Sundet, Rich

From: Charles Ronan, PhD [chuck@chemtrack.net]
Sent: Sunday, February 23, 2003 8:19 PM
To: Rich Sundet
Subject: Johnson Nissan Report Feb 03

Johnson Nissan Update - Feb 03...

Rich,

I've attached the report as a PDF file.

Thank you,

Chuck Ronan

Johnson Nissan Project
Anchorage Alaska
Remedial Activities Interim Report
October 2002 - February 2003

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Introduction

This interim report summarizes site activities and data from October 3, 2002 through November 11, 2002. At that time all field activities stopped because of freezing temperatures. Previous field activities and site data were presented as an interim report on October 8, 2002.

Site activities to date have included collection of groundwater data from on-site and off-site wells, injection and recovery of surfactant solution into on-site wells, and collection / laboratory analysis of representative samples from MW-1, MW-2, MW-6 and MW-8 to evaluate remediation and potential contaminant migration.

Three additional wells (MW-13, MW-14 and MW-15) were placed on-site on October 16, 2002. These wells were installed within the known plume area. A groundwater sample was collected from MW-14. See Figure 1 for locations of all wells.

A GeoProbe was scheduled to be installed in the northern half of 48th Street to determine the effects, if any, of the 18 inch CMP storm drain on the groundwater flow. A comparison of groundwater elevations over a 10 year period and a review of the storm drain as-builts indicate that relative fluctuations on groundwater elevations, as measured on both the northern (MW-2) and southern sides (MW-8) of 48th Street, were identical and that the 18 inch CMP storm drain was not redirecting the groundwater flow. Based on that review the GeoProbe was not installed.

Groundwater Data

The groundwater data included measurement of flow rates, volumes, and slug tests. The flow rates ranged from 1194 gpd at MW-1, 720 gpd at MW-6 and 1920 gpd at MW-8 compared to an average of 60 gpd at MW-2.

Measurements at the additional wells MW-13, 14, and 15 showed initial average recovery rates of 324 gallons per well per day. Subsequently the recovery rate leveled off at 250 gallons per well per day.

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Injection and Recovery Data

The Injection and Recovery Log presents injection and recovery data for October 3 through November 11, for wells MW-1, MW-2, MW-6, MW-13, MW-14 and MW-15. See Table 1:Injection and Recovery Log.

Injection -Well Water Only (non-surfactant)

Well Number	Volume gal
MW-1	30, 400
MW-6	11,312
MW-13	8,000
MW-14	8,000
MW-15	0

Injection and Recovery - Surfactant Solution

Well Number	Injected gal	Recovered gal
MW-1	0	0
MW-2	80	4,418
MW-6	200	2,358
MW-13	345	657
MW-14	360	657
MW-15	10	3,659

Analytical Data

A summary of all sampling data is presented in Table 2: Summary of Analytical Data and Figures 2, 3, and 4.

Two additional groundwater samples were collected following the September sampling event. A groundwater sample was collected on October 23 from monitoring well MW-14 and a groundwater sample was collected on November 11 from MW-8.

The sample from MW-14 had high GRO and BTEX levels.

A sample from the downgradient and off-site well MW-8 was collected on November 11, 2002 to assess potential effects of contaminant mobilization. Analytical data indicated that GRO, Total BTEX and DRO constituents were all at lower levels compared to June 2002 and September 2002 levels.

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Discussion of Data

Wells with acceptable flow rates appear to be responding as predicted: a significant (1000%) increase in hydrocarbon solubilization at the contaminant source MW-6 with significant decrease (500%) in downgradient and off-site MW-8.

For all wells, the volume of recovered surfactant solution exceeded the volume injected. When considering the groundwater velocity at this site and the recovery rates and volumes, there appears to be sufficient hydraulic containment at the site.

The most recent sample data from MW-8 (NOV 2002) indicates that off-site migration is decreasing which is attributable to a removal of the upgradient contaminant source. A sample from the downgradient and off-site well MW-8 was collected on November 11, 2002 to assess potential effects of contaminant mobilization. Analytical data indicated that GRO, Total BTEX and DRO constituents were all at lower levels compared to June 2002 and September 2002 levels.

