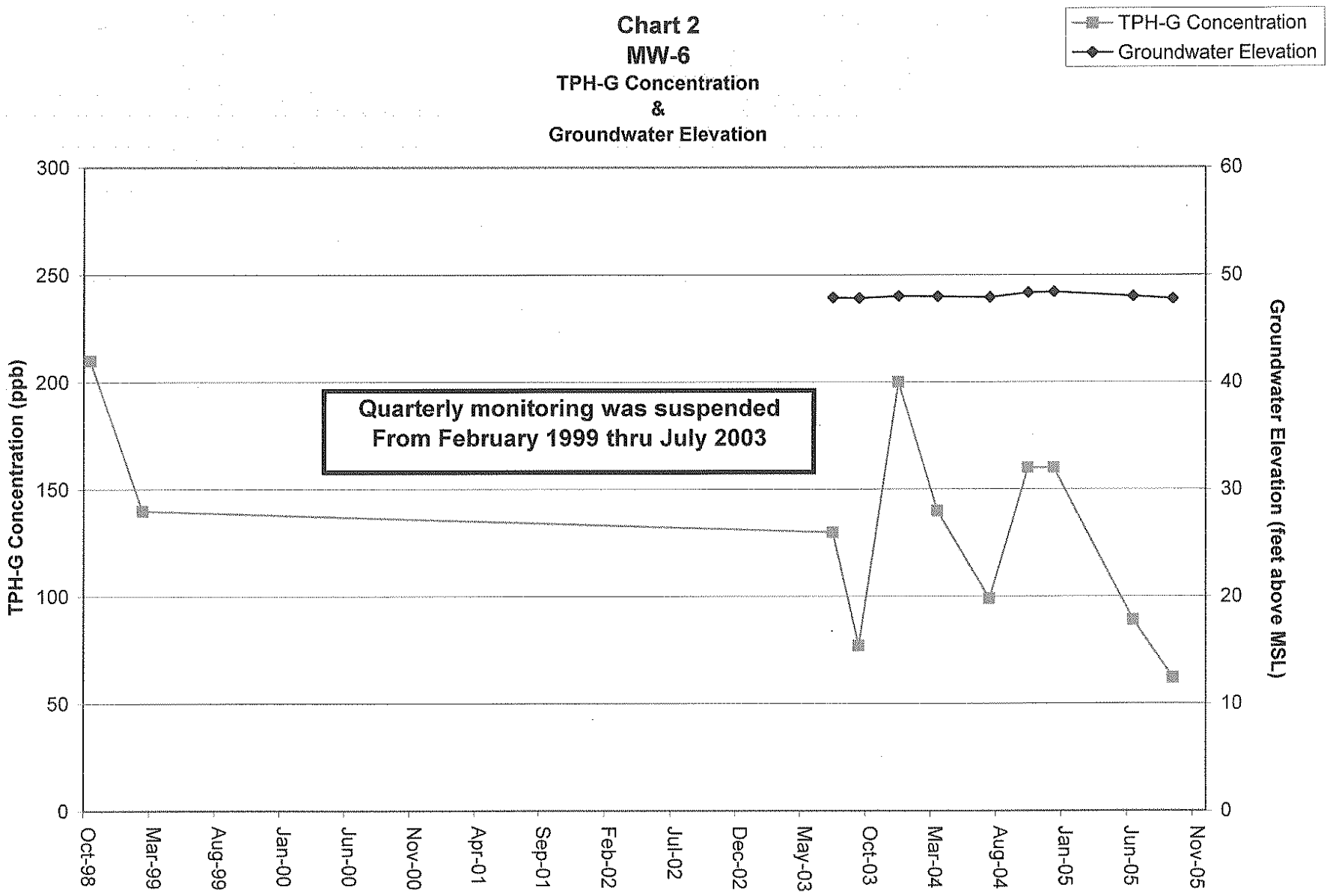
Chart 2
MW-6
TPH-G Concentration
&
Groundwater Elevation
TPH-G Concentration
Groundwater Elevation
Quarterly monitoring was suspended
From February 1999 thru July 2003
TPH-G Concentration (ppb)
Groundwater Elevation (feet above MSL)
300
250
200
150
100
50
0
60
50
40
30
20
10
0
Oct-98
Mar-99
Aug-99
Jan-00
Jun-00
Nov-00
Apr-01
Sep-01
Feb-02
Jul-02
Dec-02
May-03
Oct-03
Mar-04
Aug-04
Jan-05
Jun-05
Nov-05

Appendix C
Laboratory Analytical Reports

NORTH COAST LABORATORIES LTD.

October 06, 2005

Winzler and Kelly
633 Third Street
Eureka, CA 95501

Attn: Pat Kaspari

RE: 9012220211070, Nilsen Co., Ferndale

Order No.: 0509542
Invoice No.: 53340
PO No.:
ELAP No. 1247-Expires July 2006

SAMPLE IDENTIFICATION

Fraction	Client Sample Description
01A	MW-5
02A	MW-10
03A	MW-2
04A	MW-3
05A	MW-8
06A	MW-6
07A	MW-1
08A	MW-9
08B	MW-9
08C	MW-9

ND = Not Detected at the Reporting Limit

Limit = Reporting Limit

All solid results are expressed on a wet-weight basis unless otherwise noted.

REPORT CERTIFIED BY

Laboratory Supervisor(s) | QA Unit | Jesse G. Chaney, Jr. Laboratory Director

5680 West End Road • Arcata California 95521-9202 • 707-822-4649 • FAX 707-822-6831

Printed on Recycled Paper

CLIENT: Winzler and Kelly
Project: 9012220211070, Nilsen Co., Ferndale
Lab Order: 0509542

CASE NARRATIVE

Gasoline Components/Additives:
The reporting limit for MTBE was raised for sample MW-1 due to matrix interference.

Sample MW-6 does not present a peak pattern consistent with that of gasoline. The reported result represents the amount of material in the gasoline range.

The gasoline value for sample MW-1 includes the reported gasoline components in addition to other peaks in the gasoline range.

The relative percent difference (RPD) for the laboratory control samples was above the upper acceptance limit for TBA. This indicates that the results could be variable. Since there were no detectable levels of the analyte in the samples, the data were accepted.

