Appendix G: Hazardous Materials Information

G.1 - HAZARDOUS REPORT DATA

FirstSearch Technology Corporation

Environmental FirstSearch ™ Report

Target Property:

WEST BALBOA BLVD

NEWPORT BEACH CA 92663

Job Number: MARINA PARK

PREPARED FOR:

MBA

07-07-08

Tel: (781) 551-0470 *Fax: (781) 551-0471*

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Environmental FirstSearch
Search Summary Report

Target Site: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	04-07-08	1.25	0	0	0	0	0	0	0
NPL Delisted	Y	04-07-08	0.75	0	0	0	0	0	0	0
CERCLIS	Y	04-22-08	0.75	0	0	0	0	1	0	1
NFRAP	Y	04-22-08	0.75	0	0	0	2	0	0	2
RCRA COR ACT	Y	04-01-08	1.25	0	0	0	0	0	0	0
RCRA TSD	Y	04-01-08	0.75	0	0	0	0	0	0	0
RCRA GEN	Y	04-01-08	0.50	0	0	0	6	-	0	6
RCRA NLR	Y	04-01-08	0.50	0	0	0	1	-	0	1
Federal IC / EC	Y	04-01-08	0.50	0	0	0	0	-	0	0
ERNS	Y	04-22-08	0.50	0	0	0	0	-	4	4
Tribal Lands	Y	12-01-05	1.25	0	0	0	0	0	0	0
State/Tribal Sites	Y	08-08-07	1.25	0	0	0	2	2	0	4
State Spills 90	Y	11-06-07	0.50	0	0	0	3	-	0	3
State/Tribal SWL	Y	04-09-08	0.75	0	0	0	0	0	1	1
State/Tribal LUST	Y	04-11-08	0.75	0	0	1	0	10	0	11
State/Tribal UST/AST	Y	01-03-07	0.50	0	0	0	1	-	0	1
State/Tribal EC	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal IC	Y	04-27-07	0.50	0	0	0	0	-	0	0
State/Tribal VCP	Y	08-15-06	0.75	0	0	0	0	0	0	0
State/Tribal Brownfields	Y	08-08-07	0.75	0	0	0	0	0	0	0
State Permits	Y	04-16-08	0.50	0	0	0	7	-	2	9
State Other	Y	08-08-07	0.50	0	0	1	2	-	0	3
- TOTALS -				0	0	2	24	13	7	46

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Site Information Report

Request Date:	07-07-08	**Search Type:**	COORD
Requestor Name:	MBA	**Job Number:**	MARINA PARK
Standard:	ASTM-05	**Filtered Report**	

Target Site: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

Demographics

Sites:	46	**Non-Geocoded:**	7	**Population:**	NA
Radon:	NA				

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-117.923035	-117:55:23	**Easting:**	414366.981
Latitude:	33.608169	33:36:29	**Northing:**	3718900.557
			Zone:	11

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel

Services:

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	Yes	07-07-08

Environmental FirstSearch
Sites Summary Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

TOTAL: 46 **GEOCODED:** 39 **NON GEOCODED:** 7 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
1	LUST	MOBIL 18-HG7 T0605900496/CASE CLOSED	1500 BALBOA NEWPORT BEACH CA 92663	0.16 SE	1
1	OTHER	MOBIL S S 18-H67 ORCO_GW_87UT166/NOT REPORTED	1500 BALBOA BLVD NEWPORT BEACH CA 92659	0.16 SE	2
2	PERMITS	SOUTH COAST SHIPYARD CAL000300628/ACTIVE	223 21ST ST NEWPORT BEACH CA 92663	0.27 NW	2
3	RCRAGN	SEA SPRAY BOAT YARD CAD982470718/SGN	226 21ST ST NEWPORT BEACH CA 92663	0.27 NW	3
4	PERMITS	LIDO PENINSULA COMPANY CAL000301958/ACTIVE	101 SHIPYARD WAY STE M NEWPORT BEACH CA 92663	0.29 NW	4
5	RCRAGN	BELLPORT GROUP INC CAR000148882/SGN	101 SHIPYARD WAY NEWPORT BEACH CA 92663	0.30 NW	5
6	RCRAGN	ERIC KIEVIT MARINE DIESEL CAD983662883/SGN	151 SHIPYARD WY BERTH C CBN NEWPORT BEACH CA 92663	0.31 NW	6
7	RCRAGN	NEWPORT HARBOR SHIPYARD CAD981653199/SGN	151 SHIPYARD WAY BERTH C NEWPORT BEACH CA 92663	0.31 NW	7
8	RCRANLR	LIDO PENINSULA CO CAD983671843/NLR	201 SHIPYARD WY CABIN NUMBE NEWPORT BEACH CA 92663	0.31 NW	8
9	UST	LIDO PENINSULA CO TISID-STATE33721/ACTIVE	251 SHIPYARD NEWPORT BEACH CA 92660	0.33 NW	9
10	PERMITS	PETROS MARINE SERVICE, INC. CAL000254471/ACTIVE	2270 NEWPORT BLVD NEWPORT BEACH CA 92663	0.34 NW	10
10	PERMITS	SOUTH COAST BOAT YARD INC CAL000000944/INACTIVE	2270 NEWPORT BLVD NEWPORT BEACH CA 92663	0.34 NW	11
11	SPILLS	ETCO HOMES G_SL0605958194/CASE OPEN	2300 NEWPORT BOULEVARD NEWPORT BEACH CA 92663	0.35 NW	12
12	RCRAGN	W B R TRANSPORTATION LLC CAR000121731/TRANSPORTER	7752 MONROE ST NEWPORT BEACH CA 92663	0.36 NW	13
13	PERMITS	BALBOA BOAT YARD INC CAL000091395/ACTIVE	2414 NEWPORT BLVD NEWPORT BEACH CA 92663	0.39 NW	14
14	PERMITS	TERRY MCKENZIE, INC CAL000141436/ACTIVE	1151 W BALBOA BLVD NEWPORT BEACH CA 92661	0.45 SE	15
15	NFRAP	NEWPORT PLATING CO CAD982360356/NFRAP-N	2810 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	16
16	NFRAP	NEWPORT PLATING CO 3 CAD982360414/NFRAP-N	2815 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	16
18	OTHER	NEWPORT PLATING COMPANY 3 CAL30340151/PROPERTY/SITE REFERR	2815 VILLA WAY NEWPORT BEACH CA 92661	0.47 NW	17
17	OTHER	NEWPORT PLATING CO. CAL30340050/PROPERTY/SITE REFERR	2810 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	19
15	RCRAGN	NEWPORT PLATING CAD982360356/SGN	2810 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	20

Environmental FirstSearch
Sites Summary Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

TOTAL: 46 **GEOCODED:** 39 **NON GEOCODED:** 7 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
15	SPILLS	NEWPORT PLATING SLC8_189/ADDITIONAL CHARACTER	2810 VILLA WAY NEWPORT BEACH CA	0.47 NW	21
17	SPILLS	NEWPORT PLATING G_SL0605980961/NOT REPORTED	2810 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	21
16	STATE	NEWPORT PLATING COMPANY 3 CAL30340151/PROPERTY/SITE REFERR	2815 VILLA WAY NEWPORT BEACH CA 92661	0.47 NW	22
15	STATE	NEWPORT PLATING CO. CAL30340050/PROPERTY/SITE REFERR	2810 VILLA WAY NEWPORT BEACH CA 92663	0.47 NW	25
19	PERMITS	SCHOCK MARINE CAL000059574/ACTIVE	504 29TH ST NEWPORT BEACH CA 92663	0.50 NW	28
21	LUST	DELANEYS T0605901362/CASE CLOSED	634 LIDO PARK NEWPORT BEACH CA 92663	0.53 NW	29
20	LUST	UNDESIGNATED PARKING AREA T0605901199/CASE CLOSED	2809 NEWPORT NEWPORT BEACH CA 92660	0.53 NW	30
20	LUST	CITY YARD (FORMER) 083001767T/CASE CLOSED	2809 NEWPORT BLVD NEWPORT BEACH CA 92663	0.53 NW	31
22	LUST	LIDO PARK CONDOMINIUMS T0605902220/CASE CLOSED	601 LIDO PARK NEWPORT BEACH CA 92663	0.54 NW	32
23	LUST	UNOCAL 5310 T0605900346/REMEDIAL ACTION	3001 NEWPORT NEWPORT BEACH CA 92663	0.60 NW	33
24	LUST	GERMAN AUTOS T0605900804/CASE CLOSED	3000 NEWPORT NEWPORT BEACH CA 92663	0.60 NW	34
23	LUST	UNOCAL T0605937174/CASE CLOSED	3001 NEWPORT NEWPORT BEACH CA 92663	0.60 NW	35
25	CERCLIS	CAGNEY TRUST CA0000187997/NOT PROPOSED	SW CORNER OF 32ND ST and NE NEWPORT BEACH CA 92663	0.68 NW	36
26	LUST	BOY SCOUTS OF AMERICA SEA BASE T0605901174/CASE CLOSED	1931 COAST NEWPORT BEACH CA 92663	0.69 NE	37
27	LUST	NEWPORT BEACH CITY HALL T0605900150/CASE CLOSED	3300 NEWPORT NEWPORT BEACH CA 92658	0.70 NW	38
28	LUST	WORLD OIL 42 T0605901106/CASE CLOSED	3401 NEWPORT NEWPORT BEACH CA 92660	0.73 NW	39
29	STATE	ORANGE COUNTY REFINING CO. WELL 3 CAL30130028/PROPERTY/SITE REFERR	213 42ND ST. NEWPORT BEACH CA 92660	1.13 NW	40
30	STATE	SOUTH BASIN OIL COMPANY CAL30130024/PROPERTY/SITE REFERR	204/206 43RD STREET NEWPORT BEACH CA 92663	1.17 NW	42

Environmental FirstSearch
Sites Summary Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

TOTAL: 46 **GEOCODED:** 39 **NON GEOCODED:** 7 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Page No.
	ERNS	UNKNOWN 297590/MARINE VESSEL (EPA R	NEWPORT BEACH HARBOR/3812 R NEWPORT BEACH CA 92663	NON GC	N/A
	ERNS	UNKNOWN 256292/UNKNOWN (EPA REGIONS	NEWPORT BEACH MARINA NR COR NEWPORT BEACH CA	NON GC	N/A
	ERNS	NEWPORT PLATING CO 13332/UNKNOWN	NEWPORT PLATING CO NEWPORT BEACH CA	NON GC	N/A
	ERNS	UNKNOWN 306819/MARINE VESSEL (EPA R	PIER 19TH ST NEWPORT BEACH CA 92663	NON GC	N/A
	PERMITS	REMOTE/ MACHINE SHOP/ HORNBLOWER C CAL000326181/ACTIVE	815 WEST 17TH ST STE 10 NEWPORT BEACH CA 92663	NON GC	N/A
	PERMITS	CLINICAL FORMULA LLC CAL000160517/ACTIVE	888 W 16TH ST NEWPORT BEACH CA 92663	NON GC	N/A
	SWL	NEWPORT TERRACE LF SWIS30-AB-0168/CLOSED	WEST 19TH ST. DEAD END NEWPORT BEACH CA	NON GC	N/A

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 34 **DIST/DIR:** 0.16 SE **MAP ID:** 1

NAME: MOBIL 18-HG7
ADDRESS: 1500 BALBOA
NEWPORT BEACH CA 92659
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605900496
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *87UT166*
RESPONSIBLE PARTY: *JOHNNY MEDRANO*
ADDRESS OF RESPONSIBLE PARTY: *3700 W 190TH ST TPT2*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083000618T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1987-06-18 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *2000-10-17 00:00:00*
REPORT DATE (blank if not reported): *1987-06-18 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: ***

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

OTHER

SEARCH ID: 25 **DIST/DIR:** 0.16 SE **MAP ID:** 1

NAME: MOBIL S S 18-H67
ADDRESS: 1500 BALBOA BLVD
NEWPORT BEACH CA 92659
ORANGE
CONTACT:

REV: 07/01/99
ID1: ORCO_GW_87UT166
ID2:
STATUS: NOT REPORTED
PHONE:

ORANGE COUNTY GROUNDWATER CLEANUP LIST INFORMATION

Case Type:	*G*
Contract Status:	*8*
Fund:	*F*
Substance Code:	*8006619*
Description:	*GASOLINE*
Lead Refferal:	*N*
Enforcement:	
Date Closed:	

PERMITS

SEARCH ID: 23 **DIST/DIR:** 0.27 NW **MAP ID:** 2

NAME: SOUTH COAST SHIPYARD
ADDRESS: 223 21ST ST
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/16/08
ID1: CAL000300628
ID2:
STATUS: ACTIVE
PHONE:

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*11/22/2005 9:18:49 AM*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*223 21ST ST, NEWPORT BEACH, CA 92663*
Owner Name:	*PETE STEWART*
Owner Address:	*223 21ST ST, NEWPORT BEACH, CA 92663*
Contact Name:	*PETE STEWART*
Contact Address:	*223 21ST ST, NEWPORT BEACH, CA 92663*
Contact Phone:	*9496752837*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 8 **DIST/DIR:** 0.27 NW **MAP ID:** 3

NAME:	SEA SPRAY BOAT YARD	**REV:**	6/6/06
ADDRESS:	226 21ST ST	**ID1:**	CAD982470718
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	SGN
CONTACT:	PAULETTE PAPPAS	**PHONE:**	7146751155

SITE INFORMATION

CONTACT INFORMATION: PAULETTE PAPPAS
1717 E BALBOA BLVD
BALBOA CA 92661

PHONE: 7146751155

UNIVERSE INFORMATION:

NAIC INFORMATION

336612 - BOAT BUILDING

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 19 **DIST/DIR:** 0.29 NW **MAP ID:** 4

NAME:	LIDO PENINSULA COMPANY	**REV:**	04/16/08
ADDRESS:	101 SHIPYARD WAY STE M	**ID1:**	CAL000301958
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*1/5/2006 1:01:45 PM*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*PO BOX 1549, NEWPORT BEACH, CA 92659-1549*
Owner Name:	*LIDO PENINSULA CO*
Owner Address:	*PO BOX 1549, NEWPORT BEACH, CA 92659-1549*
Contact Name:	*JAMIE BEUTHIN*
Contact Address:	*151 SHIPYARD WAY STE 7, NEWPORT BEACH, CA 92663-0000*
Contact Phone:	*9496739330*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 4 **DIST/DIR:** 0.30 NW **MAP ID:** 5

NAME:	BELLPORT GROUP INC	**REV:**	6/6/06
ADDRESS:	101 SHIPYARD WAY	**ID1:**	CAR000148882
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	SGN
CONTACT:	DWAYNE PACE	**PHONE:**	949-673-9330

SITE INFORMATION

CONTACT INFORMATION: DWAYNE PACE
101 SHIPYARD WAY STE M
NEWPORT BEACH CA 92663

PHONE: 949-673-9330

UNIVERSE INFORMATION:

NAIC INFORMATION

71393 - MARINAS

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

Corrosive waste
Ignitable waste

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 5 **DIST/DIR:** 0.31 NW **MAP ID:** 6

NAME:	ERIC KIEVIT MARINE DIESEL	**REV:**	6/6/06
ADDRESS:	151 SHIPYARD WY BERTH C CBN 5	**ID1:**	CAD983662883
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	SGN
CONTACT:	ERIC KIEVITS	**PHONE:**	7146730882

SITE INFORMATION

CONTACT INFORMATION: ERIC KIEVITS
151 SHIPYARD WY BERTH C CBN 5
NEWPORT BEACH CA 92663

PHONE: 7146730882

UNIVERSE INFORMATION:

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 6 **DIST/DIR:** 0.31 NW **MAP ID:** 7

NAME:	NEWPORT HARBOR SHIPYARD	**REV:**	6/6/06
ADDRESS:	151 SHIPYARD WAY BERTH C	**ID1:**	CAD981653199
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	SGN
CONTACT:	ENVIRONMENTAL MANAGER	**PHONE:**	7146752550

SITE INFORMATION

CONTACT INFORMATION: ENVIRONMENTAL MANAGER
151 SHIPYARD WAY BERTH C
NEWPORT BEACH CA 92663

PHONE: 7146752550

UNIVERSE INFORMATION:

NAIC INFORMATION

23521 - PAINTING AND WALL COVERING CONTRACTORS

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRANLR

SEARCH ID: 10 **DIST/DIR:** 0.31 NW **MAP ID:** 8

NAME:	LIDO PENINSULA CO	**REV:**	6/6/06
ADDRESS:	201 SHIPYARD WY CABIN NUMBER 1	**ID1:**	CAD983671843
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	NLR
CONTACT:	SEAN M WALSH	**PHONE:**	7146739330

SITE INFORMATION

CONTACT INFORMATION: SEAN M WALSH
P O BOX 1549
NEWPORT BEACH CA 926591549

PHONE: 7146739330

UNIVERSE INFORMATION:

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

UST

SEARCH ID: 28 **DIST/DIR:** 0.33 NW **MAP ID:** 9

NAME:	LIDO PENINSULA CO	**REV:**	01/01/94
ADDRESS:	251 SHIPYARD	**ID1:**	TISID-STATE33721
	NEWPORT BEACH CA 92660	**ID2:**	
	Orange	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA

This site was listed in the FIDS Zip Code List as a UST site. The Office of Hazardous Data Management produced the FIDS list. The FIDS list is an index of names and locations of sites recorded in various California State environmental agency databases. It is sorted by zip code and as an index, details regarding the sites were never included.

The UST information included in FIDS as provided by the Office of Hazardous Data Management was originally collected from the SWEEPS database. The SWEEPS database recorded Underground Storage Tanks and was maintained by the State Water Resources Control Board (SWRCB). That agency no longer maintains the SWEEPS database and last updated it in 1994. The last release of that 1994 database was in 1997.

Oversight of Underground Storage Tanks within California is now conducted by Certified Unified Program Agencies referred to as CUPA s. There are approximately 102 CUPA s and Local Oversight Programs (LOP s) in the State of California. Most are city or county government agencies. As of 1998, all sites or facilities with underground storage tanks were required by Federal mandate to obtain certification by designated UST oversight agencies (in this case, CUPA s) that the UST/s at their location were upgraded or removed in adherence with the 1998 RCRA standards.

Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 20 **DIST/DIR:** 0.34 NW **MAP ID:** 10

NAME:	PETROS MARINE SERVICE, INC.	**REV:**	04/16/08
ADDRESS:	2270 NEWPORT BLVD	**ID1:**	CAL000254471
	NEWPORT BEACH CA 92663	**ID2:**	
	Orange	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*6/21/2002 4:13:47 PM*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*2270 NEWPORT BLVD, NEWPORT BEACH, CA 92663*
Owner Name:	*PETROS KOURAKIS*
Owner Address:	*2270 NEWPORT BLVD, NEWPORT BEACH, CA 92663*
Contact Name:	*JILL MCKINNEY*
Contact Address:	*2270 NEWPORT BLVD, NEWPORT BEACH, CA 92663*
Contact Phone:	*9496735040*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 22 **DIST/DIR:** 0.34 NW **MAP ID:** 10

NAME:	SOUTH COAST BOAT YARD INC	**REV:**	04/16/08
ADDRESS:	2270 NEWPORT BLVD	**ID1:**	CAL000000944
	NEWPORT BEACH CA 92663	**ID2:**	
	Orange	**STATUS:**	INACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*11/14/1989*
Inactivity Date:	*11/21/2005*
Facility Mail Name:	
Facility Mailing Address:	*223 21ST ST, NEWPORT BEACH, CA 92663-4303*
Owner Name:	*SOUTH COAST BOAT YARD INC*
Owner Address:	*2270 NEWPORT BLVD, NEWPORT BEACH, CA 92663-0000*
Contact Name:	*PETER STEWART*
Contact Address:	*, NOTICE - CR, NEWPORT BEACH, CA 92663-4324*
Contact Phone:	*9496752837*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Unspecified organic liquid mixture*
Total Tonnage per Year:	*0.22935*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Unspecified aqueous solution*
Total Tonnage per Year:	*2.06415*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Unspecified solvent mixture*
Total Tonnage per Year:	*0.35361*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

SPILLS

SEARCH ID: 15 **DIST/DIR:** 0.35 NW **MAP ID:** 11

NAME: ETCO HOMES
ADDRESS: 2300 NEWPORT BOULEVARD
NEWPORT BEACH CA 92663
CONTACT:

REV: 01/03/07
ID1: G_SL0605958194
ID2:
STATUS: CASE OPEN
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD GEOTRACKER SLIC DATABASE

Please note that some SLIC data previously provided by the State Water Resources Control Board via the Regional Boards is not currently provided by the agency in the new GEOTRACKER format. To ensure that our data is as complete as possible we have retained the original Regional Boards SLIC records as well as loaded all GEOTRACKER SLIC listings. GEOTRACKER records are distinguished by an initial G at the start of the ID.

LEAD AGENCY: *SANTA ANA RWQCB (REGION 8)*
LEAD AGENCY CONTACT: *MANECK G. CHICHGAR*
LEAD AGENCY CASE NUMBER:
RESPONSIBLE PARTY:
SUBSTANCE RELEASED (please note that not all codes are available and some records may remain encoded): *7439921, 7440473, 7440508*
RECENT DTW:
STATUS: *Case Open*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 9 **DIST/DIR:** 0.36 NW **MAP ID:** 12

NAME:	W B R TRANSPORTATION LLC	**REV:**	4/1/08
ADDRESS:	7752 MONROE ST	**ID1:**	CAR000121731
	PARAMOUNT CA 90723	**ID2:**	
	ORANGE	**STATUS:**	TRANSPORTER
CONTACT:	CRAIG A BARRETT	**PHONE:**	949-673-1247

SITE INFORMATION

CONTACT INFORMATION: JOHN LINDSEY
2240 NEWPORT BLVD
NEWPORT BEACH CA 92663

PHONE: 949-673-1247

CONTACT INFORMATION: JOHN LINDSEY
2240 NEWPORT BLVD
NEWPORT BEACH CA 92663

PHONE: 9496731247

UNIVERSE INFORMATION:

NAIC INFORMATION

562112 - HAZARDOUS WASTE COLLECTION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 18 **DIST/DIR:** 0.39 NW **MAP ID:** 13

NAME:	BALBOA BOAT YARD INC	**REV:**	04/16/08
ADDRESS:	2414 NEWPORT BLVD	**ID1:**	CAL000091395
	NEWPORT BEACH CA 92663	**ID2:**	
	Orange	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*10/5/1994*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*2414 NEWPORT BLVD, NEWPORT BEACH, CA 92663-0000*
Owner Name:	*BALBOA BOAT YARD*
Owner Address:	*2414 NEWPORT BLVD, NEWPORT BEACH, CA 92663-3704*
Contact Name:	*ARTHUR LEWIS*
Contact Address:	*2414 NEWPORT BLVD, NEWPORT BEACH, CA*
Contact Phone:	*7146736834*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Unspecified solvent mixture*
Total Tonnage per Year:	*0.1251*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Other organic solids*
Total Tonnage per Year:	*0.1*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 24 **DIST/DIR:** 0.45 SE **MAP ID:** 14

NAME:	TERRY MCKENZIE, INC	**REV:**	04/16/08
ADDRESS:	1151 W BALBOA BLVD	**ID1:**	CAL000141436
	NEWPORT BEACH CA 92661	**ID2:**	
	ORANGE	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*8/30/1994*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*1151 W BALBOA BLVD, NEWPORT BEACH, CA 92661-1005*
Owner Name:	*TERRY MCKENZIE, INC.*
Owner Address:	*1151 W BALBOA BLVD, NEWPORT BEACH, CA 92661-1005*
Contact Name:	*LAURIE MC KENZIE-VP.*
Contact Address:	*1151 WEST BALBOA BLVD., NEWPORT BEACH, CA 92661-1005*
Contact Phone:	*7146732372*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Unspecified organic liquid mixture*
Total Tonnage per Year:	*0.13344*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

NFRAP

SEARCH ID: 2 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME: NEWPORT PLATING CO
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 4/22/08
ID1: CAD982360356
ID2: 0902597
STATUS: NFRAP-N
PHONE:

DESCRIPTION:

ACTION/QUALITY	AGENCY/RPS	START/RAA	END
ARCHIVE SITE	EPA In-House		04-27-1989
DISCOVERY	State, Fund Financed		11-01-1987
PRELIMINARY ASSESSMENT	State, Fund Financed		04-27-1989

NFRAP (No Futher Remedial Action Planned

NFRAP

SEARCH ID: 3 **DIST/DIR:** 0.47 NW **MAP ID:** 16

NAME: NEWPORT PLATING CO 3
ADDRESS: 2815 VILLA WAY
NEWPORT BEACH CA 92661
ORANGE
CONTACT:

REV: 4/22/08
ID1: CAD982360414
ID2: 0902599
STATUS: NFRAP-N
PHONE:

DESCRIPTION:

ACTION/QUALITY	AGENCY/RPS	START/RAA	END
ARCHIVE SITE	EPA In-House		10-01-1988
DISCOVERY	State, Fund Financed		11-01-1987
PRELIMINARY ASSESSMENT	EPA Fund-Financed		10-01-1988

NFRAP (No Futher Remedial Action Planned

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

OTHER

SEARCH ID: 27 **DIST/DIR:** 0.47 NW **MAP ID:** 18

NAME: NEWPORT PLATING COMPANY 3
ADDRESS: 2815 VILLA WAY
NEWPORT BEACH CA 92661
ORANGE
CONTACT:

REV: 07/18/05
ID1: CAL30340151
ID2:
STATUS: PROPERTY/SITE REFERRED TO RCRA
PHONE:

GENERAL SITE INFORMATION

Site Type:	*Historical*
Status:	*Refer: RCRA*
Status Date:	*1988-08-26 00:00:00*
NPL Site:	*NO*
Funding:	
Regulatory Agencies Involved:	*NONE SPECIFIED*
Lead Agency:	*NONE SPECIFIED*
Project Manager:	
Supervisor:	*Referred - Not Assigned*
Branch:	*So Cal - Cypress*
Acres:	
Assessor s Parcel Number:	*NONE SPECIFIED*
Past Uses:	*NONE SPECIFIED*
Potential Contaminants:	*NONE SPECIFIED*
Confirmed Contaminants:	*NONE SPECIFIED*
Potential Media Affected:	*NONE SPECIFIED*
Restricted Use:	*NO*
Site Management Required:	*NONE SPECIFIED*
Special Programs Associated with this Site:	** CERC2*

OTHER SITE NAMES (blank below = not reported by agency)

CAD982360414

30340151

CALDWELL PLATING

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Site Screening***
Completion Date: ***1988-08-26***
Comments: *SITE SCREENING DONE NFA UNDER CERCLA; PENDING STATUS FOR DHS BECAUSE RCRA REGULATED FACILITY.*

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Preliminary Assessment Report***
Completion Date: ***1987-10-19***
Comments: *PRELIM ASSESS DONE NO EVIDENCE OF NEWPORT PLATING EVER BEING AT 2815 VILLA WAY*

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Site Screening***
Completion Date: ***1987-05-13***
Comments: *SITE SCREENING DONE CERCLA GRANT PA REQ D.*

Area Name: ***PROJECT WIDE***

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

OTHER

SEARCH ID: 27 **DIST/DIR:** 0.47 NW **MAP ID:** 18

NAME:	NEWPORT PLATING COMPANY 3	**REV:**	07/18/05
ADDRESS:	2815 VILLA WAY	**ID1:**	CAL30340151
	NEWPORT BEACH CA 92661	**ID2:**	
	ORANGE	**STATUS:**	PROPERTY/SITE REFERRED TO RCRA
CONTACT:		**PHONE:**	

Sub- Area Name:
Document Type: ***Discovery***
Completion Date: ***1981-08-01***
Comments: *FACILITY IDENTIFIED PHONE CO. SEARCH.*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

OTHER

SEARCH ID: 26 **DIST/DIR:** 0.47 NW **MAP ID:** 17

NAME: NEWPORT PLATING CO.
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 07/18/05
ID1: CAL30340050
ID2:
STATUS: PROPERTY/SITE REFERRED TO ANOT
PHONE:

GENERAL SITE INFORMATION

Site Type: *Historical*
Status: *Refer: Other Agency*
Status Date: *1987-09-30 00:00:00*
NPL Site: *NO*
Funding:
Regulatory Agencies Involved: *NONE SPECIFIED*
Lead Agency: *NONE SPECIFIED*
Project Manager:
Supervisor: *Referred - Not Assigned*
Branch: *So Cal - Cypress*
Acres:
Assessor s Parcel Number: *NONE SPECIFIED*
Past Uses: *NONE SPECIFIED*
Potential Contaminants: *Metals - Other Inorganic Solid Waste, AQUEOUS SOLUTION WITH TOTAL ORGANIC RESIDUES >= 10, CONTAMINATED SOIL, ACID SOLUTION 2>PH WITH METALS, AQUEOUS SOLUTION 2<PH<12.5, WITH REACTIVE ANIONS, Cadmium and compounds, Chromium VI*
Confirmed Contaminants: *NONE SPECIFIED*
Potential Media Affected: *NONE SPECIFIED*
Restricted Use: *NO*
Site Management Required: *NONE SPECIFIED*
Special Programs Associated with this Site: ** CERC2*

OTHER SITE NAMES (blank below = not reported by agency)

30340050

COMPLETED ACTIVITIES AND DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Preliminary Assessment Report***
Completion Date: ***1987-10-16***
Comments: *PRELIM ASSESS DONE DHS-PENDING STATUS; RWQCB AND CO HLTH INVOLVED IN AN ENFORCEMENT ACTION.*

Area Name: ***PROJECT WIDE***
Sub- Area Name:
Document Type: ***Site Screening***
Completion Date: ***1987-02-13***
Comments: *SITE SCREENING DONE RATIONALE FOR PA: MORE INFO. NEEDED.*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

RCRAGN

SEARCH ID: 7 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME:	NEWPORT PLATING	**REV:**	6/6/06
ADDRESS:	2810 VILLA WAY	**ID1:**	CAD982360356
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	SGN
CONTACT:		**PHONE:**	

SITE INFORMATION

CONTACT INFORMATION: ENVIRONMENTAL MANAGER
2810 VILLA WAY
NEWPORT BEACH CA 92663

PHONE: 7146734440

UNIVERSE INFORMATION:

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

SPILLS

SEARCH ID: 17 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME: NEWPORT PLATING
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA
ORANGE
CONTACT:

REV: 07/01/2003
ID1: SLC8_189
ID2:
STATUS: ADDITIONAL CHARACTERIZATION
PHONE:

Lead Agency: *REGIONAL BOARD*
Program: *SLIC*
Case Type: *SOIL AND GROUNDWATER*
Status: *ADDITIONAL CHARACTERIZATION*
Substance: *METALS*
Comments: *CONTAMINANTS PRESENT: CYANIDE, CADMINUM, CHROMIUM, NICKEL, COPPER, AND ZINC. ADDITIONAL ASSESSMENT WORK NEEDED*
Thomas Brothers Guide Location: *(?)*

SPILLS

SEARCH ID: 16 **DIST/DIR:** 0.47 NW **MAP ID:** 17

NAME: NEWPORT PLATING
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA 92663
CONTACT:

REV: 01/03/07
ID1: G_SL0605980961
ID2:
STATUS: NOT REPORTED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD GEOTRACKER SLIC DATABASE

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LEAD AGENCY: *SANTA ANA RWQCB (REGION 8)*
LEAD AGENCY CONTACT: *MANECK G. CHICHGAR*
LEAD AGENCY CASE NUMBER:
RESPONSIBLE PARTY:
SUBSTANCE RELEASED (please note that not all codes are available and some records may remain encoded): *13, 57125, 7440473*
RECENT DTW:
STATUS:

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 12 **DIST/DIR:** 0.47 NW **MAP ID:** 16

NAME: NEWPORT PLATING COMPANY 3
ADDRESS: 2815 VILLA WAY
NEWPORT BEACH CA 92661
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30340151
ID2:
STATUS: PROPERTY/SITE REFERRED TO RCRA
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)
CALDWELL PLATING

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO RCRA (REFRC)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *08261988*
Lead:
Staff:
Senior Supervisor:

DTSC Region and RWQCB : *4 / LONG BEACH*
Branch: *SOUTHERN CA. - B*
RWQCB: *SANTA ANA*
Site Access:
On Cortese List:
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

OTHER AGENCY ID NUMBERS (blank below = not reported by agency)
ID SOURCE NAME, and VALUE: *EPA IDENTIFICATION NUMBER CAD982360414*

INFORMATION ON SPECIAL PROGRAMS THE SITE IS ASSOCIATED WITH (blank below = not reported by agency)
CERCLA II

PROJECTED ACTIVITIES (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)
Activity: ***DISCOVERY (DISC)***
Activity Status: *PROPERTY/SITE REFERRED TO RCRA*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *08011981*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 12 **DIST/DIR:** 0.47 NW **MAP ID:** 16

NAME: NEWPORT PLATING COMPANY 3
ADDRESS: 2815 VILLA WAY
NEWPORT BEACH CA 92661
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30340151
ID2:
STATUS: PROPERTY/SITE REFERRED TO RCRA
PHONE:

Activity: *(SS)*
Activity Status: *PROPERTY/SITE REFERRED TO RCRA*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *05131987*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

Activity: *(PA)*
Activity Status: *PROPERTY/SITE REFERRED TO RCRA*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *10191987*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

Activity: *(SS)*
Activity Status: *PROPERTY/SITE REFERRED TO RCRA*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *08261988*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
08011981	*FACILITY IDENTIFIED PHONE CO. SEARCH.*
06011982	*FINAL STRATEGY SITE REFERRED: TO HWMB/ENF*
06211982	*CALDWELL PLATING AT SITE 1946 - 1947 and*
06211982	*WAS BOAT BUILDER.*
05131987	*SITE SCREENING DONE CERCLA GRANT PA REQ D.*
08101987	*ORANGE CO. ENV. HEALTH NO FILES*
08141987	*RWQCB NO FILES NEWPORT PLATING 3*

DATE **COMMENT**

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 12 **DIST/DIR:** 0.47 NW **MAP ID:** 16

NAME: NEWPORT PLATING COMPANY 3
ADDRESS: 2815 VILLA WAY
NEWPORT BEACH CA 92661
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30340151
ID2:
STATUS: PROPERTY/SITE REFERRED TO RCRA
PHONE:

08141987 *MAY HAVE RELOCATED AFTER FIRE MORE THAN*

DATE	COMMENT
08141987	*20 YEARS AGO*

DATE	COMMENT
10161987	*FACILITY DRIVE-BY SITE OCCUPIED BY ANOTHER BUSINESS NO*

DATE	COMMENT
10161987	*INDICATION OF ANY PROBLEMS AT SITE*

DATE	COMMENT
10191987	*PRELIM ASSESS DONE NO EVIDENCE OF NEWPORT PLATING EVER*

DATE	COMMENT
10191987	*BEING AT 2815 VILLA WAY*

DATE	COMMENT
11161987	*SUBMIT TO EPA NFA UNDER CERCLA 2*

DATE	COMMENT
08261988	*SITE SCREENING DONE NFA UNDER CERCLA; PENDING STATUS FOR DHS*

DATE	COMMENT
08261988	*BECAUSE RCRA REGULATED FACILITY.*

DATE	COMMENT
05191995	*RCRA lead. EPA ID CAD982360414 is not an acceptable EPA*

DATE	COMMENT
05191995	*ID number per EPA 4/19/95.*

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 11 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME: NEWPORT PLATING CO.
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA 92663
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30340050
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)
NEWPORT PLATING CO.

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY (REFOA)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *09301987*
Lead:
Staff:
Senior Supervisor:

DTSC Region and RWQCB : *4 / LONG BEACH*
Branch: *SOUTHERN CA. - B*
RWQCB: *SANTA ANA*
Site Access: *Controlled*
On Cortese List:
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

INFORMATION ON SPECIAL PROGRAMS THE SITE IS ASSOCIATED WITH (blank below = not reported by agency)
CERCLA II

PROJECTED ACTIVITIES (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)
Activity: ***(SS)***
Activity Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *02131987*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

Activity: ***(PA)***
Activity Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *10161987*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

- Continued on next page -

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 11 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME: NEWPORT PLATING CO.
ADDRESS: 2810 VILLA WAY
NEWPORT BEACH CA 92663
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30340050
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
01131982	*PHONE F-U,J.L.EDWARDS: CHEM WERE DISP TO*
01131982	*SUMP-UNLINED IN USE UNTIL 1980. CLAIMED*
01131982	*USED A HAULER.*
01131982	*SUMP EMPTY WHEN CEMENTED. DRUMS HOLD NEW*
01131982	*SOLUTIONS. NO CHEM ARE RECYCLED. NEVER*
01141982	*FACILITY DRIVE-BY LOC OF ABAND SAMP UNK. STANDING WATER ON*
01141982	*BACK LOT. BBLS STILL STORED HAPHAZARDLY.*
01141982	*MAY BE ENFORCEMENT PROB.*
06281982	*FINAL STRATEGY SITE REFERRED: TO HWMB- LA ENFORCEMENT.*
02131987	*SITE SCREENING DONE RATIONALE FOR PA: MORE INFO. NEEDED.*
04071987	*INSPECTION(STATE) RWQCB and N.B. SANITATION DEPT. PERFORM*
04071987	*DRY TEST*
05251987	*INSPECTION(STATE) JOINT INSPECTION BY RWQCB, ORANGE CO.*
05251987	*HLTH CARE AGENCY, NEWPORT BEACH POLICE*
05251987	*and FIRE DEPT.; OBSERVE HAZ WSTE DISCHARGE*
05251987	*TO SOILS*
10011987	*RWQCB-FILES ON INSP/ SURFACE WATER*
DATE	**COMMENT**

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 11 **DIST/DIR:** 0.47 NW **MAP ID:** 15

NAME:	NEWPORT PLATING CO.	**REV:**	07/03/00
ADDRESS:	2810 VILLA WAY	**ID1:**	CAL30340050
	NEWPORT BEACH CA 92663	**ID2:**	
	Orange	**STATUS:**	PROPERTY/SITE REFERRED
CONTACT:		**PHONE:**	

10021987 *DHS-SOME FILES ON FACILITY*

DATE	COMMENT
10161987	*PRELIM ASSESS DONE DHS-PENDING STATUS; RWQCB AND CO HLTH*

DATE	COMMENT
10161987	*INVOLVED IN AN ENFORCEMENT ACTION.*

DATE	COMMENT
11161987	*SUBMIT TO EPA NFA: SITE WILL NOT SCORE BASED ON*

DATE	COMMENT
11161987	*AVAILABLE INFO*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

PERMITS

SEARCH ID: 21 **DIST/DIR:** 0.50 NW **MAP ID:** 19

NAME:	SCHOCK MARINE	**REV:**	04/16/08
ADDRESS:	504 29TH ST	**ID1:**	CAL000059574
	NEWPORT BEACH CA 92663	**ID2:**	
	ORANGE	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL HAZARDOUS WASTE MANIFEST INVENTORY (HWMI) SITE INFORMATION FROM THE CA EPA AND DTSC HAZARDOUS WASTE TRACKING SYSTEM (HWTS) :

Date Record was Created:	*2/24/1992*
Inactivity Date:	
Facility Mail Name:	
Facility Mailing Address:	*2900 LAFAYETTE RD, NEWPORT BEACH, CA 92663-3718*
Owner Name:	*SCOTT SCHOCK/SCHOCK FAMILY TRUST*
Owner Address:	*2900 LAFAYETTE RD, NEWPORT BEACH, CA 92663-3718*
Contact Name:	*MARIE SCHOCK*
Contact Address:	*2900 LAFAYETTE RD, NEWPORT BEACH, CA 92663-3718*
Contact Phone:	*9496732050*

HWMI WASTE TYPE AND TONNAGE INFORMATION:

Waste Type:	*Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)*
Total Tonnage per Year:	*0.191*

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 31 **DIST/DIR:** 0.53 NW **MAP ID:** 21

NAME: DELANEYS
ADDRESS: 634 LIDO PARK
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605901362
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *90UT225*
RESPONSIBLE PARTY: *LEVON GUGASIAN*
ADDRESS OF RESPONSIBLE PARTY: *17 RIDGELINE DRIVE*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001822T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *DIESEL*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1990-09-06 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1993-02-18 00:00:00*
REPORT DATE (blank if not reported): *1990-09-06 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 36 **DIST/DIR:** 0.53 NW **MAP ID:** 20

NAME: UNDESIGNATED PARKING AREA
ADDRESS: 2809 NEWPORT
NEWPORT BEACH CA 92660
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605901199
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *90UT156*
RESPONSIBLE PARTY: *JOHN NEWCOMB*
ADDRESS OF RESPONSIBLE PARTY: *2800 LAFAYETTE*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001570T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *8,8008206*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1990-05-04 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1990-11-07 00:00:00*
REPORT DATE (blank if not reported): *1990-05-04 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 30 **DIST/DIR:** 0.53 NW **MAP ID:** 20

NAME: CITY YARD (FORMER)
ADDRESS: 2809 NEWPORT BLVD
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 07/11/02
ID1: 083001767T
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *SANTA ANA REGION*
LOCAL CASE NUMBER: *90UT156*
RESPONSIBLE PARTY: *UNKNOWN*
ADDRESS OF RESPONSIBLE PARTY:
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001767T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *8008206*
SUBSTANCE QUANTITY: *75*
LEAK CAUSE: *STRUCTURE FAILURE*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *5/5/90*
HOW LEAK WAS STOPPED: *REMOVE CONTENTS*
STOP DATE (blank if not reported): *5/5/90*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *REMOVE FREE PRODUCT-REMOVE FLOATING PRODUCT FROM WATER TABLE. EXCAVATE AND TREAT.*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1/20/91*
REVIEW DATE (blank if not reported): *4/10/98*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported): *5/5/90*
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *11/7/90*
REPORT DATE (blank if not reported): *6/17/90*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 33 **DIST/DIR:** 0.54 NW **MAP ID:** 22

NAME: LIDO PARK CONDOMINIUMS
ADDRESS: 601 LIDO PARK
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605902220
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *98UT090*
RESPONSIBLE PARTY: *BILL CUNNINGHAM*
ADDRESS OF RESPONSIBLE PARTY: *601 LIDO PARK DR*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083003306T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *DIESEL*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1998-11-09 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1999-12-03 00:00:00*
REPORT DATE (blank if not reported): *1998-11-09 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 38 **DIST/DIR:** 0.60 NW **MAP ID:** 23

NAME: UNOCAL 5310
ADDRESS: 3001 NEWPORT
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605900346
ID2:
STATUS: REMEDIAL ACTION
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *89UT089*
RESPONSIBLE PARTY: *ROLAND MORA*
ADDRESS OF RESPONSIBLE PARTY: *145 SOUTH STATE COLLEGE BLVD*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083000431T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *NO DESCRIPTION*
DATE DISCOVERED (blank if not reported): *1989-05-12 00:00:00*
HOW LEAK WAS STOPPED: *OTHER MEANS*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *REMEDIAL ACTION*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *Informal Staff Enforcement Letter*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *1993-08-19 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *1989-05-19 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *YES*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 32 **DIST/DIR:** 0.60 NW **MAP ID:** 24

NAME: GERMAN AUTOS
ADDRESS: 3000 NEWPORT
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605900804
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *88UT124*
RESPONSIBLE PARTY: *THEO VAN LINGEN*
ADDRESS OF RESPONSIBLE PARTY: *3000 NEWPORT BLVD*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001016T*
CASE TYPE: *SOIL ONLY*
SUBSTANCE LEAKED: *WASTE OIL*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1988-06-30 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1988-08-05 00:00:00*
REPORT DATE (blank if not reported): *1988-06-30 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 37 **DIST/DIR:** 0.60 NW **MAP ID:** 23

NAME: UNOCAL
ADDRESS: 3001 NEWPORT
NEWPORT BEACH CA 92663
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605937174
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *86UT008*
RESPONSIBLE PARTY: *RICH GOSSETT*
ADDRESS OF RESPONSIBLE PARTY: *P O BOX 85176*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER:
CASE TYPE: *UNDEFINED*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1965-01-01 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1986-09-16 00:00:00*
REPORT DATE (blank if not reported): *1965-01-01 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: ***

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

CERCLIS

SEARCH ID: 1 **DIST/DIR:** 0.68 NW **MAP ID:** 25

NAME:	CAGNEY TRUST	**REV:**	4/22/08
ADDRESS:	SW CORNER OF 32ND ST and NEWPORT BLVD.	**ID1:**	CA0000187997
	NEWPORT BEACH CA 92663	**ID2:**	0904996
	ORANGE	**STATUS:**	NOT PROPOSED
CONTACT:	JEFF INGLIS	**PHONE:**	4159723095

ACTION/QUALITY	AGENCY/RPS	START/RAA	END
discovery	EPA Fund-Financed		03-25-1994
preliminary assessment NFRAP (No Futher Remedial Action Planned	EPA Fund-Financed	02-23-1999	08-30-1999

DESCRIPTION:

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 29 **DIST/DIR:** 0.69 NE **MAP ID:** 26

NAME: BOY SCOUTS OF AMERICA SEA BASE
ADDRESS: 1931 COAST
NEWPORT BEACH CA 92659
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605901174
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *90UT132*
RESPONSIBLE PARTY: *MIKE HARRISON*
ADDRESS OF RESPONSIBLE PARTY: *14321 W CHAMBERS RD*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001534T*
CASE TYPE: *SOIL ONLY*
SUBSTANCE LEAKED: *WASTE OIL*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1990-05-07 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1990-08-08 00:00:00*
REPORT DATE (blank if not reported): *1990-05-07 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 35 **DIST/DIR:** 0.70 NW **MAP ID:** 27

NAME: NEWPORT BEACH CITY HALL
ADDRESS: 3300 NEWPORT
NEWPORT BEACH CA 92658
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605900150
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *88UT142*
RESPONSIBLE PARTY: *DONALD SIMPSON*
ADDRESS OF RESPONSIBLE PARTY: *3300 NEWPORT BLVD*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083000199T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *UNKNOWN*
LEAK SOURCE: *UNKNOWN*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1988-08-09 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1991-06-19 00:00:00*
REPORT DATE (blank if not reported): *1988-08-09 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: ***

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

LUST

SEARCH ID: 39 **DIST/DIR:** 0.73 NW **MAP ID:** 28

NAME: WORLD OIL 42
ADDRESS: 3401 NEWPORT
NEWPORT BEACH CA 92660
ORANGE
CONTACT:

REV: 04/11/08
ID1: T0605901106
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *08*
LOCAL CASE NUMBER: *90UT057*
RESPONSIBLE PARTY: *JOHN HUNDLEY*
ADDRESS OF RESPONSIBLE PARTY: *9302 S GARFIELD AVE*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *083001456T*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *12035,800661*
SUBSTANCE QUANTITY: *0*
LEAK CAUSE: *CORROSION*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *NUISANCE CONDITIONS*
DATE DISCOVERED (blank if not reported): *1989-11-13 00:00:00*
HOW LEAK WAS STOPPED: *CLOSE TANK AND FILL IN PLACE*
STOP DATE (blank if not reported): *9999-09-09 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *Closure Letter*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported): *1999-10-28 00:00:00*
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *2004-06-15 00:00:00*
REPORT DATE (blank if not reported): *1989-11-13 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION (parts per billion):
MTBE SOIL CONCENTRATION (parts per million):
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: ***

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 13 **DIST/DIR:** 1.13 NW **MAP ID:** 29

NAME: ORANGE COUNTY REFINING CO. WELL 3
ADDRESS: 213 42ND ST.
NEWPORT BEACH CA 92660
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30130028
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)
ORANGE COUNTY REFINING CO. WELL 3

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY (REFOA)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *02021995*
Lead:
Staff:
Senior Supervisor:

DTSC Region and RWQCB : *4 / LONG BEACH*
Branch: *SOUTHERN CA. - B*
RWQCB: *SANTA ANA*
Site Access:
On Cortese List: *Listed*
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
01011973	*VIOLATION DETECTED OIL FLOWED INTO HOUSE BUILT OVER WELL*
05291974	*LETTER FROM INGRAM IN DOG TO CITY OF NB*
05291974	*RECOM NORTH BEACH TAKE CARE OF WELL.*
06031974	*DOG. LETTER FROM JF MATTHEWS. OUTLINES*
06031974	*ABAND PROCEDURE. DISCUSS PROB W/WELL*
11141975	*FACILITY DRIVE-BY NO APPARENT PROB.*
11141975	*INSPECTION(STATE) DOG. CAPPED and C-U WELL.*
06261981	*DOG. LIST WELL AS HZD,APT 059-05501*
06261981	*LEAKING OIL and GAS SINCE 1936.*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 13 **DIST/DIR:** 1.13 NW **MAP ID:** 29

NAME: ORANGE COUNTY REFINING CO. WELL 3
ADDRESS: 213 42ND ST.
NEWPORT BEACH CA 92660
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30130028
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

DATE	COMMENT
09011987	*REPORTED FOR PROP65*

DATE	COMMENT
01011988	*ON CORTESE LIST*

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 14 **DIST/DIR:** 1.17 NW **MAP ID:** 30

NAME: SOUTH BASIN OIL COMPANY
ADDRESS: 204/206 43RD STREET
NEWPORT BEACH CA 92663
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30130024
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)
ORANGE CO REFINING COMPANY

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY (REFOA)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *05231988*
Lead:
Staff:
Senior Supervisor: *MMONROY*

DTSC Region and RWQCB : *4 / LONG BEACH*
Branch: *SOUTHERN CA. - B*
RWQCB: *SANTA ANA*
Site Access:
On Cortese List:
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

OTHER AGENCY ID NUMBERS (blank below = not reported by agency)
ID SOURCE NAME, and VALUE: *EPA IDENTIFICATION NUMBER CAD982359408*

INFORMATION ON SPECIAL PROGRAMS THE SITE IS ASSOCIATED WITH (blank below = not reported by agency)
CERCLA II

PROJECTED ACTIVITIES (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)
Activity: ***(PA)***
Activity Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *05231988*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

Activity: ***(SS)***
Activity Status: *PROPERTY/SITE REFERRED TO ANOTHER AGENCY*
Completion Due Date:

- Continued on next page -

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 14 **DIST/DIR:** 1.17 NW **MAP ID:** 30

NAME: SOUTH BASIN OIL COMPANY
ADDRESS: 204/206 43RD STREET
NEWPORT BEACH CA 92663
Orange
CONTACT:

REV: 07/03/00
ID1: CAL30130024
ID2:
STATUS: PROPERTY/SITE REFERRED
PHONE:

Revised Completion Due Date:
Date Activity Actually Completed: *10281994*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
06011981	*INSPECTION(STATE) DOG SUPERVISED CAPPING and CLEANUP OF WELL*
06201981	*DOG FILES LIST WELL AS HAZ-HAS BEEN LEAK*
06201981	*METHANE and HYDROGEN SULFIDE GAS SINCE 64*
06201981	*API 059-05474*
01141982	*FACILITY DRIVE-BY HOUSES ARE COMPLETELY DEMOLISHED-ABAND*
01141982	*APPEARS COMPLETE. STANDING WATER ONSITE-*
01141982	*BLACK AND ODORONS.*
01141982	*CONTACT DOG and CITY OF NEWPORT BEACH*
01251982	*FACILITY DRIVE-BY DETERMINE IF THERE S ANY SITE PROB.*
12021982	*FINAL STRATEGY SITE REFERRED: TO DOG*
03301988	*FACILITY DRIVE-BY LOCATION OF WELL IS IN A RESIDENTIAL*
03301988	*NEIGHBORHOOD.*
05231988	*PRELIM ASSESS DONE NFA; WELL HAS BEEN PROPERLY ABANDONED*
05231988	*IN ACCORDANCE WITH DOG POLICIES.*
06131988	*SUBMIT TO EPA NFA FOR EPA: BASED ON AVAILABLE INFO,*

DATE **COMMENT**

- Continued on next page -

Environmental FirstSearch
Site Detail Report

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

STATE

SEARCH ID: 14 **DIST/DIR:** 1.17 NW **MAP ID:** 30

NAME:	SOUTH BASIN OIL COMPANY	**REV:**	07/03/00
ADDRESS:	204/206 43RD STREET	**ID1:**	CAL30130024
	NEWPORT BEACH CA 92663	**ID2:**	
	Orange	**STATUS:**	PROPERTY/SITE REFERRED
CONTACT:		**PHONE:**	

06131988 *THE SITE WILL NOT SCORE FOR NPL*

DATE	COMMENT
10281994	*SITE SCREENING/FILE REVIEW DETERMINE NFA FOR DTSC.*

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

Street Name	Dist/Dir	Street Name	Dist/Dir
10th St	0.58 SE	Marino Dr	0.79 NE
11th St	0.50 SE	McFadden Pl	0.29 NW
12th St	0.40 SE	Newport Blvd	0.28 NW
13th St	0.32 SE	Newport Pier	0.33 SW
14th St	0.24 SE	Nomad St	0.29 NW
15th St	0.15 SE	Ocean View Ave	0.84 NE
16th St	0.08 SE	Old Newport Blvd	0.92 NW
17th St	0.06 SW	Park Ln	0.87 NW
18th St	0.11 SW	Park Pl	0.86 NE
19th St	0.18 NW	Piazza Genoa	0.27 NE
20th St	0.22 NW	Piazza Lido	0.37 NE
21st Pl	0.31 NW	Pirate Rd	0.87 NE
21st St	0.27 NW	Private St	0.40 NW
22nd St	0.30 NW	Rhine Pl	0.34 NW
23rd St	0.36 NW	River Ave	0.96 NW
24th St	0.40 NW	Riverside Ave	0.83 NW
25th St	0.42 NW	Saint Andrews Rd	0.79 NE
26th St	0.40 NW	Santa Ana Ave	0.96 NW
27th St	0.48 NW	Seashore Dr	0.76 NW
28th St	0.41 NW	Shipyard Way	0.31 NW
29th St	0.47 NW	Short St	0.79 NW
30th St	0.50 NW	Signal Rd	0.92 NE
31st St	0.55 NW	Snug Harbor Rd	0.90 NE
32nd St	0.55 NW	Strada Ctr	0.37 NE
33rd St	0.73 NW	Strada Palermo	0.47 NE
34th St	0.77 NW	The Arc	0.28 NW
35th St	0.81 NW	The Rhine	0.35 NW
36th St	0.86 NW	The Rialto	0.90 NW
37th St	0.91 NW	Tustin Ave	0.78 NE
38th St	0.93 NW	Via Antibes	0.52 NW
39th St	0.98 NW	Via Barcelona	0.48 NW
6th St	0.96 SE	Via Cordova	0.43 NE
7th St	0.87 SE	Via Dijon	0.39 NE
8th St	0.77 SE	Via Eboli	0.37 NE
9th St	0.65 SE	Via Fermo	0.33 NE
Aliso Ave	0.85 NE	Via Firenze	0.30 NE
Anchorage Way	0.21 NW	Via Florence	0.35 NE
Anza St	0.31 NW	Via Genoa	0.28 NE
Arbor Dr	0.84 NE	Via Graziana	0.29 NE
Avon Aly	0.75 NE	Via Havre	0.27 NE
Avon St	0.84 NE	Via Ithaca	0.28 NE
Balboa Coves	0.91 NW	Via Jucar	0.30 NE
Bayshore Dr	0.73 NE	Via Koron	0.31 NE
Beach Dr	0.19 NW	Via Lido	0.52 NW
Beacon St	0.88 NE	Via Lido Nord	0.46 NE
Bolivar St	0.24 NW	Via Lido Soud	0.27 NE
Buena Vista Blvd	0.93 SE	Via Lorca	0.33 NE
Cabrillo St	0.20 NW	Via Malaga	0.60 NW

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

Target Property: WEST BALBOA BLVD
NEWPORT BEACH CA 92663

JOB: MARINA PARK

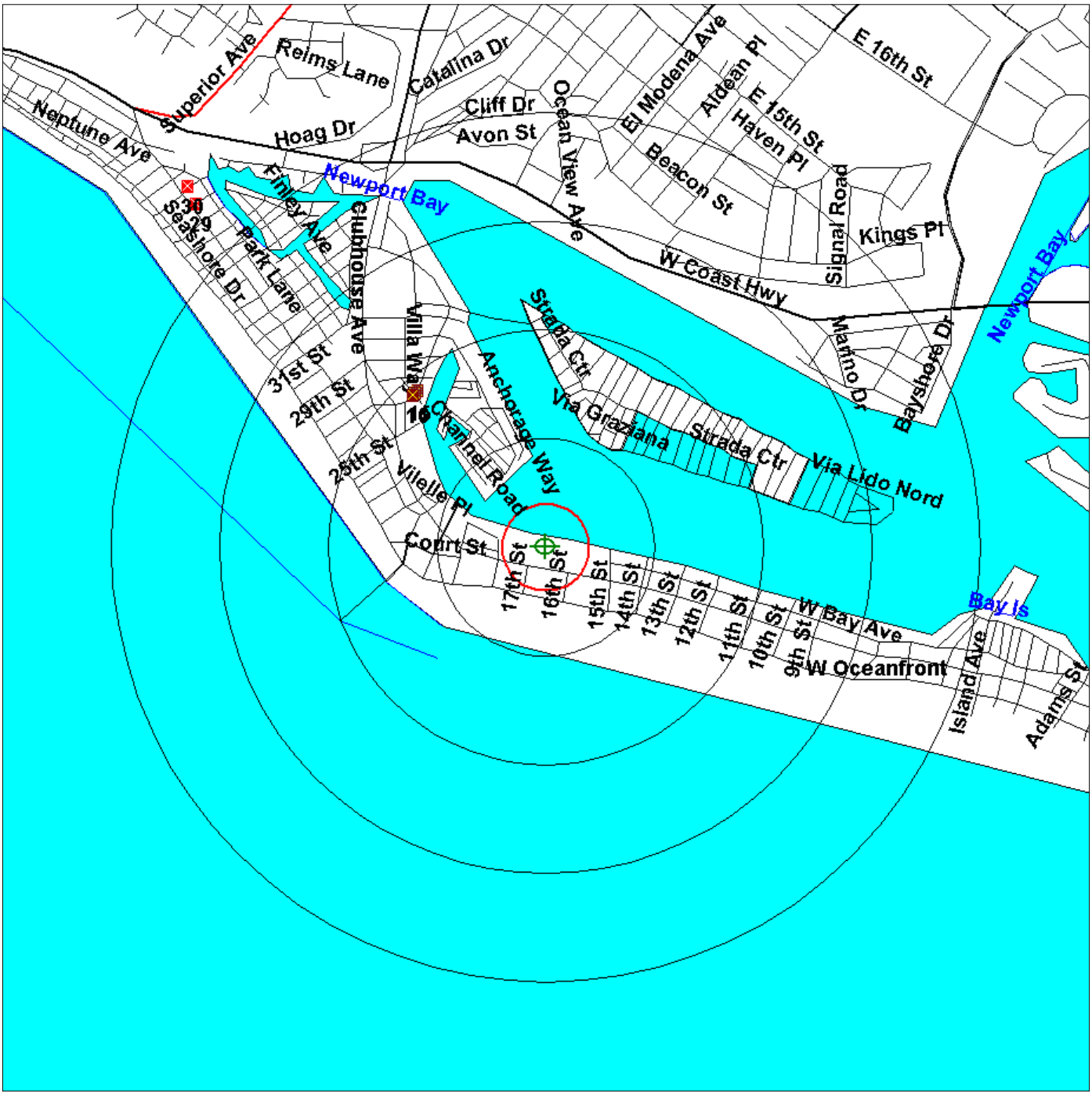
Street Name	Dist/Dir	Street Name	Dist/Dir
Central Ave	0.78 NW	Via Mentone	0.35 NE
Channel Pl	0.92 NW	Via Nice	0.37 NE
Channel Rd	0.19 NW	Via Oporto	0.61 NW
Circle Dr	0.83 NE	Via Orvieto	0.39 NE
Clay St	0.98 NE	Via Palermo	0.41 NE
Cliff Dr	0.79 NE	Via Quito	0.44 NE
Clubhouse Ave	0.69 NW	Via Ravenna	0.47 NE
Coral Pl	0.93 NE	Via San Remo	0.49 NE
Court St	0.19 SW	Via Trieste	0.52 NE
Crestview Dr	0.74 NE	Via Undine	0.54 NE
Drake St	0.19 NW	Via Venezia	0.57 NE
Edgewater Ave	1.00 SE	Via Waziers	0.60 NE
El Modena Ave	0.88 NE	Via Xanthe	0.64 NE
El Paseo St	0.19 NW	Via Yella	0.67 NE
Finley Ave	0.72 NW	Via Zurich	0.69 NE
Fremont St	0.19 NW	Vilelle Pl	0.11 SW
Fullerton Ave	0.82 NE	Villa Way	0.43 NW
Irvine Ave	0.80 NE	Vista Dr	0.81 NE
Kings Rd	0.73 NE	W Balboa Blvd	0.05 SW
La Jolla Dr	0.98 NW	W Bay Ave	0.11 NW
La Jolla Ln	0.98 NW	W Coast Hwy	0.72 NE
Lafayette Rd	0.42 NW	W Oceanfront	0.12 SW
Lake Ave	0.67 NW	Waverly Dr	0.95 NE
Lido Park Dr	0.34 NW	Zurich Cir	0.70 NE
Lindo Ave	0.97 SE		
Marcus Ave	0.69 NW		

Environmental FirstSearch

1 Mile Radius

ASTM Map: NPL, RCRACOR, STATE Sites

WEST BALBOA BLVD, NEWPORT BEACH CA 92663



Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 33.608169 Longitude: -117.923035) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL

WEST BALBOA BLVD, NEWPORT BEACH CA 92663

Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 33.608169 Longitude: -117.923035) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

ASTM Map: RCRAGEN, ERNS, UST

WEST BALBOA BLVD, NEWPORT BEACH CA 92663

Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 33.608169 Longitude: -117.923035) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

Non-ASTM Map: RCRANLR, Spills 90, Permits, Other

WEST BALBOA BLVD, NEWPORT BEACH CA 92663

Source: 2005 U.S. Census TIGER Files

Target Site (Latitude: 33.608169 Longitude: -117.923035) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

National Historic Sites and Landmark Sites .....

Railroads .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Site Location Map

Topo : 1.25 Mile Radius

WEST BALBOA BLVD, NEWPORT BEACH CA 92663

SOURCE: SCANNED USGS TOPOGRAPHIC QUADRANGLES
SCANNED BY MAPTECH AND USGS
DISTRIBUTED AUGUST, 2005.

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

0 825 1,650 3,300 4,950 6,600 Feet

Data Supplied by:

Prepared by FirstSearch Technology Corporation 07-07-08

JOB NO. MARINAPAR

Map Name: NEWPORT BEACH
Date Created: 1965
Date Revised: 1981
Map Reference Code: 33117-E8-TF-024
Contour Interval: 5 feet

FIGURE NO. 1

G.2 - HAZARDOUS RECORDS SEARCH

6.0 REGULATORY RECORDS REVIEW

MBA reviewed available *Standard Environmental Record Sources* from federal and state regulatory agency databases to identify use, generation, storage, treatment and/or disposal of hazardous materials and chemicals or release incidents of such materials, which may have impacted the Property/Site. The regulatory databases were provided to MBA from FirstSearch (see Environmental FirstSearch Report dated July 7, 2008 in Appendices). The *Standard Environmental Record Sources* that were included in this review follow the ASTM standard E1527-05 guidelines.

TABLE 1
Summary of Regulatory Database Search

Database	Min. Search Distance (miles)	Map Finding Summary
National Priorities List (NPL)	1.25	0
Delisted NPL	0.75	0
Comprehensive Environmental Response, Compensation, and Liability Information Systems List (CERCLIS)	0.75	1
CERCLIS – No Further Remedial Action Planned (CERCLIS – NFRAP)	0.75	2
Resource and Recovery Information System – Permitted Treatment and Disposal Facilities (RCRA – TSD)	0.75	0
Corrective Action Report (RCRA COR)	1.25	0
RCRA Generators (LQG, SQG)	0.50	6
RCRA-NLR	0.50	1
Federal, State, Tribal IC/EC	0.50	0
Emergency Response Notification System (ERNS)	0.50	0
Tribal Lands	1.25	0
State Sites Database (CalSites)	1.25	4
State/Tribal VCP	0.75	0
State/Tribal Brownfields	0.75	0
Spills-1990	0.50	3
Solid Waste Facilities/Landfill Sites (SWL)	0.50	1
Other	0.50	3
Permits	0.50	9
Active Underground Storage Tank Facilities/ Aboveground Storage Tank (UST/AST)	0.50	1
Leaking Underground Storage Tank (LUST)	0.75	11

Due to the Property's length covering roughly three city blocks, the *approximate minimum search distance* for each *Standard Environmental Record Source* listed above was increased by at least 0.25 mile.

Leaking Underground Storage Tanks (LUST)

Each California Regional Water Quality Control Board (RWQCB) compiles an underground storage tank (UST) case list that identifies sites of soil and groundwater contamination caused by unauthorized releases from leaking USTs (LUSTs). A review of the LUST case list identified LUST sites within the search radius as listed in Table 1 and summarized below:

According to the database report, the closest LUST site is Mobil 18-HG7 at 1500 Balboa in Newport Beach. According to the database, this facility reported a gasoline release in June 1986 that affected other groundwater and the case was closed in October 2000. Based on the regulatory status, the above identified LUST activities at this facility are not considered a concern to the Property.

Based on information obtained during the site visit and review of the database report, all remaining LUST sites are located at least 0.40 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

Other

This database contains information concerning Orange County groundwater cleanup facilities. A review of the database identified sites within the search radius as listed in Table 1 and summarized below:

According to the database report, the closest Orange County groundwater cleanup site is Mobil 18-HG7 at 1500 Balboa in Newport Beach. According to the database, a release of gasoline affected the groundwater and no additional violations were listed in the database. This facility is also identified in the LUST database and is discussed in detail above. Based on the distance, topographic location, and/or regulatory status, this facility is not considered a concern to the Property.

Based on information obtained during the site visit and review of the database report, all remaining Orange County groundwater cleanup sites are located at least 0.3 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

Registered Underground Storage Tanks (UST)

The County EHD compiles a registered underground storage tank (UST) list that identifies facilities with on-site USTs. A review of the UST list identified sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, the identified UST site is located approximately 0.2 mile from the Property. Based on the distance, topographic location, and/or regulatory status, this facility is not considered a concern to the Property.

State Sites Database

This California EPA database identifies known and potential hazardous substance sites targeted for cleanup). A review of the State Sites case list identified facilities within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, all identified State Sites facilities are located at least 0.3 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

RCRIS Generator

The EPA's Resource Conservation and Recovery Act facilities database identifies properties which report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRIS small and very small quantity generators are facilities which generate less than 1000 kg/month of non-acutely hazardous waste. RCRIS large quantity generators are facilities which generate more than 1000 kg/month of non-acutely hazardous waste. A review of the Generator list identified Generator sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, all identified Generator sites are located at least 0.15 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

Solid Waste Facilities/Landfill Sites (SWF/LF)

The California Integrated Waste Management Board maintains the Solid Waste Information System which is an inventory of the solid waste facilities in the state of California. A review of the SWF/LF list identified SWF/LF sites within the search radius as listed in Table 1 and summarized below:

One solid waste landfill was listed as an unmapped site in the FirstSearch report. This facility cannot be plotted due to errors or missing information in the regulatory records. MBA reviewed

the unmapped solid waste landfill site in the database report and determined the facility is not considered a concern to the Property.

Permits

This database contains information concerning Orange County permitted facilities. A review of the database identified sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, all identified Permits sites are located at least 0.15 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

RCRA-NLR

The EPA's list of all registered hazardous waste generators includes sites that are classified as NLR (no longer regulated) generator facilities. A review of the NLR list identified NLR sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, the identified NLR site is located approximately 0.2 mile from the Property. Based on the distance, topographic location, and/or regulatory status, this facility is not considered a concern to the Property.

CERCLIS/NFRAP

The Comprehensive Environmental Response, Compensation and Liability Information Sys (CERCLIS) database contains data on potentially hazardous waste sites that have been reported to the US EPA by states, municipalities, private companies and private persons. CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The No Further Action Planned Report (NFRAP) database contains information pertaining to sites which have been removed from the U.S. EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require federal Superfund action NPL consideration. The database identified sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, all identified CERCLIS/NFRAP sites are located at least 0.3 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

CERCLIS

CERCLIS contains data on potentially hazardous waste sites that have been reported to the US EPA by states, municipalities, private companies and private persons. CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. The database identified sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, the identified CERCLIS site is located approximately 0.55 mile from the Property. Based on the distance, topographic location, and/or regulatory status, this facility is not considered a concern to the Property.

Emergency Response Notification System (ERNS)

Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances. The database identified sites within the search radius as listed in Table 1 and summarized below:

Seven ERNS facilities were listed as unmapped sites in the FirstSearch report. These facilities cannot be plotted due to errors or missing information in the regulatory records. MBA reviewed the unmapped ERNS sites in the database report and determined the facilities are not considered a concern to the Property.

SPILLS

This database is provided by the California Regional Water Quality Control Board. The database identified sites within the search radius as listed in Table 1 and summarized below:

Based on information obtained during the site visit and review of the database report, all identified Spills sites are located at least 0.25 mile from the Property. Based on the distance, topographic location, and/or regulatory status, these facilities are not considered a concern to the Property.

Orphan Sites

Seven additional facilities were listed as unmapped sites in the FirstSearch report. These facilities cannot be plotted due to errors or missing information in the regulatory records. MBA reviewed the unmapped sites in the database report and determined the facilities are not considered a concern to the Property.

G.3 - DREDGED MATERIAL EVALUATION

Dredged Material Evaluation for the Marina Park Master Plan Newport Beach, California

Final Report

PREPARED FOR: City of Newport Beach
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June 2009

NEWFIELDS

Executive Summary

The City of Newport Beach is in the process of preparing the Environmental Impact Report (EIR) and submitting permit applications in support of the Marina Park project, located on the Balboa Peninsula. The Marina Park project includes the expansion of existing beach areas and marina facilities, including the conversion of approximately 1.13 acres of uplands to a 28-slip marina. Sediment and soils throughout the proposed marina complex will be excavated to accommodate the project depth of -12 ft. MLLW plus a 2 ft. overdredge. Approximately 63,700 cubic yards (CY) of soil/sediment is proposed for removal. Approximately 5,000 CY representing the top five feet of soil in the upland area will be excavated and used for project fill and is not considered as part of the proposed dredge volume. Approximately 58,700 CY is proposed for aquatic disposal. The primary disposal options under consideration for the dredged materials are 1) beach nourishment under Regional General Permit Number 67 or individual permit for unconfined aquatic disposal as governed by the U.S. Army Corps of Engineers (USACE)/U.S. Environmental Protection Agency (USEPA) guidelines set forth in the Inland Testing Manual (ITM; USACE/USEPA 1998), and 2) ocean disposal at disposal site LA-3 based on guidance provided by the Ocean Testing Manual (OTM; USACE/USEPA 1991).

NewFields LLC conducted a dredged-material evaluation of the proposed dredged material from the Marina Park marina. The objective of this sampling and analysis program was to characterize the dredged materials from three dredged material management areas (Areas A, B, and C) within the Marina Park project area. Area A included that portion of the site currently occupied by the mobile home park and represented an estimated dredge volume of 21,328 cy with 2,370 cy of overdredge. Area B included that area currently occupied by the exposed beach above 0 ft MLLW, with an estimated volume of 13,869 cy with 2,849 cy of overdredge. Area C included that portion of the site that is below 0 ft. MLLW, with an estimated volume of 13,713 cy with 4,571 cy of overdredge. Sediment was also collected from the LA-3 Reference site. The reference sediment provided a point of comparison for material proposed for placement at the LA-3 ocean disposal site.

Sampling and Analysis

Sediment samples were collected from five stations in Area A and four stations in Area B using a direct-push corer on November 26, 2008. Samples from Area A were sampled from 5 ft. below the ground surface to a depth of -14.5 ft. MLLW (project depth plus a 2-ft overdredge and 0.5 ft. z-layer sample). The surface material (upper 5 ft.) was not included in the dredged material evaluation. Sediment samples from Area B included the surface sediment (beach sands) to a -14.5 ft MLLW. Sediment samples from Area C were collected from seven stations using a vibracorer sampler, sampling from the sediment surface (from -4 to -8 ft MLLW to -14.5 ft MLLW).

Each of the cores was divided into an upper and lower section. For Areas A and B, that division was based on the transition from recent sands to ancient Bay sand deposits. That layer generally occurred between 10 and 12 ft. below ground surface. For Area C, the upper composite represented more recently deposited fine sediments and the lower composite represented the coarser ancient Bay sand deposits. The upper section of each core within an area was combined into an upper area composite and each of the lower sections within an area was combined into a lower area composite.

Sediment chemistry was evaluated for all upper and lower composites. Analytical chemistry included sediment conventionals (grain size, organic carbon, ammonia, sulfides, Atterberg limits, total recoverable petroleum (TRPH), oil and grease, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), organochlorine pesticides, polychlorinated biphenyls (PCBs), organotins, petroleum aromatic hydrocarbons (14 PAHs), and phthalates.

For the Area C upper and lower composites, Tier III biological tests were conducted, including benthic toxicity tests, water-column toxicity tests, and bioaccumulation tests. Benthic tests provided an estimate of toxicity to benthic organisms at the placement site and included 10-day acute tests with the amphipod, *Ampelisca abdita* and the polychaete, *Neanthes arenaceodentata*. Water-column tests were conducted with the suspended-particulate phase (SPP) to provide an estimate of toxicity to water column organisms exposed to sediment as it falls through the water column at the disposal site. It also provided an indication of water-column toxicity that might be encountered during the dredging process. SPP is the liquid portion of a 1:4 sediment/seawater slurry that is designed to simulate the dredging process. Water-column tests were conducted with a dilution series of 1% (larval test only), 10%, 50%, and 100% SPP for each of the test composites using fish, *Menidia beryllina*, the mysid, *Americamysis bahia*, and larval mussels (*Mytilus* sp.). Sediment from the LA-3 disposal site reference site (LA-3 Reference) was included in the benthic tests, but is not required for the SPP tests.

Bioaccumulation potential (BP) testing was conducted with both Area C composites, as well as LA-3 Reference. The bioaccumulation test evaluates the potential for uptake of chemical constituents in the sediment to tissues of benthic organisms at the placement site. The bioaccumulation tests were conducted as 28-d exposures with the clam, *Macoma nasuta*, and the polychaete worm, *Nephtys caecoides*. Following the 28-d test, tissues were analyzed for tissue residues. The chemistry analyte list for tissues exposed to the Area C composites included mercury and lipids.

Evaluation Criteria

Evaluation criteria were based on the ITM/RGP-67 guidance for nearshore placement and OTM guidance for open ocean placement at the LA-3 disposal site. Under the RGP-67 and ITM, sediment is suitable for beach nourishment projects or nearshore placement if the sediment is >80% sand and gravel, is free from chemical contamination, is not plastic (a measure of cohesiveness), and is not likely cause adverse aesthetic effects to the receiving beach. According to the RGP-67, sediments with slightly higher percentages of fines (15% to 45% fines) may be considered for placement in the surf zone. n order to determine whether test sediments were free of chemical contamination, chemical concentrations in test sediments were compared to National Oceanographic and Atmospheric Administration (NOAA) effects-based guidance values called Effects-Range Low (ERL) and Effects-Range Median (ERM). The ERL represents the 10th percentile in NOAA effects data base and the ERM represents the 50th percentile. While not criteria, these guidance values provide an indication of whether chemical concentrations are sufficient to predict benthic community effects. If the ERL/ERM values are exceeded, further biological testing might be required as directed by the ITM.

Under the OTM, sediment is suitable for placement in an open-ocean disposal site if it does not exceed the limiting permissible concentration (LPC) for the disposal site. The LPC is based on comparisons of the results of the sediment chemistry, toxicity tests, and bioaccumulation test in the test treatments with those of the LA-3 Reference site. Chemical concentrations were also screened using the NOAA ERL and ERM values. For benthic toxicity tests, the LPC was defined as no significant toxicity, relative to the LA-3 Reference and survival within 10% of the reference for the polychaete test and 20% for the amphipod test. For the SPP tests, the LPC was based on a

comparison of survival or normal development (larval test only) in the 100% SPP of the test treatments with that of the control seawater. If there is a significant difference, then the median lethal concentration (LC_{50}) for the test treatments is compared with a modeled concentration of SPP at the boundary of the disposal site. Concentrations of targeted chemical analytes in the tissues exposed to test sediments are first compared to the tissues exposed to the LA-3 Reference sediment and second compared to guidance values from the Food and Drug Administration (FDA) and USEPA.

USEPA Region IX and the USACE-LA District will make the final determination of suitability.

Sediment Evaluation

The following section discusses each of the Area composites in context of the requirements for each of the disposal options.

Sediment in the upper composite from Area A (Comp A-U) was characterized by 96% sand and gravel and 0.15% TOC. Sediment from the upper Area B composite (Comp B-U) was also characterized by 96% sand and gravel, with 0.02% TOC. Sediment in the lower composites from Areas A and B (Comp A-L and Comp B-L) were very similar to each other and likely represented the same ancient Bay-sand layer. Sediments in the lower composites were >98% sand and gravel with <0.1% TOC. None of the Comp A or B sediments were plastic, indicating that they would not hold their form. All of the metals were either undetected or detected very near the detection limits. Pesticides, PCBs, tributyltin, TRPH, oil and grease, and phthalates were not detected in any of the four Area A and B composites. PAHs were either undetected or detected at very low concentrations (≤32 µg/kg total PAHs).

Sediment from Areas A and B met the requirements for beach nourishment, as defined by the ITM and RGP-67. Both the upper and lower composites from Areas A and B were >95% sand and gravel, were free of contamination, and were not plastic. Additionally, sediment had low or no ammonia, sulfides and oil and grease, indicating that it would not have adverse aesthetic effects on the receiving beaches. This material would also meet the requirements for open-ocean disposal at LA-3, as defined by the OTM/ITM.

Sediment in Area C was comprised of either a thick layer of sand, overlying a silt layer, overlying the ancient Bay sands (in the nearshore portions of Area C) or by silts and clays overlying the ancient Bay sands (in the channel portion of Area C). Sediment in the upper composite from Area C (Comp C-U) was 77.9% sand, with 0.68% TOC. Silver and selenium were not detected in Comp C-U. All other metals were detected in Comp C-U sediments. With the exception of mercury, all metals were detected at concentrations below those of the LA-3 Reference sediment and below the ERL. Mercury was detected in Comp C-U at a concentration of 0.36 mg/kg, which is slightly above that of the LA-3 Reference site (0.10 mg/kg) and the ERL of 0.24 mg/kg, but below the ERM of 0.76 mg/kg. Pesticides, PCBs, tributyltin, TRPH, oil and grease, and phthalates were not detected in the upper Area C composite. PAHs were either undetected or were detected at very low concentrations, with total detected PAHs of 108 µg/kg, well below the ERL of 4,022 µg/kg.

Upper and lower segments of individual cores from Area C were also analyzed for mercury and sediment grain size. The upper segment from the cores in the nearshore portion of Area C was characterized as a mixture of sand and silt. Mercury concentrations ranged from undetected to 0.85 mg/kg. The upper segment of cores from the offshore portion of Area C was dominated by fine-grained silts and clays and mercury concentrations were higher, ranging from 1.11 to 3.35 mg/kg. The lower segments for both the nearshore and offshore stations were similar, dominated by sand

with concentrations of mercury that were either undetected or detected at concentrations very near the detection limit. The upper silt layer that occurred in each of the cores was 2 to 3 ft thick and comprised relatively small portion of the material in the Area C-U composite.

Sediment from the lower Area C composite was very similar to the lower composites from Areas A and B, with 99% sand and 0.05% TOC. Metals were either undetected or detected very near the detection limits. Pesticides, PCBs, tributyltin, TRPH, oil and grease, phthalates, and PAHs were not detected in the Comp C-L.

Both Area C composites were evaluated for potential biological effects related to the dredging and placement of the proposed dredged material at the LA-3 disposal site. No toxicity was observed in either of the benthic tests. Amphipod survival ranged from 87% to 92% and polychaete survival ranged from 84% to 92%. No significant differences were observed between the test treatments and the LA-3 Reference for either test. No toxicity was observed in any of the SPP exposures, with >88% survival or normal development in all test treatments for each SPP test. There were no significant differences between the 0% and 100% treatments and no calculable LC_{50} for any of the SPP test treatments.

Mercury was not detected in any of the tissues exposed to Comp C-L or LA-3 Reference. Mercury was either undetected or detected at the detection limit (0.01 to 0.013 mg/kg) in tissues exposed to Comp C-U. The mean tissue concentrations in clams and worms exposed to Comp C-U were within 20% of the detection limit, the standard margin of error for this analytical method. The tissues concentrations of mercury were also well below the FDA limit of 1.0 mg/kg and the risk-based guidance value of 0.3 mg/kg (USEPA 2000).

Sediment from the Area C upper composite would not meet the requirement for beach nourishment, with <80% sand and gravel. The nearshore portion of Area C represented by Stations 10, 12 and 16 would meet the requirements for placement in the surf zone or for open-ocean disposal. With the exception of mercury, concentrations for chemicals of potential concern were either not detected or detected at concentrations below those of the LA-3 Reference site. Mercury was detected above the ERL, but below the ERM. No significant toxicity was observed in any of the biological tests and no significant bioaccumulation of mercury was observed in the bioaccumulation tests.

Sediment from the offshore portion of the Area C upper composite represented by Stations 11, 13, 14, and 15 would not meet the requirements for beach replenishment or open-ocean disposal due to mercury concentrations in the sediments. Alternative disposal options including upland disposal or placement in a confined aquatic disposal facility will need to be evaluated prior to dredging this material.

Sediment from the lower Area C composite met the requirements for beach nourishment and ocean disposal. If the lower portions of Area C represented by Stations 11, 13, 14, and 15 are disposed of separately from the upper portion, the dredged material will be monitored for grain size during removal to ensure that surface sediment are not placed on beaches or in the open ocean. Because the demarcation from the overlying silt/clay layer and the underlying clean sands is distinct, dredging for upland disposal will be considered complete when field monitoring indicates that the remaining sediment face is >80% sand.