Long-Term Monitoring Schedule

Groundwater samples are scheduled to be collected from on-site wells (MW-2 and MW-15) and from off-site downgradient wells (MW-8, MW-11, MW-12) in April 2003.

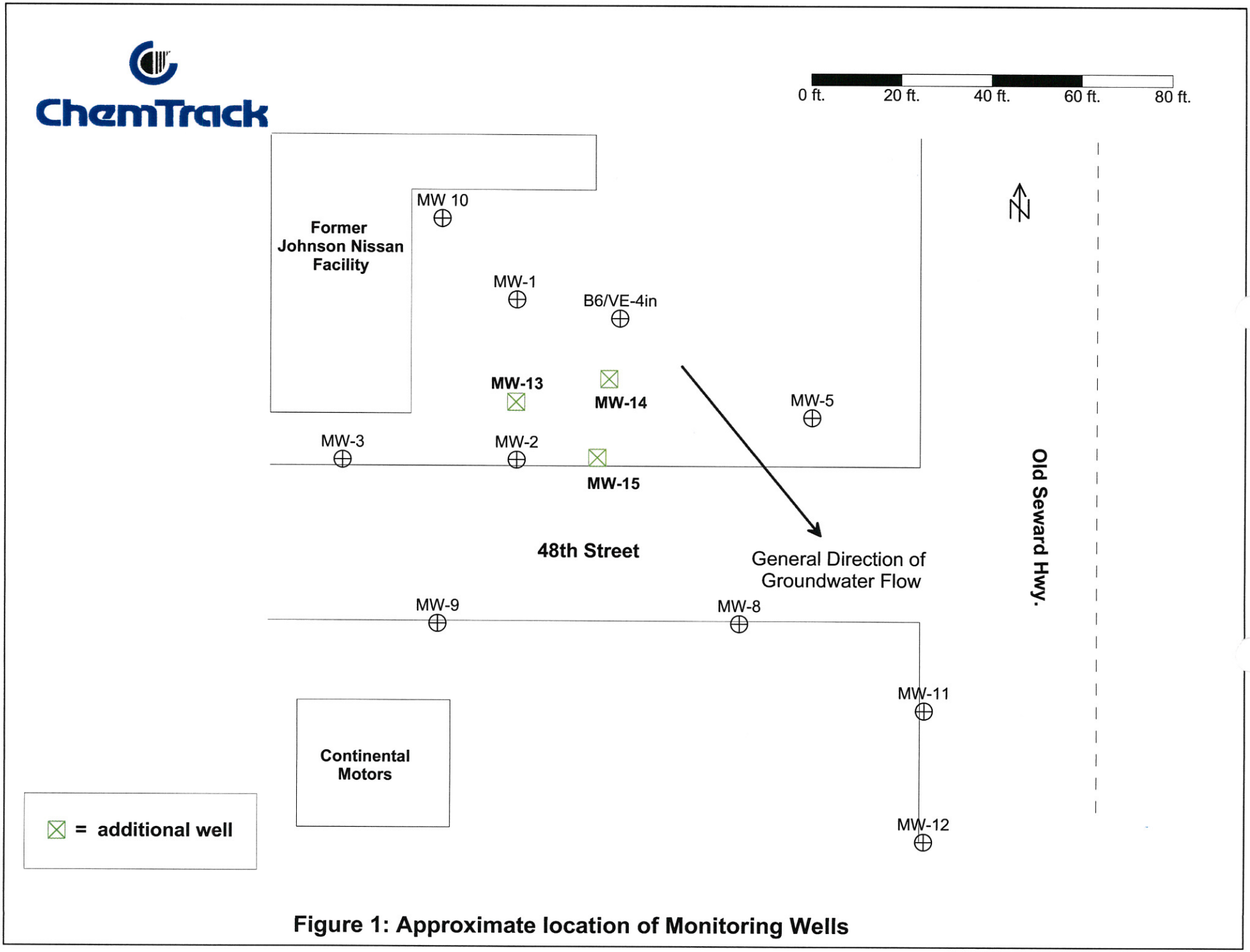

Figure 1: Approximate location of Monitoring Wells

TABLE 1

INJECTING AND RECOVERY LOG

JOHNSON NISSAN

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DATE			MW1		MW2		MW6		TIME	GPM	MW13		MW14		MW15	
			INJECT	RECOVER	INJECT	RECOVER	INJECT	RECOVER	MIN		INJECT	RECOVER	INJECT	RECOVER	INJECT	RECOVER
	METER READING	GAL				46%		54%								
3-Oct-02	17,503															
8-Oct-02	18,905	1,402				645		757								
9-Oct-02	19,192	287				132		155								
10-Oct-02	19,478	286				132		154								
11-Oct-02	19,522	44				20		24								
12-Oct-02	19,566	44				20		24								
13-Oct-02	19,566	-				-		-								
INJECT H2O IN W#6	19,566	-				-	3312	-	1,440	2.30						
16-Oct-02	19,610	44				20		24								
INSTALL W13,14,15	19,610	-				-		-								
17-Oct-02	19,916	306				141		165								
18-Oct-02	20,330	414				190		224								
19-Oct-02	20,635	305				140		165								
INJECT H2O IN W#1	20,635	-	3200			-		-								
20-Oct-02	20,635	-	3200			-		-								
21-Oct-02	21,358	723	3200			333		390								