NORTH COAST LABORATORIES
5680 West End Road • Arcata, California 95521-9202 • 707-822-4649 • FAX 707-822-6831
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Date: 06-Oct-05
WorkOrder: 0509542

ANALYTICAL REPORT

Client Sample ID: MW-5 **Received:** 9/23/05 **Collected:** 9/23/05 11:20
Lab ID: 0509542-01A

Test Name: BTEX **Reference:** EPA 5030/EPA 8021B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
MTBE	ND	3.0	µg/L	1.0		10/4/05
Benzene	ND	0.50	µg/L	1.0		10/4/05
Toluene	ND	0.50	µg/L	1.0		10/4/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/4/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/4/05
o-Xylene	ND	0.50	µg/L	1.0		10/4/05
Surrogate: Cis-1,2-Dichloroethylene	98.0	85-115	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** EPA 5030/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gas (C6-C14)	ND	50	µg/L	1.0		10/4/05

Client Sample ID: MW-10 **Received:** 9/23/05 **Collected:** 9/23/05 11:25
Lab ID: 0509542-02A

Test Name: BTEX **Reference:** EPA 5030/EPA 8021B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
MTBE	ND	3.0	µg/L	1.0		10/4/05
Benzene	ND	0.50	µg/L	1.0		10/4/05
Toluene	ND	0.50	µg/L	1.0		10/4/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/4/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/4/05
o-Xylene	ND	0.50	µg/L	1.0		10/4/05
Surrogate: Cis-1,2-Dichloroethylene	93.9	85-115	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** EPA 5030/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gas (C6-C14)	ND	50	µg/L	1.0		10/4/05

NORTH COAST LABORATORIES
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Date: 06-Oct-05
WorkOrder: 0509542

ANALYTICAL REPORT

Client Sample ID: MW-2 **Received:** 9/23/05 **Collected:** 9/23/05 11:39
Lab ID: 0509542-03A

Test Name: BTEX **Reference:** EPA 5030/EPA 8021B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
MTBE	ND	3.0	µg/L	1.0		10/4/05
Benzene	ND	0.50	µg/L	1.0		10/4/05
Toluene	ND	0.50	µg/L	1.0		10/4/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/4/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/4/05
o-Xylene	ND	0.50	µg/L	1.0		10/4/05
Surrogate: Cis-1,2-Dichloroethylene	93.6	85-115	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** EPA 5030/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gas (C6-C14)	ND	50	µg/L	1.0		10/4/05

Client Sample ID: MW-3 **Received:** 9/23/05 **Collected:** 9/23/05 11:50
Lab ID: 0509542-04A

Test Name: BTEX **Reference:** EPA 5030/EPA 8021B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
MTBE	ND	3.0	µg/L	1.0		10/4/05
Benzene	ND	0.50	µg/L	1.0		10/4/05
Toluene	ND	0.50	µg/L	1.0		10/4/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/4/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/4/05
o-Xylene	ND	0.50	µg/L	1.0		10/4/05
Surrogate: Cis-1,2-Dichloroethylene	86.5	85-115	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** EPA 5030/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gas (C6-C14)	ND	50	µg/L	1.0		10/4/05

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Date: 06-Oct-05
WorkOrder: 0509542

ANALYTICAL REPORT

Client Sample ID: MW-8 **Received:** 9/23/05 **Collected:** 9/23/05 12:05
Lab ID: 0509542-05A

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	14	1.0	µg/L	1.0		10/3/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/3/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/3/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/3/05
Benzene	ND	0.50	µg/L	1.0		10/3/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/3/05
Toluene	ND	0.50	µg/L	1.0		10/3/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/3/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/3/05
o-Xylene	ND	0.50	µg/L	1.0		10/3/05
Surrogate: 1,4-Dichlorobenzene-d4	97.9	80.8-139	% Rec	1.0		10/3/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	ND	50	µg/L	1.0		10/3/05

Client Sample ID: MW-6 **Received:** 9/23/05 **Collected:** 9/23/05 12:11
Lab ID: 0509542-06A

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	20	1.0	µg/L	1.0		10/3/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/3/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/3/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/3/05
Benzene	ND	0.50	µg/L	1.0		10/3/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/3/05
Toluene	ND	0.50	µg/L	1.0		10/3/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/3/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/3/05
o-Xylene	ND	0.50	µg/L	1.0		10/3/05
Surrogate: 1,4-Dichlorobenzene-d4	92.4	80.8-139	% Rec	1.0		10/3/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	62	50	µg/L	1.0		10/3/05

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Date: 06-Oct-05
WorkOrder: 0509542

ANALYTICAL REPORT

Client Sample ID: MW-1 **Received:** 9/23/05 **Collected:** 9/23/05 12:22
Lab ID: 0509542-07A

Test Name: Gasoline Components/Additives **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
Methyl tert-butyl ether (MTBE)	ND	15	µg/L	1.0		10/4/05
Tert-butyl alcohol (TBA)	ND	10	µg/L	1.0		10/4/05
Di-isopropyl ether (DIPE)	ND	1.0	µg/L	1.0		10/4/05
Ethyl tert-butyl ether (ETBE)	ND	1.0	µg/L	1.0		10/4/05
Benzene	31	0.50	µg/L	1.0		10/4/05
Tert-amyl methyl ether (TAME)	ND	1.0	µg/L	1.0		10/4/05
Toluene	3.5	0.50	µg/L	1.0		10/4/05
Ethylbenzene	25	0.50	µg/L	1.0		10/4/05
m,p-Xylene	6.7	0.50	µg/L	1.0		10/4/05
o-Xylene	0.92	0.50	µg/L	1.0		10/4/05
Surrogate: 1,4-Dichlorobenzene-d4	86.3	80.8-139	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** LUFT/EPA 8260B Modified

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gasoline	9,300	2,500	µg/L	50		10/4/05

Client Sample ID: MW-9 **Received:** 9/23/05 **Collected:** 9/23/05 12:30
Lab ID: 0509542-08A

Test Name: BTEX **Reference:** EPA 5030/EPA 8021B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
MTBE	ND	3.0	µg/L	1.0		10/4/05
Benzene	ND	0.50	µg/L	1.0		10/4/05
Toluene	ND	0.50	µg/L	1.0		10/4/05
Ethylbenzene	ND	0.50	µg/L	1.0		10/4/05
m,p-Xylene	ND	0.50	µg/L	1.0		10/4/05
o-Xylene	ND	0.50	µg/L	1.0		10/4/05
Surrogate: Cis-1,2-Dichloroethylene	96.0	85-115	% Rec	1.0		10/4/05