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ACRONYMS AND ABBREVIATIONS

ARI	Analytical Resources Incorporated
ASTM	American Society for Testing and Materials
BP	bioaccumulation potential
CPT	cone penetration test
COC	chain of custody
DGPS	differential global positioning system
ERL	effects range-low
ERM	effects range-medium
GC/MS	gas chromatograph-mass spectrometry with selected ion monitoring
ICP-MS	inductively coupled plasma emissions spectrometer equipped with a mass detector
ID	identification
ITM	Inland Testing Manual
LPC	limiting permissible concentration
MLLW	mean lower low water
OTM	Ocean Testing Manual
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PEL	Probable effects level
POC	point of contact
QA/QC	quality assurance/quality control
QAP	quality assurance plan
RGP	regional general permit
SAP	sampling and analysis plan
SIM	selective ion method
SM	Standard Methods
SOP	standard operating procedure
SP	solid phase
SPP	suspended particulate phase
STFATE	Short Term Fate model
SVOC	semivolatile organic compound
TBT	tributyltin
TOC	total organic carbon
TPH	total petroleum hydrocarbon
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
NewFields	NewFields Northwest LLC.

UNITS OF MEASUREMENT

°C	degree(s) Celsius
ft	feet
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
µm	micrometer(s)
ng/kg	nanogram(s) per kilogram
cm	centimeter(s)
L	liter
m	meter(s)
mg/kg	milligram(s) per kilogram
mL	milliliter(s)
mm	millimeter(s)
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
v/v	volume per volume
CY	cubic yards

1.0 INTRODUCTION

The City of Newport Beach is in the process of preparing the Environmental Impact Report (EIR) for the CEQA process and submitting permit applications in support of the Marina Park project, located on the Balboa Peninsula. The Marina Park project includes the expansion of existing beach areas and marina facilities, including the conversion of approximately 1.13 acres of uplands to a 28-slip marina. Sediment and soils throughout the proposed marina complex will be excavated to accommodate the project depth of 12 ft. MLLW plus a 2 ft. overdredge. Approximately 63,700 cubic yards (CY) of soil/sediment is proposed for removal. Approximately 5,000 CY representing the top five feet of soil in the upland area will be excavated and used for project fill and is not considered as part of the proposed dredge volume. Approximately 58,700 CY is proposed for aquatic disposal. The primary disposal options under consideration for the dredged materials are 1) beach nourishment under Regional General Permit Number 67 or individual permit for unconfined aquatic disposal as governed by the U.S. Army Corps of Engineers (USACE)/U.S. Environmental Protection Agency (USEPA) guidelines set forth in the Inland Testing Manual (ITM; USACE/USEPA 1998), and 2) ocean disposal at disposal site LA-3 based on guidance provided by the Ocean Testing Manual (OTM; USACE/USEPA 1991). Based on previous soil and sediment data collected by NewFields and Terra Costa from the site, the majority of the excavated material is expected to be available for on-site beach replenishment and expansion. It is also anticipated that a portion of the material will need to be disposed of either at the LA-3 ocean disposal site or upland, either as clean fill or as contaminated material.

The objective of this sampling and analysis program (SAP) is to characterize the dredged materials and upland excavation material from study units within the proposed marina area in the Marina Park Master Plan to determine environmental suitability for beach replenishment or ocean disposal. The material under consideration for ocean disposal will be tested based upon criteria outlined in the OTM (USEPA/USACE 1991) and the ITM (USACE/USEPA 1998).

1.1 BACKGROUND AND HISTORY

Newport Bay is a coastal embayment located adjacent to the City of Newport Beach, California. The Newport Bay area supports a variety of land uses including navigation, marine industry, private and public marinas, recreational activities, and residential uses. Upper and lower Newport Bay are estuarine and nearshore marine environments, supporting both resident and migratory fish and bird species as well as a variety of native plant species. In addition, San Diego Creek, which supports agricultural land use and provides habitat for aquatic and terrestrial ecosystems, flows into the upper reaches of Newport Bay.

The proposed Marina Park is located in Lower Newport Bay, on the bay side of the Balboa Peninsula between 15th and 18th Streets immediately north of West Balboa Boulevard (Figure 1). The site currently includes some recreational areas and mobile homes. The Marina Park Master Plan includes a 28-slip marina, a small-boat basin, and moorage for visiting vessels in the northeast corner of the site.

Figure 1. Location of Marina Park Master Plan area (dashed line) and proposed marina within Newport Bay.

1.1.1 *EXISTING SOIL AND SEDIMENT CHARACTERISTICS*

The Balboa Peninsula was primarily formed from sand deposits overlying Bay sediments following a series of extreme storms in the 1860's. Subsequent dredging and construction has increased the size of the peninsula. In May 2008, the City conducted a geotechnical investigation of soils at the proposed Marina Park site (Terra Costa 2008). Terra Costa conducted soil borings (B-1 and B-2) and cone penetration tests (CPT-7 and CPT-12) at two locations within the footprint of the proposed marina. The cone penetration test (CPT) evaluated sediment type, as well as other physical features. The borings included a visual description at 5 ft intervals, as well as subsampling for grain size analysis.

The geotechnical survey characterized the project soils (upland mobile-home park and beach face) as follows:

"The site is underlain by hydraulic fill, bay deposits, and older alluvial deposits beyond the depths of our deepest exploratory drilling at 50 feet. These soil and geologic units are described below in order of increasing age.

> Hydraulic Fill Soils: Our test borings indicate that the project site-area is generally underlain by from 5 to 6 feet of loose to medium dense, gray-brown, damp to wet, hydraulically placed sands and silty sands (SP/SM), with occasional shell fragments. It is likely that these relatively "clean" granular soils were placed as the result of dredging during one or more phases of the development of Newport Harbor. SPT blow counts within these artificially placed dry to saturated sands ranged from 7 to 25 blows per foot.
>
> Bay Deposits: The hydraulic fill sands are typically underlain by a 2- to 2 ½ - foot-think soft to firm compressible sandy silt to silt clay bay mud, which is un turn underlain by relatively clean, medium dense, gray sands (SP/SM), with shells and shell fragments, characteristic of Holocene-age bay deposits below an elevation of approximately -2 to -3 feet. SPT blow counts within these clean, saturated, natural bay deposit sands range from 13 to 24 blows per foot."

The Bay Deposits extend to approximately project depth at -14 ft. MLLW. Groundwater elevations appeared to match tidal elevations in the Bay. A subsample of porewater from the borings indicated that the groundwater was at least 20‰. Samples may have been compromised by freshwater added to the sample hole used to facilitate the boring. Grain size analysis of the soil borings resulted in a similar characterization, with sand dominating throughout the area (Table 1-1).

Based on the results of the geotechnical investigation, the soils underlying the mobile-home park and neighboring beach are comprised of sand to silty sand, with shell fragments. Soils were either hydraulically-placed from dredging events, the result of deposition following historic storm events, or are Holocene-era sediments, representative of soils underlying much of Lower Newport Bay.

The sediments occupying the intertidal and subtidal portion of the proposed marina were characterized during a recent evaluation of West Lido Channel (Figure 2; Table 1-2). Marine sediments in the area appeared to be comprised of either all sand at the shallower stations (-6 to -8 ft. MLLW) or more recent deposits of fine-grained sediment overlying sand in the deeper stations (-10 to -15 ft. MLLW). While the surface material was determined to be too fine-grained to qualify for beach nourishment, the underlying sand appeared to be a distinctly different stratigraphic layer and would likely qualify for beach nourishment.

Figure 2. Locations of recent samples collected near the proposed marina. Existing stormwater outfalls denoted by blue circles.

1.1.2 *Chemical Evaluations of Existing Soils and Sediments*

Concentrations of contaminants of concern were evaluated for the soils collected in borings B-1 and B-2, as well as the sediments in the neighboring channel areas (NewFields 2007).

The soil borings were evaluated for metals and DDT and associated breakdown products (Table 1), contaminants of concern that have been found in other portions of Newport Bay. Metals were present very near or below the detection limits and DDT, DDE, and DDD were undetected in both soil borings.

Marine sediments sampled in the subtidal portion of the proposed marina were evaluated for EPA priority pollutants (metals, petroleum aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), chlorinated pesticides, and organotins) and did not show detected contaminants of concern, with the exception of mercury. Mercury was detected in some of the stations at concentrations exceeding the ERM (Long et.al. 1995). These concentrations appeared to be associated with the more recent, finer-grained material at the surface. Samples that were predominantly sand had lower mercury concentrations. The differences between the physical and chemical profiles of the surface and subsurface materials suggests evaluating the marine portion of this site as two separate upper and lower composites.

Locations of current stormwater outfalls are indicated in Figure 2. Land use of the site has been limited to residential activities and to the City's knowledge there are no reported major spills on the site.

Table 1-1. Data for soil/sediment samples at Marina Park, May 2008.

Analyte	Units	B-1					B-2			
Depth below surface	**ft**	**5**	**10**	**15**	**20**	**25**	**5**	**10**	**20**	**30**
Gravel	%	1.0	0.0	1.0	0.0	5.0	11.0	1.0	2.0	0.0
Sand	%	92.7	97.2	98.2	96.0	93.0	84.1	98.5	96.6	97.8
Silt & Clay	%	6.3	2.8	0.8	4.0	2.0	4.9	0.5	1.4	2.2

Analyte	Units	Composite	Surface	Subsurface
4,4'-DDE	µg/kg	<2.0 U	<2.0 U	<1.9 U
4,4'-DDD	µg/kg	<2.0 U	<2.0 U	<1.9 U
4,4'-DDT	µg/kg	<2.0 U	<2.0 U	<1.9 U
2,4'-DDT	µg/kg	<2.0 U	<2.0 U	<1.9 U
2,4'-DDE	µg/kg	<2.0 U	<2.0 U	<1.9 U
2,4'-DDD	µg/kg	<2.0 U	<2.0 U	<1.9 U
Arsenic	mg/kg	<6 U	<6 U	<6 U
Cadmium	mg/kg	<0.2 U	<0.2 U	<0.2 U
Chromium	mg/kg	3.4	1.6	3.0
Copper	mg/kg	3.6	2.8	1.2
Lead	mg/kg	<2 U	<2 U	<2 U
Mercury	mg/kg	<0.05 U	<0.04 U	<0.06 U
Nickel	mg/kg	2	<1 U	<1 U
Silver	mg/kg	<0.3 U	<0.3 U	<0.3 U
Zinc	mg/kg	9	3	4

Table 1-2. Nearshore sediment data, September 2007.

Sample	Water Depth (ft below MLLW)	Core Depth (ft below MLLW)	Gravel & Sand (%)	Silt & Clay (%)	Mercury (µg/kg)
C6	5.4	7.7	97.0	3.0	0.11
C8	7.7	9.5	96.8	3.2	0.23
C10	9.9	11.7	67.3	32.7	2.60
C15	13.1	15.6	25.9	74.1	3.33
B6	6.1	8.7	86.8	13.2	0.37
B8	8.0	11.2	75.4	24.6	3.09
B10	11.6	14.1	70.9	29.1	2.22
B15	13.1	16.4	27.2	72.8	2.30

2 METHODS

The objective of this sampling and analysis program (SAP) was to characterize the proposed excavated and dredged materials in the proposed Marina Park marina to evaluate environmental suitability for beach nourishment and/or ocean disposal. Material under consideration for beach nourishment was tested based on criteria in the ITM (USACE/USEPA 1998) and requirements under Regional General Permit Number 67 for physical appearance, composition, and chemical concentrations. The material under consideration for ocean disposal was tested based upon criteria outlined in the OTM (USEPA/USACE 1991). Dredged material for ocean disposal from this project is proposed for disposal at the USEPA-designated LA-3 disposal site. Chemical and biological analysis were conducted with reference sediment concurrent to the test sediment evaluations.

2.1 Definition of Areas and Sample Locations

Core samples were collected from the upland and aquatic areas of the site to a depth of -12 ft MLLW (+2 ft overdredge) as shown in Figure 3. The project footprint was divided into three dredged material management areas, A, B, and C (Figures 2 and 3). Area A included that portion of the site currently occupied by the mobile home park. Area B included that area currently occupied by the exposed beach above 0 ft MLLW. Area C included that portion of the site that is below 0 ft. MLLW.

Five stations were sampled in Area A. The upper 5 ft. of soil from each Area A station was not included in this investigation, as the upper 5 ft. of soil within the mobile home park will be used as fill material during park construction. Each of the five cores was approximately 20 ft. in length, extending from approximately +5 ft. MLLW to -15 ft. MLLW. The estimated volume of proposed dredged material from Area A is 21,328 cy with 2,370 cy of overdredge (Table 1-3).

Four stations were sampled for Area B. The entire core from each Area B stations was evaluated for aquatic disposal. Cores ranged from 15 to 21 ft in length, extending from the beach face (between +1 ft. MLLW and +6 ft. MLLW) to project depth. The estimated volume of proposed dredged material from Area B is 13,869 cy with 2,849 cy of overdredge.

Seven stations were sampled for Area C. Cores ranged from 5 to 14 ft in length, extending from the sediment surface (between -1 ft. MLLW and – 10 ft. MLLW) to project depth. The estimated volume of proposed dredged material from Area C is 13,713 cy with 4,571 cy of overdredge.

As noted above, each of the cores was divided into an upper and lower section. For Areas A and B, that division was based on the transition from hydraulic fill material to historic Bay deposits. That layer generally occurred between 10 to 12 ft. below ground surface. For Area C, cores were based on apparent grain size with the upper composite representing the more recently deposited fine sediments and the lower composite representing coarser ancient Bay deposits. Each of the upper cores within an area was combined into an upper composite and each of the lower cores within an area will be combined into a lower Area composite. A more complete description of each core is provided in Section 3.1.

A sample of the “z-layer” was collected for each core. Z-layer samples include sediment from the 6” segment immediately underlying the proposed dredged material and are intended to represent the exposed sediment face once the dredging is completed. For this project, the Z-layer is comprised of material from -14 ft. MLLW to -14.5 ft. MLLW. Z-layer samples from each of the Area A and Area B cores were combined into one composite sample. Where possible, z-layer samples were collected from each core collected in Area C. Z-layer samples were archived for possible future analysis and were not analyzed with the project samples.

Sediment was also collected from the LA-3 Reference site. The reference sediment provides a point of comparison for material proposed for disposal at the LA-3 ocean disposal site. The coordinates for the LA-3 Reference collection site were as follows:

Latitude:	31º 31.70" N
Longitude:	117 º 51.30" W

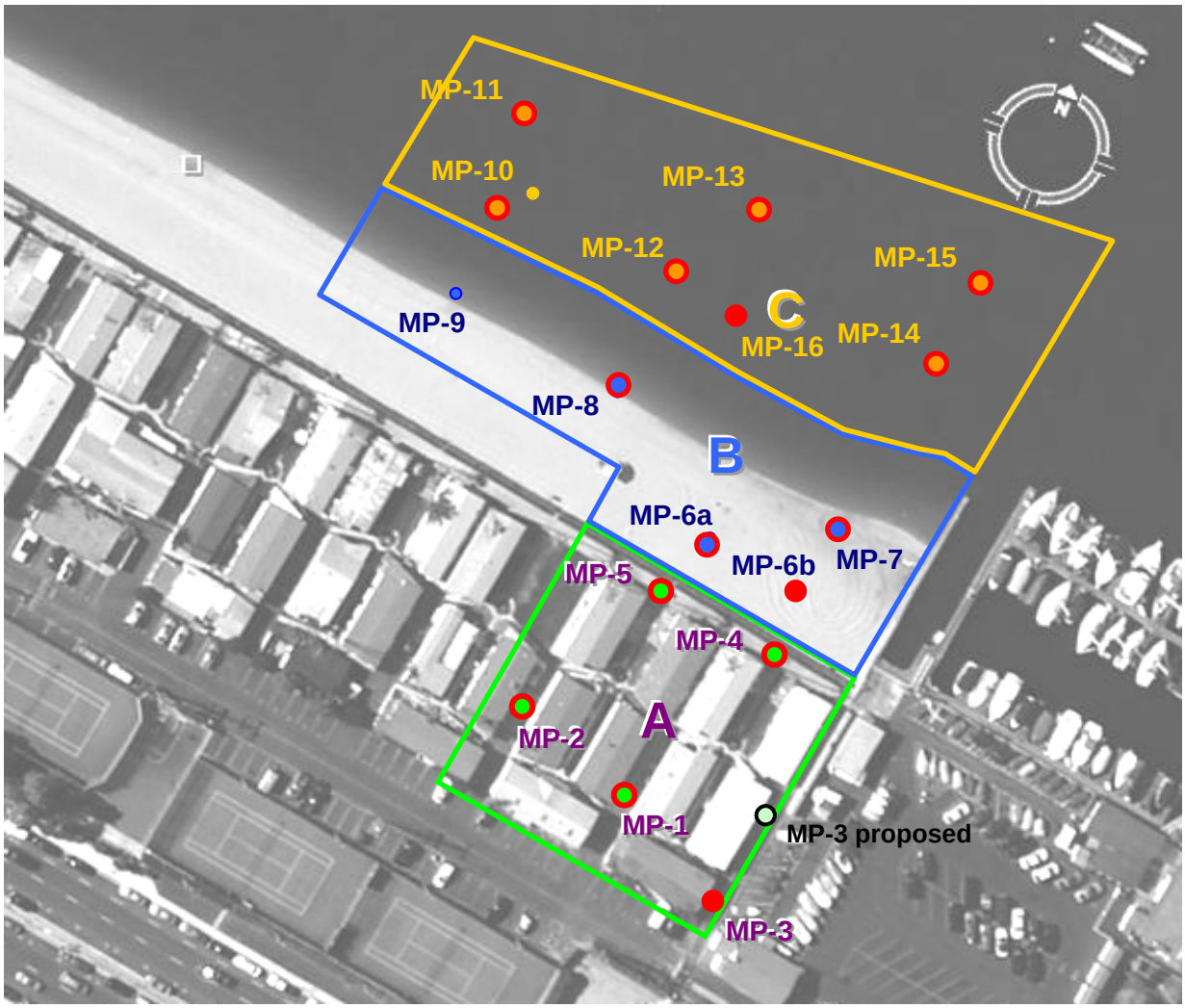

Figure 3. Area and Station Locations. Proposed locations denoted by green, blue and orange symbols. Actual locations denoted by red symbols.

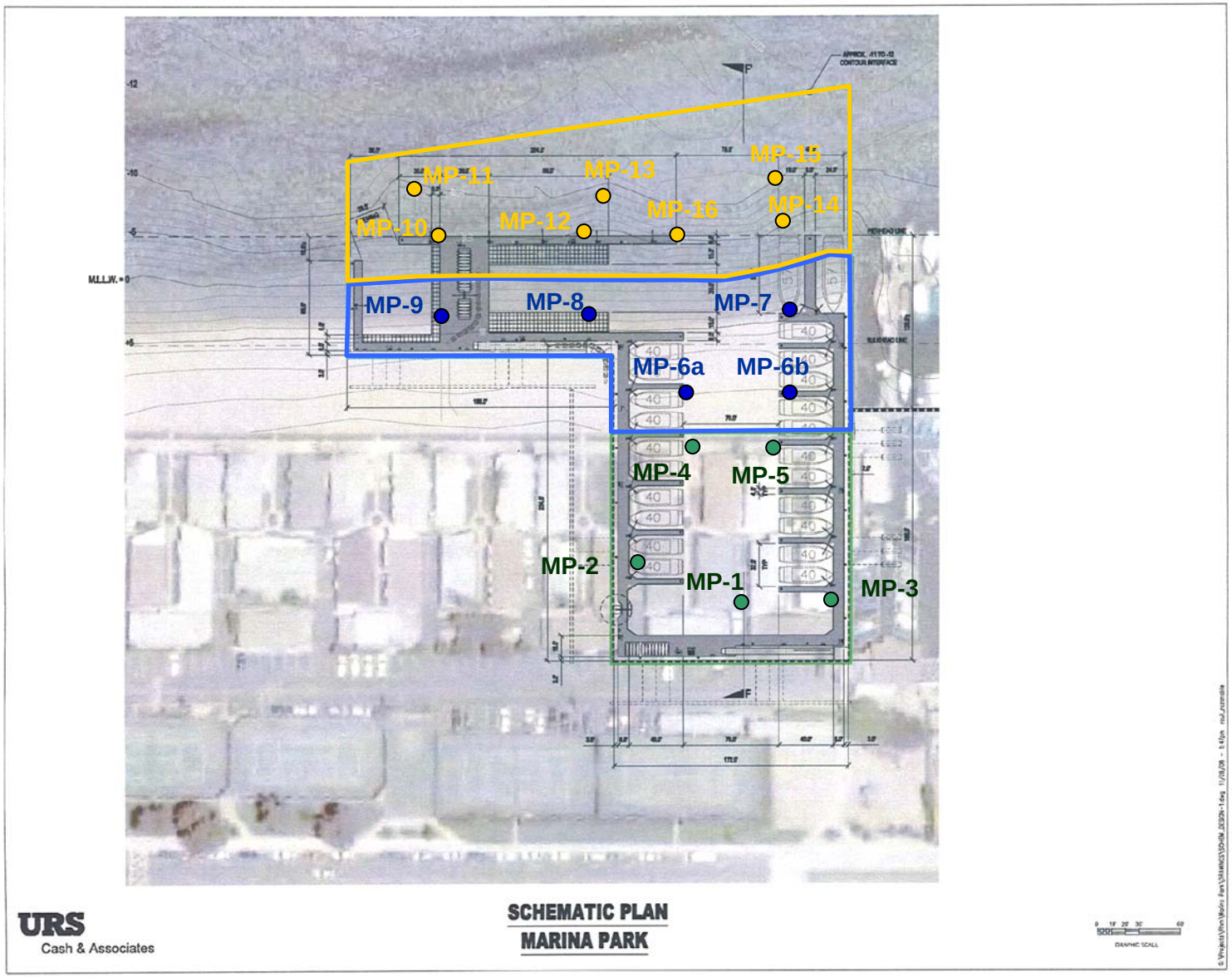

Figure 4. Project Areas and Station Locations with Proposed Project Plan and Current Bathymetry

Table 2-1. Estimated Volumes for Project Areas

Area Composite	Approximate Volume (cubic yards)	Overdepth (2 ft) (Cubic Yards)
Area A	21,328	2,370
Area B	13,869	2,849
Area C	13,713	4,571
Total	48,910	9,790
Grand Total 58,700		

2.2 Overview of Analyses

Upper and lower composite samples from Areas A and B were analyzed for sediment grain size, total organic carbon, sediment conventionals, and sediment chemistry. The upper and lower composite samples from Area C were analyzed for sediment chemistry, as well as biological testing for toxicity and bioaccumulation. In addition, subsamples from the upper and lower segment of each individual core within Area C were analyzed for sediment grain size and mercury. Z-layer samples were archived for possible future analysis depending upon the dredged material evaluation.

Sediment grain size is critical to beach nourishment suitability determinations. Each composite and the reference sediment were processed for sediment conventionals (total solids, sediment grain size and total organic carbon), aesthetics (oil and grease, total recoverable petroleum hydrocarbons (TRPH) sulfides, and ammonia), and for plasticity (Atterberg test).

Chemical analysis was performed on each of the six test composites, as well as the LA-3 reference sediment. Chemical analysis of the test and reference material for each study unit included metals, organotins, chlorinated pesticides, PCBs, PAHs, and phthalates. Upper and lower portions of each individual core from the Area C composites were analyzed for sediment grain size and mercury. All analyses were performed following USEPA and USACE guidelines for beach nourishment and for ocean disposal (USEPA/USACE 1991, 1998). Subsamples of sediment from each station were also frozen for archive in case future chemical analysis is required on individual stations.

The two marine composites (C-upper and C-lower) were evaluated for potential biological effects related to the dredging and placement of the proposed dredged material at LA-3. Solid-phase tests provided an estimate of toxicity to benthic organisms at the disposal site. Benthic tests included 10-day acute tests with the amphipod, *Ampelisca abdita* and the polychaete, *Neanthes arenaceodentata*. Water-column tests were conducted with the suspended-particulate phase (SPP) to provide an estimate of toxicity to water column organisms exposed to sediment as it falls through the water column at the disposal site. It also provided an indication of water-column toxicity that might be encountered during the dredging process. SPP is the liquid portion of a 1:4 sediment/seawater slurry that is designed to simulate the dredging process. Water-column tests were conducted with a dilution series of 10%, 50%, and 100% SPP for each of the test composites. A 1% dilution was also tested during the larval exposures. Reference sediments are not included in the SPP test. SPP tests were conducted with the fish, *Menidia beryllina*, the mysid, *A. bahia*, and larval mussels (*Mytilus* sp.).

Bioaccumulation potential testing was performed on materials proposed for open ocean disposal. The bioaccumulation potential test was performed with a clam, *Macoma nasuta*, and a polychaete worm, *Nephtys caecoides*. The chemistry analyte list for these tissues was determined by sediment chemistry results.

2.3 Field Collection Program for Soil/Sediment Core Samples

The sampling design designated 15 stations for the collection of soil or sediment core samples within the three proposed study units. Marine sediment cores were collected with a vibracorer; upland soil/sediment coring was conducted by Gregg Drilling using continuous direct push coring. All core samples targeted a project depth of -12 ft MLLW (+2 ft overdredge).

2.3.1 *Sampling Locations and Depths*

Each station was given a unique identification code (MP-1 through 16). For the purposes of sample identification, stations were numbered sequentially. All study unit composites were denoted with the identifier "Comp" combined with the abbreviation for that study unit and a U or L denoting upper and lower composites. Composite titles were as follows:

Table 2-2. Sample Designations for Chemical and Biological Analysis

Study Unit	Sample Designation	
	Upper Composite	Lower Composite
Upland	Comp A-U	Comp A-L
Upland Beach	Comp B-U	Comp B-L
Marine Aquatic	Comp C-U	Comp C-L

The area and station identification numbers, approximate depths, and proposed compositing strategy are provided in Table 2-3.

Table 2-3. Station Designations within Each Area, Marina Park 2008

Area A Stations	Elevation / Water Depth (ft. MLLW)	Area B Stations	Elevation / Water Depth (ft. MLLW)	Area C Stations	Elevation / Water Depth (ft. MLLW)
MP-1	+9-10	MP-6a	+7-8	MP-10	-4
MP-2	+9-10	MP-6b	+7-8	MP-11	-9
MP-3	+9-10	MP-7	+3	MP-12	-5
MP-4	+9-10	MP-8	+3	MP-13	-8
MP-5	+9-10	MP-9	+3	MP-14	-7
				MP-15	-8
				MP-16	-5

2.4 SEDIMENT SAMPLING

Samples collected above 0 ft. MLLW were obtained by Gregg Drilling & Testing, Inc using a direct push coring technique. Marine sediment below 0 ft. MLLW was collected by NewFields and Weston staff using a vibracore sampler to obtain samples to project depth.

In addition to the project sediment, a reference sediment sample was collected from the USACE-USEPA approved reference sediment sampling location for LA-3. Reference sediment was collected using a stainless-steel dredge bucket. Control sediment was provided with the bioassay test organisms where appropriate (i.e., SPP tests do not use a control sediment). A sample of site water (approximately 100 L) was also collected from the Marina Park area for use in the 100% SPP concentrations for the SPP tests.

2.4.1 CORE COLLECTION

Upland cores were collected using a Warthog M1.5T track mounted drill rig in direct push mode (Figure 5). Cores were collected to project depth (+2 ft overdredge and 6" z-layer). Separate acetate liners were used for each core sample. Samples were collected in 4 ft. sections and the cut into 2 ft. sections and placed into a cooler. Samples were processed in the laboratory.

Marine sediment cores were collected using a 4–inch diameter vibracore deployed from a 25 ft. barge that allowed for sample collection in shallow nearshore waters. The vibracore is an aluminum tube attached to a vibrating head. A liner is inserted into the core barrel in order to keep the sample from coming in contact with the aluminum barrel. Once aboard the vessel, the core liner was removed from the corer and the core was characterized for length and geotechnical characteristics.

Figure 5. Direct-push CPT (a,b) and Vibracore (c, d) samplers, Marina Park 2008

2.4.2 *NAVIGATION*

Locations were determined using a combination of Global Positioning System (dGPS) and triangulation using visual landmarks and water depth. Actual sampling locations were recorded in the field logs.

2.4.3 *CORE HANDLING*

A representative core from each sample location was photographed and characterized for sediment characteristics. The core stratigraphy and other pertinent data and observations were logged. Each core was split into separate upper and lower samples for analysis based on sediment composition as described previously. The geologic description of each core included the apparent grain size, odor, color, length, and any evident stratification of the sediment.

Sediment from each station was placed into clean, food-grade–quality plastic bags, labeled (project name, date, sampler ID, analysis, and preservative where applicable), logged into a field chain-of-custody (COC) form, and placed into a cooler. Cores remained on ice and in the dark until shipped via overnight delivery service to the NewFields' laboratory in Port Gamble, Washington for processing.

2.4.4 *SAMPLE PROCESSING AND STORAGE*

Sample processing and composting was performed at NewFields' Port Gamble laboratory. Station samples were stored in the dark at 4 degrees Celsius (°C) until processed. Each station sample was homogenized to a uniform consistency at the laboratory using stainless steel spoons. Composites were generated by homogenizing all station samples from a given area as described in Section 2.1. Samples for physical and chemical analysis were placed into certified clean glass jars with Teflon-lined lids and shipped to the analytical laboratories. Sub-samples for archive were placed in certified clean glass jars with Teflon-lined lids and frozen at -20°C for possible future chemical analysis in the event that further delineation of chemical contamination is required. The remainder of the composite sample was analyzed for toxicity or, in the case of Composites A and B, stored at 4°C in case biological testing is determined to be needed.

2.4.5 *SHIPPING*

Prior to shipping, sample containers were placed in sealable plastic bags and securely packed inside coolers with ice packs or crushed ice. COC forms were filled out, and the original signed COC forms was placed in a sealable plastic bag and placed inside the cooler. The cooler lids were securely taped shut.

Samples were delivered to the analytical laboratories. Table 2-4 lists the laboratories, the particular analyses performed by each, and the point of contact and pertinent shipping information for each laboratory.

Table 2-4. Analytical Laboratories, Points of Contact, and Shipping Information

Laboratory	Analyses Performed	Point of Contact	Shipping Information
NewFields Northwest LLC.	SPP, SP testing and Bioaccumulation testing	Mr. William Gardiner Mr. Brian Hester (360) 297-6040	NewFields Northwest 4729 NE View Drive Port Gamble, WA 98364
Analytical Resources Inc	Sediment and bioaccumulation tissue chemistry	Ms. Sue Dunnihoo (206) 695-6200	Analytical Resources 4611 S.134th Pl, Suite 100 Tukwila, WA 98168

2.4.6 *Decontamination of Field and Laboratory Equipment*

All coring equipment was cleaned prior to sampling. Between marine stations, core barrels and the deck of the vessel was rinsed with site water. Core tubes were cleaned between cores using biodegradable soap, a site water rinse and a deionized water rinse. Before creating each composite, all stainless steel utensils (stainless steel bowls, spoons, spatulas, mixers, and other utensils) were cleaned with soapy water, rinsed with tap water, and then rinsed three times with deionized water.

2.5 Bioassay Testing

Samples were evaluated in accordance with procedures outlined in the OTM (USEPA/USACE 1991) to establish suitability for ocean disposal and the more recent procedures described in the Inland Testing Manual (ITM; USEPA and USACE 1998) and by the ASTM (2003a). This program included bioassay analysis of three project samples: two Area C composite samples and the LA-3 Reference sediment. In addition, appropriate laboratory control samples were run with each of the selected test species. Bioassay testing for this project consisted of two benthic toxicity tests, three water-column toxicity tests, and two bioaccumulation potential tests. The bioassays performed for this project are summarized in Table 2-5. Bioassay testing of materials began as soon as possible after the time of collection.

Table 2-5. Bioassay Testing Proposed for Suitability Evaluations of Dredged Material

Test Type	Type of Organism	Taxon	Project Sediments	Control Sediment/ Seawater	Reference[1] Sediment	Reference[1] Toxicant
Water column	Bivalve larvae	*Mytilus edulis*	X[2]	X		X
	Fish	*Menidia beryllina*	X[2]	X		X
	Mysid shrimp	*Americamysis bahia*	X[2]	X		X
Benthic	Amphipod	*Ampelisca abdita*	X	X	X	X
	Polychaete	*N. arenaceodentata*	X	X	X	X
Bioaccumulation	Bivalve	*Macoma nasuta*	X	X	X	
	Polychaete	*Nephtys caecoides*	X	X	X	

[1]Shaded areas indicate tests or treatments that are not applicable to the selected tests.
[2] Sediment elutriates of project material

2.5.1 *Benthic Toxicity Tests*

Benthic bioassays were performed to estimate the potential impact of ocean disposal of dredged material on benthic organisms that attempt to re-colonize the area. Dredge material was tested in 10-day benthic tests using two species: an amphipod species *Ampelisca abdita* and a polychaete, *Neanthes arenaceodentata*. Amphipod tests were conducted in accordance with procedures described in Appendix E of the ITM (USEPA/USACE 1998) and ASTM Standard E1367-99 (ASTM 2003c). Tests with the polychaete were conducted in accordance with procedures outlined in the ITM (USEPA/USACE 1998). Each sediment type (test, references, and control) was run with five replicates. Control sediment was sediment from the area where the organisms were collected (i.e., native sediment). Since *N. arenaceodentata* are cultured in the absence of sediment, clean sand from Newport, Oregon was used as control sediment for the 10-day polychaete test. This sediment has been used successfully in previous tests with *Neanthes*.

Test organisms were exposed to the sediment for ten days in 1-liter glass test chambers. Two centimeters of sediment (approximately 150 mL) was placed into each chamber with 800 mL of overlying water. Tests were conducted as static tests with no feeding. Initial stocking densities in each replicate were 20 organisms per test chamber for the amphipod test, and 5 organisms per test chamber for the polychaete

test. Trickle-flow aeration was provided through glass pipettes, in such a way as to avoid disturbing the sediment surface. Water quality measurements were taken in one chamber from each test treatment daily and included pH, salinity, temperature, and dissolved oxygen. Ammonia was measured in both interstitial (pore water) and overlying water at the start and finish of the test from one replicate for each test sample. Sediment pore water was extracted via centrifugation. All instruments used were calibrated and logged daily. Using methods described in the OTM (USEPA/USACE 1991) the sediments were carefully sieved to remove the test organisms and then survivorship was assessed. To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980).

2.5.2 *Water-Column Tests*

Water column bioassay tests were performed to estimate the potential impact of ocean disposal of dredged material to organisms that live in the water column. The water-column test was performed using a 4:1 seawater to test dredged material suspended-particulate phase preparation (SPP). To make the SPP, dredged material from each composite was combined with dredging-area site seawater in a 4:1 ratio by volume, vigorously agitated for 30 minutes, and then centrifuged for approximately 10 min. at room temperature (16–18°C). Following centrifugation, the supernatant was gently decanted. This supernatant represented the 100% SPP test concentration and was used to create serial dilutions with clean seawater (0.45-µm-filtered Hood Canal seawater) to create subsequent test concentrations for the SPP tests. Three species were tested with the SPP: *Menidia beryllina* (inland silverside fish), *Americamysis* (formerly *Mysidopsis*) *bahia* (mysid shrimp), and *Mytilus* sp. (bivalve larvae).

For the shrimp and the fish, the SPP was tested at 100%, 50%, and 10% percent concentrations against a seawater control under static conditions. Each of these tests was conducted in accordance with procedures outlined in the ITM (USEPA/USACE 1998). Ten animals were used per replicate with five replicates per elutriate concentration. The test ran for 96 hours.

The bivalve larvae test was run on the test dredged material elutriates at 100%, 50%, 10%, and 1% dilutions, and a seawater control. The test was run for 48 hours, until development of the bivalve larvae to the D-hinge stage in the control. At the termination of the study, survival and normal development were compared between the control and test groups to determine if significant mortality or abnormal development existed.

Daily water quality monitoring of test chambers was carried out for pH, dissolved oxygen, salinity, and temperature. Ammonia was analyzed at the start of the test in the 100% concentration. Measurements in other concentrations were not performed as the readings in the 100% concentration were not greater than 4 mg/L total ammonia. To evaluate the relative sensitivity of the organisms, reference toxicity tests were performed using standard reference toxicants (Lee 1980).

2.5.3 *Bioaccumulation Potential Tests*

Assessment of bioaccumulation potential was carried out using the polychaete worm *N. caecoides* and the bivalve *M. nasuta* over a 28-day test period on the marine composite samples and the LA-3 Reference sediment only. Bioaccumulation potential tests were conducted in accordance with those procedures outlined in *Guidance Manual: Bedded Sediment Bioaccumulation Tests* (USEPA 1993) and Appendix E of the ITM (USEPA/USACE 1998). Each of these tests was initiated using test and control sediment in the same manner as the 10-day benthic test. *N. caecoides* exposures were conducted using 60 animals in each of five replicate test chambers. For *M. nasuta* exposures, 25 animals were placed in each of five replicate test chambers. The test chambers were maintained under flow-through conditions, and daily water quality measurements were taken on each chamber. On Day 28, the sediment was sieved to remove the worms and clams. The surviving animals were placed in clean flow-through aquaria to

purge their gut contents for 24 hours, and then tissues were placed into certified-clean glass sample jars, frozen and then sent to the chemistry laboratory for tissue analysis

The analysis of bioaccumulation was made by statistically comparing tissue levels from the reference group to those of the test group for each species. The analysis will be conducted using Analysis of Variance, T-test, or non-parametric tests, depending on the assumptions of the individual tests (i.e., homogeneity of variance) as specified in the OTM (USEPA/USACE 1991). Contaminant concentrations found to be significantly elevated above reference were interpreted by comparing to FDA limits and USEPA risk-based guidance values.

2.5.4 *Seawater for Bioassay Testing*

Seawater used in this study, including the flow-through tests, came from the Hood Canal at Port Gamble, Washington. Hood Canal seawater is continuously pumped through the NewFields facility. Seawater is filtered using a 25 µm sand filter, with subsequent polishing with a 0.45-µm filter for the toxicity tests. This seawater source has been used successfully on similar bioassay testing programs. Extensive testing on a variety of test species has shown that there is no significant potential for toxicity or bioaccumulation from this source.

2.6 Quality Assurance/Quality Control

The quality assurance objectives for toxicity testing are detailed in the OTM (USEPA/USACE 1991), ITM (USEPA/USACE 1998), and NewFields' laboratory quality assurance plans (QAPs). These objectives for accuracy and precision involve all aspects of the testing process, including the following:

- Water and sediment sampling and handling
- Source and condition of test organisms
- Condition of equipment, test conditions
- Instrument calibration
- Use of reference toxicants
- Record keeping & data evaluation

Each test organism was evaluated in reference toxicant tests during the test period to establish the sensitivity of the test organisms. The reference toxicant LC_{50} or EC_{50} should fall within two standard deviations of the historical laboratory mean. Water quality measurements were monitored to ensure that they fall within target limits. All limits established for this program meet or exceed those recommended by USEPA.

The methods employed in every phase of the toxicity testing program are detailed in NewFields' Standard Operating Practices (SOP). All NewFields staff members receive regular, documented training in all SOPs and test methods. Finally, all data collected and produced as a result of these analyses were recorded on approved data sheets, which are part of the permanent data record of the program. If any aspect of a test deviated from protocol, the test was evaluated to determine whether it was valid according to the regulatory agencies responsible for approval of the proposed permitting action.

2.7 PHYSICAL AND CHEMICAL ANALYSIS

Physical and chemical parameters measured in this testing program were selected to provide data on potential chemicals of concern in the dredged material from the Marina Park site, in accordance with the OTM (USEPA/USACE 1991), ITM (USEPA/USACE 1998), and regional guidance. Test composites and reference sediment were analyzed for all of the analytes listed in Table 2-6. The target detection limits (sediment – dry weight) are also presented in Table 2-6. All analytical methods used to obtain contaminant concentrations follow EPA or Standard Methods (SM; APHA/AWWA 1998).

2.7.1 *PHYSICAL ANALYSES*

To characterize the physical properties of the sediment, tests were performed to determine the physical characteristics of the sediment for potential beach nourishment, to predict the behavior of sediment after disposal, and to compare reference and test sediment. Physical-chemical analyses of the sediment included grain size, specific gravity, total organic carbon (TOC), total solids, and plasticity (Atterberg Limits). Grain size was analyzed to determine the general size classes that make up the sediment (e.g., gravel, sand, silt, and clay) and the frequency distribution of the size ranges (reported in millimeters [mm]). Grain size measurements were conducted using the gravimetric procedure described in Plumb (1981). The TOC, made up of volatile and nonvolatile organic compounds, was determined as recommended in the OTM (USEPA/USACE 1991) or equivalent (modified SW846). This procedure involves dissolving inorganic carbon (carbonates and bicarbonates) with hydrochloric acid or sulfuric acid prior to TOC analysis (Plumb 1981). Total solids were also measured to convert concentrations of the chemical parameters from a wet-weight to a dry-weight basis. Percent solids was determined by USEPA Method 160.3 (USEPA 2001). Total petroleum hydrocarbons and total residual petroleum hydrocarbons (TRPH) were analyzed using EPA Method 1664. Atterberg limits were determined using ASTM D-4318.

2.7.2 *SEDIMENT CHEMISTRY*

The following analyses were performed as recommended by the ITM/OTM (USEPA/USACE 1998; 1991). The analysis for priority pollutant metals was conducted using an inductively coupled plasma emissions spectrometer equipped with a mass detector (ICP-MS), in accordance with USEPA 6010. Mercury analysis was conducted using cold vapor atomic absorption (CVAA) using EPA 7471A (USEPA 1994). The ammonia and dissolved sulfides analysis were conducted in conjunction with toxicity testing and followed SM4500-NH3F and N (APHA/AWWA 1998). Total sulfides were analyzed following PSEP (1986).

Semivolatile organics (SVOC; PAHs only) were analyzed using gas chromatography-mass spectrometry with selected ion monitoring (GC/MS SIM), using USEPA Method 8270 SIM (USEPA 2001). This followed serial extraction with methylene chloride and alumina cleanup procedures. Organochlorine pesticides and PCBs were analyzed using dual column GC/ECD following USEPA Method 8081 and 8082 respectively (USEPA 2001), with extraction modifications to reach lower detection limits. The PCBs were identified to the Aroclor level. The analytical method used to determine TBT involves methylene chloride extraction, followed by Grignard derivatization and analyzed by GC/MS (Krone et al., 1989).

Table 2-6. Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits

Parameter	Method	Procedure	Sediment Target Reporting Limit (dry weight)	Tissue Target Reporting Limit (wet weight)
Physical / Conventional Tests				
Grain Size	Plumb (1981)	Sieve/Pipette	1.0%	n/a
Atterberg Limits	ASTM D-4318			n/a
TOC	ASTM D2579	Combustion IR	0.1%	n/a
Percent Solids	EPA 160.3	Gravimetric	0.1%	n/a
Sulfides	PSEP 1986	Colorimetric	1.0 mg/kg	n/a
Oil and Grease	EPA 1664*	Gravimetric		n/a
TRPH	EPA 1664*	Gravimetric		n/a
Ammonia	SM 4500N H3F	ICP-MS	0.001 mg/kg	n/a
Lipids	Bligh Dyer	Gravimetric	n/a	0.1%
Metals				
Arsenic (As)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Cadmium (Cd)	USEPA 6010	ICP-MS	0.2 mg/kg	n/a
Chromium (Cr)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Copper (Cu)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Lead (Pb)	USEPA 6010	ICP-MS	1.0 mg/kg	n/a
Mercury (Hg)	USEPA 7471A	CVAA	0.05 mg/kg	0.01 mg/kg
Nickel (Ni)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Selenium (Se)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Silver (Ag)	USEPA 6010	ICP-MS	0.5 mg/kg	n/a
Zinc (Zn)	USEPA 6010	ICP-MS	4 mg/kg	n/a
Pesticides				
4-4′ DDD	USEPA 8081	GC/ECD	2 µg/kg	n/a
4-4′-DDE	USEPA 8081	GC/ECD	2 µg/kg	n/a
4-4′-DDT	USEPA 8081	GC/ECD	2 µg/kg	n/a
2-4′ DDD	USEPA 8081	GC/ECD	2 µg/kg	n/a
2-4′-DDE	USEPA 8081	GC/ECD	2 µg/kg	n/a
2-4′-DDT	USEPA 8081	GC/ECD	2 µg/kg	n/a
Aldrin	USEPA 8081	GC/ECD	1 µg/kg	n/a
α-BHC	USEPA 8081	GC/ECD	1 µg/kg	n/a
β-BHC	USEPA 8081	GC/ECD	1 µg/kg	n/a
Chlordane	USEPA 8081	GC/ECD	2 µg/kg	n/a
δ-BHC	USEPA 8081	GC/ECD	1 µg/kg	n/a
Dieldrin	USEPA 8081	GC/ECD	2 µg/kg	n/a
Endosulfan I	USEPA 8081	GC/ECD	1 µg/kg	n/a
Endosulfan II	USEPA 8081	GC/ECD	2 µg/kg	n/a
Endosulfan Sulfate	USEPA 8081	GC/ECD	1 µg/kg	n/a
Endrin	USEPA 8081	GC/ECD	1 µg/kg	n/a
Endrin Aldehyde	USEPA 8081	GC/ECD	1 µg/kg	n/a
Heptachlor	USEPA 8081	GC/ECD	1 µg/kg	n/a
Heptachlor Epoxide	USEPA 8081	GC/ECD	1 µg/kg	n/a
γ-BHC	USEPA 8081	GC/ECD	1 µg/kg	n/a
Methoxychlor	USEPA 8081	GC/ECD	10 µg/kg	n/a
Lindane	USEPA 8081	GC/ECD	1 µg/kg	n/a
Toxaphene	USEPA 8081	GC/ECD	100 µg/kg	n/a
PCBs				
Aroclor 1016	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1221	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1232	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1242	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1248	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1254	USEPA 8082	GC/ECD	4 µg/kg	n/a
Aroclor 1260	USEPA 8082	GC/ECD	4 µg/kg	n/a

Parameter	Method	Procedure	Sediment Target Reporting Limit (dry weight)	Tissue Target Reporting Limit (wet weight)
Semivolatile Organics				
Acenaphthene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Fluorene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Phenanthrene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Anthracene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Fluoranthene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Pyrene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Chrysene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Benzo(a)anthracene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Benzo(b)fluoranthene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Benzo(a)pyrene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Indeno(1,2,3-cd)pyrene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Dibenzo(a,h)anthracene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Benzo(g,h,i)perylene	USEPA 8270	GC/MS SIM	7 µg/kg	n/a
Phthalates				
Diethylphthalate	USEPA 8270	GC/MS	20 µg/kg	n/a
Dimethylphthalate	USEPA 8270	GC/MS	20 µg/kg	n/a
Butylbenzylphthalate	USEPA 8270	GC/MS	20 µg/kg	n/a
bis(2-Ethylhexyl) phthalate	USEPA 8270	GC/MS	20 µg/kg	n/a
Di-n-octylphthalate	USEPA 8270	GC/MS	20 µg/kg	n/a
Organotins				
Monobutyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg	n/a
Dibutyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg	n/a
Tributyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg	n/a

%: percent
ng/kg: nanogram per kilogram
µg/kg: microgram per kilogram
g/cc: gram per cubic centimeter
n/a: not applicable
GC/MS: gas chromatography/mass spectrometry
SIM: selected ion monitoring
* EPA Method 1664 is substituted for EPA 413.2

2.7.3 *Bioaccumulation Tissue Chemistry*

Tissue analysis was performed to determine the availability of sediment contaminants taken up by the test organisms. The chemical constituents for tissue analysis (including pre-exposure samples) were determined following a review of the sediment chemistry results, in consultation with USACE and USEPA. Based on sediment chemistry results, mercury and lipids were analyzed in test tissues. Tissue composites from each replicate were analyzed separately.

2.7.4 *Quality Assurance/Quality Control*

The QA objectives for chemical analysis conducted by the participating analytical laboratories are detailed in their Laboratory QA Manual(s). These objectives for accuracy and precision involve all aspects of the testing process, including the following:

- Methods and SOPs
- Calibration methods and frequency
- Data analysis, validation, and reporting
- Internal QC
- Preventive maintenance
- Procedures to ensure data accuracy and completeness

Results of all laboratory QC analyses are reported with the final data. Any QC samples that failed to meet the specified QC criteria in the methodology or QAP were identified, and the corresponding data was appropriately qualified in the final report.

All QA/QC records for the various testing programs will be kept on file for review by regulatory agency personnel.

2.8 Data Review, Management, and Analysis

2.8.1 *Data Review*

All data were reviewed and verified by participating team laboratories to determine whether all data quality objectives had been met, and that appropriate corrective actions had been taken, when necessary. NewFields' QA Officer or her delegate was responsible for the final review of all data generated.

2.8.2 *Data Analysis*

Data analysis consisted of tabulation and comparison with reference sites. Sandy sediments were also evaluated for suitability for use in beach nourishment under Regional General Permit 67 or under an individual permit. Marine sediments that did not qualify for beach nourishment, either due to grain size or the presence of contaminants were reviewed for open ocean disposal at LA-3. Biological results were compared to appropriate laboratory controls and reference results where applicable as designated in the OTM (USEPA/USACE 1991). Additional interpretation criteria are discussed in Section 4.

3 RESULTS

3.1 SAMPLING RESULTS

Sediment cores were collected from a total of 15 stations. Five stations were located in Area A, four stations were sampled in Area B, and six stations were sampled in Area C. With the exception of MP-9, samples were collected from each of the proposed stations. Station MP-3 was moved south from the proposed location due to a lack of access. Station MP-9 was replaced with Station MP-6b to provide a better indication of sediment in the upper beach area. In Area C, an additional station was sampled, Station MP-16, to provide a better indication of the deeper sediment in the nearshore portion of that area. Information on sample location, depth (MLLW), targeted core length; penetration depth and length of core recovered are included in Table 3.1. Reference samples were collected from LA-3 Reference on December 1, 2008. Field logs are presented in Appendix A. The approximate location of each sediment core is provided in Figure 1.2.

Samples from Areas A and B were collected using a direct-push CPT on November 26, 2008. Sediment was collected to the proposed sampling depth (14.5 ft. MLLW) for each of the Area A and B stations. In some cases, a void appeared in the core, generally one foot in length. This was caused by compaction of loose sands by the head of the CPT.

Subtidal samples in Area C were collected using a vibracorer on December 12, 2008. Penetration depths at each station were sufficient to reach the ancient Bay sand layer; however, refusal was observed at this layer for nearshore stations MP-10, MP-12, and MP-14. An additional station, Station MP-16, was sampled to determine the precise location of the ancient Bay sand layer and to retrieve sufficient material to characterize this layer for the nearshore portion of Area C. With the exception of Station MP-14, project depth (-12 ft. MLLW) was sampled for all stations within Area C. Stations located further offshore, Stations MP-11, MP-13, and MP-15, were sampled to the project depth plus the 2 ft. overdredge and the z-layer sample. Z-layer samples were archived for possible future analysis.

Sediment cores in Area A were generally characterized by sand overlying coarse sand (Figure 3.1). The boundary layer between the finer, more recent sands and the ancient-Bay sands was at approximately -4 to -5 ft. MLLW. Area B included lighter beach sands overlying the upper layer, gray sands, overlaying the coarser deep sands. As with Area A, the boundary between the finer sands and coarser sands occurred between -4 to -5 ft. MLLW, with the exception of Station MP-7, with the boundary was observed at -7 to -8 ft MLLW. Sediment in the nearshore portion of Area C differed from that of the channel stations further offshore. In the nearshore area, sands similar to the surface sands in Area B were found overlaying a moderately compacted silt/clay layer, overlaying the ancient Bay sand. A similar sediment composition was observed at the western portion of the channel stations, Station MP-11. The sediments observed at Stations MP-13 and MP-15 were generally characterized by silts and clays overlaying the ancient Bay sands.

Each of the cores was split into an upper and lower section at the boundary with the ancient Bay sands. The upper sections within each area were composited to create an upper Area composite and the lower sections within each area were composited to create a lower Area composite. In addition, the upper and lower sections from each core were either archived for possible future analysis (Areas A and B) or submitted for mercury and grain size analysis (Area C).

Table 3–1. Sample Log Data, Marina Park 2008

Site	Core Type	Coordinates Latitude (°N)	Coordinates Longitude (°W)	Depth (ft MLLW)	Target Core Length (ft)	Actual Core Length (ft)	Comments
Area A							
MP-1	CPT	33° 36.474	117° 55.325	+ 9 to 10	20	20	*Upper 4 to 5 feet above core not included in analysis; top of 20 ft. core is at +4 to 5 ft MLLW*
MP-2	CPT	33° 36.479	117° 55.338	+ 9 to 10	20	20	
MP-3	CPT	33° 36.469	117° 55.312	+ 9 to 10	20	20	
MP-4	CPT	33° 36.492	117° 55.310	+ 9 to 10	20	20	
MP-5	CPT	33° 36.494	117° 55.326	+ 9 to 10	20	20	
Area B							
MP-6a	CPT	33° 36.498	117° 55.325	+ 6	20	20	*Surface sediment from beach included in core.*
MP-6b	CPT	33° 36.495	117° 55.313	+ 6	20	20	
MP-7	CPT	33° 36.507	117° 55.312	+ 3 to 4	18	18	
MP-8	CPT	33° 36.510	117° 55.336	+ 3 to 4	18	18	
MP-9	VC	33° 36.515	117° 55.361	+ 1	16	3.0	*Refusal at 3'; 3 attempts; unable to sample with VC*
Area C							
MP-10	VC	33° 36.525	117° 55.363	- 4.1	10.4	8.0	*Refusal at -12.0'; 0.5 ft. sand lost from cutter head*
MP-11	VC	33° 36.527	117° 55.362	- 7.5	7.0	7.0	
MP-12	VC	33° 36.519	117° 55.332	-5.0	9.5	7.0	*Refusal at -12.0'; approximately 1.0 ft. of sand lost from cutter head*
MP-13	VC	33° 36.532	117° 55.335	-8.5	6.5	6.5	
MP-14	VC	33° 36.525	117° 55.308	-5.5	9.0	6.0	*Refusal at -11.5; 0.5 ft. sand lost from cutter head*
MP-15	VC	33° 36.539	117° 55.305	-6.5	7.9	7.9	
MP-16	VC	33° 36.521	117° 55.327	-5.1	9.5	8.5	*Refusal at -13.5'*

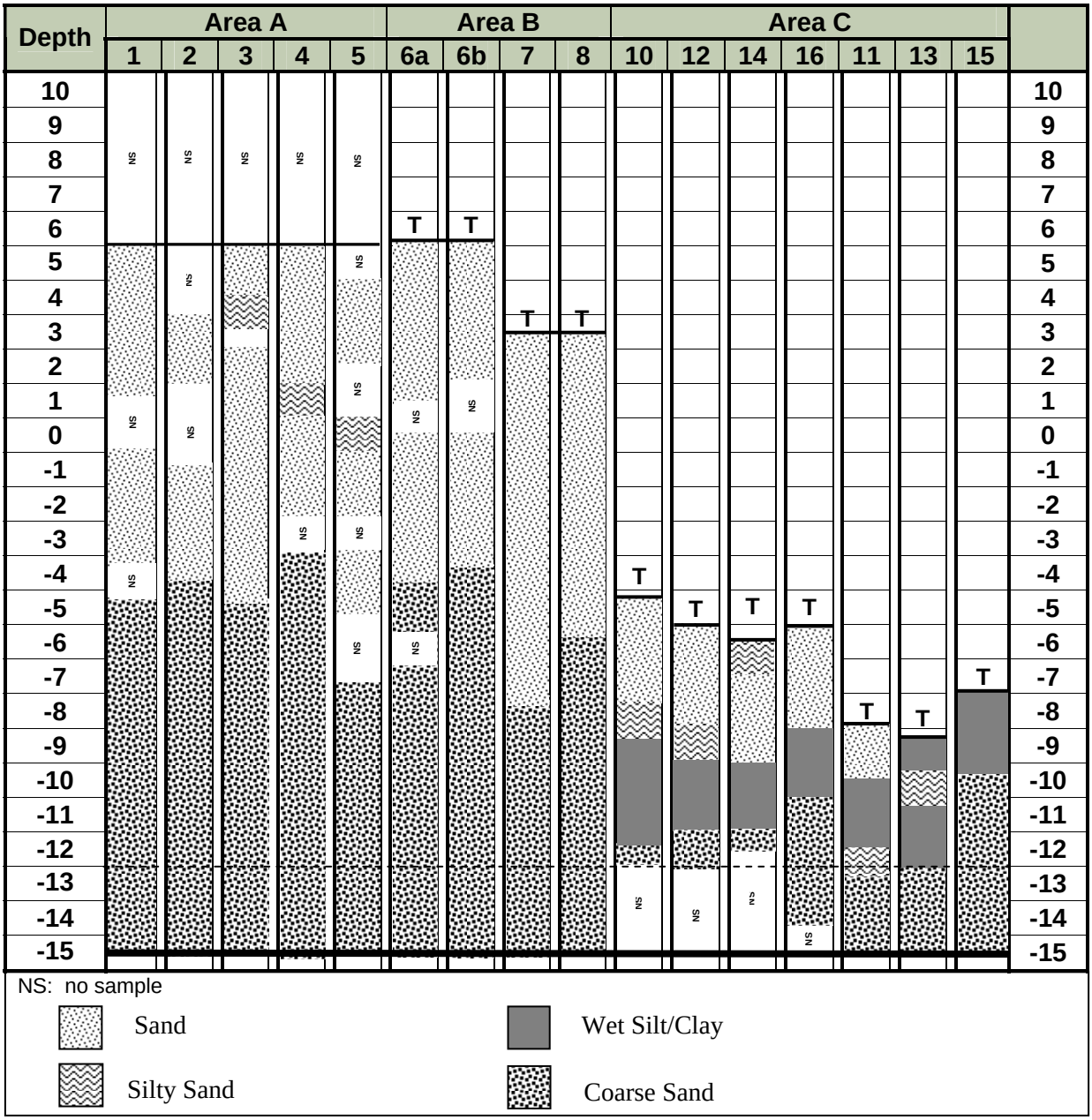

Figure 6. General Characterization of Sediment in Cores from Marina Park.

3.2 Physical and Chemical Analysis of Sediment

Physical characterizations and conventionals analysis of all composites and the reference sample included grain size determination, total organic carbon (TOC) content, percent total solids, oil and grease, total recoverable petroleum, total ammonia and sulfides, and Atterberg limits. Chemical characterizations included metals, organotins, PAH's, chlorinated pesticides, PCB aroclors, and phthalates. Results of these characterizations are summarized in the following sections.

3.2.1 *Physical Characteristics and Conventional Chemical Analysis*

Physical characteristics of composites and the reference sample are shown in Table 3-2. Area A and B composites, as well as Comp C-L, were >95% sand and gravel, with very little fine sediment. Comp C-U was comprised of approximately 78% sand, with approximately 22% silt and clay. The LA-3 Reference site was predominantly silt with 29.6% clay and only 3.2% sand.

TOC content was generally low in the A and B composites, ranging from 0.02% - 0.15% TOC. Comp C-U was somewhat higher with 0.68% TOC content. The reference sample had TOC content of 1.8%. Oil and grease and TRPH were below detection levels in all samples. Total ammonia levels were generally low or undetected (<0.1 to 1.2 mg/kg total ammonia) , with the highest concentration in the test composites being 14.8 mg/kg total ammonia in Comp C-U. The total ammonia concentration in the LA-3 Reference sediment was 4.8 mg/kg total ammonia. Sulfides were detectable only in Comp A-U and Comp B-L, with 7.56 and 4.25 mg/kg respectively.

All composites and the reference were analyzed for plasticity using the Atterberg test. Area A and B composites and Comp C-L displayed no plasticity. The Atterberg limits found for the LA-3 Reference and Comp C-U were 30.3 and 16.9 cm respectively. The plasticity index was 11.2% indicating that materials were not highly plastic and would be unlikely to form hardpan surfaces on beaches.

Table 3-2. Summary of Conventionals, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Gravel (%)	0.0	2.2	9.6	2.3	5.2	0.0	3.7
Sand (%)	3.2	93.6	89.7	93.6	93.0	77.9	95.3
Silt (%)	67.2	2.6	0.7	2.7	1.8	10.5	1.0
Clay (%)	29.6	1.6	<1 U	1.5	<1 U	11.6	0.0
Total Organic Carbon (%)	1.8	0.15	0.08	0.02	0.02	0.68	0.05
Total Solids (%)	43.5	84.6	90.3	89.3	86.6	76.2	87.4
Oil and Grease (mg/kg)	<450U	<230 U	<215 U	<218 U	<226 U	<262 U	<221 U
TRPH (mg/kg)	<450U	<230 U	<215 U	<218 U	<226 U	<262 U	<221 U
Total Ammonia (mg/kg)	4.8	1.2	0.11	0.2	<0.10 U	14.5	<0.5
Total Sulfides (mg/kg)	NM	7.56	<1.20 U	<1.16 U	4.25	NM	NM
Atterberg Limits (cm)	30.3	Not Plastic	Not Plastic	Not Plastic	Not Plastic	16.9	Not Plastic

NM: Not Measured
U: Undetected. Actual concentration below reported concentration

3.2.2 METALS

The test composites and the reference sample were analyzed for the presence of ten different metals (Table 3-3). Selenium and silver were not detected in any of the samples. With the exception of mercury, all detected metals concentrations in the test composites were below those of LA-3 Reference. With the exception of mercury in Comp C-U and chromium in Comp C-U and LA-3 Reference, metals concentrations in test samples were well below the effects range- low (ERL). Chromium was found at concentrations of 12.4 and 40 mg/kg, above the ERL (8.1 mg/kg), but well below the effects range-median (ERM, 370 mg/kg). The mercury concentration in Comp C-U was 0.36 mg/kg, which was above the ERL (0.15 mg/kg) but below the ERM (0.71 mg/kg).

Upper and lower sections from the individual cores in Area C were analyzed for mercury concentrations (Table 3-3). In the upper cores collected from the nearshore stations (MP-10, 12, 14, and 16), mercury concentrations ranged from 0.10 to 0.85 mg/kg. In sediment collected from the channel stations, the mercury concentrations in the upper sections were 1.11 mg/kg and 3.35 mg/kg for Stations MP-13 and MP-15, respectively. Mercury was not detected in any of the lower sections from either the nearshore stations or channel stations. A subsample from Station MP-11 was compromised during shipment and was not available for mercury analysis.

Table 3-3. Inorganic Metals in Sediment, Marina Park 2008

Analyte	ERL	ERM	LA-3	Composites					
				A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Arsenic	8.2	70	**5.5**	**2.0**	**2.1**	**2.2**	**1.9**	**3.7**	**2.1**
Cadmium	1.2	9.5	**0.9**	<0.2 U	<0.2 U	**0.2**	<0.2 U	**0.4**	<0.2 U
Chromium	8.1	370	**40**	**4.0**	**2.2**	**3.0**	**3.2**	**12.4**	**2.8**
Copper	34	270	**22**	**2.0**	**1.0**	**3.7**	**2.4**	**18.3**	**1.2**
Lead	46.7	218	**13**	<2 U	<2 U	**5**	<2 U	**9.0**	<1 U
Mercury	0.15	0.71	**0.10**	<0.05 U	<0.06 U	**0.05**	<0.05 U	**0.36**	<0.5 U
Nickel	20.9	51.6	**24**	**3**	<1 U	**2**	**2**	**9.2**	**1.9**
Selenium	NA	NA	<1 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.6 U	<0.6 U
Silver	1.0	3.7	<0.4 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.2 U
Zinc	150	410	**83**	**10**	**6**	**11**	**6**	**44**	**6**

Section	Hg ERL	Hg ERM	Mercury Concentrations in Cores (mg/kg)					
			MP-10	MP-12	MP-14	MP-16	MP-13	MP-15
Upper Section	0.15	0.71	**0.10**	**0.31**	**0.85**	**0.07**	**1.11**	**3.35**
Lower Section	0.15	0.71	<0.06 U	<0.07 U	<0.06 U	<0.05 U	<0.05 U	<0.05 U

U: Undetected. Actual concentration below reported concentration
No data for MP-11; no subsample available for analysis.

3.2.3 *ORGANOTINS*

Tributyltin was not detected in any of the test composites (Table3-4). No organotins were observed in Comps C-U or C-L, or in the LA-3 Reference. Monobutyltin and dibutyltin was detected in the area A and B composites.

Table 3-4. Organotins in Sediment, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Tributyltin	<3.8 U	<3.6 U	<3.4 U	<3.6 U	<3.6 U	<3.6 U	<3.7 U
Dibutyltin	<5.6 U	**14**	**15**	**13**	**19**	<5.3 U	<5.6 U
Monobutyltin	<4.0 U	**5.5**	**4.5**	<3.4 U	**6.1**	<3.8 U	<4.0 U

U: Undetected. Actual concentration below reported concentration

3.2.4 *POLYCYCLIC AROMATIC HYDROCARBONS*

Each of the test composites and the reference sample were analyzed for the presence of PAHs (Table 3-5). None of the 16 PAHs were detected in either the upper or lower composites from Area A or Comps B-L or C-L. Concentrations of some PAHs were observed above reporting limits in Comps B-U and C-U. However, these concentrations were quite low and were below the PAHs concentrations observed in sediment from LA-3 Reference. The total detected PAHs were 32.7 µg/kg and 108.1 µg/kg in Comps B-U and C-U, respectively. Concentrations observed in the test composites were well below the ERL (4,022 µg/kg).

Table 3-5. PAHs in Sediment, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Acenaphthylene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Acenaphthene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Fluorene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Phenanthrene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Anthracene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Fluoranthene	**8.7**	<4.9 U	<4.7 U	<4.8 U	<4.9 U	**15**	<4.5 U
Pyrene	**11**	<4.9 U	<4.7 U	<4.8 U	<4.9 U	**19**	<4.5 U
Benz[a]anthracene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	**6.3**	<4.5 U
Chrysene	**5.8**	<4.9 U	<4.7 U	**5.8**	<4.9 U	**7.8**	<4.5 U
Benzo[b]fluoranthene	**5.3**	<4.9 U	<4.7 U	**4.8**	<4.9 U	**12**	<4.5 U
Indeno[1,2,3-c,d]pyrene	<4.8 U	<4.9 U	<4.7 U	**7.7**	<4.9 U	**12**	<4.5 U
Dibenz[a,h]anthracene	<4.8 U	<4.9 U	<4.7 U	<4.8 U	<4.9 U	<4.8 U	<4.5 U
Benzo[g,h,i]perylene	**4.8**	<4.9 U	<4.7 U	**9.6**	<4.9 U	**20**	<4.5 U
Benzo[a]pyrene	**5.3**	<4.9 U	<4.7 U	**4.8**	<4.9 U	**16**	<4.5 U
Total Detected PAHs	**40.9**	0	0	**32.7**	0	**108.1**	0

U: Undetected. Actual concentration below reported concentration
ERL: 4,022 µg/kg

3.2.5 *CHLORINATED PESTICIDES*

Each composite and the reference sample were analyzed for a suite of chlorinated pesticides. The results are summarized in Table 3-6. There were no concentrations found above the reporting limits in any of the test composites.

Table 3-6. Chlorinated Pesticides in Sediment, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
2,4'-DDD	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
2,4'-DDE	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
2,4'-DDT	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
4,4'-DDD	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
4,4'-DDE	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
4,4'-DDT	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<1.9 U
Total Detected DDTs	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Aldrin	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
BHC-alpha	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
BHC-beta	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
BHC-delta	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
BHC-gamma (Lindane)	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Chlordane-alpha	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Chlordane-gamma	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Oxychlordane	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Total Detectable Chlordane	0	0	0	0	0	0	0
Dieldrin	<2.0 U	<0.97U	<0.98U	<0.99U	<0.98U	<2.0U	<1.9U
Endosulfan Sulfate	<2.0 U	<0.97U	<0.98U	<0.99U	<0.98U	<2.0U	<1.9U
Endosulfan-I	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Endosulfan-II	<2.0 U	<0.97U	<0.98U	<0.99U	<0.98U	<2.0U	<1.9U
Endrin	<2.0 U	<0.97U	<0.98U	<0.99U	<0.98U	<2.0U	<1.9U
Endrin Aldehyde	<2.0 U	<0.97U	<0.98U	<0.99U	<0.98U	<2.0U	<1.9U
Heptachlor	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Heptachlor Epoxide	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Methoxychlor	<9.8 U	<9.7 U	<9.8U	<9.9U	<9.8U	<9.8U	<9.4U
Mirex	<0.98 U	<0.97U	<0.98U	<0.99U	<0.98U	<0.98U	<0.94U
Toxaphene	<98 U	<97 U	<98U	<99U	<98U	<98U	<94U

U: Undetected. Actual concentration below reported concentration

3.2.6 *PCB AROCOLORS*

Each composite and the reference sample were analyzed for seven PCB aroclors. The results are summarized in Table 3-7. There were no concentrations found above the reporting limits in any of the test composites.

3.2.7 *PHTHALATES*

Each composite and the reference sample were analyzed for 5 phthalates. The results are summarized in Table 3-8. There were no concentrations found above the reporting limits in any of the test composites.

Table 3-7. PCB Aroclors in Sediment, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Aroclor 1016	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1242	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1248	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1254	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1260	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1221	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Aroclor 1232	<20 U	<20 U	<20 U	<20 U	<20 U	<20 U	<19 U
Total Detected PCBs	**0**	**0**	**0**	**0**	**0**	**0**	**0**

U: Undetected. Actual concentration below reported concentration

Table 3-8. Phthalates in Sediment, Marina Park 2008

Analyte	LA-3	Composites					
		A-U Comp	A-L Comp	B-U Comp	B-L Comp	C-U Comp	C-L Comp
Dimethylphthalate	<20 U	<20 U	<19 U	<20 U	<20 U	<19 U	<19 U
Diethylphthalate	<20 U	<20 U	<19 U	<20 U	<20 U	<19 U	<19 U
Butylbenzylphthalate	<20 U	<20 U	<19 U	<20 U	<20 U	<19 U	<19 U
bis(2-Ethylhexyl)phthalate	<20 U	<20 U	<19 U	<20 U	<20 U	<19 U	<19 U
Di-n-Octyl phthalate	<20 U	<20 U	<19 U	<20 U	<20 U	<19 U	<19 U

U: Undetected. Actual concentration below reported concentration

3.3 Results of Benthic and Water-column Bioassays

This section presents a summary of bioassays conducted in support of the EIR for the Marina Park project. Results for each replicate, all water quality observations, statistical analysis, and bench sheets for each test are provided in Appendix C.

3.3.1 *10-Day Benthic Amphipod Test*

The 10-d amphipod test with *Ampelisca abdita* was initiated on December 19, 2008. A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-9 to 3-11. The test was validated by 90% survival in the controls. The LC_{50} for the cadmium reference-toxicant test was 0.54 mg Cd/L, within the control chart limits (0.13 – 1.09 mg Cd/L), indicating that the test animals were similar in sensitivity to previous populations used at the NewFields laboratory.

Temperature and salinity were slightly outside the target range in all treatments except for the control. Deviations were generally less than one unit (°C or ppt) and did not appear to have an effect on the test organism survival. Ammonia levels were below NOEC (approximately 20 mg/L total ammonia) for all treatments.

Mean percent survival in LA-3 Reference was 92.0%. In Comp C-U and Comp C-L survival was 87.0 and 89.0% relatively. There was no significant difference between test treatments and the reference.

Table 3-9. Survival Summary for the 10-day Benthic Test with *A. abdita*

Treatment	Mean Percentage Survival	SD
Control	90	3.5
LA-3 Reference	92	2.7
Comp C-U	87	7.6
Comp C-L	89	4.2

Table 3-10. Summary of Water Quality for the 10-day Benthic Test with *A. abdita*

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			pH (units)			Salinity (ppt)		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	6.3	5.3	7.3	19.1	18.6	19.5	8.1	7.7	8.5	30.2	29.0	32.0
LA-3 Reference	6.7	5.7	7.7	19.2	18.3	19.6	8.1	7.8	8.4	32.6	31.0	36.0
Comp C-U	6.6	5.5	8.0	19.2	17.8	19.6	8.1	7.7	8.3	32.1	31.0	35.0
Comp C-L	6.7	5.8	8.0	19.2	18.0	19.6	8.1	7.8	8.3	32.2	31.0	35.0

Table 3-11. Test Condition Summary for *Ampelisca abdita*

Test Conditions: *A. abdita*		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	1 week	
Control sediment	Tomales Bay, California (native sediment)	
Test Species	*Ampelisca abdita*	
Supplier	John Brezina	
Date acquired	12/17/2008	
Acclimation/holding time	2 days	
Age class	Adult	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	10-Day static	
Test dates	12/19/2008-12/29/2008	
Control water	0.45 µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 20 ± 1 °C	Achieved: 17.8 – 19.6 °C
Test Salinity	Recommended: 32 ± 2 ppt	Achieved: 29-36 ppt
Test dissolved oxygen	Recommended: > 4.6 mg/L	Achieved: 5.3- 8.0 mg/L
Test pH	Recommended: 8.0 ± 0.5	Achieved: 7.7-8.5
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: 10%
Reference performance standard	Recommended: Reference mortality < 25%	Achieved: 8%
Reference Toxicant LC50	0.54 mg/L Cd	
Acceptable Range	0.13 – 1.09 mg/L	
Test Lighting	Continuous	
Test chamber	1-Liter Glass Chamber	
Replicates/treatment	5 + 2 surrogates for measuring porewater ammonia levels	
Organisms/replicate	20	
Exposure volume	175 mL sediment/ 950 mL water	
Feeding	None	
Water renewal	None	
Deviations from Test Protocol	Salinity and temperature out of range for all except Control	

3.3.2 *10-Day Solid-Phase Polychaete Worm Test*

The 10-d polychaete worm test with *Neanthes arenaceodentata* was initiated on December 19, 2008. A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-12 to 3-14. The test was validated by 92% survival in the controls. The LC_{50} for the cadmium reference-toxicant test was 10.4 mg Cd/L within the control chart limits (2.87- 16.9 mg Cd/L). Temperature fell slightly below and salinity increased above the target range in all treatments. This did not appear to have an effect on the animals as evidenced by the high survival rates in all treatments. Ammonia levels were below NOEC (approximately 5 mg/L) for all treatments.

Mean percent survival in LA-3 Reference was 92.0%. Mean percent survival in the test treatments was 84.0% for both Comp C-L and Comp C-U. There was no significant difference between treatments and the reference.

Table 3-12. Survival Summary for the 10-day Benthic Test with *N. arenaceodentata*

Treatment	Mean Percentage Survival	SD
Control	92.0	11
LA-3 Reference	92	17.9
Comp C-U	84.0	21.9
Comp C-L	84.0	16.7

Table 3-13. Summary of Water Quality, 10-Day Benthic Test with *N. arenaceodentata*

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			pH (units)			Salinity (ppt)		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	7.0	6.6	7.9	19.0	18.0	19.6	8.1	7.7	8.2	31.9	31.0	34.0
LA-3 Reference	6.9	6.3	7.3	19.0	18.0	19.5	8.1	7.8	8.2	32.2	31.0	34.0
Comp C-U	6.8	6.4	7.7	19.0	18.3	19.5	8.1	7.8	8.2	31.9	31.0	33.0
Comp C-L	6.9	6.3	7.9	19.0	18.0	19.6	8.1	7.8	8.2	32.3	31.0	35.0

Table 3-14. Test Condition Summary for *Neanthes areanaceodentata*

Test Conditions: *N. arenaceodentata*		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	1 week	
Control sediment	Yaquina Bay, Oregon	
Test Species	*N. arenaceodentata*	
Supplier	Don Reish	
Date acquired	12/16/2008	
Acclimation/holding time	3 days	
Age class	Juvenile	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	10-Day static	
Test dates	12/19/2008-12/29/2008	
Control water	0.45 µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 20 ± 1 °C	Achieved: 17.8 – 19.6 °C
Test Salinity	Recommended: 30 ± 2 ppt	Achieved: 29-36 ppt
Test dissolved oxygen	Recommended: > 4.6 mg/L	Achieved: 5.3- 8.0 mg/L
Test pH	Recommended: 8.0 ± 0.5	Achieved: 7.7-8.5
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: 10%
Reference performance standard	Recommended: Reference mortality < 25%	Achieved: 8%
Reference Toxicant LC50	10.4 mg/L	
Acceptable Range	2.87- 16.9 mg/L	
Test Lighting	Continuous	
Test chamber	1-Liter Glass Chamber	
Replicates/treatment	5 + 2 surrogates for measuring porewater ammonia levels	
Organisms/replicate	5	
Exposure volume	175 mL sediment/ 950 mL water	
Feeding	None	
Water renewal	None	
Deviations	Salinity and temperature out of range for all except Control	

3.3.3 RESULTS OF THE WATER-COLUMN TEST WITH MENIDIA BERYLLINA

The water-column test with *M. beryllina* was initiated on January 7, 2009. A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-15 to 3-17. The test was validated by 96% survival in the controls. The LC50 for the copper reference-toxicant test was 227 µg Cu/L, and was inside the control chart limits (91.4 - 454 mg Cu/L), indicating that the population of test organisms used in this test were similar in sensitivity to those previously tested at the NewFields laboratory. Bench sheets, including survival in each of the treatment replicates, are presented in Appendix D.

Salinity levels were slightly out of the target range for all treatments, but were within the tolerance range for this species and did not appear to have no effect as evidenced by the high survival rates. Ammonia levels were below NOEC for all treatments.

Mean percentage survival in the 100% SPP for Comp C-U and Comp C-L samples were 88% to 98% relatively. There was no significant difference between test treatments and control survival, and the estimated LC50 for both treatments was >100%.

Table 3-15. Summary of Results for the Water-column Test with *M. beryllina*

Treatment	SPP (%)	Mean Percentage Survival	SD	LC50
Control	**0**	96	8.9	NA
Site Water	**0**	96	8.9	NA
Comp C-U	**10**	92	17.9	>100%
	50	94	5.5	
	100	88	8.4	
Comp C-L	**10**	88	11.0	>100%
	50	94	5.5	
	100	98	4.5	

Table 3-16. Summary of Water Quality for the Water-column Test with *M. beryllina*

Treatment	SPP (%)	Dissolved Oxygen (mg/L)			Temperature (°C)			Salinity (ppt)			pH (units)		
		Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	**0**	7.3	6.5	7.9	19.2	18.6	19.8	32.8	32.0	34.0	7.6	7.4	8.0
Site Water	**0**	7.4	6.8	9.0	19.4	19.1	19.8	35.3	34.0	37.0	7.8	7.6	7.9
Comp C-U	**10**	7.3	6.8	8.0	19.3	18.8	19.9	33.3	32.0	36.0	7.9	7.7	8.0
	50	7.2	6.6	7.7	19.5	19.0	19.9	33.9	33.0	35.0	7.9	7.7	8.0
	100	6.9	6.5	7.4	19.5	19.3	19.9	35.2	34.0	36.0	7.9	7.7	8.2
Comp C-L	**10**	7.1	6.6	8.2	19.4	18.7	19.9	32.8	32.0	34.0	7.9	7.7	7.9
	50	7.2	6.6	8.0	19.4	18.7	19.9	34.6	33.0	36.0	7.8	7.7	8.0
	100	7.3	6.9	8.0	19.5	19.2	19.9	34.7	34.0	36.0	7.9	7.8	8.0

Table 3-17. Test Condition Summary for *Menidia beryllina*

Test Conditions: *M. beryllina*		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	3 weeks	
Test Species	*M. beryllina*	
Supplier	Aquatic BioSystems	
Date acquired	1/6/2009	
Acclimation/holding time	1 day	
Age class	10 days old	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	96-hour SPP	
Test dates	1/7/2009-1/11/2009	
Control water	0.2µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 20 ± 1 °C	Achieved: 18.6 – 19.9°C
Test Salinity	Recommended: 31 ± 2 ppt	Achieved: 32- 37 ppt
Test dissolved oxygen	Recommended: > 3.7 mg/L	Achieved: 6.5- 9.0 mg/L
Test pH	Recommended: 7.8 ± 0.5	Achieved: 7.4-8.2
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: 4%
Reference Toxicant LC50	307 µg Cu/L	
Acceptable Range	89.6- 443 µg Cu/L	
Test Lighting	16- hours light, 8-hours dark	
Test chamber	600mL Glass Chamber	
Replicates/treatment	5	
Organisms/replicate	10	
Exposure volume	250 mL	
Feeding	Once at 48 hours	
Water renewal	None	
Deviations	Salinity out of range in all treatments	

3.3.4 RESULTS OF THE WATER-COLUMN TEST WITH AMERICAMYSIS BAHIA

The water-column test with *A. bahia* was initiated on January 7, 2009. A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-18 to 3-19. The test was validated by 98% survival in the controls. The LC50 for the copper reference-toxicant test was 233 µg Cu/L, and was inside the control chart limits (140 - 406 mg Cu/L), indicating that the population of test organisms used in this test were similar in sensitivity to those previously tested at the NewFields laboratory. Bench sheets, including survival in each of the treatment replicates, are presented in Appendix D.

Salinity levels were out of range for all treatments, but did not appear to have affected survival as evidenced by the high survival rates. Ammonia levels were below NOEC for all treatments. Mean percentage survival in the 100% SPP for Comp C-U and Comp C-L samples were both 98%, and the estimated LC50 for each of the test treatments was >100%.

Table 3-18. Summary of Results for the Water-column Test with *A. bahia*

Treatment	SPP (%)	Mean Percentage Survival	SD	LC50
Control	0	98	4.5	NA
Site Water	0	98	4.5	NA
Comp C-U	10	98	4.5	>100%
	50	98	4.5	
	100	98	4.5	
Comp C-L	10	100	0	>100%
	50	94	5.5	
	100	98	4.5	

Table 3-19. Summary of Water Quality Observations; Water-column Test with *A. bahia*

Treatment	SPP (%)	Dissolved Oxygen (mg/L)			Temperature (°C)			pH (units)			Salinity (ppt)		
		Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	0	6.3	5.1	7.9	19.3	18.8	19.5	33.1	32.0	34.0	7.8	7.5	7.9
Site Water	0	6.7	5.4	9.3	19.4	18.6	19.8	35.3	34.0	36.0	7.8	7.6	7.9
Comp C-U	10	6.3	4.8	7.7	19.5	19.4	19.9	33.1	32.0	34.0	7.8	7.5	7.9
	50	6.4	5.4	7.9	19.6	19.4	19.9	33.7	33.0	34.0	7.8	7.5	8.0
	100	5.8	5.0	6.4	19.6	19.5	19.8	34.8	34.0	35.0	7.9	7.5	8.3
Comp C-L	10	6.0	5.1	8.2	19.5	19.1	19.9	33.1	32.0	34.0	7.8	7.5	7.9
	50	5.9	4.7	8.1	19.5	19.2	19.8	33.3	33.0	34.0	7.8	7.5	7.9
	100	6.0	4.7	8.1	19.6	19.4	19.8	34.8	34.0	36.0	7.8	7.6	7.9

Table 3-20. Test Condition Summary for *Americamysis bahia*

Test Conditions: *A. bahia*		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	3 weeks	
Test Species	*Americamysis bahia*	
Supplier	Aquatic BioSystems	
Date acquired	1/6/2009	
Acclimation/holding	1 day	
Age class	3 days old	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	96-hour SPP	
Test dates	1/7/2009-1/11/2009	
Control water	0.2µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 20 ± 1 °C	Achieved: 18.6 – 19.9°C
Test Salinity	Recommended: 31 ± 2 ppt	Achieved: 32- 37 ppt
Test dissolved oxygen	Recommended: > 3.7 mg/L	Achieved: 6.5- 9.0 mg/L
Test pH	Recommended: 7.8 ± 0.5	Achieved: 7.4-8.2
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: 4%
Reference Toxicant LC50	233 µg Cu/L	
Acceptable Range	140- 406 µg Cu/L	
Test Lighting	16- hours light, 8-hours dark	
Test chamber	600mL Glass Chamber	
Replicates/treatment	5	
Organisms/replicate	10	
Exposure volume	250mL	
Feeding	Twice daily	
Water renewal	None	
Deviations from Test Protocol	Salinity out of range in all treatments	

3.3.5 *RESULTS OF THE WATER-COLUMN TEST WITH MYTILUS SP.*

The bivalve larval test was conducted on January 7, 2009 and was validated by 96.8% mean normal development in the controls. The EC50 for the copper reference-toxicant test was 9.69 µg Cu /L for normal development, which was within control chart limits (3.60 – 18.0 µg Cu/L). A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-21 to 3-23. Bench sheets, including survival in each of the treatment replicates, are presented in Appendix D.