22-Oct-02	21,870	512	3200			236		276								
MW 14 SAMPLE 10/23/02	21,870	-	3200			-		-								
23-Oct-02	22,881	1,011					200					334		334		334
24-Oct-02	23,852	971	3200								120	324	60	324		324
25-Oct-02	24,445	593	3200								100		140			593
26-Oct-02	24,445	-											160			
27-Oct-02	24,445	-														
28-Oct-02	24,445	-														
29-Oct-02	24,445	-			80						125				10	
30-Oct-02	24,445	-	800				800				800		800			
31-Oct-02	24,576	131	800			66	800				800		800			65.5
1-Nov-02	25,045	469	800			235	800				800		800			234.5
2-Nov-02	25,570	525	800			263	800				800		800			262.5
3-Nov-02	26,169	599	800			300	800				800		800			299.5
4-Nov-02	26,692	523	800			262	800				800		800			261.5
5-Nov-02	27,242	550	800			275	800				800		800			275
6-Nov-02	27,845	603	800			302	800				800		800			301.5
7-Nov-02	28,344	499	800			250	800				800		800			249.5
8-Nov-02	28,800	456	800			228	800				800		800			228
9-Nov-02	28,800	-				0										0
10-Nov-02	28,800	-				0										0
11-Nov-02	29,263	463				232										232
WATER INJECT			**30400**	**0**			**11312**				**8000**		**8000**			
SURFACTANT					**80**	**4418**	**200**	**2358**			**345**	**657**	**360**	**657**	**10**	**3659**