Test Name: TPH as Gasoline **Reference:** EPA 5030/GCFID(LUFT)/EPA 8015B

Parameter	Result	Limit	Units	DF	Extracted	Analyzed
TPHC Gas (C6-C14)	ND	50	µg/L	1.0		10/4/05

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Date: 06-Oct-05

CLIENT: Winzler and Kelly
Work Order: 0509542
Project: 9012220211070, Nilsen Co., Ferndale

QC SUMMARY REPORT

Method Blank

Sample ID: **MB 100305** Batch ID: **R37259** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **10/3/05 8:28:00 AM** Prep Date:

Client ID: Run ID: **ORGCMS2_051003B** SeqNo: **536263**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0									
Tert-butyl alcohol (TBA)	ND	10									
Di-isopropyl ether (DIPE)	ND	1.0									
Ethyl tert-butyl ether (ETBE)	ND	1.0									
Benzene	ND	0.50									
Tert-amyl methyl ether (TAME)	ND	1.0									
Toluene	ND	0.50									
Ethylbenzene	0.07809	0.50									J
m,p-Xylene	ND	0.50									
o-Xylene	0.1209	0.50									J
1,4-Dichlorobenzene-d4	0.917	0.10	1.00	0	91.7%	81	139	0			

Sample ID: **MB-10/4/05** Batch ID: **R37256** Test Code: **BTXEW** Units: **µg/L** Analysis Date: **10/4/05 8:29:45 PM** Prep Date:

Client ID: Run ID: **ORGC8_051004B** SeqNo: **536218**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	ND	3.0									
Benzene	ND	0.50									
Toluene	0.1150	0.50									J
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	0.50									
o-Xylene	ND	0.50									
Cis-1,2-Dichloroethylene	0.944	0.10	1.00	0	94.3%	85	115	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Winzler and Kelly
Work Order: 0509542
Project: 9012220211070, Nilsen Co., Ferndale

QC SUMMARY REPORT

Method Blank

Sample ID: **MB 100305** Batch ID: **R37258** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **10/3/05 8:28:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS2_051003A** SeqNo: **536242**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	ND	50									

Sample ID: **MB-10/4/05** Batch ID: **R37255** Test Code: **TPHCGW** Units: **µg/L** Analysis Date: **10/4/05 8:29:45 PM** Prep Date:
Client ID: Run ID: **ORGC8_051004A** SeqNo: **536199**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gas (C6-C14)	ND	50									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

North Coast Laboratories, Ltd.

Date: 06-Oct-05

CLIENT: Winzler and Kelly
Work Order: 0509542
Project: 9012220211070, Nilsen Co., Ferndale

QC SUMMARY REPORT

Laboratory Control Spike

Sample ID: **LCS-05637** Batch ID: **R37259** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **10/3/05 5:27:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS2_051003B** SeqNo: **536261**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.95	1.0	20.0	0	94.7%	80	120	0			
Tert-butyl alcohol (TBA)	371.7	10	400	0	92.9%	25	162	0			
Di-isopropyl ether (DIPE)	19.23	1.0	20.0	0	96.1%	80	120	0			
Ethyl tert-butyl ether (ETBE)	18.64	1.0	20.0	0	93.2%	77	120	0			
Benzene	20.42	0.50	20.0	0	102%	78	117	0			
Tert-amyl methyl ether (TAME)	17.81	1.0	20.0	0	89.1%	64	136	0			
Toluene	19.52	0.50	20.0	0	97.6%	80	120	0			
Ethylbenzene	20.34	0.50	20.0	0	102%	80	120	0			
m,p-Xylene	40.18	0.50	40.0	0	100%	80	120	0			
o-Xylene	19.82	0.50	20.0	0	99.1%	80	120	0			
1,4-Dichlorobenzene-d4	1.12	0.10	1.00	0	112%	81	139	0			

Sample ID: **LCSD-05637** Batch ID: **R37259** Test Code: **8260OXYW** Units: **µg/L** Analysis Date: **10/4/05 2:29:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS2_051003B** SeqNo: **536273**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.38	1.0	20.0	0	91.9%	80	120	19.0	3.07%	20	
Tert-butyl alcohol (TBA)	267.8	10	400	0	67.0%	25	162	372	32.5%	20	R
Di-isopropyl ether (DIPE)	18.44	1.0	20.0	0	92.2%	80	120	19.2	4.16%	20	
Ethyl tert-butyl ether (ETBE)	19.15	1.0	20.0	0	95.7%	77	120	18.6	2.70%	20	
Benzene	20.00	0.50	20.0	0	100%	78	117	20.4	2.08%	20	
Tert-amyl methyl ether (TAME)	17.33	1.0	20.0	0	86.7%	64	136	17.8	2.74%	20	
Toluene	19.18	0.50	20.0	0	95.9%	80	120	19.5	1.76%	20	
Ethylbenzene	19.69	0.50	20.0	0	98.4%	80	120	20.3	3.25%	20	
m,p-Xylene	40.05	0.50	40.0	0	100%	80	120	40.2	0.318%	20	
o-Xylene	19.75	0.50	20.0	0	98.7%	80	120	19.8	0.364%	20	
1,4-Dichlorobenzene-d4	1.08	0.10	1.00	0	108%	81	139	1.12	3.76%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Winzler and Kelly
Work Order: 0509542
Project: 9012220211070, Nilsen Co., Ferndale

QC SUMMARY REPORT
Laboratory Control Spike

Sample ID: **LCS-05638** Batch ID: **R37256** Test Code: **BTXEW** Units: **µg/L** Analysis Date: **10/4/05 5:33:49 PM** Prep Date:
Client ID: Run ID: **ORGC8_051004B** SeqNo: **536216**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	39.95	3.0	40.0	0	99.9%	85	115	0			
Benzene	5.001	0.50	5.00	0	100%	85	115	0			
Toluene	5.125	0.50	5.00	0	102%	85	115	0			
Ethylbenzene	5.167	0.50	5.00	0	103%	85	115	0			
m,p-Xylene	10.26	0.50	10.0	0	103%	85	115	0			
o-Xylene	5.131	0.50	5.00	0	103%	85	115	0			
Cis-1,2-Dichloroethylene	1.05	0.10	1.00	0	105%	85	115	0			

