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ICES 6012

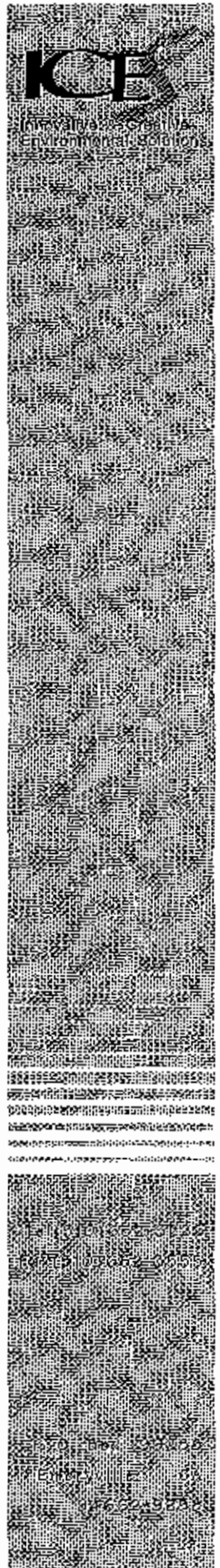
Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Site Mitigation Plan
Jordan Ranch
4233 Fallon Road
Dublin, California

Dear Barney:

Enclosed is the Site Mitigation Plan (SMP) for the proposed soil and groundwater remedial activities at Jordan Ranch located at 4233 Fallon Road in Dublin, California ("the Site").

Soil and groundwater remedial activities will include removal and onsite aeration of the petroleum-affected soil; and removal and recycling of the petroleum-affected groundwater. The petroleum-affected soil and groundwater were identified in previous site investigations and groundwater monitoring events conducted primarily by other parties in 2000 and 2005. The ultimate goal of the soil and groundwater remedial activities is to obtain a No-Further-Action (NFA) for the known petroleum issues associated with a former underground storage tank located at the southwestern portion of the Site from Alameda County Health Care Services Agency.





Site Mitigation Plan
Jordan Ranch
4233 Fallon Road
Dublin, California
March 15, 2005
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If you have any questions or comments concerning this SMP, please do not hesitate to contact Derek Wong or me.

Sincerely,



Peng Leong, P.E.
Principal Engineer

Enclosure

cc: Mr. Robert Infelise, Cox, Castle & Nicholson LLP
Mr. Aaron Ross-Swain, Standard Pacific Homes

SITE MITIGATION PLAN

**JORDAN RANCH
4233 FALLON ROAD
DUBLIN, CALIFORNIA**

March 15, 2006

ICES 6012

Prepared for

Mr. Robert Infelise
Cox, Castle & Nicholson LLP
555 Montgomery Street, Suite 1500
San Francisco, California 94111



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1	Remedial Goals



LIST OF FIGURES

Number	Title
1	Site Location
2	Site Plan
3	Extent of Impacted Area / Proposed Excavation



March 15, 2006

ICES 6012

SITE MITIGATION PLAN

**JORDAN RANCH
4233 FALLON ROAD
DUBLIN, CALIFORNIA**

1.0 INTRODUCTION

At the request of Cox, Castle & Nicholson LLP ("the Client"), Innovative and Creative Environmental Solutions (ICES) has prepared this Site Mitigation Plan (SMP) for the proposed soil and groundwater remedial activities at Jordan Ranch located at 4233 Fallon Road in Dublin, California ("the Site"; Figure 1).

Soil and groundwater remedial activities will include removal and onsite aeration of the petroleum-affected soil; and removal and recycling of the petroleum-affected groundwater. The petroleum-affected soil and groundwater were identified in previous site investigations and groundwater monitoring events conducted primarily by other parties in 2000 and 2005. The ultimate goal of the soil and groundwater remedial activities is to obtain a No-Further-Action (NFA) status for the known petroleum issues associated with a former underground storage tank (UST) located at the southwestern portion of the Site from Alameda County Health Care Services Agency (AC-HCSA).

The cleanup levels for soil and groundwater that were developed by the San Francisco Regional Water Quality Control Board for residential applications were adopted as the remedial goals for the Site (Table 1). AC-HCSA will be providing oversight for the remedial activities.

2.0 SITE DESCRIPTION

The Site consists of an approximately 200-acre square-shaped parcel located 0.5 miles north of the El Charro/Fallon Road



interchange along U.S. Interstate 580. The Site extends from Fallon Road on the west to approximately 3,000 feet east. The Site generally consists of vacant grazing land, with a ranch house and several barns and equipment sheds located on the southwestern portion of the Site.

3.0 BACKGROUND

A Phase I Environmental Site Assessment was performed by Berlogar Geotechnical Consultants (BGC) in September 2000. BGC's assessment identified the location of a former UST at the southwestern portion of the Site.

BGC conducted a limited site investigation to assess the potential presence of contaminants associated with the former UST in December 2000. Soil samples were collected from two borings (B-1 and B-2) in the vicinity of the former UST. A total of six soil samples were collected from the two borings at depths ranging from approximately 5.5 to 19.5 feet below the existing ground surface. The soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (TPHg); TPH as diesel (TPHd); and benzene, toluene, ethylbenzene, and xylenes (BTEX). Laboratory analytical results of the soil samples indicated that TPHg and TPHd were detected in all six of the soil samples with concentrations ranging from 25 to 4,200 mg/kg for TPHg, and 11 to 1,300 mg/kg for TPHd. Benzene was measured in one of the samples at a concentration of 16 mg/kg. Toluene, ethylbenzene, and xylenes were detected in the samples at maximum concentrations of 230, 86, and 420 mg/kg, respectively.