Salinity was out of range for Comp C-U 50 and 100% as well as Comp C-L 50 and 100%. There was no adverse effect on the animals as evidenced by high normal development percentages. Ammonia levels were below NOEC for all treatments. Mean percentage normal survival in the Site Water control was 98.1%, while mean percentage normal in 100% SPP for Comp C-U and Comp C-L were 97.2% and 97.6%, respectively. There were no significant differences between mean normal survival in the 100% SPP for either test composite, relative to the control and the estimated EC_{50} for both treatments was >100% SPP.

Table 3.21 Summary of Results for the Water-column Test with *Mytilus sp.*

Treatment	SPP (%)	Mean Normal Development	SD	EC50 (%SPP)
Control	**0**	96.8	1.3	NA
Site Water	**0**	98.1	0.6	NA
Comp C-U	**1**	96.5	0.6	>100
	10	97.5	0.7	
	50	97.0	0.9	
	100	97.2	1.4	
Comp C-L	**1**	97.9	0.5	>100
	10	97.3	0.9	
	50	97.3	0.9	
	100	97.6	0.6	

Table 3-22 Summary of Water Quality Observations, Water-column Test with *Mytilus sp.*

Treatment	SPP (%)	Dissolved Oxygen (mg/L)			Temperature (°C)			pH (units)			Salinity (ppt)		
		Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	0	7.6	7.5	7.9	16.0	15.5	16.8	7.8	7.8	7.9	32.0	31.0	33.0
Site Water	0	7.9	7.3	9.0	16.0	15.6	16.3	7.8	7.8	7.9	35.0	34.0	36.0
Comp C-U	1	7.6	7.2	8.3	16.0	15.6	16.4	7.9	7.9	8.0	32.3	32.0	33.0
	10	7.5	7.1	8.1	16.1	15.7	16.6	7.9	7.9	8.0	32.3	32.0	33.0
	50	7.2	6.8	7.5	15.9	15.6	16.5	8.0	7.9	8.1	34.0	33.0	35.0
	100	6.9	6.6	7.1	15.9	15.6	16.6	8.1	8.0	8.3	35.3	34.0	37.0
Comp C-L	1	7.3	6.9	7.9	16.0	15.6	16.5	8.1	8.0	8.1	32.3	32.0	33.0
	10	7.6	7.3	8.0	15.9	15.5	16.6	8.0	7.9	8.0	32.7	32.0	33.0
	50	7.6	7.3	8.0	15.8	15.4	16.6	8.0	7.9	8.0	34.7	33.0	36.0
	100	7.6	7.3	8.0	16.1	15.5	16.9	7.9	7.8	8.0	35.0	34.0	36.0

Table 3-23. Test Condition Summary for *Mytilus sp*

Test Conditions: *Mytilus sp.*		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	3 weeks	
Test Species	*Mytilus sp.*	
Supplier	Carlsbad Aquafarms	
Date acquired	1/6/2009	
Acclimation/holding	Broodstock held for 1 day	
Age class	Larval	
Age of test animals	<4 hours	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	48-hour SPP	
Test dates	1/7/2009-1/9/2009	
Control water	0.2µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 16 ± 1 °C	Achieved: 15.4 – 16.9°C
Test Salinity	Recommended: 31 ± 2 ppt	Achieved: 31- 36 ppt
Test dissolved oxygen	Recommended: > 4.0 mg/L	Achieved: 6.6- 8.1 mg/L
Test pH	Recommended: 8.0 ± 1	Achieved: 7.8-8.3
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: 3.2%
Reference Toxicant LC50	9.69 µg Cu/L	
Acceptable Range	3.60- 18.0 µg Cu/L	
Test Lighting	16- hours light, 8-hours dark	
Test chamber	1-L Glass Chamber	
Replicates/treatment	5	
Organisms/replicate	Stocking density = 288.6 embryos per chamber	
Exposure volume	10mL	
Feeding	None	
Water renewal	None	
Deviations	Salinity out of range in all treatments	

3.3.6 *BIOACCUMULATION TEST RESULTS*

Bioaccumulation tests were initiated on December 16, 2008 using the polychaete worm, *Nephtys caecoides*, and the bent nose clam, *Macoma nasuta*. A summary of test results, water quality observations and an overall summary of the test are presented in Tables 3-24 to 3-26. Bench sheets, including survival in each of the treatment replicates, are presented in Appendix E. The bioaccumulation tests were validated by 95.0% survival in the *N. caecoides* control and 93.6% survival in the *M. nasuta* control. Both species were tested in the same test chambers, therefore only one set of water quality observations are recorded. All water quality parameters were within range.

Mean percentage survival in LA-3 Ref was 96.8% for *M. nasuta* and 86.3% for *N. caecoides*. Mean percentage *N. caecoides* survival were 86.3 and 90.3% for Comp C-L and Comp C-U relatively. Mean percentage *M. nasuta* survival were 64.8 and 99.2% for Comp C-L and Comp C-U. The higher mortality rate for clams in Comp C-L may have been due to the higher percent sand and very low TOC content of 0.05%. However, sufficient tissue was available for all tissue analyses.

Table 3-24. Summary of *M. nasuta* and *N. caecoides* Survival 28-d Bioaccumulation Test

Treatment	*Macoma nasuta*		*Nephtys caecoides*	
	Mean Percentage Survival	SD	Mean Percentage Survival	SD
Control	93.6	3.6	95.0	4.2
LA-3 Ref	96.8	3.3	86.3	4.9
Comp C-L	64.8	13.7	86.3	3.8
Comp C-U	99.2	1.8	90.3	4.8

Table 3-25. Summary of Water Quality for the 28- day Bioaccumulation Test

Treatment	Dissolved Oxygen (mg/L)			Temperature (°C)			Salinity (ppt)			pH (pH units)			Flow (mL/30 sec)		
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Control	7.1	5.8	8.0	15.6	15.1	16.1	31.7	31	33	7.6	7.3	8.1	40	38	42
LA-3 Ref	7.1	6.1	8.0	15.6	15.0	16.2	31.7	31	33	7.7	7.3	8.0	40	38	42
Comp C-L	7.1	5.8	7.9	15.5	14.9	15.8	31.7	31	33	7.7	7.3	8.0	40	38	42
Comp C-U	7.1	5.5	7.8	15.5	15.0	15.9	31.7	31	33	7.7	7.4	8.3	40	38	42

Table 3-26. Test Condition Summary for *Macoma nasuta* and *Nephtys caecoides*

Test Conditions		
Sample Identification	LA-3 Ref, Comp C-L, Comp C-U	
Date sampled	12/8/2008	
Date received	12/13/2008	
Sample storage	4°C, dark	
Weeks of holding	1 week	
Test Species	*Macoma nasuta* and *Nephtys caecoides*	
Supplier	J & G Gunstone provided clams and John Brezina provided worms	
Date acquired	1/6/2009	
Acclimation/holding time	4 days	
Age class	Adult	
Test Procedures	OTM/ ITM	
Regulatory Program	OTM/ ITM	
Test location	NewFields Northwest Laboratory	
Test type/duration	28-Day Bioaccumulation	
Test dates	12/16/2008-1/13/2009	
Control water	0.2µm-filtered North Hood Canal sea water	
Test temperature	Recommended: 15 ± 1 °C	Achieved: 14.9 – 16.2°C
Test Salinity	Recommended: 32 ± 2 ppt	Achieved: 31- 33 ppt
Test dissolved oxygen	Recommended: > 4.5 mg/L	Achieved: 5.5- 8.0 mg/L
Test pH	Recommended: 7.8 ± 0.5	Achieved: 7.3-8.3
Control performance standard	Recommended: Control ≤ 10% mortality	Achieved: *M. nasuta* – 6.4% *N. caecoides* – 5.0%
Test Lighting	16- hours light, 8-hours dark	
Test chamber	10 Gallon Glass Aquarium	
Replicates/treatment	5	
Organisms/replicate	25 clams, 60 worms	
Exposure volume	5 cm of sediment, 30 L seawater	
Feeding	None	
Water renewal	Flow-Through	
Deviations	None	

3.4 TISSUE CHEMICAL ANALYSIS

Bioaccumulation tests were conducted using Comp C-U and Comp C-L, as well as sediment collected from the LA-3 Reference site. The analyte list for tissue residue analysis was based on the chemical concentrations found in the sediments. Based on the sediment chemistry, tissues from the bioaccumulation exposures were analyzed for mercury and lipids. Concentrations found for each replicate in the test treatments and the reference sample are presented in Table 3-26. No mercury was observed in reference sample. Mercury was detectable in *N. caecoides* from Comp C-U and in *M. nasuta* from Comp C-L; however, concentrations found were only slightly above reporting values. There was a significant difference between the concentration of mercury in the clam tissues exposred to Comp C-U, relative to the LA-3 Reference. However, this was likely to the absence of mercury in the LA-3 Reference clam tissues.

Table 3-26. Summary of Mercury Concentrations in Tissues

Treatment	Replicate	*Macoma nasuta*		*Nephtys caecoides*	
		Mercury (mg/kg)	Mean Mercury Concentration (mg/kg)	Mercury (mg/kg)	Mean Mercury Concentration (mg/kg)
LA-3 Reference	1	0.01 U	0.010	0.01 U	0.010
	2	0.009 U		0.01 U	
	3	0.009 U		0.01 U	
	4	0.01 U		0.01 U	
	5	0.01 U		0.009 U	
Comp C-U	1	**0.011**	**0.011**	**0.009**	0.010
	2	**0.013**		0.01 U	
	3	**0.011**		**0.011**	
	4	**0.011**		0.01 U	
	5	**0.01**		0.009 U	
Comp C-L	1	0.009 U	0.009	0.01 U	0.0
	2	0.009 U		0.009 U	
	3	0.01 U		0.009 U	
	4	0.009 U		0.009 U	
	5	0.01 U		0.01 U	

4 DISCUSSION

As part of the planning process for Marina Park, NewFields LLC conducted an evaluation of the proposed dredged material from area of the proposed marina. The objective of this sampling and analysis program was to characterize the dredged materials from three dredged material management areas (Areas A, B, and C) within the Marina Park marina project area. The primary disposal options under consideration for the dredged materials are 1) beach nourishment under Regional General Permit Number 67 or an individual permit for unconfined aquatic disposal alternative as governed by the U.S. Army Corps of Engineers (USACE)/U.S. Environmental Protection Agency (USEPA) guidelines set forth in the Inland Testing Manual (ITM; USACE/USEPA 1998), and 2) ocean disposal at disposal site LA-3 based on guidance provided by the Ocean Testing Manual (OTM; USACE/USEPA 1991).

Evaluation criteria were based on the ITM/RGP-67 guidance for nearshore disposal and OTM guidance for open ocean disposal at the LA-3 disposal site. Under the RGP-67 and ITM, sediment is suitable for beach nourishment projects or nearshore placement if the sediment is >80% sand and gravel, is free from chemical contamination, is not plastic (a measure of cohesiveness), and is not likely cause adverse aesthetic effects. In order to determine whether test sediments were free of chemical contamination, chemical concentrations in test sediments were compared to National Oceanographic and Atmospheric Administration (NOAA) effects-based guidance values called Effects-Range Low (ERL) and Effects-Range Median (ERM). The ERL represents the 10th percentile in NOAA effects data base and the ERM represents the 50th percentile. While not criteria, these guidance values provide an indication of whether chemical concentrations are sufficient to predict benthic community effects. If the ERL/ERM values are exceeded, further biological testing might be required as directed by the ITM.

Under the OTM, sediment is suitable for placement in an open-ocean disposal site if it does not exceed the limiting permissible concentration (LPC) for the disposal site. The LPC is based on the sediment chemistry results, toxicity tests, and bioaccumulation test and comparisons to the disposal site reference site (in this case LA-3 Reference). As above, chemical concentrations were screened using the NOAA ERL and ERM values. For benthic toxicity tests, the LPC was defined as: no significant toxicity, relative to the LA-3 Reference and survival within 10% of the reference for the polychaete test and 20% for the amphipod test. For the SPP tests, the LPC was based on a comparison of survival or normal development (larval test only) in the 100% SPP of the test treatments with that of the control seawater. If there is a significant difference, then the median lethal concentration (LC_{50}) for the test treatments is compared with a modeled concentration of SPP at the boundary of the disposal site. Concentrations of targeted chemical analytes in the tissues exposed to test sediments are first compared to the tissues exposed to the LA-3 Reference sediment and second compared to guidance values from the Food and Drug Administration (FDA) and USEPA (2000). Sediment treatments that do not exceed the LPC for the LA-3 disposal site would meet the requirements for disposal at LA-3.

The following discussion evaluates the physical, chemical, and biological data for each composite relative to the two disposal options. In each case the USACE and EPA will make a final determination.

Area A Composites (Comp A-U and Comp A-L):

Area A included that portion of the site currently occupied by the mobile home park. Sediments in the upper composite represented that material from 5 feet below the ground surface (approximately +5 ft. MLLW) to a depth of approximately -4 to 5 ft. MLLW. Soils above +5 ft. MLLW will be used as construction-fill on-site. Sediments in the lower composite represented that material from -4 to -5 MLLW to -14 Ft. MLLW and appeared to represent the ancient Bay sands that underlay much of Lower Newport Bay.

Sediment in the Comp A-U was characterized by 96% sand and gravel, with 0.15% TOC. Sands were not plastic, had very low levels of sulfides and ammonia, and no detectable oil and grease. Metals were either undetected (cadmium, lead, mercury, selenium, and silver) or detected at concentrations well below ERL values (arsenic, chromium, copper, nickel and zinc). All metals concentrations were well below those of the LA-3 Reference sediment. PAHs, pesticides, PCBs, phthalates, and tributyltin were not detected in the Comp A-U sediment.

Sediment in the Comp A-L was characterized by 99% sand and gravel, with 0.08% TOC. Sands were not plastic, had very low levels of ammonia, and no detectable oil and grease or sulfides. Metals were either undetected (cadmium, lead, nickel mercury, selenium, and silver) or detected at concentrations well below ERL values (arsenic, chromium, copper, and zinc). All metals concentrations were well below those of the LA-3 Reference sediment. PAHs, pesticides, PCBs, phthalates, and tributyltin were not detected in the Comp A-L sediment.

The upper and lower sediments of Area A from +5 ft. MLLW to -14 ft. MLLW would meet the criteria for the RGP-67 and ocean disposal at LA-3, as defined above.

Area B Composites (Comp B-U and Comp B-L):
Area B included the beach in front of the mobile home park to the 0 ft. MLLW tide line. The upper composite represented sediment from the beach face to a depth of -4 to -7 ft. MLLW and included hydraulic-fill sands (Terra Costa 2008). Sediments in the lower composite represented that material from -4 to -5 MLLW to -14 Ft. MLLW and were similar to the ancient Bay sands found in lower portion of Area A.

Sediment in the Comp B-U was characterized by 96% sand and gravel, with 0.02% TOC. Sands were not plastic, had very low levels of ammonia, and no detectable oil and grease or sulfides. Metals were either undetected (selenium, and silver) or detected at concentrations well below ERL values (arsenic, cadmium, chromium, copper, lead mercury, nickel and zinc). All metals concentrations were well below those of the LA-3 Reference sediment. Some PAHs were detected in Comp B-U sediment, however, total PAHs were three orders of magnitude below the ERL. Pesticides, PCBs, phthalates, and tributyltin were not detected in the Comp B-U sediment.

Sediment in the Comp B-L was characterized by 98% sand and gravel, with 0.08% TOC. Sands were not plastic, had very low levels of ammonia, and no detectable oil and grease or sulfides. Metals were either undetected (cadmium, lead, mercury, selenium, and silver) or detected at concentrations well below ERL values (arsenic, chromium, copper, nickel, and zinc). All metals concentrations were well below those of the LA-3 Reference sediment. PAHs, pesticides, PCBs, phthalates, and tributyltin were not detected in the Comp B-L sediment.

The upper and lower portions of Area B would meet the criteria for the RGP-67 and ocean disposal at LA-3, as defined above.

Area C Composites (Comp C-U and Comp C-L):
Area C included that portion of the site below the 0 ft. MLLW tide line. Area C included a nearshore component (0 ft. to approximately -5 ft. MLLW) where the bulk of the proposed dredge volume is located and a channel component (-6 ft. to approximately -10 ft. MLLW). The upper Area C composite represented that portion of the cores from the sediment surface to -10 ft. to -12 ft. MLLW. Sediment in the upper segment in the nearshore area was comprised of a sand layer, overlaying a two to three foot layer of silt and was bounded at the bottom by the ancient Bay sands. The upper segment of the channel cores was comprised of silts and clays.

The lower segment was similar throughout the Area and was comprised of the ancient Bay sands that were observed in Areas A and B. The lower segment represented that portion of the cores from -10 to -12 ft. MLLW to project depth.

Sediment in the Comp C-U was characterized by 78% sand and gravel, with 0.68% TOC. Sediment was slightly plastic, with an Atterberg Limit of 16 cm, low levels of ammonia, and no detectable oil and grease or sulfides. While there was some measurable plasticity in the Comp C-U sediment, the plasticity index was relatively low and would not necessarily predict that sediments would form a hardpan during placement, particularly if placed in the surf zone. With the exception of mercury, metals were either undetected (selenium and silver) or detected at concentrations below ERL values (arsenic, cadmium, chromium, copper, lead, nickel and zinc) and below those of the LA-3 Reference sediment. Mercury was detected in Comp C-U at a concentration of 0.36 mg/kg, which is slightly above that of the LA-3 Reference site (0.10 mg/kg) and the ERL of 0.24 mg/kg, but below the ERM of 0.76 mg/kg. Some PAHs were detected in Comp C-U sediment; however, total detected PAHs were 108 µg/kg, less than 3% of the ERL (4,022 µg/kg). Pesticides, PCBs, phthalates, and tributyltin were not detected in the Comp C-U sediment.

Upper and lower segments of individual cores from Area C were also analyzed for mercury and sediment grain size. The upper segment from the cores in the nearshore portion of Area C was characterized as a mixture of sand and silt. Mercury concentrations ranged from undetected to 0.85 mg/kg. The upper segment of cores from the offshore portion of Area C was dominated by fine-grained silts and clays and mercury concentrations were higher, ranging from 1.11 to 3.35 mg/kg. The lower segments for both the nearshore and offshore stations were similar, dominated by sand with concentrations of mercury that were either undetected or detected at concentrations very near the detection limit. The upper silt layer that occurred in each of the cores was 2 to 3 ft thick and comprised relatively small portion of the material in the Area C-U composite.

Sediment from the lower Area C composite was very similar to the lower composites from Areas A and B, with 99% sand and 0.05% TOC. Metals were either undetected or detected very near the detection limits. Pesticides, PCBs, tributyltin, TRPH, oil and grease, phthalates, and PAHs were not detected in the Comp C-L.

No toxicity was observed in either of the benthic tests. Survival in the amphipod test ranged from 87-92%. Control survival met the standard, proving a valid test, and there was no significant difference between test treatments and the reference. Survival in the polychaete test for both test treatments was 84%. Similarly, control survival met the standard and there was no significant difference between test treatments and the reference site.

There was also no indication of toxicity in the water-column tests. For the fish and mysid tests, survival was >88% in the 100% SPP and there were not significant differences between the 0% and 100% SPP. Mean normal development of larval mussels was slightly greater in the test treatments than in the dilution water and there were no significant differences between the 0% and 100% SPP treatments. As

outlined in the ITM, dredged material does not exceed the water-column LPC if survival in 100% elutriate is not >10% less than that of dilution water (USEPA 1998). None of the treatments exceeded these guidelines.

Area C composites and the LA-3 Reference site were evaluated for bioaccumulation potential. The chemistry analyte list for tissues exposed to the Area C composites included mercury and lipids. No mercury was detected in either the reference material or in Comp C-L. Mercury was either undetected or detected at the detection limit (0.01 to 0.013 mg/kg) in tissues exposed to Comp C-U. The mean tissue concentrations in clams and worms exposed to Comp C-U were within 20% of the detection limit, the standard margin of error for this analytical method. The tissues concentrations of mercury were also well below the FDA limit of 1.0 mg/kg and the risk-based guidance value of 0.3 mg/kg (USEPA 2000).

Sediment from the Area C upper composite would not meet the requirement for beach nourishment, with <80% sand and gravel. Sediment from nearshore portion of the Area C upper composite (that area represented by Stations 10, 12, and 16) would meet the requirements for open-ocean disposal, or nearshore placement in the surf zone, which allows 15% to 45% fines. With the exception of mercury, concentrations for chemicals of potential concern were either not detected or detected at concentrations below those of the LA-3 Reference site. Mercury was detected above the ERL, but below the ERM. No significant toxicity was observed in any of the biological tests and no significant bioaccumulation of mercury was observed in the bioaccumulation tests.

The upper portions of Area C corresponding to cores MP-11, 13, 14, and 15 would not be suitable for unconfined disposal in either the nearshore zone or the open ocean disposal site due to mercury concentrations in the sediment from the individual cores. Alternative disposal options may include upland disposal or placement in a confined aquatic disposal facility.

Sediment from the lower Area C composite met the requirements for beach nourishment and ocean disposal. However, this layer occurs close to the proposed dredge depth of -12 ft. MLLW and it is unlikely that the layer could be easily separated from the overlying sediment during dredging. If the lower portion of Area C represented by Stations 11, 13, 14, and 15 are disposed of separately from the upper portion, the dredged material will be monitored for grain size during removal to ensure that no surface sediments are placed in nearshore or open-ocean waters. Because the demarcation from the overlying silt/clay layer and the underlying clean sands is distinct, dredging for upland disposal will be considered complete when field monitoring indicates that the remaining sediment face is >80% sand.

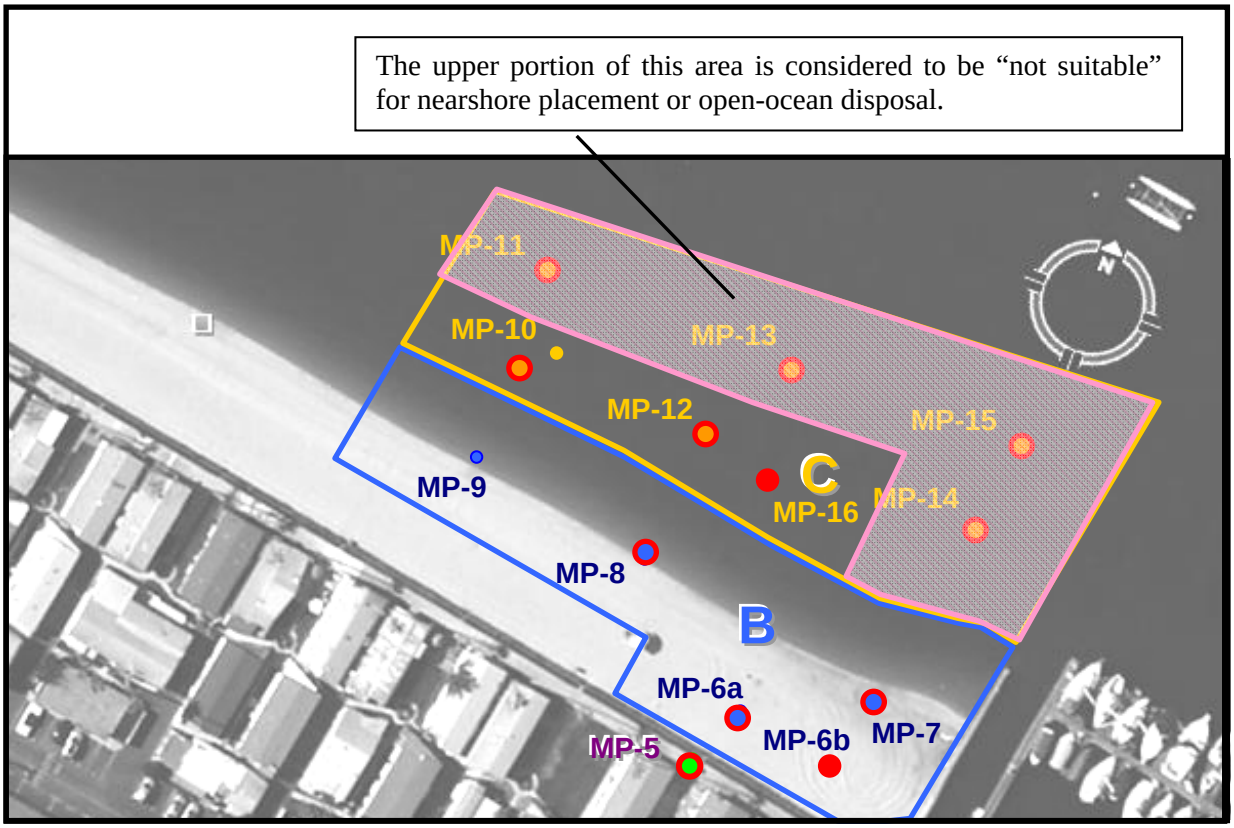

Figure 7. Portion of Area C for which the upper portion is not considered to be suitable for beach nourishment or open-ocean disposal (area represented by pink hatching).

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Appendix A
Field Logs and Core Photographs

NEWFIELDS

SEDIMENT CORING LOG

3 pics

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport- Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-1	NAD83	33°36.474' N	117°55.325' W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
25'	20'	25'	20'

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1045	1200

5' BGS

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse sand	none	very pale brown		
2	2	SHELL				
3	3	sand	none	dark gray		
4	4	missing		3-4.5 missing	MP-1 U	
5	5					
6	6					
7	7					
8	8					
9	9			8'-9' missing		
10	10					
11	11					
12	12					
13	13	very coarse	none			
14	14	sand		very pale		
15	15	shell		brown		
16	16				MP-1 L	
17	17					
18	18	extremely coarse				
19	19	sand, gr				
20	20	SHELL				2 layer

NOTES Hand augured to 5-ft. Core collected from 5-25-ft

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport - Marina Park	11/26/08	B. Gardner	T. Schu

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-2	NAD83	33° 36.479' N	117° 55.338° W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
25'	20'	25'	20'

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1230	115

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1		Sample	missing 0-2' (compressed)		
2	2					
3	3	Sand	none	yellow to		
4	4			gray		
5	5	no sample in		4-6 ft. interval		
6	6			gray		
7	7	Sand			MP2-4	
8	8					
9	9	coarse				
10	10	Sand				
11	11			Some red (iron)		
12	12		none	in light brown (very pale brown)		
13	13			7.5YR PINK	MP2-L	
14	14			7-4		
15	15					
16	16					
17	17					
18	18					
19	19					
20	20				2 layer	

NOTES hand augured to 5 ft. Core collected from 5-25 ft

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport/Marina Park	11/25/08	B. Gardiner	T. Schuch

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-3	NAD83	33° 36.469′ N	117° 55.312′ W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
25′	20′	25′	20′

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	900	1030

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse sand		very pale brown		
2	2	silty				
3	3	sand				
4	4	sand			MP-3U	
5	5					
6	6					
7	7	coarse sand shell				
8	8			9-10 missing		
9	9					
10	10			very pale		
11	11	very		brown		
12	12	coarse				
13	13	sand			MP 3L	
14	14	shell				
15	15	hash				
16	16					
17	17					
18	18					
19	19					
20	20	very coarse	w/sh	very pale brown	2-layer	

NOTES

* hand augured to 5 ft. core collected from 5 ft – 25 ft.
station moved slightly to where accessable to drilling rig.

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport - Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-5	NAD83	33° 36.494'N	117° 55.326'W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
25'	20'	25'	20'

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1430	1530

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	0-1' missing				
2	2	coarse		very light		
3	3	sand		brown		
4	4	sand		gray		
5	5	silt				
6	6				MPS-U	
7	7	sand				
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14	very		DARK		
15	15	coarse sand		gray	MPS-L	
16	16					
17	17	silt.				
18	18					
19	19					
20	20					

NOTES

Hand augured to 5ft. Core collected from 5-25 ft. Drilled thru sidewalk.

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport - Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP 6a	NAD83	33° 36.498' N	117° 55.325' W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
20'	20'	20'	20'

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1720	1750

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	dry sand	none	light tan		
2	2	coarse		very pale brown (munsel		
3	3					
4	4					MP 6a - upper
5	5			8-3 → 7-3		
6	6			10YR	5-6' missing	
7	7	wet sand	none	~~light tan~~		
8	8	coarse		pale brown		
9	9					
10	10					
11	11					
12	12			dark		
13	13	good shell hash	none	grey	12-13' missing	
14	14	fine sand		(munsel)		MP 6a - lower
15	15			(N-4) 7.5YR		
16	16					
17	17			gray		
18	18	very	none	munsel 5-1		
19	19	coarse sand		10YR		
20	20	shell hash				

NOTES

MP-6a was originally called MP-6 on SAP. another station added on upper beach and named MP-6b. See attached map.
Core collected from surface to 20 ft.

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport - Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-6b	NAD83	33°36.495'N	117°55.313'W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
20'	20'	20'	20'

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1800	1830

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse	none	~~light~~		
2	2	sand		v. pale		
3	3			brown	6b-U	
4	4	small		(munsell)		
5	5	amounts			4.5-6'	missing
6	6	of shell hash				
7	7					
8	8					
9	9					
10	10					
11	11	sand	none	dark gray (N-4)	6b-L	
12	12	some silt			12-13	missing
13	13	shell hash		(munsell)		
14	14					
15	15					
16	16					
17	17	very coarse		gray		
18	18	sand		5-1 10YR		
19	19	stones				
20	20					

NOTES

Station added & coordinates located to correspond to map location. See attached map. Core collected from surface to 20 ft.

NEWFIELDS

SEDIMENT CORING LOG

* moved to visual location on map - coordinates were off.

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport-- Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-7	NAD83	33° 36.507′ N	117° 55.312′ W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
20′	20′	20′	20′

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1540	1630

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	Coarse	none	very pale	↑	
2	2	Sand		brown	MP 7-U	
3	3	shell hash		8-3 → 7-3		2-2.5 missing
4	4	↓		10YR		
5	5					
6	6	finer				
7	7	Sand				
8	8					8.5-10 missing
9	9					
10	10					
11	11	↓		↓	↓	
12	12	↑			↑	12-12.5 missing
13	13			water		
14	14	very coarse sand		gray	MP 7-L	
15	15			brown		
16	16	pebbles		munsell		
17	17	shell hash		dark brown	↓	
18	18	↓		7.5YR 4-2	2-Lower	
19	19					
20	20					

NOTES

See * @ top of page. Core collected from surface to 20 ft. ~~No hard~~

NEWFIELDS

SEDIMENT CORING LOG

* coordinates moved to match map visual loca.

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Newport - Marina Park	11/26/08	B. Gardiner	T. Schuh

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-8	NAD83	33°36.510′ N	117°55.336′ W

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
20′	20′	20′	20′

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	1640	1715

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse sand	none	munsell	missing upper 6"	
2	2	with silt		10YR 5-3		
3	3	~~[illegible]~~		BROWN		
4	4				MP 8 upper	
5	5					
6	6					
7	7					
8	8	Sand		some gray		
9	9			dark gray		
10	10					
11	11				MP 8 lower	
12	12				[12-14 missing]	
13	13	very				
14	14	coarse				
15	15	sand		gray		
16	16	w/ silt				
17	17					
18	18				2-layer	2 layer
19	19					
20	20					

NOTES

See * at top of page. Core collected from surface to 20 ft.

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Manna park	12/8/08	BWG	BWG

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP9	NAD83	33 36.515	117 55.361

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
4.0 ~~3'15"~~	4.0	+1.0	14

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	9:07	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1					
2	2	Sand	none	gray	MP9-4	
3	3					
4	4					
5	5					
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Marina Park	12-8-08	BWG	BWG

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-10	NAD83	33 36.525	117 55.863

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
-3	-1.1	4.1	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
10.4	8.0	12.0	8.0 (7.5)

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	~~1:30~~ 1100	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse sand	none	dark		
2	2			grey		
3	3					
4	4	silty sand				
5	5					
6	6	silt				
7	7					
8	8	sand plug - lost during retrieval			- very coarse sand 6"	
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
marina park	12/8/08	BWG	BWG

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP 11	NAD83	33 36.527	117. 55.362

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
7.5	0.0	7.5	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
7.0	7.0	7.0 (14.5)	7.0

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	4:45	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	sand				
2	2	sand		dk	MP11U	
3	3	silt	none	gray		
4	4	silt				
5	5	silt/sand				
6	6	very coarse sand			MP11L	
7	7	very coarse sand				
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Mannn park	12.8.08	Bowo	Bwo

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-12	NAD83		

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
~~3.0~~ 4.0	-1.0	~~4~~ 5	~~14.5~~ ~~13.5~~ 14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
~~10.5~~ 9.5	~~6.8~~ +1	~~8'~~ 7.0	~~7.0~~ ~~6.5~~ 6.0

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	1:30	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	coarse			MP 12 4	
2	2	sand shell		Dark		
3	3		none	Grey		
4	4	Silty				
5	5	Sand			MP 12 4	12 4)
6	6	Silt			all (MP	
7	7					
8	8			(Compressed)		1 ft. lost in catcher — very coarse sand
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Marina park	12/8/08	Pauc	Bus

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-13	NAD83	33 36.522	117 55.355

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
7.2	-1.1	8.3	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
6.2	7.0		

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	355	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	wet silt				
2	2	Sand silt	none	lk	MP 13 u	
3	3	Silt		gray		
4	4					
5	5	Coarse Sand			MP 13c	
6	6					
7	7					
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Marina park	12-8-08	BWG	BWG

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-14	NAD83		

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
4'	-1.5'	+5.5	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
9.0	6.5	6.5	6.0

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	220	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	silty sand				
2	2	coarse sand			MP14U	
3	3	↓	none	dk gray		
4	4	↓				
5	5	firm				
6	6	silt ↓				
7	7	~~sand~~ plug			MP14L (sm)	
8	8					
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
Marina Park	12/8	BWG	BWG

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP15	NAD83	33 36.539	117 55.305

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
5.5	-1.1	6.6	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
7.9	8.0	14.5	8.0

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	1 of 1	330	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	silt				
2	2		none	gray		
3	3					
4	4	very coarse				
5	5	sand				
6	6	w/ shell				
7	7					
8	8	layer				
9	9					
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

NEWFIELDS

SEDIMENT CORING LOG

PROJECT/SURVEY	DATE	PROJECT MANAGER	RECORDER
MARINA PARK		BWS	BWS

STATION ID	NAV DATUM	LATITUDE	LONGITUDE
MP-16	NAD83	33 36.521	117 55.327

WATER DEPTH (FT)	TIDE (FT)	MLLW (FT) = WATER DEPTH - TIDE	SAP DEPTH (FT)
~~3.4~~ 2.4	-1.5	5.1	14.5

TARGET CORE LENGTH (FT) (SAP DEPTH - MLL	FINAL CORE LENGTH (FT)	PENETRATION (FT)	CORE LENGTH COLLECTED FOR ANALYSIS (FT
9.4	8.5	8.5 - 9.0	8.5

CORE DIAMETER (IN)	ATTEMPT	TIME STARTED	TIME FINISHED
1 1/2	of	2:40	

PEN. DEP.(FT)	RETRV. DEP.(FT)	SEDIMENT TYPE	ODOR	COLOR (HUE_VALUE/CHROMA)	SAMPLE ID BY DEPTH	MISC
1	1	↑	↑	dark	MP16U	
2	2	Coarse sand		grey		
3	3	Shell				
4	4	* Silt	none			
5	5				↓	
6	6	↑ very			MP16L	
7	7	coarse				
8	8	sand shell				
9	9	⊥	↓		⊥	
10	10					
11	11					
12	12					
13	13					
14	14					
15	15					
16	16					
17	17					
18	18					
19	19					
20	20					

NOTES

area appears to be coarse sand over 2' silt layer underlain by very coarse sand.

MP-1

0 ft.
(+7 ft. MLLW)

2 ft.
(+5 ft. MLLW)

4 ft.
(+3 ft. MLLW)

6 ft.
(+1 ft. MLLW)

8 ft.
(+1 ft. MLLW)

8 ft.
(-1 ft. MLLW)

10 ft.
(-3 ft. MLLW)

12 ft.
(-6 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-2

No sample

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

No Sample

4 ft.
(+1 ft. MLLW)

6 ft.
(-11 ft. MLLW)

6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

Sample, no photo

12 ft.
(-7 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-3

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

Sample, no photo

4 ft.
(+1 ft. MLLW)

6 ft.
(-11 ft. MLLW)

6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

12 ft.
(-7 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-4

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

4 ft.
(+1 ft. MLLW)

6 ft.
(-11 ft. MLLW)

6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

12 ft.
(-7 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-5

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

4 ft.
(+1 ft. MLLW)

6 ft.
(-11 ft. MLLW)

6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

12 ft.
(-7 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-6a

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

4 ft.
(+1 ft. MLLW)

6 ft.
(-1 ft. MLLW)

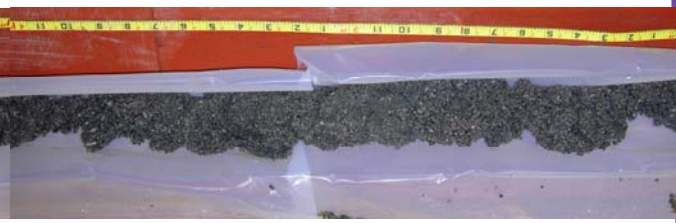
6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

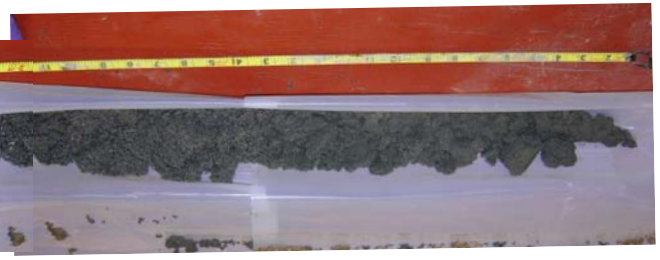
10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

12 ft.
(-7 ft. MLLW)



14 ft.
(-9 ft. MLLW)



16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

MP-6b

0 ft.
(+7 ft. MLLW)

2 ft.
(+5 ft. MLLW)

4 ft.
(+3 ft. MLLW)

6 ft.
(+1 ft. MLLW)

8 ft.
(-1 ft. MLLW)

8 ft.
(-1 ft. MLLW)

10 ft.
(-3 ft. MLLW)

12 ft.
(-5 ft. MLLW)

14 ft.
(-7 ft. MLLW)

14 ft.
(-9 ft. MLLW)

16 ft.
(-11 ft. MLLW)

18 ft.
(-13 ft. MLLW)

20 ft.
(-15 ft. MLLW)

MP-7

0 ft.
(+4 ft. MLLW)

2 ft.
(+2 ft. MLLW)

4 ft.
(0 ft. MLLW)

6 ft.
(-2 ft. MLLW)

6 ft.
(-2 ft. MLLW)

8 ft.
(-4 ft. MLLW)

10 ft.
(-6 ft. MLLW)

12 ft.
(-8 ft. MLLW)

12 ft.
(-8 ft. MLLW)

14 ft.
(-10 ft. MLLW)

16 ft.
(-12 ft. MLLW)

18 ft.
(-14 ft. MLLW)

MP-8

0 ft.
(+5 ft. MLLW)

2 ft.
(+3 ft. MLLW)

4 ft.
(+1 ft. MLLW)

6 ft.
(-1 ft. MLLW)

6 ft.
(-1 ft. MLLW)

8 ft.
(-3 ft. MLLW)

10 ft.
(-5 ft. MLLW)

12 ft.
(-7 ft. MLLW)

12 ft.
(-9 ft. MLLW)

14 ft.
(-11 ft. MLLW)

16 ft.
(-13 ft. MLLW)

18 ft.
(-15 ft. MLLW)

MP-10

8 ft.
(-12 ft. MLLW)

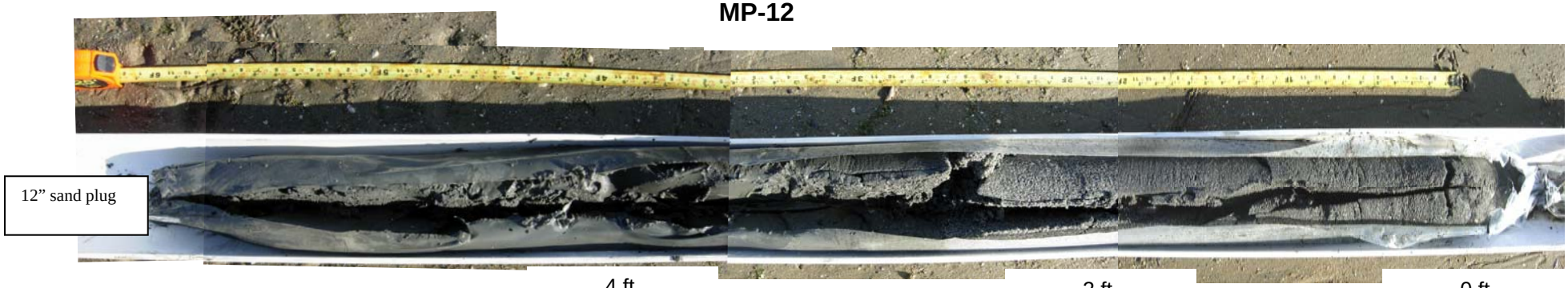
6 ft.
(-10 ft. MLLW)

4 ft.
(-8 ft. MLLW)

2 ft.
(-6 ft. MLLW)

0 ft.
(-4 ft. MLLW)

MP-12



6 ft.
(-11.0 ft. MLLW)

4 ft.
(-9.0 ft. MLLW)

2 ft.
(-7.0 ft. MLLW)

0 ft.
(-5.0 ft. MLLW)

MP-14

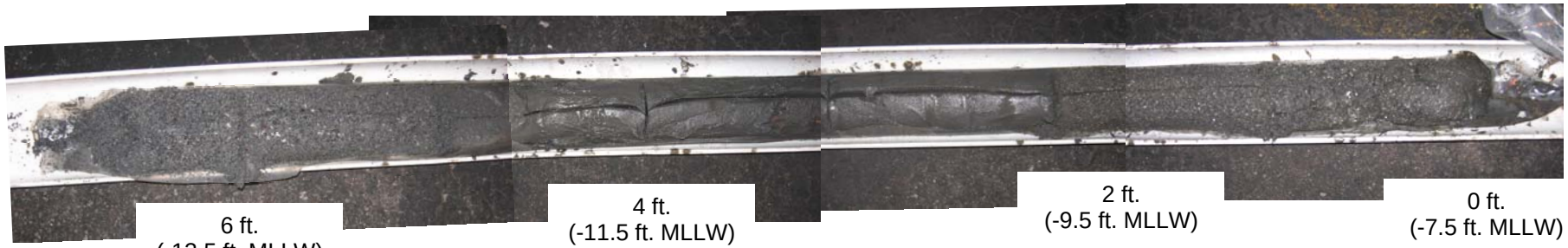
6 ft.
(-11.5 ft. MLLW)

4 ft.
(-9.5 ft. MLLW)

2 ft.
(-7.5 ft. MLLW)

0 ft.
(-5.5 ft. MLLW)

MP-11



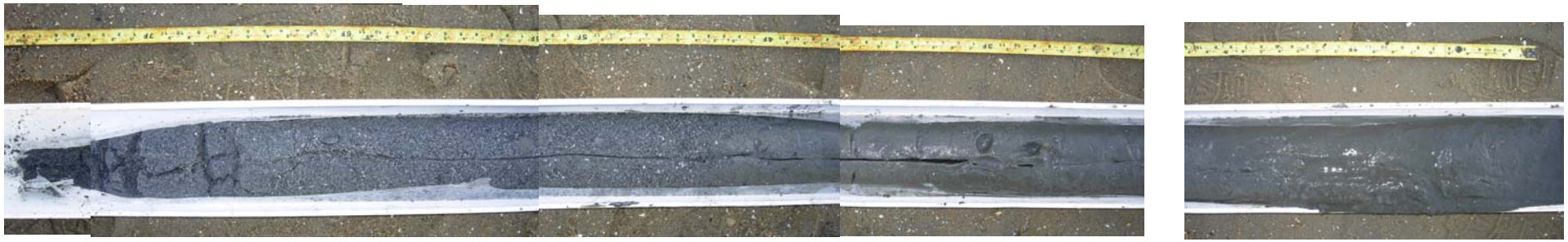
6 ft.
(-13.5 ft. MLLW)

4 ft.
(-11.5 ft. MLLW)

2 ft.
(-9.5 ft. MLLW)

0 ft.
(-7.5 ft. MLLW)

MP-13



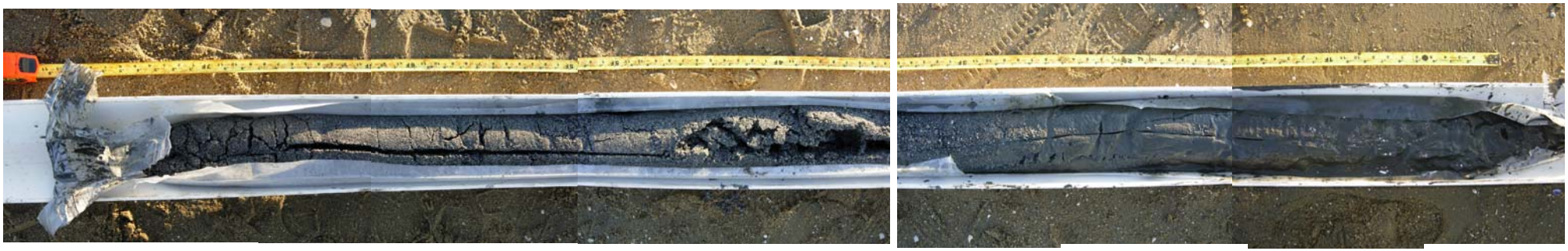
6 ft.
(-14.3 ft. MLLW)

4 ft.
(-12.3 ft. MLLW)

2 ft.
(-10.3 ft. MLLW)

0 ft.
(-8.3 ft. MLLW)

MP-15



6 ft.
(-12.6 ft. MLLW)

4 ft.
(-10.6 ft. MLLW)

2 ft.
(-8.6 ft. MLLW)

0 ft.
(-6.6 ft. MLLW)

MP-16

4 ft.
(-9 ft. MLLW)

2 ft.
(-7 ft. MLLW)

0 ft.
(-5 ft. MLLW)

8 ft.
(-13 ft. MLLW)

6 ft.
(-11 ft. MLLW)

4 ft.
(-9 ft. MLLW)

Appendix B
Chemistry Data

Newfields Northwest
Marina Park

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (62)	31.00	15.60	7.80	3.90	2.00	1.00
REF-05	100.0	100.0	99.9	99.7	99.4	98.9	98.1	94.3	73.3	57.2	42.7	33.4	28.2	17.7
REF-05	100.0	100.0	99.7	99.5	99.1	98.5	97.7	93.9	80.7	58.9	42.8	33.5	28.4	17.8
REF-05	100.0	100.0	100.0	99.6	99.3	98.7	97.9	93.8	76.8	58.4	43.0	33.6	28.4	17.9
COMP A-U	100.0	99.6	97.8	91.6	76.0	48.4	16.2	4.2	2.9	2.4	2.1	1.6	1.4	0.9
COMP A-L	100.0	98.3	90.4	69.8	31.1	4.7	1.1	0.7	NA	NA	NA	NA	NA	NA
COMP B-U	100.0	99.9	97.7	90.5	71.9	40.5	14.6	4.2	2.5	2.1	1.8	1.5	1.3	1.0
COMP B-L	100.0	99.0	94.8	81.5	56.2	25.6	8.2	1.1	NA	NA	NA	NA	NA	NA

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Newfields Northwest
Marina Park

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
REF-05	0.1	0.2	0.3	0.5	0.8	3.8	21.0	16.1	14.6	9.3	5.1	10.6	17.7	94.3
REF-05	0.3	0.2	0.3	0.6	0.8	3.9	13.2	21.8	16.2	9.3	5.0	10.6	17.8	93.9
REF-05	0.0	0.4	0.3	0.6	0.8	4.1	17.0	18.4	15.4	9.4	5.3	10.4	17.9	93.8
COMP A-U	2.2	6.2	15.6	27.7	32.2	12.0	1.3	0.4	0.4	0.4	0.2	0.5	0.9	4.2
COMP A-L	9.6	20.6	38.7	26.4	3.7	0.4	NA	NA	NA	NA	NA	NA	NA	0.7
COMP B-U	2.3	7.3	18.6	31.3	26.0	10.4	1.7	0.3	0.3	0.3	0.2	0.3	1.0	4.2
COMP B-L	5.2	13.2	25.3	30.6	17.4	7.1	NA	NA	NA	NA	NA	NA	NA	1.1

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

Client:	Newfields Northwest	Project No.:	Marina Park
ARI Trip. Sample ID:	OB99C	Batch No.:	OC80-1
Client Trip. Sample ID:	REF-05	Page:	1 of 1

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
REF-05	100.0	100.0	99.9	99.7	99.4	98.9	98.1	94.3	73.3	57.2	42.7	33.4	28.2	17.7
REF-05	100.0	100.0	99.7	99.5	99.1	98.5	97.7	93.9	80.7	58.9	42.8	33.5	28.4	17.8
REF-05	100.0	100.0	100.0	99.6	99.3	98.7	97.9	93.8	76.8	58.4	43.0	33.6	28.4	17.9
AVE	NA	100.00	99.86	99.61	99.29	98.72	97.91	94.00	76.93	58.16	42.80	33.48	28.34	17.81
STDEV	NA	0.00	0.18	0.13	0.15	0.18	0.18	0.29	3.70	0.87	0.17	0.14	0.10	0.12
%RSD	NA	0.00	0.18	0.13	0.15	0.18	0.18	0.31	4.81	1.49	0.39	0.41	0.36	0.70

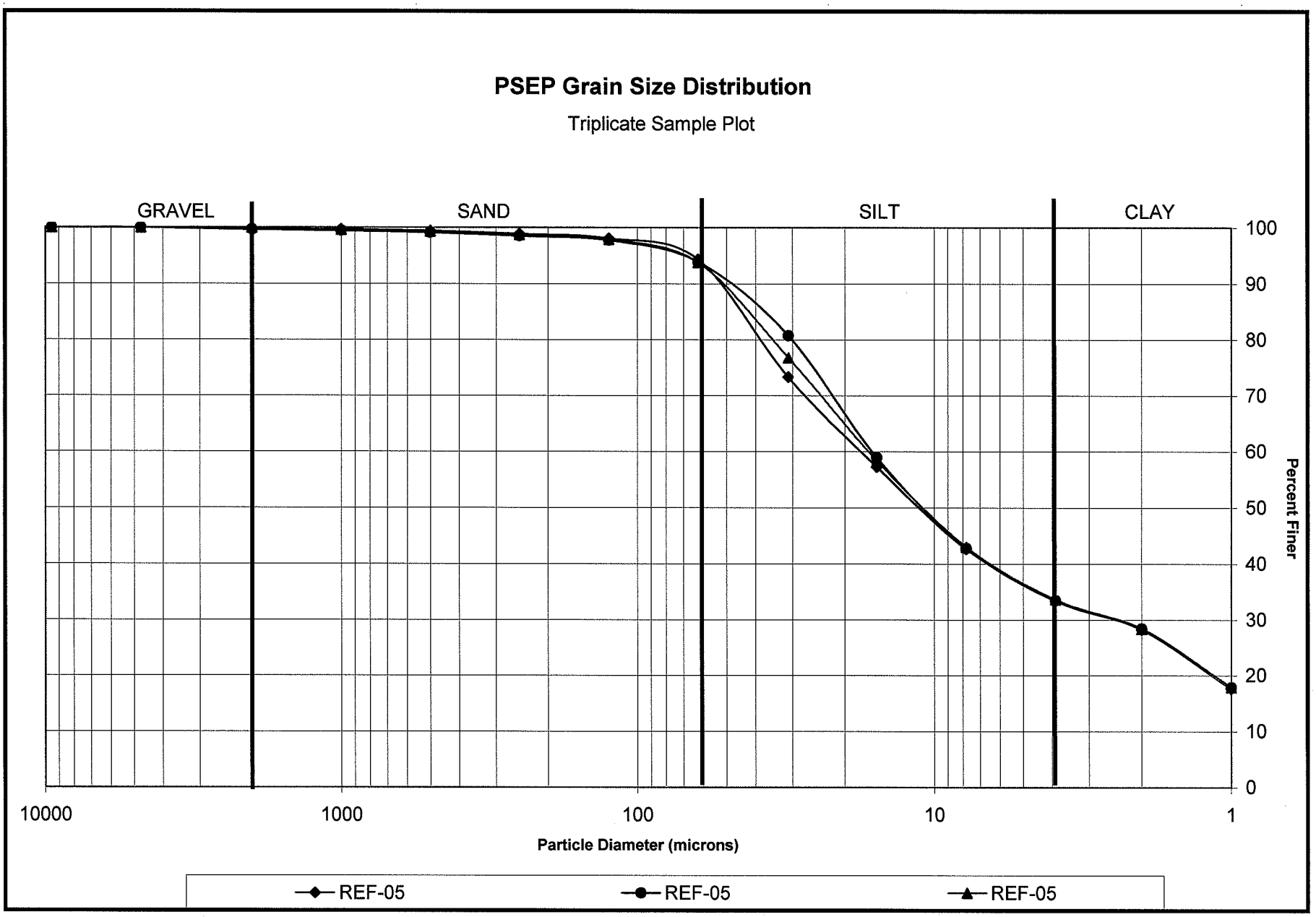
The Triplicate Applies To The Following Samples

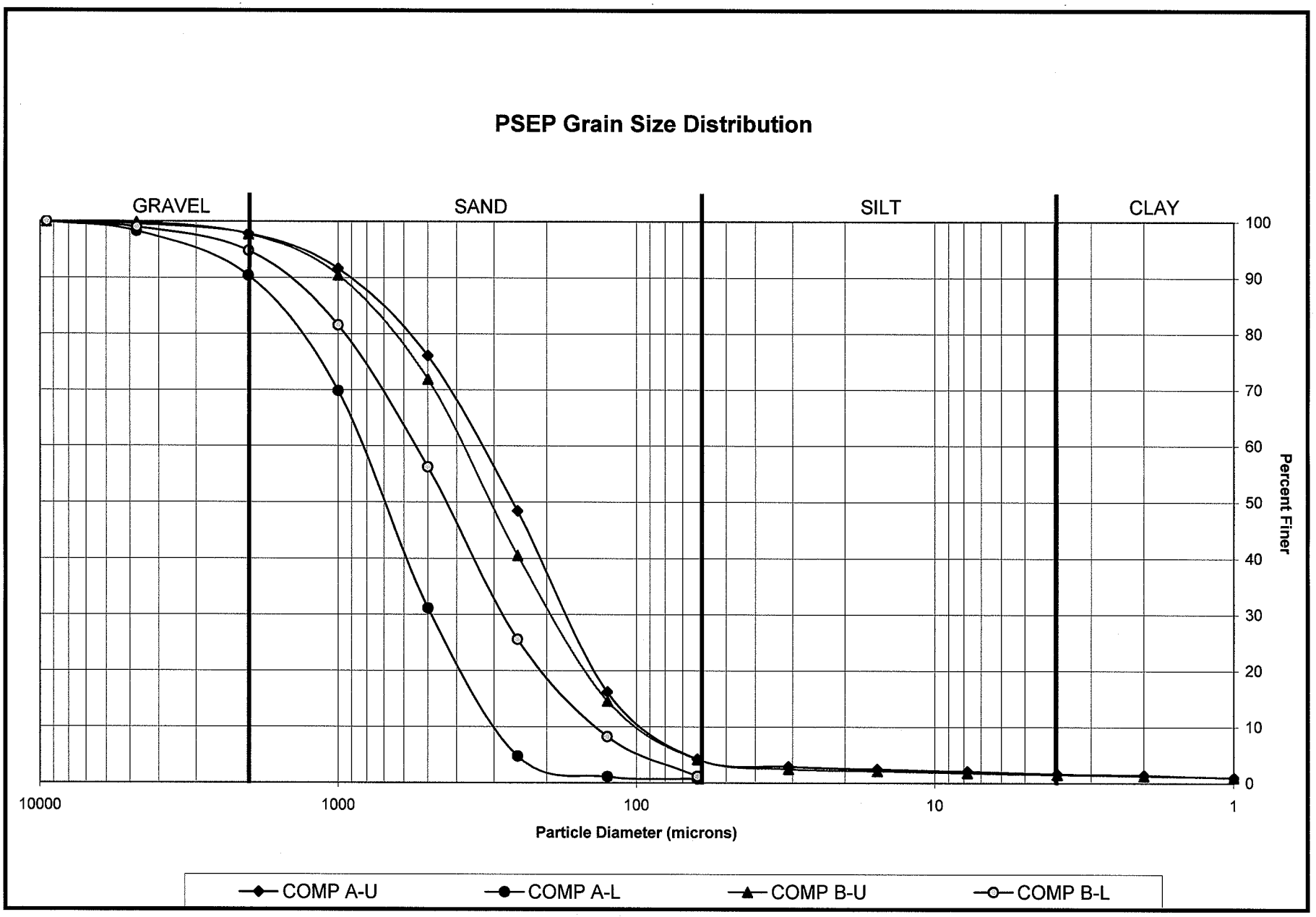
Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
REF-05	12/2/2008	12/11/2008	12/24/2008	99.2		14.8
REF-05	12/2/2008	12/11/2008	12/24/2008	100.0		14.6
REF-05	12/2/2008	12/11/2008	12/24/2008	100.3		14.7
COMP A-U	12/5/2008	12/12/2008	12/24/2008	100.5		5.5
COMP A-L	12/5/2008	12/12/2008	12/24/2008	100.1	SS	0.9
COMP B-U	12/5/2008	12/12/2008	12/24/2008	100.8		5.4
COMP B-L	12/5/2008	12/12/2008	12/24/2008	99.1	SS	2.5

* ARI Internal QA limits = 95-105%

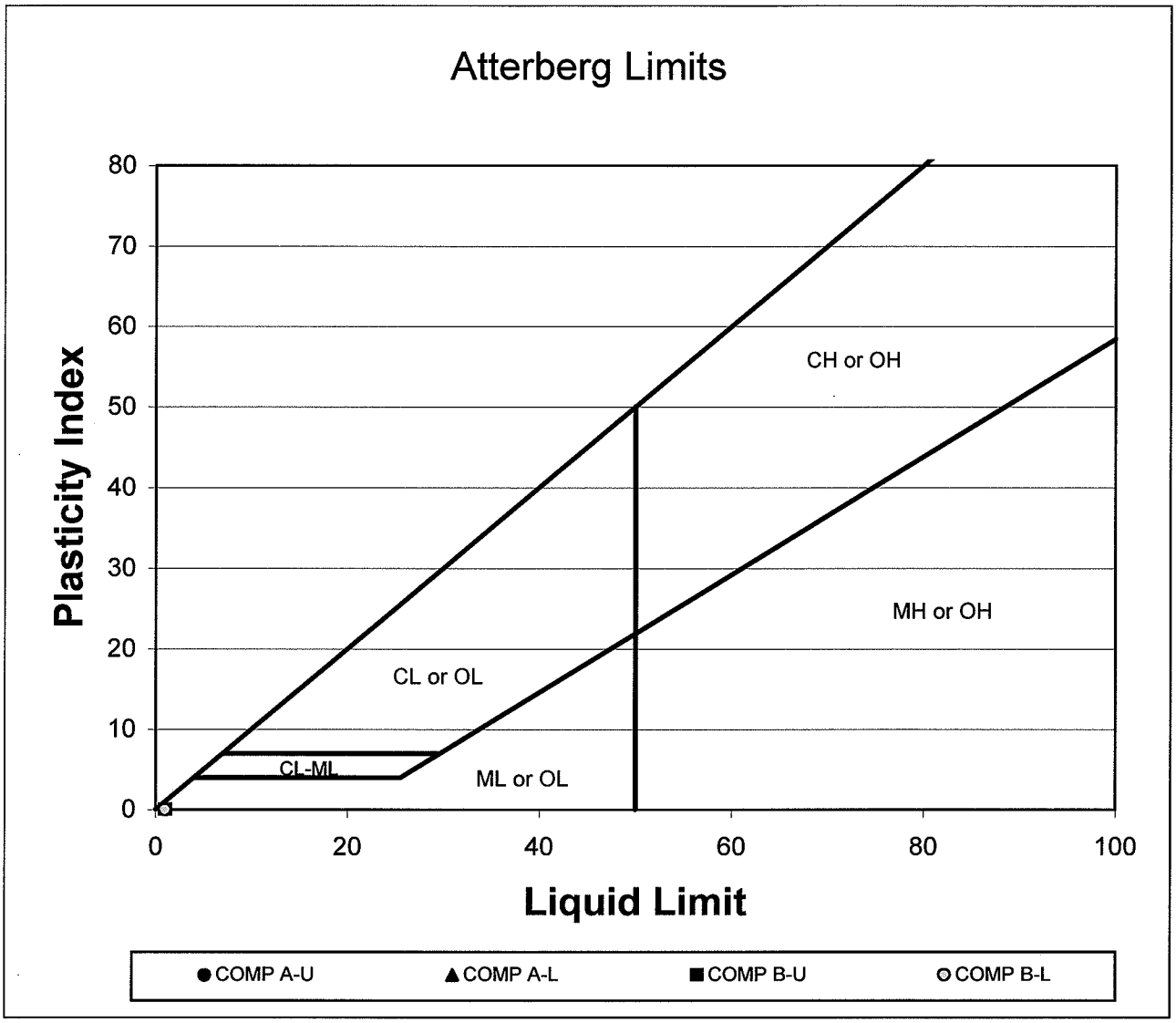
Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.


PSEP Grain Size Distribution
Triplicate Sample Plot
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
REF-05
REF-05
REF-05


PSEP Grain Size Distribution
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
COMP A-U
COMP A-L
COMP B-U
COMP B-L

Newfields Northwest
Marina Park



Sample Identification	Plasticity Index	Liquid Limit	Plastic Limit	USCS
COMP A-U	NA	NA	NA	Non-Plastic
COMP A-L	NA	NA	NA	Non-Plastic
COMP B-U	NA	NA	NA	Non-Plastic
COMP B-L	NA	NA	NA	Non-Plastic

OC80

SAMPLE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: NB
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Client ID: COMP A-U
ARI ID: 08-32709 OC80A

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/08/08 120808#3	EPA 160.3	Percent	0.01	84.60	
Preserved Total Solids	12/09/08 120908#2	EPA 160.3	Percent	0.01	82.80	
N-Ammonia	12/11/08 121108#1	EPA 350.1M	mg-N/kg	0.12	1.20	
Sulfide	12/08/08 120808#1	EPA 376.2	mg/kg	1.18	7.56	
Total Organic Carbon	12/11/08 121108#1	Plumb,1981	Percent	0.020	0.151	
HEM Oil & Grease	12/30/08 123008#1	9071 B	mg/kg	230	< 230	U
HEM-ST NP Oil & Grease	12/30/08	9071 B	mg/kg	230	< 230	U
HEM Polar Oil & Grease	12/30/08	9071 B	mg/kg	230	< 230	U

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: NB
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Client ID: COMP A-L
ARI ID: 08-32710 OC80B

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/08/08 120808#3	EPA 160.3	Percent	0.01	90.30	
Preserved Total Solids	12/09/08 120908#2	EPA 160.3	Percent	0.01	82.00	
N-Ammonia	12/11/08 121108#1	EPA 350.1M	mg-N/kg	0.11	< 0.11	U
Sulfide	12/08/08 120808#1	EPA 376.2	mg/kg	1.20	< 1.20	U
Total Organic Carbon	12/11/08 121108#1	Plumb,1981	Percent	0.020	0.076	
HEM Oil & Grease	12/30/08 123008#1	9071 B	mg/kg	215	< 215	U
HEM-ST NP Oil & Grease	12/30/08	9071 B	mg/kg	215	< 215	U
HEM Polar Oil & Grease	12/30/08	9071 B	mg/kg	215	< 215	U

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Client ID: COMP B-U
ARI ID: 08-32711 OC80C

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/08/08 120808#3	EPA 160.3	Percent	0.01	89.30	
Preserved Total Solids	12/09/08 120908#2	EPA 160.3	Percent	0.01	83.60	
N-Ammonia	12/11/08 121108#1	EPA 350.1M	mg-N/kg	0.10	0.17	
Sulfide	12/08/08 120808#1	EPA 376.2	mg/kg	1.16	< 1.16	U
Total Organic Carbon	12/11/08 121108#1	Plumb,1981	Percent	0.020	0.055	
HEM Oil & Grease	12/30/08 123008#1	9071 B	mg/kg	218	< 218	U
HEM-ST NP Oil & Grease	12/30/08	9071 B	mg/kg	218	< 218	U
HEM Polar Oil & Grease	12/30/08	9071 B	mg/kg	218	< 218	U

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Client ID: COMP B-L
ARI ID: 08-32712 OC80D

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/08/08 120808#3	EPA 160.3	Percent	0.01	86.60	
Preserved Total Solids	12/09/08 120908#2	EPA 160.3	Percent	0.01	85.70	
N-Ammonia	12/11/08 121108#1	EPA 350.1M	mg-N/kg	0.10	< 0.10	U
Sulfide	12/08/08 120808#1	EPA 376.2	mg/kg	1.15	4.25	
Total Organic Carbon	12/11/08 121108#1	Plumb,1981	Percent	0.020	0.071	
HEM Oil & Grease	12/30/08 123008#1	9071 B	mg/kg	226	< 226	U
HEM-ST NP Oil & Grease	12/30/08	9071 B	mg/kg	226	< 226	U
HEM Polar Oil & Grease	12/30/08	9071 B	mg/kg	226	< 226	U

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

METHOD BLANK RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	12/08/08	Percent	< 0.01 U
Preserved Total Solids	12/09/08	Percent	< 0.01 U
N-Ammonia	12/11/08	mg-N/kg	< 0.10 U
	12/11/08		< 0.10 U
Sulfide	12/08/08	mg/kg	< 1.00 U
Total Organic Carbon	12/11/08	Percent	< 0.020 U
HEM Oil & Grease	12/30/08	mg/kg	260

LAB CONTROL RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: MB
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Sulfide	12/08/08	mg/kg	119	114	104.8%
Total Organic Carbon	12/11/08	Percent	0.489	0.500	97.8%

STANDARD REFERENCE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: MB
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
N-Ammonia	12/11/08	mg-N/kg	94.6	100	94.6%
SPEX 28-24AS	12/11/08		102	100	102.0%
Total Organic Carbon NIST #8704	12/11/08	Percent	3.04	3.35	90.7%
HEM Oil & Grease Env. Exp. #104629	12/30/08	mg/kg	8,180	8,000	102.2%

REPLICATE RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: OC80A Client ID: COMP A-U					
Total Solids	12/08/08	Percent	84.60	83.90 83.70	0.6%
Preserved Total Solids	12/09/08	Percent	82.80	83.10 83.30	0.3%
N-Ammonia	12/11/08	mg-N/kg	1.20	1.06 1.27	9.1%
Sulfide	12/08/08	mg/kg	7.56	3.00	86.4%
Total Organic Carbon	12/11/08	Percent	0.151	0.127 0.110	15.9%
HEM Oil & Grease	12/30/08	mg/kg	< 230	< 231	NA

MS/MSD RESULTS-CONVENTIONALS
OC80-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/02/09

Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: OC80A Client ID: COMP A-U						
N-Ammonia	12/11/08	mg-N/kg	1.20	110	115	94.8%
Sulfide	12/08/08	mg/kg	7.56	139	136	96.6%
Total Organic Carbon	12/11/08	Percent	0.151	0.710	0.578	96.7%
HEM Oil & Grease	12/30/08	mg/kg	< 230	1,970	2,310	85.3%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 83.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/10/08	6010B	12/15/08	7440-38-2	Arsenic	6	6	U
3050B	12/10/08	6010B	12/15/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	**7440-47-3**	**Chromium**	0.6	**4.8**	
3050B	12/10/08	6010B	12/15/08	**7440-50-8**	**Copper**	0.2	**2.8**	
3050B	12/10/08	6010B	12/15/08	7439-92-1	Lead	2	2	U
CLP	12/10/08	7471A	12/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	12/10/08	6010B	12/15/08	**7440-02-0**	**Nickel**	1	**3**	
3050B	12/10/08	7740	12/15/08	7782-49-2	Selenium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7440-22-4	Silver	0.3	0.3	U
3050B	12/10/08	6010B	12/15/08	**7440-66-6**	**Zinc**	1	**10**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-U
DUPLICATE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	6 U	6 U	0.0%	+/- 6	L
Cadmium	6010B	0.2 U	0.2 U	0.0%	+/- 0.2	L
Chromium	6010B	4.8	4.9	2.1%	+/- 20%	
Copper	6010B	2.8	2.5	11.3%	+/- 20%	
Lead	6010B	2 U	2 U	0.0%	+/- 2	L
Mercury	7471A	0.05 U	0.05 U	0.0%	+/- 0.05	L
Nickel	6010B	3	2	40.0%	+/- 1	L
Selenium	7740	0.2 U	0.2 U	0.0%	+/- 0.2	L
Silver	6010B	0.3 U	0.3 U	0.0%	+/- 0.3	L
Zinc	6010B	10	10	0.0%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-U
MATRIX SPIKE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	6 U	240	230	104%	
Cadmium	6010B	0.2 U	56.7	57.6	98.4%	
Chromium	6010B	4.8	59.4	57.6	94.8%	
Copper	6010B	2.8	63.4	57.6	105%	
Lead	6010B	2 U	229	230	99.6%	
Mercury	7471A	0.05 U	0.55	0.496	111%	
Nickel	6010B	3	58	57.6	95.5%	
Selenium	7740	0.2 U	12.5	11.8	106%	
Silver	6010B	0.3 U	61.5	57.6	107%	
Zinc	6010B	10	67	57.6	99.0%	

Reported in mg/kg-dry

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 88.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/10/08	6010B	12/15/08	7440-38-2	Arsenic	6	6	U
3050B	12/10/08	6010B	12/15/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	**7440-47-3**	**Chromium**	0.6	**2.2**	
3050B	12/10/08	6010B	12/15/08	**7440-50-8**	**Copper**	0.2	**1.0**	
3050B	12/10/08	6010B	12/15/08	7439-92-1	Lead	2	2	U
CLP	12/10/08	7471A	12/15/08	7439-97-6	Mercury	0.06	0.06	U
3050B	12/10/08	6010B	12/15/08	7440-02-0	Nickel	1	1	U
3050B	12/10/08	7740	12/15/08	7782-49-2	Selenium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7440-22-4	Silver	0.3	0.3	U
3050B	12/10/08	6010B	12/15/08	**7440-66-6**	**Zinc**	1	**6**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 86.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/10/08	6010B	12/15/08	**7440-38-2**	**Arsenic**	5	**6**	
3050B	12/10/08	6010B	12/15/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	**7440-47-3**	**Chromium**	0.5	**3.8**	
3050B	12/10/08	6010B	12/15/08	**7440-50-8**	**Copper**	0.2	**3.7**	
3050B	12/10/08	6010B	12/15/08	**7439-92-1**	**Lead**	2	**5**	
CLP	12/10/08	7471A	12/15/08	**7439-97-6**	**Mercury**	0.05	**0.05**	
3050B	12/10/08	6010B	12/15/08	**7440-02-0**	**Nickel**	1	**2**	
3050B	12/10/08	7740	12/15/08	7782-49-2	Selenium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	**7440-22-4**	**Silver**	0.3	**0.8**	
3050B	12/10/08	6010B	12/15/08	**7440-66-6**	**Zinc**	1	**11**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP B-L
SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 84.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/10/08	6010B	12/15/08	7440-38-2	Arsenic	6	6	U
3050B	12/10/08	6010B	12/15/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	**7440-47-3**	**Chromium**	0.6	**3.2**	
3050B	12/10/08	6010B	12/15/08	**7440-50-8**	**Copper**	0.2	**2.4**	
3050B	12/10/08	6010B	12/15/08	7439-92-1	Lead	2	2	U
CLP	12/10/08	7471A	12/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	12/10/08	6010B	12/15/08	**7440-02-0**	**Nickel**	1	**2**	
3050B	12/10/08	7740	12/15/08	7782-49-2	Selenium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7440-22-4	Silver	0.3	0.3	U
3050B	12/10/08	6010B	12/15/08	**7440-66-6**	**Zinc**	1	**6**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OC80MB
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/10/08	6010B	12/15/08	7440-38-2	Arsenic	5	5	U
3050B	12/10/08	6010B	12/15/08	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7440-47-3	Chromium	0.5	0.5	U
3050B	12/10/08	6010B	12/15/08	7440-50-8	Copper	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7439-92-1	Lead	2	2	U
CLP	12/10/08	7471A	12/15/08	7439-97-6	Mercury	0.05	0.05	U
3050B	12/10/08	6010B	12/15/08	7440-02-0	Nickel	1	1	U
3050B	12/10/08	7740	12/15/08	7782-49-2	Selenium	0.2	0.2	U
3050B	12/10/08	6010B	12/15/08	7440-22-4	Silver	0.3	0.3	U
3050B	12/10/08	6010B	12/15/08	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OC80LCS
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/17/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	198	200	99.0%	
Cadmium	6010B	49.0	50.0	98.0%	
Chromium	6010B	46.9	50.0	93.8%	
Copper	6010B	50.1	50.0	100%	
Lead	6010B	200	200	100%	
Mercury	7471A	1.14	1.00	114%	
Nickel	6010B	46	50	92.0%	
Selenium	7740	9	10	90.0%	
Silver	6010B	54.1	50.0	108%	
Zinc	6010B	47	50	94.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OF16A
LIMS ID: 08-34349
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 83.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/23/08	200.8	12/26/08	**7440-38-2**	**Arsenic**	0.2	**2.0**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OF16B
LIMS ID: 08-34350
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 86.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/23/08	200.8	12/26/08	**7440-38-2**	**Arsenic**	0.2	**2.1**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OF16C
LIMS ID: 08-34351
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 87.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/23/08	200.8	12/26/08	**7440-38-2**	**Arsenic**	0.2	**2.2**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: COMP B-L SAMPLE

Lab Sample ID: OF16D
LIMS ID: 08-34352
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Percent Total Solids: 85.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/23/08	200.8	12/26/08	**7440-38-2**	**Arsenic**	0.2	**1.9**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OF16MB
LIMS ID: 08-34349
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/23/08	200.8	12/26/08	7440-38-2	Arsenic	0.2	0.2	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OF16LCS
LIMS ID: 08-34349
Matrix: Sediment
Data Release Authorized:
Reported: 12/29/08

QC Report No: OF16-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.3	25.0	105%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

TBT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA

Client ID	TPRT	TPNT	TOT OUT
COMP A-U	103%	226%*	1
COMP A-L	84.1%	92.8%	0
COMP B-U	102%	106%	0
MB-120908	83.9%	170%*	1
LCS-120908	94.6%	268%*	1
COMP B-L	101%	185%*	1
COMP B-L MS	96.0%	102%	0
COMP B-L MSD	97.3%	106%	0

	LCS/MB LIMITS	QC LIMITS
(TPRT) = Tripropyl Tin Chloride	(30-160)	(30-160)
(TPNT) = Tripentyl Tin Chloride	(30-160)	(30-160)

Prep Method: SW3546
Analytical Method: TBT (Hexyl) Krone 1988
Log Number Range: 08-32709 to 08-32712

FORM-II TBT

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 17:37
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.55 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 15.1%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.5	< 3.5	U
DBT_ION	**Dibutyltin Ion**	**5.2**	**16**	
BT_ION	**Butyltin Ion**	**3.7**	**5.5**	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	103%
Tripentyl Tin Chloride	226%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 17:56
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.61 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 12.8%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.4	< 3.4	U
DBT_ION	**Dibutyltin Ion**	**5.2**	**15**	
BT_ION	**Butyltin Ion**	**3.6**	**4.8**	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	84.1%
Tripentyl Tin Chloride	92.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 18:16
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.40 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 13.7%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.6	< 3.6	U
DBT_ION	**Dibutyltin Ion**	**5.4**	**13**	
BT_ION	Butyltin Ion	3.8	< 3.8	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	102%
Tripentyl Tin Chloride	106%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP B-L
SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 18:35
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.47 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 15.7%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.5	< 3.5	U
DBT_ION	**Dibutyltin Ion**	**5.3**	**19**	
BT_ION	**Butyltin Ion**	**3.7**	**6.1**	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	101%
Tripentyl Tin Chloride	185%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP B-L
MATRIX SPIKE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted MS: 12/09/08

Date Analyzed MS: 12/11/08 18:55
MSD: 12/11/08 19:14
Instrument/Analyst MS: NT2/VTS
MSD: NT2/VTS
Silica Gel Cleanup: No

Sample Amount MS: 5.21 g-dry-wt
MSD: 5.29 g-dry-wt
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Alumina Cleanup: Yes
Moisture: 15.7%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Tributyltin Ion	< 3.5 U	35.6	42.8	83.2%	36.7	42.1	87.2%	3.0%
Dibutyltin Ion	18.8	40.6	36.8	59.2%	55.3	36.2	101%	30.7%
Butyltin Ion	6.1	21.6	29.9	51.8%	27.4	29.4	72.4%	23.7%

Results reported in µg/kg
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP B-L
MATRIX SPIKE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 18:55
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.21 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 15.7%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.7	---	
DBT_ION	Dibutyltin Ion	5.6	---	
BT_ION	Butyltin Ion	3.9	---	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	96.0%
Tripentyl Tin Chloride	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP B-L
MATRIX SPIKE DUP

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 19:14
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.29 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 15.7%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.7	---	
DBT_ION	Dibutyltin Ion	5.5	---	
BT_ION	Butyltin Ion	3.9	---	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	97.3%
Tripentyl Tin Chloride	106%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: MB-120908
METHOD BLANK

Lab Sample ID: MB-120908
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 16:58
Instrument/Analyst: NT2/VTS
Silica Gel Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.9	< 3.9	U
DBT_ION	Dibutyltin Ion	5.8	< 5.8	U
BT_ION	Butyltin Ion	4.1	< 4.1	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	83.9%
Tripentyl Tin Chloride	170%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: LCS-120908
LAB CONTROL SAMPLE

Lab Sample ID: LCS-120908
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/15/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Date Extracted LCS: 12/09/08
Date Analyzed LCS: 12/11/08 17:18
Instrument/Analyst LCS: NT2/VTS
Silica Gel Cleanup: No

Sample Amount LCS: 5.00 g-dry-wt
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00
Alumina Cleanup: Yes

Analyte	LCS	Spike Added	Recovery
Tributyltin Ion	35.8	44.6	80.3%
Dibutyltin Ion	26.7	38.4	69.5%
Butyltin Ion	23.7	31.2	76.0%

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	94.6%
Tripentyl Tin Chloride	268%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 14:57
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.2%
Tetrachlorometaxylene	89.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: MB-120908
METHOD BLANK

Lab Sample ID: MB-120908
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VB
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 14:05
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in μg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.8%
Tetrachlorometaxylene	85.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 15:14
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.4 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	81.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP A-L
MATRIX SPIKE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VB
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 15:31
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.3 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	---
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	---
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.5%
Tetrachlorometaxylene	86.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP A-L
MATRIX SPIKE DUP

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 15:48
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.4 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	---
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	---
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in μg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.0%
Tetrachlorometaxylene	86.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 16:05
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.1 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in μg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	83.5%
Tetrachlorometaxylene	86.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP B-L SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized: VJS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 16:23
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.4 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.2%
Tetrachlorometaxylene	88.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
COMP A-U	85.2%	43-148	89.2%	48-123	0
MB-120908	84.8%	65-117	85.5%	63-119	0
LCS-120908	86.5%	65-117	82.5%	63-119	0
COMP A-L	78.0%	43-148	81.5%	48-123	0
COMP A-L MS	85.5%	43-148	86.8%	48-123	0
COMP A-L MSD	84.0%	43-148	86.8%	48-123	0
COMP B-U	83.5%	43-148	86.0%	48-123	0
COMP B-L	84.2%	43-148	88.0%	48-123	0

PSDDA Control Limits
Prep Method: SW3550B
Log Number Range: 08-32709 to 08-32712

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: COMP A-L
MS/MSD

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted MS/MSD: 12/09/08

Date Analyzed MS: 12/10/08 15:31
MSD: 12/10/08 15:48
Instrument/Analyst MS: ECD5/JGR
MSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 25.3 g-dry-wt
MSD: 25.4 g-dry-wt
Final Extract Volume MS: 5.0 mL
MSD: 5.0 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: No

Percent Moisture: 12.8%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 19.7 U	86.6	98.8	87.7%	87.7	98.3	89.2%	1.3%
Aroclor 1260	< 19.7 U	94.4	98.8	95.5%	93.4	98.3	95.0%	1.1%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: LCS-120908
LAB CONTROL

Lab Sample ID: LCS-120908
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: VTS
Reported: 12/11/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/10/08 14:22
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	84.9	100	84.9%
Aroclor 1260	100	100	100%

PCB Surrogate Recovery

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	82.5%

Results reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Client ID	DCBP	TCMX	TOT OUT
COMP A-U	78.5%	78.5%	0
COMP A-L	79.2%	77.5%	0
MB-120908	79.8%	78.5%	0
LCS-120908	79.5%	84.0%	0
COMP B-U	80.5%	80.8%	0
COMP B-U MS	78.2%	84.5%	0
COMP B-U MSD	88.0%	85.2%	0
COMP B-L	79.8%	82.8%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(65-125)	(52-143)
(TCMX) = Tetrachlorometaxylene	(53-112)	(43-128)