Sample ID: **LCSD-05638** Batch ID: **R37256** Test Code: **BTXEW** Units: **µg/L** Analysis Date: **10/4/05 11:58:09 PM** Prep Date:
Client ID: Run ID: **ORGC8_051004B** SeqNo: **536224**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MTBE	38.44	3.0	40.0	0	96.1%	85	115	40.0	3.84%	15	
Benzene	4.795	0.50	5.00	0	95.9%	85	115	5.00	4.21%	15	
Toluene	4.873	0.50	5.00	0	97.5%	85	115	5.12	5.04%	15	
Ethylbenzene	4.922	0.50	5.00	0	98.4%	85	115	5.17	4.84%	15	
m,p-Xylene	9.818	0.50	10.0	0	98.2%	85	115	10.3	4.42%	15	
o-Xylene	4.923	0.50	5.00	0	98.5%	85	115	5.13	4.15%	15	
Cis-1,2-Dichloroethylene	1.06	0.10	1.00	0	106%	85	115	1.05	0.578%	15	

Sample ID: **LCS-05638** Batch ID: **R37258** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **10/3/05 6:58:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS2_051003A** SeqNo: **536240**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	1,036	50	1,000	0	104%	80	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Winzler and Kelly
Work Order: 0509542
Project: 9012220211070, Nilsen Co., Ferndale

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: **LCSD-05638** Batch ID: **R37258** Test Code: **GASW-MS** Units: **µg/L** Analysis Date: **10/4/05 2:58:00 AM** Prep Date:
Client ID: Run ID: **ORGCMS2_051003A** SeqNo: **536252**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gasoline	1,037	50	1,000	0	104%	80	120	1,040	0.145%	20	

Sample ID: **LCS-05639** Batch ID: **R37255** Test Code: **TPHCGW** Units: **µg/L** Analysis Date: **10/4/05 6:44:26 PM** Prep Date:
Client ID: Run ID: **ORGC8_051004A** SeqNo: **536197**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gas (C6-C14)	482.4	50	500	0	96.5%	85	115	0			

Sample ID: **LCSD-05638** Batch ID: **R37255** Test Code: **TPHCGW** Units: **µg/L** Analysis Date: **10/5/05 12:32:44 AM** Prep Date:
Client ID: Run ID: **ORGC8_051004A** SeqNo: **536205**

Analyte	Result	Limit	SPK value	SPK Ref Val	% Rec	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPHC Gas (C6-C14)	483.5	50	500	0	96.7%	85	115	482	0.231%	15	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

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Chain of Custody

please deliver in Geotracker format Global ID T0602300063

LABORATORY NUMBER: 0509542

Attention: Pat Kaspari
Results & Invoice to: Winzler & Kelly
Address: 633 3rd St
Eureka, CA 95501
Phone: 443-8326
Copies of Report to:
Sampler (Sign & Print): Gary S Lester Gary Lester

TAT: ☐ 24 Hr ☐ 48 Hr ☐ 5 Day ☐ 5–7 Day
☒ STD (2–3 Wk) ☐ Other:
PRIOR AUTHORIZATION IS REQUIRED FOR RUSHES

REPORTING REQUIREMENTS: State Forms ☐
Preliminary: FAX ☐ Verbal ☐ By: __/__/__
Final Report: FAX ☐ Verbal ☐ By: __/__/__

CONTAINER CODES: 1—½ gal. pl; 2—250 ml pl; 3—500 ml pl; 4—1 L Nalgene; 5—250 ml BG; 6—500 ml BG; 7—1 L BG; 8—1 L cg; 9—40 ml VOA; 10—125 ml VOA; 11—4 oz glass jar; 12—8 oz glass jar; 13—brass tube; 14—other

PRESERVATIVE CODES: a—HNO_3; b—HCl; c—H_2SO_4; d—$Na_2S_2O_3$; e—NaOH; f—$C_2H_3O_2Cl$; g—other

PROJECT INFORMATION

Project Number: 901222 02 11 070
Project Name: Nilsen Co, Ferndale
Purchase Order Number:

LAB ID	SAMPLE ID	DATE	TIME	MATRIX*	ANALYSIS: 3510/GCFID 8015B	ANALYSIS: 8260B	CONTAINER	PRESERVATIVE
	MW-5	9/23/05	1120	GW	X			HCl
	MW-10	↓	1125	↓	X			
	MW-2	↓	1139	↓	X			
	MW-3	↓	1150	↓	X			
	MW-8	↓	1205	↓		X		
	MW-6	↓	1211	↓		X		
	MW-1	↓	1222	↓		X		
	MW-9	↓	1230	↓	X			
	QCTB							

(do not analyze TB if any project sample is non-detect for all project analyses)

SAMPLE CONDITION/SPECIAL INSTRUCTIONS

X TPH-G by 3510/GCFID/8015B and BTEX, MTBE by 5030/8021B for samples MW-5, MW-10, MW-2, MW-3, MW-10

X TPH-G, BTEX + 5 fuel oxygenates by EPA 8260B for samples MW-6, MW-1, MW-9

RELINQUISHED BY (Sign & Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Gary S. Lester Gary S. Lester	9/23/05 12:50	[signature]	9-23-05 1300

SAMPLE DISPOSAL
☐ NCL Disposal of Non-Contaminated
☐ Return ☐ Pickup

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Air-Ex Fed-Ex Bus Hand

*MATRIX: DW=Drinking Water; Eff=Effluent; Inf=Influent; SW=Surface Water; GW=Ground Water; S=Soil; O=Other.

cold intact PW

ALL CONTAMINATED NON-AQUEOUS SAMPLES WILL BE RETURNED TO CLIENT

Appendix D
Standard Operating Procedures

WINZLER & KELLY CONSULTING ENGINEERS

STANDARD OPERATING PROCEDURES
GROUNDWATER LEVEL MEASUREMENTS AND
FREE PHASE HYDROCARBON MEASUREMENTS

1. Objective

To establish accepted procedures for detecting free-phase hydrocarbons and measuring groundwater levels in monitoring wells.

2. Background

Any time water levels are required to determine the groundwater flow gradient or flow direction, water levels are collected. Wells are tested for free-phase hydrocarbons prior to insertion of electronic water level probes or purge pumps the first time a well is sampled and in any well that has a history of free-phase hydrocarbons.