Northgate Environmental Management, Inc. (NEM) performed a Phase II soil and groundwater quality investigation in November 2005. The investigation consisted of analyzing soil and groundwater samples collected from five borings advanced in the vicinity of the former UST. Soil samples collected immediately adjacent to the former UST and adjacent fuel pump contained TPHg at maximum concentrations of 1,100 mg/kg. TPHd was reported at concentrations of up to 340 mg/kg. BTEX was detected in the soil samples at maximum concentrations of 1.8, 41, 15, and 77 mg/kg, respectively. Methyl tertiary-butyl ether (MTBE) was detected up to 0.96 mg/kg. Grab groundwater samples collected from the borings contained non-detectable concentrations of TPHd and elevated concentrations of TPHg, BTEX, MTBE, and volatile organic compounds (VOCs).



In December 2005, NEM conducted an additional soil and groundwater investigation at the Site. Five groundwater monitoring wells (MW-1 through MW-5) were installed and developed in the vicinity of the former UST. Two grab groundwater samples were collected from two borings (NG-8 and NG-9) located approximately 250 feet downgradient of the former UST (at the southwestern portion of the Site). Additionally, soil gas samples were collected from nine locations (in the vicinity of the former UST). Results of the soil gas samples indicated that samples contained non-detectable to low concentrations of TPHg, BTEX, MTBE, VOCs, with the exception of the measured concentration of benzene detected in samples SV-2 and SV-3. The detectable benzene contained in SV-2 and SV-3 exceeded the California Human Health Screening Level for residential landuse of 0.0362 ug/L. Groundwater samples collected from the five monitoring wells indicated high concentrations of TPHg, BTEX, MTBE, and VOCs in the groundwater within the immediate vicinity of the former UST. Non-detectable concentrations of TPHg, TPHd, BTEX, MTBE, and VOCs were recorded for the grab groundwater samples collected from borings NG-8 and NG-9.

ICES conducted a supplementary site investigation in March 2006. The purpose of the investigation was to delineate the horizontal extent of petroleum constituents detected in soil and groundwater found in previous site investigations at the southwestern portion of the Site. Soil and groundwater samples were collected from three test pit locations (TP-1 through TP-3). Laboratory analytical results indicated that the soil samples which were collected at a depth of approximately 19.5 feet bgs contained non-detectable concentrations of TPHg, BTEX, and MTBE. Results of the groundwater samples indicated non-detectable concentrations of TPHg, BTEX, MTBE, and VOCs.

Based on the collective results of the site investigations it appears that the soil and groundwater containing petroleum constituents above the remedial goals are limited to the immediate vicinity of the former UST at the southwestern portion of the Site. The approximate extent of the impacted area is shown in Figure 3. A summary of the soil and groundwater characterization data is presented in Appendix A.



4.0 REMEDIAL ACTIVITIES

The remedial activities are focused on the removal and onsite aeration of the petroleum-affected soil; and removal and recycling of the petroleum-affected groundwater from the southwestern portion of the Site. The scope of work for the proposed remedial activities at the Site will consist of the following tasks:

- Task 1: Site Health and Safety Plan
- Task 2: Dust Control Measures
- Task 3: Site Preparation
- Task 4: Soil Removal
- Task 5: Soil Aeration
- Task 6: Groundwater Extraction
- Task 7: Groundwater Disposal
- Task 8: Backfill and Compact Excavation
- Task 9: Laboratory Analyses
- Task 10: Remedial Action Implementation Report

These tasks are described in detail below:

4.1 Site Health and Safety Plan (HSP)

In accordance with Occupational Safety and Health Administration guidelines, the ICES Health and Safety Officer will develop a HSP. The HSP will include an analysis of potential hazards encountered by onsite workers conducting the proposed work, precautions to mitigate the identified hazards, and procedures to reduce the potential for offsite migration of contaminants during remedial activities.

The health and safety measures presented in the HSP will be implemented during soil and groundwater removal activities.

4.2 Dust Control Measures

The area to be excavated will initially be moisture-conditioned. The work area will also be lightly sprinkled during excavation activities (if required) to minimize airborne dust. A water hose with a spray nozzle will be used for water application in areas where access is limited.

Dust control measures will be increased (more frequent wetting and sprinkling) during the movement of dry materials and/or



observation of visible dust. Equipment speed at the Site will be reduced in the event wetting with water is not effective in minimizing airborne dust. The remedial activities at the Site will be temporarily halted in the event reduction of equipment speed and soil wetting are not effective in minimizing airborne dust.

4.3 Site Preparation

Site preparation will include marking the approximate limits of the petroleum-affected soil and groundwater (Figure 3), mobilizing and installing a covered water tank at the southwestern portion of the Site, constructing a polyethylene-lined aeration pad, prewetting the excavation area, and profiling the petroleum-affected groundwater at a licensed recycling facility.

The petroleum-affected groundwater will be profiled with appropriate recycling facilities using laboratory results of the previous groundwater samples. Profiling and acceptance of the petroleum-affected groundwater prior to groundwater extraction activities are necessary to expedite groundwater removal and minimize interruptions to the surrounding businesses.

4.4 Soil Removal

Soil removal will be performed using a combination of excavators, scrapers, and offroad dump trucks. Petroleum-affected soil at and surrounding the former UST and within approximately 3 feet above and 3 feet below the groundwater table will be removed and placed on the polyethylene-lined pad for aeration. Clean overburden soil will be temporarily stockpiled adjacent to the excavation.