Prep Method: SW3550B
Log Number Range: 08-32709 to 08-32712

FORM-II SW8081

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 11:55
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.7 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.97	< 0.97 U
319-85-7	beta-BHC	0.97	< 0.97 U
319-86-8	delta-BHC	0.97	< 0.97 U
58-89-9	gamma-BHC (Lindane)	0.97	< 0.97 U
76-44-8	Heptachlor	0.97	< 0.97 U
309-00-2	Aldrin	0.97	< 0.97 U
1024-57-3	Heptachlor Epoxide	0.97	< 0.97 U
959-98-8	Endosulfan I	0.97	< 0.97 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.7	< 9.7 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.97	< 0.97 U
5103-71-9	alpha Chlordane	0.97	< 0.97 U
8001-35-2	Toxaphene	97	< 97 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	78.5%
Tetrachlorometaxylene	78.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP A-L SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 12:15
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.98	< 0.98 U
319-85-7	beta-BHC	0.98	< 0.98 U
319-86-8	delta-BHC	0.98	< 0.98 U
58-89-9	gamma-BHC (Lindane)	0.98	< 0.98 U
76-44-8	Heptachlor	0.98	< 0.98 U
309-00-2	Aldrin	0.98	< 0.98 U
1024-57-3	Heptachlor Epoxide	0.98	< 0.98 U
959-98-8	Endosulfan I	0.98	< 0.98 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.8	< 9.8 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.98	< 0.98 U
5103-71-9	alpha Chlordane	0.98	< 0.98 U
8001-35-2	Toxaphene	98	< 98 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	79.2%
Tetrachlorometaxylene	77.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 12:35
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.2 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.99	< 0.99 U
319-85-7	beta-BHC	0.99	< 0.99 U
319-86-8	delta-BHC	0.99	< 0.99 U
58-89-9	gamma-BHC (Lindane)	0.99	< 0.99 U
76-44-8	Heptachlor	0.99	< 0.99 U
309-00-2	Aldrin	0.99	< 0.99 U
1024-57-3	Heptachlor Epoxide	0.99	< 0.99 U
959-98-8	Endosulfan I	0.99	< 0.99 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.9	< 9.9 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.99	< 0.99 U
5103-71-9	alpha Chlordane	0.99	< 0.99 U
8001-35-2	Toxaphene	99	< 99 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	80.5%
Tetrachlorometaxylene	80.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP B-L
SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 14:21
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.5 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.98	< 0.98 U
319-85-7	beta-BHC	0.98	< 0.98 U
319-86-8	delta-BHC	0.98	< 0.98 U
58-89-9	gamma-BHC (Lindane)	0.98	< 0.98 U
76-44-8	Heptachlor	0.98	< 0.98 U
309-00-2	Aldrin	0.98	< 0.98 U
1024-57-3	Heptachlor Epoxide	0.98	< 0.98 U
959-98-8	Endosulfan I	0.98	< 0.98 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.8	< 9.8 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.98	< 0.98 U
5103-71-9	alpha Chlordane	0.98	< 0.98 U
8001-35-2	Toxaphene	98	< 98 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	79.8%
Tetrachlorometaxylene	82.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP B-U
MS/MSD

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted MS/MSD: 12/09/08

Date Analyzed MS: 12/11/08 13:41
MSD: 12/11/08 14:01
Instrument/Analyst MS: ECD4/AAR
MSD: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 25.2 g-dry-wt
MSD: 25.0 g-dry-wt
Final Extract Volume MS: 5.0 mL
MSD: 5.0 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: Yes

Percent Moisture: 13.7%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
alpha-BHC	< 0.991	3.38	3.97	85.1%	3.59	3.99	90.0%	6.0%
beta-BHC	< 0.991	3.64	3.97	91.7%	3.97	3.99	99.5%	8.7%
delta-BHC	< 0.991	3.12	3.97	78.6%	3.77	3.99	94.5%	18.9%
gamma-BHC (Lindane)	< 0.991	3.38	3.97	85.1%	3.69	3.99	92.5%	8.8%
Heptachlor	< 0.991	3.30	3.97	83.1%	3.93	3.99	98.5%	17.4%
Aldrin	< 0.991	3.24	3.97	81.6%	3.87	3.99	97.0%	17.7%
Heptachlor Epoxide	< 0.991	3.54	3.97	89.2%	4.07	3.99	102%	13.9%
Endosulfan I	< 0.991	3.40	3.97	85.6%	3.79	3.99	95.0%	10.8%
Dieldrin	< 1.98	7.17	7.95	90.2%	7.80	7.98	97.7%	8.4%
4,4'-DDE	< 1.98	7.49	7.95	94.2%	8.14	7.98	102%	8.3%
Endrin	< 1.98	6.83	7.95	85.9%	7.35	7.98	92.1%	7.3%
Endosulfan II	< 1.98	6.95	7.95	87.4%	7.41	7.98	92.9%	6.4%
4,4'-DDD	< 1.98	6.79	7.95	85.4%	7.19	7.98	90.1%	5.7%
Endosulfan Sulfate	< 1.98	5.54	7.95	69.7%	6.17	7.98	77.3%	10.8%
4,4'-DDT	< 1.98	7.13	7.95	89.7%	7.60	7.98	95.2%	6.4%
Methoxychlor	< 9.91	32.8	39.7	82.6%	35.7	39.9	89.5%	8.5%
Endrin Aldehyde	< 1.98	5.38	7.95	67.7%	5.43	7.98	68.0%	0.9%
gamma Chlordane	< 0.991	3.54	3.97	89.2%	3.93	3.99	98.5%	10.4%
alpha Chlordane	< 0.991	3.36	3.97	84.6%	3.69	3.99	92.5%	9.4%

Reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP B-U
MATRIX SPIKE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 13:41
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.2 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.99	---
319-85-7	beta-BHC	0.99	---
319-86-8	delta-BHC	0.99	---
58-89-9	gamma-BHC (Lindane)	0.99	---
76-44-8	Heptachlor	0.99	---
309-00-2	Aldrin	0.99	---
1024-57-3	Heptachlor Epoxide	0.99	---
959-98-8	Endosulfan I	0.99	---
60-57-1	Dieldrin	2.0	---
72-55-9	4,4'-DDE	2.0	---
72-20-8	Endrin	2.0	---
33213-65-9	Endosulfan II	2.0	---
72-54-8	4,4'-DDD	2.0	---
1031-07-8	Endosulfan Sulfate	2.0	---
50-29-3	4,4'-DDT	2.0	---
72-43-5	Methoxychlor	9.9	---
7421-93-4	Endrin Aldehyde	2.0	---
5103-74-2	gamma Chlordane	0.99	---
5103-71-9	alpha Chlordane	0.99	---
8001-35-2	Toxaphene	99	< 99 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	78.2%
Tetrachlorometaxylene	84.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: COMP B-U
MATRIX SPIKE DUP

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 14:01
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.0	---
319-85-7	beta-BHC	1.0	---
319-86-8	delta-BHC	1.0	---
58-89-9	gamma-BHC (Lindane)	1.0	---
76-44-8	Heptachlor	1.0	---
309-00-2	Aldrin	1.0	---
1024-57-3	Heptachlor Epoxide	1.0	---
959-98-8	Endosulfan I	1.0	---
60-57-1	Dieldrin	2.0	---
72-55-9	4,4'-DDE	2.0	---
72-20-8	Endrin	2.0	---
33213-65-9	Endosulfan II	2.0	---
72-54-8	4,4'-DDD	2.0	---
1031-07-8	Endosulfan Sulfate	2.0	---
50-29-3	4,4'-DDT	2.0	---
72-43-5	Methoxychlor	10	---
7421-93-4	Endrin Aldehyde	2.0	---
5103-74-2	gamma Chlordane	1.0	---
5103-71-9	alpha Chlordane	1.0	---
8001-35-2	Toxaphene	100	< 100 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in μg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	88.0%
Tetrachlorometaxylene	85.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: MB-120908
METHOD BLANK

Lab Sample ID: MB-120908
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 11:14
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.0	< 1.0 U
319-85-7	beta-BHC	1.0	< 1.0 U
319-86-8	delta-BHC	1.0	< 1.0 U
58-89-9	gamma-BHC (Lindane)	1.0	< 1.0 U
76-44-8	Heptachlor	1.0	< 1.0 U
309-00-2	Aldrin	1.0	< 1.0 U
1024-57-3	Heptachlor Epoxide	1.0	< 1.0 U
959-98-8	Endosulfan I	1.0	< 1.0 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	10	< 10 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	1.0	< 1.0 U
5103-71-9	alpha Chlordane	1.0	< 1.0 U
8001-35-2	Toxaphene	100	< 100 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	79.8%
Tetrachlorometaxylene	78.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: LCS-120908
LAB CONTROL

Lab Sample ID: LCS-120908
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/11/08 11:35
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
alpha-BHC	3.48	4.00	87.0%
beta-BHC	3.70	4.00	92.5%
delta-BHC	3.62	4.00	90.5%
gamma-BHC (Lindane)	3.66	4.00	91.5%
Heptachlor	3.80	4.00	95.0%
Aldrin	3.82	4.00	95.5%
Heptachlor Epoxide	3.92	4.00	98.0%
Endosulfan I	3.74	4.00	93.5%
Dieldrin	7.64	8.00	95.5%
4,4'-DDE	7.98	8.00	99.8%
Endrin	7.16	8.00	89.5%
Endosulfan II	7.06	8.00	88.2%
4,4'-DDD	6.90	8.00	86.2%
Endosulfan Sulfate	5.86	8.00	73.2%
4,4'-DDT	7.28	8.00	91.0%
Methoxychlor	34.4	40.0	86.0%
Endrin Aldehyde	4.98	8.00	62.2%
gamma Chlordane	3.82	4.00	95.5%
alpha Chlordane	3.68	4.00	92.0%

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	79.5%
Tetrachlorometaxylene	84.0%

Reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Client ID	MNP	DBA	TOT OUT
MB-120908	58.3%	81.0%	0
LCS-120908	62.0%	83.0%	0
COMP A-U	58.3%	83.3%	0
COMP A-U MS	62.3%	78.3%	0
COMP A-U MSD	63.0%	79.7%	0
COMP A-L	59.7%	75.7%	0
COMP B-U	58.7%	76.3%	0
COMP B-L	58.7%	74.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(44-100)	(37-106)
(DBA) = d14-Dibenzo(a,h)anthracene	(46-121)	(16-118)

Prep Method: SW3546
Log Number Range: 08-32709 to 08-32712

FORM-II SIM SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 12:03
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.9	< 4.9 U
86-73-7	Fluorene	4.9	< 4.9 U
85-01-8	Phenanthrene	4.9	< 4.9 U
120-12-7	Anthracene	4.9	< 4.9 U
206-44-0	Fluoranthene	4.9	< 4.9 U
129-00-0	Pyrene	4.9	< 4.9 U
56-55-3	Benzo(a)anthracene	4.9	< 4.9 U
218-01-9	Chrysene	4.9	< 4.9 U
205-99-2	Benzo(b)fluoranthene	4.9	< 4.9 U
50-32-8	Benzo(a)pyrene	4.9	< 4.9 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	< 4.9 U
53-70-3	Dibenz(a,h)anthracene	4.9	< 4.9 U
191-24-2	Benzo(g,h,i)perylene	4.9	< 4.9 U

Reported in μg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	58.3%
d14-Dibenzo(a,h)anthracen	83.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 13:18
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.7 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.7	< 4.7 U
86-73-7	Fluorene	4.7	< 4.7 U
85-01-8	Phenanthrene	4.7	< 4.7 U
120-12-7	Anthracene	4.7	< 4.7 U
206-44-0	Fluoranthene	4.7	< 4.7 U
129-00-0	Pyrene	4.7	< 4.7 U
56-55-3	Benzo(a)anthracene	4.7	< 4.7 U
218-01-9	Chrysene	4.7	< 4.7 U
205-99-2	Benzo(b)fluoranthene	4.7	< 4.7 U
50-32-8	Benzo(a)pyrene	4.7	< 4.7 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.7	< 4.7 U
53-70-3	Dibenz(a,h)anthracene	4.7	< 4.7 U
191-24-2	Benzo(g,h,i)perylene	4.7	< 4.7 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	59.7%
d14-Dibenzo(a,h)anthracen	75.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 13:42
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.4 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.8	< 4.8 U
86-73-7	Fluorene	4.8	< 4.8 U
85-01-8	Phenanthrene	4.8	< 4.8 U
120-12-7	Anthracene	4.8	< 4.8 U
206-44-0	Fluoranthene	4.8	< 4.8 U
129-00-0	Pyrene	4.8	< 4.8 U
56-55-3	Benzo(a)anthracene	4.8	< 4.8 U
218-01-9	**Chrysene**	**4.8**	**5.8**
205-99-2	**Benzo(b)fluoranthene**	**4.8**	**4.8**
50-32-8	**Benzo(a)pyrene**	**4.8**	**4.8**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.8**	**7.7**
53-70-3	Dibenz(a,h)anthracene	4.8	< 4.8 U
191-24-2	**Benzo(g,h,i)perylene**	**4.8**	**9.6**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	58.7%
d14-Dibenzo(a,h)anthracen	76.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP B-L
SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 14:07
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.9	< 4.9 U
86-73-7	Fluorene	4.9	< 4.9 U
85-01-8	Phenanthrene	4.9	< 4.9 U
120-12-7	Anthracene	4.9	< 4.9 U
206-44-0	Fluoranthene	4.9	< 4.9 U
129-00-0	Pyrene	4.9	< 4.9 U
56-55-3	Benzo(a)anthracene	4.9	< 4.9 U
218-01-9	Chrysene	4.9	< 4.9 U
205-99-2	Benzo(b)fluoranthene	4.9	< 4.9 U
50-32-8	Benzo(a)pyrene	4.9	< 4.9 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	< 4.9 U
53-70-3	Dibenz(a,h)anthracene	4.9	< 4.9 U
191-24-2	Benzo(g,h,i)perylene	4.9	< 4.9 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	58.7%
d14-Dibenzo(a,h)anthracen	74.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP A-U
MATRIX SPIKE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted MS/MSD: 12/09/08

Date Analyzed MS: 12/12/08 12:28
MSD: 12/12/08 12:53
Instrument/Analyst MS: NT1/YZ
MSD: NT1/YZ

Sample Amount MS: 10.3 g-dry-wt
MSD: 10.5 g-dry-wt
Final Extract Volume MS: 0.50 mL
MSD: 0.50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Acenaphthene	< 4.9 U	86.9	146	59.5%	89.0	143	62.2%	2.4%
Fluorene	< 4.9 U	88.3	146	60.5%	91.9	143	64.3%	4.0%
Phenanthrene	< 4.9 U	93.2	146	63.8%	92.4	143	64.6%	0.9%
Anthracene	< 4.9 U	95.1	146	65.1%	93.3	143	65.2%	1.9%
Fluoranthene	< 4.9 U	105	146	71.9%	105	143	73.4%	0.0%
Pyrene	< 4.9 U	106	146	72.6%	105	143	73.4%	0.9%
Benzo(a)anthracene	< 4.9 U	100	146	68.5%	98.1	143	68.6%	1.9%
Chrysene	< 4.9 U	99.0	146	67.8%	99.0	143	69.2%	0.0%
Benzo(b)fluoranthene	< 4.9 U	89.3	146	61.2%	95.2	143	66.6%	6.4%
Benzo(a)pyrene	< 4.9 U	107	146	73.3%	107	143	74.8%	0.0%
Indeno(1,2,3-cd)pyrene	< 4.9 U	100	146	68.5%	101	143	70.6%	1.0%
Dibenz(a,h)anthracene	< 4.9 U	103	146	70.5%	102	143	71.3%	1.0%
Benzo(g,h,i)perylene	< 4.9 U	102	146	69.9%	100	143	69.9%	2.0%

Reported in μg/kg (ppb)

RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP A-U
MATRIX SPIKE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 12:28
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.8	---
86-73-7	Fluorene	4.8	---
85-01-8	Phenanthrene	4.8	---
120-12-7	Anthracene	4.8	---
206-44-0	Fluoranthene	4.8	---
129-00-0	Pyrene	4.8	---
56-55-3	Benzo(a)anthracene	4.8	---
218-01-9	Chrysene	4.8	---
205-99-2	Benzo(b)fluoranthene	4.8	---
50-32-8	Benzo(a)pyrene	4.8	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	---
53-70-3	Dibenz(a,h)anthracene	4.8	---
191-24-2	Benzo(g,h,i)perylene	4.8	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.3%
d14-Dibenzo(a,h)anthracen	78.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: COMP A-U
MATRIX SPIKE DUPLICATE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 12:53
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.5 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.8	---
86-73-7	Fluorene	4.8	---
85-01-8	Phenanthrene	4.8	---
120-12-7	Anthracene	4.8	---
206-44-0	Fluoranthene	4.8	---
129-00-0	Pyrene	4.8	---
56-55-3	Benzo(a)anthracene	4.8	---
218-01-9	Chrysene	4.8	---
205-99-2	Benzo(b)fluoranthene	4.8	---
50-32-8	Benzo(a)pyrene	4.8	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	---
53-70-3	Dibenz(a,h)anthracene	4.8	---
191-24-2	Benzo(g,h,i)perylene	4.8	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.0%
d14-Dibenzo(a,h)anthracen	79.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-120908
METHOD BLANK

Lab Sample ID: MB-120908
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 11:14
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	58.3%
d14-Dibenzo(a,h)anthracen	81.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-120908
LAB CONTROL SAMPLE

Lab Sample ID: LCS-120908
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/12/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed LCS: 12/12/08 11:39
Instrument/Analyst LCS: NT1/YZ

Sample Amount LCS: 10.0 g-dry-wt
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Acenaphthene	90.5	150	60.3%
Fluorene	95.5	150	63.7%
Phenanthrene	97.0	150	64.7%
Anthracene	102	150	68.0%
Fluoranthene	112	150	74.7%
Pyrene	116	150	77.3%
Benzo(a)anthracene	110	150	73.3%
Chrysene	111	150	74.0%
Benzo(b)fluoranthene	104	150	69.3%
Benzo(a)pyrene	114	150	76.0%
Indeno(1,2,3-cd)pyrene	108	150	72.0%
Dibenz(a,h)anthracene	110	150	73.3%
Benzo(g,h,i)perylene	107	150	71.3%

Reported in μg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.0%
d14-Dibenzo(a,h)anthracen	83.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: MB-120908
METHOD BLANK

Lab Sample ID: MB-120908
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized: MW
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 18:21
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.0 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	49.2%
2-Fluorobiphenyl	60.8%
d14-p-Terphenyl	65.2%
d4-1,2-Dichlorobenzene	58.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP A-U
SAMPLE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 19:28
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	53.6%
2-Fluorobiphenyl	66.4%
d14-p-Terphenyl	66.8%
d4-1,2-Dichlorobenzene	57.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP A-U
MATRIX SPIKE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 20:02
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	---
84-66-2	Diethylphthalate	20	---
85-68-7	Butylbenzylphthalate	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	20	---
117-84-0	Di-n-Octyl phthalate	20	---

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	65.2%
2-Fluorobiphenyl	72.8%
d14-p-Terphenyl	70.4%
d4-1,2-Dichlorobenzene	64.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP A-U
MATRIX SPIKE DUPLICATE

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized:
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 20:36
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 26.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.1%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	19	---
84-66-2	Diethylphthalate	19	---
85-68-7	Butylbenzylphthalate	19	---
117-81-7	bis(2-Ethylhexyl)phthalate	19	---
117-84-0	Di-n-Octyl phthalate	19	---

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	66.0%
2-Fluorobiphenyl	72.8%
d14-p-Terphenyl	69.6%
d4-1,2-Dichlorobenzene	65.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP A-L
SAMPLE

Lab Sample ID: OC80B
LIMS ID: 08-32710
Matrix: Sediment
Data Release Authorized: MW
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 21:10
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.7 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 12.8%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	19	< 19 U
84-66-2	Diethylphthalate	19	< 19 U
85-68-7	Butylbenzylphthalate	19	< 19 U
117-81-7	bis(2-Ethylhexyl)phthalate	19	< 19 U
117-84-0	Di-n-Octyl phthalate	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery	
d5-Nitrobenzene	62.0%
2-Fluorobiphenyl	80.4%
d14-p-Terphenyl	69.2%
d4-1,2-Dichlorobenzene	67.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP B-U
SAMPLE

Lab Sample ID: OC80C
LIMS ID: 08-32711
Matrix: Sediment
Data Release Authorized:
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 21:43
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.4 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 13.7%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery	
d5-Nitrobenzene	58.8%
2-Fluorobiphenyl	70.8%
d14-p-Terphenyl	72.4%
d4-1,2-Dichlorobenzene	65.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP B-L SAMPLE

Lab Sample ID: OC80D
LIMS ID: 08-32712
Matrix: Sediment
Data Release Authorized:
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK
NA
Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 22:17
Instrument/Analyst: NT4/PK
GPC Cleanup: No

Sample Amount: 25.5 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 15.7%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	62.0%
2-Fluorobiphenyl	68.8%
d14-p-Terphenyl	70.0%
d4-1,2-Dichlorobenzene	65.2%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Client ID	NBZ	FBP	TPH	DCB	TOT OUT
MB-120908	49.2%	60.8%	65.2%	58.8%	0
LCS-120908	51.2%	71.6%	70.8%	62.4%	0
COMP A-U	53.6%	66.4%	66.8%	57.6%	0
COMP A-U MS	65.2%	72.8%	70.4%	64.4%	0
COMP A-U MSD	66.0%	72.8%	69.6%	65.6%	0
COMP A-L	62.0%	80.4%	69.2%	67.2%	0
COMP B-U	58.8%	70.8%	72.4%	65.2%	0
COMP B-L	62.0%	68.8%	70.0%	65.2%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(37-85)	(29-87)
(FBP) = 2-Fluorobiphenyl	(39-82)	(32-88)
(TPH) = d14-p-Terphenyl	(38-105)	(21-97)
(DCB) = d4-1,2-Dichlorobenzene	(33-79)	(25-82)

Prep Method: SW3550B
Log Number Range: 08-32709 to 08-32712

FORM-II SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: COMP A-U
MS/MSD

Lab Sample ID: OC80A
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized: MW
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted MS/MSD: 12/09/08

Date Analyzed MS: 12/12/08 20:02
MSD: 12/12/08 20:36
Instrument/Analyst MS: NT4/PK
MSD: NT4/PK
GPC Cleanup: NO

Sample Amount MS: 25.6 g-dry-wt
MSD: 26.2 g-dry-wt
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Percent Moisture: 15.1 %

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Dimethylphthalate	< 19.6	397	489	81.2%	369	478	77.2%	7.3%
Diethylphthalate	< 19.6	399	489	81.6%	373	478	78.0%	6.7%
Butylbenzylphthalate	< 19.6	356	489	72.8%	336	478	70.3%	5.8%
bis(2-Ethylhexyl)phthalate	< 19.6	412	489	84.3%	381	478	79.7%	7.8%
Di-n-Octyl phthalate	< 19.6	405	489	82.8%	368	478	77.0%	9.6%

Results reported in µg/kg
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: LCS-120908
LAB CONTROL

Lab Sample ID: LCS-120908
LIMS ID: 08-32709
Matrix: Sediment
Data Release Authorized: MW
Reported: 12/16/08

QC Report No: OC80-Newfields Northwest
Project: MARINA PARK

Date Sampled: 11/26/08
Date Received: 12/05/08

Date Extracted: 12/09/08
Date Analyzed: 12/12/08 18:55
Instrument/Analyst: NT4/PK
GPC Cleanup: NO

Sample Amount: 25.0 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Dimethylphthalate	393	500	78.6%
Diethylphthalate	405	500	81.0%
Butylbenzylphthalate	359	500	71.8%
bis(2-Ethylhexyl)phthalate	385	500	77.0%
Di-n-Octyl phthalate	375	500	75.0%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	51.2%
2-Fluorobiphenyl	71.6%
d14-p-Terphenyl	70.8%
d4-1,2-Dichlorobenzene	62.4%

Results reported in µg/kg

ANALYTICAL RESOURCES INCORPORATED

GEOTECHNICAL ANALYSIS DATA SHEET
Moisture Content by Method ASTM D2216

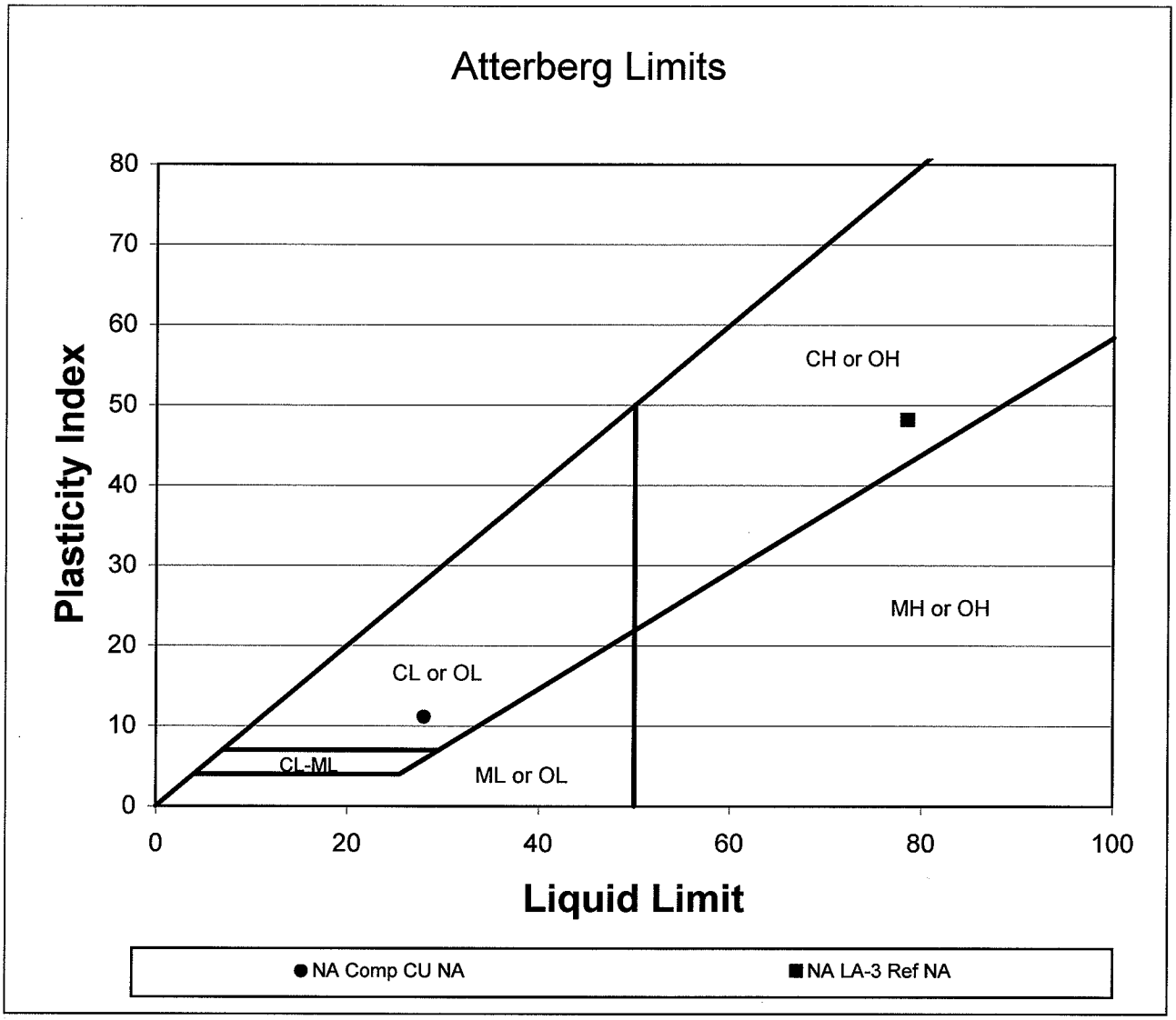
Data Release Authorized: gs
Reported: 01/09/09
Date Received: 12/17/08

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	Result
Comp CU OF06A 08-34190	12/08/08	Sediment	01/07/09 12:56	28.86
Comp CL OF06B 08-34191	12/08/08	Sediment	01/07/09 12:56	17.21
LA-3 Ref OF06C 08-34192	12/08/08	Sediment	01/07/09 12:56	111.7

Reported in Percent

Newfields Northwest



Boring Number	Sample Number	Depth (ft)	As-Received Moisture Content	Plasticity Index	Liquid Limit	Plastic Limit	USCS
NA	Comp CU	NA	28.86	11.2	28.0	16.9	CL
NA	Comp CL	NA	17.21	NA	NA	NA	NP
NA	LA-3 Ref	NA	111.70	48.2	78.5	30.3	CH

OF06

Analytical Resources, Inc.

Sample ID: Comp CU
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06A.SMP
Material/Liquid: Sediment / 0.05% Sodium Metaphosphate (w/w)
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:16:09AM
Reported: 1/9/2009 12:42:35PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:10 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.43

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	57.2	17.9
No. 10	2000.0	99.1	0.9	No. 120	125.0	36.7	20.5
No. 18	1000.0	92.5	6.6	No. 230	63.0	22.1	14.6
No. 35	500.0	75.1	17.4	No. 635	20.0	20.2	1.9

Analytical Resources, Inc.

Sample ID: Comp CU
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06A.SMP
Material/Liquid: Sediment / 0.05% Sodium Metaphosphate (w/w)
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:16:09AM
Reported: 1/9/2009 12:42:35PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:10 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.43

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	57.2	4.7	15.00	18.3	1.1
250.0	50.9	6.3	10.00	17.5	0.8
200.0	42.1	8.8	8.000	16.5	1.1
150.0	30.3	11.8	6.000	15.7	0.7
100.0	24.9	5.4	5.000	14.6	1.1
80.00	22.0	2.8	4.000	13.3	1.2
60.00	21.7	0.3	3.000	11.6	1.7
50.00	21.5	0.3	2.000	10.5	1.1
40.00	21.0	0.5	1.500	8.8	1.6
30.00	20.6	0.3	1.000	8.0	0.9
25.00	20.2	0.5	0.800	6.8	1.2
20.00	19.5	0.7	0.600	6.1	0.7

Analytical Resources, Inc.

Sample ID: Comp CU
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06A.SMP
Material/Liquid: Sediment / 0.05% Sodium Metaphosphate (w/w)
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:16:09AM
Reported: 1/9/2009 12:42:35PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:10 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.43

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	230.5	50.0	5.0
4750	95.0	5.0	194.2	45.0	5.0
1130	90.0	5.0	165.0	40.0	5.0
901.6	85.0	5.0	140.0	35.0	5.0
737.0	80.0	5.0	117.8	30.0	5.0
605.2	75.0	5.0	98.94	25.0	5.0
498.1	70.0	5.0	80.58	20.0	5.0
410.0	65.0	5.0	18.64	15.0	5.0
337.6	60.0	5.0	4.341	10.0	5.0
278.4	55.0	5.0	1.334	5.0	5.0

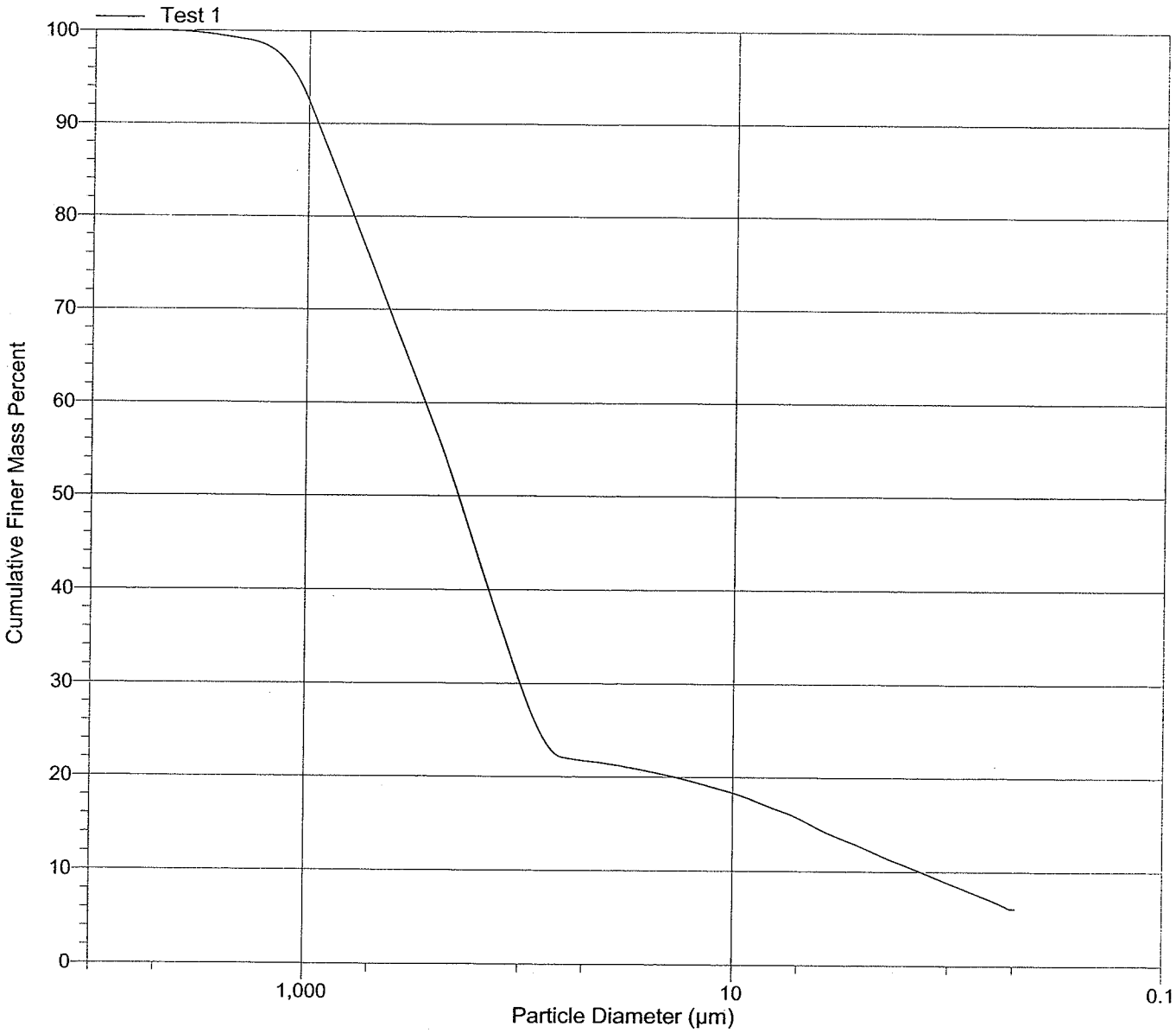
Analytical Resources, Inc.

Sample ID: Comp CU
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06A.SMP
Material/Liquid: Sediment / 0.05% Sodium Metaphosphate (w/w)
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:16:09AM
Reported: 1/9/2009 12:42:35PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:10 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.43

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: Comp CL
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06B.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:47:07AM
Reported: 1/9/2009 12:46:53PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 107 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	7.1	23.2
No. 4	4750.0	96.3	3.7	No. 120	125.0	2.4	4.7
No. 10	2000.0	86.6	9.7	No. 230	63.0	0.8	1.6
No. 18	1000.0	65.1	21.5	No. 635	20.0	0.7	0.1
No. 35	500.0	30.3	34.8				

Analytical Resources, Inc.

Sample ID: Comp CL
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06B.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:47:07AM
Reported: 1/9/2009 12:46:53PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 107 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	7.1	3.7
250.0	4.8	2.3
200.0	3.0	1.8
150.0	1.7	1.3
100.0	1.1	0.6
80.00	0.8	0.3
60.00	0.8	0.0
50.00	0.8	0.0
40.00	0.8	0.0
30.00	0.8	0.0
25.00	0.7	0.0
20.00	0.7	0.0
15.00	0.7	0.0
10.00	0.7	0.0
8.000	0.7	0.0
6.000	0.7	0.0
5.000	0.6	0.0
4.000	0.6	0.0
3.000	0.5	0.0
2.000	0.5	0.0
1.500	0.5	0.0

Analytical Resources, Inc.

Sample ID: Comp CL
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06B.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:47:07AM
Reported: 1/9/2009 12:46:53PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 107 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	808.4	50.0	5.0
9500	95.0	5.0	735.7	45.0	5.0
3928	90.0	5.0	670.8	40.0	5.0
2514	85.0	5.0	610.8	35.0	5.0
1833	80.0	5.0	553.5	30.0	5.0
1505	75.0	5.0	496.5	25.0	5.0
1292	70.0	5.0	442.2	20.0	5.0
1129	65.0	5.0	392.1	15.0	5.0
997.6	60.0	5.0	343.5	10.0	5.0
892.9	55.0	5.0	291.3	5.0	5.0

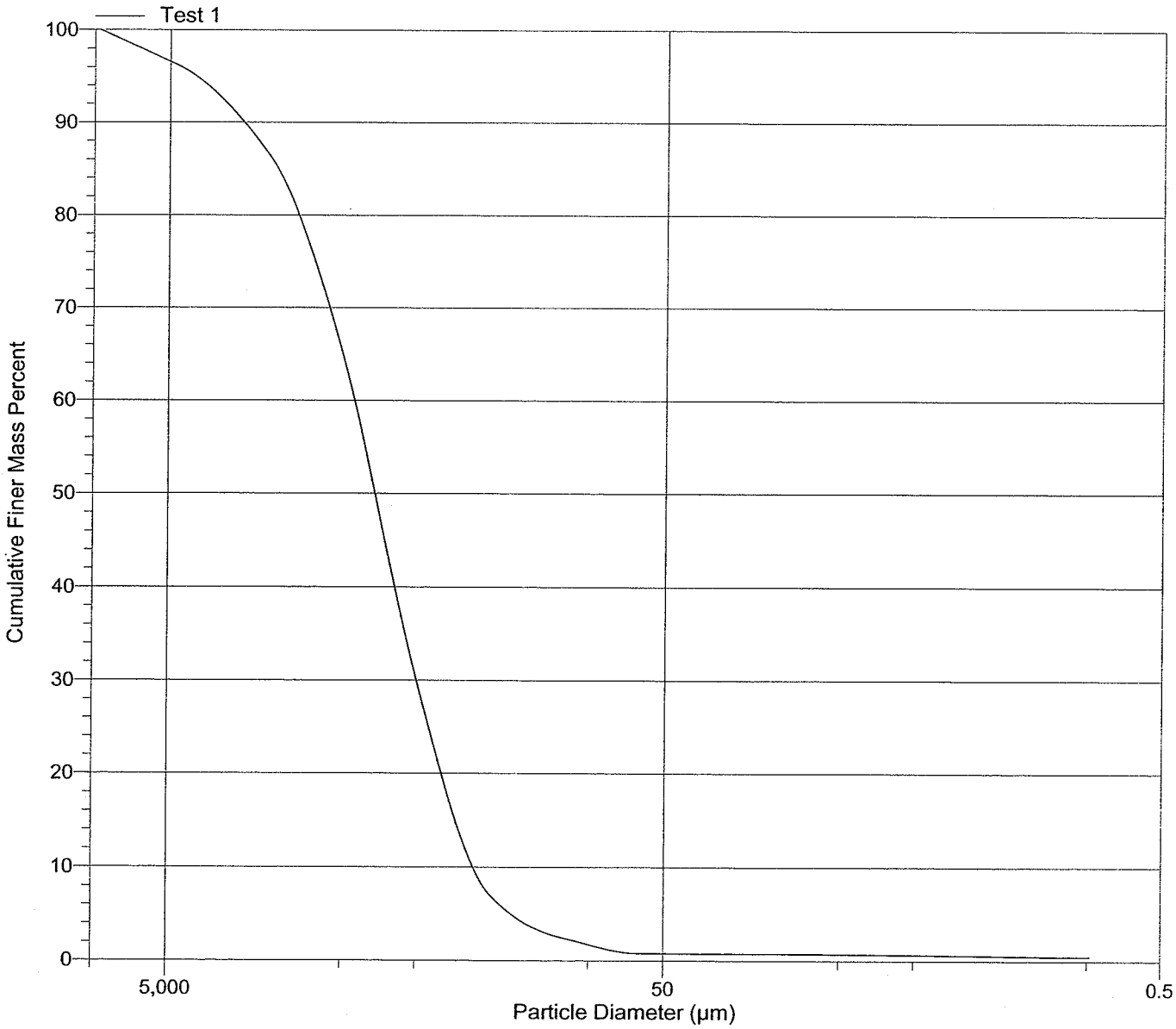
Analytical Resources, Inc.

Sample ID: Comp CL
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06B.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 11:47:07AM
Reported: 1/9/2009 12:46:53PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 107 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: LA-3 Ref
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06C.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 12:52:45PM
Reported: 1/9/2009 1:03:57PM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 77 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	99.2	0.4
No. 10	2000.0	99.9	0.1	No. 120	125.0	97.8	1.4
No. 18	1000.0	99.8	0.1	No. 230	63.0	92.1	5.7
No. 35	500.0	99.6	0.2	No. 635	20.0	63.4	28.7

Analytical Resources, Inc.

Sample ID: LA-3 Ref
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06C.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 12:52:45PM
Reported: 1/9/2009 1:03:57PM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 77 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	99.2	0.1
250.0	98.9	0.3
200.0	98.3	0.6
150.0	96.2	2.1
100.0	93.7	2.5
80.00	92.1	1.6
60.00	91.5	0.6
50.00	87.6	3.9
40.00	77.3	10.2
30.00	70.7	6.6
25.00	63.4	7.3
20.00	55.4	8.0
15.00	46.1	9.3
10.00	41.8	4.3
8.000	37.8	4.0
6.000	35.5	2.3
5.000	32.8	2.7
4.000	29.6	3.3
3.000	25.9	3.7
2.000	23.8	2.0
1.500	19.5	4.3

Analytical Resources, Inc.

Sample ID: LA-3 Ref
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06C.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 12:52:45PM
Reported: 1/9/2009 1:03:57PM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 77 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	17.77	55.0	5.0
4750	95.0	5.0	14.78	50.0	5.0
89.92	90.0	5.0	12.03	45.0	5.0
44.37	85.0	5.0	9.490	40.0	5.0
36.87	80.0	5.0	7.113	35.0	5.0
32.19	75.0	5.0	4.806	30.0	5.0
28.18	70.0	5.0	3.130	25.0	5.0
24.51	65.0	5.0	1.786	20.0	5.0
21.07	60.0	5.0	1.069	15.0	5.0

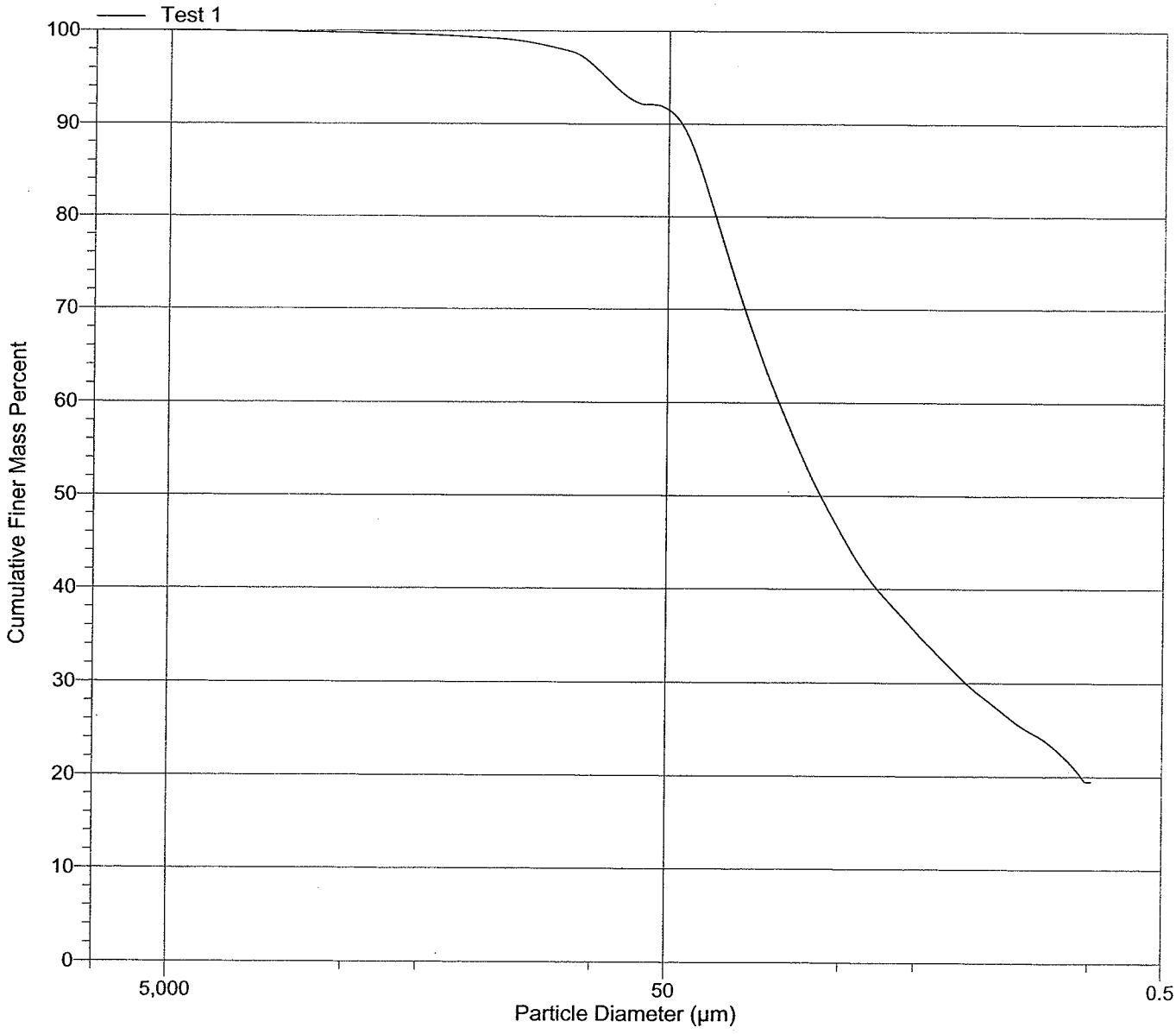
Analytical Resources, Inc.

Sample ID: LA-3 Ref
Operator: gs
Client: Newfields Northwest
File: C:\...\OF06\OF06C.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 12:52:45PM
Reported: 1/9/2009 1:03:57PM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 77 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-10U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06D.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:47:47PM
Reported: 1/13/2009 11:39:07AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 75 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	8.8	27.8
No. 4	4750.0	99.2	0.8	No. 120	125.0	4.0	4.8
No. 10	2000.0	96.6	2.6	No. 230	63.0	2.5	1.5
No. 18	1000.0	84.4	12.2	No. 635	20.0	2.2	0.3
No. 35	500.0	36.6	47.8				

Analytical Resources, Inc.

Sample ID: MP-10U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06D.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:47:47PM
Reported: 1/13/2009 11:39:07AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 75 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	8.8	4.1	20.00	2.1	0.1
250.0	6.6	2.2	15.00	1.8	0.2
200.0	4.7	1.9	10.00	1.5	0.3
150.0	3.4	1.3	8.000	1.0	0.5
100.0	2.8	0.6	6.000	0.9	0.1
80.00	2.5	0.3	5.000	0.9	0.0
60.00	2.5	0.0	4.000	0.9	0.0
50.00	2.4	0.1	3.000	0.8	0.0
40.00	2.3	0.1	2.000	0.8	0.0
30.00	2.3	0.1	1.500	0.9	-0.1
25.00	2.2	0.1			

Analytical Resources, Inc.

Sample ID: MP-10U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06D.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:47:47PM
Reported: 1/13/2009 11:39:07AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 75 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	649.8	50.0	5.0
9500	95.0	5.0	610.6	45.0	5.0
1606	90.0	5.0	571.5	40.0	5.0
1209	85.0	5.0	530.7	35.0	5.0
1018	80.0	5.0	484.8	30.0	5.0
908.3	75.0	5.0	440.3	25.0	5.0
838.4	70.0	5.0	399.2	20.0	5.0
782.5	65.0	5.0	359.5	15.0	5.0
734.3	60.0	5.0	318.8	10.0	5.0
690.6	55.0	5.0	269.1	5.0	5.0

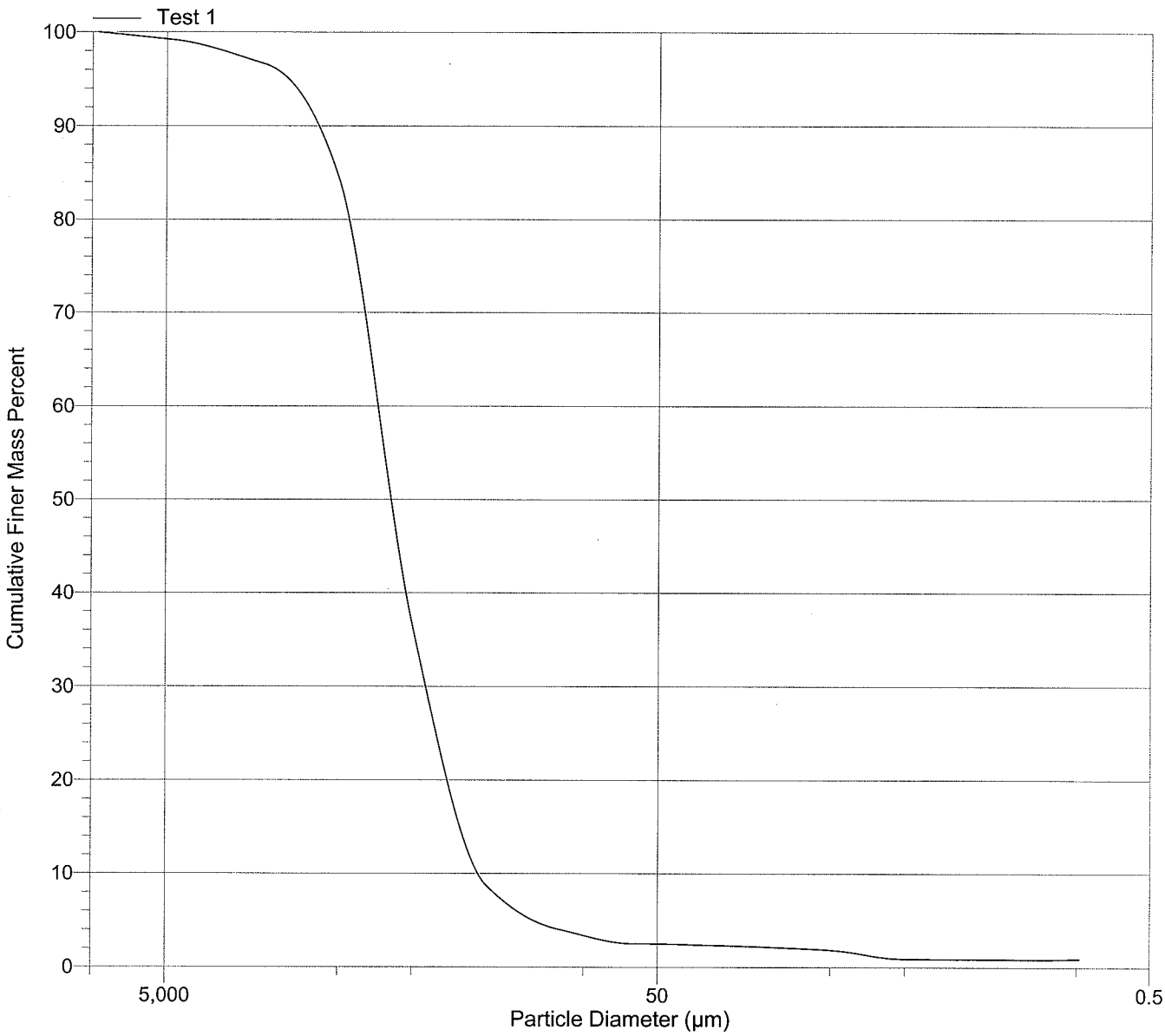
Analytical Resources, Inc.

Sample ID: MP-10U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06D.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:47:47PM
Reported: 1/13/2009 11:39:07AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 75 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-10L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06E.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:51:53PM
Reported: 1/13/2009 11:43:25AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	89.6	7.5
No. 10	2000.0	99.8	0.2	No. 120	125.0	54.6	35.0
No. 18	1000.0	99.2	0.6	No. 230	63.0	34.5	20.1
No. 35	500.0	97.1	2.1	No. 635	20.0	32.6	1.9

Analytical Resources, Inc.

Sample ID: MP-10L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06E.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:51:53PM
Reported: 1/13/2009 11:43:25AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	89.6	3.3	20.00	31.6	1.0
250.0	80.7	8.9	15.00	29.8	1.8
200.0	63.6	17.1	10.00	28.3	1.5
150.0	45.8	17.9	8.000	26.4	1.9
100.0	38.2	7.6	6.000	25.1	1.3
80.00	34.5	3.7	5.000	23.4	1.7
60.00	34.3	0.2	4.000	21.1	2.2
50.00	34.0	0.3	3.000	18.4	2.7
40.00	33.5	0.5	2.000	16.6	1.8
30.00	33.0	0.4	1.500	15.0	1.6
25.00	32.6	0.5			

Analytical Resources, Inc.

Sample ID: MP-10L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06E.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:51:53PM
Reported: 1/13/2009 11:43:25AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	126.3	50.0	5.0
4750	95.0	5.0	111.3	45.0	5.0
356.6	90.0	5.0	98.06	40.0	5.0
254.8	85.0	5.0	85.15	35.0	5.0
218.1	80.0	5.0	68.19	30.0	5.0
197.4	75.0	5.0	10.29	25.0	5.0
181.0	70.0	5.0	4.924	20.0	5.0
166.8	65.0	5.0	2.543	15.0	5.0
153.6	60.0	5.0	1.115	10.0	5.0
140.5	55.0	5.0			

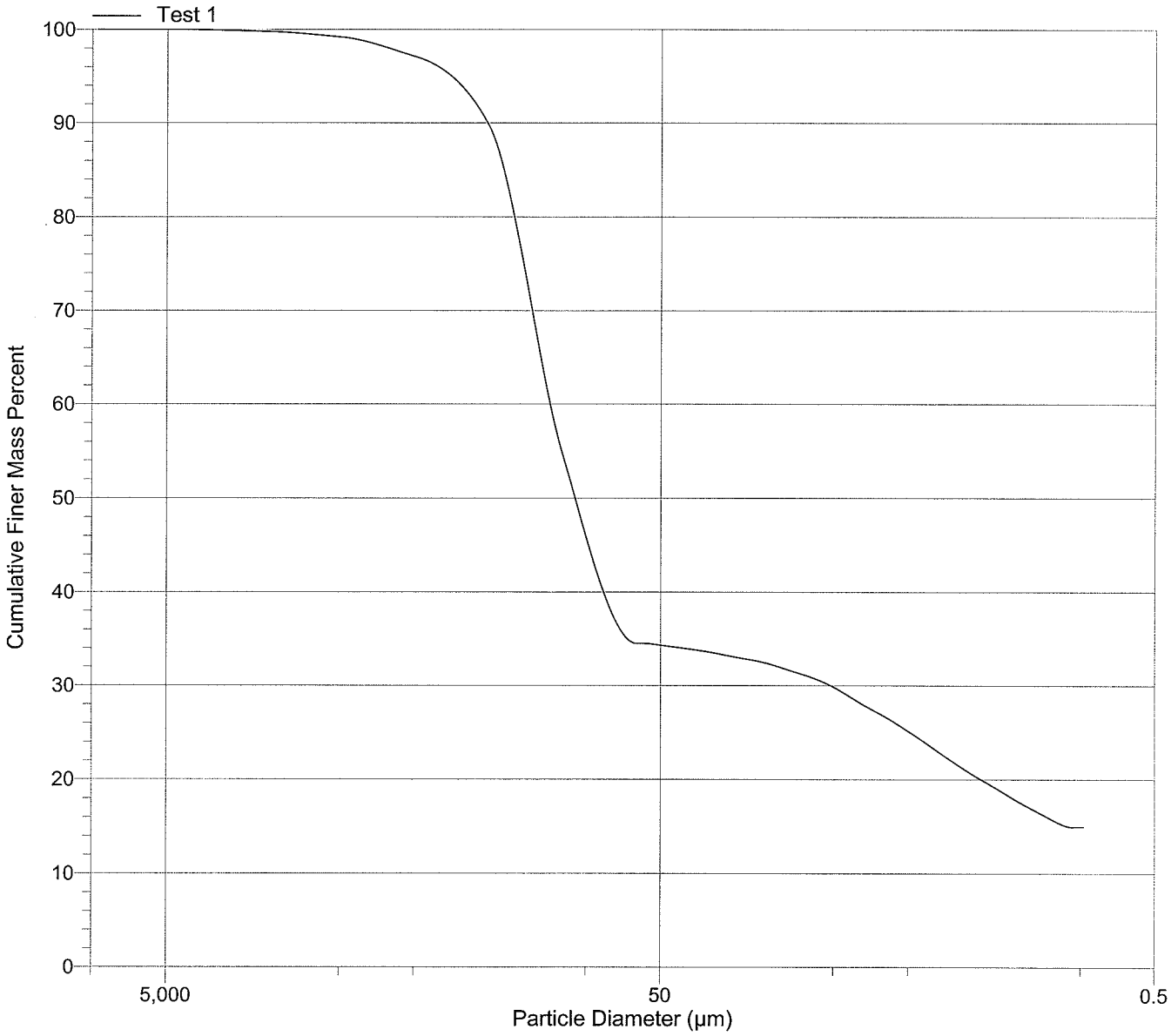
Analytical Resources, Inc.

Sample ID: MP-10L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06E.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:51:53PM
Reported: 1/13/2009 11:43:25AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-12U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06F.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:11:12PM
Reported: 1/13/2009 11:44:41AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 87 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	43.4	24.5
No. 4	4750.0	95.7	4.3	No. 120	125.0	16.2	27.2
No. 10	2000.0	93.0	2.7	No. 230	63.0	3.6	12.6
No. 18	1000.0	86.1	6.9	No. 635	20.0	3.5	0.1
No. 35	500.0	67.9	18.2				

Analytical Resources, Inc.

Sample ID: MP-12U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06F.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:11:12PM
Reported: 1/13/2009 11:44:41AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 87 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	43.4	6.6	20.00	3.4	0.1
250.0	34.7	8.7	15.00	3.4	0.0
200.0	23.1	11.7	10.00	3.4	0.0
150.0	9.4	13.6	8.000	3.3	0.1
100.0	5.2	4.3	6.000	3.3	0.0
80.00	3.6	1.6	5.000	3.2	0.0
60.00	3.6	0.0	4.000	3.0	0.2
50.00	3.6	0.0	3.000	1.1	2.0
40.00	3.5	0.1	2.000	0.7	0.4
30.00	3.5	0.0	1.500	0.7	0.0
25.00	3.5	0.0			

Analytical Resources, Inc.

Sample ID: MP-12U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06F.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:11:12PM
Reported: 1/13/2009 11:44:41AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 87 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	344.7	50.0	5.0
9500	95.0	5.0	299.8	45.0	5.0
4149	90.0	5.0	261.2	40.0	5.0
1327	85.0	5.0	228.4	35.0	5.0
940.5	80.0	5.0	201.3	30.0	5.0
750.7	75.0	5.0	178.0	25.0	5.0
625.7	70.0	5.0	157.4	20.0	5.0
532.8	65.0	5.0	138.5	15.0	5.0
459.0	60.0	5.0	120.8	10.0	5.0
397.1	55.0	5.0	102.2	5.0	5.0

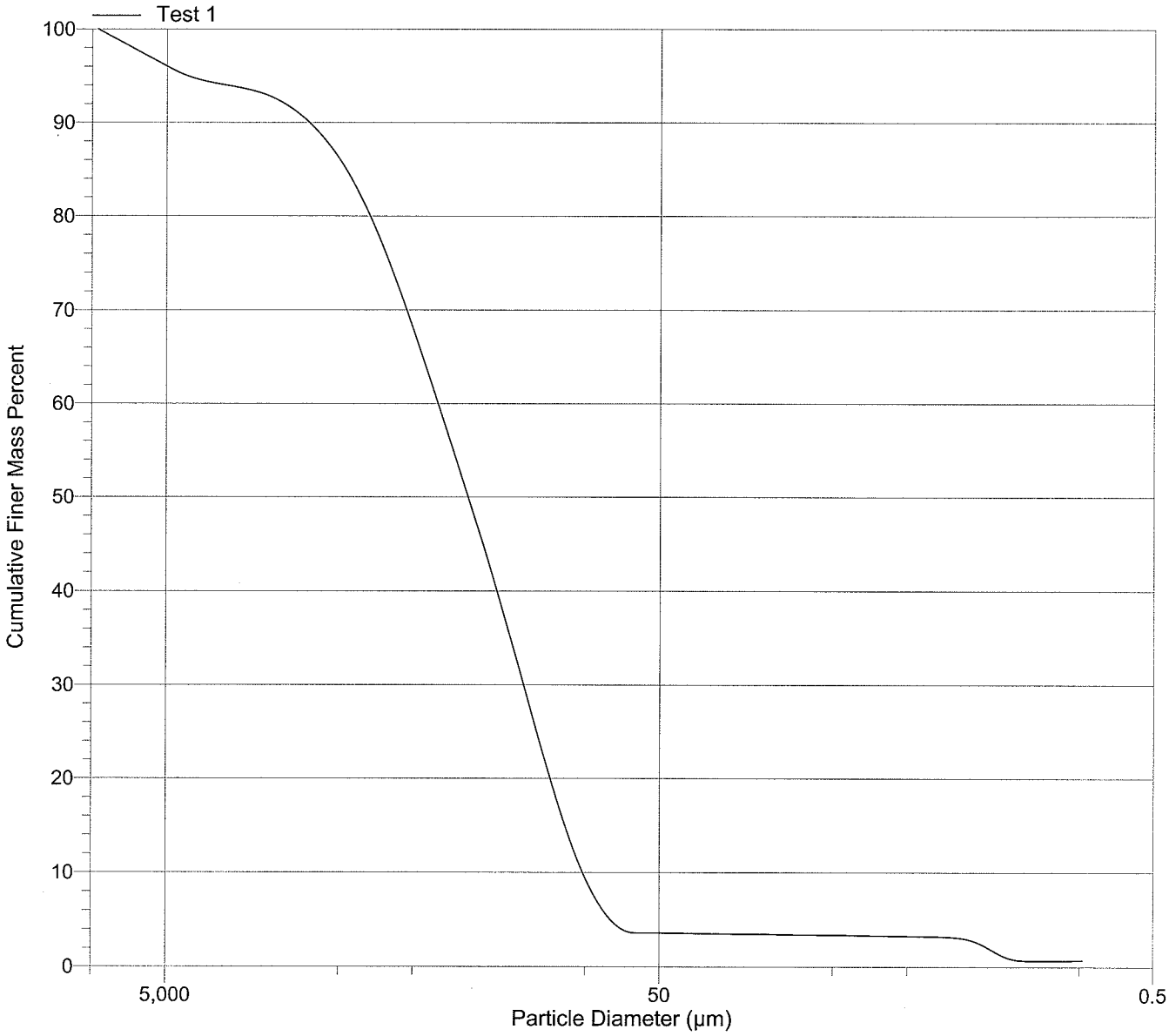
Analytical Resources, Inc.

Sample ID: MP-12U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06F.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 1:11:12PM
Reported: 1/13/2009 11:44:41AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 87 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-12L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06G.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 5:18:32PM
Reported: 1/13/2009 11:45:48AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 73 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	97.1	1.5
No. 10	2000.0	99.4	0.6	No. 120	125.0	88.7	8.4
No. 18	1000.0	99.3	0.1	No. 230	63.0	78.4	10.3
No. 35	500.0	98.6	0.7	No. 635	20.0	74.9	3.5

Analytical Resources, Inc.

Sample ID: MP-12L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06G.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 5:18:32PM
Reported: 1/13/2009 11:45:48AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 73 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	97.1	0.7	20.00	72.8	2.1
250.0	95.2	1.9	15.00	68.0	4.8
200.0	91.3	3.9	10.00	64.7	3.2
150.0	84.9	6.3	8.000	59.7	5.0
100.0	80.9	4.1	6.000	56.3	3.4
80.00	78.4	2.5	5.000	52.2	4.1
60.00	78.2	0.2	4.000	46.6	5.6
50.00	77.7	0.5	3.000	39.8	6.8
40.00	77.2	0.5	2.000	35.7	4.1
30.00	76.2	1.0	1.500	30.5	5.2
25.00	74.9	1.3			

Analytical Resources, Inc.

Sample ID: MP-12L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06G.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 5:18:32PM
Reported: 1/13/2009 11:45:48AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 73 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

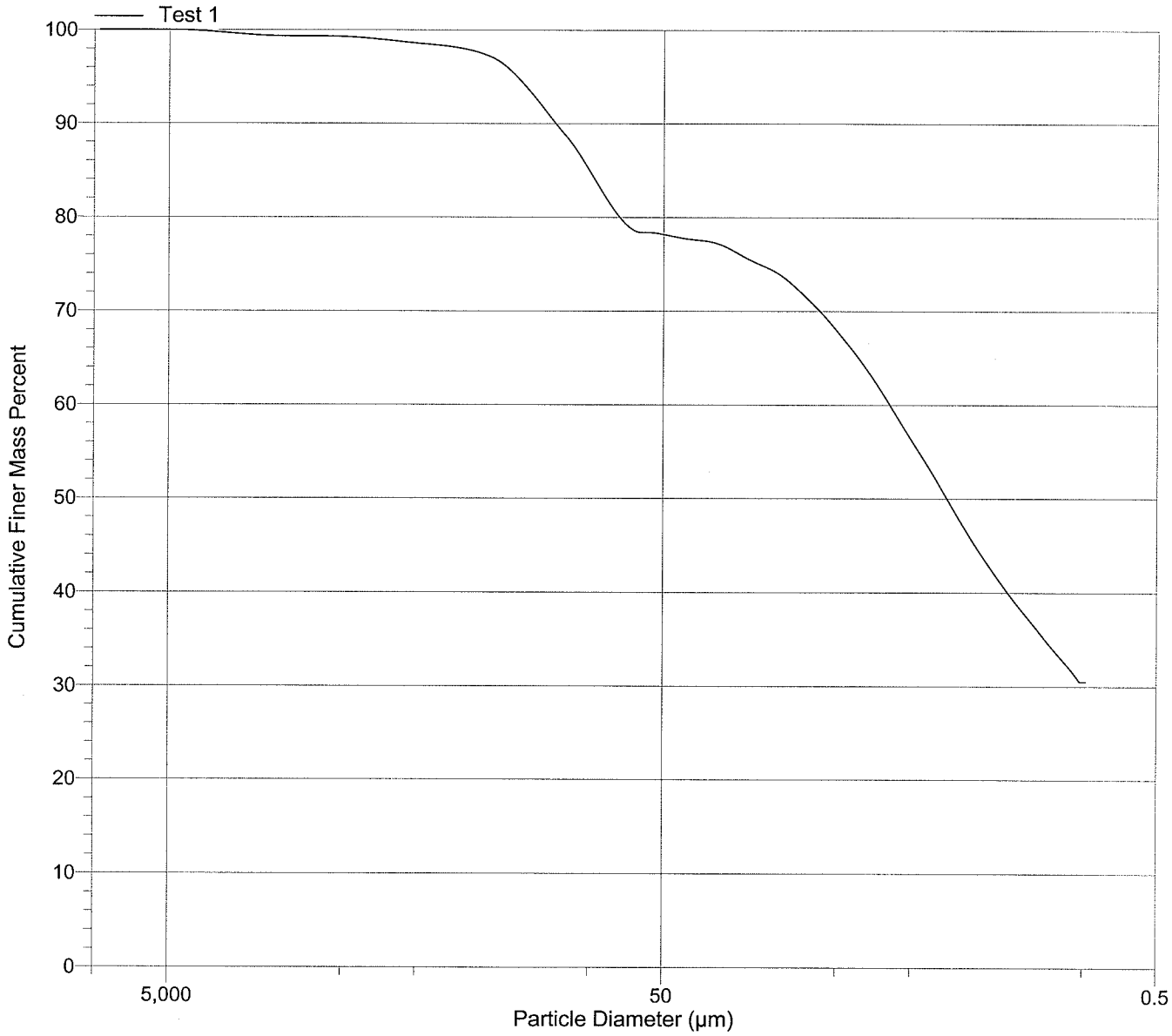
High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	8.146	60.0	5.0
4750	95.0	5.0	6.090	55.0	5.0
196.9	90.0	5.0	4.650	50.0	5.0
137.3	85.0	5.0	3.573	45.0	5.0
100.4	80.0	5.0	2.744	40.0	5.0
75.49	75.0	5.0	2.021	35.0	5.0
20.50	70.0	5.0	1.423	30.0	5.0
11.69	65.0	5.0			

Sample ID: MP-12L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06G.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 5:18:32PM
Reported: 1/13/2009 11:45:48AM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 73 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-13U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06H.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:30:40PM
Reported: 1/13/2009 11:47:33AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 95 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 10	2000.0	100.0	0.0	No. 120	125.0	32.6	19.2
No. 18	1000.0	98.0	2.0	No. 230	63.0	12.7	19.9
No. 35	500.0	79.0	19.0	No. 635	20.0	11.2	1.5
No. 60	250.0	51.8	27.2				

Analytical Resources, Inc.

Sample ID: MP-13U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06H.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:30:40PM
Reported: 1/13/2009 11:47:33AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 95 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	51.8	6.3	20.00	11.0	0.2
250.0	45.5	6.3	15.00	10.3	0.7
200.0	37.6	7.9	10.00	10.0	0.3
150.0	25.1	12.5	8.000	9.7	0.3
100.0	17.4	7.7	6.000	9.4	0.3
80.00	12.7	4.7	5.000	9.0	0.4
60.00	12.6	0.1	4.000	8.6	0.4
50.00	12.2	0.3	3.000	7.3	1.3
40.00	11.9	0.4	2.000	4.3	3.0
30.00	11.6	0.3	1.500	2.6	1.7
25.00	11.2	0.4			

Analytical Resources, Inc.

Sample ID: MP-13U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06H.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:30:40PM
Reported: 1/13/2009 11:47:33AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 95 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

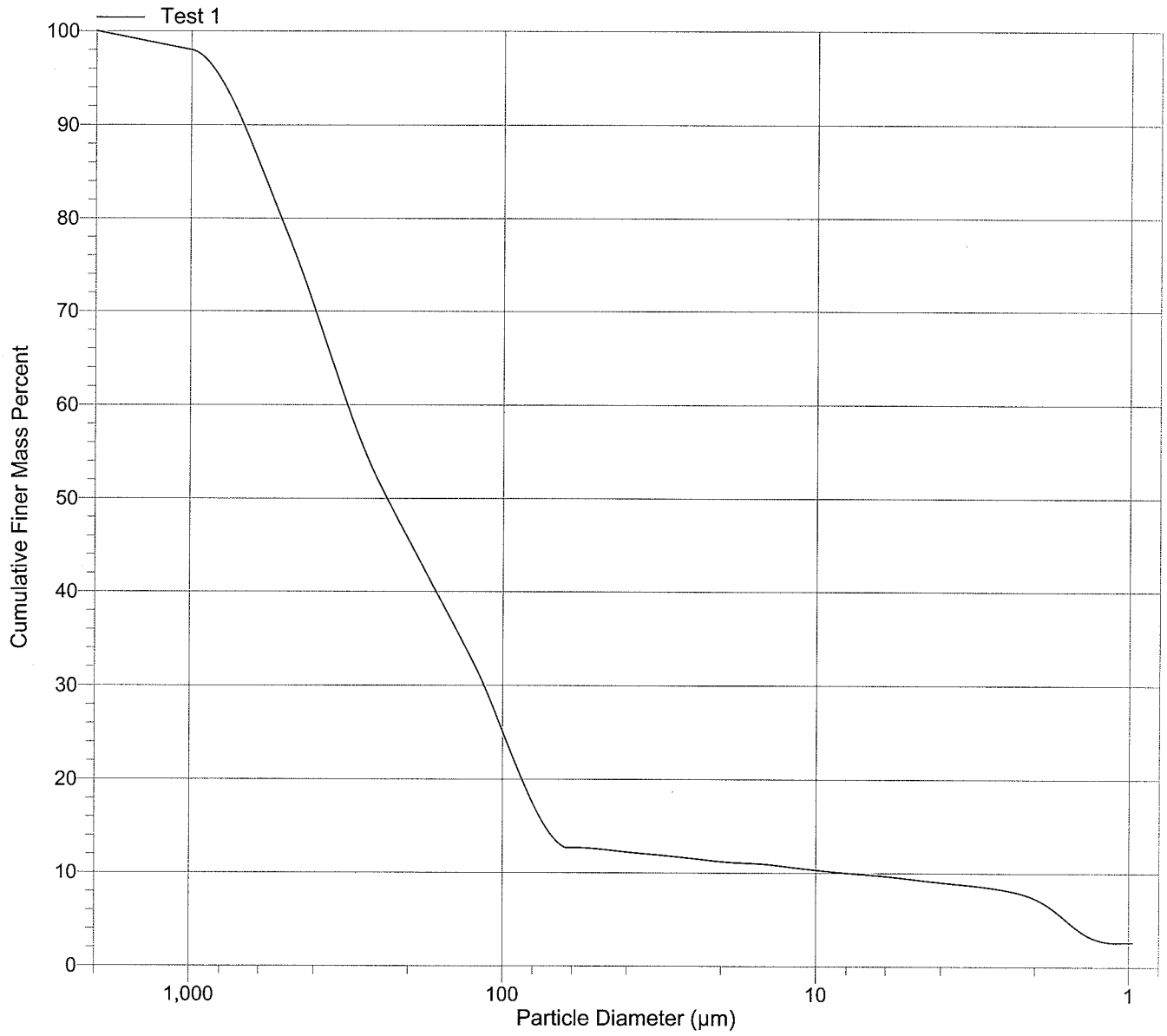
High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
3082	100.0	0.0	276.2	50.0	5.0
3082	95.0	5.0	234.8	45.0	5.0
824.4	90.0	5.0	196.3	40.0	5.0
686.7	85.0	5.0	163.5	35.0	5.0
591.7	80.0	5.0	136.2	30.0	5.0
514.3	75.0	5.0	114.9	25.0	5.0
449.9	70.0	5.0	99.68	20.0	5.0
398.8	65.0	5.0	86.68	15.0	5.0
355.0	60.0	5.0	73.11	10.0	5.0
315.0	55.0	5.0	7.920	5.0	5.0

Sample ID: MP-13U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06H.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:30:40PM
Reported: 1/13/2009 11:47:33AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 95 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-13L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06I.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:52:57PM
Reported: 1/13/2009 11:50:50AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 78 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	13.5	30.2
No. 4	4750.0	97.5	2.5	No. 120	125.0	7.2	6.3
No. 10	2000.0	93.3	4.2	No. 230	63.0	3.1	4.1
No. 18	1000.0	77.8	15.5	No. 635	20.0	2.9	0.2
No. 35	500.0	43.7	34.1				

Sample ID: MP-13L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06I.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:52:57PM
Reported: 1/13/2009 11:50:50AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 78 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	13.5	5.6	20.00	2.7	0.1
250.0	10.1	3.4	15.00	2.5	0.2
200.0	8.2	1.9	10.00	2.3	0.2
150.0	5.5	2.6	8.000	1.9	0.4
100.0	3.9	1.6	6.000	1.4	0.5
80.00	3.1	0.8	5.000	1.0	0.4
60.00	3.1	0.0	4.000	1.0	0.1
50.00	3.1	0.0	3.000	0.9	0.0
40.00	3.0	0.1	2.000	0.9	0.0
30.00	2.9	0.1	1.500	0.9	0.0
25.00	2.9	0.1			

Analytical Resources, Inc.

Sample ID: MP-13L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06I.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:52:57PM
Reported: 1/13/2009 11:50:50AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 78 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	628.1	50.0	5.0
9500	95.0	5.0	569.3	45.0	5.0
2730	90.0	5.0	514.0	40.0	5.0
1506	85.0	5.0	463.1	35.0	5.0
1221	80.0	5.0	419.5	30.0	5.0
1055	75.0	5.0	380.2	25.0	5.0
938.4	70.0	5.0	343.3	20.0	5.0
843.8	65.0	5.0	306.6	15.0	5.0
763.1	60.0	5.0	265.6	10.0	5.0
692.1	55.0	5.0	198.3	5.0	5.0

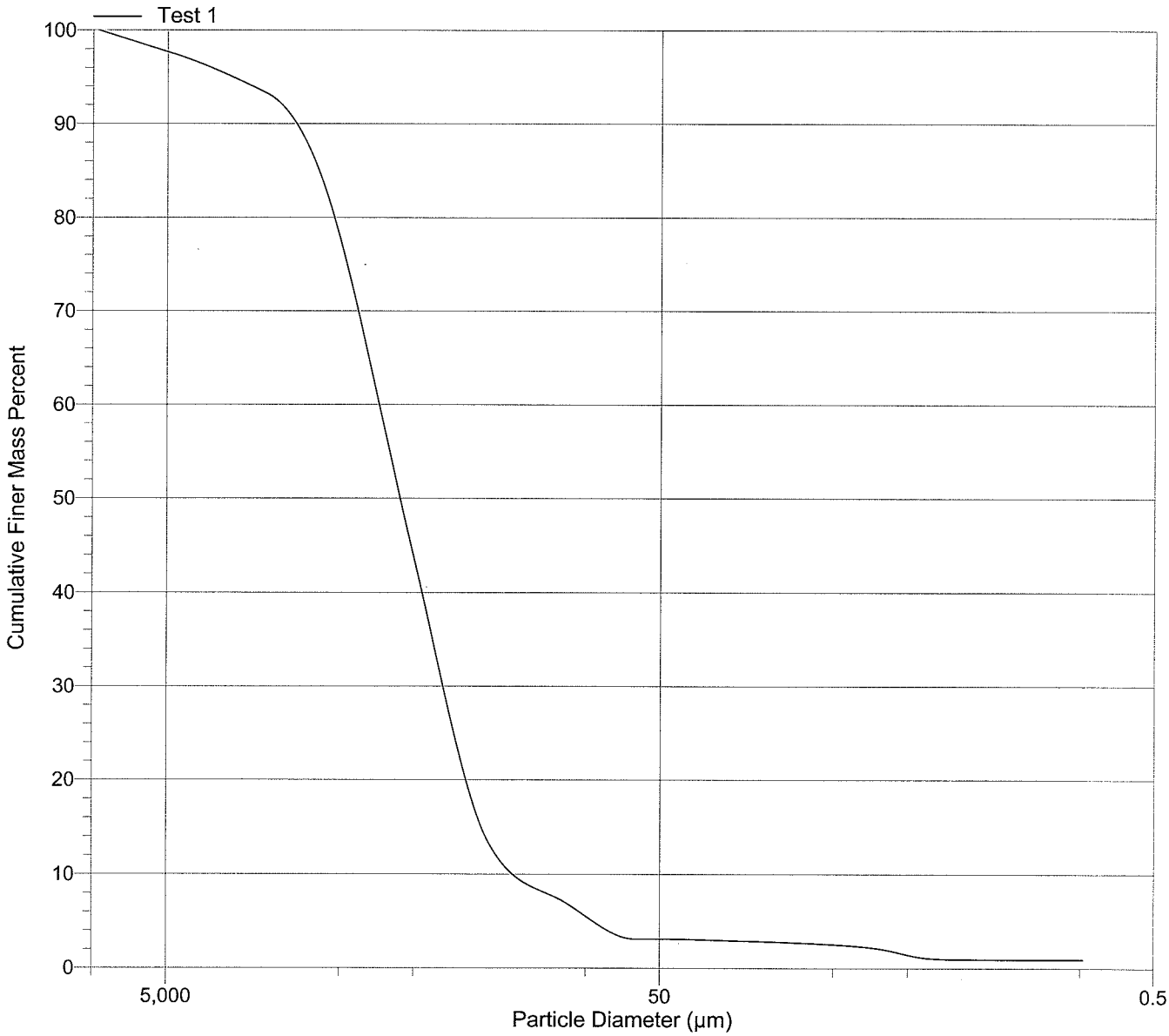
Analytical Resources, Inc.

Sample ID: MP-13L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06I.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 3:52:57PM
Reported: 1/13/2009 11:50:50AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 78 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-14U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06J.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:18:05PM
Reported: 1/13/2009 11:51:31AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	14.1	36.4
No. 4	4750.0	99.8	0.2	No. 120	125.0	3.5	10.6
No. 10	2000.0	97.8	2.0	No. 230	63.0	1.1	2.4
No. 18	1000.0	83.0	14.8	No. 635	20.0	1.0	0.1
No. 35	500.0	50.5	32.5				

Analytical Resources, Inc.

Sample ID: MP-14U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06J.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:18:05PM
Reported: 1/13/2009 11:51:31AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	14.1	8.5	20.00	1.0	0.0
250.0	7.6	6.5	15.00	1.0	0.0
200.0	4.3	3.2	10.00	0.9	0.0
150.0	2.4	1.9	8.000	0.9	0.0
100.0	1.5	0.9	6.000	0.9	0.0
80.00	1.1	0.4	5.000	0.8	0.0
60.00	1.1	0.0	4.000	0.8	0.1
50.00	1.1	0.0	3.000	0.7	0.1
40.00	1.1	0.0	2.000	0.7	0.0
30.00	1.0	0.0	1.500	0.7	0.0
25.00	1.0	0.0			

Analytical Resources, Inc.