3. Personnel Required and Responsibilities

Project Manager: The Project Manager (PM) is responsible for ensuring that field personnel have been trained in these procedures and for verifying that water levels have been collected in compliance with this SOP.

Field Technician: The Field Technician is responsible for complying with this SOP, including determining if there are free phase hydrocarbons in the well, the thickness (if it exists) and the stabilized water level in the well.

4. Equipment Required

- Water level/free phase hydrocarbon indicator probe or pastes
- Tape measure
- Water Level Data Form/pencil
- Watch
- Disposable gloves
- Distilled water
- Alconox soap
- Containers to hold rinsate water
- Site Safety Plan and Hospital Map
- Keys to wells
- Tools to open wells

5. Procedure

After reviewing the Site Safety Plan and determining the type and concentrations of contaminants that may be present on site, the field personnel will don the proper level of personal protection prior to opening any wells.

Open all monitoring wells to be measured and remove expandable caps. Allow wells to equilibrate 5 to 15 minutes. Record time and visual observations regarding well access, condition, security, etc on water level data sheet.

5a. Alternative procedure for electronic water-level/free-phase hydrocarbon indicator

- Decontaminate probe with potable water and Alconox mix. Rinse with distilled water.
- Lower probe into the well and determine the presence of any free-phase hydrocarbons. The probe will emit a continuous sound if free product is present. If no product is present, the probe will make an oscillating (beeping) sound when it encounters water. Record the depth of free-phase hydrocarbons on the water level data sheet. If no free-phase hydrocarbons are present, record the water depth. DO NOT SUBMERGE THE PROBE THROUGH THE FLOATING PRODUCT LAYER.
- Gradient calculations shall then be performed by calculation of the groundwater elevation by:
- GW ELEV = (TOC) - (depth to water).
- TOC indicates top of casing elevation as surveyed.
- If free-phase hydrocarbons are indicated, determine the depth to water using a steel measuring tape and water indicator paste, by the procedure below.

5b. Alternative procedure for product and water indicator pastes

- Decontaminate tape measure.
- Place **product** indicator paste on bottom two feet of tape measure.
- Lower tape measure into well. Note depth to which the end of the tape is lowered relative to the point of survey mark on the top of the well casing.
- Withdraw the tape. If paste has changed color, free-phase hydrocarbons are present. Calculate depth to the floating layer by:
  - Depth to Product = (depth to which tape lowered into well) - (length of product indicator paste discoloration).
- Remove product indicator paste with paper towel and decontaminate tape measure.
- Apply **water** indicator paste on bottom two feet of tape measure.
- Lower tape into well. Note depth to which end of tape is lowered.
- Withdraw the tape. Calculate the depth to water by:
  - Depth to Water = (depth to which tape lowered into well) - (length of water indicator paste discoloration).
- Obtain the depth to groundwater level readings from the point of survey mark, or from the North side of the top of the casing, if no point of survey mark is present. Readings will be measured to the nearest 0.01 foot. Note time and readings on water level data sheet.
- Use the same measuring device to measure water levels in all wells to be used in the gradient calculation.

- Obtain depth to casing bottom for each well by submerging a tape measure until it reaches the bottom of the well. Readings will be measured to the nearest 0.01 foot. Note readings on data sheet. If sampling is not going to be completed at the site, close and lock all wells.
- Gradient calculations shall then be conducted by making water depth corrections for the presence of free product. First calculate the product thickness:
  - Product Thickness = (Depth to Water) - (Depth to Product).
  - Water elevations when free product is present shall then be calculated by:
  - GW ELEV = (TOC) - (Depth to Water) - $SG_{product}$ (Product Thickness)
  - On any site where monitoring will occur more than once, a free product sample will be collected and measured for specific gravity ($SG_{product}$). In the absence of the site specific free product specific gravity $SG_{product}$ shall be assumed to be 0.78.

WINZLER & KELLY CONSULTING ENGINEERS

STANDARD OPERATING PROCEDURES
for
MONITORING WELL PURGING AND SAMPLING ACTIVITIES

1.0 OBJECTIVE

To establish accepted procedures for the purging and sampling groundwater from monitoring wells, to ensure that representative samples of formation water are collected by accepted methods.

1.1 Background

To obtain a representative groundwater sample from monitor wells, it is necessary to remove (purge) stagnant water from within and near the well prior to sampling. In general, three to seven casing volumes must be removed from the well prior to sampling, to provide a representative sample. Wells may be sampled after purging less than the minimum three volumes if well recharge rates are beyond reasonable time constraints. The specific method of well purging will be decided on a case by case basis, or as required by project specifications.

1.2 Personnel Required and Responsibilities

Project Manager: The Project Manager (PM) is responsible for ensuring that field personnel have been trained in the use of these procedures and for verifying that monitoring well purging and sampling activities are performed in compliance with these SOP's.

Field Technician: The Field Technician is responsible for complying with these SOP's, including the purging and sampling of monitor wells, the safe containerization of extracted waters, the documentation of field procedures, and the handling of samples..

2.0 WELL PURGING ACTIVITIES

2.1 Equipment Required

- Bottom-filling bailer, suction air pump, air-lift pump, gas operated (bladder) pump, submersible pump, or other pumping device
- pH meter
- Conductivity/Temperature Meter
- Water Level Indicator
- Well Sampling Data Sheet
- Indelible marker
- Disposable gloves
- Containers to hold extracted water (as required)

2.2. Purging Procedure

Prior to groundwater sampling, each monitoring well will be purged as described below. Prior to insertion into each well, all equipment will be either decontaminated (following W&K Decontamination procedures) or will be deemed clean or previously unused by the manufacturer.