When the excavation approaches the marked limits, excavation sidewall and floor samples will be collected. One sidewall sample will be collected at approximately every 25-linear foot interval of excavation sidewall. One floor sample will be collected at approximately every 2,500 square feet of excavation floor area (equivalent to a square measuring approximately 50 feet by 50 feet). Soil sampling procedures presented in Appendix B will be followed. The approximate confirmation sample locations are shown in Figure 3.



Excavation activities will cease when soil samples collected from the sidewall and floor of the excavation contain residual petroleum constituent concentrations below the remedial goals. Additional excavation and resampling will be performed at locations where petroleum constituent concentrations exceed the remedial goals.

4.5 Soil Aeration

The petroleum-affected soil will be turned over and aerated using dozers and/or rotor tillers. Samples of the aerated soil will be collected daily and analyzed for petroleum constituents (Section 4.9). Aeration activities will cease when laboratory analyses indicate that residual petroleum constituents are below the remedial goals.

4.6 Groundwater Extraction

The petroleum-affected groundwater will be removed from the floor of the excavation using a sump pump and temporarily stored in the covered water tank; and/or a vacuum truck. Groundwater samples will be collected daily to assess the effectiveness of the groundwater extraction activities. Groundwater extraction activities will be terminated when laboratory results indicate that residual petroleum constituents are below the remedial goals.

Groundwater sampling procedures presented in Appendix B will be followed.

4.7 Groundwater Disposal

When the water tank is full, the extracted petroleum-affected groundwater will be transferred from the water tank to a vacuum truck for transportation to the recycling/disposal facility. A waste manifest will be prepared for each truckload of petroleum-affected groundwater.

4.8 Backfill and Compaction

When laboratory analytical results indicate that the excavation sidewall and floor samples and groundwater samples contain residual petroleum constituent concentrations that are below the remedial goals, the excavation will be backfilled and compacted with the overburden and onsite soil.



4.9 Laboratory Analyses

The soil and groundwater samples will be sent to state-certified laboratory and selectively analyzed for:

- <> TPHg using EPA Method 5030/GCFID,
- <> TPHd using EPA Method 8015M,
- <> BTEX and MTBE using EPA Method 8020/604,
- <> VOCs using EPA Method 8260B.

The samples will be analyzed on a 24-hour rush to normal one-week turnaround basis.

4.10 Remedial Action Implementation Report (RAIP)

This task will include evaluating the field and laboratory analytical data. A written report will be prepared following completion of soil and groundwater remedial activities. The RAIP will present:

1. field activities associated with excavation and aeration of the petroleum-affected soil, and extraction and disposal of the petroleum-affected groundwater;
2. sample collection;
3. soil and groundwater sample results;
4. documentation of sample transfer under chain-of-custody protocol, and groundwater transportation and disposal; and
5. conclusions regarding the remedial activities.

This report will be submitted to AC-HCSA approximately one to two weeks following completion of the field activities and receipt of laboratory analytical results.



5.0 IMPLEMENTATION SCHEDULE

The approximate estimated duration and tentative schedule for the pending remedial activities is presented below. The estimated durations and tentative schedule do not include work delays due to unfavorable weather conditions, acts of God, labor strikes, and other events beyond the control of ICES and the Client.

5.1 Estimated Durations

	ACTIVITY	ESTIMATED DURATION (working days)
Task 1:	Implementation of the Site Health and Safety Plan	Concurrent with Tasks 2 through 7
Task 2:	Dust Control Measures	Concurrent with Tasks 3, 4, and 6
Task 3:	Site Preparation	5 - 7
Task 4:	Soil Removal/Aeration	30 - 35
Task 5:	Groundwater Extraction	Concurrent with Task 4
Task 6:	Groundwater Disposal	Concurrent with Task 5
Task 7:	Backfill and Compact Excavation	5 - 7
Task 8:	Laboratory Analyses	Concurrent with Tasks 4 and 5
Task 9:	Preparation and Submittal of RAIP	8 - 10



5.2 Tentative Schedule

The tentative schedule is based on approval of this SMP no later than May 5, 2006.