Sample ID: MP-14U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06J.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:18:05PM
Reported: 1/13/2009 11:51:31AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	547.8	50.0	5.0
9500	95.0	5.0	495.0	45.0	5.0
1520	90.0	5.0	449.5	40.0	5.0
1222	85.0	5.0	410.5	35.0	5.0
1052	80.0	5.0	375.8	30.0	5.0
931.0	75.0	5.0	343.9	25.0	5.0
831.3	70.0	5.0	314.0	20.0	5.0
746.1	65.0	5.0	284.9	15.0	5.0
671.9	60.0	5.0	255.5	10.0	5.0
606.4	55.0	5.0	221.6	5.0	5.0

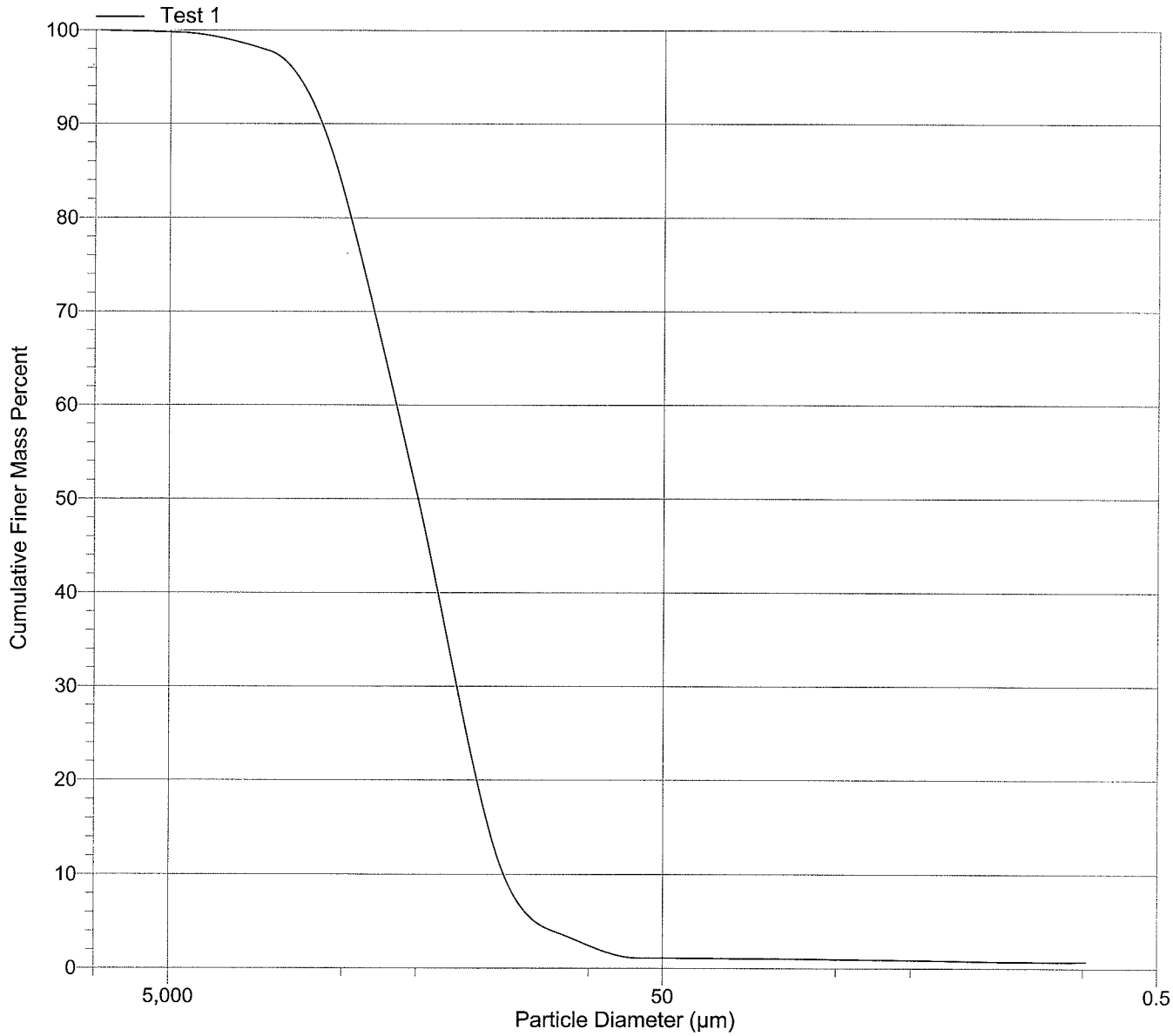
Analytical Resources, Inc.

Sample ID: MP-14U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06J.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:18:05PM
Reported: 1/13/2009 11:51:31AM
Liquid Visc: 0.7228 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 102 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-14L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06K.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:39:13PM
Reported: 1/13/2009 11:52:22AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	77.5	6.8
No. 10	2000.0	95.5	4.5	No. 120	125.0	59.6	17.9
No. 18	1000.0	90.3	5.2	No. 230	63.0	45.4	14.2
No. 35	500.0	84.3	6.0	No. 635	20.0	38.5	6.9

Analytical Resources, Inc.

Sample ID: MP-14L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06K.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:39:13PM
Reported: 1/13/2009 11:52:22AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	77.5	2.1	20.00	36.0	2.5
250.0	73.0	4.5	15.00	30.8	5.2
200.0	64.5	8.4	10.00	28.1	2.7
150.0	53.8	10.7	8.000	24.9	3.2
100.0	48.4	5.4	6.000	23.0	1.9
80.00	45.4	3.0	5.000	20.9	2.1
60.00	45.1	0.3	4.000	18.7	2.2
50.00	43.8	1.2	3.000	16.1	2.6
40.00	42.0	1.9	2.000	14.4	1.7
30.00	40.6	1.4	1.500	12.6	1.7
25.00	38.5	2.1			

Analytical Resources, Inc.

Sample ID: MP-14L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06K.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:39:13PM
Reported: 1/13/2009 11:52:22AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	104.5	50.0	5.0
4750	95.0	5.0	85.98	45.0	5.0
1864	90.0	5.0	48.94	40.0	5.0
964.5	85.0	5.0	23.51	35.0	5.0
541.6	80.0	5.0	13.74	30.0	5.0
311.1	75.0	5.0	9.395	25.0	5.0
217.4	70.0	5.0	6.065	20.0	5.0
179.9	65.0	5.0	3.616	15.0	5.0
152.3	60.0	5.0	1.679	10.0	5.0
127.1	55.0	5.0			

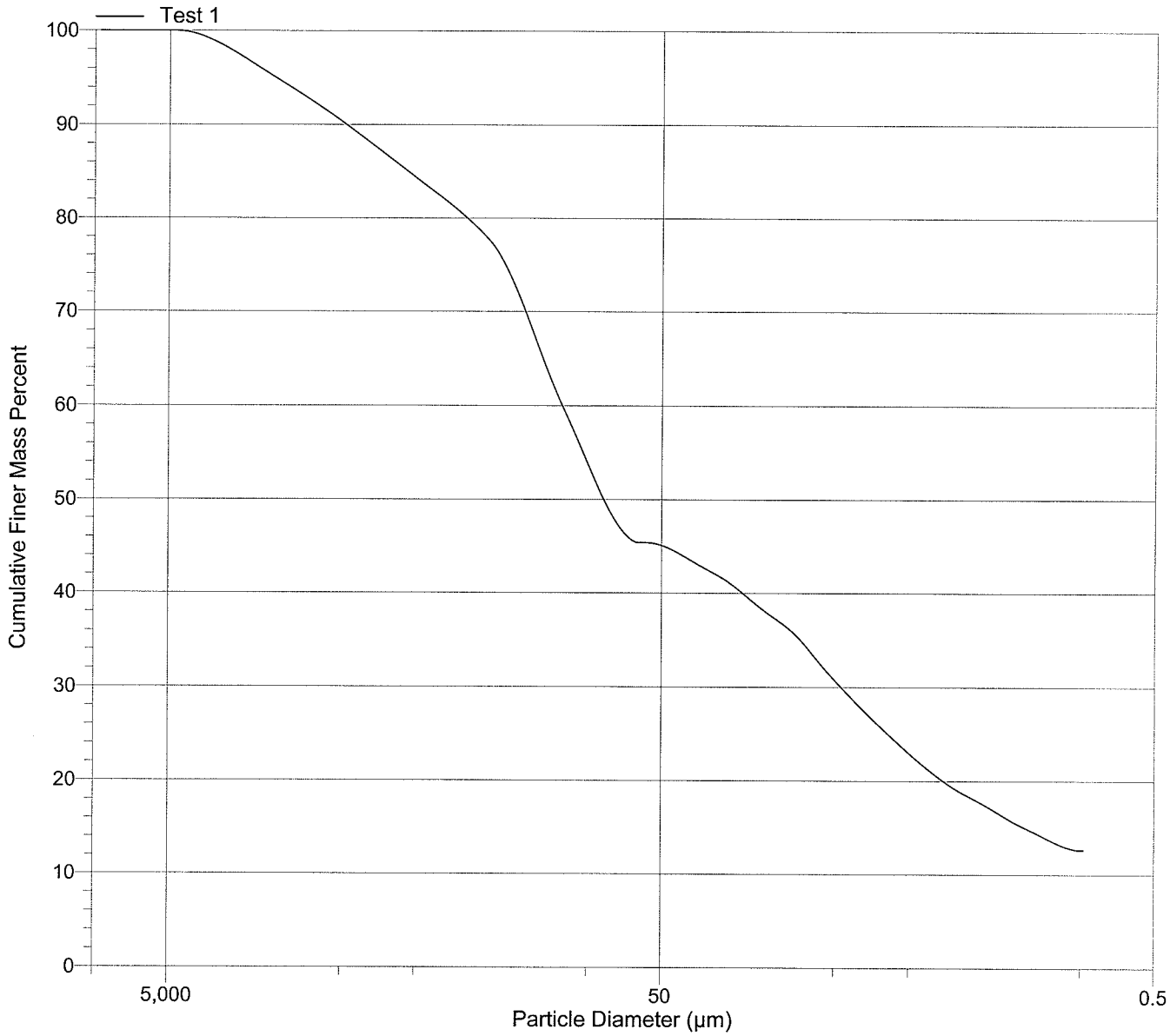
Analytical Resources, Inc.

Sample ID: MP-14L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06K.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/12/2009 4:39:13PM
Reported: 1/13/2009 11:52:22AM
Liquid Visc: 0.7227 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 88 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-15U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06L.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:30:00AM
Reported: 1/13/2009 11:54:17AM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 92 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	79.3	14.1
No. 10	2000.0	99.4	0.6	No. 120	125.0	52.2	27.1
No. 18	1000.0	98.5	0.9	No. 230	63.0	34.7	17.5
No. 35	500.0	93.4	5.1	No. 635	20.0	30.2	4.5

Analytical Resources, Inc.

Sample ID: MP-15U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06L.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:30:00AM
Reported: 1/13/2009 11:54:17AM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 92 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	79.3	5.0	20.00	28.4	1.8
250.0	71.3	8.0	15.00	25.6	2.9
200.0	59.1	12.2	10.00	24.1	1.5
150.0	44.5	14.6	8.000	22.1	2.0
100.0	37.8	6.7	6.000	20.9	1.2
80.00	34.7	3.1	5.000	19.6	1.2
60.00	34.6	0.1	4.000	18.2	1.4
50.00	34.1	0.5	3.000	15.4	2.8
40.00	32.8	1.3	2.000	9.4	6.1
30.00	31.7	1.0	1.500	4.4	5.0
25.00	30.2	1.5			

Analytical Resources, Inc.

Sample ID: MP-15U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06L.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:30:00AM
Reported: 1/13/2009 11:54:17AM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 92 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	135.2	50.0	5.0
4750	95.0	5.0	117.2	45.0	5.0
584.3	90.0	5.0	101.6	40.0	5.0
392.8	85.0	5.0	86.89	35.0	5.0
309.1	80.0	5.0	67.46	30.0	5.0
256.1	75.0	5.0	19.40	25.0	5.0
220.0	70.0	5.0	9.182	20.0	5.0
193.9	65.0	5.0	4.316	15.0	5.0
172.4	60.0	5.0	1.936	10.0	5.0
153.3	55.0	5.0	1.537	5.0	5.0

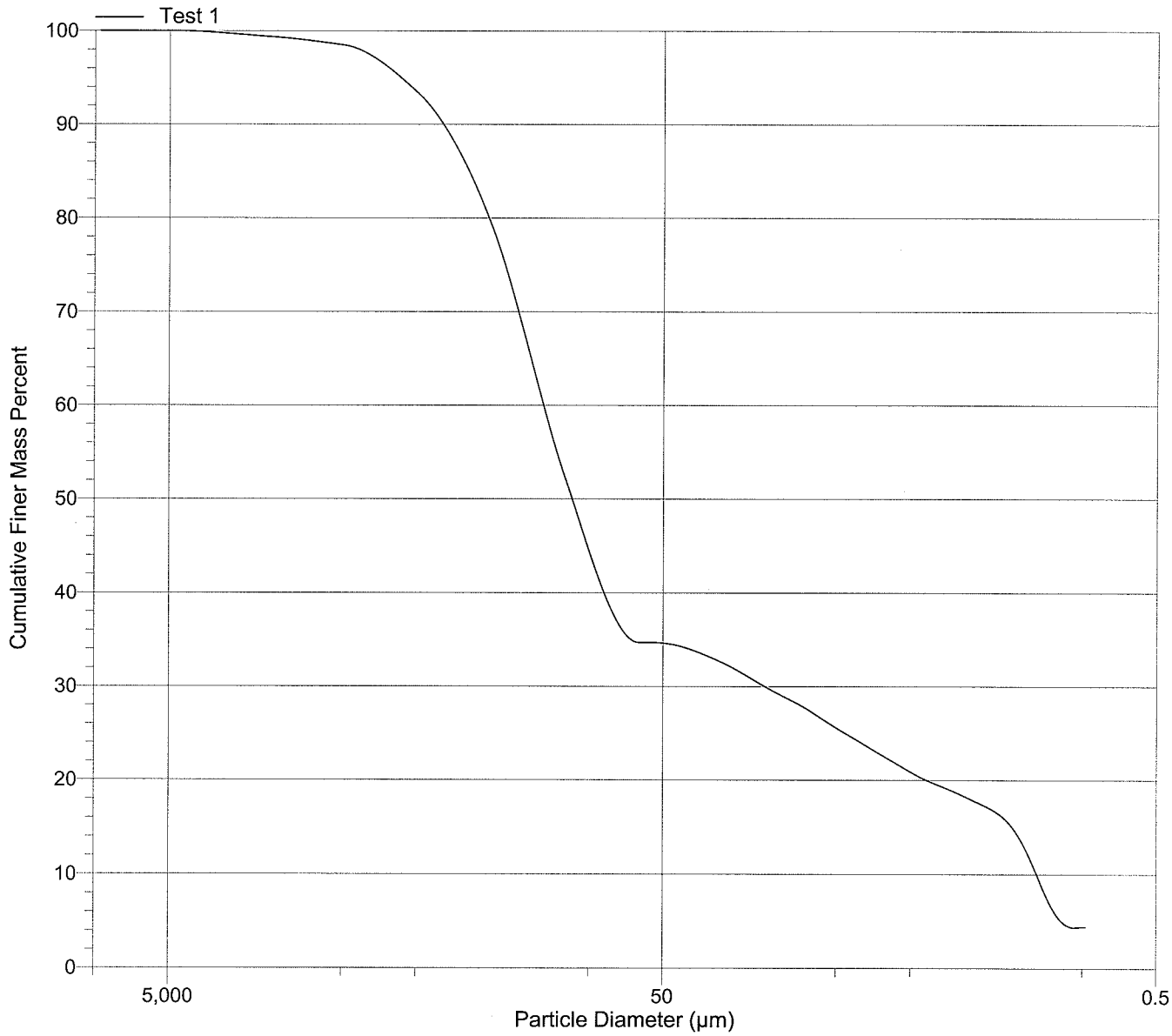
Analytical Resources, Inc.

Sample ID: MP-15U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06L.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:30:00AM
Reported: 1/13/2009 11:54:17AM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 92 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-15L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06M.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:52:27AM
Reported: 1/13/2009 12:01:07PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 113 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	4.8	19.4
No. 4	4750.0	91.7	8.3	No. 120	125.0	1.0	3.8
No. 10	2000.0	74.9	16.8	No. 230	63.0	0.5	0.5
No. 18	1000.0	50.0	24.9	No. 635	20.0	0.5	0.0
No. 35	500.0	24.2	25.8				

Analytical Resources, Inc.

Sample ID: MP-15L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06M.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:52:27AM
Reported: 1/13/2009 12:01:07PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 113 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	4.8	3.3	20.00	0.5	0.0
250.0	2.6	2.2	15.00	0.5	0.0
200.0	1.3	1.3	10.00	0.5	0.0
150.0	0.8	0.5	8.000	0.5	0.0
100.0	0.6	0.2	6.000	0.5	0.0
80.00	0.5	0.1	5.000	0.5	0.0
60.00	0.5	0.0	4.000	0.5	0.0
50.00	0.5	0.0	3.000	0.5	0.0
40.00	0.5	0.0	2.000	0.4	0.0
30.00	0.5	0.0	1.500	0.5	0.0
25.00	0.5	0.0			

Sample ID: MP-15L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06M.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:52:27AM
Reported: 1/13/2009 12:01:07PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 113 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	1145	50.0	5.0
9500	95.0	5.0	1000	45.0	5.0
6257	90.0	5.0	873.6	40.0	5.0
4136	85.0	5.0	764.1	35.0	5.0
2978	80.0	5.0	668.6	30.0	5.0
2376	75.0	5.0	584.9	25.0	5.0
2006	70.0	5.0	511.0	20.0	5.0
1733	65.0	5.0	445.1	15.0	5.0
1506	60.0	5.0	384.0	10.0	5.0
1312	55.0	5.0	323.8	5.0	5.0

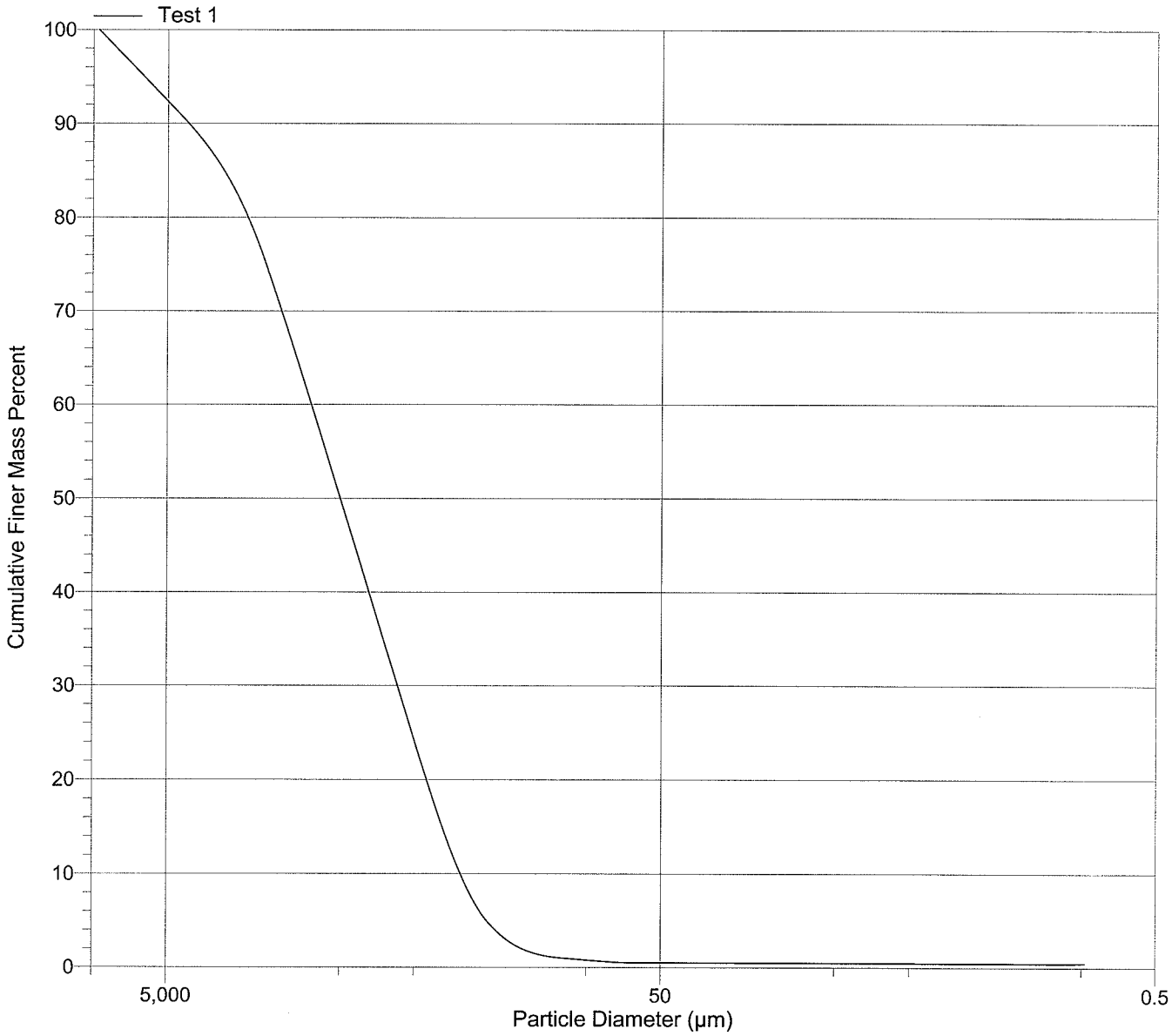
Analytical Resources, Inc.

Sample ID: MP-15L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06M.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 11:52:27AM
Reported: 1/13/2009 12:01:07PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 113 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-16U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06N.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 12:15:48PM
Reported: 1/13/2009 12:24:56PM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 81 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
No. 4	4750.0	100.0	0.0	No. 60	250.0	70.4	18.4
No. 10	2000.0	99.9	0.1	No. 120	125.0	31.7	38.7
No. 18	1000.0	98.5	1.4	No. 230	63.0	5.1	26.6
No. 35	500.0	88.8	9.7	No. 635	20.0	4.5	0.6

Analytical Resources, Inc.

Sample ID: MP-16U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06N.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 12:15:48PM
Reported: 1/13/2009 12:24:56PM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 81 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	70.4	6.4	20.00	4.4	0.1
250.0	59.3	11.1	15.00	4.1	0.3
200.0	41.8	17.6	10.00	3.9	0.2
150.0	20.2	21.6	8.000	3.6	0.3
100.0	9.9	10.2	6.000	3.3	0.3
80.00	5.1	4.8	5.000	2.7	0.6
60.00	5.1	0.0	4.000	1.4	1.3
50.00	5.0	0.1	3.000	1.1	0.4
40.00	4.8	0.2	2.000	1.1	0.0
30.00	4.6	0.2	1.500	1.0	0.1
25.00	4.5	0.1			

Analytical Resources, Inc.

Sample ID: MP-16U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06N.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 12:15:48PM
Reported: 1/13/2009 12:24:56PM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 81 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
4750	100.0	0.0	186.0	50.0	5.0
4750	95.0	5.0	171.5	45.0	5.0
713.2	90.0	5.0	158.2	40.0	5.0
534.7	85.0	5.0	145.7	35.0	5.0
411.2	80.0	5.0	133.3	30.0	5.0
334.8	75.0	5.0	120.8	25.0	5.0
283.9	70.0	5.0	109.7	20.0	5.0
247.5	65.0	5.0	99.69	15.0	5.0
221.9	60.0	5.0	90.16	10.0	5.0
202.4	55.0	5.0	80.15	5.0	5.0

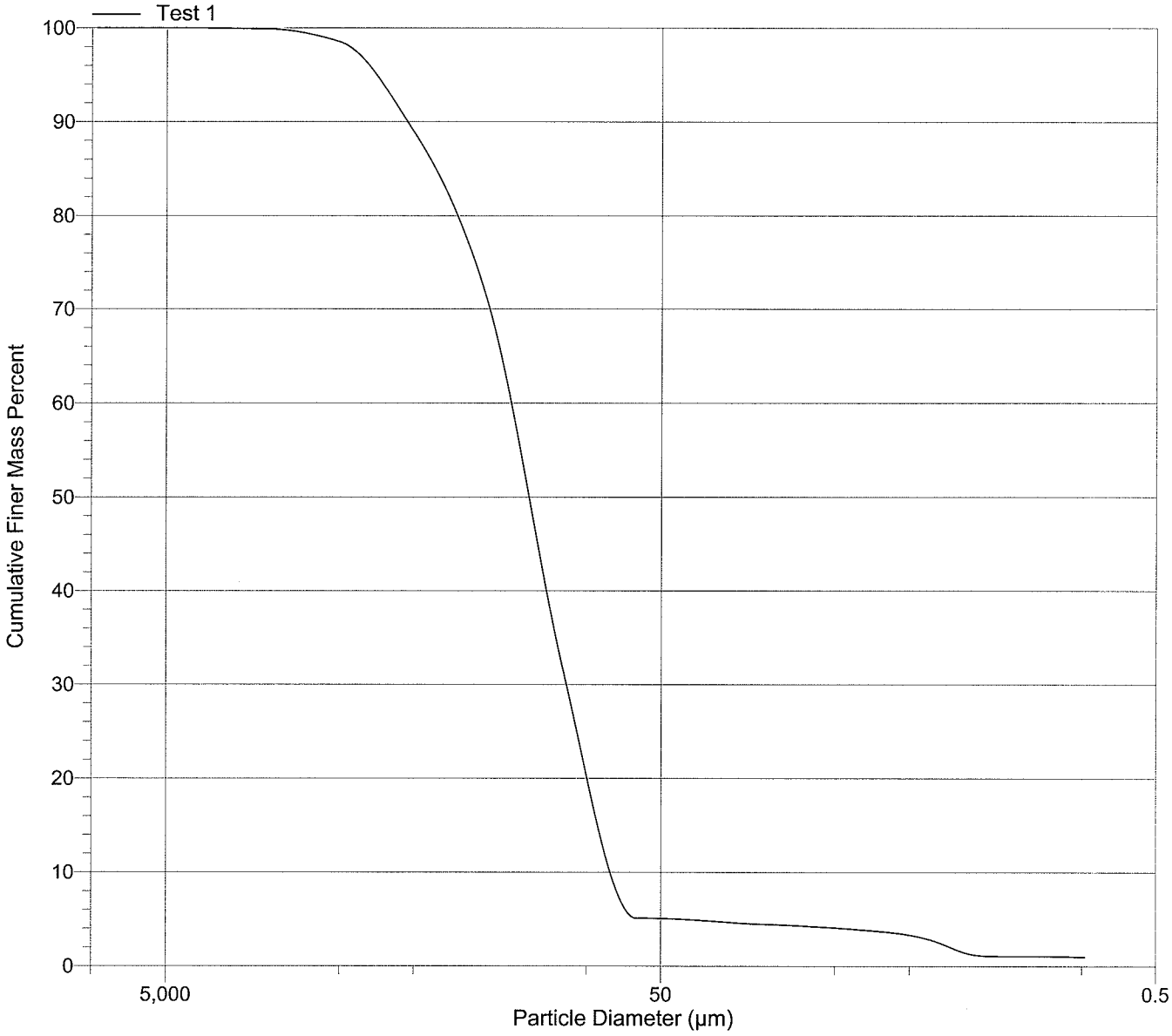
Analytical Resources, Inc.

Sample ID: MP-16U
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06N.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/13/2009 12:15:48PM
Reported: 1/13/2009 12:24:56PM
Liquid Visc: 0.7229 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 81 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Analytical Resources, Inc.

Sample ID: MP-16L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06O.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:28:52PM
Reported: 1/13/2009 12:25:51PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 103 kCnts/s
Reynolds Number: 0.30

Report by Sieve Size

Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)	Sieve Name	Aperture Size (µm)	Cumulative Mass Passed (Percent)	Mass Frequency (Percent)
5/8 in.	16000.0	100.0	0.0	No. 60	250.0	93.9	1.8
No. 4	4750.0	99.6	0.4	No. 120	125.0	93.5	0.4
No. 10	2000.0	99.3	0.2	No. 230	63.0	93.3	0.2
No. 18	1000.0	98.3	1.1	No. 635	20.0	72.0	21.4
No. 35	500.0	95.8	2.5				

Analytical Resources, Inc.

Sample ID: MP-16L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06O.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:28:52PM
Reported: 1/13/2009 12:25:51PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 103 kCnts/s
Reynolds Number: 0.30

Report by Size Table

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
300.0	93.9	0.3	20.00	71.5	0.5
250.0	93.7	0.2	15.00	62.0	9.5
200.0	93.6	0.2	10.00	56.8	5.2
150.0	93.5	0.1	8.000	50.1	6.7
100.0	93.4	0.1	6.000	46.1	4.0
80.00	93.3	0.1	5.000	39.9	6.2
60.00	92.3	1.0	4.000	29.9	10.0
50.00	86.2	6.1	3.000	18.2	11.7
40.00	78.7	7.5	2.000	6.6	11.6
30.00	76.8	1.9	1.500	0.0	6.6
25.00	72.0	4.8			

Analytical Resources, Inc.

Sample ID: MP-16L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06O.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:28:52PM
Reported: 1/13/2009 12:25:51PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 103 kCnts/s
Reynolds Number: 0.30

Report by Mass Percent

High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	High Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	7.176	50.0	5.0
9500	95.0	5.0	5.983	45.0	5.0
393.4	90.0	5.0	4.720	40.0	5.0
44.61	85.0	5.0	4.011	35.0	5.0
38.82	80.0	5.0	3.486	30.0	5.0
33.35	75.0	5.0	3.012	25.0	5.0
23.15	70.0	5.0	2.552	20.0	5.0
13.37	65.0	5.0	2.096	15.0	5.0
10.94	60.0	5.0	1.861	10.0	5.0
9.381	55.0	5.0	1.660	5.0	5.0

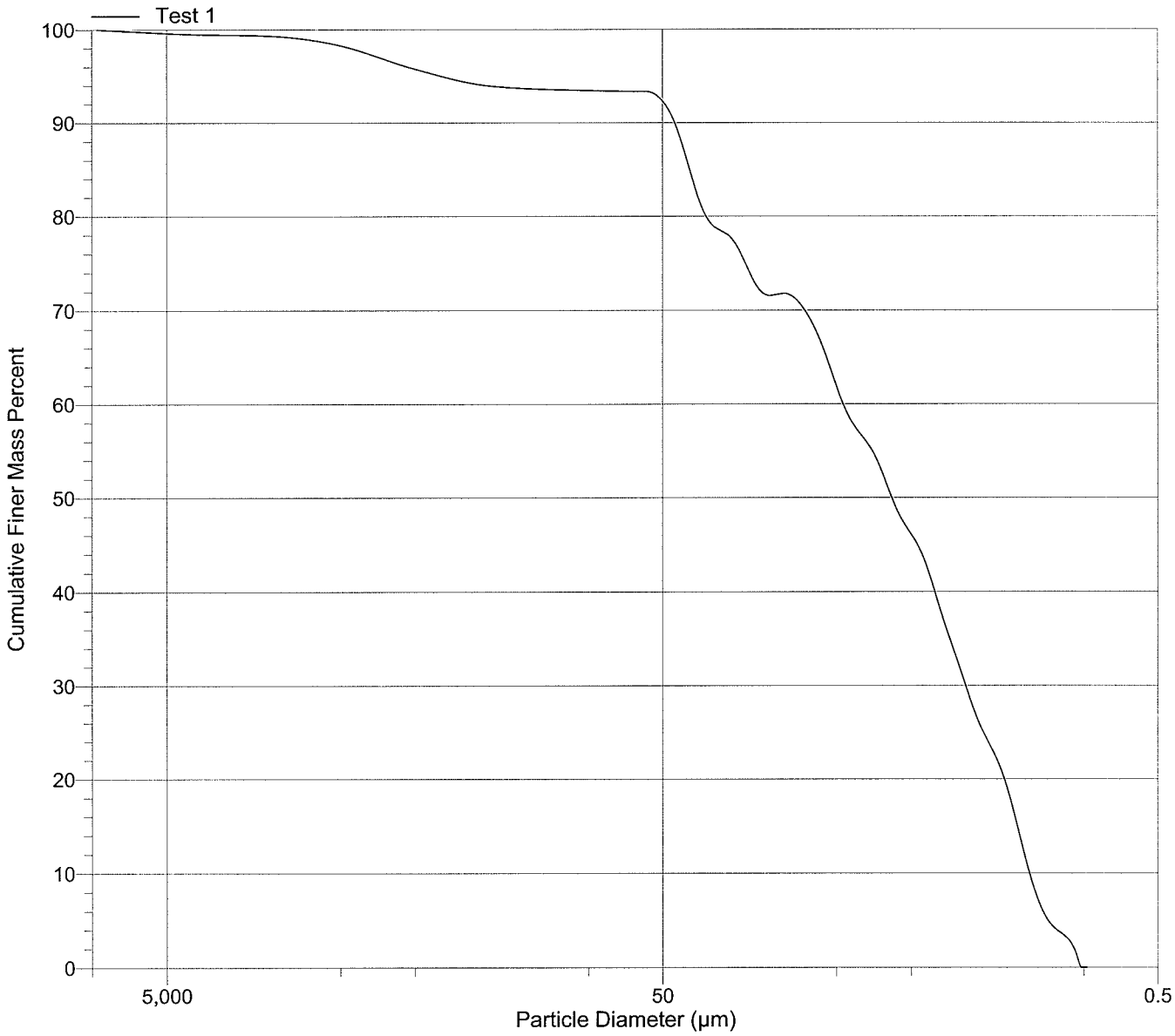
Analytical Resources, Inc.

Sample ID: MP-16L
Operator: BR
Client: Newfields Northwest
File: C:\...\OF06\OF06O.SMP
Material/Liquid: Sediment / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 1/9/2009 4:28:52PM
Reported: 1/13/2009 12:25:51PM
Liquid Visc: 0.7230 cp
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 0:05 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 128 / 103 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Newfields Northwest
Marina Park

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
WB-08-SS-010	100.0	100.0	99.8	99.1	98.0	97.3	96.8	95.2	86.7	65.0	44.6	26.7	15.1	7.6
WB-08-SS-010	100.0	100.0	99.9	99.6	99.0	98.4	97.9	96.3	86.0	65.1	44.8	26.5	15.3	7.8
WB-08-SS-010	100.0	100.0	100.0	97.8	95.5	94.4	93.3	90.3	81.8	64.0	43.7	26.3	14.5	6.9
MP10U COMP	100.0	94.6	92.9	86.8	69.5	51.2	25.5	9.9	9.3	8.5	7.4	6.1	4.9	3.7
MP14U COMP	100.0	98.9	92.5	69.6	39.1	20.6	15.2	12.9	12.6	12.2	10.9	9.0	7.5	5.8
MP12U COMP	100.0	93.9	91.8	83.4	64.8	45.4	23.6	13.2	13.1	12.2	10.6	8.7	6.9	5.0

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

OG68

Newfields Northwest
Marina Park

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
WB-08-SS-010	0.2	0.6	1.1	0.7	0.6	1.6	8.5	21.6	20.5	17.9	11.6	7.5	7.6	95.2
WB-08-SS-010	0.1	0.3	0.6	0.6	0.6	1.6	10.3	20.8	20.4	18.2	11.3	7.5	7.8	96.3
WB-08-SS-010	0.0	2.2	2.3	1.1	1.1	3.0	8.5	17.8	20.3	17.4	11.8	7.7	6.9	90.3
MP10U COMP	7.1	6.2	17.2	18.4	25.7	15.6	0.7	0.8	1.1	1.3	1.2	1.2	3.7	9.9
MP14U COMP	7.5	22.9	30.5	18.5	5.4	2.3	0.3	0.5	1.3	1.9	1.5	1.8	5.8	12.9
MP12U COMP	8.2	8.4	18.5	19.4	21.8	10.5	0.1	0.8	1.6	2.0	1.7	1.9	5.0	13.2

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

Client:	Newfields Northwest	Project No.:	Marina Park
ARI Trip. Sample ID:	OG52I	Batch No.:	OG68-1
Client Trip. Sample ID:	WB-08-SS-010	Page:	1 of 1

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
WB-08-SS-01(	100.0	100.0	99.8	99.1	98.0	97.3	96.8	95.2	86.7	65.0	44.6	26.7	15.1	7.6
WB-08-SS-01(	100.0	100.0	99.9	99.6	99.0	98.4	97.9	96.3	86.0	65.1	44.8	26.5	15.3	7.8
WB-08-SS-01(	100.0	100.0	100.0	97.8	95.5	94.4	93.3	90.3	81.8	64.0	43.7	26.3	14.5	6.9
AVE	NA	100.00	99.90	98.86	97.51	96.71	95.98	93.91	84.82	64.73	44.36	26.52	14.98	7.41
STDEV	NA	0.00	0.13	0.92	1.82	2.09	2.38	3.16	2.65	0.64	0.55	0.22	0.39	0.47
%RSD	NA	0.00	0.13	0.93	1.87	2.16	2.48	3.36	3.13	1.00	1.25	0.82	2.57	6.32

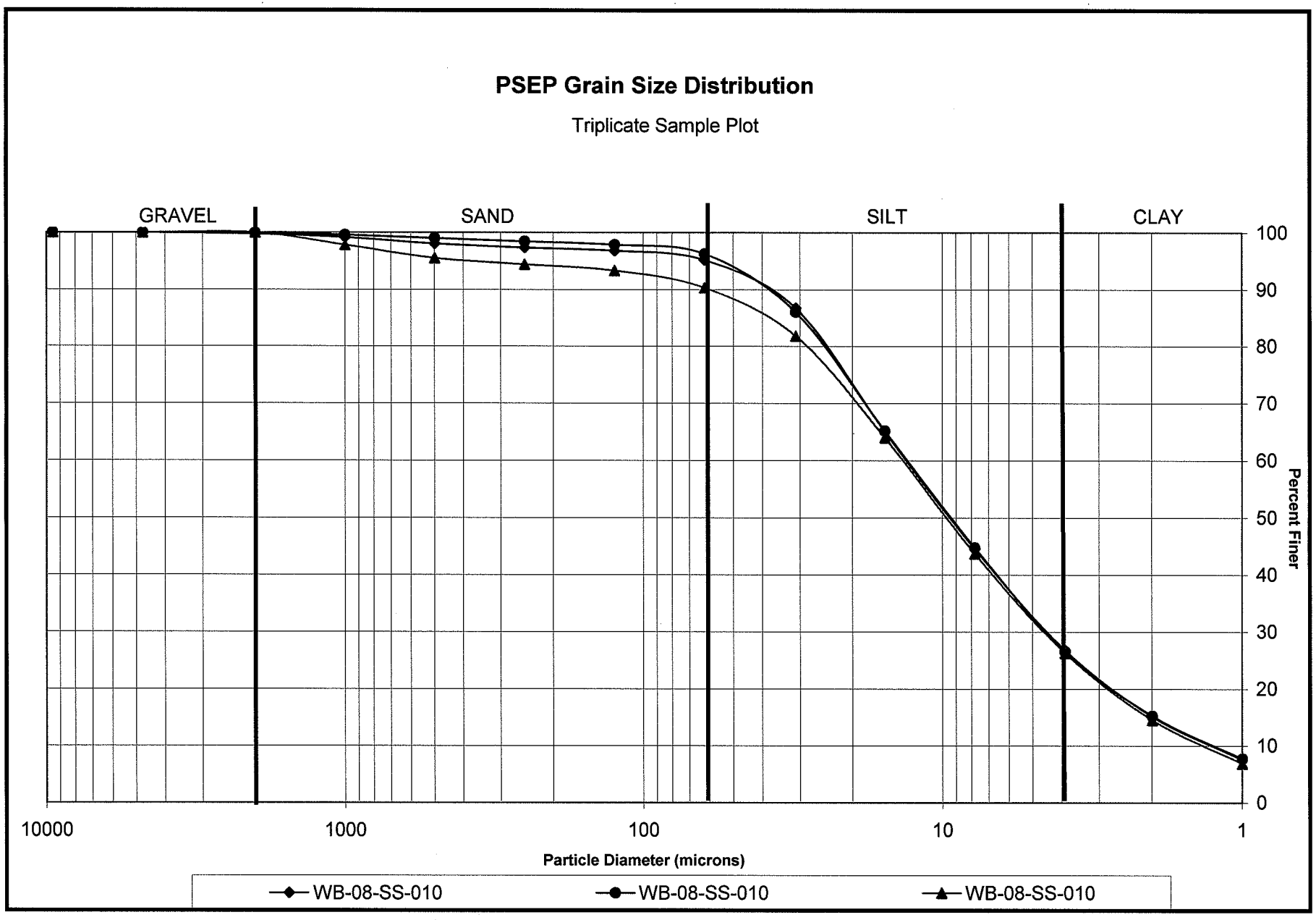
The Triplicate Applies To The Following Samples

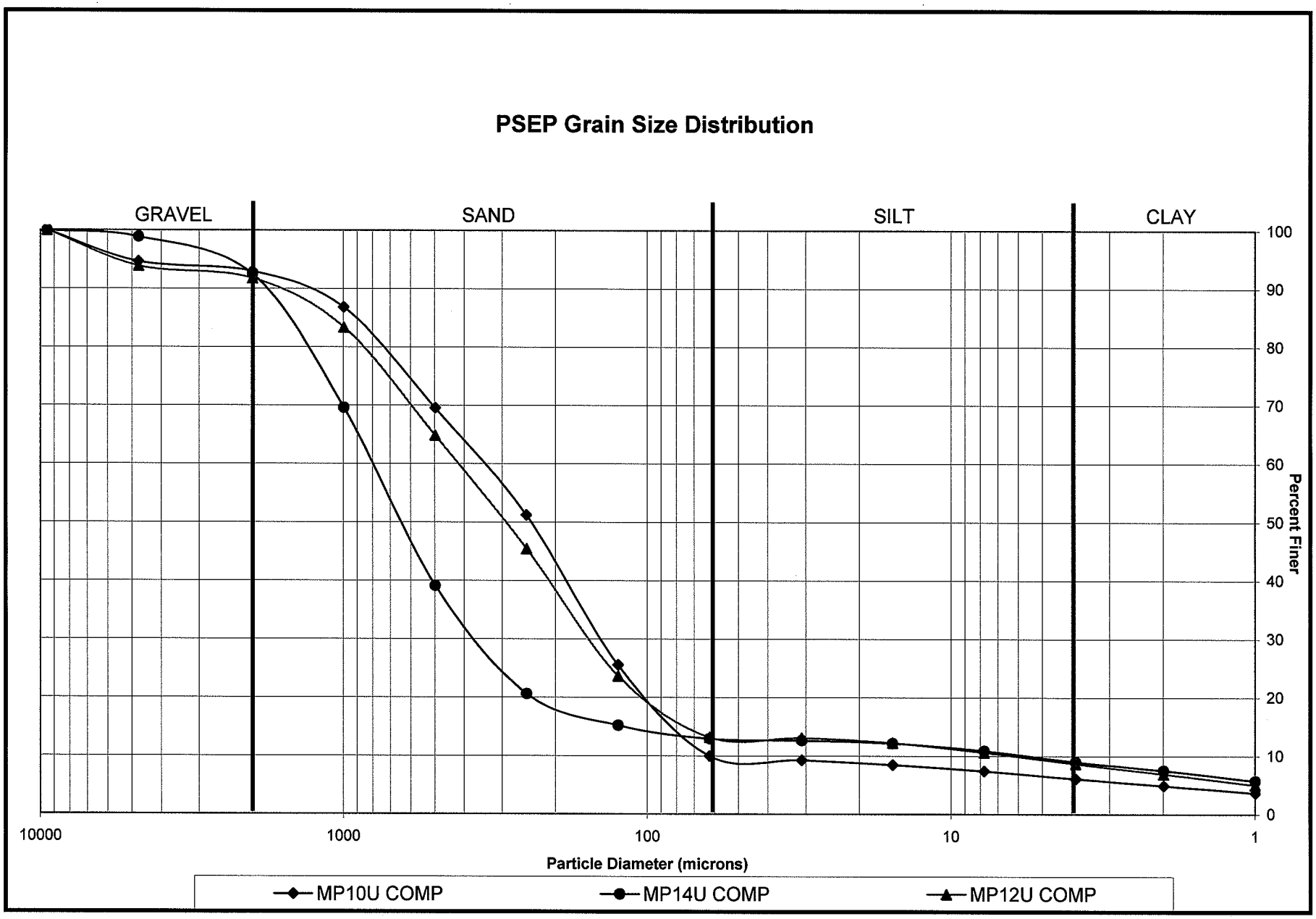
Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
WB-08-SS-010	1/6/2009	1/14/2009	1/16/2009	103.9		9.3
WB-08-SS-010	1/6/2009	1/14/2009	1/16/2009	103.7		9.9
WB-08-SS-010	1/6/2009	1/14/2009	1/16/2009	104.2		9.0
MP10U COMP	12/11/2008	1/14/2009	1/22/2009	98.7		8.8
MP14U COMP	12/11/2008	1/14/2009	1/22/2009	99.2		7.9
MP12U COMP	12/11/2008	1/14/2009	1/22/2009	99.5		10.3

* ARI Internal QA limits = 95-105%

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.


PSEP Grain Size Distribution
Triplicate Sample Plot
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
WB-08-SS-010
WB-08-SS-010
WB-08-SS-010


PSEP Grain Size Distribution
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
MP10U COMP
MP14U COMP
MP12U COMP

SAMPLE RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: MP
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Client ID: Comp CU
ARI ID: 08-34190 OF06A

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/23/08 122308#1	EPA 160.3	Percent	0.01	76.20	
Total Organic Carbon	01/08/09 010809#1	Plumb,1981	Percent	0.020	0.685	
HEM Oil & Grease	01/07/09 010709#1	9071 B	mg/kg	262	< 262	U
HEM-ST NP Oil & Grease	01/07/09	9071 B	mg/kg	262	< 262	U
HEM Polar Oil & Grease	01/07/09	9071 B	mg/kg	262	< 262	U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: MR
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Client ID: Comp CL
ARI ID: 08-34191 OF06B

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/23/08 122308#1	EPA 160.3	Percent	0.01	87.40	
Preserved Total Solids	12/23/08 122308#1	EPA 160.3	Percent	0.01	85.20	
Sulfide	12/23/08 122308#1	EPA 376.2	mg/kg	1.18	7.09	
Total Organic Carbon	01/08/09 010809#1	Plumb,1981	Percent	0.020	0.055	
HEM Oil & Grease	01/07/09 010709#1	9071 B	mg/kg	221	< 221	U
HEM-ST NP Oil & Grease	01/07/09	9071 B	mg/kg	221	< 221	U
HEM Polar Oil & Grease	01/07/09	9071 B	mg/kg	221	< 221	U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized: MB
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Client ID: LA-3 Ref
ARI ID: 08-34192 OF06C

Analyte	Date	Method	Units	RL	Sample	
Total Solids	12/23/08 122308#1	EPA 160.3	Percent	0.01	43.50	
Total Organic Carbon	01/08/09 010809#1	Plumb,1981	Percent	0.020	1.82	
HEM Oil & Grease	01/07/09 010709#1	9071 B	mg/kg	450	< 450	U
HEM-ST NP Oil & Grease	01/07/09	9071 B	mg/kg	450	< 450	U
HEM Polar Oil & Grease	01/07/09	9071 B	mg/kg	450	< 450	U

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	12/23/08	Percent	< 0.01 U
Preserved Total Solids	12/23/08	Percent	< 0.01 U
Sulfide	12/23/08	mg/kg	< 0.05 U
Total Organic Carbon	01/08/09	Percent	< 0.020 U
HEM Oil & Grease	01/07/09	mg/kg	< 200 U
HEM-ST NP Oil & Grease	01/07/09	mg/kg	< 200 U
HEM Polar Oil & Grease	01/07/09	mg/kg	< 200

LAB CONTROL RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Sulfide	12/23/08	mg/kg	4.58	6.36	72.0%
Total Organic Carbon	01/08/09	Percent	0.468	0.500	93.6%

STANDARD REFERENCE RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	01/08/09	Percent	3.36	3.35	100.3%
HEM Oil & Grease Env. Exp. #104629	01/07/09	mg/kg	8,090	8,000	101.1%

REPLICATE RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: OF06A Client ID: Comp CU					
Total Solids	12/23/08	Percent	76.20	76.60 76.80	0.4%
Total Organic Carbon	01/08/09	Percent	0.685	0.684 0.682	0.2%
ARI ID: OF06B Client ID: Comp CL					
Preserved Total Solids	12/23/08	Percent	85.20	85.20 85.00	0.1%
Sulfide	12/23/08	mg/kg	7.09	8.56	18.8%
HEM Oil & Grease	01/07/09	mg/kg	< 221	< 225 < 224	NA
HEM-ST NP Oil & Grease	01/07/09	mg/kg	< 221	< 225 < 224	NA

MS/MSD RESULTS-CONVENTIONALS
OF06-Newfields Northwest

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 01/09/09

Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: OF06B Client ID: Comp CL						
Sulfide	12/23/08	mg/kg	7.09	125	141	83.6%
HEM Oil & Grease	01/07/09	mg/kg	< 221	8,670	9,030	96.0%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Comp CU
SAMPLE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 77.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/29/08	200.8	01/02/09	7440-38-2	Arsenic	0.2	3.7	
3050B	12/29/08	200.8	01/02/09	7440-43-9	Cadmium	0.2	0.4	
3050B	12/29/08	200.8	01/02/09	7440-47-3	Chromium	0.6	12.4	
3050B	12/29/08	200.8	01/02/09	7440-50-8	Copper	0.6	18.3	
3050B	12/29/08	200.8	01/02/09	7439-92-1	Lead	1	9	
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.36	
3050B	12/29/08	200.8	01/06/09	7440-02-0	Nickel	0.6	9.2	
3050B	12/29/08	200.8	01/02/09	7782-49-2	Selenium	0.6	0.6	U
3050B	12/29/08	200.8	01/02/09	7440-22-4	Silver	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	7440-66-6	Zinc	5	44	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Comp CU DUPLICATE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	3.7	3.6	2.7%	+/- 20%	
Cadmium	200.8	0.4	0.2 U	66.7%	+/- 0.2	L
Chromium	200.8	12.4	12.1	2.4%	+/- 20%	
Copper	200.8	18.3	17.1	6.8%	+/- 20%	
Lead	200.8	9	9	0.0%	+/- 20%	
Mercury	7471A	0.36	0.72	66.7%	+/- 20%	*
Nickel	200.8	9.2	8.9	3.3%	+/- 20%	
Selenium	200.8	0.6 U	0.6 U	0.0%	+/- 0.6	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	44	40	9.5%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Comp CU
MATRIX SPIKE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	3.7	32.8	31.3	93.0%	
Cadmium	200.8	0.4	28.6	31.3	90.1%	
Chromium	200.8	12.4	39.4	31.3	86.3%	
Copper	200.8	18.3	45.2	31.3	85.9%	
Lead	200.8	9	40	31.3	99.0%	
Mercury	7471A	0.36	0.94	0.510	114%	
Nickel	200.8	9.2	41.9	31.3	104%	
Selenium	200.8	0.6 U	93.7	100	93.7%	
Silver	200.8	0.2 U	16.2	31.3	51.8%	N
Zinc	200.8	44	142	100	98.0%	

Reported in mg/kg-dry

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OF06LCS
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.4	25.0	97.6%	
Cadmium	200.8	23.5	25.0	94.0%	
Chromium	200.8	24.8	25.0	99.2%	
Copper	200.8	23.1	25.0	92.4%	
Lead	200.8	26	25	104%	
Mercury	7471A	1.01	1.00	101%	
Nickel	200.8	26.8	25.0	107%	
Selenium	200.8	77.4	80.0	96.8%	
Silver	200.8	25.2	25.0	101%	
Zinc	200.8	78	80	97.5%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Comp CL
SAMPLE

Lab Sample ID: OF06B
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 84.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/29/08	200.8	01/02/09	**7440-38-2**	**Arsenic**	0.2	**2.1**	
3050B	12/29/08	200.8	01/02/09	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	**7440-47-3**	**Chromium**	0.6	**2.8**	
3050B	12/29/08	200.8	01/02/09	**7440-50-8**	**Copper**	0.6	**1.2**	
3050B	12/29/08	200.8	01/02/09	7439-92-1	Lead	1	1	U
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.05	U
3050B	12/29/08	200.8	01/06/09	**7440-02-0**	**Nickel**	0.6	**1.9**	
3050B	12/29/08	200.8	01/02/09	7782-49-2	Selenium	0.6	0.6	U
3050B	12/29/08	200.8	01/02/09	7440-22-4	Silver	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	**7440-66-6**	**Zinc**	5	**6**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LA-3 Ref
SAMPLE

Lab Sample ID: OF06C
LIMS ID: 08-34192
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 44.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/29/08	200.8	01/02/09	7440-38-2	Arsenic	0.4	5.5	
3050B	12/29/08	200.8	01/02/09	7440-43-9	Cadmium	0.4	0.9	
3050B	12/29/08	200.8	01/02/09	7440-47-3	Chromium	1	40	
3050B	12/29/08	200.8	01/02/09	7440-50-8	Copper	1	22	
3050B	12/29/08	200.8	01/02/09	7439-92-1	Lead	2	13	
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.09	0.10	
3050B	12/29/08	200.8	01/07/09	7440-02-0	Nickel	1	24	
3050B	12/29/08	200.8	01/02/09	7782-49-2	Selenium	1	1	U
3050B	12/29/08	200.8	01/02/09	7440-22-4	Silver	0.4	0.4	U
3050B	12/29/08	200.8	01/02/09	7440-66-6	Zinc	8	83	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-10L
SAMPLE

Lab Sample ID: OF06E
LIMS ID: 08-34194
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 61.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.06	0.06	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-12L
SAMPLE

Lab Sample ID: OF06G
LIMS ID: 08-34196
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 59.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.06	0.07	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-13U
SAMPLE

Lab Sample ID: OF06H
LIMS ID: 08-34197
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 76.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	1.11	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-13L
SAMPLE

Lab Sample ID: OF06I
LIMS ID: 08-34198
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 85.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-14U L mislabelled
SAMPLE

Lab Sample ID: OF06J
LIMS ID: 08-34199
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 84.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.06	0.06	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-15U
SAMPLE

Lab Sample ID: OF06L
LIMS ID: 08-34201
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 61.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.06	3.35	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-15L
SAMPLE

Lab Sample ID: OF06M
LIMS ID: 08-34202
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 90.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-16U
SAMPLE

Lab Sample ID: OF06N
LIMS ID: 08-34203
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 81.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.07	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP-16L
SAMPLE

Lab Sample ID: OF06O
LIMS ID: 08-34204
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Percent Total Solids: 86.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OF06MB
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	12/29/08	200.8	01/02/09	7440-38-2	Arsenic	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	7440-43-9	Cadmium	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	7440-47-3	Chromium	0.5	0.5	U
3050B	12/29/08	200.8	01/02/09	7440-50-8	Copper	0.5	0.5	U
3050B	12/29/08	200.8	01/02/09	7439-92-1	Lead	1	1	U
CLP	12/29/08	7471A	12/31/08	7439-97-6	Mercury	0.05	0.05	U
3050B	12/29/08	200.8	01/06/09	7440-02-0	Nickel	0.5	0.5	U
3050B	12/29/08	200.8	01/02/09	7782-49-2	Selenium	0.5	0.5	U
3050B	12/29/08	200.8	01/02/09	7440-22-4	Silver	0.2	0.2	U
3050B	12/29/08	200.8	01/02/09	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OF06LCS
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.4	25.0	97.6%	
Cadmium	200.8	23.5	25.0	94.0%	
Chromium	200.8	24.8	25.0	99.2%	
Copper	200.8	23.1	25.0	92.4%	
Lead	200.8	26	25	104%	
Mercury	7471A	1.01	1.00	101%	
Nickel	200.8	26.8	25.0	107%	
Selenium	200.8	77.4	80.0	96.8%	
Silver	200.8	25.2	25.0	101%	
Zinc	200.8	78	80	97.5%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP10U COMP
SAMPLE

Lab Sample ID: OG68A
LIMS ID: 09-459
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/11/08
Date Received: 01/07/09

Percent Total Solids: 78.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	01/13/09	7471A	01/16/09	**7439-97-6**	**Mercury**	0.06	**0.10**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP10U COMP DUPLICATE

Lab Sample ID: OG68A
LIMS ID: 09-459
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/11/08
Date Received: 01/07/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7471A	0.10	0.11	9.5%	+/- 0.06	L

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP10U COMP
MATRIX SPIKE

Lab Sample ID: OG68A
LIMS ID: 09-459
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/11/08
Date Received: 01/07/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7471A	0.10	0.55	0.570	78.9%	

Reported in mg/kg-dry

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP14U COMP SAMPLE

Lab Sample ID: OG68B
LIMS ID: 09-460
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/11/08
Date Received: 01/07/09

Percent Total Solids: 78.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	01/13/09	7471A	01/16/09	**7439-97-6**	**Mercury**	0.06	**0.85**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MP12U COMP
SAMPLE

Lab Sample ID: OG68C
LIMS ID: 09-461
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/11/08
Date Received: 01/07/09

Percent Total Solids: 80.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	01/13/09	7471A	01/16/09	7439-97-6	Mercury	0.05	0.31	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OG68MB
LIMS ID: 09-460
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
CLP	01/13/09	7471A	01/16/09	7439-97-6	Mercury	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OG68LCS
LIMS ID: 09-460
Matrix: Sediment
Data Release Authorized:
Reported: 01/19/09

QC Report No: OG68-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7471A	1.04	1.00	104%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP CU SAMPLE

Lab Sample ID: OG93A
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 14:30
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.43 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 23.5%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.6	< 3.6	U
DBT_ION	Dibutyltin Ion	5.3	< 5.3	U
BT_ION	Butyltin Ion	3.8	< 3.8	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	67.7%
Tripentyl Tin Chloride	71.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP CL SAMPLE

Lab Sample ID: OG93B
LIMS ID: 09-610
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 15:28
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.16 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 16.8%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.7	< 3.7	U
DBT_ION	Dibutyltin Ion	5.6	< 5.6	U
BT_ION	Butyltin Ion	4.0	< 4.0	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	83.7%
Tripentyl Tin Chloride	84.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: LA-3 REF. SAMPLE

Lab Sample ID: OG93C
LIMS ID: 09-611
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 15:47
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.15 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 54.6%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.8	< 3.8	U
DBT_ION	Dibutyltin Ion	5.6	< 5.6	U
BT_ION	Butyltin Ion	4.0	< 4.0	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	74.5%
Tripentyl Tin Chloride	81.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP CU
MATRIX SPIKE

Lab Sample ID: OG93A
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted MS: 01/09/09

Date Analyzed MS: 01/12/09 14:49
MSD: 01/12/09 15:09
Instrument/Analyst MS: NT2/YZ
MSD: NT2/YZ
Silica Gel Cleanup: No

Sample Amount MS: 5.52 g-dry-wt
MSD: 5.55 g-dry-wt
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Alumina Cleanup: Yes
Moisture: 23.5%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Tributyltin Ion	< 3.6 U	33.9	40.4	83.9%	41.8	40.2	104%	20.9%
Dibutyltin Ion	< 5.3 U	42.0	34.8	121%	34.8	34.6	101%	18.8%
Butyltin Ion	< 3.8 U	22.3	28.3	78.8%	18.9	28.1	67.3%	16.5%

Results reported in μg/kg
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP CU
MATRIX SPIKE

Lab Sample ID: OG93A
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 14:49
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.52 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 23.5%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.5	---	
DBT_ION	Dibutyltin Ion	5.2	---	
BT_ION	Butyltin Ion	3.7	---	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	71.8%
Tripentyl Tin Chloride	74.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: COMP CU
MATRIX SPIKE DUP

Lab Sample ID: OG93A
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 15:09
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.55 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes
Moisture: 23.5%

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.5	---	
DBT_ION	Dibutyltin Ion	5.2	---	
BT_ION	Butyltin Ion	3.7	---	

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	74.2%
Tripentyl Tin Chloride	75.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: MB-010909
METHOD BLANK

Lab Sample ID: MB-010909
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 01/09/09
Date Analyzed: 01/12/09 13:51
Instrument/Analyst: NT2/YZ
Silica Gel Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
TBT_ION	Tributyltin Ion	3.9	< 3.9	U
DBT_ION	Dibutyltin Ion	5.8	< 5.8	U
BT_ION	Butyltin Ion	4.1	< 4.1	U

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	76.2%
Tripentyl Tin Chloride	81.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS

Sample ID: LCS-010909
LAB CONTROL SAMPLE

Lab Sample ID: LCS-010909
LIMS ID: 09-609
Matrix: Sediment
Data Release Authorized:
Reported: 01/12/09

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Date Extracted LCS: 01/09/09
Date Analyzed LCS: 01/12/09 14:11
Instrument/Analyst LCS: NT2/YZ
Silica Gel Cleanup: No

Sample Amount LCS: 5.00 g-dry-wt
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00
Alumina Cleanup: Yes

Analyte	LCS	Spike Added	Recovery
Tributyltin Ion	41.5	44.6	93.0%
Dibutyltin Ion	33.5	38.4	87.2%
Butyltin Ion	23.8	31.2	76.3%

Reported in µg/kg (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	82.7%
Tripentyl Tin Chloride	96.4%

ANALYTICAL RESOURCES INCORPORATED

TBT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OG93-Newfields Northwest
Project: MARINA PARK
Event: NA

Client ID	TPRT	TPNT	TOT OUT
MB-010909	76.2%	81.7%	0
LCS-010909	82.7%	96.4%	0
COMP CU	67.7%	71.5%	0
COMP CU MS	71.8%	74.2%	0
COMP CU MSD	74.2%	75.4%	0
COMP CL	83.7%	84.6%	0
LA-3 REF.	74.5%	81.0%	0

	LCS/MB LIMITS	QC LIMITS
(TPRT) = Tripropyl Tin Chloride	(30-160)	(30-160)
(TPNT) = Tripentyl Tin Chloride	(30-160)	(30-160)

Prep Method: SW3546
Analytical Method: TBT (Hexyl) Krone 1988
Log Number Range: 09-609 to 09-611

FORM-II TBT

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: MB-123008
METHOD BLANK

Lab Sample ID: MB-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized: MW
Reported: 01/05/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed: 01/02/09 12:51
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.2%
Tetrachlorometaxylene	87.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: Comp CU SAMPLE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/05/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/02/09 13:26
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.7 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in μg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.5%
Tetrachlorometaxylene	86.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: Comp CL SAMPLE

Lab Sample ID: OF06B
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/05/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/02/09 13:43
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.9 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 11.0%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	87.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: LA-3 Ref
SAMPLE

Lab Sample ID: OF06C
LIMS ID: 08-34192
Matrix: Sediment
Data Release Authorized: MW
Reported: 01/05/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/02/09 14:00
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 52.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.8%
Tetrachlorometaxylene	85.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-123008	84.2%	65-117	87.2%	63-119	0
LCS-123008	86.5%	65-117	95.0%	63-119	0
Comp CU	76.5%	43-148	86.8%	48-123	0
Comp CL	86.5%	43-148	87.8%	48-123	0
LA-3 Ref	77.8%	43-148	85.0%	48-123	0

PSDDA Control Limits
Prep Method: SW3550B
Log Number Range: 08-34190 to 08-34192

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: LCS-123008
LAB CONTROL

Lab Sample ID: LCS-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/05/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed: 01/02/09 13:09
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	93.1	100	93.1%
Aroclor 1260	88.4	100	88.4%

PCB Surrogate Recovery

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	95.0%

Results reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: Comp CU
SAMPLE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized: VTS
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/07/09 12:35
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.98	< 0.98 U
319-85-7	beta-BHC	0.98	< 0.98 U
319-86-8	delta-BHC	0.98	< 0.98 U
58-89-9	gamma-BHC (Lindane)	0.98	< 0.98 U
76-44-8	Heptachlor	0.98	< 0.98 U
309-00-2	Aldrin	0.98	< 0.98 U
1024-57-3	Heptachlor Epoxide	0.98	< 0.98 U
959-98-8	Endosulfan I	0.98	< 0.98 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.8	< 9.8 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.98	< 0.98 U
5103-71-9	alpha Chlordane	0.98	< 0.98 U
8001-35-2	Toxaphene	98	< 98 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	80.5%
Tetrachlorometaxylene	68.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: Comp CL
SAMPLE

Lab Sample ID: OF06B
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized: VTS
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/07/09 12:55
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 26.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 11.0%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.94	< 0.94 U
319-85-7	beta-BHC	0.94	< 0.94 U
319-86-8	delta-BHC	0.94	< 0.94 U
58-89-9	gamma-BHC (Lindane)	0.94	< 0.94 U
76-44-8	Heptachlor	0.94	< 0.94 U
309-00-2	Aldrin	0.94	< 0.94 U
1024-57-3	Heptachlor Epoxide	0.94	< 0.94 U
959-98-8	Endosulfan I	0.94	< 0.94 U
60-57-1	Dieldrin	1.9	< 1.9 U
72-55-9	4,4'-DDE	1.9	< 1.9 U
72-20-8	Endrin	1.9	< 1.9 U
33213-65-9	Endosulfan II	1.9	< 1.9 U
72-54-8	4,4'-DDD	1.9	< 1.9 U
1031-07-8	Endosulfan Sulfate	1.9	< 1.9 U
50-29-3	4,4'-DDT	1.9	< 1.9 U
72-43-5	Methoxychlor	9.4	< 9.4 U
7421-93-4	Endrin Aldehyde	1.9	< 1.9 U
5103-74-2	gamma Chlordane	0.94	< 0.94 U
5103-71-9	alpha Chlordane	0.94	< 0.94 U
8001-35-2	Toxaphene	94	< 94 U
789-02-6	2,4'-DDT	1.9	< 1.9 U
3424-82-6	2,4'-DDE	1.9	< 1.9 U
53-19-0	2,4'-DDD	1.9	< 1.9 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	78.5%
Tetrachlorometaxylene	63.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: LA-3 Ref
SAMPLE

Lab Sample ID: OF06C
LIMS ID: 08-34192
Matrix: Sediment
Data Release Authorized: VTS
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/07/09 13:15
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.6 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 52.5%

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.98	< 0.98 U
319-85-7	beta-BHC	0.98	< 0.98 U
319-86-8	delta-BHC	0.98	< 0.98 U
58-89-9	gamma-BHC (Lindane)	0.98	< 0.98 U
76-44-8	Heptachlor	0.98	< 0.98 U
309-00-2	Aldrin	0.98	< 0.98 U
1024-57-3	Heptachlor Epoxide	0.98	< 0.98 U
959-98-8	Endosulfan I	0.98	< 0.98 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	9.8	< 9.8 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	0.98	< 0.98 U
5103-71-9	alpha Chlordane	0.98	< 0.98 U
8001-35-2	Toxaphene	98	< 98 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	80.0%
Tetrachlorometaxylene	70.0%

ANALYTICAL RESOURCES INCORPORATED

SW8081 PESTICIDE SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Client ID	DCBP	TCMX	TOT OUT
MB-123008	82.2%	73.5%	0
LCS-123008	83.8%	70.5%	0
Comp CU	80.5%	68.2%	0
Comp CL	78.5%	63.5%	0
LA-3 Ref	80.0%	70.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(65-125)	(52-143)
(TCMX) = Tetrachlorometaxylene	(53-112)	(43-128)

Prep Method: SW3550B
Log Number Range: 08-34190 to 08-34192

FORM-II SW8081

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: LCS-123008
LAB CONTROL

Lab Sample ID: LCS-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized: VTS
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/07/09 12:14
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
alpha-BHC	3.12	4.00	78.0%
beta-BHC	3.30	4.00	82.5%
delta-BHC	3.52	4.00	88.0%
gamma-BHC (Lindane)	3.40	4.00	85.0%
Heptachlor	3.24	4.00	81.0%
Aldrin	3.46	4.00	86.5%
Heptachlor Epoxide	4.16	4.00	104%
Endosulfan I	3.74	4.00	93.5%
Dieldrin	7.62	8.00	95.2%
4,4'-DDE	8.82	8.00	110%
Endrin	7.34	8.00	91.8%
Endosulfan II	7.94	8.00	99.2%
4,4'-DDD	7.64	8.00	95.5%
Endosulfan Sulfate	7.86	8.00	98.2%
4,4'-DDT	8.24	8.00	103%
Methoxychlor	39.6	40.0	99.0%
Endrin Aldehyde	5.08	8.00	63.5%
gamma Chlordane	4.02	4.00	100%
alpha Chlordane	4.08	4.00	102%

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	83.8%
Tetrachlorometaxylene	70.5%

Reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Pesticides/PCB by GC/ECD

Sample ID: MB-123008
METHOD BLANK

Lab Sample ID: MB-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized: VTS
Reported: 01/08/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed: 01/07/09 11:54
Instrument/Analyst: ECD4/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Florisil Cleanup: No
Acid Cleanup: No

Sample Amount: 25.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	1.0	< 1.0 U
319-85-7	beta-BHC	1.0	< 1.0 U
319-86-8	delta-BHC	1.0	< 1.0 U
58-89-9	gamma-BHC (Lindane)	1.0	< 1.0 U
76-44-8	Heptachlor	1.0	< 1.0 U
309-00-2	Aldrin	1.0	< 1.0 U
1024-57-3	Heptachlor Epoxide	1.0	< 1.0 U
959-98-8	Endosulfan I	1.0	< 1.0 U
60-57-1	Dieldrin	2.0	< 2.0 U
72-55-9	4,4'-DDE	2.0	< 2.0 U
72-20-8	Endrin	2.0	< 2.0 U
33213-65-9	Endosulfan II	2.0	< 2.0 U
72-54-8	4,4'-DDD	2.0	< 2.0 U
1031-07-8	Endosulfan Sulfate	2.0	< 2.0 U
50-29-3	4,4'-DDT	2.0	< 2.0 U
72-43-5	Methoxychlor	10	< 10 U
7421-93-4	Endrin Aldehyde	2.0	< 2.0 U
5103-74-2	gamma Chlordane	1.0	< 1.0 U
5103-71-9	alpha Chlordane	1.0	< 1.0 U
8001-35-2	Toxaphene	100	< 100 U
789-02-6	2,4'-DDT	2.0	< 2.0 U
3424-82-6	2,4'-DDE	2.0	< 2.0 U
53-19-0	2,4'-DDD	2.0	< 2.0 U

Reported in µg/kg (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	82.2%
Tetrachlorometaxylene	73.5%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Client ID	MNP	DBA	TOT OUT
MB-123008	67.7%	80.3%	0
LCS-123008	67.3%	82.7%	0
Comp CU	69.0%	79.7%	0
Comp CL	64.7%	81.3%	0
LA-3 Ref	71.7%	87.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(44-100)	(37-106)
(DBA) = d14-Dibenzo(a,h)anthracene	(46-121)	(16-118)

Prep Method: SW3550B
Log Number Range: 08-34190 to 08-34192

FORM-II SIM SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: Comp CU SAMPLE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/03/09 18:23
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.8	< 4.8 U
86-73-7	Fluorene	4.8	< 4.8 U
85-01-8	Phenanthrene	4.8	< 4.8 U
120-12-7	Anthracene	4.8	< 4.8 U
206-44-0	**Fluoranthene**	**4.8**	**15**
129-00-0	**Pyrene**	**4.8**	**19**
56-55-3	**Benzo(a)anthracene**	**4.8**	**6.3**
218-01-9	**Chrysene**	**4.8**	**7.8**
205-99-2	**Benzo(b)fluoranthene**	**4.8**	**12**
50-32-8	**Benzo(a)pyrene**	**4.8**	**16**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.8**	**12**
53-70-3	Dibenz(a,h)anthracene	4.8	< 4.8 U
191-24-2	**Benzo(g,h,i)perylene**	**4.8**	**20**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	69.0%
d14-Dibenzo(a,h)anthracen	79.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: Comp CL
SAMPLE

Lab Sample ID: OF06B
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/03/09 18:48
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 11.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 11.0%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.5	< 4.5 U
86-73-7	Fluorene	4.5	< 4.5 U
85-01-8	Phenanthrene	4.5	< 4.5 U
120-12-7	Anthracene	4.5	< 4.5 U
206-44-0	Fluoranthene	4.5	< 4.5 U
129-00-0	Pyrene	4.5	< 4.5 U
56-55-3	Benzo(a)anthracene	4.5	< 4.5 U
218-01-9	Chrysene	4.5	< 4.5 U
205-99-2	Benzo(b)fluoranthene	4.5	< 4.5 U
50-32-8	Benzo(a)pyrene	4.5	< 4.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.5	< 4.5 U
53-70-3	Dibenz(a,h)anthracene	4.5	< 4.5 U
191-24-2	Benzo(g,h,i)perylene	4.5	< 4.5 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.7%
d14-Dibenzo(a,h)anthracen	81.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LA-3 Ref
SAMPLE

Lab Sample ID: OF06C
LIMS ID: 08-34192
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
Event: NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/03/09 19:13
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.3 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 52.5%

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	4.8	< 4.8 U
86-73-7	Fluorene	4.8	< 4.8 U
85-01-8	Phenanthrene	4.8	< 4.8 U
120-12-7	Anthracene	4.8	< 4.8 U
206-44-0	**Fluoranthene**	**4.8**	**8.7**
129-00-0	**Pyrene**	**4.8**	**11**
56-55-3	Benzo(a)anthracene	4.8	< 4.8 U
218-01-9	**Chrysene**	**4.8**	**5.8**
205-99-2	**Benzo(b)fluoranthene**	**4.8**	**5.3**
50-32-8	**Benzo(a)pyrene**	**4.8**	**5.3**
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	< 4.8 U
53-70-3	Dibenz(a,h)anthracene	4.8	< 4.8 U
191-24-2	**Benzo(g,h,i)perylene**	**4.8**	**4.8**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	71.7%
d14-Dibenzo(a,h)anthracen	87.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-123008
METHOD BLANK

Lab Sample ID: MB-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed: 01/03/09 17:34
Instrument/Analyst: NT1/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.0 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	67.7%
d14-Dibenzo(a,h)anthracen	80.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-123008
LAB CONTROL SAMPLE

Lab Sample ID: LCS-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed LCS: 01/03/09 17:58
Instrument/Analyst LCS: NT1/YZ

Sample Amount LCS: 10.0 g-dry-wt
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Acenaphthene	108	150	72.0%
Fluorene	108	150	72.0%
Phenanthrene	114	150	76.0%
Anthracene	115	150	76.7%
Fluoranthene	134	150	89.3%
Pyrene	134	150	89.3%
Benzo(a)anthracene	132	150	88.0%
Chrysene	132	150	88.0%
Benzo(b)fluoranthene	128	150	85.3%
Benzo(a)pyrene	140	150	93.3%
Indeno(1,2,3-cd)pyrene	124	150	82.7%
Dibenz(a,h)anthracene	124	150	82.7%
Benzo(g,h,i)perylene	118	150	78.7%

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	67.3%
d14-Dibenzo(a,h)anthracen	82.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: Comp CU
SAMPLE

Lab Sample ID: OF06A
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/05/09 15:59
Instrument/Analyst: NT4/LJR
GPC Cleanup: No

Sample Amount: 26.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 22.6%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	19	< 19 U
84-66-2	Diethylphthalate	19	< 19 U
85-68-7	Butylbenzylphthalate	19	< 19 U
117-81-7	bis(2-Ethylhexyl)phthalate	19	< 19 U
117-84-0	Di-n-Octyl phthalate	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	68.4%
2-Fluorobiphenyl	76.0%
d14-p-Terphenyl	79.2%
d4-1,2-Dichlorobenzene	64.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: Comp CL
SAMPLE

Lab Sample ID: OF06B
LIMS ID: 08-34191
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/05/09 16:33
Instrument/Analyst: NT4/LJR
GPC Cleanup: No

Sample Amount: 26.3 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 11.0%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	19	< 19 U
84-66-2	Diethylphthalate	19	< 19 U
85-68-7	Butylbenzylphthalate	19	< 19 U
117-81-7	bis(2-Ethylhexyl)phthalate	19	< 19 U
117-84-0	Di-n-Octyl phthalate	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	58.4%
2-Fluorobiphenyl	59.2%
d14-p-Terphenyl	68.8%
d4-1,2-Dichlorobenzene	45.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: LA-3 Ref
SAMPLE

Lab Sample ID: OF06C
LIMS ID: 08-34192
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
NA
Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/05/09 17:07
Instrument/Analyst: NT4/LJR
GPC Cleanup: No

Sample Amount: 25.2 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 52.5%

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	54.8%
2-Fluorobiphenyl	62.4%
d14-p-Terphenyl	66.0%
d4-1,2-Dichlorobenzene	50.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: MB-123008
METHOD BLANK

Lab Sample ID: MB-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 12/30/08
Date Analyzed: 01/05/09 14:52
Instrument/Analyst: NT4/LJR
GPC Cleanup: No

Sample Amount: 25.0 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	20	< 20 U
84-66-2	Diethylphthalate	20	< 20 U
85-68-7	Butylbenzylphthalate	20	< 20 U
117-81-7	bis(2-Ethylhexyl)phthalate	20	< 20 U
117-84-0	Di-n-Octyl phthalate	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	60.0%
2-Fluorobiphenyl	64.8%
d14-p-Terphenyl	83.2%
d4-1,2-Dichlorobenzene	58.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270 GC/MS

Sample ID: LCS-123008
LAB CONTROL

Lab Sample ID: LCS-123008
LIMS ID: 08-34190
Matrix: Sediment
Data Release Authorized:
Reported: 01/06/09

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Date Sampled: 12/08/08
Date Received: 12/17/08

Date Extracted: 12/30/08
Date Analyzed: 01/05/09 15:25
Instrument/Analyst: NT4/LJR
GPC Cleanup: NO

Sample Amount: 25.0 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Dimethylphthalate	400	500	80.0%
Diethylphthalate	427	500	85.4%
Butylbenzylphthalate	388	500	77.6%
bis(2-Ethylhexyl)phthalate	397	500	79.4%
Di-n-Octyl phthalate	401	500	80.2%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	57.2%
2-Fluorobiphenyl	62.8%
d14-p-Terphenyl	74.0%
d4-1,2-Dichlorobenzene	50.4%

Results reported in µg/kg

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: OF06-Newfields Northwest
Project: Marina Park

Client ID	NBZ	FBP	TPH	DCB	TOT OUT
MB-123008	60.0%	64.8%	83.2%	58.0%	0
LCS-123008	57.2%	62.8%	74.0%	50.4%	0
Comp CU	68.4%	76.0%	79.2%	64.4%	0
Comp CL	58.4%	59.2%	68.8%	45.6%	0
LA-3 Ref	54.8%	62.4%	66.0%	50.4%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(37-85)	(29-87)
(FBP) = 2-Fluorobiphenyl	(39-82)	(32-88)
(TPH) = d14-p-Terphenyl	(38-105)	(21-97)
(DCB) = d4-1,2-Dichlorobenzene	(33-79)	(25-82)

Prep Method: SW3550B
Log Number Range: 08-34190 to 08-34192

FORM-II SW8270

Appendix C
Benthic Toxicity Tests
Data Sheets and Supporting Information

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Ampelisca abdida*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01	1530	

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Control /	0	1	3	5.3	3	18.9	3	30 ~~27~~	3	7.9	✓	12/19
Control /	0	2	↓	6.4	↓	18.8	↓	30 27	↓	7.9	↓	↓
Control /	0	3	↓	5.9	↓	19.1	↓	30 ~~26~~	↓	7.7	↓	↓
Control /	0	4	↓	6.3	↓	19.1	↓	30 ~~27~~	↓	7.8	↓	↓
Control /	0	5	↓	5.6	↓	18.9	↓	30 ~~27~~	↓	7.9	↓	↓
Control /	1	1	3	7.2	3	19.4	3	29	3	8.0	BH	12/20
Control /	2	2	3	6.9	3	19.5	3	30	3	8.1	MMB	12/21
Control /	3	3	3	6.8	3	19.5	3	30	3	7.8	MMB	12/22
Control /	4	4	3	6.8	3	19.4	3	31	3	7.9	[illegible]	12-23
Control /	5	5	3	6.8	3	19.4	3	30	3	8.2	✓	12/24
Control /	6	1	3	6.6	3	19.4	3	29	1	8.1	BWG	12/25
Control /	7	2	3	6.2	3	19.3	3	29	3	7.7	MRP	12/26
Control /	8	3	3	7.3	3	18.6	3	30	3	8.0	[illegible]	12/27
Control /	9	4	3	6.8	3	19.1	3	30	3	8.0	[illegible]	12/28
Control /	10	1	3	5.8	3	19.0	3	31	3	8.5	✓	12/29
Control /	10	2	↓	5.8	↓	19.1	↓	31	↓	8.5	↓	↓
Control /	10	3	↓	5.7	↓	19.1	↓	31	↓	8.4	↓	↓
Control /	10	4	↓	5.8	↓	19.0	↓	32	↓	8.4	↓	↓
Control /	10	5	↓	5.8	↓	19.0	↓	31	↓	8.4	↓	↓

① Sal too low renewed w/ Seawater w/ higher Sal 12/19/08 ✓

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Ampelisca abdida*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
			D.O.		TEMP		SALINITY		pH			
CLIENT/NEWFIELDS ID	DAY	REP	meter	mg/L	meter	°C	meter	ppt	meter	unit		
LA-3 Reference /	0	1	3	7.0	3	19.2	3	31	3	8.1	✓	12/19
LA-3 Reference /	0	2		7.0		19.3		31		8.1		
LA-3 Reference /	0	3		6.9		19.1		31		8.1		
LA-3 Reference /	0	4		6.9		19.2		31		8.0		
LA-3 Reference /	0	5		7.0		19.1		31		8.2		
LA-3 Reference /	1	1	3	7.2	3	19.5	3	31	3	8.0	BK	12/20
LA-3 Reference /	2	2	3	7.0	3	19.6	3	32	3	8.2	MMB	12/21
LA-3 Reference /	3	3	3	6.9	3	19.4	3	33	3	8.1	MMB	12/22
LA-3 Reference /	4	4	3	6.8	3	19.4	3	33	3	8.1	FP	12/23
LA-3 Reference /	5	5	3	6.8	3	19.3	3	33	3	8.1	✓	12/24
LA-3 Reference /	6	1	3	6.7	3	19.4	3	31	1	8.1	BWB	12/25
LA-3 Reference /	7	2	3	6.8	3	19.3	3	32	3	7.8	MRP	12/26
LA-3 Reference /	8	3	3	7.7	3	18.3	3	33	3	8.0	TS	12/27
LA-3 Reference /	9	4	3	7.0	3	19.0	3	33	3	7.9	TS	12/28
LA-3 Reference /	10	1	3	6.0	3	19.0	3	36	3	8.4	✓	12/29
LA-3 Reference /	10	2		5.9		19.1		35		8.3		
LA-3 Reference /	10	3		5.8		19.1		34		8.3		
LA-3 Reference /	10	4		5.7		19.2		33		8.3		
LA-3 Reference /	10	5		5.8		19.1		35		8.3		