- Open all monitoring wells to be purged and allow to equilibrate 5 to 15 minutes. Record time and visual observations regarding well access, condition, security, etc. in log book.
- Obtain depth to groundwater level readings according to Winzler & Kelly Standard Operating Procedures for Groundwater Level measurements and Free Phase Hydrocarbon Measurements. Record time and readings on the Well Level Measurement Data Sheet.
- Calculate the volume of standing water in each monitoring well. Record the volume calculated for each well on the Well Sampling Data Sheet.
- Begin purging the well by removing water from the well and collecting in a calibrated container (i.e., 5-gallon bucket marked in 1-gallon increments). The depth, or interval, from which the water is being purged should be noted on the data sheet.
- Obtain readings of field parameters (pH, conductivity, temperature, and turbidity) and make visual observations of color/odor/turbidity at selected intervals (i.e., every gallon, every five gallons, etc.) throughout the purging process. Depending on the calculated volume and the expected number of gallons to be purged, a minimum of five readings should be collected. Record the time, readings, and visual comments on the Purge Data Sheet.
- Continue purging until at least three (minimum) to four well volumes have been removed and the field parameters stabilize to within:

pH	~0.1
conductivity	~10%
turbidity	~10%
temperature	~1°

  Do not exceed seven well volumes.
- Obtain a final depth to groundwater level measurement prior to collection of the groundwater sample and note the reading and time on the Well Level Measurement Data Sheet. Be sure that the measurement probe has been thoroughly decontaminated prior to insertion into each well. Note any qualitative comments regarding recharge rate of each well, and calculate the percent of the original water column that has recovered at the time of the final depth measurement. It is ideal to attain a minimum of 80% water level recovery prior to sampling, if time constraints allow. Very slow recharge rates may not allow purging the minimum three volumes or 80% recovery; lesser volumes may be used for sampling, as needed and documented.
- Collect a groundwater sample following the directions below under Section 3.0.

- Containerize all purge water and decontamination water in 55-gallon drums. Use yellow indelible markers (storeroom supply) to label all drums on the side with date, contents, origin and other pertinent information. Avoid marking the tops of drums with black marker, such marks are temporary and will soon fade/rust. Note the number, condition and location of drums on site in the field notes.

3.0 WELL SAMPLING ACTIVITIES

3.1 Equipment Required

- Disposable bailer (previously unused) *
- Bottom emptying device (sampling port)
- Monofilament nylon line (min 40-lb test)
- Monitor Well Purge & Sample Data Sheets
- Sample containers (preserved, as required) - provided by the laboratory
- Sample labels
- Indelible marker
- Disposal gloves
- Decontamination soap (Alconox)
- Distilled water for equipment decontamination.

*A variety of sampling techniques are available for the collection of groundwater samples. Except where otherwise required, W&K only utilizes disposable polyethylene bailers to collect groundwater samples.

3.2. Sampling Procedure

Prior to collecting a groundwater sample from a monitoring well, each well must be properly purged in accordance with W&K's SOP for Monitoring Well Purging Activities (See Section 2.0 above), including the measurement of the final water level and documentation of recharge.

- Water from the desired screen interval will be collected by lowering the previously unused disposable, polyethylene, bottom-filling bailer into the well.
- When bailer is completely full, carefully retract the bailer from the well casing.
- Using a previously unused, new, bottom-emptying device, to minimize agitation of the water, transfer the water from the bailer to the sample containers.
- When sampling for volatile constituents (VOA's), the water samples will be collected in 40-ml glass vials (preserved as required by the analyses requested). Precautions will be taken to prevent capturing air bubbles in the vials.
- Upon filling, each vial will be immediately capped with a Teflon septum and plastic screw cap. The vial will be checked for air bubbles by inverting and gently tapping the vial. If any bubbles are visible, the vial will be refilled and confirmed to be free of any air bubbles.

- At a minimum, all samples will be labeled with the following information:

Sample ID	Date and Time Sample Collected
Location	Sampler's Initials
Project Number	Analyses Requested

- Sample information will be documented on the Chain-of-Custody form.
- All samples will be placed in an ice chest, chilled to a temperature of 4°C. The ice chest will remain in the custody of the sampler until it is transferred to the courier service for delivery at the analytical laboratory for analyses. Any and all transfer of sample custody must be documented on the Chain-of-Custody form with the name, signature, affiliation, date and time of the persons releasing and receiving custody of the samples.
- Upon completion of the sampling activities, each well shall be closed and secured by replacing the well cap and securing the lock.
- Dispose of gloves, bailers, bottom-emptying devices, and bailing line after each use.

Appendix E
Field Notes

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122202 1172
WELL DESIGNATION: MW-1

PROJECT DATE: 9/23/05
SAMPLER: Lester
SAMPLE NUMBER: MW-1

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 4.07
C. DEPTH OF WELL: MEASURED 11.42
D. HEIGHT OF WATER COLUMN (C-B): 7.35
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" ____ 3" ____ 4" ✓ OTHER ____

CALCULATED WELL VOLUME: D X V = 7.35 · .653 = 4.8 = 14.5 gal...
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR ✓ SHEEN ✓ FLOATING PRODUCT THICKNESS ____

PUMP TYPE: POLY BAILER ____ STAINLESS BAILER ____
ELECTRIC ____ OTHER ____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
0920	initial	—	6.46	20.2	731	yellowish
0935	5.0		6.41	20.1	805	murky
0945	10.0		6.74	19.7	824	"
0955	12.5		6.56	18.9	809	"
1000	13.5		6.60	18.7	801	"
1010	14.0		6.69	18.5	807	"
1025	14.5		6.71	18.9	795	"

RECHARGE RATE (qualitative): slow

SAMPLER TYPE: TEFLON BAILER ____ ACRYLIC BAILER ____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S ____
PRESERVED LITERS ____ UNPRESERVED LITERS ____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED ____ UNFILTERED ____
OTHER ____

COMMENTS:

DO = 0.6

Sample @ 1222

FORMSWELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122202 11072
WELL DESIGNATION: MW-2

PROJECT DATE: 9/23/05
SAMPLER: Lester
SAMPLE NUMBER: MW-2

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 3.74
C. DEPTH OF WELL: MEASURED 10.45
D. HEIGHT OF WATER COLUMN (C-B): 6.71
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" ✓ 3" ____ 4" ____ OTHER ____

CALCULATED WELL VOLUME: D X V = 6.71 · .163 = 1.15 · 3 3.3 ...
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR ____ SHEEN ____ FLOATING PRODUCT THICKNESS ____

PUMP TYPE: POLY BAILER ____ STAINLESS BAILER ____
ELECTRIC ____ OTHER ____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
1208	initial	—	6.46	20.0	271	clear
	1.0		6.74	18.6	278	cloudy
	1.75		6.81	18.4	275	cloudy
	2.5		6.83	17.9	269	cloudy
	2.75		6.84	17.8	259	cloudy
	3.0		6.86	17.8	258	"
	3.5		6.87	17.7	257	"

RECHARGE RATE (qualitative): Good

SAMPLER TYPE: TEFLON BAILER ____ ACRYLIC BAILER ____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED:
PRESERVED VOA'S ____ UNPRESERVED VOA'S ____
PRESERVED LITERS ____ UNPRESERVED LITERS ____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED ____ UNFILTERED ____
OTHER ____

COMMENTS:

DO 1.4.