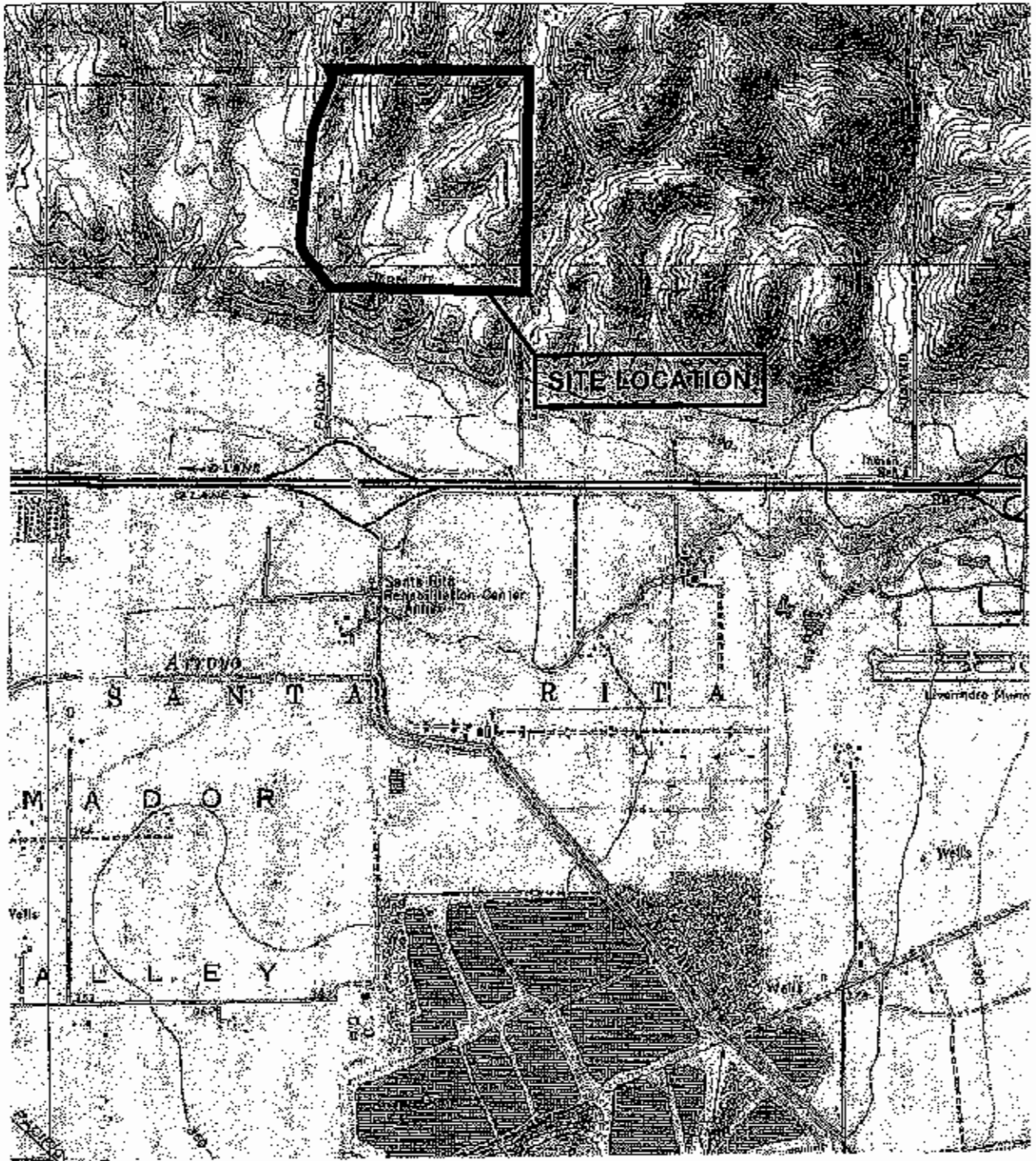
ACTIVITY	ESTIMATED COMPLETION DATE (2006)
Task 1: Implementation of the Site Health and Safety Plan	Concurrent with Tasks 2 through 7
Task 2: Dust Control Measures	Concurrent with Tasks 3 and 4
Task 3: Site Preparation	May 16/06
Task 4: Soil Removal/Aeration	Jul 14/06
Task 5: Groundwater Extraction	Concurrent with Task 4
Task 6: Groundwater Disposal	Concurrent with Task 5
Task 7: Backfill and Compact Excavation	Jul 26/06
Task 8: Laboratory Analyses	Concurrent with Tasks 4 and 5
Task 9: Preparation and Submittal of RAIP	Aug 09/06

TABLE 1

REMEDIAL GOALS
 Jordan Ranch
 4233 Fallon Road
 Dublin, California

Analyte	Soil (mg/kg)	Groundwater (ug/L)
TPH as Gasoline	100 (1)	100 (2)
TPH as Diesel	100 (1)	---
Benzene	0.44 (1)	1 (2)
Toluene	2.9 (1)	40 (2)
Ethylbenzene	3.3 (1)	30 (2)
Xylenes	1.5 (1)	20 (2)
MTBE	0.023 (1)	5 (2)
1,2-DCA	---	0.5 (2)
Naphthalene	---	17 (2)
n-Propyl benzene	---	240 (3)
1,3,5-Trimethylbenzene	---	12 (3)
1,2,4-Trimethylbenzene	---	12 (3)

1. Soil remedial goal based on Residential ESL (where groundwater is a current or potential source of drinking water).
2. Groundwater remedial goal based on ESL (where groundwater is a current or potential source of drinking water).
3. Groundwater remedial goal based on MCL (primary drinking water standard).



Scale: 1" = ± 2000'