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Ampelisca abdida*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Comp C-U /	0	1	3	7.1	3	19.2	3	31	3	8.1	✓	12/19
Comp C-U /	0	2	↓	7.1	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-U /	0	3	↓	7.0	↓	19.3	↓	31	↓	8.1	↓	↓
Comp C-U /	0	4	↓	7.2	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-U /	0	5	↓	7.1	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-U /	1	1	3	7.2	3	19.4	3	31	3	8.0	BH	12/20
Comp C-U /	2	2	3	7.0	3	19.6	3	31	3	8.1	MMB	12/21
Comp C-U /	3	3	3	6.9	3	19.5	3	32	3	8.2	MMB	12/22
Comp C-U /	4	4	3	6.9	3	19.5	3	32	3	8.1	DP	12/23
Comp C-U /	5	5	3	6.9	3	19.3	3	33	3	8.2	✓	12/24
Comp C-U /	6	1	3	6.5	3	19.4	3	31	1	8.0	RWG	12/25
Comp C-U /	7	2	3	6.0	3	19.3	3	32	3	7.7	MRP	12/26
Comp C-U /	8	3	3	8.0	3	17.8	3	33	3	8.0	TS	12/27
Comp C-U /	9	4	3	6.8	3	19.0	3	32	3	8.0	TS	12/28
Comp C-U /	10	1	3	5.7	3	19.2	3	33	3	8.3	✓	12/29
Comp C-U /	10	2	↓	5.9	↓	19.1	↓	34	↓	8.3	↓	↓
Comp C-U /	10	3	↓	5.8	↓	19.1	↓	35	↓	8.3	↓	↓
Comp C-U /	10	4	↓	5.7	↓	19.2	↓	33	↓	8.2	↓	↓
Comp C-U /	10	5	↓	5.5	↓	19.1	↓	33	↓	8.2	↓	↓

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Ampelisca abdida*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Comp C-L /	0	1	3	7.0	3	19.1	3	31	3	8.1	✓	12/19
Comp C-L /	0	2	↓	7.0	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-L /	0	3	↓	7.0	↓	19.3	↓	31 ~~19.2~~ ①✓	↓	8.1	↓	↓
Comp C-L /	0	4	↓	6.9	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-L /	0	5	↓	7.0	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-L /	1	1	3	7.2	3	19.5	3	31	3	8.1	RH	12/20
Comp C-L /	2	2	3	7.0	3	19.6	3	31	3	8.1	MMB	12/21
Comp C-L /	3	3	3	6.5	3	19.4	3	32	3	8.2	MMB	12/22
Comp C-L /	4	4	3	6.9	3	19.3	3	32	3	8.1	BP	12-23
Comp C-L /	5	5	3	6.8	3	19.4	3	32	3	8.2	✓	12/24
Comp C-L /	6	1	3	6.6	3	19.4	3	31	1	8.0	BWG	12/25
Comp C-L /	7	2	3	6.3	3	19.5	3	32	3	7.8	MRP	12/26
Comp C-L /	8	3	3	8.0	3	18.0	3	33	3	8.0	TS	12/27
Comp C-L /	9	4	3	6.8	3	19.1	3	33	3	8.0	[illegible]	12/28
Comp C-L /	10	1	3	5.8	3	19.1	3	34	3	8.3	✓	12/29
Comp C-L /	10	2	↓	5.8	↓	19.1	↓	34	↓	8.3	↓	↓
Comp C-L /	10	3	↓	6.0	↓	19.1	↓	33	↓	8.2	↓	↓
Comp C-L /	10	4	↓	5.9	↓	19.1	↓	33	↓	8.2	↓	↓
Comp C-L /	10	5	↓	6.0	↓	19.1	↓	35	↓	8.2	↓	↓

① WC 12/19/08 ✓

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Ampelisca		

PRETEST / INITIAL / FINAL / OTHER (circle one) **DAY of TEST:** 0
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/19/08	19	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	surr.	12/19/08 CR	<0.5	18.5	12/19/08 CR	N			
LA-3 Ref.	↓	↓	<0.5		↓	↓			
Comp. C-U			<0.5						
Comp. C-L			<0.5						

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Ampelisca		

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: _____
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/19/08	19.0	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	Surr	12/19/08 CR	1.04	19	12/19/08 CR	N			
LA-3 Ref	↓	↓	0.680		↓	↓			
Comp. C-U	↓	↓	0.688		↓	↓			
Comp C-L	↓	↓	<0.5		↓	↓			

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MAN.	NEWFIELDS LAB	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	B. Gardiner	Port Gamble Bath 7	USEPA/USCOE 1991	*Ampelisca abdida*

ENDPOINT DATA & OBSERVATIONS

#E = Emergence
#M = Number of Mortality
G = Growth
(fungal, bacterial, or algal)
D = No Air Flow (DO?)
N = Normal

INITIAL # OF ORGANISMS: 20

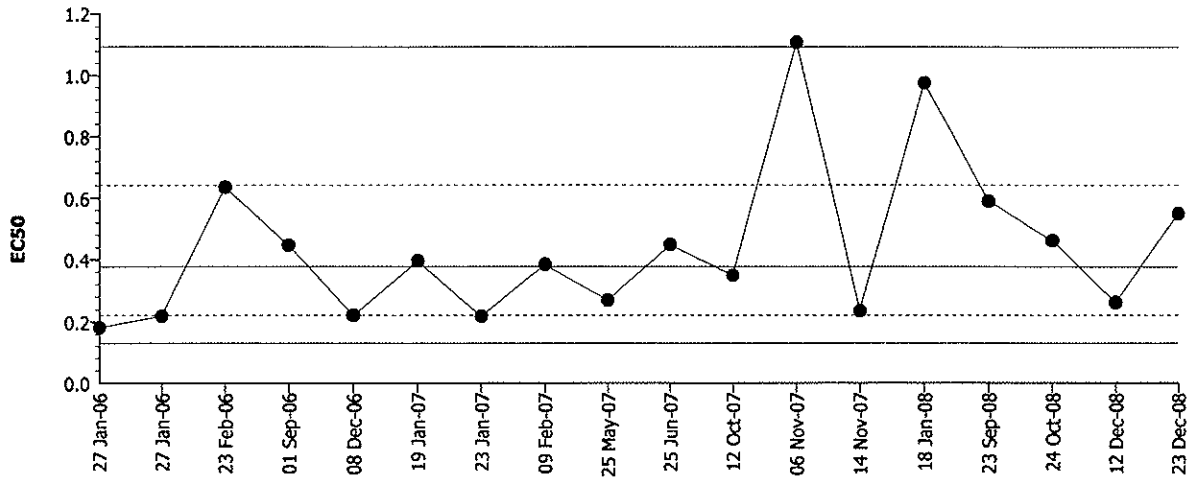
CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10	NUMBER REMAINING
				DATE 12/20/08	DATE 12/21	DATE 12/22	DATE 12/23	DATE 12/24	DATE 12/25	DATE 12/26	DATE 12/27	DATE 12/28	DATE 12/29	
				TECHNICIAN BH	TECHNICIAN MMB	TECHNICIAN MMB	TECHNICIAN [illegible]	TECHNICIAN [illegible]	TECHNICIAN BWG	TECHNICIAN MPP	TECHNICIAN TS	TECHNICIAN TS	TECHNICIAN [illegible]	
				OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	
Control /	1	20		N	N	N	N	N	N	N	N	N	IE	18
	2								N	N			N	18
	3								IM	IM			IE	18
	4								N	N			N	17
	5								N	N				19
LA-3 Reference /	1	2							N	N				18
	2								IE/IM	N				18
	3								IM	N				18
	4								N	N				19
	5								N	N				19
Comp C-U /	1	11							N	N				~~19~~ 20
	2								N	N				~~17~~ 17
	3								N	N				~~19~~ 17
	4								N	N			IE	~~18~~ 17
	5								IM	IM			N	16
Comp C-L /	1	15							N	N				19
	2								N	N				17
	3								N	N				17
	4								N	N			IE	18
	5								N	N			N	18

CETIS QC Chart

Report Date: 14 Jan-09 10:23 AM

Reference Toxicant 96-h Acute Survival Test **NewFields**

Test Type: Survival **Organism:** Ampelisca abdita (Amphipod) **Material:** Cadmium chloride
Protocol: PSEP (1995) **Endpoint:** Proportion Survived **Source:** Reference Toxicant-REF



Mean:	0.37686	**Count:**	17	**-1s Warning Limit:**	0.22126	**-2s Action Limit:**	0.12990
Sigma:		**CV:**	70.33%	**+1s Warning Limit:**	0.64189	**+2s Action Limit:**	1.09330

Quality Control Data

Point	Year	Month	Day	Data	Delta	Sigma	Warning	Action	Test Link	Analysis
1	2006	Jan	27	0.18090	-0.19595	-1.37810	(-)		07-5435-8129	06-2014-1066
2			27	0.21846	-0.15839	-1.02383	(-)		02-3876-2955	12-1597-4541
3		Feb	23	0.63498	0.25812	0.97968			17-3687-3273	06-7672-2441
4		Sep	1	0.44694	0.07009	0.32029			11-8706-7493	01-2691-7469
5		Dec	8	0.22112	-0.15574	-1.00114	(-)		01-8163-5765	09-7294-9655
6	2007	Jan	19	0.39559	0.01873	0.09108			05-1919-0451	04-7876-6509
7			23	0.21727	-0.15958	-1.03411	(-)		13-4550-6899	02-3067-5161
8		Feb	9	0.38474	0.00788	0.03886			04-8872-6896	02-4257-0063
9		May	25	0.26923	-0.10763	-0.63150			16-5938-6055	08-1846-1770
10		Jun	25	0.44847	0.07161	0.32669			02-7818-3113	07-6434-4735
11		Oct	12	0.34850	-0.02835	-0.14687			07-2723-0368	03-4167-3848
12		Nov	6	1.10809	0.73124	2.02523	(+)	(+)	02-8822-1003	13-2266-5070
13			14	0.23515	-0.14171	-0.88567			10-0087-4493	11-2555-9069
14	2008	Jan	18	0.97369	0.59684	1.78244	(+)		16-7804-5373	13-2534-3341
15		Sep	23	0.58928	0.21243	0.83945			03-2847-7880	18-3138-3652
16		Oct	24	0.46182	0.08496	0.38176			14-6257-4714	01-6783-1439
17		Dec	12	0.26177	-0.11509	-0.68426			17-4134-1431	08-7847-9030
18			23	0.54863	0.17178	0.70522			21-3281-1872	04-2474-4340

CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — NewFields

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Comparison	21-3281-1872	21-3281-1872	14 Jan-09 10:11 AM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Dunnett's Multiple Comparison	C > T	Angular (Corrected)		0.25	0.5	400	0.35355	39.54%

Group Comparisons

Control	vs	Conc-mg/L	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Water		0.125	1.62492	2.46559	0.1793	0.36234	Non-Significant Effect
		0.25	1.65966	2.46559	0.1708	0.36234	Non-Significant Effect
		0.5	3.0498	2.46559	0.0193	0.36234	Significant Effect
		1	4.97255	2.46559	0.0010	0.36234	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.8975322	0.2243831	4	6.93	0.00613	Significant Effect
Error	0.3239474	0.0323947	10			
Total	1.22147965	0.2567778	14			

ANOVA Assumptions

Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Bartlett	1.99337	13.27670	0.73698	Equal Variances
Distribution	Shapiro-Wilk W	0.94443		0.44135	Normal Distribution

Data Summary

			Original Data				Transformed Data			
Conc-mg/L	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Water	3	0.80000	0.70000	1.00000	0.17321	1.13144	0.99116	1.41202	0.24298
0.125		3	0.60000	0.50000	0.80000	0.17321	0.89265	0.78540	1.10715	0.18576
0.25		3	0.60000	0.50000	0.70000	0.10000	0.88754	0.78540	0.99116	0.10289
0.5		3	0.40000	0.30000	0.50000	0.10000	0.68325	0.57964	0.78540	0.10289
1		3	0.16667	0.00000	0.30000	0.15275	0.40069	0.15878	0.57964	0.21738

Data Detail

Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	0.70000	0.70000	1.00000							
0.125		0.50000	0.50000	0.80000							
0.25		0.50000	0.60000	0.70000							
0.5		0.50000	0.40000	0.30000							
1		0.20000	0.30000	0.00000							

CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Linear Regression	21-3281-1872	21-3281-1872	14 Jan-09 10:12 AM	CETISv1.1.2

Linear Regression Options

Model Function	Threshold Option	Threshold	Threshold Opt	Reweighted	Pooled Groups	Het Corr
Log-Normal [NED=A+B*log(X)]	Control Threshold	0.2	Yes	Yes	No	No

Regression Summary

Iters	Log Likelihood	Mu	Sigma	G	Chi-Sq	Critical	P-Value	Decision(0.05)
36	-75.73683	1.72745	0.29335	0.25350	10.82990	22.36203	0.62506	Non-Significant Heterogeneity

Point Estimates

% Effect	Conc-mg/L	95% LCL	95% UCL
10	0.230857	0.05868554	0.379844
15	0.2724253	0.08116146	0.4279859
20	0.3107383	0.1048226	0.4714451
25	0.3478742	0.1303138	0.5131532
40	0.4623413	0.2229078	0.6428301
50	0.5486319	0.3036974	0.7462605

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Statistic	P-Value	Decision(0.05)
Threshold	0.2953582	0.06229078	0.1732683	0.4174482	4.742	0.00039	Significant
Slope	3.408944	0.8756865	1.692598	5.125289	3.893	0.00185	Significant
Intercept	5.888776	0.2613715	5.376488	6.401064	22.530	0.00000	Significant

Residual Analysis

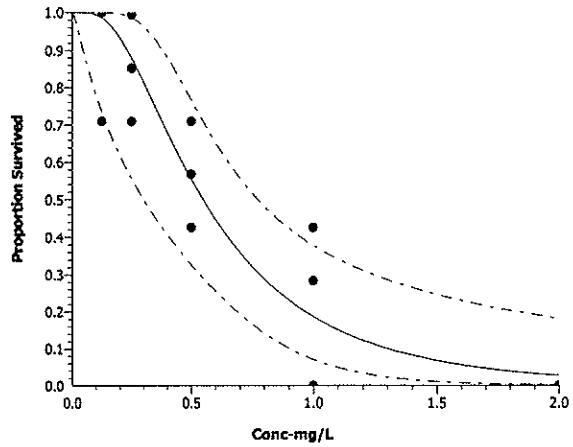
Attribute	Method	Statistic	Critical	P-Value	Decision(0.05)
Variances	Modified Levene	3.93714	3.47805	0.03586	Unequal Variances
Distribution	Shapiro-Wilk W	0.9449845		0.44918	Normal Distribution

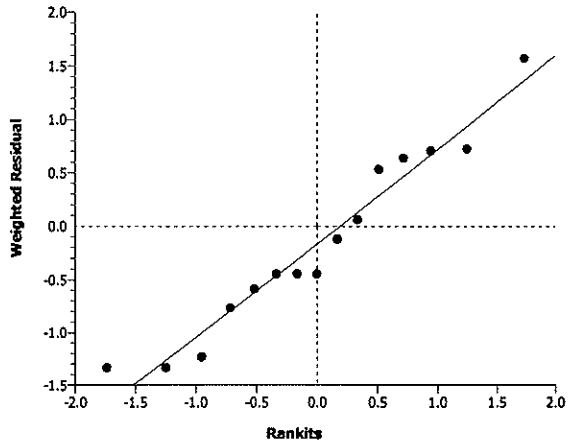
Data Summary

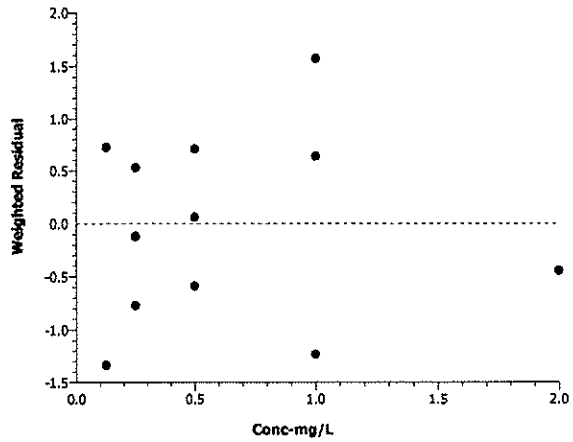
			Calculated Variate(A/B)						
Conc-mg/	Control Type	Count	Mean	Minimum	Maximum	SE	SD	A	B
0	Dilution Water	3	0.80000	0.70000	1.00000	0.03536	0.17321	24	30
0.125		3	0.60000	0.50000	0.80000	0.03536	0.17321	18	30
0.25		3	0.60000	0.50000	0.70000	0.02041	0.10000	18	30
0.5		3	0.40000	0.30000	0.50000	0.02041	0.10000	12	30
1		3	0.16667	0.00000	0.30000	0.03118	0.15275	5	30
2		3	0.00000	0.00000	0.00000	0.00000	0.00000	0	30

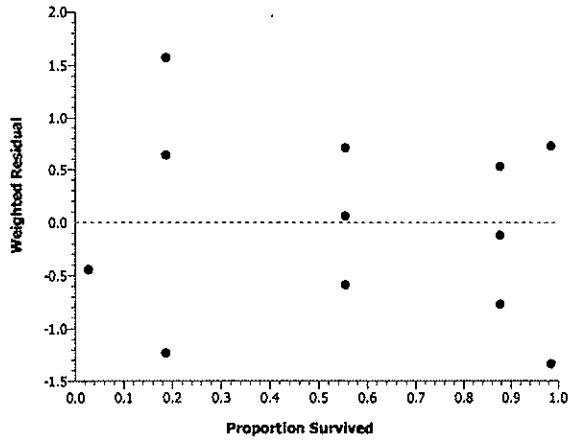
CETIS Analysis Detail

Graphics









NEWFIELDS

REFERENCE TOXICANT TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Ampelisca abdida*	Port Gamble Bath 7	USEPA/USCOE 1991

NEWFIELDS JOB NUMBER	PROJECT MANAGER	QUANTITY OF STOCK TARGET: 0.3 mL	QUANTITY OF DILUENT: 1500mL	INIT CR
1105-005-860	B. Gardiner	ACTUAL: 0.2997mL	ACTUAL: 1500.0mL	DATE PREP 12/23/08

TEST ID	LOT #:	TEST START DATE	TIME	TEST END DATE	TIME
P080418.36	06510 TC	23Dec08	1300	27Dec08	1200

WATER QUALITY DATA

DILTIN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXXICANT	LOT NO.	96-H LC_{50}
FSW121808.01	0	cadmium chloride	cadmium		

TEST CONDITIONS	DO (mg/L)	TEMP(C)	SAL (ppt)	pH	TECHNICIAN	AMMONIA	SULFIDES
	≥ 5.0	20 ± 1	20 ± 1	8.0 ± 0.5			

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	WQ TECH	AMMONIA METER	AMMONIA mg/L	Tech	SULFIDES meter	SULFIDES mg/L	Tech
Ref.Tox.-cadmium	0	mg/L	0	Stock	3	7.0	3	19.4	3	28	3	7.7	DP						
			4	1	3	6.6	3	19.2	3	29	3	7.7	TS						
Ref.Tox.-cadmium	0.125	mg/L	0	Stock	3	7.1	3	19.5	3	28	3	7.7	DP						
			4	1	3	6.7	3	19.3	3	29	3	7.9	TS						
Ref.Tox.-cadmium	0.25	mg/L	0	Stock	3	7.1	3	19.4	3	28	3	7.7	DP						
			4	1	3	6.6	3	19.2	3	29	3	7.9	TS						
Ref.Tox.-cadmium	0.5	mg/L	0	Stock	3	7.1	3	19.4	3	28	3	7.7	DP						
			4	1	3	6.7	3	19.2	3	29	3	7.9	TS						
Ref.Tox.-cadmium	1	mg/L	0	Stock	3	7.0	3	19.4	3	28	3	7.7	DP						
			4	1	3	6.5	3	19.2	3	29	3	7.9	TS						
Ref.Tox.-cadmium	2	mg/L	0	Stock	3	7.0	3	19.4	3	28	3	7.7	DP						
			4	NA															

NEWFIELDS

REFE..ENCE TOXICANT TEST SUR..VAL DATASHEET

SPECIES	CLIENT	PROJECT	NEWFIELDS JOB #	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
Ampelisca abdida	City of Newport Beach	Marina Park	1105-005-860	B. Gardiner	Port Gamble Bath 7	USEPA/USCOE 1991

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface

INITIAL # OF ORGANISMS

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 #ALIVE	DAY 4 #DEAD	DAY 4 OBS
					DATE 12/24			DATE 12/25			DATE 12/26			DATE 12/27		
					TECHNICIAN			TECHNICIAN TS			TECHNICIAN MCP / TS			TECHNICIAN TS		
Ref.Tox.-cadmium	0	mg/L	1		10	Ø	5FOS	10	Ø	1 FOS	9	1	1FOS	7	2	2FOS
			2		10	Ø	4FOS	9	1	2FOS	9	0	2FOS	7	2	1FOS
			3		10	Ø	2FOS	10	1	4FOS	10	0	2FOS	10	Ø	N
Ref.Tox.-cadmium	0.125	mg/L	1		9	Ø	1NB	8	2	2FOS	6	1	1NB	5	1	2FOS
			2		8	2	2FOS	8	Ø	2FOS	6	2	1FOS	5	1	2FOS
			3		9	1	1FOS	9	Ø	N	8	1	N	8	Ø	N
Ref.Tox.-cadmium	0.25	mg/L	1		10	Ø	5FOS	6	4	2FOS	5	1	N	5	Ø	1FOS
			2		9	1	4FOS	9	Ø	N	7	1	1FOS 1NB	6	1	2FOS
			3		10	Ø	4FOS	9	1	2FOS	8	1	N	7	1	1FOS
Ref.Tox.-cadmium	0.5	mg/L	1		9	1	5FOS	8	1	2FOS	6	2	2FOS	5	1	1FOS
			2		10	Ø	4FOS	6	4	3FOS	6	Ø	1FOS	4	2	1FOS
			3		10	Ø	3FOS	7	3	3FOS	5	2	2FOS	3	2	N
Ref.Tox.-cadmium	1	mg/L	1		10	Ø	5FOS	9	1	1FOS	6	2	1FOS 1NB	2	4	1FOS
			2		9	Ø	5FOS 1NB	9	1	4FOS	7	2	1FOS	3	4	N
			3		8	1	1FOS 1NB	8	Ø	1FOS	4	4	2FOS	Ø	4	2FOS
Ref.Tox.-cadmium	2	mg/L	1		10	Ø	4FOS	5	5	4FOS	Ø	5	NA			
			2		10	Ø	5FOS	6	4	5FOS	Ø	6	↓			
			3		10	Ø	4FOS	6	4	5FOS	Ø	6	↓			

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 12/17/08	**Time:** 1600	**NewFields Batch No.** JB 8980
Organism: Ampelisca abdita	**Source:** John Brezina	
Address: On File		**Invoice Attached** Yes (No)
Phone: On File	**Contact:** John Brezina	
No. Ordered:	**No. Received:**	**Source Batch:**
Condition of Organisms: Good	**Approximate Size or Age:** Adult	
Shipper: Fed Ex	**B of L (Tracking No.)** 8662 6888 8980	
Condition of Container: Good	**Received By:** CR	
Confirmation of ID of Organism: Yes (No)		**Technician (Initials):**
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
7.2	9.9°C	39.8	31	CR

Notes:

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Neanthes arenaceodentata*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01	1600	

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Control /	0	1	3	7.0	3	19.1	3	31	3	8.1	~~12/19~~ ✓	12/19
Control /	0	2	↓	7.1	↓	19.1	↓	31	↓	8.1	↓	↓
Control /	0	3	↓	7.0	↓	19.1	↓	31	↓	7.9	↓	↓
Control /	0	4	↓	7.1	↓	19.1	↓	31	↓	8.0	↓	↓
Control /	0	5	↓	7.1	↓	19.1	↓	31	↓	8.1	↓	↓
Control /	1	1	3	7.2	3	19.3	3	31	3	7.9	BH	12/20
Control /	2	2	3	7.1	3	19.6	3	31	3	8.2	MMB	12/21
Control /	3	3	3	6.9	3	19.4	3	32	3	7.9	MMB	12/22
Control /	4	4	3	6.9	3	19.4	3	32	3	8.0	DP	12-23
Control /	5	5	3	6.9	3	19.5	3	32	3	8.2	✓	12/24
Control /	6	1	3	6.6	3	19.5	3	30	1	8.0	BWG	12/25
Control /	7	2	3	6.6	3	19.1	3	32	3	7.7	MRP	12/26
Control /	8	3	3	7.9	3	18.0	3	32	3	8.2	TS	12/27
Control /	9	4	3	6.8	3	18.9	3	33	3	8.0	TS	12/28
Control /	10	1	3	6.8	3	18.5	3	34	3	8.1	✓	12/29
Control /	10	2	↓	6.9	↓	18.5	↓	32	↓	8.2	↓	↓
Control /	10	3	↓	6.7	↓	18.5	↓	33	↓	8.2	↓	↓
Control /	10	4	↓	6.9	↓	18.6	↓	33	↓	8.2	↓	↓
Control /	10	5	↓	6.8	↓	18.6	↓	33	↓	8.2	↓	↓

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Neanthes arenaceodentata*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
LA-3 Reference /	0	1	3	7.1	3	19.0	3	31	3	8.2	✓	12/19
LA-3 Reference /	0	2		7.0		19.2		31		8.2		
LA-3 Reference /	0	3		7.1		19.1		31		8.1		
LA-3 Reference /	0	4		7.1		19.0		31		8.2		
LA-3 Reference /	0	5		7.0		19.0		31		8.1		
LA-3 Reference /	1	1	3	6.9	3	19.4	3	31	3	8.0	BH	12/20
LA-3 Reference /	2	2	3	6.9	3	19.5	3	32	3	8.2	MMB	12/21
LA-3 Reference /	3	3	3	6.9	3	19.5	3	32	3	8.1	MMB	12/22
LA-3 Reference /	4	4	3	6.8	3	19.4	3	33	3	8.1	EP	12/23
LA-3 Reference /	5	5	3	6.8	3	19.2	3	33	3	8.2	✓	12/24
LA-3 Reference /	6	1	3	6.6	3	19.5	3	31	1	8.0	BWG	12/25
LA-3 Reference /	7	2	3	6.3	3	19.4	3	33	3	7.8	MRP	12/26
LA-3 Reference /	8	3	3	7.3	3	18.0	3	33	3	8.2	TS	12/27
LA-3 Reference /	9	4	3	7.0	3	18.9	3	33	3	8.0	TS	12/28
LA-3 Reference /	10	1	3	6.8	3	18.5	3	33	3	8.0	✓	12/29
LA-3 Reference /	10	2		6.8		18.5		33		8.0		
LA-3 Reference /	10	3		6.4		18.6		33		8.1		
LA-3 Reference /	10	4		6.8		18.5		33		7.9		
LA-3 Reference /	10	5		6.9		18.5		34		8.1		

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Neanthes arenaceodentata*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Comp C-U /	0	1	3	7.2	3	19.1	3	31	3	8.1	✓	12/19
Comp C-U /	0	2	↓	7.2	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-U /	0	3	↓	7.0	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-U /	0	4	↓	7.2	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-U /	0	5	↓	7.0	↓	19.0	↓	31	↓	8.1	↓	↓
Comp C-U /	1	1	3	7.0	3	19.4	3	31	3	8.1	BH	12/20
Comp C-U /	2	2	3	6.7	3	19.4	3	31	3	7.8	MMB	12/21
Comp C-U /	3	3	3	6.6	3	19.5	3	32	3	8.1	MMB	~~12/22~~
Comp C-U /	4	4	3	6.7	3	19.4	3	32	3	8.0	DP	12/23
Comp C-U /	5	5	3	6.8	3	19.5	3	32	3	8.2	✓	12/24
Comp C-U /	6	1	3	6.6	3	19.3	3	31	3	8.1	BWG	12/25
Comp C-U /	7	2	3	6.4	3	19.1	3	32	3	7.8	MRP	12/26
Comp C-U /	8	3	3	7.7	3	18.3	3	33	3	8.2	TS	12/27
Comp C-U /	9	4	3	6.6	3	18.8	3	32	3	7.9	TS	12/28
Comp C-U /	10	1	3	6.7	3	18.5	3	33	3	8.1	✓	12/29
Comp C-U /	10	2	↓	6.7	↓	18.5	↓	33	↓	8.1	↓	↓
Comp C-U /	10	3	↓	6.8	↓	18.5	↓	33	↓	8.1	↓	↓
Comp C-U /	10	4	↓	6.4	↓	18.6	↓	33	↓	8.1	↓	↓
Comp C-U /	10	5	↓	6.6	↓	18.7	↓	33	↓	8.1	↓	↓

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

PROTOCOL
USEPA/USCOE 1991

CLIENT	PROJECT	SPECIES	TEST START DATE	TEST START DATE	TEST END DATE
City of Newport Beach	Marina Park	*Neanthes arenaceodentata*	Port Gamble	19Dec08	29Dec08
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**DILUTION WATER BATCH**	**START TIME**	**END TIME**
1105-005-860	B. Gardiner	Port Gamble	FSW121808.01		

WATER QUALITY DATA

TEST CONDITIONS			D.O. (mg/L) > 4.6		TEMP (°C) 20 ± 1		SALINITY (ppt) 30 ± 2		pH (pH units) 7.8 ± 0.5		TECH.	Date
CLIENT/NEWFIELDS ID	DAY	REP	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit		
Comp C-L /	0	1	3	7.0	3	18.8	3	31	3	8.1	✓	12/19
Comp C-L /	0	2	↓	6.9	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-L /	0	3	↓	7.1	↓	19.0	↓	31	↓	8.1	↓	↓
Comp C-L /	0	4	↓	7.0	↓	19.1	↓	31	↓	8.1	↓	↓
Comp C-L /	0	5	↓	7.0	↓	19.2	↓	31	↓	8.1	↓	↓
Comp C-L /	1	1	3	7.1	3	19.4	3	31	3	8.0	BH	12/20
Comp C-L /	2	2	3	6.8	3	19.5	3	31	3	8.1	MMB	12/21
Comp C-L /	3	3	3	6.9	3	19.6	3	32	3	8.2	MMB	~~12/22~~
Comp C-L /	4	4	3	6.9	3	19.2	3	32	3	8.1	DP	12-23
Comp C-L /	5	5	3	6.8	3	19.5	3	32	3	8.2	✓	12/24
Comp C-L /	6	1	3	6.8	3	19.5	3	31	1	8.1	BWG	12/25
Comp C-L /	7	2	3	6.3	3	19.1	3	34	3	7.8	MRP	12/26
Comp C-L /	8	3	3	7.9	3	18.0	3	34	3	8.2	TS	12/27
Comp C-L /	9	4	3	6.8	3	18.9	3	35	3	8.0	TP	12/28
Comp C-L /	10	1	3	6.7	3	18.6	3	33	3	8.1	✓	12/29
Comp C-L /	10	2	↓	6.6	↓	18.5	↓	33	↓	8.2	↓	↓
Comp C-L /	10	3	↓	6.8	↓	18.6	↓	34	↓	8.1	↓	↓
Comp C-L /	10	4	↓	6.8	↓	18.5	↓	33	↓	8.1	↓	↓
Comp C-L /	10	5	↓	6.9	↓	18.6	↓	33	↓	8.2	↓	↓

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Neanthes		

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: _____
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/19/08	19.0	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	Surr	12/19/08 CR	<0.5	18.0	12/19/08 CR	N			
LA-3 Ref	↓	↓	<0.5		↓	↓			
Comp. C-U	↓	↓	<0.5		↓	↓			
Comp C-L	↓	↓	<0.5		↓	↓			

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Neanthes		

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: _____
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/19/08	19.0	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	Surr.	12/19/08 CR	<0.5	19	12/19/08 CR	N			
LH-3 Ref	↓	↓	1.18		↓	↓			
CompC-U			4.82						
Comp.C-L			<0.5						

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Neanthes		

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: _____
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/29/08	20.0	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	Surr	12/29/08CR	<0.5	20.0	12/29/08CR	N			0.014
LA-3Ref	↓	↓	<0.5		↓	↓			0.003
CompC-L			<0.5						0.005
CompC-U			<0.5						0.000

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
Newport/Marina Park	Neanthes		

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: _____
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
12/29/08	20.0	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control	Surr.	12/29/08 CR	<0.5	20	12/29/08 CR	N	7.8	32	
LA-3 Ref	↓	↓	<0.5		↓	↓	8.0	33	
Comp C-L	↓	↓	<0.5		↓	↓	7.9	34	
Comp C-U	↓	↓	<0.5		↓	↓	8.0	33	

NEWFIELDS

10 DAY SOLID PHASE TEST DATA

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MAN.	NEWFIELDS LAB	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	B. Gardiner	Port Gamble Bath 7	USEPA/USCOE 1991	*Neanthes arenaceodentata*

ENDPOINT DATA & OBSERVATIONS

#E = Emergence
#M = Number of Mortality
G = Growth
(fungal, bacterial, or algal)
D = No Air Flow (DO?)
N = Normal

INITIAL # OF ORGANISMS: 5

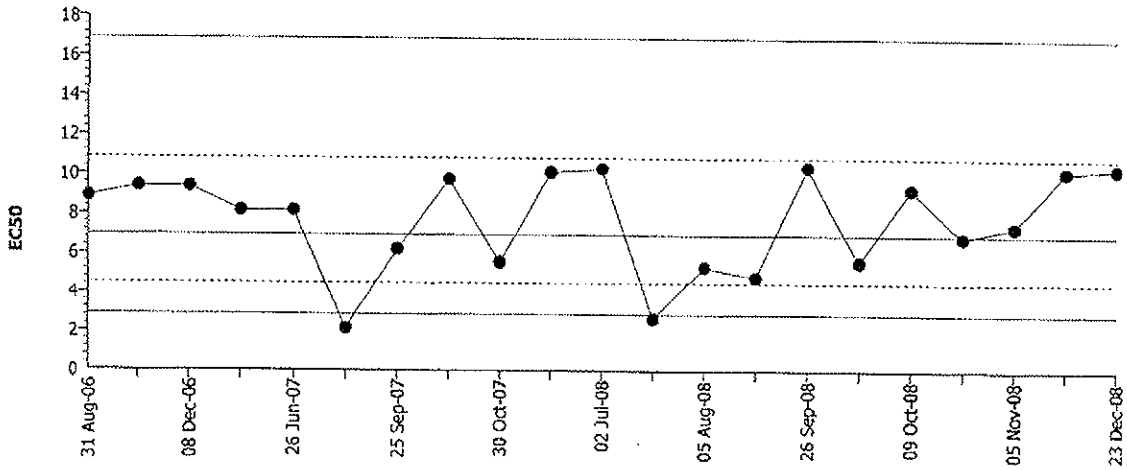
CLIENT/ NEWFIELDS ID	REP	JAR #	INITIAL #	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10	NUMBER REMAINING
				DATE 12/20/08	DATE 12/21/08	DATE 12/22/08	DATE 12/23	DATE 12/24	DATE 12/25	DATE 12/26	DATE 12/27	DATE 12/28	DATE 12/29	
				TECHNICIAN BH	TECHNICIAN MMB	TECHNICIAN MMB	TECHNICIAN ✓	TECHNICIAN ✓	TECHNICIAN BWG	TECHNICIAN MPP	TECHNICIAN TS	TECHNICIAN TS	TECHNICIAN ✓	
				OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	OBSERVNS.	
Control /	1	20		N	N	N	N	N	N	N	N	N	N	5
	2			↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	4
	3													5
	4													5
	5													4
LA-3 Reference /	1	2												5
	2													5
	3													5
	4													5
	5													3
Comp C-U /	1	11												3
	2													5
	3													3
	4													5
	5													5
Comp C-L /	1	15												4
	2													3
	3													4
	4													5
	5													5

CETIS QC Chart

Report Date: 16 Jan-09 2:26 PM

Neanthes 10-d Survival and Growth Sediment Test — **NewFields**

Test Type: Survival-Growth
Protocol: PSEP (1995)
Organism: Neanthes arenaceodentata (Polycha
Endpoint: Proportion Survived
Material: Cadmium chloride
Source: Reference Toxicant-REF



Mean:	6.96264	**Count:**	20	**-1s Warning Limit:**	4.467	**-2s Action Limit:**	2.86588
Sigma:		**CV:**	55.87%	**+1s Warning Limit:**	10.8526	**+2s Action Limit:**	16.9157

Quality Control Data

Point	Year	Month	Day	Data	Delta	Sigma	Warning	Action	Test Link	Analysis
1	2006	Aug	31	8.86577	1.90313	0.54443			16-7169-3504	00-9849-6979
2		Dec	8	9.37175	2.40911	0.66948			10-5822-0812	10-0140-9364
3			8	9.37175	2.40911	0.66948			10-5822-0812	08-7192-3895
4	2007	May	11	8.16253	1.19989	0.35822			03-7778-9913	06-1785-2165
5		Jun	26	8.16258	1.19994	0.35824			09-6212-3109	14-8493-4946
6		Jul	18	2.13748	-4.82517	-2.66071	(-)	(-)	09-5163-0637	11-9760-1230
7		Sep	25	6.20193	-0.76071	-0.26067			06-6354-6111	12-2113-4941
8		Oct	24	9.76006	2.79742	0.76095			05-9113-1606	14-0319-5260
9			30	5.55412	-1.40852	-0.50923			03-0327-1386	13-6201-5780
10	2008	Feb	17	10.12762	3.16498	0.84424			11-6935-8907	04-7495-8038
11		Jul	2	10.30107	3.33843	0.88250			07-0160-7176	03-3190-0644
12			22	2.65108	-4.31156	-2.17553	(-)	(-)	12-3989-8103	10-4556-3131
13		Aug	5	5.30308	-1.65956	-0.61344			12-5764-3928	08-5080-2403
14			29	4.77241	-2.19023	-0.85100			04-2068-8020	17-2391-7369
15		Sep	26	10.37648	3.41384	0.89893			12-2518-6391	15-3142-3234
16			30	5.55412	-1.40852	-0.50923			14-9908-4079	13-4530-5299
17		Oct	9	9.26124	2.29860	0.64275			06-2717-9387	09-3671-8537
18			23	6.83792	-0.12472	-0.04072			19-3732-1210	02-0490-6958
19		Nov	5	7.37857	0.41593	0.13072			15-0302-5653	14-4382-3985
20		Dec	15	10.20151	3.23887	0.86061			12-5691-1479	14-1608-5886
21			23	10.35175	3.38911	0.89355			17-9927-6897	13-4293-3597

CETIS Analysis Detail

Neanthes 10-d Survival and Growth Sediment Test — NewFields

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Trimmed Spearman-Karber	17-9927-6897	17-9927-6897	16 Jan-09 2:25 PM	CETISv1.1.2

Spearman-Karber Options

Threshold Option	Lower Threshold	Trim	Mu	Sigma
Control Threshold	0.1	0.00%	1.015014	0.0102043

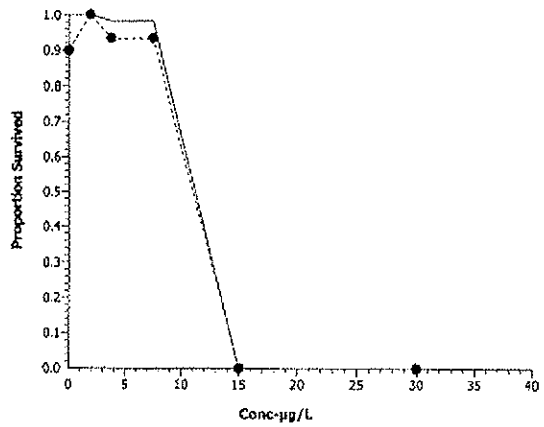
Point Estimates

EC50/LC50	95% LCL	95% UCL
10.35175	9.87655	10.84982

Data Summary

Conc-µg/L	Control Type	Count	Calculated Variate(A/B) Mean	Minimum	Maximum	SE	SD	A	B
0	Dilution Water	3	0.90000	0.80000	1.00000	0.02041	0.10000	27	30
1.875		3	1.00000	1.00000	1.00000	0.00000	0.00000	30	30
3.75		3	0.93333	0.80000	1.00000	0.02357	0.11547	28	30
7.5		3	0.93333	0.80000	1.00000	0.02357	0.11547	28	30
15		3	0.00000	0.00000	0.00000	0.00000	0.00000	0	30
30		3	0.00000	0.00000	0.00000	0.00000	0.00000	0	30

Graphics



CETIS Analysis Detail

Neanthes 10-d Survival and Growth Sediment Test — NewFields

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Comparison	17-9927-6897	17-9927-6897	16 Jan-09 2:25 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Dunnett's Multiple Comparison	C > T	Angular (Corrected)		7.5	15	13.3333	10.6066	24.60%

Group Comparisons

Control	vs	Conc-µg/L	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Water		1.875	-1.3084	2.41651	0.9778	0.28802	Non-Significant Effect
		3.75	-0.4558	2.41651	0.8795	0.28802	Non-Significant Effect
		7.5	-0.4558	2.41651	0.8795	0.28802	Non-Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.0381566	0.0127189	3	0.60	0.63466	Non-Significant Effect
Error	0.1704716	0.021309	8			
Total	0.20862817	0.0340278	11			

ANOVA Assumptions

Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Modified Levene	1.99523	7.59099	0.19336	Equal Variances
Distribution	Shapiro-Wilk W	0.86246		0.05249	Normal Distribution

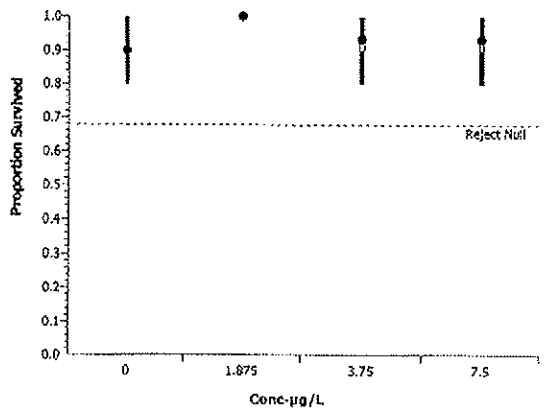
Data Summary

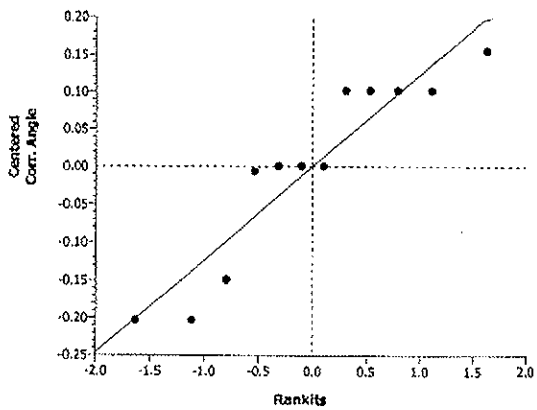
			Original Data				Transformed Data			
Conc-µg/L	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Water	3	0.90000	0.80000	1.00000	0.10000	1.25607	1.10715	1.41202	0.15256
1.875		3	1.00000	1.00000	1.00000	0.00000	1.41202	1.41202	1.41202	0.00029
3.75		3	0.93333	0.80000	1.00000	0.11547	1.31039	1.10715	1.41202	0.17602
7.5		3	0.93333	0.80000	1.00000	0.11547	1.31039	1.10715	1.41202	0.17602

Data Detail

Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	0.80000	1.00000	0.90000							
1.875		1.00000	1.00000	1.00000							
3.75		1.00000	1.00000	0.80000							
7.5		0.80000	1.00000	1.00000							

Graphics





CETIS Data Worksheet

Report Date: 16 Jan-09 2:25 PM
Link: 17-9927-6897

Neanthes 10-d Survival and Growth Sediment Test — **NewFields**

Start Date: 23 Dec-08 01:00 PM
Ending Date: 27 Dec-08 12:30 PM
Sample Date: 23 Dec-08

Species: Neanthes arenaceodentata
Protocol: PSEP (1995)
Material: Cadmium chloride

Sample Code: 284325800
Sample Source: Reference Toxicant
Sample Station: P080418.38

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Total Weight-mg	Tare Weight-mg	Pan Count	Mean Length-mm	Notes
0	D	1	14	10	8		0			
0	D	2	5	10	10		0			
0	D	3	6	10	9		0			
1.875		1	13	10	10		0			
1.875		2	10	10	10		0			
1.875		3	11	10	10		0			
3.75		1	3	10	10		0			
3.75		2	9	10	10		0			
3.75		3	2	10	8		0			
7.5		1	17	10	8		0			
7.5		2	7	10	10		0			
7.5		3	16	10	10		0			
15		1	15	10	0		0			
15		2	18	10	0		0			
15		3	4	10	0		0			
30		1	8	10	0		0			
30		2	12	10	0		0			
30		3	1	10	0		0			

NEWFIELDS

96-HOUR REFERENCE TOXICANT TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	NEWFIELDS LABORATORY		PROTOCOL
SAIC	Duwamish river	*Neanthes arenaceodentata*	Port Gamble Bath 6		PSEP 1995
NEWFIELDS JOB NUMBER	PROJECT MANAGER	QUANTITY OF STOCK : 4.5 mL	QUANTITY OF DILUENT: 1500mL		INIT CR
0	Tracy Schuh	ACTUAL: 4.50mL	ACTUAL: 1500.9mL		DATE PREP 12/23/08
Test ID	LOT #	TEST START DATE:	TIME	TEST END DATE	TIME
P080418.38	06510TC	23Dec08	1300	27Dec08	1230

WATER QUALITY DATA

DILTIN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXICANT
0		cadmium chloride	cadmium

TEST CONDITIONS	DO (mg/L)	TEMP(C)	SAL (ppt)	pH	TECHNICIAN
	> 6.0	20 ± 1	28 ± 1	8.00 ± .1	

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	WQ TECH
Ref.Tox.-cadmium	0	mg/L	0	Stock	3	6.9	3	19.4	3	28	3	7.7	DP
			1	Rep 1	3	6.4	3	19.6	3	28	3	7.8	[illegible]
			2	Rep 2	3	6.8	3	19.1	3	28	3	7.5	JS
			3	Rep 3	3	6.4	3	19.0	3	28	3	7.7	MPP
			4	Rep 1	3	6.3	3	19.1	3	28	3	8.4	JS
Ref.Tox.-cadmium	1.875	mg/L	0	Stock	3	7.1	3	19.4	3	28	3	7.7	DP
			1	Rep 1	3	6.2	3	19.7	3	28	3	7.9	[illegible]
			2	Rep 2	3	6.5	3	19.5	3	28	3	7.6	JS
			3	Rep 3	3	6.3	3	19.0	3	28	3	7.7	MPP
			4	Rep 1	3	6.2	3	19.1	3	28	3	8.3	JS
Ref.Tox.-cadmium	3.75	mg/L	0	Stock	3	7.1	3	19.3	3	28	3	7.7	DP
			1	Rep 1	3	6.4	3	19.7	3	28	3	7.9	[illegible]
			2	Rep 2	3	6.3	3	19.5	3	28	3	7.6	JS
			3	Rep 3	3	6.0	3	19.3	3	28	3	7.7	MPP
			4	Rep 1	3	6.3	3	19.0	3	28	3	8.2	JS

NEWFIELDS

96-HOUR REFERENCE TOXICANT TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	NEWFIELDS LABORATORY		PROTOCOL
SAIC	Duwamish river	*Neanthes arenaceodentata*	Port Gamble Bath 6		PSEP 1995
NEWFIELDS JOB NUMBER	PROJECT MANAGER	QUANTITY OF STOCK : 4.5 mL	QUANTITY OF DILUENT: 1500mL		INIT
0	Tracy Schuh	ACTUAL:	ACTUAL:		DATE PREP
Test ID	LOT #:	TEST START DATE:	TIME	TEST END DATE	TIME
		23Dec08		27Dec08	

WATER QUALITY DATA

DILTIN.WAT.BATCH	TEMP REC#			REFERENCE TOX. MATERIAL						REFERENCE TOXICANT		
0				cadmium chloride						cadmium		
TEST CONDITIONS				DO (mg/L)		TEMP(C)		SAL (ppt)		pH		TECHNICIAN
				> 6.0		20 ± 1		28 ± 1		8.00 ± 1		
Ref.Tox.-cadmium	7.5 mg/L	0	Stock	3	7.0	3	19.5	3	28	3	7.7	DP
		1	Rep 1	3	6.4	3	19.7	3	28	2	7.9	L
		2	Rep 2	3	7.1	3	19.4	3	28	3	7.6	TS
		3	Rep 3	3	6.8	3	19.3	3	28	3	7.7	MRP
		4	Rep 1	3	6.0	3	18.8	3	28	3	8.2	TS
Ref.Tox.-cadmium	15 mg/L	0	Stock	3	7.2	3	19.4	3	28	3	7.7	DP
		1	Rep 1	3	6.4	3	19.7	3	28	3	7.9	L
		2	Rep 2	3	6.9	3	19.4	3	28	3	7.7	TS
		3	Rep 3	3	5.7	3	19.3	3	28	3	7.5	MRP
		4	Rep 1	NA								
Ref.Tox.-cadmium	30 mg/L	0	Stock	3	7.1	3	19.4	3	28	3	7.7	DP
		1	Rep 1	3	6.6	3	19.7	3	28	3	7.9	L
		2	Rep 2	3	6.9	3	19.5	3	28	3	7.7	TS
		3	Rep 3	NA								
		4	Rep 1	NA								

NEWFIELDS

96-HOUR REFERENCE TOXICANT TEST OBSERVATION DATASHEET

SPECIES					
			Neanthes arenaceodentata		
CLIENT	PROJECT	NEWFIELDS JOB #	PROJECT MANAGER	NEWFIELDS LAB	PROTOCOL
SAIC	Duwamish river	0	Tracy Schuh	Port Gamble Bath 6	PSEP 1995

SURVIVAL & BEHAVIOR DATA

#S= Number on the Surface
#M= Number of Mortality
L=Anoxic Surface
F=Fungal Patches
D=No Air Flow (DO?)
U=Excess food
N=Normal
B=No Burrows

INITIAL # OF ORGANISMS

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 #ALIVE	DAY 4 #DEAD	DAY 4 OBS
					DATE 12/24			DATE 12/25			DATE 12/26			DATE 12/27		
					TECHNICIAN ✓			TECHNICIAN TS			TECHNICIAN MPP			TECHNICIAN TS		
Ref.Tox.-cadmium	0	mg/L	1		10	Ø	N	10	Ø	N	10	Ø	N	8	Ø	2NB
			2		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
			3		10	Ø	↓	10	Ø	N	10	Ø	N	9	Ø	1NB
Ref.Tox.-cadmium	1.875	mg/L	1		10	Ø	N	10	Ø	N	10	Ø	N	10	Ø	N
			2		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
			3		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
Ref.Tox.-cadmium	3.75	mg/L	1		10	Ø	N	10	Ø	N	10	Ø	N	10	Ø	N
			2		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
			3		10	Ø	↓	10	Ø	N	10	Ø	N	8	Ø	2NB
Ref.Tox.-cadmium	7.5	mg/L	1		10	Ø	N	10	Ø	N	10	Ø	N	8	1	1NB
			2		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
			3		10	Ø	↓	10	Ø	N	10	Ø	N	10	Ø	N
Ref.Tox.-cadmium	15	mg/L	1		10	Ø	Q	10	Ø	Q	0 ~~9~~	10	N			
			2		10	Ø	↓	10	Ø	Q	~~8~~ 10	2 ~~8~~	N			
			3		10	Ø	↓	10	Ø	Q	0 ~~10~~	10	N			
Ref.Tox.-cadmium	30	mg/L	1		10	Ø	Q	Ø	10	NA						
			2		10	Ø	↓	Ø	10	↓						
			3		10	Ø	↓	Ø	10	↓						

Incorrect entry MPP 12/26/08

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 12/16/08	**Time:** 1430	**NewFields Batch No.** DR0540
Organism: Neanthes	**Source:** Dan Reish	
Address: On File		**Invoice Attached** Yes (No)
Phone: On File	**Contact:** On File	
No. Ordered:	**No. Received:**	**Source Batch:** Culture
Condition of Organisms: Good	**Approximate Size or Age:** 3 - 5 mm	
Shipper: FedEx	**B of L (Tracking No.)** 8682 4360 0540	
Condition of Container: Good	**Received By:** MMB	
Confirmation of ID of Organism: Yes (No)		**Technician (Initials):** MMB
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
7.3	14.4	6.9	35 ppt	MMB

Notes:

Appendix D
Water-Column Toxicity Tests
Data Sheets and Supporting Information

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Menidia beryllina*	FSW010609	07Jan09	1600
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	1700

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			
Control / .	0 %		0	All	4	7.8	4	19.8	1	32	1	8.0	1/7/09	✓	
Control / .	0 %		1	1	4	7.1	4	19.5	1	32	1	7.5	1/8	MMB	
Control / .	0 %		2	2	4	7.0	4	18.6	1	32	1	7.6	1/9	TS	BH
Control / .	0 %		3	3	4	7.1	4	18.8	1	33	1	7.6	1/10	CR	
Control / .	0 %		4	1	3	7.9	3	19.0	3	34	3	7.4	1/11	CR	
				2	↓	7.8	↓	19.3	↓	33	↓	7.4	↓	↓	
				3		6.5		19.2		33		7.6			
				4		6.8		19.2		33		7.7			
				5		7.8		19.2		33		7.7			
Site Water / .	0 %		0	All	4	9.0	4	19.8	1	34	1	7.9	1/7/09	✓	
Site Water / .	0 %		1	1	4	7.2	4	19.8	1	35	1	7.8	1/8	MMB	
Site Water / .	0 %		2	2	4	7.1	4	19.1	1	35	1	7.8	1/9	TS	BH
Site Water / .	0 %		3	3	4	7.1 ~~7.6~~ ①	4	19.3	1	35	1	7.6	1/10	CR	
Site Water / .	0 %		4	1	3	7.9	3	19.3	3	~~33~~ ② 34	3	7.8	1/11	CR	
				2	↓	7.8	↓	19.3	↓	36	↓	7.8	↓	↓	
				3		7.1		19.4		36		7.9			
				4		6.9		19.4		35		7.9			
				5		6.8		19.3		35		7.9			

① WC CR 1/10/09
② WC CR 1/11/09

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST
WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Menidia beryllina*	FSW010609	07Jan09	1600
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			
Comp C-U / .	10 %		0	All	4	7.8	4	19.9	1	32	1	7.9	1/7/09	✓	
Comp C-U / .	10 %		1	1	4	7.3	4	19.9	1	32	1	8.0	1/8	MMB	
Comp C-U / .	10 %		2	2	4	7.1	4	18.8	1	32	1	7.8	1/9	TS	BH
Comp C-U / .	10 %		3	3	4	7.2	4	19.4	1	33	1	7.7	1/10	CR	
Comp C-U / .	10 %		4	1	3	7.1	3	19.3	3	34	3	7.9	1/11	CR	
				2	↓	7.0	↓	19.2	↓	35	↓	7.9	↓	↓	
				3	↓	7.1	↓	19.2	↓	32	↓	7.9	↓	↓	
				4	↓	8.0	↓	19.2	↓	34	↓	7.9	↓	↓	
				5	↓	6.8	↓	19.2	↓	36	↓	7.9	↓	↓	
Comp C-U / .	50 %		0	All	4	7.4	4	19.9	1	33	1	8.0	1/7/09	✓	
Comp C-U / .	50 %		1	1	4	7.1	4	19.9	1	33	1	7.9	1/8	MMB	
Comp C-U / .	50 %		2	2	4	7.7	4	19.0	1	33	1	7.9	1/9	TS	BH
Comp C-U / .	50 %		3	3	4	7.3	4	19.3	1	33	1	7.7	1/10	CR	
Comp C-U / .	50 %		4	1	3	6.6	3	19.4	3	34	3	8.0	1/11	CR	
				2	↓	7.3	↓	19.4	↓	35	↓	7.9	↓	↓	
				3	↓	7.1	↓	19.3	↓	35	↓	8.0	↓	↓	
				4	↓	7.4	↓	19.5	↓	34	↓	8.0	↓	↓	
				5	↓	6.8	↓	19.4	↓	35	↓	7.9	↓	↓	
Comp C-U / .	100 %		0	All	4	6.6	4	19.9	1	34	1	8.2	1/7/09	✓	
Comp C-U / .	100 %		1	1	4	6.5	4	19.8	1	35	1	7.9	1/8	MMB	
Comp C-U / .	100 %		2	2	4	7.1	4	19.3	1	34	1	8.0	1/9	TS	BH
Comp C-U / .	100 %		3	3	4	7.3	4	19.4	1	35	1	7.7	1/10	CR	
Comp C-U / .	100 %		4	1	3	7.1	3	19.4	3	35	3	8.0	1/11	CR	
				2	↓	6.9	↓	19.4	↓	36	↓	8.0	↓	↓	
				3	↓	7.0	↓	19.4	↓	36	↓	7.8	↓	↓	
				4	↓	7.4	↓	19.4	↓	36	↓	7.9	↓	↓	
				5	↓	6.6	↓	19.5	↓	36	↓	8.0	↓	↓	

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Menidia beryllina*	FSW010609	07Jan09	1600
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			
Comp C-L / .	10 %		0	All	4	8.2	4	19.9	1	32	1	7.9	1/7/09	✓	
Comp C-L / .	10 %		1	1	4	7.0	4	19.9	1	32	1	7.9	1/8	MMB	
Comp C-L / .	10 %		2	2	4	7.2	4	18.7	1	32	1	7.8	1/9	TS	BH
Comp C-L / .	10 %		3	3	4	7.3	4	19.1	1	32	1	7.7	1/10	CR	
Comp C-L / .	10 %		4	1	3	6.6	3	19.5	3	34	3	7.9	1/11	CR	
				2		6.8		19.4		33		7.9			
				3		7.0		19.2		34		7.9			
				4		6.7		19.4		33		7.8			
				5		6.7		19.4		33		7.9			
Comp C-L / .	50 %		0	All	4	8.0	4	19.9	1	33	1	7.8	1/7/09	✓	
Comp C-L / .	50 %		1	1	4	7.1	4	19.8	1	33	1	7.9	1/8	MMB	
Comp C-L / .	50 %		2	2	4	7.5	4	18.7	1	33	1	7.7	1/9	TS	BH
Comp C-L / .	50 %		3	3	4	7.3	4	19.3	1	34	1	7.7	1/10	CR	
Comp C-L / .	50 %		4	1	3	7.2	3	19.4	3	36	3	7.9	1/11	CR	
				2		7.0		19.5		35		7.9			
				3		6.9		19.5		35		8.0			
				4		6.6		19.4		36		7.8			
				5		7.1		19.2		36		7.8			
Comp C-L / .	100 %		0	All	4	8.0	4	19.9	1	34	1	7.8	1/7/09	✓	
Comp C-L / .	100 %		1	1	4	6.9	4	19.8	1	34	1	7.9	1/8	MMB	
Comp C-L / .	100 %		2	2	4	7.0	4	19.2	1	34	1	7.9	1/9	TS	BH
Comp C-L / .	100 %		3	3	4	7.4	4	19.4	1	35	1	7.8	1/10	CR	
Comp C-L / .	100 %		4	1	3	7.3	3	19.4	3	34	3	7.9	1/11	CR	
				2		7.4		19.2		35		7.9			
				3		7.2		19.5		36		7.9			
				4		7.1		19.5		35		8.0			
				5		7.2		19.5		35		7.9			

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
City of Newport/ Marina Park	Menidia		4

PRETEST / INITIAL / FINAL / OTHER (circle one) **DAY of TEST:** Ø
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
1/7/09	19	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control		1/7/09 ✓	0.0767	19	1/7/09 ✓	N	NA	NA	NA
Site Water			0.00						
C-L	10		0.00						
C-L	50		0.00						
C-L	100		0.00						
C-U	100		0.00						
C-U	50		0.00						
C-U	10		0.00						

96 HOUR SUSPENDED PARTICULATE PHASE TEST
DATA SHEET 3

NEWFIELDS

SPECIES			
Menidia beryllina			
CLIENT	**PROJECT**	**NEWFIELDS JOB NO.**	**PROJECT MANAGER**
City of Newport	Marina Park	1105-005-860	Bill Gardiner

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY

N = normal
LOE= loss of equilibrium
Q = quiescent
SUR= surfacing
DC = discoloration
OB = on bottom
J = jumper
NB = no body

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE 1/8/09 TECHNICIAN BH #ALIVE	Day 1 #DEAD	Day 1 OBS	Day 2 DATE 1/9 TECHNICIAN TS #ALIVE	Day 2 #DEAD	Day 2 OBS	Day 3 DATE 1/10 TECHNICIAN CR #ALIVE	Day 3 #DEAD	Day 3 OBS	Day 4 DATE 1/11 TECHNICIAN CR #ALIVE	Day 4 #DEAD	Day 4 OBS
Control / .	0 %		1	10	10	0	N	10	Ø	N	10	0	N	10	0	N
			2		10	0		10	Ø		9	1	N	8	1	
			3		10	0		10	Ø		10	0	N	10	0	
			4		10	0		10	Ø		10	0	N	10	0	
			5		10	0		10	Ø		10	0	N	10	0	
Site Water / .	0 %		1		10	0		9	1		9	0	N	8	1	
			2		10	0		10	Ø		10	0	N	10	0	
			3		10	0		10	Ø		10	0	N	10	0	
			4		10	0		10	Ø		10	0	N	10	0	
			5		10	0		10	Ø		10	0	N	10	0	
Comp C-U / .	10 %		1		10	0		10	Ø		10	0	N	10	0	
			2		10	0		10	Ø		10	0	N	10	0	
			3		10	0		10	Ø		10	0	N	10	0	
			4		10	0		10	0		10	0	N	10	0	
			5		10	0		9	1		9	0	N	6	3	
Comp C-U / .	50 %		1		9	1		10	Ø	1 FB	10	0	N	10	0	
			2		10	0		9	Ø	1NB	9	0	N	9	0	
			3		10	0		10	Ø	N	10	0	N	9	1	
			4		10	0		10	Ø		10	0	N	9	1	
			5		10	0		10	Ø		10	0	N	10	0	
Comp C-U / .	100 %		1		9	1		10	Ø	1FB	10	0	N	10	0	
			2		10	0		10	Ø		9	1	N	8	1	
			3		10	0		10	Ø		9	0	1NB	9	0	
			4		10	0		10	Ø		9	1	N	9	0	
			5		10	0		9	1		9	0	N	8	1	

96 HOUR SUSPENDED PARTICULATE PHASE TEST
DATA SHEET 3

NEWFIELDS

SPECIES			
Menidia beryllina			
CLIENT	**PROJECT**	**NEWFIELDS JOB NO.**	**PROJECT MANAGER**
City of Newport	Marina Park	1105-005-860	Bill Gardiner

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
SUR= surfacing
DC = discoloration
OB = on bottom
J = jumper
NB = no body

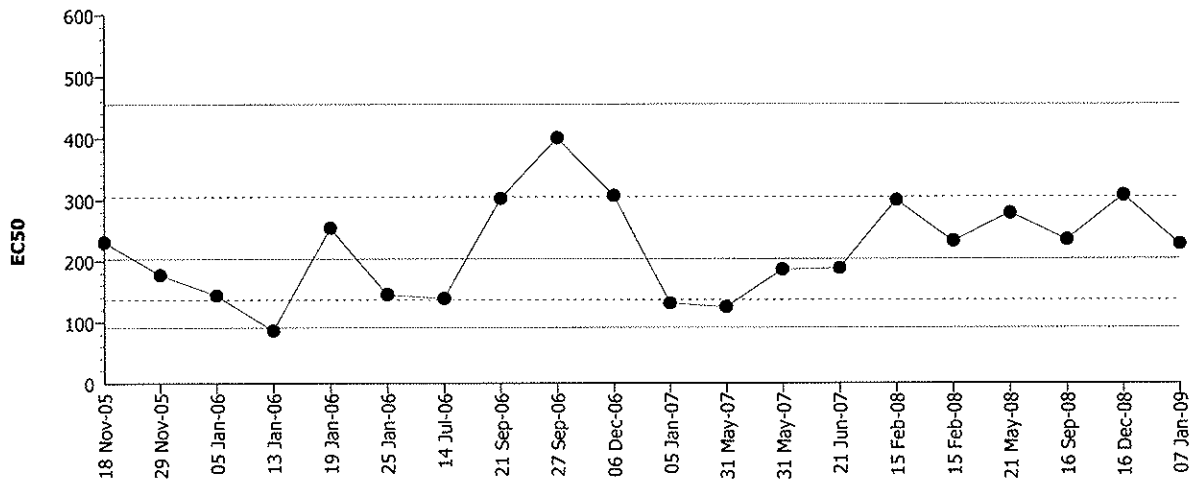
CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE 1/8/09 TECHNICIAN BH #ALIVE	Day 1 #DEAD	Day 1 OBS	Day 2 DATE 1/9 TECHNICIAN TS #ALIVE	Day 2 #DEAD	Day 2 OBS	Day 3 DATE 1/10 TECHNICIAN CR #ALIVE	Day 3 #DEAD	Day 3 OBS	Day 4 DATE 1/11 TECHNICIAN CR #ALIVE	Day 4 #DEAD	Day 4 OBS
Comp C-L / .	10 %		1	10	10	0	N	10	Ø	N	9	1	N	9	0	N
			2		10	0		10	Ø		9	0	INB	9	1	
			3		10	0		10	Ø		10	0	N	10	0	
			4		10	0		10	Ø		10	0	N	7	3	
			5		10	0		10	Ø		10	0	N	10	0	
Comp C-L / .	50 %		1		10	0		9	Ø	INB	9	0	N	9	0	
			2		9	1		10	Ø	N	10	0	N	9	1	
			3		10	0		10	Ø		9	1	N	9	0	
			4		10	0		10	Ø		10	0	N	10	0	
			5		10	0		10	Ø		10	0	N	10	0	
Comp C-L / .	100 %		1		10	0		9	Ø	INB	9	0	N	9	0	
			2		10	0		10	Ø	N	10	0	N	10	0	
			3		10	0		10	Ø		10	0	N	10	0	
			4		10	0		10	Ø		10	0	N	10	0	
			5		9	1		10	Ø		10	0	N	10	0	

CETIS QC Chart

Report Date: 28 Jan-09 4:51 PM

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Test Type: Survival **Organism:** Menidia beryllina (Inland Silverside) **Material:** Copper sulfate
Protocol: EPA/821/R-02-012 (2002) **Endpoint:** Proportion Survived **Source:** Reference Toxicant-REF



Mean: 203.791 **Count:** 19 **-1s Warning Limit:** 136.481 **-2s Action Limit:** 91.403
Sigma: **CV:** 49.32% **+1s Warning Limit:** 304.296 **+2s Action Limit:** 454.368

Quality Control Data

Point	Year	Month	Day	Data	Delta	Sigma	Warning	Action	Test Link	Analysis
1	2005	Nov	18	231.0145	27.22398	0.31276			00-5400-7163	12-4250-6835
2			29	177.3950	-26.3955	-0.34600			09-7179-4794	11-4481-7307
3	2006	Jan	5	143.6334	-60.1571	-0.87259			11-9868-2213	07-1919-5333
4			13	86.05408	-117.736	-2.15041	(-)	(-)	06-6412-0123	07-5635-3913
5			19	253.8606	50.07008	0.54799			14-3550-5235	08-7655-3856
6			25	145.0174	-58.7731	-0.84867			09-8902-4433	10-2133-1793
7		Jul	14	138.7884	-65.0022	-0.95818			12-3489-2800	05-4639-7387
8		Sep	21	301.4977	97.70718	0.97696			13-2437-4560	13-4184-0272
9			27	400.0000	196.2094	1.68211	(+)		06-7939-8708	18-0414-2219
10		Dec	6	306.3108	102.5202	1.01646	(+)		13-1351-8433	14-1844-9693
11	2007	Jan	5	130.3407	-73.4498	-1.11482	(-)		10-8312-3501	05-6092-7194
12		May	31	124.1810	-79.6095	-1.23558	(-)		07-3393-4206	09-0298-1066
13			31	185.8127	-17.9778	-0.23036			15-1085-6486	07-8998-8487
14		Jun	21	187.8662	-15.9244	-0.20295			11-4444-5191	09-2989-1578
15	2008	Feb	15	298.8723	95.08178	0.95514			09-0873-1841	02-2843-3056
16			15	232.3128	28.52228	0.32674			02-3273-3535	02-4532-0088
17		May	21	277.7252	73.93468	0.77210			09-4275-9770	06-5552-2016
18		Sep	16	234.4507	30.66018	0.34959			15-9104-3417	05-6930-9029
19		Dec	16	306.7106	102.9200	1.01972	(+)		14-9978-8744	16-1416-6951
20	2009	Jan	7	227.3526	23.56208	0.27290			07-0376-1286	14-5735-1267

CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Comparison	07-0376-1286	07-0376-1286	26 Jan-09 2:46 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Dunnett's Multiple Comparison	C > T	Angular (Corrected)		100	200	1	141.421	21.14%

Group Comparisons

Control	vs	Conc-µg/L	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Water		25	-1.1032	2.35615	0.9808	0.23853	Non-Significant Effect
		50	0.28643	2.35615	0.6951	0.23853	Non-Significant Effect
		100	-0.7528	2.35615	0.9549	0.23853	Non-Significant Effect
		200	2.47063	2.35615	0.0405	0.23853	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.3200928	0.0800232	4	3.90	0.02289	Significant Effect
Error	0.3074808	0.0204987	15			
Total	0.62757352	0.1005219	19			

ANOVA Assumptions

Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Bartlett	1.10293	13.27670	0.89381	Equal Variances
Distribution	Shapiro-Wilk W	0.95540		0.45657	Normal Distribution

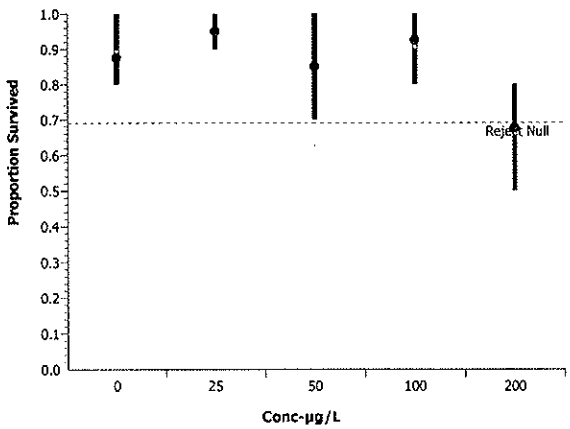
Data Summary

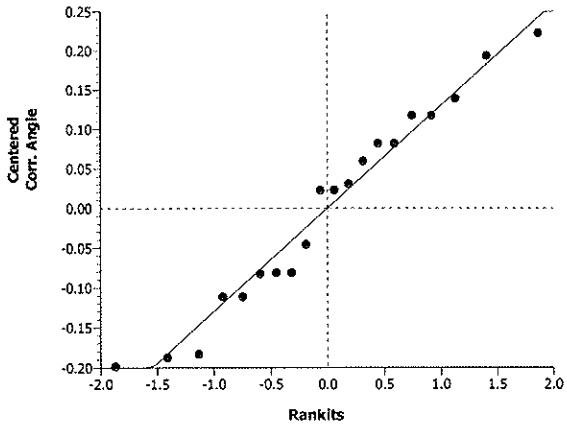
			Original Data				Transformed Data			
Conc-µg/L	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Water	4	0.87500	0.80000	1.00000	0.09574	1.21884	1.10715	1.41202	0.14512
25		4	0.95000	0.90000	1.00000	0.05773	1.33053	1.24905	1.41202	0.09409
50		4	0.85000	0.70000	1.00000	0.12910	1.18984	0.99116	1.41202	0.18182
100		4	0.92500	0.80000	1.00000	0.09574	1.29506	1.10715	1.41202	0.14695
200		4	0.67500	0.50000	0.80000	0.12583	0.96872	0.78540	1.10715	0.13389

Data Detail

Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	0.80000	0.80000	0.90000	1.00000						
25		0.90000	1.00000	0.90000	1.00000						
50		0.70000	0.90000	0.80000	1.00000						
100		0.80000	0.90000	1.00000	1.00000						
200		0.70000	0.80000	0.70000	0.50000						

Graphics





CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Trimmed Spearman-Karber	07-0376-1286	07-0376-1286	26 Jan-09 2:46 PM	CETISv1.1.2

Spearman-Karber Options

Threshold Option	Lower Threshold	Trim	Mu	Sigma
Control Threshold	0.125	0.00%	2.3567	0.02359894

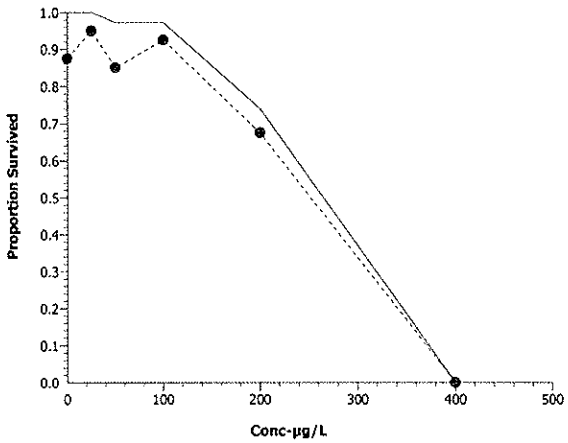
Point Estimates

EC50/LC50	95% LCL	95% UCL
227.35260	203.93980	253.45320

Data Summary

			Calculated Variate(A/B)						
Conc-µg/L	Control Type	Count	Mean	Minimum	Maximum	SE	SD	A	B
0	Dilution Water	4	0.87500	0.80000	1.00000	0.01954	0.09574	35	40
25		4	0.95000	0.90000	1.00000	0.01179	0.05773	38	40
50		4	0.85000	0.70000	1.00000	0.02635	0.12910	34	40
100		4	0.92500	0.80000	1.00000	0.01954	0.09574	37	40
200		4	0.67500	0.50000	0.80000	0.02569	0.12583	27	40
400		4	0.00000	0.00000	0.00000	0.00000	0.00000	0	40

Graphics



CETIS Data Worksheet

Report Date: 26 Jan-09 2:46 PM
Link: 07-0376-1286

Reference Toxicant 96-h Acute Survival Test **NewFields**

Start Date: 07 Jan-09 04:30 PM **Species:** Menidia beryllina **Sample Code:** 1329533958
Ending Date: 11 Jan-09 05:00 PM **Protocol:** EPA/821/R-02-012 (2002) **Sample Source:** Reference Toxicant
Sample Date: 07 Jan-09 04:30 PM **Material:** Copper sulfate **Sample Station:** P070930.99

Conc-µg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	12	10	8	
0	D	2	11	10	8	
0	D	3	7	10	9	
0	D	4	23	10	10	
25		1	20	10	9	
25		2	2	10	10	
25		3	1	10	9	
25		4	17	10	10	
50		1	21	10	7	
50		2	14	10	9	
50		3	8	10	8	
50		4	19	10	10	
100		1	18	10	8	
100		2	24	10	9	
100		3	16	10	10	
100		4	6	10	10	
200		1	13	10	7	
200		2	15	10	8	
200		3	22	10	7	
200		4	9	10	5	
400		1	4	10	0	
400		2	5	10	0	
400		3	10	10	0	
400		4	3	10	0	

REFERENCE TOXICANT TEST
SURVIVAL DATASHEET

NEWFIELDS

SPECIES	CLIENT	PROJECT	NEWFIELDS JOB NO.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
Menidia beryllina	City of Newport	Marina Park	---	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface

INITIAL # OF ORGANISMS: 10

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE 1/8/09 TECHNICIAN BH #ALIVE	DAY 1 #DEAD	DAY 1 OBS	DAY 2 DATE 1/9/09 TECHNICIAN BH #ALIVE	DAY 2 #DEAD	DAY 2 OBS	DAY 3 DATE 1/10/09 TECHNICIAN CR #ALIVE	DAY 3 #DEAD	DAY 3 OBS	DAY 4 DATE 1/11/09 TECHNICIAN CR #ALIVE	DAY 4 #DEAD	DAY 4 OBS
Ref.Tox.- copper	0	mg/l	1	10	10	0	N	10	0	N	10	0	N	8	2	N
			2		10	0	N	10	0	N	9	1	N	8	1	
			3		10	0	N	10	0	N	9	1	N	9	0	
			4		10	0	N	10	0	N	10	0	N	10	0	
			5													
Ref.Tox.- copper	25	mg/l	1		10	0	N	10	0	N	9	1	N	9	0	
			2		10	0	N	10	0	N	10	0	N	10	0	
			3		9	1	N	9	0	N	9	0	N	9	0	
			4		10	0	N	10	0	N	10	0	N	10	0	
			5													
Ref.Tox.- copper	50	mg/l	1		8	2	N	8	0	N	8	0	N	7	1	
			2		10	0	N	10	0	N	9	1	N	9	0	
			3		10	0	N	10	0	N	10	0	N	8	2	
			4		10	0	N	10	0	N	10	0	N	10	0	
			5													
Ref.Tox.- copper	100	mg/l	1		9	1	N	8	1	N	8	0	N	8	0	
			2		9	1	N	9	0	N	9	0	N	9	0	
			3		10	0	N	10	0	N	10	0	N	10	0	
			4		10	0	N	10	0	N	10	0	N	10	0	
			5													
Ref.Tox.- copper	200	mg/l	1		8	2	N	8	0	N	8	0	N	7	1	
			2		8	2	N	8	0	N	8	0	N	8	0	
			3		8	2	N	8	0	N	7	1	N	7	0	
			4		7	3	N	7	0	N	7	0	N	5	2	
			5													
Ref.Tox.- copper	400	mg/l	1		0	10	—	—								
			2		1	9	N	0	1							
			3		4	6	Q	0	4							
			4		1	9	N	0	1							
			5													

NEWFIELDS

Reference Toxicant Test
Water Quality Datasheet

P070930.99

CLIENT	PROJECT	SPECIES	PROTOCOL	TEST START DATE	TIME
City of Newport	Marina Park	*Menidia beryllina*	Port Gamble / Bath	07Jan09	1630
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**QUANTITY OF STOCK TARGET**	**QUANTITY OF DILUENT TARGET**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	1.572 mL	2000 mL	11Jan09	1700
NEWFIELDS LABORATORY	**DILUTION WATER BATCH**	**QUANTITY OF STOCK ACTUAL**	**QUANTITY OF DILUENT ACTUAL**	**INITIALAND DATE**	**PROTOCOL**
Port Gamble Bath	FSW010609	1.57254 mL	2000.0g	TS 1/7/09	USEPA/USCOE 1998 / NEWFIELDS BIO067

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			AM	PM
Ref.Tox.-copper	0	mg/L	0	All	4	7.9	4	18.0	1	32	1	7.3	TS 1/7/09	TS	X	MMB
			1	1	4	6.9	4	19.5	1	32	1	7.5	1/8	MMB	~~MMB~~	X
			2	2	4	7.0	4	18.9	1	32	1	7.5	1/9	BH	MMB	X
			3	3	4	6.7	4	19.0	1	32	1	7.6	1/10	CR	X	X
			4	4	3	6.5	3	19.5	3	33	3	7.8	1/11	CR	X	X
Ref.Tox.-copper	25	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.8	1/7/09	TS	X	MMB
			1	1	4	7.0	4	19.8	1	32	1	7.8	1/8	MMB	~~MMB~~	X
			2	2	4	7.0	4	19.4	1	32	1	7.7	1/9	BH	MMB	X
			3	3	4	6.8	4	19.1	1	32	1	7.7	1/10	CR	X	X
			4	4	3	6.5	3	19.7	3	33	3	7.9	1/11	CR	X	X
Ref.Tox.-copper	50	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.8	1/7/09	TS	X	~~MMB~~
			1	1	4	7.0	4	19.9	1	32	1	7.8	1/8	MMB	~~MMB~~	X
			2	2	4	7.1	4	19.6	1	32	1	7.8	1/9	BH	MMB	X
			3	3	4	6.9	4	19.1	1	32	1	7.7	1/10	CR	X	X
			4	4	3	8.2	3	19.7	3	33	3	7.9	1/11	CR	X	X

NEWFIELDS

Reference Toxicant Test
Water Quality Datasheet

CLIENT	PROJECT	SPECIES	PROTOCOL	TEST START DATE	TIME
City of Newport	Marina Park	*Menidia beryllina*	Port Gamble / Bath	07Jan09	1630
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**QUANTITY OF STOCK TARGET**	**QUANTITY OF DILUENT TARGET**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	1.572 mL	2000 mL	11Jan09	
NEWFIELDS LABORATORY	**DILUTION WATER BATCH**	**QUANTITY OF STOCK ACTUAL**	**QUANTITY OF DILUENT ACTUAL**	**INITIALAND DATE**	**PROTOCOL**
Port Gamble Bath	FSW010609	1.57254 ml	2000.0 g	TS 1/7/09	USEPA/USCOE 1998 / NEWFIELDS BIO067

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			AM	PM
Ref.Tox.-copper	100	mg/L	0	All	4	8.1	4	18.0	1	32	1	7.8	1/7/09	TS	X	~~MMB~~
			1	1	4	7.2	4	20.0	1	32	1	7.9	1/8	MMB	~~MMB~~	X
			2	2	4	6.8	4	19.7	1	32	1	7.8	1/9	BH	MMB	X
			3	3	4	6.6	4	19.1	1	32	1	7.8	1/10	CR	X	X
			4	4	3	6.8	3	19.6	3	33	3	7.9	1/11	CR	X	X
Ref.Tox.-copper	200	mg/L	0	All	4	8.1	4	18.0	1	32	1	7.8	1/7/09	TS	X	~~MMB~~
			1	1	4	7.1	4	20.0	1	32	1	7.9	1/8	MMB	~~MMB~~	X
			2	2	4	7.0	4	19.7	1	32	1	7.8	1/9	BH	MMB	X
			3	3	4	6.7	4	19.1	1	32	1	7.8	1/10	CR	X	X
			4	4	3	7.0	3	19.6	3	33	3	7.9	1/11	CR	X	X
Ref.Tox.-copper	400	mg/L	0	All	4	8.1	4	18.0	1	32	1	7.8	1/7/09	TS	X	~~MMB~~
			1	1	4	7.2	4	20.0	1	32	1	7.9	1/8	MMB	~~MMB~~	X
			2	2	4	7.3	4	19.7	1	32	1	7.9	1/9	BH	MMB	X
			3	3											X	X
			4	4											X	X

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 1/6/09	**Time:** 1430	**NewFields Batch No.** ABS 1546 Mb
Organism: Menidia Beryllina	**Source:** Aquatic BioSystems	
Address: On File		**Invoice Attached** (Yes) No
Phone: On File	**Contact:** Scott Kellman	
No. Ordered: 775	**No. Received:** 850	**Source Batch:** 12/27/08 hatch
Condition of Organisms: 14dead/ 10dead OK	**Approximate Size or Age:** 10 day old	
Shipper: FedEx	**B of L (Tracking No.)** 6732 0732 1546	
Condition of Container: Good	**Received By:** BH	
Confirmation of ID of Organism: Yes (No)		**Technician (Initials):** BH
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
7.2/7.2	18.6/18.7	11.9/13.0	29/29	BH