VOLUME OF H2O ONLY

TABLE 1

INJECTING AND RECOVERY LOG

JOHNSON NISSAN

ChemTrack

DATE	METER READING	GAL	MW1 INJECT	MW1 RECOVER	MW2 INJECT	MW2 RECOVER	MW6 INJECT	MW6 RECOVER	TIME MIN	GPM	MW13 INJECT	MW13 RECOVER	MW14 INJECT	MW14 RECOVER	MW15 INJECT	MW15 RECOVER
3-Oct-02	17,503					46%		54%								
8-Oct-02	18,905	1,402				645		757								
9-Oct-02	19,192	287				132		155								
10-Oct-02	19,478	286				132		154								
11-Oct-02	19,522	44				20		24								
12-Oct-02	19,566	44				20		24								
13-Oct-02	19,566	-				-		-								
INJECT H2O IN W#6	19,566	-				-	3312	-	1,440	2.30						
16-Oct-02	19,610	44				20		24								
INSTALL W13,14,15	19,610	-				-		-								
17-Oct-02	19,916	306				141		165								
18-Oct-02	20,330	414				190		224								
19-Oct-02	20,635	305				140		165								
INJECT H2O IN W#1	20,635	-	3200			-		-								
20-Oct-02	20,635	-	3200			-		-								
21-Oct-02	21,358	723	3200			333		390								
22-Oct-02	21,870	512	3200			236		276								
MW 14 SAMPLE 10/23/02	21,870	-	3200			-		-								
23-Oct-02	22,881	1,011					200					334		334		334
24-Oct-02	23,852	971	3200								120	324	60	324		324
25-Oct-02	24,445	593	3200								100		140			593
26-Oct-02	24,445	-											160			
27-Oct-02	24,445	-														
28-Oct-02	24,445	-														
29-Oct-02	24,445	-			80						125				10	
30-Oct-02	24,445	-	800				800				800		800			
31-Oct-02	24,576	131	800			66	800				800		800			65.5
1-Nov-02	25,045	469	800			235	800				800		800			[illegible]
2-Nov-02	25,570	525	800			263	800				800		800			[illegible]
3-Nov-02	26,169	599	800			300	800				800		800			[illegible]
4-Nov-02	26,692	523	800			262	800				800		800			261.5
5-Nov-02	27,242	550	800			275	800				800		800			275
6-Nov-02	27,845	603	800			302	800				800		800			301.5
7-Nov-02	28,344	499	800			250	800				800		800			249.5
8-Nov-02	28,800	456	800			228	800				800		800			228
9-Nov-02	28,800	-				0										0
10-Nov-02	28,800	-				0										0
11-Nov-02	29,263	463				232										232
WATER INJECT			**30400**	**0**			**11312**				**8000**		**8000**			
SURFACTANT					**80**	**4418**	**200**	**2358**			**345**	**657**	**360**	**657**	**10**	**3659**