Sample 1139

FORMS\WELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122202 11072
WELL DESIGNATION: MW-3

PROJECT DATE: 9/23/05
SAMPLER: Lentz
SAMPLE NUMBER: MW-3

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 4.56
C. DEPTH OF WELL: MEASURED 9.95
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B): 5.39

CASING DIAMETER: 2" ✓ 3"____ 4"____ OTHER____

CALCULATED WELL VOLUME: D X V = 5.39 · .163 = 1.5 · 3 3.5 ...
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR: No SHEEN: NO FLOATING PRODUCT THICKNESS____

PUMP TYPE: POLY BAILER____ STAINLESS BAILER____
ELECTRIC____ OTHER____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
236	initial	—	6.94	19.0	274	clear
247	1.5		6.81	19.3	325	turbid
251	2.0		6.94	19.3	323	turbid
255	2.5		7.04	18.9	331	"
300	3.0		7.08	19.0	330	"

RECHARGE RATE (qualitative): Good

SAMPLER TYPE: TEFLON BAILER____ ACRYLIC BAILER____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S____
PRESERVED LITERS____ UNPRESERVED LITERS____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED____ UNFILTERED____
OTHER____

COMMENTS:

DO = 6.0

Sample
1150

FORMSWELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 101222021 11072
WELL DESIGNATION: MW-5

PROJECT DATE: 7/22/05
SAMPLER: Lesten
SAMPLE NUMBER: MW-5

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 5.02
C. DEPTH OF WELL: MEASURED 12.25
D. HEIGHT OF WATER COLUMN (C-B): 7.23
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" ✓ 3" ____ 4" ____ OTHER ____

CALCULATED WELL VOLUME: D X V = 7.23 · .163 = 1.2g · 3 = 3.5g
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR NO SHEEN NO FLOATING PRODUCT THICKNESS ____

PUMP TYPE: POLY BAILER ____ STAINLESS BAILER ____
ELECTRIC ____ OTHER ____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
1230	initial	—	4.89	17.2	391 µs/cm	clear
1245	2.0	1.4	5.01	17.0	690 µs/cm	v. turbid
1250	2.5	2.1	5.21	15.3	728 µs/cm	v turbid
1255	3.0	2.7	5.24	15.2	731 µs/cm	" "
1300	3.5	3.0	5.27	15.6	710 µs/cm	" "

RECHARGE RATE (qualitative): appears good

SAMPLER TYPE: TEFLON BAILER ____ ACRYLIC BAILER ____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S ____
PRESERVED LITERS ____ UNPRESERVED LITERS ____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED ____ UNFILTERED ____
OTHER ____

COMMENTS:

DO = 5.0

sample @ 1120

1/4 bailer @ 2.5g
never dry

FORMSWELLSMPL

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WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122202 11072
WELL DESIGNATION: MW-6

PROJECT DATE: 9/23/05
SAMPLER: Lester
SAMPLE NUMBER: MW-6

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 4.59
C. DEPTH OF WELL: MEASURED 9.75
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B): 5.16

CASING DIAMETER: 2" ✓ 3"___ 4"___ OTHER___

CALCULATED WELL VOLUME: D X V = 5.16 163 = .84 = 2.5 g...
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR Yes SHEEN NO FLOATING PRODUCT THICKNESS___

PUMP TYPE: POLY BAILER___ STAINLESS BAILER___
ELECTRIC___ OTHER___

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
0830	initial	✓	6.07	22.5	473	clear
0840	1.5	1.9	6.42	21.1	541	~~turbid~~ clou
0850	2.0	2.4	6.28	20.8	539	cloudy
0855	2.25	2.7	6.25	20.6	544	cloudy
0900	2.50	3.0	6.26	20.4	542	

RECHARGE RATE (qualitative): good

SAMPLER TYPE: TEFLON BAILER___ ACRYLIC BAILER___ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S___
PRESERVED LITERS___ UNPRESERVED LITERS___
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED___ UNFILTERED___
OTHER___

COMMENTS:

DO = 0.8 mg/L

Sample 1211

FORMSWELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122202 11072
WELL DESIGNATION: MW-8

PROJECT DATE: 9/23/05
SAMPLER: Carter
SAMPLE NUMBER: MW-8

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 3.98
C. DEPTH OF WELL: MEASURED 14.88
D. HEIGHT OF WATER COLUMN (C-B):
E. GROUNDWATER ELEVATION (A-B): 10.90

CASING DIAMETER: 2" ✓ 3" ____ 4" ____ OTHER ____

CALCULATED WELL VOLUME: D X V = 10.90 . 163 = 1.8 . 3 = 5.4 ...
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR NO SHEEN NO FLOATING PRODUCT THICKNESS ____

PUMP TYPE: POLY BAILER ____ STAINLESS BAILER ____
ELECTRIC ____ OTHER ____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
310	initial	—	6.57	19.3	705	clear
320	2.0	1.1	6.74	21.3	721	turbid
330	3.5	1.9	6.83	21.2	740	"
340	4.5	2.2	7.01	21.0	728	"
345	5.0	2.8	7.04	20.7	721	"
350	5.5	3.1	7.06	20.6	723	"
400	6.0	3.5	7.05	20.8	719	"

RECHARGE RATE (qualitative): good

SAMPLER TYPE: TEFLON BAILER ____ ACRYLIC BAILER ____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S ____
PRESERVED LITERS ____ UNPRESERVED LITERS ____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED ____ UNFILTERED ____
OTHER ____

COMMENTS:

Sample 1205

DO = 0.4 mg/L

FORMSWELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 901220-02 11072
WELL DESIGNATION: MW-9

PROJECT DATE: 9/22/05
SAMPLER: Lester
SAMPLE NUMBER: MW-9

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 3.98
C. DEPTH OF WELL: MEASURED 14.87
D. HEIGHT OF WATER COLUMN (C-B): 10.89
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" ✓ 3"____ 4"____ OTHER____