Notes:

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Mysidopsis bahia*	FSW010609	07Jan09	1645
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	1800

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			AM	PM
Control / .	0	%	0	All	4	7.9	4	18.8	1	32	1	7.7	1/7/09	✓		MMB
Control / .	0	%	1	1	4	6.9	4	19.4	1	32	1	7.6	1/8	MMB	MMB	✓
Control / .	0	%	2	2	4	5.1	4	19.5	1	32	1	7.5	1/9	BH	MMB	BH
Control / .	0	%	3	3	4	6.3	4	19.3	1	33	1	7.6	1/10	CR		
Control / .	0	%	4	1	3	6.3	3	19.3	3	34	3	7.9	1/11	CR		
				2		6.1		19.3		34		7.8				
				3		6.2		19.4		34		7.9				
				4		6.0		19.3		33		7.9				
				5		6.2		19.3		34		7.9				
Site Water / .	0	%	0	All	4	9.3	4	18.6	1	34	1	7.7	1/7/09	✓		MMB
Site Water / .	0	%	1	1	4	7.0	4	19.8	1	35	1	7.9	1/8	MMB	MMB	✓
Site Water / .	0	%	2	2	4	5.4	4	19.5	1	35	1	7.6	1/9	BH	MMB	BH
Site Water / .	0	%	3	3	4	5.7	4	19.7	1	35	1	7.6	1/10	CR		
Site Water / .	0	%	4	1	3	8.3	3	19.4	3	36	3	7.9	1/11	CR		
				2		6.1		19.3		35		7.9				
				3		6.7		19.4		36		7.9				
				4		5.8		19.3		36		7.9				
				5		5.9		19.3		36		7.9				

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Mysidopsis bahia*	FSW010609	07Jan09	1645
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			AM	PM
Comp C-U / .	10	%	0	All	4	7.7	4	19.6	4	32	1	7.9	1/7/09	✓		MMB
Comp C-U / .	10	%	1	1	4	6.4	4	19.9	1	32	1	7.9	1/8	MMB	MMB	✓
Comp C-U / .	10	%	2	2	4	4.8	4	19.5	1	32	1	7.5	1/9	BH	MMB	BH
Comp C-U / .	10	%	3	3	4	5.7	4	19.7	1	32	1	7.5	1/10	CR		
Comp C-U / .	10	%	4	1	3	6.2	3	19.4	3	34	3	7.9	1/11	CR		
				2	↓	6.3	↓	19.4	↓	34	↓	7.9	↓	↓		
				3		6.8		19.4		34		7.9				
				4		6.4		19.5		34		7.9				
				5		6.3		19.5		34		7.9				
Comp C-U / .	50	%	0	All	4	7.2	4	19.8	1	33	1	8.0	1/7/09	✓		MMB
Comp C-U / .	50	%	1	1	4	6.6	4	19.9	1	33	1	7.9	1/8	MMB	MMB	✓
Comp C-U / .	50	%	2	2	4	5.4	4	19.6	1	33	1	7.6	1/9	BH	MMB	BH
Comp C-U / .	50	%	3	3	4	~~6.2~~ ①	4	19.6	1	34	1	7.5	1/10	CR		
Comp C-U / .	50	%	4	1	3	7.9	3	19.5	3	34	3	7.9	1/11	CR		
				2	↓	6.1	↓	19.5	↓	34	↓	7.9	↓	↓		
				3		6.0		19.5		34		7.9				
				4		6.4		19.4		34		7.9				
				5		6.2		19.5		34		7.9				
Comp C-U / .	100	%	0	All	4	6.4	4	19.8	1	34	1	8.3	1/7/09	✓		MMB
Comp C-U / .	100	%	1	1	4	5.4	4	19.7	1	34	1	8.0	1/8	MMB	MMB	✓
Comp C-U / .	100	%	2	2	4	5.0	4	19.8	1	35	1	7.6	1/9	BH	MMB	BH
Comp C-U / .	100	%	3	3	4	5.5	4	19.7	1	35	1	7.5	1/10	CR		
Comp C-U / .	100	%	4	1	3	6.1	3	19.5	3	35	3	7.9	1/11	CR		
				2	↓	5.8	↓	19.5	↓	35	↓	7.9	↓	↓		
				3		5.6		19.5		35		7.9				
				4		5.9		19.5		35		7.9				
				5		6.3		19.5		35		7.9				

① WC CR 1/10/09

NEWFIELDS

96 HOUR SUSPENDED PARTICULATE PHASE TEST WATER QUALITY DATASHEET

CLIENT	PROJECT	SPECIES	DILUTION WATER BATCH	TEST START DATE	TIME
City of Newport	Marina Park	*Mysidopsis bahia*	FSW010609	07Jan09	1645
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**NEWFIELDS LABORATORY**	**PROTOCOL**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	Port Gamble Bath	USEPA/USCOE 1998 / NEWFIELDS BIO067	11Jan09	

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit			AM	PM
Comp C-L / .	10	%	0	All	4	8.2	4	19.1	1	32	1	7.8	1/7/09	✓		MMB
Comp C-L / .	10	%	1	1	4	6.3	4	19.9	1	32	1	7.9	1/8	MMB	MMB	✓
Comp C-L / .	10	%	2	2	4	5.1	4	19.6	1	32	1	7.6	1/9	BH	MMB	BH
Comp C-L / .	10	%	3	3	4	5.9	4	19.6	1	32	1	7.5	1/10	CR		
Comp C-L / .	10	%	4	1	3	5.8	3	19.4	3	34	3	7.8	1/11	CR		
				2	↓	5.5	↓	19.5	↓	34	↓	7.8	↓	↓		
				3		6.0		19.5		34		7.9				
				4		5.6		19.5		34		7.7				
				5		5.7		19.5		34		7.8				
Comp C-L / .	50	%	0	All	4	8.1	4	19.2	1	33	1	7.8	1/7/09	✓		MMB
Comp C-L / .	50	%	1	1	4	6.3	4	19.8	1	33	1	7.9	1/8	MMB	MMB	✓
Comp C-L / .	50	%	2	2	4	4.7	4	19.6	1	33	1	7.6	1/9	BH	MMB	BH
Comp C-L / .	50	%	3	3	4	5.7	4	19.7	1	34	1	7.5	1/10	CR		
Comp C-L / .	50	%	4	1	3	5.7	3	19.5	3	33	3	7.9	1/11	CR		
				2	↓	5.8	↓	19.5	↓	34	↓	7.8	↓	↓		
				3		5.2		19.5		34		7.9				
				4		6.0		19.5		33		7.9				
				5		5.8		19.5		33		7.9				
Comp C-L / .	100	%	0	All	4	8.1	4	19.4	1	34	1	7.8	1/7/09	✓		MMB
Comp C-L / .	100	%	1	1	4	6.1	4	19.8	1	34	1	7.9	1/8	MMB	MMB	✓
Comp C-L / .	100	%	2	2	4	4.7	4	19.6	1	34	1	7.6	1/9	BH	MMB	BH
Comp C-L / .	100	%	3	3	4	5.8	4	19.8	1	35	1	7.6	1/10	CR		
Comp C-L / .	100	%	4	1	3	6.1	3	19.5	3	35	3	7.8	1/11	CR		
				2	↓	5.9	↓	19.5	↓	35	↓	7.8	↓	↓		
				3		5.6		19.5		36		7.8				
				4		5.7		19.5		35		7.9				
				5		5.9		19.5		35		7.8				

NEWFIELDS

Ammonia Analysis
Total Ammonia (mg/L)

Client/Project:	Organism:	NewFields Test ID:	Test Duration (days):
City of Newport/ Marina Park	Mysid		4

PRETEST / INITIAL / FINAL / OTHER (circle one) DAY of TEST: Ø
OVERLYING (OV) / POREWATER (PW) (circle one)

Calibration Standards Temperature		Sample temperature should be within ±1°C of standards temperature at time and date of analysis.
Date:	Temperature:	
1/7/09	19	

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N)	pH	Sal (ppt)	Sulf. mg/L
Control		1/7/09 ⊥	0.0767	19	1/7/09 ⊥	N	NA	NA	NA
Site water			0.00						
C-L	10		0.00						
C-L	50		0.00						
C-L	100		0.00						
C-U	10		0.00						
C-U	50		0.00						
C-U	100		0.00						

96 HOUR SUSPENDED PARTICULATE PHASE TEST
DATA SHEET 3

NEWFIELDS

SPECIES			
Mysidopsis bahia			
CLIENT	**PROJECT**	**NEWFIELDS JOB NO.**	**PROJECT MANAGER**
City of Newport	Marina Park	1105-005-860	Bill Gardiner

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY

N = normal
LOE= loss of equilibrium
Q = quiescent
SUR= surfacing
DC = discoloration
OB = on bottom
J = jumper
NB = no body

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE 1/8/09 TECHNICIAN MMB #ALIVE	Day 1 #DEAD	Day 1 OBS	Day 2 DATE 1/9/09 TECHNICIAN BH #ALIVE	Day 2 #DEAD	Day 2 OBS	Day 3 DATE 1/10 TECHNICIAN CR #ALIVE	Day 3 #DEAD	Day 3 OBS	Day 4 DATE 1/11 TECHNICIAN CR #ALIVE	Day 4 #DEAD	Day 4 OBS
Control / .	0 %		1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2		9	1	N	9	0	N	9	0	N	9	0	
			3		10	0	N	10	0	N	10	0	N	10	0	
			4		10	0	N	10	0	N	10	0	N	10	0	
			5		10	0	N	10	0	N	10	0	N	10	0	
Site Water / .	0 %		1	10	10	0	N	10	0	N	10	0	N	10	0	
			2					10	0	N	10	0	N	10	0	
			3					10	0	N	10	0	N	9	0	INB
			4					10	0	N	10	0	N	10	0	N
			5					10	0	N	10	0	N	10	0	
Comp C-U / .	10 %		1	10	10	0	N	10	0	N	10	0	N	10	0	
			2					10	0	N	10	0	N	9	0	INB
			3					10	0	N	10	0	N	10	0	N
			4					10	0	N	10	0	N	10	0	
			5					10	0	N	10	0	N	10	0	
Comp C-U / .	50 %		1	10	9	0	INB	10	0	N	10	0	N	9	0	INB
			2		10	0	N	10	0	N	10	0	N	10	0	N
			3					10	0	N	10	0	N	10	0	
			4					10	0	N	10	0	N	10	0	
			5					10	0	N	10	0	N	10	0	
Comp C-U / .	100 %		1	10	10	0	N	10	0	N	10	0	N	10	0	
			2					10	0	N	10	0	N	9	0	INB
			3					10	0	N	10	0	N	10	0	N
			4					10	0	N	10	0	N	10	0	
			5					10	0	N	10	0	N	10	0	

96 HOUR SUSPENDED PARTICULATE PHASE TEST
DATA SHEET 3

NEWFIELDS

SPECIES			
Mysidopsis bahia			
CLIENT	**PROJECT**	**NEWFIELDS JOB NO.**	**PROJECT MANAGER**
City of Newport	Marina Park	1105-005-860	Bill Gardiner

SURVIVAL & BEHAVIOR DATA

OBSERVATIONS KEY

N = normal
LOE= loss of equilibrium
Q = quiescent
SUR= surfacing
DC = discoloration
OB = on bottom
J = jumper
NB = no body

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	Day 1 DATE 1/8/09 TECHNICIAN MMB #ALIVE	Day 1 #DEAD	Day 1 OBS	Day 2 DATE 1/9/09 TECHNICIAN BH #ALIVE	Day 2 #DEAD	Day 2 OBS	Day 3 DATE 1/10 TECHNICIAN CR #ALIVE	Day 3 #DEAD	Day 3 OBS	Day 4 DATE 1/11 TECHNICIAN CR #ALIVE	Day 4 #DEAD	Day 4 OBS
Comp C-L / .	10 %		1	10	10	~~0~~	N	10	0	N	10	0	N	10	0	N
			2	↓	↓	↓	↓	9	0	INB	9	0	N	10	0	IFB
			3					10	0	N	10	0	N	10	0	N
			4					10	0	N	10	0	N	10	0	↓
			5					10	0	N	10	0	N	10	0	
Comp C-L / .	50 %		1	10	10 ①	~~0~~	~~INB~~ N	9	0	INB	9	0	N	9	0	
			2	↓	10	~~0~~	N	10	0	N	10	0	N	10	0	
			3		10	~~0~~	N	10	0	N	10	0	N	10	0	↓
			4		9	~~0~~	INB	10	0	N	10	0	N	9	0	INB
			5		9	~~0~~	INB	10	0	N ①	10	0	N	9	0	INB
Comp C-L / .	100 %		1	10	10	~~0~~	N	9	0	INB	9	0	N	9	0	N
			2	↓	↓	↓	↓	10	0	N	10	0	N	10	0	↓
			3					10	0	N	10	0	N	10	0	
			4					10	0	N	10	0	N	10	0	
			5					10	0	N	10	0	N	10	0	

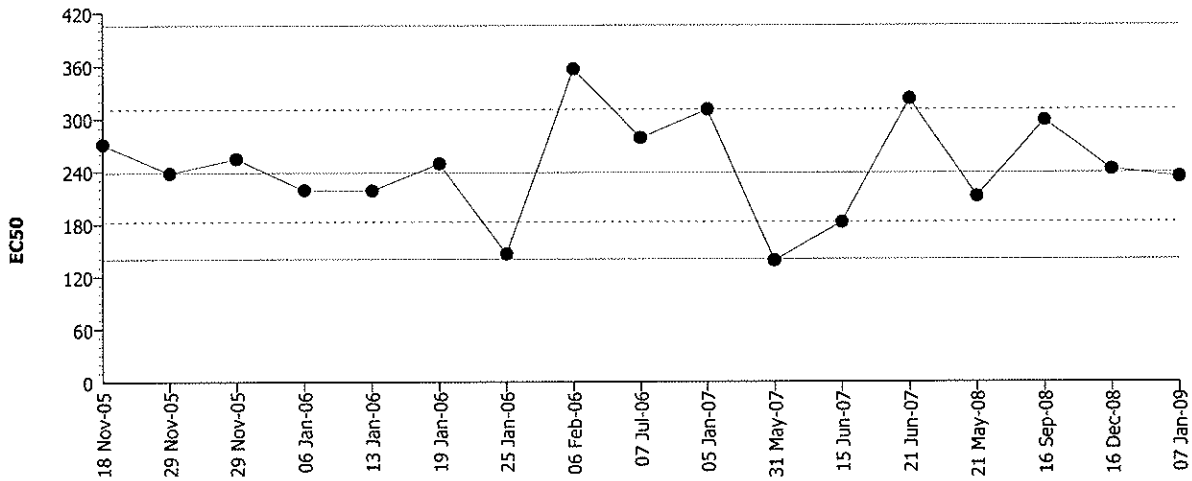
① IE MMB 1/8/09
(i) Body found alive 1/9/09 BH

CETIS QC Chart

Report Date: 26 Jan-09 4:17 PM

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Test Type: Survival | **Organism:** Mysidopsis bahia (Atlantic Mysid) | **Material:** Copper sulfate
Protocol: EPA/821/R-02-012 (2002) | **Endpoint:** Proportion Survived | **Source:** Reference Toxicant-REF



Mean: 238.12 | **Count:** 16 | **-1s Warning Limit:** 182.396 | **-2s Action Limit:** 139.713
Sigma: | **CV:** 30.55% | **+1s Warning Limit:** 310.868 | **+2s Action Limit:** 405.841

Quality Control Data

Point	Year	Month	Day	Data	Delta	Sigma	Warning	Action	Test Link	Analysis
1	2005	Nov	18	270.9431	32.82316	0.48439			04-9207-2519	06-7062-9566
2			29	237.8382	-0.28174	-0.00444			13-3749-4170	12-0215-0194
3			29	254.1857	16.06576	0.24491			14-4179-4943	15-0893-7739
4	2006	Jan	6	218.4655	-19.6544	-0.32314			04-0317-1797	12-3195-9925
5			13	217.9948	-20.1251	-0.33123			16-1881-1237	12-7567-2246
6			19	248.7937	10.67376	0.16448			08-0452-0770	17-2979-4106
7			25	145.5691	-92.5508	-1.84597	(-)		11-3116-1669	06-2279-5163
8		Feb	6	356.1905	118.0705	1.51051	(+)		10-1630-9590	13-6331-1854
9		Jul	7	278.1486	40.02866	0.58284			02-9682-5563	11-9863-7491
10	2007	Jan	5	310.4012	72.28126	0.99437			10-8470-2803	06-4877-5470
11		May	31	137.8252	-100.294	-2.05102	(-)	(-)	10-1324-7704	03-5962-2699
12		Jun	15	181.7338	-56.3861	-1.01365	(-)		08-4148-7978	10-6333-9348
13			21	322.6705	84.55056	1.13978	(+)		00-4869-4501	07-4507-6179
14	2008	May	21	211.1782	-26.9418	-0.45040			17-4827-0455	10-0698-3422
15		Sep	16	297.9535	59.83356	0.84084			07-0996-4754	04-2869-2915
16		Dec	16	241.8133	3.69336	0.05773			03-2797-2997	02-1235-2262
17	2009	Jan	7	233.2583	-4.86164	-0.07738			00-8997-7963	12-2358-6105

CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Comparison	00-8997-7963	00-8997-7963	26 Jan-09 3:57 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Steel Many-One Rank	C > T	Rank		125	250	0.8	176.777	8.16%

Group Comparisons

Control	vs	Conc-mg/L	Statistic	Critical	P-Value	Ties	Decision(0.05)
Dilution Water		62.5	18	10	0.7500	4	Non-Significant Effect
		125	14	10	0.2626	4	Non-Significant Effect
		250	10	10	0.0277	0	Significant Effect

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	1.288702	0.4295675	3	65.60	0.00000	Significant Effect
Error	0.0785842	0.0065487	12			
Total	1.36728660	0.4361161	15			

ANOVA Assumptions

Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Modified Levene	12.99229	5.95254	0.00045	Unequal Variances
Distribution	Shapiro-Wilk W	0.92162		0.17909	Normal Distribution

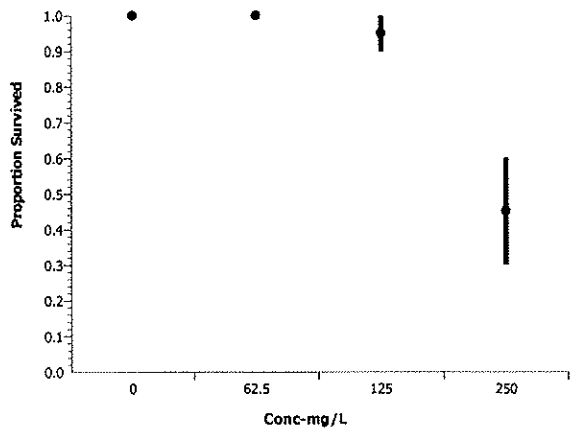
Data Summary

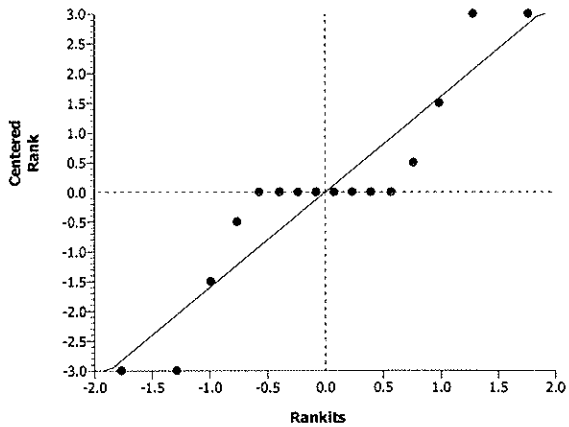
			Original Data				Transformed Data			
Conc-mg/L	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Water	4	1.00000	1.00000	1.00000	0.00000	11.5	11.5	11.5	0
62.5		4	1.00000	1.00000	1.00000	0.00000	11.5	11.5	11.5	0
125		4	0.95000	0.90000	1.00000	0.05773	8.5	5.5	11.5	3.46410
250		4	0.45000	0.30000	0.60000	0.12910	2.5	1	4	1.29099

Data Detail

Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	1.00000	1.00000	1.00000	1.00000						
62.5		1.00000	1.00000	1.00000	1.00000						
125		0.90000	0.90000	1.00000	1.00000						
250		0.60000	0.30000	0.40000	0.50000						

Graphics





CETIS Analysis Detail

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Proportion Survived	Trimmed Spearman-Karber	00-8997-7963	00-8997-7963	26 Jan-09 4:11 PM	CETISv1.1.2

Spearman-Karber Options

Threshold Option	Lower Threshold	Trim	Mu	Sigma
Control Threshold	0	0.00%	2.367837	0.0258518

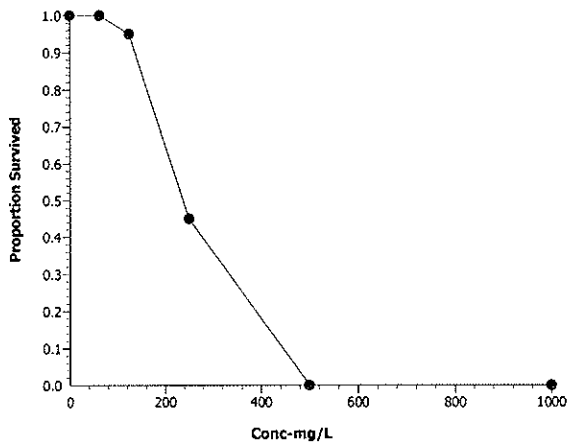
Point Estimates

EC50/LC50	95% LCL	95% UCL
233.25830	207.07770	262.74870

Data Summary

Conc-mg/	Control Type	Count	Calculated Variate(A/B) Mean	Minimum	Maximum	SE	SD	A	B
0	Dilution Water	4	1.00000	1.00000	1.00000	0.00000	0.00000	40	40
62.5		4	1.00000	1.00000	1.00000	0.00000	0.00000	40	40
125		4	0.95000	0.90000	1.00000	0.01179	0.05773	38	40
250		4	0.45000	0.30000	0.60000	0.02635	0.12910	18	40
500		4	0.00000	0.00000	0.00000	0.00000	0.00000	0	40
1000		4	0.00000	0.00000	0.00000	0.00000	0.00000	0	40

Graphics



CETIS Test Summary

Report Date: 26 Jan-09 4:17 PM
Test Link: 00-8997-7963

Reference Toxicant 96-h Acute Survival Test — **NewFields**

Test No:	09-1778-3253	**Test Type:**	Survival	**Duration:**	4d 1h
Start Date:	07 Jan-09 05:20 PM	**Protocol:**	EPA/821/R-02-012 (2002)	**Species:**	Mysidopsis bahia
Ending Date:	11 Jan-09 07:18 PM	**Dil Water:**	Laboratory Seawater	**Source:**	Aquatic Biosystems, CO
Setup Date:	07 Jan-09 05:20 PM	**Brine:**	Not Applicable		

Comments: P070930.100

Sample No:	07-9059-4503	**Code:**	790594503	**Client:**	Internal Lab
Sample Date:	07 Jan-09 05:20 PM	**Material:**	Copper sulfate	**Project:**	Reference Toxicant
Receive Date:		**Source:**	Reference Toxicant		
Sample Age:	N/A	**Station:**	P070930.100		

Point Estimate Summary

Analysis	Endpoint	% Effect	Conc-mg/L	95% LCL	95% UCL	Method
12-2358-6105	Proportion Survived	50	233.2583	207.0777	262.7487	Trimmed Spearman-Karber

Proportion Survived Summary

Conc-mg/L	Control Type	Reps	Mean	Minimum	Maximum	SE	SD	CV
0	Dilution Water	4	1.00000	1.00000	1.00000	0.00000	0.00000	0.00%
62.5		4	1.00000	1.00000	1.00000	0.00000	0.00000	0.00%
125		4	0.95000	0.90000	1.00000	0.02887	0.05774	6.08%
250		4	0.45000	0.30000	0.60000	0.06455	0.12910	28.69%
500		4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00%
1000		4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00%

Proportion Survived Detail

Conc-mg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Dilution Water	1.00000	1.00000	1.00000	1.00000
62.5		1.00000	1.00000	1.00000	1.00000
125		0.90000	0.90000	1.00000	1.00000
250		0.60000	0.30000	0.40000	0.50000
500		0.00000	0.00000	0.00000	0.00000
1000		0.00000	0.00000	0.00000	0.00000

CETIS Data Worksheet

Report Date: 26 Jan-09 4:17 PM
Link: 00-8997-7963

Reference Toxicant 96-h Acute Survival Test **NewFields**

Start Date:	07 Jan-09 05:20 PM	**Species:**	Mysidopsis bahia	**Sample Code:**	790594503
Ending Date:	11 Jan-09 07:18 PM	**Protocol:**	EPA/821/R-02-012 (2002)	**Sample Source:**	Reference Toxicant
Sample Date:	07 Jan-09 05:20 PM	**Material:**	Copper sulfate	**Sample Station:**	P070930.100

Conc-mg/L	Code	Rep	Pos	# Exposed	# Survived	Notes
0	D	1	14	10	10	
0	D	2	19	10	10	
0	D	3	3	10	10	
0	D	4	12	10	10	
62.5		1	7	10	10	
62.5		2	5	10	10	
62.5		3	21	10	10	
62.5		4	6	10	10	
125		1	2	10	9	
125		2	23	10	9	
125		3	13	10	10	
125		4	8	10	10	
250		1	11	10	6	
250		2	1	10	3	
250		3	22	10	4	
250		4	18	10	5	
500		1	4	10	0	
500		2	17	10	0	
500		3	24	10	0	
500		4	20	10	0	
1000		1	9	10	0	
1000		2	15	10	0	
1000		3	16	10	0	
1000		4	10	10	0	

REFERENCE TOXICANT TEST
SURVIVAL DATASHEET

NEWFIELDS

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	SPECIES	NEWFIELDS LABORATORY	PROTOCOL
City of Newport	Marina Park	---	Bill Gardiner	*Mysidopsis bahia*	Port Gamble Bath	USEPA/USCOE 1998

SURVIVAL & BEHAVIOR DATA

OBSERVATION KEY
N = normal
LOE= loss of equilibrium
Q = quiescent
DC = discoloration
NB = no body
F= Floating on Surface

INITIAL # OF ORGANISMS: 10

CLIENT/ NEWFIELDS ID	CONC. value	CONC. units	REP	INITIAL NUMBER	DAY 1 DATE: 1/8/09 TECHNICIAN: MMB #ALIVE	#DEAD	OBS	DAY 2 DATE: 1/9/09 TECHNICIAN: BH #ALIVE	#DEAD	OBS	DAY 3 DATE: 1/10/09 TECHNICIAN: CR #ALIVE	#DEAD	OBS	DAY 4 DATE: 1/11/09 TECHNICIAN: CR #ALIVE	#DEAD	OBS
Ref.Tox.- copper	0	mg/l	1	10	10	0	N	10	0	N	10	0	N	10	0	N
			2		10	0		10	0	N	10	0		10	0	
			3		10	0		10	0	N	10	0		10	0	
			4		10	0		10	0	N	10	0		10	0	
			5													
Ref.Tox.- copper	62.5	mg/l	1		10	0	N	10	0	N	10	0		10	0	
			2		10	0		10	0	N	10	0		10	0	
			3		10	0		10	0	N	10	0		10	0	
			4		10	0		10	0	N	10	0		10	0	
			5													
Ref.Tox.- copper	125	mg/l	1		10	0	N	9	0	INB	9	0		9	0	
			2		10	0		9	1	N	9	0		9	0	
			3		10	0		10	0	N	10	0		10	0	
			4		10	0		10	0	N	10	0		10	0	
			5													
Ref.Tox.- copper	250	mg/l	1		10	0	Q	7	3	Q	6	1	Q	6	0	Q
			2		~~10 9~~	~~0~~ + ①	Q	5	5	Q	4	0	INB	3	1	Q
			3		10	0	N	6	4	Q	5	0	INB	4	1	Q
			4		10	0	N	6	4	Q	~~4~~ 5	1	INB	5	0	Q
			5													
Ref.Tox.- copper	500	mg/l	1		6	4	Q	4	2	Q	2	2	Q	0	2	N
			2		9	1	Q	4	5	Q	4	0		0	4	
			3		6	4	Q	1	5	Q	1	0		0	1	
			4		6	4	Q	1	5	Q	1	0		0	1	
			5													
Ref.Tox.- copper	1000	mg/l	1		6	4	Q	0	6							
			2		7	3	Q	2	5	Q	0	2				
			3		5	5	Q	1	4	Q	0	1				
			4		6	4	Q	2	4	Q	1	1	Q	0	1	N
			5													

① IE, MMB 1/9/08
② IE CR 1/10/09

NEWFIELDS

Reference Toxicant Test
Water Quality Datasheet

CLIENT	PROJECT	SPECIES	PROTOCOL	TEST START DATE	TIME
City of Newport	Marina Park	*Mysidopsis bahia*	Port Gamble / Bath	07Jan09	1720
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**QUANTITY OF STOCK TARGET**	**QUANTITY OF DILUENT TARGET**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	~~1.572 mL~~ 3.93	2000 mL	11Jan09	1918
NEWFIELDS LABORATORY	**DILUTION WATER BATCH**	**QUANTITY OF STOCK ACTUAL**	**QUANTITY OF DILUENT ACTUAL**	**INITIAL AND DATE**	**PROTOCOL**
Port Gamble Bath	FSW010609	3.93671 mL	2000.0 g	1/7 ~~BH~~ TS	USEPA/USCOE 1998 / NEWFIELDS BIO067

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit				
Ref.Tox.-copper	0	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.9	1/7/09	TS	X	MMB
			1	1	4	6.8	4	19.9	1	32	1	7.8	1/8	MMB	MMB	J
			2	2	4	4.4	4	19.1	1	32	1	7.4	1/9	BH	MMB	BH
			3	3	4	3.9	4	19.1	1	32	1	7.4	1/10	CR	CR	CR
			4	4	3	5.8	3	19.2	3	33	3	7.5	1/11	CR	CR	
Ref.Tox.-copper	62.5	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.9	1/7/09	TS	X	MMB
			1	1	4	6.7	4	20.0	1	32	1	7.8	1/8	MMB	MMB	J
			2	2	4	4.5	4	19.5	1	32	1	7.4	1/9	BH	MMB	BH
			3	3	4	4.0	4	19.1	1	32	1	7.3	1/10	CR	CR	CR
			4	4	3	5.6	3	19.5	3	33	3	7.7	1/11	CR	CR	
Ref.Tox.-copper	125	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.9	1/7/09	TS	X	MMB
			1	1	4	6.8	4	20.0	1	32	1	7.8	1/8	MMB	MMB	J
			2	2	4	5.1	4	19.7	1	32	1	7.4	1/9	BH	MMB	BH
			3	3	4	4.1	4	19.1	1	32	1	7.4	1/10	CR	CR	CR
			4	4	3	5.6	3	19.7	3	32	3	7.7	1/11	CR	CR	

NEWFIELDS

Reference Toxicant Test
Water Quality Datasheet

CLIENT	PROJECT	SPECIES	PROTOCOL	TEST START DATE	TIME
City of Newport	Marina Park	*Mysidopsis bahia*	Port Gamble / Bath	07Jan09	1720
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**QUANTITY OF STOCK TARGET**	**QUANTITY OF DILUENT TARGET**	**TEST END DATE**	**TIME**
1105-005-860	Bill Gardiner	1.572 mL	2000 mL	11Jan09	
NEWFIELDS LABORATORY	**DILUTION WATER BATCH**	**QUANTITY OF STOCK ACTUAL**	**QUANTITY OF DILUENT ACTUAL**	**INITIALAND DATE**	**PROTOCOL**
Port Gamble Bath	FSW010609	3.9367 mL	2000.09	1/7 TS	USEPA/USCOE 1998 / NEWFIELDS BIO067

WATER QUALITY DATA

TEST CONDITIONS			DAY	REP	DO (mg/L) > 3.7		TEMP (C) 20 ± 2		SALINITY (ppt) 31 ± 2		pH 7.8 ± 0.5		Date	Tech	FEEDING	
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units			D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit				
Ref.Tox.-copper	250	mg/L	0	All	4	7.9	4	18.0	1	32	1	7.9	1/7/09	TS	X	MMB
			1	1	4	6.9	4	20.1	1	32	1	7.9	1/8	MMB	MMB	✓
			2	2	4	5.6	4	19.7	1	32	1	7.5	1/9	BH	MMB	BH
			3	3	4	4.3	4	19.1	1	32	1	7.4	1/10	CR	CR	CR
			4	4	3	6.4	3	19.6	3	33	3	7.7	1/11	CR	CR	
Ref.Tox.-copper	500	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.9	1/7/09	TS	X	MMB
			1	1	4	7.0	4	20.0	1	32	1	7.9	1/8	MMB	MMB	✓
			2	2	4	5.9	4	19.7	1	32	1	7.6	1/9	BH	MMB	BH
			3	3	4	5.0	4	19.1	1	32	1	7.5	1/10	CR	CR	CR
			4	4	3	6.2	3	19.5	3	33	3	7.7	1/11	CR	CR	
Ref.Tox.-copper	1000	mg/L	0	All	4	8.0	4	18.0	1	32	1	7.8	1/7/09	TS	X	MMB
			1	1	4	7.2	4	20.1	1	32	1	7.9	1/8	MMB	MMB	✓
			2	2	4	6.1	4	19.7	1	32	1	7.6	1/9	BH	MMB	BH
			3	3	4	5.2	4	19.1	1	32	1	7.5	1/10	CR	CR	CR
			4	4	3		3		3		3		1/11	CR	CR	

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 1/6/09	**Time:** 1430	**NewFields Batch No.** ABS 1546 Ab
Organism: Mysidopsis bahia	**Source:** Aquatic Bio Systems	
Address: On File		**Invoice Attached** (Yes) No
Phone: On File	**Contact:** Scott Kellman	
No. Ordered: 775	**No. Received:** 850	**Source Batch:** 1/3/09 hatch
Condition of Organisms: Good	**Approximate Size or Age:** 3 day old	
Shipper: FedEx	**B of L (Tracking No.)** 6732 0732 1546	
Condition of Container: Good	**Received By:** BH	
Confirmation of ID of Organism: Yes (No)		**Technician (Initials):** BH
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
7.5	18.8	15.4	24	BH

Notes:

NEWFIELDS

[redacted] LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
WQ DATA SHEET

CLIENT	PROJECT
City of Newport	Marina Park
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**
1105-005-860	Bill Gardiner

SPECIES		NEWFIELDS LABORATORY		PROTOCOL
Mytilus edulis (mussel)		Port Gamble Incubator		USEPA/USACE 1998, Region 4 RIM 1993
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**	
07Jan09	1800	09Jan09		
DILUTION WATER BATCH		**TEMP Recorder (HOBO)#**		
FSW010609.01		na		

WATER QUALITY DATA

Test contions				DO (mg/L)		TEMPERATURE (°C)		Salinity (ppt)		pH (units)		Ammonia		Sulfides			
				≥ 4.0		16 ± 1		31 ± 2		8.0 ± 1							
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	DISS. OXYGEN meter	DISS. OXYGEN mg/L	TEMPERATURE meter	TEMPERATURE °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	AMMONIA Techn.	AMMONIA mg/L	Sulfides Techn.	Sulfides mg/L	Date	Tech
Control / .	0 %		0	4	7.9	4	16.8	1	31	1	7.8					1/7/09	✓
			1	3	7.5	3	15.7	3	32	3	7.8					1/8	TS
			2	3	7.5	3	15.5	3	33	3	7.9					1/9	TS
			3														
			4														
Site Water Control /	0 %		0	4	~~2.8~~ 9.0	4	16.3	1	34	1	7.8					1/7/09	✓
			1	3	7.5	3	16.0	3	35	3	7.8					1/8	TS
			2	3	7.3	3	15.6	3	36	3	7.9					1/9	TS
			3														
			4														

① IE 1/7/09 ✓

NEWFIELDS

[redacted] LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
WQ DATA SHEET

CLIENT	PROJECT
City of Newport	Marina Park
NEWFIELDS JOB NUMBER	PROJECT MANAGER
1105-005-860	Bill Gardiner

SPECIES		NEWFIELDS LABORATORY		PROTOCOL
Mytilus edulis (mussel)		Port Gamble Incubator		USEPA/USACE 1998, Region 4 RIM 1993
TEST START DATE	TIME	TEST END DATE	TIME	
07Jan09		09Jan09		
DILUTION WATER BATCH		TEMP Recorder (HOBO)#		
FSW010609.01		na		

WATER QUALITY DATA

Test contions			DO (mg/L)		TEMPERATURE (°C)		Salinity (ppt)		pH (units)		Ammonia		Sulfides			
			≥ 4.0		16 ± 1		31 ± 2		8.0 ± 1							
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	DISS. OXYGEN meter	DISS. OXYGEN mg/L	TEMPERATURE meter	TEMPERATURE °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	AMMONIA Techn.	AMMONIA mg/L	Sulfides Techn.	Sulfides mg/L	Date	Tech
Comp C-U / .	1 %		0	4	8.3	4	16.4	1	32	1	7.9					1/7/09	✓
			1	3	7.2	3	15.9	3	32	3	7.9					1/8	TS
			2	3	7.3	3	15.6	3	33	3	8.0					1/9	TS
			3														
			4														
Comp C-U / .	10 %		0	4	8.1	4	16.6	1	32	1	7.9					1/7/09	✓
			1	3	7.2	3	15.9	3	32	3	7.9					1/8	TS
			2	3	7.1	3	15.7	3	33	3	8.0					1/9	TS
			3														
			4														
Comp C-U / .	50 %		0	4	7.5	4	16.5	1	~~16.5~~ 33	1	~~7.5~~ 8.1	DL				1/7/09	✓
			1	3	7.3	3	15.7	3	34	3	7.9					1/8	TS
			2	3	6.8	3	15.6	3	35	3	8.0					1/9	TS
			3														
			4														

① IC 1/7/09 ✓

NEWFIELDS

[redacted] LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
WQ DATA SHEET

CLIENT	PROJECT
City of Newport	Marina Park
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**
1105-005-860	Bill Gardiner

SPECIES		NEWFIELDS LABORATORY		PROTOCOL
Mytilus edulis (mussel)		Port Gamble Incubator		USEPA/USACE 1998, Region 4 RIM 1993
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**	
07Jan09		09Jan09		
DILUTION WATER BATCH		**TEMP Recorder (HOBO)#**		
FSW010609.01		na		

WATER QUALITY DATA

Test contions			DO (mg/L)		TEMPERATURE (°C)		Salinity (ppt)		pH (units)		Ammonia		Sulfides			
			≥ 4.0		16 ± 1		31 ± 2		8.0 ± 1							
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	DISS. OXYGEN meter	DISS. OXYGEN mg/L	TEMPERATURE meter	TEMPERATURE °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	AMMONIA Techn.	AMMONIA mg/L	Sulfides Techn.	Sulfides mg/L	Date	Tech
Comp C-U / .	100 %		0	4	6.6	4	16.6	1	34	1	8.3					1/7/09	[illegible]
			1	3	7.1	3	15.6	3	35	3	8.1					1/8	TS
			2	3	6.9	3	15.6	3	37	3	8.0					1/9	TS
			3														
			4														

NEWFIELDS

[redacted]LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
WQ DATA SHEET

CLIENT	PROJECT
City of Newport	Marina Park
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**
1105-005-860	Bill Gardiner

SPECIES		NEWFIELDS LABORATORY		PROTOCOL
Mytilus edulis (mussel)		Port Gamble Incubator		USEPA/USACE 1998, Region 4 RIM 1993
TEST START DATE	**TIME**	**TEST END DATE**	**TIME**	
07Jan09		09Jan09		
DILUTION WATER BATCH		**TEMP Recorder (HOBO)#**		
FSW010609.01		na		

WATER QUALITY DATA

Test contions			DO (mg/L)		TEMPERATURE (°C)		Salinity (ppt)		pH (units)		Ammonia		Sulfides			
			≥ 4.0		16 ± 1		31 ± 2		8.0 ± 1							
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	DISS. OXYGEN meter	DISS. OXYGEN mg/L	TEMPERATURE meter	TEMPERATURE °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	AMMONIA Techn.	AMMONIA mg/L	Sulfides Techn.	Sulfides mg/L	Date	Tech
Comp C-L / .	1 %		0	4	7.9	4	16.5	1	32	1	8.1					1/7/09	✓
			1	3	7.2	3	15.9	3	32	3	8.0					1/8	TS
			2	3	6.9	3	15.6	3	33	3	8.1					1/9	TS
			3														
			4														
Comp C-L / .	10 %		0	4	8.0	4	16.6	1	32	1	7.9					1/7/09	✓
			1	3	7.3	3	15.6	3	33	3	8.0					1/8	TS
			2	3	7.4	3	15.5	3	33	3	8.0					1/9	TS
			3														
			4														
Comp C-L / .	50 %		0	4	8.0	4	16.6	1	33	1	7.9					1/7/09	✓
			1	3	7.3	3	15.5	3	35	3	8.0					1/8	TS
			2	3	7.4	3	15.4	3	36	3	8.0					1/9	TS
			3														
			4														

NEWFIELDS

[redacted] LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
WQ DATA SHEET

CLIENT	PROJECT
City of Newport	Marina Park
NEWFIELDS JOB NUMBER	PROJECT MANAGER
1105-005-860	Bill Gardiner

SPECIES		NEWFIELDS LABORATORY		PROTOCOL
Mytilus edulis (mussel)		Port Gamble Incubator		USEPA/USACE 1998, Region 4 RIM 1993
TEST START DATE	TIME	TEST END DATE	TIME	
07Jan09		09Jan09		
DILUTION WATER BATCH		TEMP Recorder (HOBO)#		
FSW010609.01		na		

WATER QUALITY DATA

Test contions			DO (mg/L)		TEMPERATURE (°C)		Salinity (ppt)		pH (units)		Ammonia		Sulfides			
			≥ 4.0		16 ± 1		31 ± 2		8.0 ± 1							
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	DISS. OXYGEN meter	DISS. OXYGEN mg/L	TEMPERATURE meter	TEMPERATURE °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	AMMONIA Techn.	AMMONIA mg/L	Sulfides Techn.	Sulfides mg/L	Date	Tech
Comp C-L / .	100 %		0	4	8.0	4	16.9	1	34	1	7.8					1/7/09	[illegible]
			1	3	7.4	3	15.9	3	35	3	7.9					1/8	TS
			2	3	7.3	3	15.5	3	36	3	8.0					1/9	TS
			3														
			4														

~~Anamar~~ Eohs

Page ___ of ___

Sample ID or Description	Conc. or Rep	Date of Sampling and Initials	Ammonia Value (mg/L)	Temp °C	Date of Reading and Initials	Sample Preserved (Y/N	pH	Sal (ppt)	Sulf. mg/L
~~NECF08-Ref~~ ~~NCF~~		1/5/09 ✓			1/5/09 ✓	N			
~~NECF08-1~~		↓			↓	↓			
~~NECF08-2~~		↓			↓	↓			
MARINA PARK			Initial		NH_3				
C.L 1		1/7/09 MMB	<0.5						
10		↓	<0.5						
50		↓	<0.5						
100		↓	<0.5						
C.U 1		1/7/09 MMB	<0.5						
10		↓	<0.5						
50		↓	<0.5						
100		↓	<0.5						
			Final		NH_3				
Ø		1/9/09 MMB	<0.5						
C.L 1		↓	<0.5						
10		↓	<0.5						
50		↓	<0.5						
100		↓	<0.5						
C.U 1		↓	<0.5						
10		↓	<0.5						
50		↓	<0.5						
100		↓	0.506						

BIVALVE LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE ENDPOINT DATA SHEET

NEWFIELDS

SPECIES					
Mytilus edulis (mussel)					
CLIENT	PROJECT	NEWFIELDS JOB NUM	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
City of Newport	Marina Park	1105-005-860	Bill Gardiner	Port Gamble Incubator	USEPA/USACE 1998, Region 4

LARVAL OBSERVATION DATA

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
ZERO-TIME (PRE)	0 %			1	297		1/20/09	CR	
				2	270				
				3	266				
				4	308				
				5	302				
Control / .	0 %			1	269	5	1/19/09	CR	
				2	271	12			
				3	271	14			
				4	270	7			
				5	281	7			
Site Water Control /	0 %			1	253	7			
				2	284	4			
				3	275	5			
				4	294	4			
				5	246	6			

BIVALVE LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE ENDPOINT DATA SHEET

NEWFIELDS

SPECIES					
Mytilus edulis (mussel)					
CLIENT	PROJECT	NEWFIELDS JOB NUM	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
City of Newport	Marina Park	1105-005-860	Bill Gardiner	Port Gamble Incubator	USEPA/USACE 1998, Region 4

LARVAL OBSERVATION DATA

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
Comp C-U/ .	1	%		1	290	10	1/19/09	CR	
				2	258	12			
				3	317	10			
				4	300	11			
				5	262	8			
Comp C-U / .	10	%		1	260	9			
				2	283	4			
				3	293	8			
				4	311	7			
				5	265	8			
Comp C-U / .	50	%		1	263	12	1/20/09	CR	
				2	241	8			
				3	276	8			
				4	302	6			
				5	281	8			
Comp C-U / .	100	%		1	298	8			
				2	296	7			
				3	313	17			
				4	284	5			
				5	300	6			

BIVALVE LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE ENDPOINT DATA SHEET

NEWFIELDS

SPECIES					
Mytilus edulis (mussel)					
CLIENT	PROJECT	NEWFIELDS JOB NUM	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
City of Newport	Marina Park	1105-005-860	Bill Gardiner	Port Gamble Incubator	USEPA/USACE 1998, Region 4

LARVAL OBSERVATION DATA

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
Comp C-L / .	1	%		1	283	5	② 1/19/09 ~~1/18/09~~	CR	
				2	276	5			
				3	291	7			
				4	233	7			
				5	279	5			
Comp C-L / .	10	%		1	255	7			
				2	281	8			
				3	324	9			
				4	261	4			
				5	264	11			
Comp C-L / .	50	%		1	253	4			
				2	262	11			
				3	296	9			
				4	277	7			
				5	290	8			
Comp C-L / .	100	%		1	247	7			
				2	~~304~~ 268 ①	~~8~~ 5			
				3	293	8			
				4	299	9			
				5	306	5			

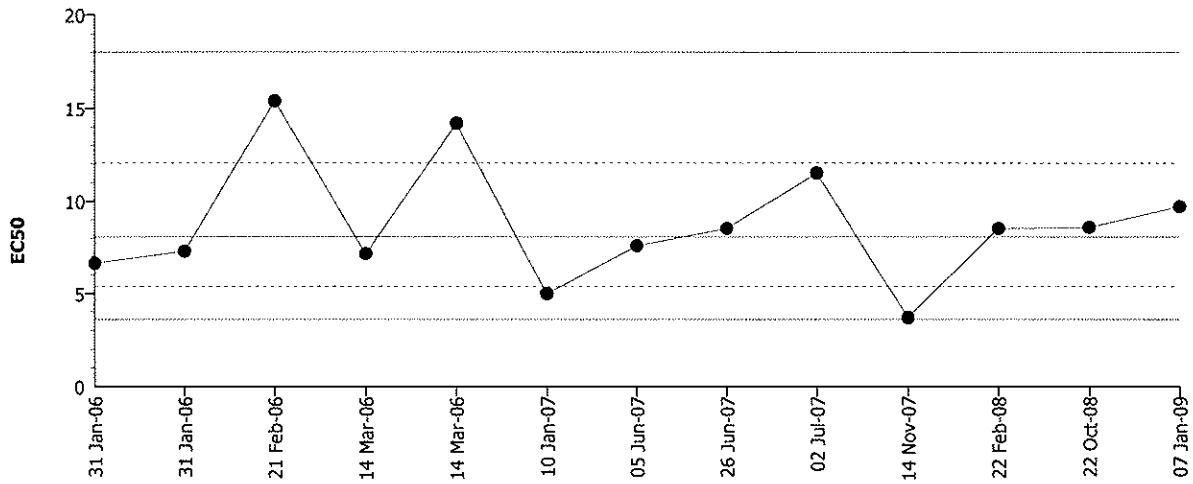
① WC CR 1/19/09
② Wrong date CR 1/19/09

CETIS QC Chart

Report Date: 26 Jan-09 1:05 PM

Mussel Shell Development Test — **NewFields**

Test Type: Development-Survival **Organism:** Mytilus species (Mussel) **Material:** Copper sulfate
Protocol: EPA/600/R-95/136 (1995) **Endpoint:** Combined Proportion Normal **Source:** Reference Toxicant-REF



Mean: 8.05554 **Count:** 12 **-1s Warning Limit:** 5.38297 **-2s Action Limit:** 3.59707
Sigma: **CV:** 49.65% **+1s Warning Limit:** 12.0550 **+2s Action Limit:** 18.0402

Quality Control Data

Point	Year	Month	Day	Data	Delta	Sigma	Warning	Action	Test Link	Analysis
1	2006	Jan	31	6.61806	-1.43748	-0.48759			13-7720-1086	09-0953-9971
2			31	7.27814	-0.77740	-0.25175			07-7532-7374	03-9619-0590
3		Feb	21	15.39971	7.34417	1.60743	(+)		13-4991-4803	05-4083-6897
4		Mar	14	7.14387	-0.91168	-0.29794			06-2606-4386	01-1874-9985
5			14	14.18912	6.13358	1.40433	(+)		04-5028-3346	02-3972-6078
6	2007	Jan	10	4.98039	-3.07516	-1.19283	(-)		14-3905-0090	14-8759-6838
7		Jun	5	7.58039	-0.47515	-0.15081			13-7829-5492	02-0555-4940
8			26	8.51244	0.45690	0.13685			01-3435-1614	10-7297-9254
9		Jul	2	11.50108	3.44554	0.88331			05-4911-0140	15-1586-2946
10		Nov	14	3.68371	-4.37184	-1.94096	(-)		15-3555-7493	15-2027-0867
11	2008	Feb	22	8.50255	0.44700	0.13397			06-6162-8975	04-4740-6893
12		Oct	22	8.57836	0.52281	0.15599			13-5164-0440	13-1167-6043
13	2009	Jan	7	9.69234	1.63680	0.45886			10-8012-7714	12-5942-1542

CETIS Analysis Detail

Mussel Shell Development Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Combined Proportion Normal	Comparison	10-8012-7714	10-8012-7714	26 Jan-09 1:04 PM	CETISv1.1.2

Method	Alt H	Data Transform	Zeta	NOEL	LOEL	Toxic Units	ChV	PMSD
Dunnett's Multiple Comparison	C > T	Angular (Corrected)		5	10	20	7.07107	8.11%

Group Comparisons

Control	vs	Conc-µg/L	Statistic	Critical	P-Value	MSD	Decision(0.05)
Dilution Water		2.5	-2.2604	2.41651	0.9970	0.14073	Non-Significant Effect
		5	-0.1888	2.41651	0.8114	0.14073	Non-Significant Effect
		10	10.1928	2.41651	0.0000	0.14073	Significant Effect

Test Acceptability

Attribute	Statistic	TAC Range	Overlap	Decision
PMSD	0.08106	NL - 0.25	No	Passes acceptability criteria

ANOVA Table

Source	Sum of Squares	Mean Square	DF	F Statistic	P-Value	Decision(0.05)
Between	0.9569461	0.318982	3	62.70	0.00001	Significant Effect
Error	0.0407007	0.0050876	8			
Total	0.99764680	0.3240696	11			

ANOVA Assumptions

Attribute	Test	Statistic	Critical	P-Value	Decision(0.01)
Variances	Bartlett	0.40782	11.34487	0.93862	Equal Variances
Distribution	Shapiro-Wilk W	0.94237		0.52940	Normal Distribution

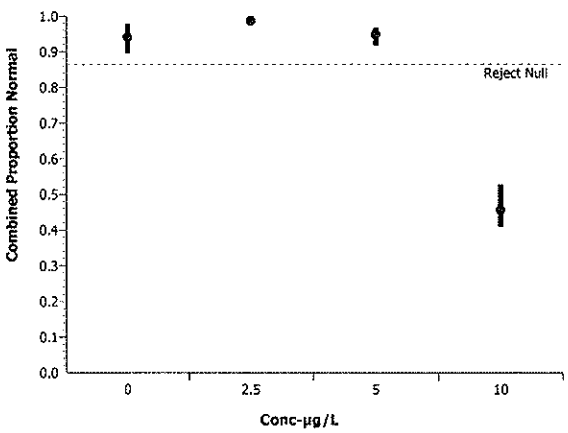
Data Summary

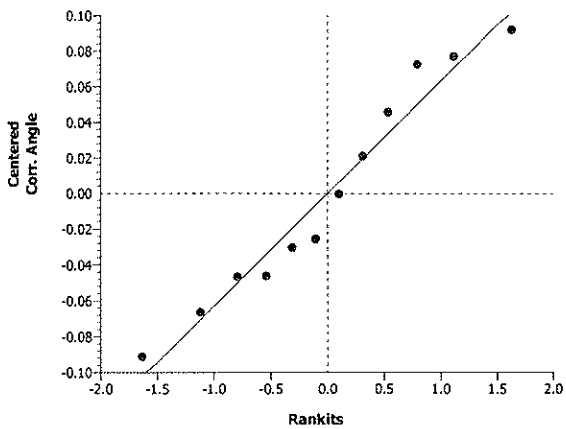
			Original Data				Transformed Data			
Conc-µg/L	Control Type	Count	Mean	Minimum	Maximum	SD	Mean	Minimum	Maximum	SD
0	Dilution Water	3	0.93950	0.89547	0.97879	0.04186	1.33288	1.24157	1.42463	0.09153
2.5		3	0.98611	0.97690	1.00000	0.01224	1.46452	1.41821	1.54128	0.06694
5		3	0.94733	0.91638	0.96743	0.02720	1.34387	1.27743	1.38932	0.05883
10		3	0.45412	0.40767	0.52613	0.06323	0.73927	0.69253	0.81154	0.06348

Data Detail

Conc-µg/L	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Dilution Water	0.89547	0.97879	0.94425							
2.5		1.00000	0.98142	0.97690							
5		0.96743	0.95819	0.91638							
10		0.42857	0.40767	0.52613							

Graphics





CETIS Analysis Detail

Mussel Shell Development Test — **NewFields**

Endpoint	Analysis Type	Sample Link	Control Link	Date Analyzed	Version
Combined Proportion Normal	Trimmed Spearman-Karber	10-8012-7714	10-8012-7714	26 Jan-09 1:04 PM	CETISv1.1.2

Spearman-Karber Options

Threshold Option	Lower Threshold	Trim	Mu	Sigma
Control Threshold	0.05862832	0.00%	0.9864288	0.005280371

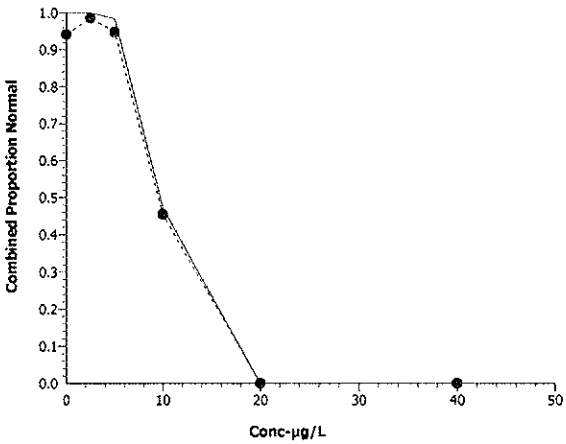
Point Estimates

EC50/LC50	95% LCL	95% UCL
9.69234	9.45950	9.93092

Data Summary

Conc-µg/L	Control Type	Count	Calculated Variate(A/B) Mean	Minimum	Maximum	SE	SD	A	B
0	Dilution Water	3	0.93950	0.89547	0.97879	0.00854	0.04186	851	904
2.5		3	0.98611	0.97690	1.00000	0.00250	0.01224	900	913
5		3	0.94733	0.91638	0.96743	0.00555	0.02720	835	881
10		3	0.45412	0.40767	0.52613	0.01291	0.06323	391	861
20		3	0.00000	0.00000	0.00000	0.00000	0.00000	0	861
40		3	0.00000	0.00000	0.00000	0.00000	0.00000	0	861

Graphics



CETIS Data Worksheet

Report Date: 26 Jan-09 1:05 PM
Link: 10-8012-7714

Mussel Shell Development Test **NewFields**

Start Date: 07 Jan-09 06:00 PM **Species:** Mytilus species **Sample Code:** 1512131168
Ending Date: 09 Jan-09 06:00 PM **Protocol:** EPA/600/R-95/136 (1995) **Sample Source:** Reference Toxicant
Sample Date: 07 Jan-09 06:00 PM **Material:** Copper sulfate **Sample Station:** P070930.96

Conc-µg/L	Code	Rep	Pos	Initial Density	Final Density	# Counted	# Normal	Notes
0	D	1	15	287	264	264	257	
0	D	2	9	287	330	330	323	
0	D	3	2	287	275	275	271	
2.5		1	4	287	292	292	287	
2.5		2	13	287	323	323	317	
2.5		3	7	287	303	303	296	
5		1	16	287	307	307	297	
5		2	18	287	284	284	275	
5		3	12	287	273	273	263	
10		1	10	287	278	278	123	
10		2	6	287	311	311	117	
10		3	11	287	285	285	151	
20		1	14	287	298	298	0	
20		2	17	287	255	255	0	
20		3	8	287	295	295	0	
40		1	1	287	25	25	0	
40		2	5	287	31	31	0	
40		3	3	287	27	27	0	

NEWFIELDS

[redacted]ARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
COPPER REFERENCE TOXICANT WQ

CLIENT	PROJECT	SPECIES	NEWFIELDS LABORATORY		PROTOCOL
City of Newport	Marina Park	*Mytilus edulis (mussel)*	Incubator		USEPA/USACE 1998, Region 4 RIM 1993
NEWFIELDS JOB NUMBER	PROJECT MANAGER	QUANTITY OF STOCK TARGET: 0.039 mL	QUANTITY OF DILUENT: 500mL		INIT
1105-005-860	Port Gamble	ACTUAL: 0.03924 mL	ACTUAL:		DATE PREP
Test ID	LOT #:	TEST START DATE:	TIME	TEST END DATE	TIME
P070930.96	1704237	07Jan09	1800	09Jan09	1800

WATER QUALITY DATA

DILTIN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXXICANT
FSW010609.01	na	Copper Sulfate	copper

TEST CONDITIONS					DO (mg/L)	TEMP(C)		SAL (ppt)		pH		TECHNICIAN
					≥ 4.0	16 ± 1		31 ± 1		8.0 ± 1		
CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	WQ TECH
Ref.Tox.-Copper	0	mg/L	0	Stock	4	7.8	4	16.2	1	32	1	7.7	BH
			1	Stock	3	7.2	3	16.7	3	31	3	7.2	TS
			2	Stock	3	7.2	3	16.4	3	31	3	7.5	TS
			3	Stock									
			4	Stock									
Ref.Tox.-Copper	2.5	mg/L	0	Stock	4	8.0	4	16.1	1	31	1	7.7	BH
			1	Stock	3	7.1	3	16.6	3	32	3	7.5	TS
			2	Stock	3	7.1	3	16.4	3	32	3	7.7	TS
			3	Stock									
			4	Stock									
Ref.Tox.-Copper	5	mg/L	0	Stock	4	8.0	4	16.1	1	32	1	7.7	BH
			1	Stock	3	7.1	3	16.6	3	32	3	7.7	TS
			2	Stock	3	7.1	3	16.4	3	32	3	7.8	TS
			3	Stock									
			4	Stock									

NEWFIELDS

[redacted]ARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
COPPER REFERENCE TOXICANT WQ

CLIENT	PROJECT	SPECIES	NEWFIELDS LABORATORY		PROTOCOL
City of Newport	Marina Park	*Mytilus edulis (mussel)*	Incubator		USEPA/USACE 1998, Region 4 RIM 1993
NEWFIELDS JOB NUMBER	PROJECT MANAGER	QUANTITY OF STOCK TARGET: 0.039 mL	QUANTITY OF DILUENT: 500mL		INIT
1105-005-860	Port Gamble	ACTUAL:	ACTUAL:		DATE PREP
Test ID	LOT #:	TEST START DATE: 07Jan09	TIME 1800	TEST END DATE 09Jan09	TIME

WATER QUALITY DATA

DILTIN.WAT.BATCH	TEMP REC#	REFERENCE TOX. MATERIAL	REFERENCE TOXXICANT
FSW010609.01	na	Copper Sulfate	copper

TEST CONDITIONS					DO (mg/L)	TEMP(C)	SAL (ppt)	pH	TECHNICIAN
					≥ 4.0	16 ± 1	31 ± 1	8.0 ± 1	

CLIENT/ NEWFIELDS ID	CONCENTRATION value	CONCENTRATION units	DAY	REP	D.O. meter	D.O. mg/L	TEMP. meter	TEMP. °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	WQ TECH
Ref.Tox.-Copper	10	mg/L	0	Stock	4	8.0	4	16.1	1	32	1	7.8	BH
			1	Stock	3	7.1	3	16.6	3	32	3	7.7	TS
			2	Stock	3	7.1	3	16.4	3	32	3	7.8	TS
			3	Stock									
			4	Stock									
Ref.Tox.-Copper	20	mg/L	0	Stock	4	8.0	4	16.0	1	32	1	7.8	BH
			1	Stock	3	7.1	3	16.6	3	32	3	7.8	TS
			2	Stock	3	7.1	3	16.4	3	32	3	7.9	TS
			3	Stock									
			4	Stock									
Ref.Tox.-Copper	40	mg/L	0	Stock	4	8.0	4	15.9	1	32	1	7.8	BH
			1	Stock	3	7.1	3	16.5	3	32	3	7.8	TS
			2	Stock	3	7.0	3	16.4	3	32	3	7.9	TS
			3	Stock									
			4	Stock									

LARVAL DEVELOPMENTAL SUSPENDED PARTICULATE PHASE TEST
COPPER REFERENCE TOXICANT ENDPOINT DATA SHEET

NEWFIELDS

P070930.96

SPECIES					
Mytilus edulis (mussel)					
CLIENT	PROJECT	NEWFIELDS JOB NUM	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL
City of Newport	Marina Park	1105-005-860	Bill Gardiner	Port Gamble Incubator	USEPA/USACE 1998, Region

LARVAL OBSERVATION DATA

CLIENT/ MEC ID	CONCENTRATION value	CONCENTRATION units	VIAL NUMBER	REP	NUMBER NORMAL	NUMBER ABNORMAL	DATE	TECHNICIAN	COMMENTS
Ref.Tox.-Copper	0	µg/L		1	257	7	1/19/09	CK	
				2	323	7			
				3	271	4			
Ref.Tox.-Copper	2.5	µg/L		1	287	5			
				2	317	6			
				3	296	7			
Ref.Tox.-Copper	5	µg/L		1	297	10			
				2	275	9			
				3	263	10			
Ref.Tox.-Copper	10	µg/L		1	123	155			
				2	117	194			
				3	151	134			
Ref.Tox.-Copper	20	µg/L		1	0	298			
				2	0	255			
				3	0	295			
Ref.Tox.-Copper	40	µg/L		1	0	25			
				2	0	31			
				3	0	27			
Ref.Tox.-Copper	Stocking Density			1		295	1/20/09	CK	
				2		289			
				3		277			

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 1/6/08	**Time:** 1430	**NewFields Batch No.** CA 3121
Organism: Mytilus sp.	**Source:** Carlsbad Aquafarms	
Address: On File	**Invoice Attached** Yes (circled) No	
Phone: On File	**Contact:** John Davis	
No. Ordered: 1 batch	**No. Received:** 1 batch	**Source Batch:** Field
Condition of Organisms: Good	**Approximate Size or Age:** Adult	
Shipper: FedEx	**B of L (Tracking No.)** 7962 2961 3121	
Condition of Container: Good	**Received By:** BH	
Confirmation of ID of Organism: Yes No (circled)	**Technician (Initials):** BH	
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
*				BH

Notes: * shipped dry

Appendix E
Bioaccumulation Tests
Data Sheets and Supporting Information

ANALYTICAL RESOURCES INCORPORATED

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer

Data Release Authorized:
Reported: 01/22/09
Date Received: 01/16/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
Mn ZERO TIME OI73A 09-1988	12/16/08	Tissue	01/20/09	0.0010	0.480 %
Mn ZERO TIME REP.2 OI73B 09-1989	12/16/08	Tissue	01/20/09	0.0010	0.449 %
Mn ZERO TIME REP.3 OI73C 09-1990	12/16/08	Tissue	01/20/09	0.0010	0.450 %
NC BACKGROUND OI73D 09-1991	12/19/08	Tissue	01/20/09	0.0010	0.819 %
Mn LA-3 REF. REP.1 OI73E 09-1992	01/14/09	Tissue	01/20/09	0.0010	0.369 %
Mn LA-3 REF. REP.2 OI73F 09-1993	01/14/09	Tissue	01/20/09	0.0010	0.398 %
Mn LA-3 REF. REP.3 OI73G 09-1994	01/14/09	Tissue	01/20/09	0.0010	0.339 %
Mn LA-3 REF. REP.4 OI73H 09-1995	01/14/09	Tissue	01/20/09	0.0010	0.339 %
Mn LA-3 REF. REP.5 OI73I 09-1996	01/14/09	Tissue	01/20/09	0.0010	0.369 %
Mn COMP.C.L REP.1 OI73J 09-1997	01/14/09	Tissue	01/20/09	0.0010	0.400 %
Mn COMP.C.L REP.2 OI73K 09-1998	01/14/09	Tissue	01/20/09	0.0010	0.350 %
Mn COMP.C.L REP.3 OI73L 09-1999	01/14/09	Tissue	01/20/09	0.0010	0.380 %
Mn COMP.C.L REP.4 OI73M 09-2000	01/14/09	Tissue	01/20/09	0.0010	0.429 %
Mn COMP.C.L REP.5 OI73N 09-2001	01/14/09	Tissue	01/20/09	0.0010	0.459 %
Mn COMP.C.U REP.1 OI73O 09-2002	01/14/09	Tissue	01/20/09	0.0010	0.320 %

ANALYTICAL RESOURCES INCORPORATED

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer

Data Release Authorized:
Reported: 01/22/09
Date Received: 01/16/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
Mn COMP.C.U REP.2 OI73P 09-2003	01/14/09	Tissue	01/20/09	0.0010	0.328 %
Mn COMP.C.U REP.3 OI73Q 09-2004	01/14/09	Tissue	01/20/09	0.0010	0.390 %
Mn COMP.C.U REP.4 OI73R 09-2005	01/14/09	Tissue	01/20/09	0.0010	0.410 %
Mn COMP.C.U REP.5 OI73S 09-2006	01/14/09	Tissue	01/20/09	0.0010	0.408 %
NC LA-3 REF. REP.1 OI73T 09-2007	01/14/09	Tissue	01/20/09	0.0010	0.759 %
Method Blank			01/20/09	0.0010	< 0.0010 % U
Mn LA-3 REF. REP.4 DUP OI73HDUP 09-1995	01/14/09	Tissue	01/20/09	0.0010	0.279 % RPD: 19.4 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer

Data Release Authorized:
Reported: 01/22/09
Date Received: 01/16/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
NC LA.3 DEF REP.2 OI77A 09-2015	01/14/09	Tissue	01/20/09	0.0020	0.876 %
NC LA.3 DEF REP.3 OI77B 09-2016	01/14/09	Tissue	01/20/09	0.0020	0.873 %
NC LA.3 DEF REP.4 OI77C 09-2017	01/14/09	Tissue	01/20/09	0.0020	0.911 %
NC LA.3 DEF REP.5 OI77D 09-2018	01/14/09	Tissue	01/20/09	0.0020	0.857 %
NC COMP.C.L REP.1 OI77E 09-2019	01/14/09	Tissue	01/20/09	0.0020	0.812 %
NC COMP.C.L REP.2 OI77F 09-2020	01/14/09	Tissue	01/20/09	0.0020	0.893 %
NC COMP.C.L REP.3 OI77G 09-2021	01/14/09	Tissue	01/20/09	0.0020	0.940 %
NC COMP.C.L REP.4 OI77H 09-2022	01/14/09	Tissue	01/20/09	0.0020	0.898 %
NC COMP.C.L REP.5 OI77I 09-2023	01/14/09	Tissue	01/20/09	0.0020	0.871 %
NC COMP.C.U REP.1 OI77J 09-2024	01/14/09	Tissue	01/20/09	0.0020	0.972 %
NC COMP.C.U REP.2 OI77K 09-2025	01/14/09	Tissue	01/20/09	0.0020	0.812 %
NC COMP.C.U REP.3 OI77L 09-2026	01/14/09	Tissue	01/20/09	0.0020	0.900 %
NC COMP.C.U REP.4 OI77M 09-2027	01/14/09	Tissue	01/20/09	0.0020	0.838 %

ANALYTICAL RESOURCES INCORPORATED

LIPIDS ANALYSIS DATA SHEET
Percent Lipids by Method Bligh&Dyer

Data Release Authorized:
Reported: 01/22/09
Date Received: 01/16/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
NC COMP.C.U REP.5 OI77N 09-2028	01/14/09	Tissue	01/20/09	0.0020	1.08 %
Method Blank			01/20/09	0.0020	< 0.0020 % U
NC COMP.C.L REP.4 DUP OI77HDUP 09-2022	01/14/09	Tissue	01/20/09	0.0020	0.931 % RPD: 3.6 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn ZERO TIME SAMPLE

Lab Sample ID: OI73A
LIMS ID: 09-1988
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 12/16/08
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn ZERO TIME REP.2 SAMPLE

Lab Sample ID: OI73B
LIMS ID: 09-1989
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 12/16/08
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn ZERO TIME REP.3
SAMPLE

Lab Sample ID: OI73C
LIMS ID: 09-1990
Matrix: Tissue
Data Release Authorized
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 12/16/08
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC BACKGROUND SAMPLE

Lab Sample ID: OI73D
LIMS ID: 09-1991
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 12/19/08
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.010	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn LA-3 REF. REP.1
SAMPLE

Lab Sample ID: OI73E
LIMS ID: 09-1992
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn LA-3 REF. REP.2
SAMPLE

Lab Sample ID: OI73F
LIMS ID: 09-1993
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn LA-3 REF. REP.3
SAMPLE

Lab Sample ID: OI73G
LIMS ID: 09-1994
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn LA-3 REF. REP.4
SAMPLE

Lab Sample ID: OI73H
LIMS ID: 09-1995
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn LA-3 REF. REP.5
SAMPLE

Lab Sample ID: OI73I
LIMS ID: 09-1996
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.L REP.1
SAMPLE

Lab Sample ID: OI73J
LIMS ID: 09-1997
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.L REP.2
SAMPLE

Lab Sample ID: OI73K
LIMS ID: 09-1998
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.L REP.3
SAMPLE

Lab Sample ID: OI73L
LIMS ID: 09-1999
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.L REP.4
SAMPLE

Lab Sample ID: OI73M
LIMS ID: 09-2000
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.L REP.5
SAMPLE

Lab Sample ID: OI73N
LIMS ID: 09-2001
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.1
SAMPLE

Lab Sample ID: OI73O
LIMS ID: 09-2002
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.011	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.1
DUPLICATE

Lab Sample ID: OI73O
LIMS ID: 09-2002
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7471A	0.011	0.011	0.0%	+/- 0.009	L

Reported in mg/kg-as-rec

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.1
MATRIX SPIKE

Lab Sample ID: OI73O
LIMS ID: 09-2002
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7471A	0.011	0.100	0.0931	95.6%	

Reported in mg/kg-as-rec

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.2
SAMPLE

Lab Sample ID: OI73P
LIMS ID: 09-2003
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	**7439-97-6**	**Mercury**	0.009	**0.013**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.3
SAMPLE

Lab Sample ID: OI73Q
LIMS ID: 09-2004
Matrix: Tissue
Data Release Authorized
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.011	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.4
SAMPLE

Lab Sample ID: OI73R
LIMS ID: 09-2005
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	**7439-97-6**	**Mercury**	0.009	**0.011**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: Mn COMP.C.U REP.5
SAMPLE

Lab Sample ID: OI73S
LIMS ID: 09-2006
Matrix: Tissue
Data Release Authorized
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	**7439-97-6**	**Mercury**	0.01	**0.01**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA-3 REF. REP.1
SAMPLE

Lab Sample ID: OI73T
LIMS ID: 09-2007
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OI73LCS
LIMS ID: 09-1988
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7471A	0.21	0.20	105%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OI73MB
LIMS ID: 09-1988
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI73-Newfields Northwest
Project: Marina Park

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.2
SAMPLE

Lab Sample ID: OI77A
LIMS ID: 09-2015
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.2
DUPLICATE

Lab Sample ID: OI77A
LIMS ID: 09-2015
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7471A	0.01 U	0.01 U	0.0%	+/- 0.01	L

Reported in mg/kg-as-rec

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.2
MATRIX SPIKE

Lab Sample ID: OI77A
LIMS ID: 09-2015
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7471A	0.010 U	0.101	0.0950	106%	

Reported in mg/kg-as-rec

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.3
SAMPLE

Lab Sample ID: OI77B
LIMS ID: 09-2016
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.4
SAMPLE

Lab Sample ID: OI77C
LIMS ID: 09-2017
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC LA.3 DEF REP.5
SAMPLE

Lab Sample ID: OI77D
LIMS ID: 09-2018
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.L REP.1
SAMPLE

Lab Sample ID: OI77E
LIMS ID: 09-2019
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.L REP.2
SAMPLE

Lab Sample ID: OI77F
LIMS ID: 09-2020
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.L REP.3
SAMPLE

Lab Sample ID: OI77G
LIMS ID: 09-2021
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.L REP.4
SAMPLE

Lab Sample ID: OI77H
LIMS ID: 09-2022
Matrix: Tissue
Data Release Authorized
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.L REP.5
SAMPLE

Lab Sample ID: OI77I
LIMS ID: 09-2023
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.U REP.1
SAMPLE

Lab Sample ID: OI77J
LIMS ID: 09-2024
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	**7439-97-6**	**Mercury**	0.009	**0.009**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.U REP.2
SAMPLE

Lab Sample ID: OI77K
LIMS ID: 09-2025
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.U REP.3
SAMPLE

Lab Sample ID: OI77L
LIMS ID: 09-2026
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	**7439-97-6**	**Mercury**	0.009	**0.011**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.U REP.4
SAMPLE

Lab Sample ID: OI77M
LIMS ID: 09-2027
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NC COMP.C.U REP.5
SAMPLE

Lab Sample ID: OI77N
LIMS ID: 09-2028
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: 01/14/09
Date Received: 01/16/09

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.009	0.009	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: OI77LCS
LIMS ID: 09-2016
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7471A	0.21	0.20	105%	

Reported in mg/kg-wet

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: OI77MB
LIMS ID: 09-2016
Matrix: Tissue
Data Release Authorized:
Reported: 01/23/09

QC Report No: OI77-Newfields Northwest
Project: MARINA PARK

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-as-rec	Q
CLP-M	01/20/09	7471A	01/22/09	7439-97-6	Mercury	0.01	0.01	U

U-Analyte undetected at given RL
RL-Reporting Limit

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Control /	0	1	4	3	7.4	3	15.1	3	32	3	7.8	HW 12/16	39
		2	3	↓	7.5	↓	15.1	↓	32	↓	7.8	↓	40
		3	8		7.5		15.1		31		7.8		38
		4	5		7.3		15.1		31		7.8		38
		5	20		7.6		15.2		32		7.9		38
Control /	1	1	4	3	6.4	3	15.9	3	32	3	7.5	L 12/17	38
Control /	2	2	3	3	7.0	3	15.8	3	31	3	7.7	L 12/18	39
Control /	3	3	8	3	5.8	3	15.8	3	31	3	7.6	CR 12/19	38
Control /	4	4	5	3	6.1	3	15.8	3	31	3	7.7	BH 12/20	40
Control /	5	5	20	3	6.3	3	16.0	3	31	3	7.5	MMB 12/21	40
Control /	6	1	4	3	6.8	3	15.7	3	32	3	7.8	L 12/22	39
Control /	7	2	3	3	6.6	3	15.5	3	32	3	7.8	L 12/23	39
Control /	8	3	8	3	6.9	3	15.5	3	32	3	7.8	L 12/24	42
Control /	9	4	5	3	7.0	3	15.5	3	32	3	7.4	TS 12/25	41
Control /	10	5	20	3	6.0	3	15.5	3	33	3	7.4	TS 12/26	40
Control /	11	1	4	3	7.3	3	15.8	3	32	3	7.6	TS 12/27	42
Control /	12	2	3	3	6.7	3	15.6	3	32	3	7.6	TS 12/28	39
Control /	13	3	8	3	7.1	3	15.5	3	32	3	7.8	L 12/29	38
Control /	14	4	5	3	7.6	3	15.5	3	32	3	7.9	MMB 12/30	42

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Control /	15	5	20	3	6.7	3	15.5	3	32	3	8.1	TS 12/31	42
Control /	16	1	4	4	7.2	4	15.5	1	32	1	7.8	BH 1/1/09	41
Control /	17	2	3	4	7.3	4	16.1	1	32	1	7.3	MMB 1/2/09	40
Control /	18	3	8	4	7.6	4	15.7	1	32	1	7.7	[illegible] 1/3/09	38
Control /	19	4	5	4	7.7	4	15.7	1	32	1	7.7	[illegible] 1/4/09	38
Control /	20	5	20	4	7.6	4	15.8	1	32	1	7.6	MMB 1/5/09	40
Control /	21	1	4	4	7.2	4	16.0	1	32	1	7.5	MMB 1/6/09	42
Control /	22	2	3	4	7.3	4	16.1	1	32	1	7.6	CR 1/7/09	42
Control /	23	3	8	3	7.3	3	15.5	3	32	3	7.3	TS 1/8/09	42
Control /	24	4	5	3	7.3	3	15.2	3	32	3	7.3	TS 1/9	40
Control /	25	5	20	4	7.1	4	15.2	1	32	1	7.5	CR 1/10	39
Control /	26	1	4	3	6.9	3	15.1	3	32	3	7.7	CR 1/11	41
Control /	27	2	3	4	7.5	4	15.5	1	31	1	7.5	CR 1/12	42
Control /	28	1	4	4	8.0	4	15.8	1	31	1	7.7	MMB 1/13	
		2	3		7.8		15.8		31		7.7		
		3	8		7.6		15.8		31		7.6		
		4	5		7.9		15.8		31		7.6		
		5	20		7.6		16.0		31		7.4		

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
LA-3 Ref /	0	1	6	3	7.4	3	15.1	3	32	3	7.8	J 12/16	42
		2	7		7.7		15.1		31		7.8		42
		3	11		7.7		15.0		31		7.7		42
		4	1		7.7		15.0		31		7.8		41
		5	2		7.3		15.0		32		7.8		39
LA-3 Ref /	1	1	6	3	6.6	3	16.0	3	32	3	7.6	J 12/17	42
LA-3 Ref /	2	2	7	3	6.6	3	15.8	3	32	3	7.7	J 12/18	38
LA-3 Ref /	3	3	11	3	7.2	3	15.5	3	31	3	7.7	CR 12/19	41
LA-3 Ref /	4	4	1	3	7.1	3	15.9	3	31	3	7.7	BH 12/20	40
LA-3 Ref /	5	5	2	3	6.8	3	15.9	3	32	3	7.7	MMB 12/21	41
LA-3 Ref /	6	1	6	3	6.1	3	15.8	3	32	3	7.7	J 12/22	42
LA-3 Ref /	7	2	7	3	6.3	3	15.5	3	32	3	7.8	J 12/23	41
LA-3 Ref /	8	3	11	3	6.3	3	15.4	3	32	3	7.7	J 12/24	42
LA-3 Ref /	9	4	1	3	6.6	3	15.5	3	32	3	7.4	TS 12/25	42
LA-3 Ref /	10	5	2	3	6.6	3	15.6	3	33	3	7.4	TS 12/26	40
LA-3 Ref /	11	1	6	3	6.5	3	15.6	3	32	3	7.7	TS 12/27	38
LA-3 Ref /	12	2	7	3	6.5	3	15.5	3	32	3	7.6	TS 12/28	42
LA-3 Ref /	13	3	11	3	6.1	3	15.5	3	32	3	7.8	J 12/29	39
LA-3 Ref /	14	4	1	3	6.8	3	15.7	3	32	3	8.0	MMB 12/30	40

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
LA-3 Ref /	15	5	2	3	6.9	3	15.6	3	32	3	7.9	TS 12/31	42
LA-3 Ref /	16	1	6	4	7.2	4	15.5	1	32	1	7.8	BH 1/1/09	41
LA-3 Ref /	17	2	7	4	7.3	4	15.6	1	32	1	7.3	MMB 1/2/09	38
LA-3 Ref /	18	3	11	4	7.6	4	15.7	1	32	1	7.8	✓ 1/3/09	39
LA-3 Ref /	19	4	1	4	7.9	4	15.7	1	32	1	7.7	✓ 1/4/09	39
LA-3 Ref /	20	5	2	4	7.3	4	16.2	1	32	1	7.4	MMB 1/5/09	40
LA-3 Ref /	21	1	6	4	7.2	4	15.8	1	32	1	7.6	MMB 1/6/09	38
LA-3 Ref /	22	2	7	4	7.1	4	15.9	1	32	1	7.7	CR 1/7/09	39
LA-3 Ref /	23	3	11	3	7.3	3	15.3	3	32	3	7.4	TS 1/8/09	42
LA-3 Ref /	24	4	1	3	7.3	3	15.2	3	32	3	7.5	TS 1/9	42
LA-3 Ref /	25	5	2	4	7.1	4	15.3	1	32	1	7.5	CR 1/10	38
LA-3 Ref /	26	1	6	3	7.0	3	15.1	3	32	3	7.7	CR 1/11	38
LA-3 Ref /	27	2	7	4	7.6	4	15.4	1	31	1	7.5	CR 1/12	38
LA-3 Ref /	28	1	6	4	7.7	4	15.8	1	31	1	7.7	MMB 1/13	
		2	7	↓	7.6	↓	15.8	↓	31	↓	7.7	↓	
		3	11		7.8		15.7		31		7.7		
		4	1		8.0		15.8		31		7.7		
		5	2	↓	7.9	↓	15.8	↓	31	↓	7.7	↓	