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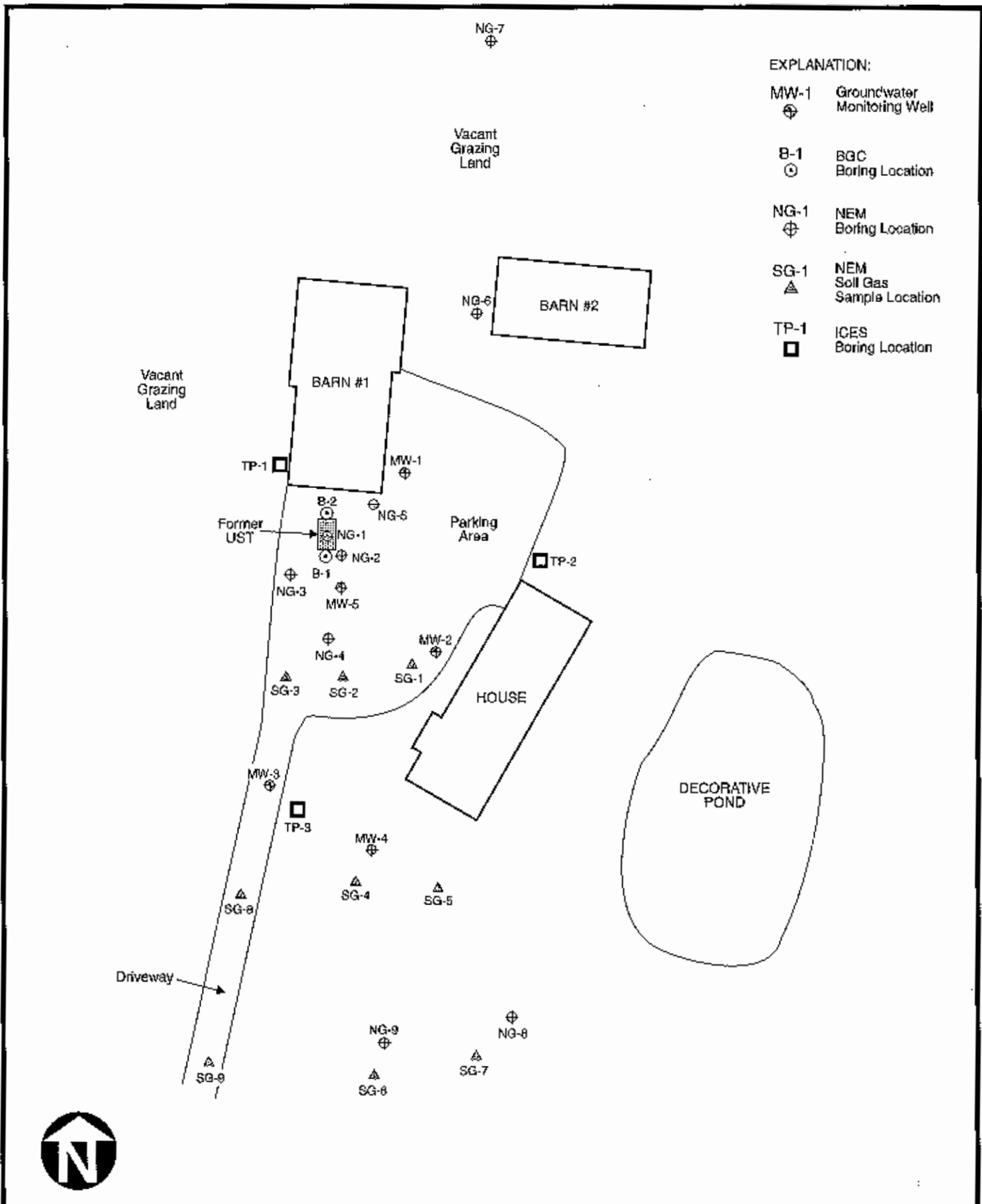
SITE LOCATION

Jordan Ranch
 4233 Fallon Road
 Dublin, California

Figure 1

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- EXPLANATION:
- MW-1 Groundwater Monitoring Well
 - B-1 BGC Boring Location
 - NG-1 NEM Boring Location
 - SG-1 NEM Soil Gas Sample Location
 - TP-1 ICES Boring Location

Scale: 1" = ± 60'

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SITE PLAN
 Jordan Ranch
 4233 Fallon Road
 Dublin, California

Figure **2**

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NG-7
⊕

Vacant
Grazing
Land

EXPLANATION:

MW-1 Groundwater
Monitoring Well
⊕

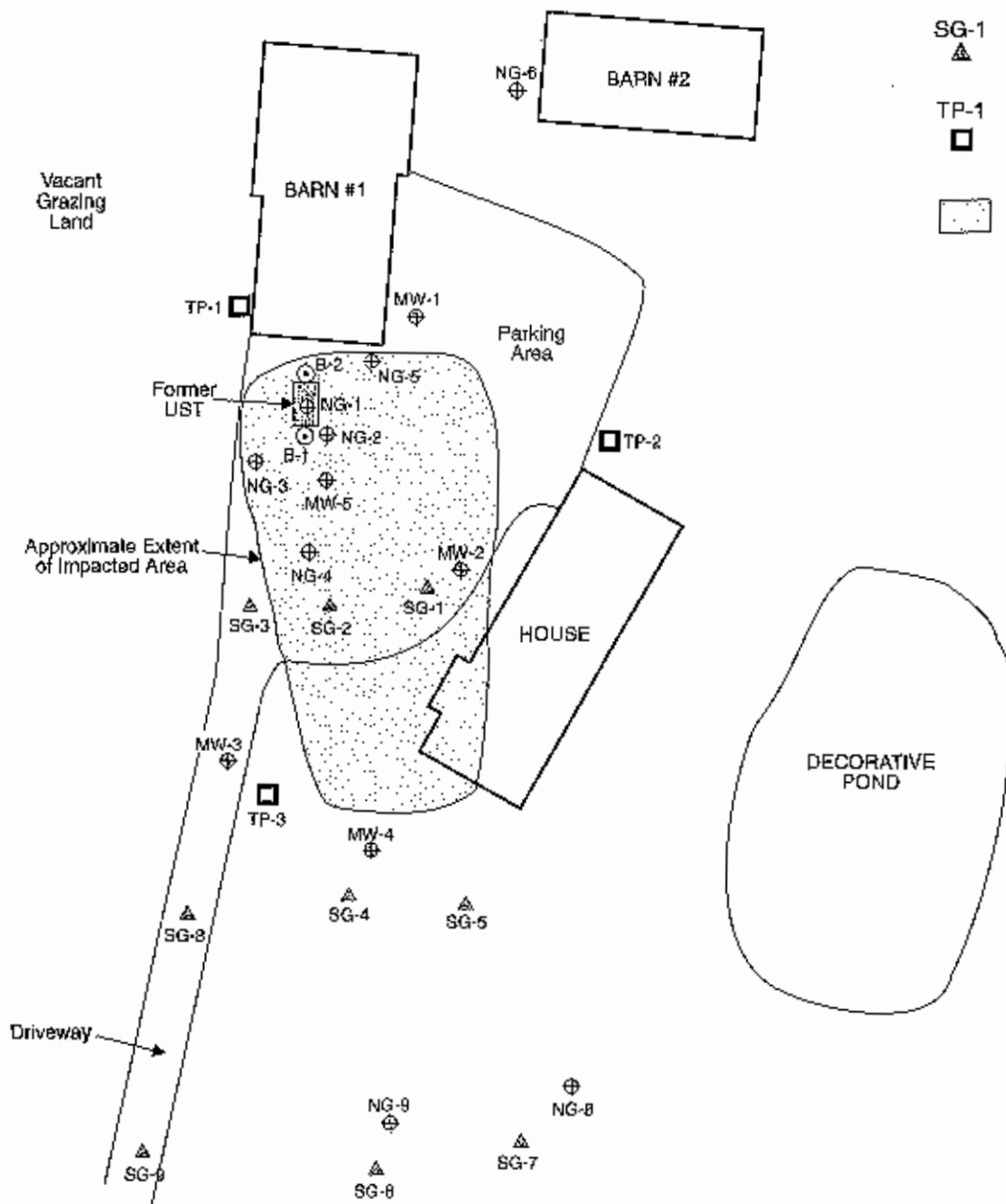
B-1 BGC
Boring Location
⊙

NG-1 NEM
Boring Location
⊕

SG-1 NEM
Soil Gas
Sample Location
▲

TP-1 ICES
Boring Location
□

Proposed
Excavation



Scale: 1" = ± 60'

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EXTENT OF IMPACTED AREA/PROPOSED EXCAVATION

Jordan Ranch
4233 Fallon Road
Dublin, California

Figure **3**

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APPENDIX A

SUMMARY OF SOIL AND GROUNDWATER DATA

SUMMARY OF SOIL CHARACTERIZATION DATA

Jordan Ranch
4233 Fallon Road
Dublin, California



Sample Date	Sample ID	Depth (ft bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)
SOIL SAMPLING - Limited Phase II Environmental Site Assessment (Berlogar Geotechnical Consultants, December 2000)									
12/15/2000	1 (B-1)	5.5-6.0	1,200	280	<0.62	<0.62	18	92	---
12/15/2000	2 (B-1)	10.5-11.0	1,100	430	<0.62	34	27	130	---
12/15/2000	3 (B-1)	15.5-16.0	190	120	<0.62	3.6	3.4	15	---
12/15/2000	4-5 (B-2)	8.5-9.5	420	80	<0.62	<0.62	6.0	19	---
12/15/2000	6-7 (B-2)	13.5-14.5	25	11	<0.62	<0.62	<0.62	0.98	---
12/15/2000	8-9 (B-2)	18.5-19.5	4,200	1,300	16	230	86	420	---
SOIL SAMPLING - Phase II Site Investigation (Northgate Environmental Management, Inc., November 2005)									
Nov-05	NG-1-14.5	14.5	700	340	0.56	16	9.0	56	0.96
Nov-05	NG-1-19.5	19.5	670	49	1.2	13	7.0	40	0.72
Nov-05	NG-2-4.5	4.5	<0.5	<10.0	<0.005	<0.020	<0.005	0.0268	<0.020
Nov-05	NG-2-9.5	9.5	<0.5	<10.0	<0.005	<0.020	<0.005	0.0268	<0.020
Nov-05	NG-2-14.5	14.5	<0.5	<10.0	<0.005	<0.020	<0.005	---	<0.020
Nov-05	NG-2-18.5	18.5	1.3	<10.0	0.005	0.0089	<0.005	0.0231	<0.020
Nov-05	NG-2-24.5	24.5	2.2	<10.0	0.59	0.049	0.038	0.041	0.21
Nov-05	NG-3-4.5	4.5	<0.5	<10.0	<0.005	0.014	<0.005	0.0223	<0.020
Nov-05	NG-3-9.5	9.5	<0.5	<10.0	<0.005	0.014	<0.005	0.0223	<0.020
Nov-05	NG-3-14.5	14.5	<0.5	<10.0	<0.005	0.012	<0.005	0.019	<0.020
Nov-05	NG-3-19.5	19.5	590	<10.0	0.56	0.15	0.99	4.8	<0.020
Nov-05	NG-3-24.5	24.5	490	26	<1.0	2.9	3.2	24	<4,000.0
Nov-05	NG-4-4.5	4.4	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-4-9.5	9.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-4-14.5	14.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-4-19.5	19.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-4-24.5	24.5	220	49	0.15	<20.0	0.73	3.5	0.11
Nov-05	NG-5-4.5	4.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<20.0
Nov-05	NG-5-9.5	9.5	620	320	<100.0	1.0	9.6	61	0.43
Nov-05	NG-5-14.5	14.5	760	210	0.34	22	12	66	<400.0
Nov-05	NG-5-19.5	19.5	1,100	200	1.8	41	15	77	<4,000.0
Nov-05	NG-6-4.5	4.5	<0.5	<10.0	0.0059	0.05	0.0091	0.049	<0.020
Nov-05	NG-6-9.5	9.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-6-14.5	14.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-6-19.5	19.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-6-24.5	24.5	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-7-1	1.0	<0.5	<10.0	<0.005	<0.005	<0.005	<0.010	<0.020
Nov-05	NG-7-2	2.0	<0.5	<10.0	<0.005	0.015	0.065	0.0193	<0.020
Residential ESL			100.0	100.0	0.044	2.9	3.3	1.5	0.023

Bold = concentrations exceeding ESLs (where groundwater is a current or potential source of drinking water).