CALCULATED WELL VOLUME: D X V = 10.89 · .163 = 1.8 = 5.4 g
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR____ SHEEN____ FLOATING PRODUCT THICKNESS____

PUMP TYPE: POLY BAILER____ STAINLESS BAILER____
ELECTRIC____ OTHER____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
1180	initial	—	5.39	10.3	590 µs/cm	clear
1200	2.0	1.1	5.29	18.4	771 µs/cm	sl cloudy
1205	3.5	1.9	5.27	17.8	842 µs/cm	" "
1207	4.0	2.3	5.26	17.6	911 µs/cm	turbid
1212	4.5	2.7	5.16	17.4	907 µs/cm	turbid
	~~5.0~~					
Dry	~~5.5~~					

RECHARGE RATE (qualitative):

SAMPLER TYPE: TEFLON BAILER____ ACRYLIC BAILER____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S____
PRESERVED LITERS____ UNPRESERVED LITERS____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED____ UNFILTERED____
OTHER____

COMMENTS:

DO 1.0 mg/l

1/2 bailer @ 3.5 g

stopped @ 1230

1/4 bailer @ 4.0

dry @ 4.5

FORMS\WELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS

WELL SAMPLING DATA SHEET

PROJECT NAME: Nilsen
PROJECT NUMBER: 901222202 11072
WELL DESIGNATION: MW-10

PROJECT DATE: 9/22/05
SAMPLER: Lester
SAMPLE NUMBER: MW-10

CONDITION OF WELL HEAD/VAULT/CAP & LOCK:
A. TOP OF CASING ELEVATION:
B. DEPTH TO GROUNDWATER (initial): 3.28
C. DEPTH OF WELL: MEASURED 14.87
D. HEIGHT OF WATER COLUMN (C-B): 11.59
E. GROUNDWATER ELEVATION (A-B):

CASING DIAMETER: 2" ✓ 3" ____ 4" ____ OTHER ____

CALCULATED WELL VOLUME: D X V = 11.59 · .163 = 2 · 3 = 6
Volume (V) of 2" well - 0.163 gal/ft
Volume (V) of 4" well - 0.653 gal/ft

ODOR No SHEEN No FLOATING PRODUCT THICKNESS ____

PUMP TYPE: POLY BAILER ____ STAINLESS BAILER ____
ELECTRIC ____ OTHER ____

PUMP DEPTH:

TIME	GALLONS PURGED	NO. OF WELL VOLUMES	pH	TEMPERATURE (°F OR °C)	CONDUCTIVITY (mmhos/cm or µmhos/cm	TURBIDITY (NTU or visual)
1315	initial	—	5.09	20.4	482	clear
1335	2.0	1	5.66	20.9	485	cloudy
1345	3.5	1.5	5.69	20.8	501	turbid
1350	4.5	2.2	5.56	21.0	498	"
1355	5.5	2.5	5.64	20.0	489	"
1359	6.0	3.0	5.77	19.6	491	"

RECHARGE RATE (qualitative): Good

SAMPLER TYPE: TEFLON BAILER ____ ACRYLIC BAILER ____ DISPOSABLE BAILER ✓

SAMPLES COLLECTED: PRESERVED VOA'S 3 UNPRESERVED VOA'S ____
PRESERVED LITERS ____ UNPRESERVED LITERS ____
500 ml PLASTIC BOTTLE WITH PRESERVATIVE FOR METALS:
FILTERED ____ UNFILTERED ____
OTHER ____

COMMENTS:

DO = 3.0

Sample 1125

FORMS\WELLSMPL

WINZLER & KELLY
CONSULTING ENGINEERS
633 Third Street, Eureka, CA 95501-0417
(707) 443-8326 / FAX (707) 444-8330

By GSC Date 9/22/05 Client Nilsen Sheet No. ____ of ____

Subject Y4 sampling Job No. 90122208.11070

Thursday Sept. 22, 2005

0800 pack up field supplies / sample forms

0830 pick up DOT drum from Renner

0900 Arrive at site

0900 - 1040 open wells

1100 - 1135 water levels

1140 - 400 Purge wells

400 - 430 secure site / visit barn for drum inventory

was told by barn staff that the drum storage was becoming burdensome. They refused to store an empty drum overnight for me.

Friday Sept. 23, 2005

830 Arrive at site

900 - 1030 purge wells MW-1, 6

11 - 1:00pm sample wells

1:10 - 2:30 prepare samples for lab / secure site

3:00 Return unused DOT drum to Renner

3 - 4:00 Prepare notes / assist lab pick up of samples

CONSULTING ENGINEERS

WATER LEVEL MEASUREMENT DATA SHEET

PROJECT NAME: Nilsen

PROJECT NUMBER: 90122202.11057

TODAY'S DATE: 9/22/05

FIELD PERSONNEL: Lester

WELL NUMBER	OPEN WELL	INITIAL WATER LEVEL		FINAL WATER LEVEL		COMMENTS
	Time	Time	Depth to Water (ft. bgs)	Time 9/23/05	Depth to Water (ft. bgs)	
MW-5	910	1100	5.02	1115	5.61	
MW-9	920	1108	3.98	1229	4.12	
MW-10	930	1112	3.28	1124	3.43	
MW-2	940	1118	3.74	1138	3.88	
MW-3	1020	1122	4.56	1149	4.68	
MW-8	1030	1126	3.98	1204	4.11	
MW-6	1035	1130	4.59	1210	460	
MW-1	1040	1132	4.07	1221	4.19	

Weather Conditions Today: overcast / calm

WINZLER & KELLY
CONSULTING ENGINEERS

DISSOLVED OXYGEN MEASUREMENT FORM

PROJECT NAME: Nilsen
PROJECT NUMBER: 90122203 11072

TODAY'S DATE: 9/23-24/05
FIELD PERSONNEL: Lester

Well No.	High Range (D.O. > 3 mg/L)		Low Range (D.O. < 3 mg/L)		Comments
	No. of Drops	D.O. Conc. (mg/L) =(No. of Drops) x (1 mg/L)	No. of Drops	D.O. Conc. (mg/L) =(No. of Drops) x (0.2 mg/L)	
MW-5	5	5.0			
MW-10	3	3.0			
MW-9			5	1.0	
MW-2			7	1.4	
MW-3	6	6.0			
MW-8			2	0.4	
MW-6			4	0.8	
MW-1			3	0.6	

Weather Conditions Today: clear/calm