VOLUME OF H2O ONLY

TABLE 2
SUMMARY OF ANALYTICAL DATA

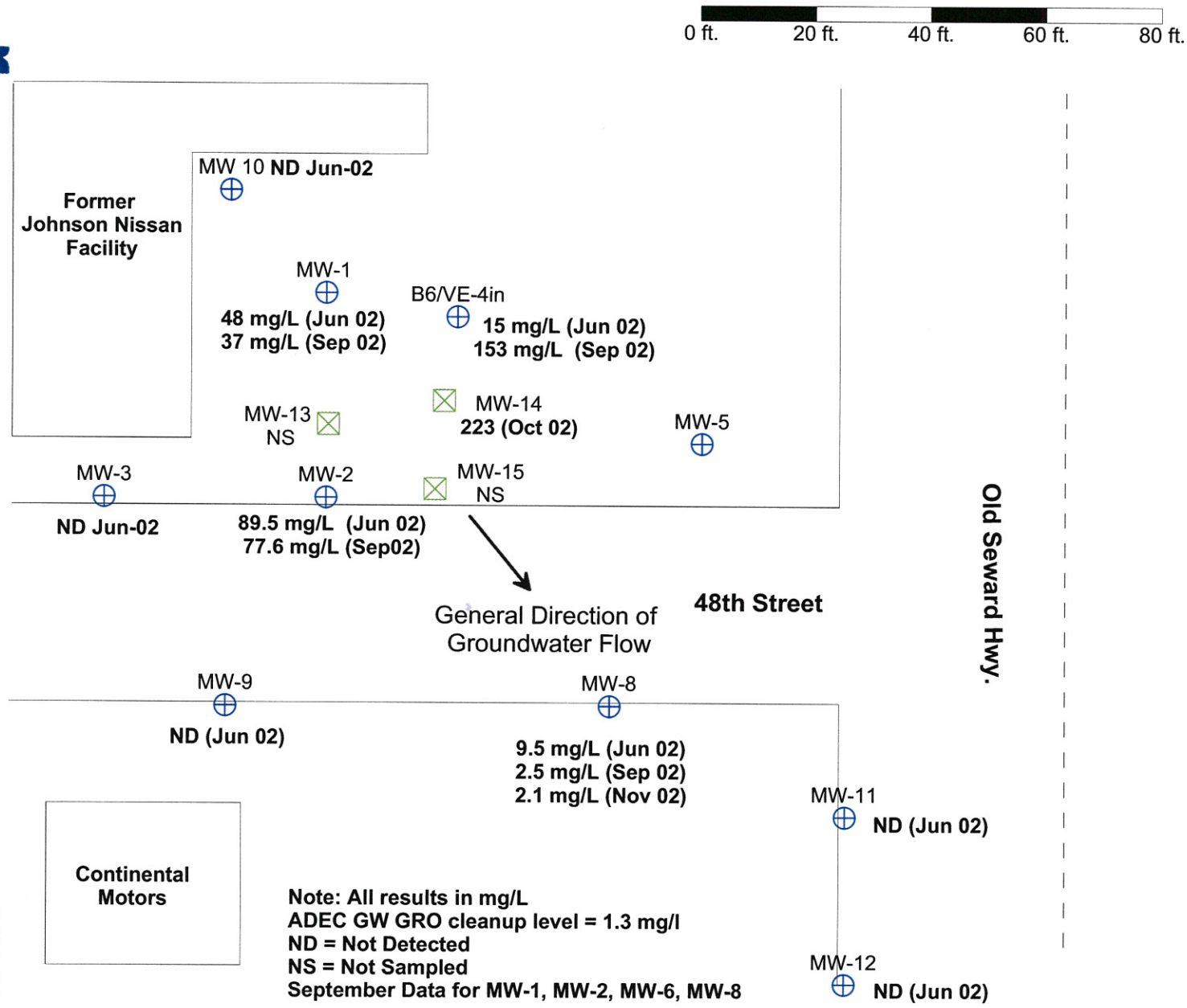
ChemTrack

JOHNSON-NISSAN

20-Feb-03

		GRO	Benzene	Ethyl B	Toluene	Xylenes t
	mg/L	1.3	0.005	0.7	1	10
MW 1	17-Sep-02	36.8	2.57	0.685	5.7	5.1
	7-Jun-02	47.7	4.74	1.13	8.42	6.2
	9-Aug-00	14.5	1.49	1.68	0.411	2.151
	Dec-96	66.9	11	2.23	16.8	11.63
	Jan-95	97.6	14.6	2.79	27.6	14.8
MW 2	17-Sep-02	89.5	17.7	1.36	19.2	6.99
	7-Jun-02	77.6	10.6	1.44	10.8	8.00
	9-Aug-00	57	5.27	7.88	1.46	9.69
	Dec-96	152	25.8	4.41	36.7	21.93
	Jan-95	156	32.8	3.4	44	17.5
MW-6	17-Sep-02	153	13.6	2.57	28	17.6
	7-Jun-02	15	1.69	0.231	1.95	1.5
	9-Aug-00	42.1	3.82	4.48	0.637	3.362
	Dec-96	18.6	2.29	0.184	4	2.334
	Jan-95	20.7	1.53	0.792	3.74	3.51
MW 8	11-Nov-02	2.13	0.71	<.025	<.025	<.05
	17-Sep-02	<2.5	0.687	<.050	<.050	<.15
	7-Jun-02	9.5	3.6	0.022	0.016	0.35
	9-Aug-00	1.19	0.503	,	<.02	,
	Mar-96	9.89	4.91	0.1	<<.1	0.236
	Jan-95	3.45	1.51	0.004	0.0027	0.0073
MW -14	23-Oct-02	223	278	2.74	46.6	24.08