SUMMARY OF SOIL CHARACTERIZATION DATA

Jordan Ranch
4233 Fallon Road
Dublin, California



Sample Date	Sample ID	Depth (ft bgs)	TPH-g (mg/kg)	TPH-d (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)
SOIL SAMPLING - Supplementary Site Investigation (ICES, March 2006)									
3/7/2006	TP-1	19.5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
3/7/2006	TP-2	19.5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
3/7/2006	TP-3	19.5	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
Residential ESL			100.0	100.0	0.044	2.9	3.3	1.5	0.023

Bold = concentrations exceeding ESLs (where groundwater is a current or potential source of drinking water).



SUMMARY OF GROUNDWATER CHARACTERIZATION DATA - PETROLEUM HYDROCARBONS
 Jordan Ranch
 4233 Fallon Road
 Dublin, California

Sample Date	Sample ID	TPH-g (ug/L)	TPH-d (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)
GROUNDWATER SAMPLING - Phase II Site Investigation (Northgate Environmental Management, Inc., November 2005)								
Nov-05	NG-1	190,000	<50.0	10,000	32,000	4,800	24,100	17,000
Nov-05	NG-2	160,000	<50.0	18,000	71,000	3,300	17,100	14,000
Nov-05	NG-3	120,000	<50.0	6,300	11,000	3,600	21,100	480
Nov-05	NG-4	79,000	<50.0	15,000	2,800	500	4,380	1,800
Nov-05	NG-5	250,000	<50.0	15,000	59,000	5,400	28,100	1,200
GROUNDWATER SAMPLING - Groundwater Investigation (Northgate Environmental Management, Inc., December 2005)								
Dec-05	NG-8	<500.0	<500.0	<0.5	<0.5	<0.5	<1.0	<1.0
Dec-05	NG-9	<500.0	<500.0	<0.5	<0.5	<0.5	<1.0	<1.0
GROUNDWATER SAMPLING - Well Sampling (Northgate Environmental Management, Inc., December 2005)								
Dec-05	MW-1	84	---	2.0	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-2	3,400	---	470	<25.0	55	120	800
Dec-05	MW-3	<50.0	---	<0.5	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-4	70	---	<0.5	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-5	53,000	---	13,000	1,300	930	4,400	7,000
GROUNDWATER SAMPLING - Supplementary Site Investigation (ICES, March 2006)								
3/7/2006	TP-1W	<50.0	<50.0	<0.5	<0.5	<0.5	<0.5	<5.0
3/7/2006	TP-2W	<50.0	<50.0	<0.5	<0.5	<0.5	<0.5	<5.0
3/7/2006	TP-3W	<50.0	<50.0	<0.5	<0.5	<0.5	<0.5	<5.0
ESL		100.0	100.0	1.0	40.0	30.0	20.0	5.0

Bold = concentrations exceeding ESLs (where groundwater is a current or potential source of drinking water).



SUMMARY OF GROUNDWATER CHARACTERIZATION DATA - VOLATILE ORGANIC COMPOUNDS

Jordan Ranch
4233 Fallon Road
Dublin, California

Sample Date	Sample ID	sec-Butyl benzene (ug/L)	tert-Butyl benzene (ug/L)	n-Butyl benzene (ug/L)	TBA (ug/L)	1,2-DCA (ug/L)	Isopropylbenzene (ug/L)	p-Isopropylbenzene (ug/L)	Naphthalene (ug/L)	n-Propyl benzene (ug/L)	1,3,5-Trimethylbenzene (ug/L)	1,2,4-Trimethylbenzene (ug/L)
GROUNDWATER SAMPLING - Phase II Site Investigation (Northgate Environmental Management, Inc., November 2005)												
Nov-05	NG-1	190	<1.0	---	---	110	380	120	900	570	1,000	3,700
Nov-05	NG-2	<1.0	15	---	---	82	240	54	1,100	590	900	3,200
Nov-05	NG-3	140	16	---	---	250	320	92	940	490	880	3,400
Nov-05	NG-4	80	9	---	---	360	280	42	1,200	460	510	2,600
Nov-05	NG-5	67	<1.0	---	---	21	190	43	1,100	410	790	3,100
GROUNDWATER SAMPLING - Groundwater Investigation (Northgate Environmental Management, Inc., December 2005)												
Dec-05	NG-8	<1.0	<1.0	---	---	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dec-05	NG-9	<1.0	<1.0	---	---	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GROUNDWATER SAMPLING - Well Sampling (Northgate Environmental Management, Inc., December 2005)												
Dec-05	MW-1	<0.5	<0.5	<0.5	---	<0.5	0.52	<0.5	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-2	<25.0	<25.0	<25.0	---	57	<25.0	<25.0	50	<25.0	34	62
Dec-05	MW-3	<5.0	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-4	7.7	2.4	0.88	---	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dec-05	MW-5	<250.0	<250.0	<250.0	---	290	<250.0	<250.0	560	<250.0	400	1,500
GROUNDWATER SAMPLING - Supplementary Site Investigation (ICES, March 2006)												
3/7/2006	TP-1W	<0.5	<0.5	<0.5	8.7	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
3/7/2006	TP-2W	<0.5	<0.5	<0.5	9.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
3/7/2006	TP-3W	<0.5	<0.5	<0.5	8.3	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
ESL		---	---	---	12	0.5	---	---	17	---	---	---
MCL		240	240	240	---	0.12	---	---	---	240	12	12

Bold = concentrations exceeding ESLs (where groundwater is a current or potential source of drinking water) or MCLs (primary drinking water standard).