ChemTrack



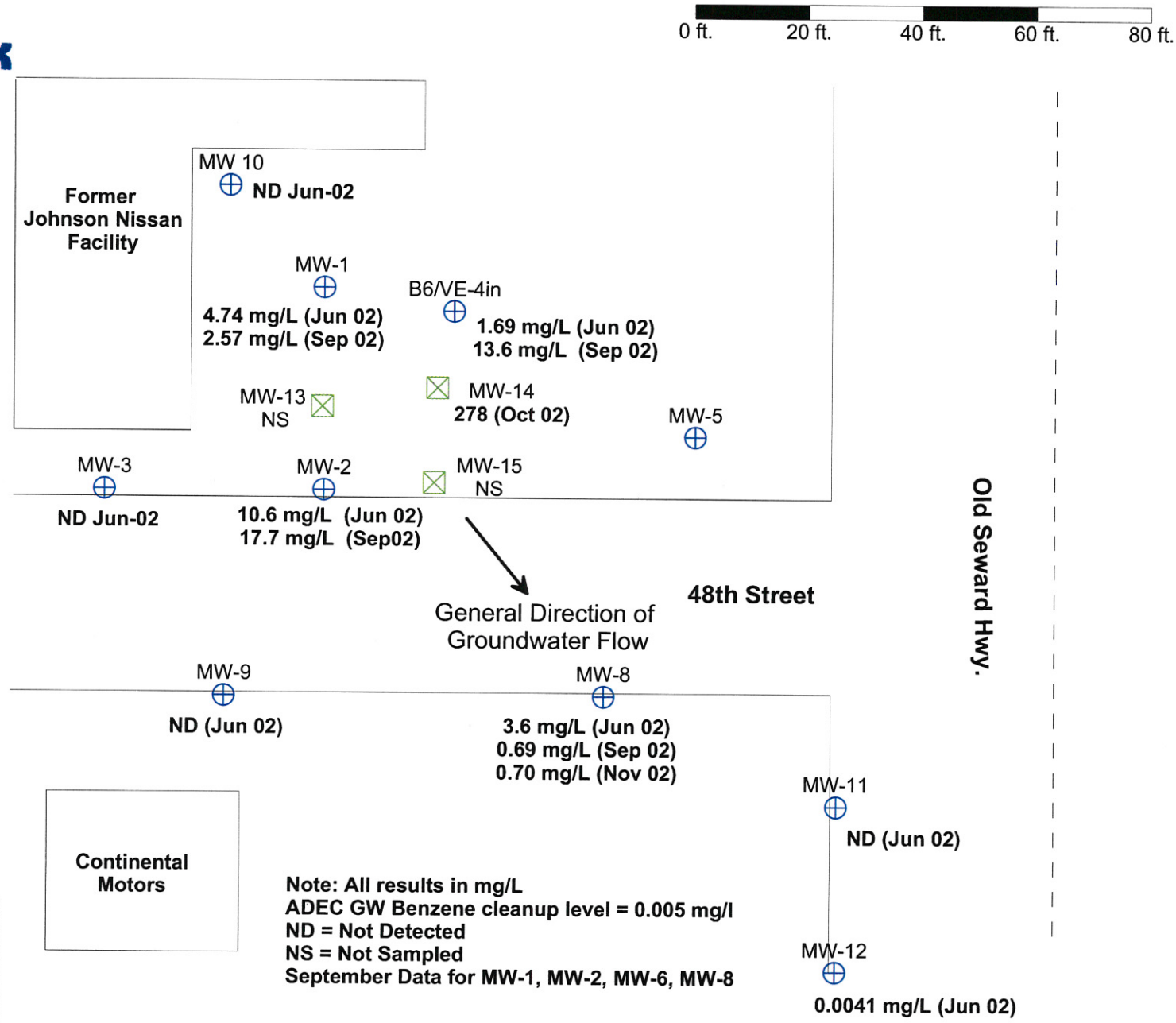
Note: All results in mg/L
ADEC GW GRO cleanup level = 1.3 mg/l
ND = Not Detected
NS = Not Sampled
September Data for MW-1, MW-2, MW-6, MW-8

Figure 2
GRO Levels mg/L
Johnson Nissan
Jun 02 - Nov 02

GRO History

GRO Site Data June 02 - Nov 2002

ChemTrack



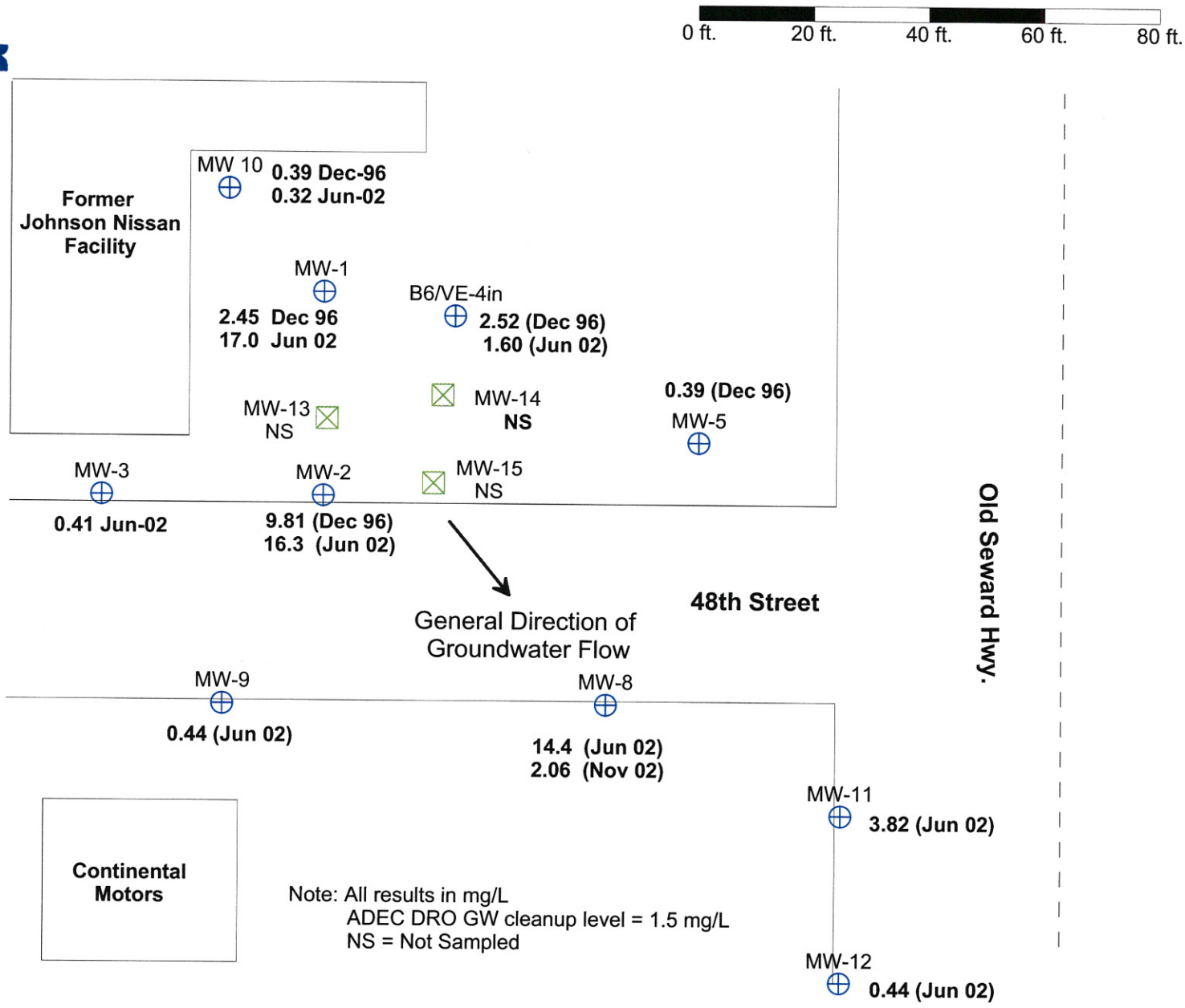
Note: All results in mg/L
ADEC GW Benzene cleanup level = 0.005 mg/l
ND = Not Detected
NS = Not Sampled
September Data for MW-1, MW-2, MW-6, MW-8

Figure 3
Benzene Levels mg/L
Johnson Nissan
Jun 02 - Nov 02

Benzene History

Benzene Site Data June 02 - Nov 2002

ChemTrack



Note: All results in mg/L
ADEC DRO GW cleanup level = 1.5 mg/L
NS = Not Sampled

Figure 4
DRO Levels mg/L
Johnson Nissan
Dec 1996 - Nov 2002

DRO History

DRO Site History Dec 1996 - Nov 2002