APPENDIX B

SAMPLING PROCEDURES



SAMPLING PROCEDURES

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Soil and groundwater sampling will be conducted to provide data to evaluate the extent of chemicals in the soil and groundwater at the Site. Soil and groundwater samples will be used for chemical analysis. The methodology used for this sampling purpose is discussed in the following sections.

Soil Sampling

Soil may be collected for chemical analysis by directly driving precleaned brass or stainless steel tubes into the soil to assess surface/subsurface level conditions. The samples must completely fill the tubes to minimize headspace and consequent loss of volatile contaminants, if present. These tubes shall be lined with aluminum foil or Teflon, capped with air-tight plastic lids, and taped around the caps to prevent possible moisture and chemical loss. Disturbed soil samples will be collected in 250-ml jars with taped, airtight lids. Each jar will be completely filled with soil to minimize headspace and consequent loss of volatile contaminants, if present.

After being sealed and labeled, soil samples will be maintained at a temperature of 4°C or lower using crushed ice during delivery to the laboratory and prior to analysis by the laboratory. Samples will be analyzed at the laboratory within specific holding times.

Groundwater Sampling

Groundwater samples will be collected manually (hand-bailed) using Teflon bailers. The samples will be transferred into 40-ml VOA vials using a Teflon septa. After being sealed and labeled, the groundwater samples will be stored in a chilled cooler containing crushed ice to maintain the sample at 4°C for delivery to the laboratory. A field blank sample and duplicate will also be collected for quality control purposes. Strict chain-of-custody protocols will be followed in all phases of



sample handling. Samples will be analyzed at the laboratory within specific holding times.

Documentation

- o The following information will be entered on the sample collection data form at the time of sampling:
 - project name and number
 - sampler's name
 - time and date of sampling
 - sampling location
 - sampling method
 - sample number
 - sample condition (disturbed/undisturbed)
 - laboratory analyses requested

Each sample will be packaged and transported appropriately, as described in the following protocol.

- o Collect samples in appropriately-sized and prepared containers
- o Properly seal and package sample containers.
- o Fill out field sample log and COC and analyses request forms.
- o Separate and place samples into coolers according to laboratory destination. Samples will be packaged so that the potential for shipping damage is minimized.
- o Chill samples to approximately 4°C. Crushed ice used in the coolers will be sealed in a plastic bag other than the one in which it was purchased.
- o Seal a copy of the COC form inside a zip-lock bag. Use strapping tape to hold the packet on the inside of the cooler.
- o Seal cooler with several strips of strapping tape.



DECONTAMINATION PROCEDURES

Equipment Decontamination

All equipment used for collecting samples during this investigation which might come into contact with contaminated material will be properly decontaminated before and after each use, and before initial use at the Site. This will be accomplished by washing with Alconox (a laboratory-grade detergent) and triple rinsing with deionized, distilled, or fresh water. Decontamination procedures will allow for disposal of cleaning fluids in the manner described below.

Disposal Procedures

The cleaning fluids will be collected and placed into appropriate containers to be analyzed and disposed by a licensed recycling facility. The non-hazardous waste, such as cardboard boxes, scrap paper, etc., will be disposed at a Class III landfill.

Sample Custody

In order to check and link each reported datum with its associated sample, sample custody and documentation procedures were established. Three separate, interlinking documentation and custody procedures--for field, office, and laboratory--can be described. The COC forms, which are central to these procedures, are attached to all samples and their associated data throughout the tracking process.

FIELD CUSTODY PROCEDURES

Field documentation will include sample labels, daily field activities logbook, and COC and analyses request forms. These documents will be filled out in indelible ink. Any corrections to the document will be made by drawing a line through the error and entering the correct value without obliterating the original entry. Persons correcting the original document will be expected to initial any changes made. The documents are as follows:

Sample Labels

Labels will be used to identify samples. The label is made of a waterproof material with a water-resistant adhesive. The sample label, to be filled out using waterproof ink, will contain at least the following information: sampler's name, sample number,



date, time, location, and preservative used.

Field Log of Daily Activities

A field log will be used to record daily field activities. The project manager is responsible for making sure that a copy of the field log is sent to the project file as soon as each sampling round is completed. Field log entries will include the following:

- o field worker's name;
- o date and time data is entered;
- o location of activity;
- o personnel present on-site;
- o sampling and measurement methods;
- o total number of samples collected;
- o sample numbers;
- o sample distribution (laboratory);
- o field observations, comments;
- o sample preservation methods used, if any.

Chain-of-Custody (and Analysis Request) Form

The COC form is filled out for groups of samples collected at a given location on a given day. The COC will be filled out in duplicate form, and will accompany, every shipment of samples to the respective analytical laboratories.

One copy will accompany the samples to the analytical laboratory. The second copy is kept in the ICES QA/QC file. The COC makes provision for documenting sample integrity and the identity of any persons involved in sample transfer. Other information entered on the COC includes:

- o project name and number;
- o project location;
- o sample number;
- o sampler's/recorder's signature;
- o date and time of collection;
- o collection location;
- o sample type;
- o number of sample containers for each sample;
- o analyses requested;



- o results of laboratory's inspection of the condition of each sample and the presence of headspace, upon receipt by the laboratory;
- o inclusive dates of possession;
- o name of person receiving the sample;
- o laboratory sample number;
- o date of sample receipt; and
- o address of analytical laboratory.