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Comp C-L /	0	1	10	3	7.7	3	15.2	3	31	3	7.7	✓ 12/16	38
		2	12		7.9		15.1		31		7.7		41
		3	13		7.9		14.9		32		7.8		38
		4	17		7.7		15.3		31		7.7		39
		5	9		7.6		15.1		32		7.7		41
Comp C-L /	1	1	10	3	6.5	3	15.8	3	32	3	7.5	✓ 12/17	42
Comp C-L /	2	2	12	3	7.3	3	15.7	3	32	3	7.7	✓ 12/18	38
Comp C-L /	3	3	13	3	7.3	3	15.6	3	31	3	7.7	CR 12/19	42
Comp C-L /	4	4	17	3	6.9	3	15.8	3	31	3	7.7	BK 12/20	41
Comp C-L /	5	5	9	3	6.5	3	15.8	3	32	3	7.7	MMB 12/21	41
Comp C-L /	6	1	10	3	6.6	3	15.8	3	32	3	7.7	✓ 12/22	38
Comp C-L /	7	2	12	3	6.7	3	15.5	3	32	3	7.7	✓ 12/23	38
Comp C-L /	8	3	13	3	6.8	3	15.4	3	32	3	7.8	✓ 12/24	42
Comp C-L /	9	4	17	3	6.6	3	15.4	3	32	3	7.3	T 12/25	40
Comp C-L /	10	5	9	3	5.8	3	15.4	3	33	3	7.4	T 12/26	40
Comp C-L /	11	1	10	3	6.6	3	15.5	3	32	3	7.7	T 12/27	38
Comp C-L /	12	2	12	3	6.6	3	15.4	3	32	3	7.6	T 12/28	38
Comp C-L /	13	3	13	3	6.6	3	15.5	3	32	3	7.8	✓ 12/29	42
Comp C-L /	14	4	17	3	6.9	3	15.6	3	32	3	7.8	MMB 12/30	38

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Comp C-L /	15	5	9	3	7.3	3	15.5	3	32	3	8.0	TS 12/31	42
Comp C-L /	16	1	10	4	7.6	4	15.5	1	32	1	7.8	BTL 1/1/09	38
Comp C-L /	17	2	12	4	7.2	4	15.5	1	32	1	7.4	MMB 1/2/09	39
Comp C-L /	18	3	13	4	7.3	4	15.7	1	32	1	7.7	✓ 1/3/09	38
Comp C-L /	19	4	17	4	7.5	4	15.8	1	32	1	7.7	✓ 1/4/09	38
Comp C-L /	20	5	9	4	7.4	4	15.8	1	32	1	7.6	MMB 1/5/09	40
Comp C-L /	21	1	10	4	7.2	4	15.7	1	32	1	7.6	MMB 1/6/09	39
Comp C-L /	22	2	12	4	7.2	4	15.8	1	32	1	7.7	CR 1/7/09	40
Comp C-L /	23	3	13	3	7.0	3	15.3	3	32	3	7.5	TS 1/8/09	42
Comp C-L /	24	4	17	3	7.0	3	15.3	3	32	3	7.6	TS 1/9	38
Comp C-L /	25	5	9	4	6.9	4	15.2	1	32	1	7.6	CR 1/10	41
Comp C-L /	26	1	10	3	6.4	3	15.1	3	32	3	7.6	CR 1/11	39
Comp C-L /	27	2	12	4	7.3	4	15.3	1	31	1	7.6	CR 1/12	39
Comp C-L /	28	1	10	4	7.6	4	15.7	1	31	1	7.7	MMB 1/13	
		2	12	↓	7.3	↓	15.6	↓	31	↓	7.7	↓	
		3	13	↓	6.6	↓	15.7	↓	31	↓	7.6	↓	
		4	17	↓	6.1	↓	15.7	↓	31	↓	7.6	↓	
		5	9	↓	7.6	↓	15.7	↓	31	↓	7.7	↓	

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Comp C-U /	0	1	16	3	7.7	3	15.2	3	32	3	7.7	✓ 12/16	40
		2	15		7.6		15.1		32		7.7		42
		3	19		7.3		15.1		32		8.1		38
		4	14		7.5		15.1		31		7.8		40
		5	18		7.8		15.3		31		7.7		42
Comp C-U /	1	1	16	3	7.6	3	15.8	3	32	3	7.6	✓ 12/17	42
Comp C-U /	2	2	15	3	7.2	3	15.8	3	32	3	7.7	✓ 12/18	42
Comp C-U /	3	3	19	3	6.6	3	15.6	3	31	3	7.7	GR 12/19	41
Comp C-U /	4	4	14	3	6.9	3	15.6	3	31	3	7.7	BH 12/20	42
Comp C-U /	5	5	18	3	6.6	3	15.9	3	31	3	7.7	MMB 12/21	39
Comp C-U /	6	1	16	3	7.1	3	15.6	3	32	3	7.8	✓ 12/22	42
Comp C-U /	7	2	15	3	5.5	3	15.5	3	32	3	7.7	✓ 12/23	40
Comp C-U /	8	3	19	3	6.2	3	15.4	3	32	3	7.7	✓ 12/24	40
Comp C-U /	9	4	14	3	6.0	3	15.3	3	32	3	7.4	TS 12/25	41
Comp C-U /	10	5	18	3	6.2	3	15.5	3	33	3	7.4	TS 12/26	40
Comp C-U /	11	1	16	3	6.9	3	15.5	3	32	3	7.7	TS 12/27	40
Comp C-U /	12	2	15	3	6.5	3	15.4	3	32	3	7.6	TS 12/28	38
Comp C-U /	13	3	19	3	7.0	3	15.6	3	32	3	7.8	✓ 12/29	39
Comp C-U /	14	4	14	3	6.9	3	15.4	3	32	3	7.9	MMB 12/30	40

NEWFIELDS

28 DAY BIOACCUMULATION WQ DATA SHEET

CLIENT	PROJECT	SPECIES 1	NEWFIELDS LABORATORY	PROTOCOL
City of Newport Beach	Marina Park	*Macoma nasuta*	Port Gamble Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)
NEWFIELDS JOB NUMBER	**PROJECT MANAGER**	**WATER DESCRIPTION**	**TEST START DATE**	**TEST END DATE**
1105-005-860	Bill Gardiner	North Hood Canal; filtered	16-Dec-2008	13-Jan-2009

WATER QUALITY DATA

TEST CONDITIONS				DO (mg/L) >4.5		TEMP (C) 15±1		SALIN.(ppt) 32±2		pH 7.8±0.5			
CLIENT/NEWFIELDS ID	DAY	REP	JAR #	D.O. meter	D.O. mg/L	TEMP meter	TEMP °C	SALINITY meter	SALINITY ppt	pH meter	pH unit	TECHNICIAN/DATE	FLOW ml/30sec
Comp C-U /	15	5	18	3	6.4	3	15.7	3	32	3	8.3	TS 12/31	38
Comp C-U /	16	1	16	4	7.2	4	15.5	1	32	1	7.8	BM 1/1/09	40
Comp C-U /	17	2	15	4	7.1	4	15.4	1	32	1	7.5	MMB 1/2/09	42
Comp C-U /	18	3	19	4	7.7	4	15.8	1	32	1	7.8	✓ 1/3/09	39
Comp C-U /	19	4	114	4	7.2	4	15.7	1	32	1	7.7	✓ 1/4/09	38
Comp C-U /	20	5	18	4	7.1	4	15.7	1	32	1	7.6	MMB 1/5/09	42
Comp C-U /	21	1	16	4	7.2	4	15.6	1	32	1	7.6	MMB 1/6/09	41
Comp C-U /	22	2	15	4	6.9	4	15.8	1	32	1	7.7	CR 1/7/09	40
Comp C-U /	23	3	19	3	7.3	3	15.4	3	32	3	7.6	TS 1/8/09	42
Comp C-U /	24	4	14	3	7.0	3	15.1	3	32	3	7.6	TS 1/9	38
Comp C-U /	25	5	18	4	7.2	4	15.2	1	32	1	7.7	CR 1/10	42
Comp C-U /	26	1	16	3	7.0	3	15.0	3	32	3	7.7	CR 1/11	39
Comp C-U /	27	2	15	4	7.4	4	15.3	1	31	1	7.6	CR 1/12	40
Comp C-U /		1	16	4	7.6	4	15.8	1	31	1	7.7	MMB 1/13	
		2	15	↓	7.5	↓	15.7	↓	31	↓	7.7	↓	
		3	19	↓	7.8	↓	15.8	↓	31	↓	7.7	↓	
		4	14	↓	7.4	↓	15.8	↓	31	↓	7.7	↓	
		5	18	↓	7.6	↓	15.8	↓	31	↓	7.7	↓	

NEWFIELDS

28-DAY BIOACCUMULATION MACOMA TEST OBSERVATION DATA SHEET 3

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)	*Macoma nasuta*

Observation Key

#S= Number on the Surface
#M= Number of Mortality
L=Anoxic Surface
F=Fungal Patches
D=No Air Flow (DO?)
U=Excess food
N=Normal
B=No Burrows

INITIAL # OF ORGANISMS

ENDPOINT DATA & OBSERVATIONS

CLIENT / NEWFIELDS ID	REP	INITIAL # IF DIFF	Jar #	DATE / TECHN.	12/17 ✓	12/18 ✓	12/19 MMB	12/20 MMB	12/21 MMB	12/22 ✓	12/23 ✓	12/24 ✓	12/25 B	12/26 B	12/27 B	12/28 B	12/29 ✓	12/30 MMB
				Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
LA-3 Ref	4		1		2s	1s	1s	N	N	N	N	N	N	N	N	N	N	N
LA-3 Ref	5		2		N	N	N	N	N	N	N	N	N	N	N	N	N	N
Control /	2		3		2s ①	4s ②	3s	4s	6s	8s	6s	5s	8s	6s	5s	7s	6s lm	3s
Control /	1		4		3s ①	4s ②	4s	6s	5s	4s	5s	3s	3s	3s	3s	5s	4s	3s
Control /	4		5		6s ②	N	N	N	N	4s	1s	3s	3s	3s	4s	3s	3s	N
LA-3 Ref	1		6		N	N	N	N	N	N	N	N	N	N	N	N	N	N
LA-3 Ref	2		7		1s	1s	N	N	N	1s	1s	1s	N	N	N	N	N	N
Control /	3		8		5s ①	7s ②	2s	4s	2s	10s	11s	4s	5s	7s	6s	6s	11s	3s, 1M
Comp C-L	5		9		5s ①	5s ②	4s	3s, 1M	5s	10s	11s	10s	11s	11s	11s	11s	11s lm	10s
Comp C-L	1		10		5s	5s	5s	7s	7s	11s	10s	9s	9s	14s	15s	13s	10s	11s
LA-3 Ref	3		11		2s	N	N	N	N	N	N	N	N	N	N	N	N	N
Comp C-L	2		12		8s	8s	7s	6s ③	5s	8s	9s	8s	9s	9s	10s	11s	10s	7s
Comp C-L	3		13		6s	5s	6s	6s	11s	11s	11s	10s	10s	9s	8s	7s	10s	11s

① foam on surface of water 12/17/08 ✓
② " " " " " 12/18/08 ✓
③ WC, Obs = 6s. MMB 12/20/08

NEWFIELDS

28-DAY BIOACCUMULATION MACOMA TEST OBSERVATION DATA SHEET 3

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)	*Macoma nasuta*

Observation Key

#S= Number on the Surface
#M= Number of Mortality
L=Anoxic Surface
F=Fungal Patches
D=No Air Flow (DO?)
U=Excess food
N=Normal
B=No Burrows

INITIAL # OF ORGANISMS

ENDPOINT DATA & OBSERVATIONS

CLIENT / NEWFIELDS ID	REP	INITIAL # IF DIFF	Jar #	DATE / TECHN.	12/17 ✓	12/18 ✓	12/19 MMB	12/20 MMB	12/21 MMB	12/22 ✓	12/23 ✓	12/24 ✓	12/25 TB	12/26 TB	12/27 TB	12/28 TB	12/29 ✓	12/30 MMB
				Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Comp C-U	4		14		4s	1s	N	N	N	N	N	N	1s	N	N	N	N	N
Comp C-U	2		15		2s	2s	2s	↓	↓	N	N	N	N	N	N	N	N	↓
Comp C-U	1		16		3s	1s	N	↓	↓	N	N	N	N	N	N	N	N	↓
Comp C-L	4		17		9s	8s	8s	10s	8s	15s	14s	13s	13s	11s	10s	12s	11s	11s
Comp C-U	5		18		2s	1s	1s	N	N	N	N	N	N	N	N	N	N	N
Comp C-U	3		19		2s	2s	N	N	N	1s	N	N	N	1s	N	N	N	N
Control /	5		20		1s ①	3s ①	3s	3s	3s	5s	5s	9s	3s	7s	5s	4s	5s	3s

① foam on surface of water 12/17/08 ✓

28-DAY BIOACCUMULATION MACOMA TEST OBSERVATION DATA SHEET 3

NEWFIELDS

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)	*Macoma nasuta*

Observation Key

#S= Number on the Surface
#M= Number of Mortality
L=Anoxic Surface
F=Fungal Patches
D=No Air Flow (DO?)
U=Excess food
N=Normal
B=No Burrows

INITIAL # OF ORGANISMS: 25

ENDPOINT DATA & OBSERVATIONS

CLIENT / NEWFIELDS ID	REP	INITIAL # IF DIFF	Jar #	Day	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Number Remaining	
				DATE / TECHN.	12/31 TS	1/1/09 BH	1/2/09 MMB	1/3/09 ✓	1/4/09 ✓	1/5/09 MMB	1/6/09 MMB	1/7/09 MMB	1/8/09 TS	1/9 TS	1/10 CR	1/11 CR	1/12 CR	1/13 TS		
LA-3 Ref	4		1		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25	
LA-3 Ref	5		2		N	N	N	N	N	1M	N	N	N	N	N	N	N	N	24	
Control /	2		3		8S	8S	3S	6S	7S	6S	6S	6S	13S	12S	13S	12S	9S	6S	23	1M
Control /	1		4		6S	7S	2S	6S	6S	4S	4S	4S	7S	8S, 1M	8S	8S	8S, 1M	7S	23	
Control /	4		5		N	1S	2S	7S	7S	6S	4S	5S	6S	5S	6S, 2M	4S	3S	5S	23	
LA-3 Ref	1		6		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25	
LA-3 Ref	2		7		1S	1S	1S	N	N	N	N	N	N	N	N	N	N	N	23	2M
Control /	3		8		5S	8S	2S	5S	6S	4S	5S	2S, 1M	2S	7S	8S	7S	6S	7S	23	
Comp C-L	5		9		10S	9S	8S, 1M	8S	9S	8S	8S, 1M	8S, ~~1M~~ ①	7S	5S, 2M	3S, 2M	2S, 2M	2S	1S, 1M	13	1M
Comp C-L	1		10		15S	12S	12S	8S, 1M	10S	11S	9S, 1M	8S	9S	11S	8S, 2M	9S, 1M	8S	7S	16	4M
LA-3 Ref	3		11		N	N	N	N	N	N	N	N	N	N	N	N	N	N	24	1M
Comp C-L	2		12		12S	12S	8S	12S	11S	9S	8S	11S	10S	8S, 2M	10S	10S	10S	12S	22	
Comp C-L	3		13		11S, 1M	11S	11S	11S	11S	12S, 1M	12S	13S	12S, 1M	10S, 1M	11S	10S, 2M	10S	8S, 1M	15	2M
Comp C-U	4		14		N	N	N	N	N	N	N	N	N	N	N	N	N	N	24	
Comp C-U	2		15		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25	

① WC, MMB 1/6/09

NEWFIELDS

28-DAY BIOACCUMULATION MACOMA TEST OBSERVATION DATA SHEET 3

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4	ITM (USEPA/USACE 1998), OTM (USEPA/USACE 1991), ASTM E 1611, EPA Region 4 RIM (1993)	*Macoma nasuta*

Observation Key

#S= Number on the Surface
#M= Number of Mortality
L=Anoxic Surface
F=Fungal Patches
D=No Air Flow (DO?)
U=Excess food
N=Normal
B=No Burrows

INITIAL # OF ORGANISMS: 25

ENDPOINT DATA & OBSERVATIONS

CLIENT / NEWFIELDS ID	REP	INITIAL # IF DIFF	Jar #	DATE / TECHN.	12/31 TD	1/1/09 BH	1/2/09 MMB	1/3/09 L	1/4/09 L	1/5/09 MMB	1/6/09 MMB	1/7/09 MMB	1/8/09 TD	1/9 TD	1/10 CR	1/11 CR	1/12 CR	1/13 TD	Number Remaining
				Day	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Comp C-U	1		16		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25
Comp C-L	4		17		11S	14S	12S	13S	13S	11S	13S	11S, 1M	13S	14S	12S, 2M	10S, 2M	10S	5S, ~~3M~~ 4M	15 2M
Comp C-U	5		18		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25
Comp C-U	3		19		N	N	N	N	N	N	N	N	N	N	N	N	N	N	25
Control /	5		20		4S	6S	2S	6S	7S	2S	3S	3S	4S	3S	5S	5S	6S	8S	25

28-DAY BIOACCUMULATION NEREIS TEST OBERSERVATION TEST DATA SHEET 3

NEWFIELDS

CLIENT	PROJECT	NEWFIELDS JOB NO.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4		Nephtys caecoides

Observation Key

#S= Number on the Surface #M= Number of Mortality
L=Anoxic Surface F=Fungal Patches
D=No Air Flow (DO?) U=Excess food
N=Normal B=No Burrows

ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID	REP	INITIAL #	Jar #	Day	12/17 ✓ 15 1	12/18 ✓ 16 2	12/19 MMB 17 3	12/20 MMB 18 4	12/21 MMB 19 5	12/22 ✓ 20 6	12/23 ✓ 21 7	12/24 ✓ 22 8	12/25 ✓ 23 9	12/26 ✓ 24 10	12/27 ✓ 25 11	12/28 ✓ 26 12	12/29 ✓ 27 13	12/30 MMB 28 14	NUMBER REMAINING
LA-3 Ref	4		1		N	1S	1S	1M	N	N	N	N	N	N	N	N	N	N	
LA-3 Ref	5		2		13S	9S	2S, 7M	1S, 1M	1M										
Control /	2		3		N ① ✓	4N ② ✓	N	1M	N										
Control /	1		4		① ✓	② ✓	N	N											
Control /	4		5		② ✓	② ✓	1M	N											
LA-3 Ref	1		6		3S	4S	5M	2S											
LA-3 Ref	2		7		N	N	1M 3S,	1S	1S			1S							
Control /	3		8		①		N	1S	N			N							
Comp C-L	5		9		①		N	1M	1M										
Comp C-L	1		10				1M	N	N										
LA-3 Ref	3		11				4S, 3M												
Comp C-L	2		12				1M												
Comp C-L	3		13				N												
Comp C-U	4		14					1S											
Comp C-U	2		15					N											
Comp C-U	1		16																
Comp C-L	4		17			1S	1M												
Comp C-U	5		18			N	1S												
Comp C-U	3		19			1S	N												
Control /	5		20		1S ① ✓	1S ② ✓	1M												

① foam on surface of water 12/17/08 ✓
② " " " " " 12/18/08 ✓

28-DAY BIOACCUMULATION NEREIS TEST OBERSERVATION TEST DATA SHEET 3

NEWFIELDS

CLIENT	PROJECT	NEWFIELDS JOB N0.	PROJECT MANAGER	NEWFIELDS LABORATORY	PROTOCOL	SPECIES
City of Newport Beach	Marina Park	1105-005-860	Bill Gardiner	Bath 4	[illegible]	Nephtys caecoides

Observation Key

#S= Number on the Surface #M= Number of Mortality
L=Anoxic Surface F=Fungal Patches
D=No Air Flow (DO?) U=Excess food
N=Normal B=No Burrows

60

ENDPOINT DATA & OBSERVATIONS

CLIENT/ NEWFIELDS ID	REP	INITIAL #	Jar #	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	NUMBER REMAINING
DATE TECHN.				12/31 TS	1/1/09 BH	1/2/09 MMB	1/3/08 ✓	1/4/09 ✓	1/5/09 MMB	1/6/09 MMB	1/7/09 MMB	1/8/09 TS	1/9 TS	1/10 CR	1/11 CR	1/12 CR	1/13 TS	
LA-3 Ref	4		1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	55
LA-3 Ref	5		2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	47
Control /	2		3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	55
Control /	1		4	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	59
Control /	4		5	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	57
LA-3 Ref	1		6	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	52
LA-3 Ref	2		7	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	53
Control /	3		8	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	54
Comp C-L	5		9	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	53
Comp C-L	1		10	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	51
LA-3 Ref	3		11	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	52
Comp C-L	2		12	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	49
Comp C-L	3		13	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	51
Comp C-U	4		14	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	55
Comp C-U	2		15	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	50
Comp C-U	1		16	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	58
Comp C-L	4		17	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	55
Comp C-U	5		18	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	54
Comp C-U	3		19	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	54
Control /	5		20	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	60

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 12/12/08	**Time:** 1045	**NewFields Batch No.** RG 121208
Organism: Macoma	**Source:** J&G Gunstone	
Address: On File		**Invoice Attached** Yes (No)
Phone: On File	**Contact:** Reed Gunstone	
No. Ordered: 780	**No. Received:** 780+	**Source Batch:** Field
Condition of Organisms: Good	**Approximate Size or Age:** Adult	
Shipper: NewFields Courier	**B of L (Tracking No.)** NA	
Condition of Container: Good	**Received By:** BH	
Confirmation of ID of Organism: (Yes) No		**Technician (Initials):** BH
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
*				BH

Notes: * transported dry

NEWFIELDS

ORGANISM RECEIPT LOG

Date: 12/13/08	**Time:** 1400	**NewFields Batch No.** JB 8990
Organism: ~~Amp~~ Nephtys	**Source:** John Brezina	
Address: On File		**Invoice Attached** Yes (No)
Phone: On File	**Contact:** John Brezina	
No. Ordered: 2000	**No. Received:** 2000+	**Source Batch:** Field
Condition of Organisms: Good	**Approximate Size or Age:** ~~Very~~ Adult	
Shipper: Fed Ex	**B of L (Tracking No.)** 8662 6888 8990	
Condition of Container: Good	**Received By:** BH	
Confirmation of ID of Organism: Yes (No)		**Technician (Initials):**
Notes:		

pH (Units)	Temp. (°C)	D.O. (mg/L)	Conductivity or Salinity (Include Units)	Technician (Initials)
7.4	13.0	35+	35	BH

Notes:

G.4 - EVALUATION OF SURFACE SOILS MOBILE HOME PARK

Evaluation of Surface Soils from the Marina Park Mobile Home Park Newport Beach, California

Final Report

PREPARED FOR: City of Newport Beach
Planning Department
3300 Newport Boulevard
Newport Beach, California 92663

PREPARED BY: NewFields
PO Box 216
4729 View Drive
Port Gamble, Washington 98364

May 2009

NEWFIELDS

Executive Summary

The City of Newport Beach is in the process of preparing the Environmental Impact Report (EIR) and submitting permit applications in support of the Marina Park project, located on the Balboa Peninsula. The Marina Park project includes the expansion of existing beach areas and marina facilities, including the conversion of approximately 1.13 acres of uplands to a 28-slip marina. Approximately 62,000 cubic yards (CY) of soil/sediment is proposed for removal. Approximately 5,000 CY representing the top five feet of soil in the upland area will be excavated and used for project fill and was evaluated according to requirements in the Upland Testing Manual (USACE 2003) and California Code of Regulations (CCR) Title 22. The remaining material is proposed for nearshore or open-ocean disposal and has been characterized in a separate report (NewFields 2009). This sampling and analysis report summarizes the results of a chemical characterization of the surface soils from the mobile-home park that will be used as upland fill.

Sampling and Analysis

Sediment samples were collected on February 27, 2009 from three stations within the mobile home park using a stainless-steel hand-auger. Stations represented three distinct locations within the park. Samples were collected from 6" below ground surface (bgs) to 5 ft. bgs. Each of the cores was homogenized vertically and archived for possible future analysis. Subsamples from each of the three cores were then composited into one analytical sample and submitted for sediment chemistry. Analytical chemistry included sediment conventionals (grain size, organic carbon, ammonia, sulfides, Atterberg limits, total recoverable petroleum (TRPH), oil and grease, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), organochlorine pesticides, polychlorinated biphenyls (PCBs), organotins, petroleum aromatic hydrocarbons (14 PAHs), and phthalates.

The upland soils were characterized by 92% sand and gravel and 0.11% TOC. Soils appeared to be coarse sand with shell fragments and were not plastic, indicating that they would not hold their form. All of the metals were either undetected or detected very near the detection limits. Pesticides, PCBs, PAHs, tributyltin, TRPH, oil and grease, and phthalates were not detected in the analytical composite. Chemical concentrations in the test composite were below the screening threshold for Title 22 leachate testing under Title 22 Section 4.5.

The upland soils collected from the top five feet in the Marina Park Mobile Home Park would not qualify as hazardous waste under California State Code and should be acceptable as fill material.

1.0 INTRODUCTION

The City of Newport Beach is in the process of preparing the Environmental Impact Report (EIR) for the CEQA process and submitting permit applications in support of the Marina Park project, located on the Balboa Peninsula. The Marina Park project includes the expansion of existing beach areas and marina facilities, including the conversion of approximately 1.13 acres of uplands to a 28-slip marina. Sediment and soils throughout the proposed marina complex will be excavated to accommodate the project depth of 12 ft. MLLW plus a 2 ft. overdredge. Approximately 62,000 cubic yards (CY) of soil/sediment is proposed for removal. Approximately 5,000 CY representing the top five feet of soil in the upland area will be excavated and used for project fill on-site. Approximately 57,000 CY is proposed for aquatic disposal and has been evaluated in a separate report. Based on previous soil and sediment data collected by NewFields and Terra Costa from the site, the surface material is expected to be eligible for use as fill material on site. The objective of this report is to characterize the top 5 ft. of upland excavation material from the mobile-home park. The material under consideration will be tested based upon criteria outlined in the UTM (USACE 2003) and California Code of Regulations Title 22.

1.1 BACKGROUND AND HISTORY

The proposed Marina Park is located in Lower Newport Bay, on the bay side of the Balboa Peninsula between 15th and 18th Streets immediately north of West Balboa Boulevard (Figure 1). The site currently includes some recreational areas and mobile homes. The Marina Park Master Plan includes a 28-slip marina, a small-boat basin, and moorage for visiting vessels in the northeast corner of the site. The mobile-home park was first constructed in the early 1950s. Prior to the 1950s, the area occupied by the mobile-home park was vacant land.

Figure 1. Location of Marina Park Master Plan area (dashed line) and proposed marina within Newport Bay.

1.1.1 *Existing Soil and Sediment Characteristics*

The Balboa Peninsula was primarily formed from sand deposits overlying Bay sediments following a series of extreme storms in the 1860's. Subsequent dredging and construction has increased the size of the peninsula. In May 2008, the City conducted a geotechnical investigation of soils at the one location within that portion of the mobile-home park that will be excavated during marina construction (Terra Costa 2008). Terra Costa conducted soil borings (B-2) and cone penetration tests (CPT-12) at one location immediately adjacent to the footprint proposed marina. The cone penetration test (CPT) evaluated sediment type, as well as other physical features. The borings included a visual description at 5 ft intervals, as well as subsampling for grain size analysis. In addition, NewFields conducted chemical analysis of soils that included two contaminants of potential concern that have been identified in lower Newport Bay, mercury and DDT.

The geotechnical survey characterized the project soils as follows:

"The site is underlain by hydraulic fill, bay deposits, and older alluvial deposits beyond the depths of our deepest exploratory drilling at 50 feet. These soil and geologic units of the surface soils are described below.

> Hydraulic Fill Soils: Our test borings indicate that the project site-area is generally underlain by from 5 to 6 feet of loose to medium dense, gray-brown, damp to wet, hydraulically placed sands and silty sands (SP/SM), with occasional shell fragments. It is likely that these relatively "clean" granular soils were placed as the result of dredging during one or more phases of the development of Newport Harbor. SPT blow counts within these artificially placed dry to saturated sands ranged from 7 to 25 blows per foot."

The Bay Deposits extend to approximately project depth at -14 ft. MLLW. Groundwater elevations appeared to match tidal elevations in the Bay. A subsample of porewater from the borings indicated that the groundwater was at least 20‰. Samples may have been compromised by freshwater added to the sample hole used to facilitate the boring. Grain size analysis of the soil borings resulted in a similar characterization, with sand dominating throughout the area (Table 1-1).

Based on the results of the geotechnical investigation, the soils underlying the mobile-home park and neighboring beach are comprised of sand with shell fragments. Soils were either hydraulically-placed from dredging events or the result of deposition following historic storm events.

1.1.2 *Chemical Evaluations of Existing Soils and Sediments*

Concentrations of contaminants of concern were evaluated for the soils collected in boring B-2. The soil borings were evaluated for metals and DDT and associated breakdown products (Table 1-1), contaminants of concern that have been found in other portions of Newport Bay. Metals were present very near or below the detection limits and DDT, DDE, and DDD were undetected in both soil borings.

Figure 2. Locations of recent samples collected near the proposed marina. Existing stormwater outfalls denoted by blue circles.

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Table 1-1. Data for soil/sediment samples at Marina Park, May 2008.

Analyte	Units	B-2	
Depth below surface	**ft**	**5**	**10**
Gravel	%	11.0	1.0
Sand	%	84.1	98.5
Silt & Clay	%	4.9	0.5
Analyte	**Units**	**Surface**	
4,4'-DDE	µg/kg	<2.0 U	
4,4'-DDD	µg/kg	<2.0 U	
4,4'-DDT	µg/kg	<2.0 U	
2,4'-DDT	µg/kg	<2.0 U	
2,4'-DDE	µg/kg	<2.0 U	
2,4'-DDD	µg/kg	<2.0 U	
Arsenic	mg/kg	<6 U	
Cadmium	mg/kg	<0.2 U	
Chromium	mg/kg	1.6	
Copper	mg/kg	2.8	
Lead	mg/kg	<2 U	
Mercury	mg/kg	<0.04 U	
Nickel	mg/kg	<1 U	
Silver	mg/kg	<0.3 U	
Zinc	mg/kg	3	

2 METHODS

The objective of this sampling and analysis program (SAP) was to characterize the proposed excavated materials from the upper 5 ft. of soils underlying the mobile home park and to evaluate its suitability for use as construction fill on-site based on criteria in the UTM (USACE 2003). Chemical was conducted on surface soils. If necessary, the California Title 22 Waste Extraction Toxicity (WET) test would be conducted to evaluate the potential for contaminants to leach from excavated materials.

2.1 DEFINITION OF AREAS AND SAMPLE LOCATIONS

Core samples were collected from the upland areas of the site to a depth of 5 ft bgs as shown in Figure 3. Soils and sediments below 5 ft bgs were evaluated in a separate evaluation (NewFields 2009). The sampling area for this investigation included that portion of the site currently occupied by the mobile home park. Two locations were located in paved surfaces, one in a parking area (MP-1) and one immediately adjacent to a mobile home (MP-3). An additional sampling site was located in a grass lawn between three residences (MP-2).

As noted above, each core was homogenized vertically from approximately 6" bgs to 5 ft. bgs. Each of the cores was then combined into one composite sample Area composite (MP Surface Sediment).

Figure 3. Area and Station Locations. Station locations denoted by red symbols.

2.2 Field Collection Program for Soil/Sediment Core Samples

Samples collected were collected on February 27, 2009 by NewFields. Upland cores were collected using a 2" stainless-steel hand auger. For locations with a paved surface, the pavement was removed using a cold-chisel with the top 6" of soil removed using a stainless-steel spoon. The upper 6" was not included in the analytical sample. Cores were collected to a depth of 5ft. Separate clean, solvent-rinsed stainless-steel liners were used for core section. Samples were processed in the field using clean, solvent-rinsed spoons and bowls.

Coordinates for each location were recorded using a hand-held Global Positioning System (GPS) unit fitted with a WAAS antenna. Each sample was photographed and characterized for sediment characteristics. The core stratigraphy and other pertinent data and observations were logged. The geologic description of each core included the apparent grain size, odor, color, length, and any evident stratification of the sediment.

Soils from the entire core were homogenized and a subsample placed into certified-clean I-Chem jar, labeled (project name, date, sampler ID, analysis, and preservative where applicable), logged into a field chain-of-custody (COC) form, and placed into a cooler for later archive. A subsample from each core was then placed in a stainless-steel bowl and homogenized to create an area composite. The composite sample was placed into a certified-clean glass jar. Samples remained on ice and in the dark until shipped via overnight delivery service to Analytical Resources Incorporated for chemical analysis.

Prior to shipping, sample containers were placed in sealable plastic bags and securely packed inside coolers with ice packs or crushed ice. COC forms were filled out, and the original signed COC forms was placed in a sealable plastic bag and placed inside the cooler. The cooler lids were securely taped shut.

2.3 Physical and Chemical Analysis

Physical and chemical parameters measured in this testing program were selected to provide data on potential chemicals of concern in the surface soils from the Marina Park site. The MP-surface test composite was analyzed for all of the analytes listed in Table 2-5. The target detection limits (sediment – dry weight) are also presented in Table 2-5. All analytical methods used to obtain contaminant concentrations follow EPA or Standard Methods (SM; APHA/AWWA 1998).

2.3.1 *Physical Analyses*

To characterize the physical properties of the soil, tests were performed, to predict the behavior of excavated soils. Physical-chemical analyses of the sediment included grain size, specific gravity, total organic carbon (TOC), total solids, and plasticity (Atterberg Limits). Grain size was analyzed to determine the general size classes that make up the sediment (e.g., gravel, sand, silt, and clay) and the frequency distribution of the size ranges (reported in millimeters [mm]). Grain size measurements were conducted using the gravimetric procedure described in Plumb (1981). The TOC, made up of volatile and nonvolatile organic compounds, was determined as recommended in the UTM (USACE 2003) or equivalent (modified SW846). This procedure involves dissolving inorganic carbon (carbonates and bicarbonates) with hydrochloric acid or sulfuric acid prior to TOC analysis (Plumb 1981). Total solids were also measured to convert concentrations of the chemical parameters from a wet-weight to a dry-weight basis. Percent solids was determined by USEPA Method 160.3 (USEPA 2001). Total petroleum hydrocarbons and total residual petroleum

hydrocarbons (TRPH) were analyzed using EPA Method 1664. Atterberg limits were determined using ASTM D-4318.

2.3.2 *SEDIMENT CHEMISTRY*

The following analyses were performed as recommended by the UTM (USACE 2003). The analysis for priority pollutant metals was conducted using an inductively coupled plasma emissions spectrometer equipped with a mass detector (ICP-MS), in accordance with USEPA 6010. Mercury analysis was conducted using cold vapor atomic absorption (CVAA) using EPA 7471A (USEPA 1994).

Semivolatile organics (SVOC; PAHs only) were analyzed using gas chromatography-mass spectrometry with selected ion monitoring (GC/MS SIM), using USEPA Method 8270 SIM (USEPA 2001). This followed serial extraction with methylene chloride and alumina cleanup procedures. Organochlorine pesticides and PCBs were analyzed using dual column GC/ECD following USEPA Method 8081 and 8082 respectively (USEPA 2001), with extraction modifications to reach lower detection limits. The PCBs were identified to the Aroclor level. The analytical method used to determine TBT involves methylene chloride extraction, followed by Grignard derivatization and analyzed by GC/MS (Krone et al., 1989).

Table 2-5. Chemical and Physical Parameters, Analytical Methods, and Target Detection Limits

Parameter	Method	Procedure	Sediment Target Reporting Limit (dry weight)
Physical / Conventional Tests			
Grain Size	Plumb (1981)	Sieve/Pipette	1.0%
Atterberg Limits	ASTM D-4318		
TOC	ASTM D2579	Combustion IR	0.1%
Percent Solids	EPA 160.3	Gravimetric	0.1%
Sulfides	PSEP 1986	Colorimetric	1.0 mg/kg
Oil and Grease	EPA 1664*	Gravimetric	
TRPH	EPA 1664*	Gravimetric	
Ammonia	SM 4500N H3F	ICP-MS	0.001 mg/kg
Lipids	Bligh Dyer	Gravimetric	n/a
Metals			
Arsenic (As)	USEPA 6010	ICP-MS	0.5 mg/kg
Cadmium (Cd)	USEPA 6010	ICP-MS	0.2 mg/kg
Chromium (Cr)	USEPA 6010	ICP-MS	0.5 mg/kg
Copper (Cu)	USEPA 6010	ICP-MS	0.5 mg/kg
Lead (Pb)	USEPA 6010	ICP-MS	1.0 mg/kg
Mercury (Hg)	USEPA 7471A	CVAA	0.05 mg/kg
Nickel (Ni)	USEPA 6010	ICP-MS	0.5 mg/kg
Selenium (Se)	USEPA 6010	ICP-MS	0.5 mg/kg
Silver (Ag)	USEPA 6010	ICP-MS	0.5 mg/kg
Zinc (Zn)	USEPA 6010	ICP-MS	4 mg/kg
Pesticides			
4-4′ DDD	USEPA 8081	GC/ECD	2 µg/kg
4-4′-DDE	USEPA 8081	GC/ECD	2 µg/kg
4-4′-DDT	USEPA 8081	GC/ECD	2 µg/kg
2-4′ DDD	USEPA 8081	GC/ECD	2 µg/kg
2-4′-DDE	USEPA 8081	GC/ECD	2 µg/kg
2-4′-DDT	USEPA 8081	GC/ECD	2 µg/kg
Aldrin	USEPA 8081	GC/ECD	1 µg/kg
α-BHC	USEPA 8081	GC/ECD	1 µg/kg
β-BHC	USEPA 8081	GC/ECD	1 µg/kg
Chlordane	USEPA 8081	GC/ECD	2 µg/kg

Parameter	Method	Procedure	Sediment Target Reporting Limit (dry weight)
δ-BHC	USEPA 8081	GC/ECD	1 µg/kg
Dieldrin	USEPA 8081	GC/ECD	2 µg/kg
Endosulfan I	USEPA 8081	GC/ECD	1 µg/kg
Endosulfan II	USEPA 8081	GC/ECD	2 µg/kg
Endosulfan Sulfate	USEPA 8081	GC/ECD	1 µg/kg
Endrin	USEPA 8081	GC/ECD	1 µg/kg
Endrin Aldehyde	USEPA 8081	GC/ECD	1 µg/kg
Heptachlor	USEPA 8081	GC/ECD	1 µg/kg
Heptachlor Epoxide	USEPA 8081	GC/ECD	1 µg/kg
γ-BHC	USEPA 8081	GC/ECD	1 µg/kg
Methoxychlor	USEPA 8081	GC/ECD	10 µg/kg
Lindane	USEPA 8081	GC/ECD	1 µg/kg
Toxaphene	USEPA 8081	GC/ECD	100 µg/kg
PCBs			
Aroclor 1016	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1221	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1232	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1242	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1248	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1254	USEPA 8082	GC/ECD	4 µg/kg
Aroclor 1260	USEPA 8082	GC/ECD	4 µg/kg
Semivolatile Organics			
Acenaphthene	USEPA 8270	GC/MS SIM	7 µg/kg
Fluorene	USEPA 8270	GC/MS SIM	7 µg/kg
Phenanthrene	USEPA 8270	GC/MS SIM	7 µg/kg
Anthracene	USEPA 8270	GC/MS SIM	7 µg/kg
Fluoranthene	USEPA 8270	GC/MS SIM	7 µg/kg
Pyrene	USEPA 8270	GC/MS SIM	7 µg/kg
Chrysene	USEPA 8270	GC/MS SIM	7 µg/kg
Benzo(a)anthracene	USEPA 8270	GC/MS SIM	7 µg/kg
Benzo(b)fluoranthene	USEPA 8270	GC/MS SIM	7 µg/kg
Benzo(a)pyrene	USEPA 8270	GC/MS SIM	7 µg/kg
Indeno(1,2,3-cd)pyrene	USEPA 8270	GC/MS SIM	7 µg/kg
Dibenzo(a,h)anthracene	USEPA 8270	GC/MS SIM	7 µg/kg
Benzo(g,h,i)perylene	USEPA 8270	GC/MS SIM	7 µg/kg
Phthalates			
Diethylphthalate	USEPA 8270	GC/MS	20 µg/kg
Dimethylphthalate	USEPA 8270	GC/MS	20 µg/kg
Butylbenzylphthalate	USEPA 8270	GC/MS	20 µg/kg
bis(2-Ethylhexyl) phthalate	USEPA 8270	GC/MS	20 µg/kg
Di-n-octylphthalate	USEPA 8270	GC/MS	20 µg/kg
Organotins			
Monobutyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg
Dibutyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg
Tributyltin	Krone et al. (1989)	GC/MS SIM	10 µg/kg

%: percent
ng/kg: nanogram per kilogram
µg/kg: microgram per kilogram
g/cc: gram per cubic centimeter
n/a: not applicable
GC/MS: gas chromatography/mass spectrometry
SIM: selected ion monitoring

- EPA Method 1664 is substituted for EPA 413.2

2.3.3 *QUALITY ASSURANCE/QUALITY CONTROL*

The QA objectives for chemical analysis conducted by the participating analytical laboratories are detailed in their Laboratory QA Manual(s). These objectives for accuracy and precision involve all aspects of the testing process, including the following:

- Methods and SOPs
- Calibration methods and frequency
- Data analysis, validation, and reporting
- Internal QC
- Preventive maintenance
- Procedures to ensure data accuracy and completeness

Results of all laboratory QC analyses are reported with the final data. Any QC samples that failed to meet the specified QC criteria in the methodology or QAP were identified, and the corresponding data was appropriately qualified in the final report.

All QA/QC records for the various testing programs will be kept on file for review by regulatory agency personnel.

2.4 DATA REVIEW, MANAGEMENT, AND ANALYSIS

2.4.1 *DATA REVIEW*

All data were reviewed and verified by participating team laboratories to determine whether all data quality objectives had been met, and that appropriate corrective actions had been taken, when necessary. NewFields' QA Officer or her delegate was responsible for the final review of all data generated.

RESULTS

Sediment cores were collected from a total of 3 stations. Information on sample location, depth (bgs), targeted core length; penetration depth and length of core recovered are included in Table 3.1. The approximate location of each sediment core is provided in Figure 3.

Sediment cores were generally characterized by sand with shell fragments. The boundary layer between the overlying pavement, fill, or sod was less than 6" bgs. Sediment was dominated by clean sand, with 91.5% sand and 0.11% TOC. No oil and grease or residual petroleum hydrocarbons were detected in the composite sample. The Atterburg test indicated that sediments were not plastic and would not hold their form.

Metals were either undetected or detected just above the detection limits. All values were below the screening thresholds for conducting leachate testing (CCR Title 22 Section 4.5). Leachability testing is required when the concentration in the soils exceeds 10-times the STLC (Soluble Threshold Limit Concentration).

None of the organic analytes, including chlorinated pesticides, PAHs, PCBs, or phthalates were detected in the composite sample. No additional leachate testing was required for the surface soils.

3 DISCUSSION

As part of the planning process for Marina Park, NewFields LLC conducted an evaluation of surface soils from area of the proposed marina that is within the existing mobile home park. The objective of this sampling and analysis program was to characterize the soils for use as construction fill on site according to guidance provided by the upland testing manual and RWQCB guidance.

Surface soils to a depth of 5 ft. bgs were characterized as gravelly sand with shell fragments throughout the surface depth. Metals were either undetected or detected very near the detection limits. None of the organic constituents analyzed for this evaluation were detected. None of the priority pollutants were present at concentrations exceeding the screening threshold for Title 22 WET testing. The detection limit for Endrin and Toxaphene were above the screening concentration; however, the 10xSTLC concentration is below a detection limit is typically achievable in commercial laboratories. Based on this evaluation, the upland soils collected from the top five feet in the Marina Park Mobile Home Park would not qualify as hazardous waste under California State Code and should be acceptable as fill material.

Table 3–1. Sample Log Data, Marina Park 2008

Site	Coordinates		Depth (ft bgs)	Target Core Length (ft)	Actual Core Length (ft)	Comments
	Latitude (°N)	Longitude (°W)				
MP-1	33° 36.477	117° 55.322	5	4.5	4.5	*Cores were dominated by sand and shell fragments- surface material (pavement, fill and tuf) did not extend past 6" depth*
MP-2	33° 36.484	117° 55.336	5	4.5	4.5	
MP-2	33° 36.470	117° 55.306	5	4.5	4.5	

Table 3-2 Concentrations in the Test Composite and Screening Threshold for Title 22 Testing.

Analyte	MP Surface Soil Composite	Threshold for Leachate Testing
Conventionals		
Gravel (%)	5.3	NA
Sand (%)	86.3	
Silt (%)	5.5	
Clay (%)	2.9	
Total Organic Carbon (%)	0.108	
Total Solids (%)	95.6	
Oil and Grease (mg/kg)	<207 U	
TRPH	<207 U	
Atterburg Limits	Not Plastic	
Metals (mg/kg)		
Arsenic (As)	**2.2**	**50**
Cadmium (Cd)	<0.2 U	10
Chromium (Cr)	**8.6**	**50**
Copper (Cu)	**2.4**	**250**
Lead (Pb)	**2**	50
Mercury (Hg)	<0.05 U	2
Nickel (Ni)	**4.9**	20
Selenium (Se)	<0.5 U	10
Silver (Ag)	<0.2 U	50
Zinc (Zn)	**12**	**2500**
Organotins (µg/kg)		
Tributyltin	<3.6	
Dibutyltin	**14**	
Monobutyltin	**5.5**	
PAHs (µg/kg)		
Acenaphthylene	<4.7	
Acenaphthene	<4.7	
Fluorene	<4.7	
Phenanthrene	<4.7	
Anthracene	<4.7	
Fluoranthene	<4.7	
Pyrene	<4.7	
Benz[a]anthracene	<4.7	
Chrysene	<4.7	
Benzo[b]fluoranthene	<4.7	
Indeno[1,2,3-c,d]pyrene	<4.7	
Dibenz[a,h]anthracene	<4.7	
Benzo[g,h,i]perylene	<4.7	
Benzo[a]pyrene	<4.7	
Total Detected PAHs	<4.7	
	0	

Table 3-2 Continued.

Analyte	Concentration	Threshold
Chlorinated Pesticides (µg/kg)		
2,4'-DDD	<1.9 U	10
2,4'-DDE	<1.9 U	10
2,4'-DDT	<1.9 U	10
4,4'-DDD	<1.9 U	10
4,4'-DDE	<1.9 U	10
4,4'-DDT	<1.9 U	10
Aldrin	<0.97 U	1.4
BHC-alpha	<0.97 U	
BHC-beta	<0.97 U	
BHC-delta	<0.97 U	
BHC-gamma	<0.97 U	
Chlordane-alpha	<0.97 U	
Chlordane-gamma	<0.97 U	
cis-Nonachlor	<1.9 U	
trans-Nonachlor	<1.9 U	
Oxychlordane	<1.9 U	
Total Detectable Chlordane	0	2.5
Dieldrin	<1.9 U	8
Endosulfan Sulfate	<1.9 U	
Endosulfan-I	<0.97 U	
Endosulfan-II	<1.9 U	
Endrin	<1.9 U	0.2
Endrin Aldehyde	<1.9 U	<0.98
Endrin Ketone	<0.97 U	<0.98
Heptachlor	<0.97 U	4.7
Heptachlor Epoxide	<0.97 U	4.7
Methoxychlor	<9.7 U	100
Mirex	<1.9 U	21
Toxaphene	<97	0.5
PCB Aroclors (µg/kg)		
Aroclor 1016	<20 U	
Aroclor 1242	<20 U	
Aroclor 1248	<20 U	
Aroclor 1254	<20 U	
Aroclor 1260	<20 U	
Aroclor 1221	<20 U	
Aroclor 1232	<20 U	
Phthalates (µg/kg)		
Dimethylphthalate	<20 U	
Diethylphthalate	<20 U	
Di-n-Butylphthalate	<20 U	
Butylbenzylphthalate	<20 U	
Bis(2-Ethylhexyl) phthalate	<20 U	
Di-n-0Octyl phthalate	<20 U	

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G.5 - CORRESPONDENCE WITH EPA AND ACOE

April 10, 2009

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Dear Dan and Jorine:

Thank you for your comments on the Marina Park Sampling and Analysis Program report. We will make the necessary changes to the document and resubmit. We do have several questions regarding specific comments.

1. EPA has requested that the receiver beach(es) be identified at this time and that the grain size profile be included in this report. The responses from the USACE indicate that this does not necessarily need to be part of this report. We understand the grain size requirement for determining whether this material would be suitable for a specific receiver beach; however, it was my understanding that this was required later in the permitting process. Could you please clarify whether that element is required for this SAP report?

2. The USACE indicated that the approved dredging depth will not be allowed to exceed the depth of refusal. We would like to provide some additional clarity to the report that addresses this issue.
    a. Samples were collected from seven stations within the project area below 0 ft. MLLW. The area represented by Area C is approximately 110 ft. by 307 ft. or 3,700 sq yards. Within that area we have collected a total of seven cores, four of which attained -14 ft. MLLW (project depth plus 2 ft. of overdredge). The remaining three cores attained -11.5 to -12.0 ft. MLLW. These latter cores had evidence of coarse sand in the core catcher that while sampled was not retained in the core tube. The four cores that attained dredged depth plus 2 foot of overdredge showed a clearly defined silt-to-sand boundary layer that occurs consistently across the area at approximately -12' MLLW; continuing as coarse sand to depths beyond -14 MLLW. This is further supported in the remaining three cores by the refusal depth at -12' MLLW and evidence of sand in the catcher. The depth of the sand layer overlying the gravel is likely due historic dredging which cut the channel to that depth.
    b. Analysis of both the lower Area C composite, as well as the lower portions of the individual cores that did sample and retain the overdredge depth greater than -12 ft MLLW shows that this layer is free of chemical contamination and free of toxicity or bioaccumulation.
    c. We believe the four cores over the relatively small area of the project footprint support the conclusion that the sand layer occurs at approximately -12 ft. MLLW throughout the marine portion of the site. This is further supported by the refusal and sand observed in the cutter head in the remaining cores. This sand layer then continues to beyond project depth as evidenced by the four cores to -14 ft. MLLW and the stratigraphy observed in the upland cores. As noted in your comments, the underlying sands, generally representing the overdredge depth, have been shown to be free of chemical contamination. Based on the consistency of the observations throughout the proposed dredging area there is little reason to believe that the material within this overdredge depth is inconsistent with the surrounding area at comparable depths and we would respectfully request that the Corps approve the dredge depth to -14 ft. MLLW across the project area.

3. Both the EPA and USACE have identified the upper sections of the offshore portion of Area C as unsuitable for ocean disposal. The reason provided is due to mercury concentrations exceeding the ERM in the isolated silt layer from individual cores. The ERM value is an estimate of the potential for adverse ecological effects and is effective at predicting an effect ~50% of the time it is exceeded (Wenning et al., 2005?). The effects based testing established by USEPA and USACE under the Ocean Testing Manual (to address paragraph 227.13(c) 40 CFR Ch. 1 (7-1-88 Edition)) is designed to establish whether site specific conditions support or reject whether measureable chemical contaminants

are at concentrations that produce adverse biological effects as measured by bioassays and bioaccumulation tests; predicting a potential for adverse effects due to disposal. We would like to provide additional information for your consideration.

a. The upper sections of all of the cores within Area C were tested as a composite for chemical analysis, toxicity, and bioaccumulation. As required by the Ocean Testing Manual, the toxicity testing and bioaccumulation tests were conducted to evaluate the bioavailability of any contaminants of potential concern that have been observed in the bulk sediment at concentrations that may predict biological effects. No toxicity was observed in the toxicity tests for both benthic and water-column species. Furthermore, Hg concentrations in the tissues exposed to this sediment were at or slightly above the detection limits, with a mean concentration of 0.011 mg/kg. This is well below any established threshold concentrations (FDA: 1.0 mg/kg; EPA Region 10 (proposed): 0.11 mg/kg for fish and shellfish; HHRA USEPA value of 0.3 mg/kg wet weight for fish consumption). Based on the Tier III analysis, while there is mercury in the sediment, it does not appear to be in a bioavailable form. In fact the uptake into tissues is at least an order of magnitude lower than the tissue guidance values that have been established for both human and ecological risk.
b. While the sediment mercury concentrations exceed the ER-M concentration, the subsequent toxicity tests and the bioaccumulation tests that evaluate the site specific availability of any contaminants of potential ecological concern indicate that this is not in a bioavailable form and does not predict a potential for eliciting adverse ecological effects in the receiving environment. The City would request that EPA and the USACE reconsider their decision to exclude the surface sediments from disposal at the LA-3 disposal site based on the lack of identified potential for adverse ecological effects.

Thank you for your consideration.

Sincerely,

William Gardiner
Partner/Senior Scientist
NewFields, LLC.

G.6 - SITE ASSESSSMENT SCE PARCEL

SITE ASSESSMENT REPORT
MARINA PARK, 1516 WEST BALBOA BOULEVARD
NEWPORT BEACH, CALIFORNIA

Prepared For:

CITY OF NEWPORT BEACH

3300 Newport Boulevard
Newport Beach, California 92663

Project No. 602497-003

September 22, 2009

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

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A LEIGHTON GROUP COMPANY

September 22, 2009

Project No. 602497-003

To: City of Newport Beach
Public Works Department
3300 Newport Boulevard
Newport Beach, California 92663

Attention: Mr. Mark Reader

Subject: Site Assessment Report, Marina Park, 1516 West Balboa Boulevard, Newport Beach, California

INTRODUCTION

Leighton Consulting, Inc., (Leighton Consulting) is pleased to present this Site Assessment Report summarizing environmental conditions in association with the property located at 1516 West Balboa Boulevard, in Newport Beach, California (referred to as the "Subject Property", Figure 1 – *Site Location Map*). This report is based on Leighton Consulting's "*Revised Proposal to Perform Additional Site Assessment, Marina Park, 1516 West Balboa Boulevard, Newport Beach, California*", dated July 17, 2009 (Leighton Consulting, 2009a). References are presented in Appendix A.

SITE BACKGROUND

The subject property is a rectangular parcel that is approximately 5,360 square feet in size located on the Balboa Peninsula, north of West Balboa Boulevard between 15th and 16th Streets in Newport Beach, California (Figure 1, *Site Location Map*). The subject property was formerly used as an electrical substation by Southern California Edison from at least 1929 to 2008 (Figure 2, *Site Aerial Photograph*). The control room and the transformers were removed in 2008 and the subject property is currently vacant. The site is proposed to be used as a parking lot for the Marina Park development.

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Leighton Consulting conducted a Phase I and Phase II ESA for the Subject Property to assess for potential subsurface impacts from equipment and hazardous substances, such as PCB-containing oil, associated with the former electrical substation (Leighton Consulting, 2009b). Soil sample locations were selected based on aerial photographs, a site plan provided by Southern California Edison depicting the locations of the former equipment, and a discussion with Mr. Bernard Rapan regarding the location of equipment that may have contained PCBs. On March 10, 2009, Leighton Consulting advanced five hand auger borings at the subject property to a maximum depth of 2 feet bgs and collected from each location a soil sample at a depth of approximately 0.5 feet bgs and the second between 1.3 and 2.0 feet bgs. Soil conditions were very gravelly with cobbles and refusal was encountered in boring B2, B3, and B4 at 1.5, 1.3, and 1.8 feet bgs, respectively, and soil samples were obtained from the maximum depth reached at these locations.

All of the soil samples (10 total) were analyzed for total petroleum hydrocarbons – carbon chain (TPH-cc, C8-C40), by EPA 8015B and for PCBs by EPA Method 8082. Based on the initial results, the three samples with the highest TPH-cc results were also analyzed for semi-volatile organic compounds (SVOCs), and the three samples with the highest results in the C8-C10 range were also analyzed for volatile organic compounds (VOCs) and TPH as gasoline (TPH-g).

TPH-cc was detected in nine of the ten samples at concentrations ranging from 16 milligrams per kilogram (mg/kg) to 110 mg/kg. TPH-g (C4-C12) was not detected above laboratory limits in the three samples analyzed. The soil screening levels established by the RWQCB are 100 mg/kg for gasoline (C4-C12) and diesel (C13-C22), and 1,000 mg/kg for heavy hydrocarbons (C23-C32) (CRWQCB, 1996).

Aroclor 1248, a PCB, was detected in one sample, B5-0.5 at 0.048 mg/kg. In addition, Aroclor 1254 was detected in four of the ten samples from 0.022 mg/kg to 92 mg/kg. The Industrial Regional Screening Level (RSL-I) for Aroclor 1248 and Aroclor 1254 is 0.74 mg/kg for each (USEPA, 2008). No additional PCBs were detected at the subject property.

No VOCs or SVOCs were detected in the samples analyzed.

Based on the results of the initial Phase II ESA, Leighton Consulting recommended that additional samples should be obtained at the subject property to assess the vertical and lateral impacts to soil, and to assess potential impacts to groundwater. The boring locations and summary of the detected analytes from the initial Phase II ESA, and this subsequent Site Assessment, are shown on Figure 3, *Site Plan and Laboratory Data Summary*. The laboratory report and results of the laboratory analysis are included as Appendix B and Table 1, respectively.

SUMMARY OF WORK CONDUCTED

Boring Location Mark Out and Underground Service Alert (USA)

Leighton Consulting delineated the site with white paint as appropriate for USA identification. USA was then contacted at least 48 hours prior to the commencement of field activities to designate underground utility locations.

Health and Safety Plan

A Site Specific Health and Safety Plan (HSP) was prepared for work to be performed at the site. The HSP complied with the Occupational Safety and Health Administration (OSHA) regulation 29 CFR 1910.120. All onsite personnel signed the HSP acknowledging acceptance. The document was kept onsite at all times during the field activities.

Environmental Borings

On August 3, 2009, Leighton observed and directed field activities during the advancement of 8 direct-push soil borings by Millennium Environmental, Inc. (Millennium). Millennium's hydraulically-driven drilling rods were 1.5 inches in diameter and constructed of steel with a hardened drop-off steel tip. The sampling tip was decontaminated between each sample location by triple washing in water with a phosphate free detergent, water, and deionized water. Soil borings were advanced to a total depth of 8 feet bgs and groundwater was encountered between 5.5 to 7 feet bgs. Soil samples were obtained in acetate sleeves at 2 feet bgs, 5 feet bgs and/or the soil/groundwater interface. In addition, a grab groundwater sample was obtained from each location. The table below summarizes the sample location depth:

Boring	~ Depth to Groundwater (feet bgs)	Sample Depth (feet bgs)
B6	7	2, 5, 7, GW
B7	7	2, 5, 7, GW
B8	5.9	2, 5, GW, GW duplicate
B9	6	2, 6, GW
B10	6	2, 6, GW
B11	5	2, 5, GW
B12	6	2, 6, GW
B13	5.5	2, 5, GW

Soil sample headspace readings were recorded with a photoionization detector (PID). The soil samples retained from each boring were immediately placed in an ice-cooled chest for temporary storage, and transported to Advanced Technology Laboratories (ATL) in Signal Hill, a State of California Certified laboratory for chemical analysis. The soil boring logs are included in Appendix C.

Laboratory Analyses

A total of 27 soil and groundwater samples from the 8 boring locations were submitted to ATL for analysis. Samples were analyzed for one or more of the following constituents:

- TPH-g by EPA Method 8015b (C4-C12)
- TPH-cc by EPA Method 8015b (C8-C40)
- PCBs by EPA Method 8082
- VOCs by EPA Method 8260b
- SVOCs by EPA Method 8270c

Standard laboratory quality control procedures were conducted and included the running of blanks, matrix-spike samples and matrix-spike duplicate samples. The laboratory report and results of the laboratory analysis are included as Appendix B and Table 1, respectively.

ENVIRONMENTAL INVESTIGATION RESULTS

Hydrogeology and Geology

According to the Soil Survey of Orange County and Western Part of Riverside County, the Site is located within the soil type of "beaches." Beaches is described as sandy, gravelly, or cobbly coastal shores that are washed and rewashed by tidal and wave action (United States Department of Agriculture, 1978).

Soils encountered during the subsurface investigation at the Subject Property consisted of silt, cobbly silt, silty sand, poorly graded sand, and cobbly sand to the total depth explored of 8 feet bgs. Groundwater was encountered between 5.5 to 7 feet bgs. The Pacific Ocean is located 650 feet to the southwest of the Subject Property and a marina with boat slips in the Newport Channel of Newport Bay is located approximately 180 feet to the northeast of the Subject Property; therefore, the groundwater gradient is expected to be variable.

Laboratory Analysis of Soil Samples

Total petroleum hydrocarbons – carbon chain (TPH-cc, C8-C40), was not detected the soil samples analyzed, with the exception of B7-5' at a concentration of 41 mg/kg. TPH-cc was not detected in the deeper soil sample obtained at B7-7' or in the groundwater from Boring B7.

During the previous investigation consisting of Borings B1-B6, TPH-cc had been detected at a concentration from 16 mg/kg to 110 mg/kg in nine of the ten soil samples. The soil screening levels established by the RWQCB are 100 mg/kg for gasoline (C4-C12) and diesel (C13-C22), and 1,000 mg/kg for heavy hydrocarbons (C23-C32) (CRWQCB, 1996). Two of the samples contained TPH-cc over 100 mg/kg, B1-0.5' and B3-1.3' at 110 mg/kg each; however, approximately half of the TPH was in the heavy hydrocarbon range from C28-C40.

The PCB Aroclor 1254 was detected in four of the samples analyzed: B7-2' at 0.36 mg/kg, B7-5' at 0.059 mg/kg, B9-2.0' at 0.35 mg/kg, and B10-2' at 0.28 mg/kg. The PCB Aroclor 1242 was detected in two samples analyzed: B7-7.0' at 0.036 mg/kg and B12-2.0' at 0.028 mg/kg. PCBs were not detected in the remaining soil samples analyzed.

In the previous investigation consisting of Borings B1-B6, the PCB Aroclor 1248, was detected in one sample, B5-0.5 at 0.048 mg/kg. In addition, Aroclor 1254 was detected in four of the ten samples from 0.022 mg/kg to 92 mg/kg. The Residential and Industrial Regional Screening Level (RSL-R and RSL-I) for Aroclor 1242, 1248, and 1254 is 0.22 mg/kg and 0.74 mg/kg for each, respecitvely (USEPA, 2009).

TPH-g, VOCs, and SVOCs were not detected above the laboratory detection limits in the soil samples analyzed, with the exception that several SVOCs were detected in B7-5.0 feet bgs, including benzo(a)anthracene at 0.44 mg/kg, chrysene at 0.43 mg/kg, fluoranthene at 0.47 mg/kg, phenanthrene at 0.46 mg/kg, and phenanthrene at 0.76 mg/kg. All of the SVOCs were below their corresponding RSL-I, and all were below their corresponding RSL-R, with the exception of benzo(a)anthracene (the RSL-R is 0.15 mg/kg).

TPH-g, TPH-cc, and PCBs were not detected in any of the groundwater samples, with the exception that TPH-cc was detected in the groundwater from B6 at the northwest corner of the Subject Property at a concentration of 0.68 milligrams per liter (mg/L).

The analytical results are summarized in Table 1, located at the rear of the report text. The laboratory reports are included as Appendix B. A soil laboratory data map that summarizes the detected analytes (TPH-cc and PCBs) is included as Figure 3.

CONCLUSIONS AND RECOMMENDATIONS

The PCB Aroclor 1254 was detected above the RSL-I of 0.78 mg/kg in two soil samples, B1-0.5' at 4.2 mg/kg and B5-2.0' at 92 mg/kg. Additionally, Aroclor 1254 was detected above the RSL-R of 0.22 mg/kg in three soil samples, B7-2.0' at 0.36 mg/kg, B9-2.0' at 0.35 mg/kg, and B10-2.0 mg/kg. In addition, the SVOC benzo(a)anthracene was detected above the RSL-R of 0.15 mg/kg in one soil sample, B7-5 at 0.44 mg/kg.

The California Regional Water Quality Control Board (CRWQCB) has developed maximum soil screening levels for Total Petroleum Hydrocarbons (TPH) above drinking water aquifers. Since there is no adequate measure of risk or toxicity of TPH, the screening levels for TPH is based on the carbon range numbers of the TPH (CRWQCB 1996, Table 4-1). The maximum screening levels for soil located 0 to 20 feet above groundwater is as follows: C4 – C12 (gasoline range): 100 mg/kg, C13 – C22 (diesel range): 100 mg/kg, C23 - C32 (oil range): 1,000 mg/kg. These ranges reflect the mobility of the materials; the shorter carbon chain TPH moves more easily in soil than the longer carbon-chain. Soil with TPH detected below the soil screening levels with no additional hazardous constituents present generally may remain onsite without posing a threat to the groundwater or human health.

Two of the samples contained TPH-cc over 100 mg/kg, B1-0.5' and B3-1.3' at 110 mg/kg each; however, approximately half of the TPH was in the heavy hydrocarbon range from C28-C40. Based on the laboratory results, the detected levels of TPH in the samples analyzed were below the maximum soil screening levels established by the CRWQCB (CRWQCB, 1996). In addition, the Subject Property is located adjacent to Newport Bay and the groundwater is expected to be brackish and not suitable for drinking water. The TPH-impacted soil is not expected to be a threat to groundwater or human health.

The Subject Property is reportedly to be developed with an asphalt paved parking lot for the Marina Park project. Because the proposed development is for commercial purposes, the Site should be remediated to at least industrial standards; however, it is recommended that the Site be remediated to the more conservative residential standards.

Leighton Consulting recommends that areas where soil contamination has been detected above the residential Regional Screening Level (RSL-R) be remediated by excavation and disposal to an appropriate facility. The approximate area and depth recommended for excavation is depicted on Figure 3. A depth of approximately 5 feet bgs is recommended for the area with the exception of B7, where a depth of 6 feet bgs is recommended. Confirmation soil samples should be taken to ensure that the RSL-R target goals have been met, and confirmation samples may limit or expand the area and depth required for excavation to meet these goals.

It is Leighton Consulting's opinion that the low levels of TPH-cc detected in the groundwater from the northwest corner of the subject property appears to be from an offsite source and is not considered likely to be a threat to human health or the environment or to require mitigation. The offsite source may possibly be from the use of Newport Harbor for boating and marina purposes or from a former gasoline release to soil and groundwater by a Mobil gas station located at 1500 Balboa Boulevard located approximately 90 feet to the east of the Subject Property.

If the City of Newport Beach desires a closure letter from a regulatory agency, this report should be submitted to the Orange County Health Care Agency (OCHCA) and an agreement for the voluntary oversight program should be requested. If oversight is requested, the OCHCA requires an approved Remedial Action Plan (RAP) and a Workplan prior to mitigation.

We appreciate the opportunity to serve the City of Newport Beach. Please do not hesitate to call the undersigned at (949)-681-4208, if you have any questions regarding the findings of this report.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

Meredith Church

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CHURCH
No. 8326
Exp: 3/31/11
STATE OF CALIFORNIA

Meredith Church, PG 8326
Project Geologist

Senior Reviewer: Richard Williams, PG

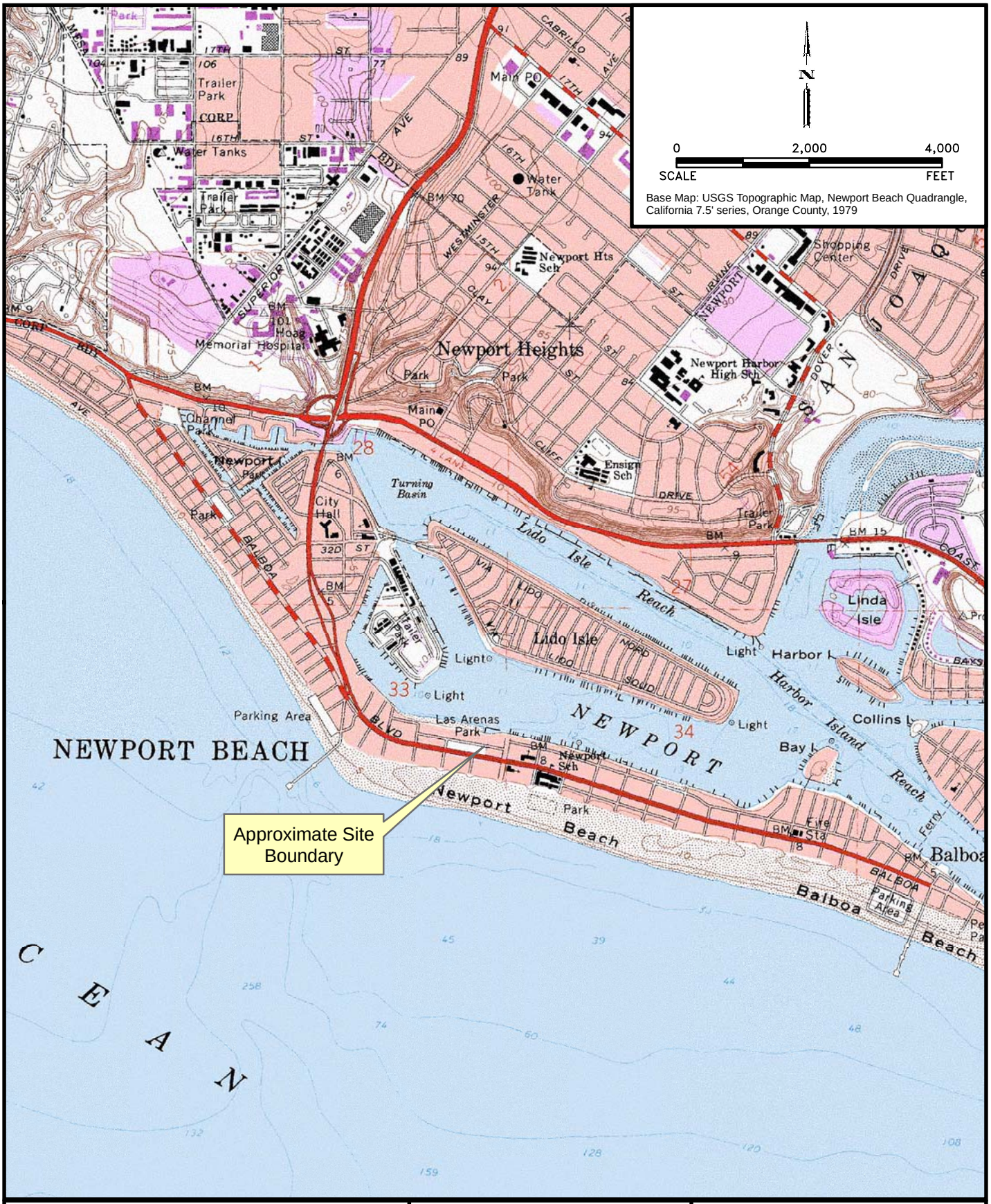
Attachments:
Figure 1 – Site Location Map
Figure 2 – Site Aerial Photograph
Figure 3 – Site Plan and Laboratory Data Summary

Table 1 – Soil Analytical Results Summary

Appendix A – References
Appendix B – Laboratory Analytical Results
Appendix C – Soil Boring Logs

Distribution:(2 + 4 cds) Addressee

Leighton



1516 West Balboa Boulevard
Newport Beach, California

SITE LOCATION MAP

Project No.
602497-003

Date
August 2009

Figure 1

\\GIS\Administration\ArcGISTemplates\NEW_GDT_SiteLocationMap.mxd

* Note: All structures have been removed from the site and it is presently vacant

Base Map: Newport Beach GIS System

1516 West Balboa Blvd. **Newport Beach, California**	**SITE AERIAL PHOTOGRAPH**	Project No. **602497-003** Date **August 2009** Figure 2

Sample ID	TPH-cc	PCBs
B6-2.0	<10	<0.033
B6-5.0	<10	<0.033
B6-7.0	<10	NA
B6-GW	**0.68**	<0.005

Sample ID	TPH-cc	PCBs
B2-0.5	**55**	<0.033
B2-1.5	**78**	<0.033

Sample ID	TPH-cc	Aroclor 1254
B3-0.5	**59**	<0.016
B3-1.3	**110**	**0.022**

Sample ID	TPH-cc	Aroclor 1242	Aroclor 1254
B7-2.0	<10	<16	**0.36**
B7-5.0*	**41**	<16	**0.059**
B7-7.0	<10	**0.036**	<16
B7-GW	<0.20	<0.0005	<0.0005

Sample ID	TPH-cc	Aroclor 1254
B1-0.5	**110**	**4.2**
B1-2.0	<10	<0.016

Sample ID	TPH-cc	Aroclor 1254
B10-2.0	<10	**0.28**
B10-6.0	<10	<16
B10-GW	<0.20	<0.0005

Sample ID	TPH-cc	Aroclor 1254	Aroclor 1248
B5-0.5	**40**	<0.016	**0.048**
B5-2.0	**28**	**92**	<0.016

Sample ID	TPH-cc	Aroclor 1254
B9-2.0	<10	**0.35**
B9-6.0	<10	<16
B9-GW	<0.20	<0.0005

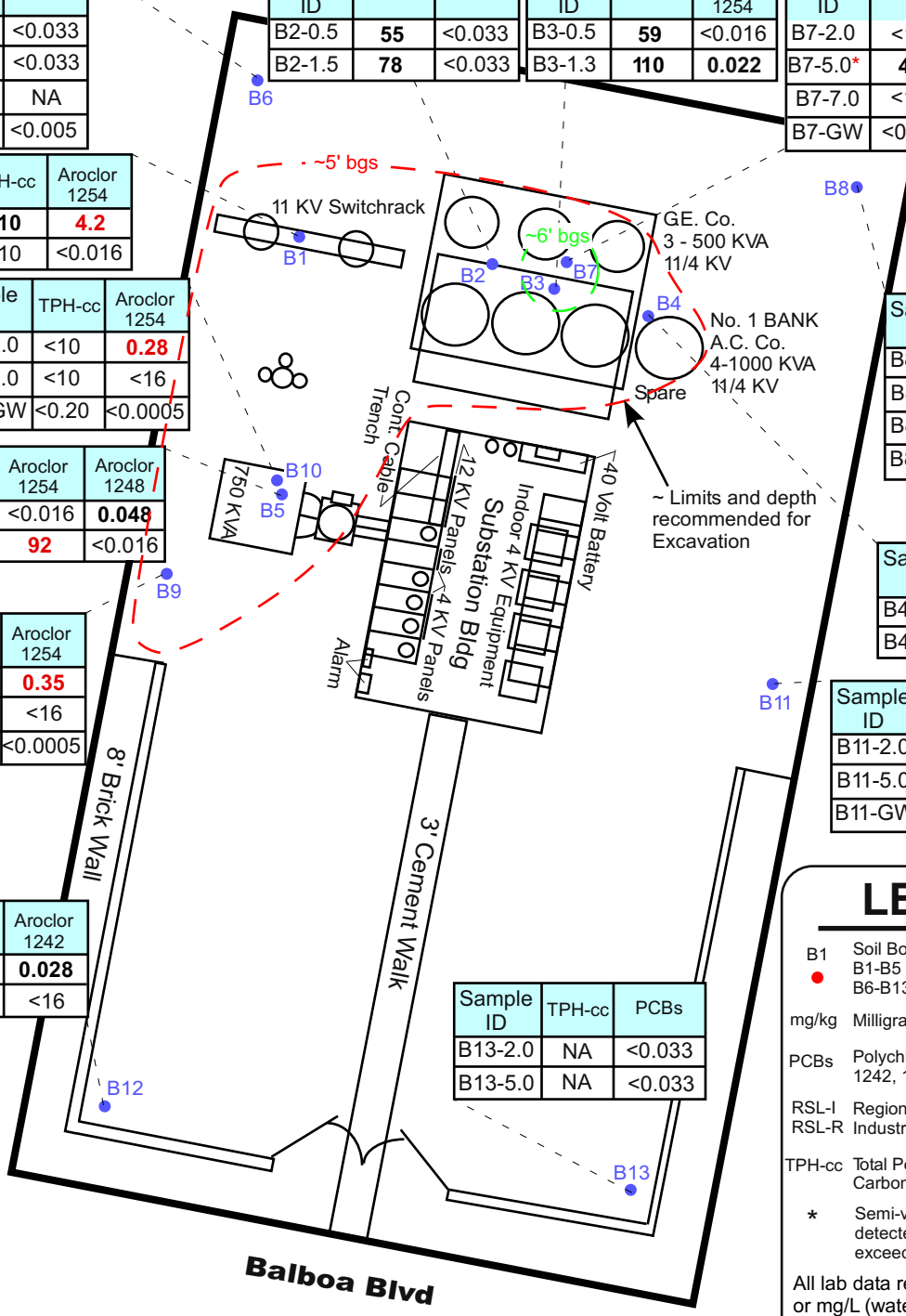
Sample ID	TPH-cc	Aroclor 1242
B12-2.0	<10	**0.028**
B12-6.0	<10	<16

Sample ID	TPH-cc	PCBs
B13-2.0	NA	<0.033
B13-5.0	NA	<0.033

Sample ID	TPH-cc	PCBs
B8-2.0	<10	<0.033
B8-5.0	<10	<0.033
B8-GW	<0.22	<0.0005
B8-Dup	<0.22	<0.0005

Sample ID	TPH-cc	Aroclor 1254
B4-0.5	**62**	<0.016
B4-1.8	**16**	**0.028**

Sample ID	TPH-cc	PCBs
B11-2.0	<10	<0.033
B11-5.0	<10	<0.033
B11-GW	<0.20	<0.0005



LEGEND

B1 ●	Soil Boring Location and ID B1-B5 advanced 3/10/2009 B6-B13 advanced 8/3/2009
mg/kg	Milligrams per Kilogram
PCBs	Polychlorinated Biphenyls. Aroclor 1242, 1248, and 1254 are PCBs.
RSL-I RSL-R	Regional Screening Level - Industrial (I), Residential (R)
TPH-cc	Total Petroleum Hydrocarbons, Carbon Chain (C8-C40)
*	Semi-volatile organic compounds detected. Benzo(a)anhracene exceeded RSL-R of 0.15 mg/kg

All lab data reported in mg/kg (soil) or mg/L (water)

Red color indicates detection above the RSL-I of 0.74 mg/kg and the RSL-R of 0.22 mg/kg for Aroclor 1242/1248/1254.

Note: All structures have been removed from the site and it is presently vacant.

Modified from Southern California Edison Map, 28067-4, Master Index: M506, Newport Beach Substation Electrical Equipment Plot Plan, Revision dated July 27, 1960. Note indicated that oil in electrical equipment was mineral oil.

SITE PLAN AND LABORATORY DATA SUMMARY

1516 West Balboa Blvd
Newport Beach, California

Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

Project No.	**602497-003**
Scale	**1"=15'**
Engr./Geol.	**MDC**
Drafted By	**MDC**
Date	**September, 2009**

Figure 3

TABLE 1: SUMMARY OF SOIL LABORATORY RESULTS

Marina Park, 1516 West Balboa Boulevard, Newport Beach, California

EPA Method	Analyte	SSLs (mg/kg)	RSL-R (mg/kg)	RSL-I (mg/kg)	Sample Results (mg/kg)																											
					B1-0.5	B1-2.0	B2-0.5	B2-1.5	B3-0.5	B3-1.3	B4-0.5	B4-1.8	B5-0.5	B5-2.0	B6-2.0	B6-5.0	B6-7.0	B7-2.0	B7-5.0	B7-7.0	B8-2.0	B8-5.0	B9-2.0	B9-6.0	B10-2.0	B10-6.0	B11-2.0	B11-5.0	B12-2.0	B12-6.0	B13-2.0*	B13-5.0*
		Date Sample Collected			03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	03/10/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09	08/03/09
8015B	Total Petroleum Hydrocarbons (TPH) (C8-C40)																															
	C8-C10	100	NL	NL	**18**	<10	**55**	**52**	**34**	**42**	**32**	<10	**26**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C10-C18	100	NL	NL	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C18-C28		NL	NL	**32**	<10	<10	**12**	**11**	**16**	**14**	**16**	<10	**28**	<10	<10	<10	<10	**21**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C28-C36	1000	NL	NL	**33**	<10	<10	**13**	**15**	**28**	**16**	<10	**13**	<10	<10	<10	<10	<10	**20**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C36-C40		NL	NL	**23**	<10	<10	<10	<10	**20**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C8-C40 Total	NL	NL	NL	**110**	<10	**55**	**78**	**59**	**110**	**62**	**16**	**40**	**28**	<10	<10	<10	<10	**41**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
8015B	TPH as gasoline (TPH-g) (C4-C12)	100			NA	NA	<1.0	<1.0	NA	<1.0	NA	NA	NA	NA	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
8082	Polychlorinated Biphenyls (PCBs)																															
	Aroclor 1016	NL	3.9	21	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1221	NL	0.17	0.62	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	NA	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033
	Aroclor 1232	NL	0.17	0.62	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1242	NL	0.22	0.74	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	**0.036**	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	**0.028**	<0.016	<0.016	<0.016
	Aroclor 1248	NL	0.22	0.74	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	**0.048**	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1254	NL	0.22	0.74	**4.2**	<0.016	<0.016	<0.016	<0.016	**0.022**	<0.016	**0.028**	<0.016	**92.0**	<0.016	<0.016	NA	**0.36**	**0.059**	<0.016	<0.016	<0.016	**0.35**	<0.016	**0.28**	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1260	NL	0.22	0.74	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1262	NL	NL	NL	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
	Aroclor 1268	NL	NL	NL	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	NA	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016
8260B/ 5035	Volatile Organic Compounds (VOCs)																															
	Benzene	0.011	1.1	5.6	NA	NA	<0.005	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
	Ethylbenzene	0.7	5.7	29.0	NA	NA	<0.005	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
	Toluene	0.2	5000	46,000	NA	NA	<0.005	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
	Total Xylenes	1.75	600	2,600	NA	NA	<0.015	<0.015	NA	<0.015	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
	All Others	NL	NL	NL	NA	NA	<0.05	<0.05	NA	<0.05	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
8270C	Semi-Volatile Organic Compounds (SVOCs) & Polyaromatic Hydrocarbons (PAHs)																															
	Acenaphthene	NL	3,400	33,000	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Anthracene	NL	17,000	170,000	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Benzo[a]anthracene	NL	0.15	2.1	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	**0.44**	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Benzo[b]fluoranthene	NL	0.15	2.1	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Benzo[k]fluoranthene	NL	1.5	21	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Benzo[a]pyrene	NL	0.015	0.21	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Chrysene	NL	15	210	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	**0.43**	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Dibenz[a,h]anthracene	NL	0.015	0.21	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Fluoranthene	NL	2,300	22,000	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	**0.47**	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Fluorene	NL	2,300	22,000	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Indeno[1,2,3-c,d]pyrene	NL	0.15	2.1	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Naphthalene	NL	3.9	20	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Phenanthrene	NL	NL	NL	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	**0.46**	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	Pyrene	NL	1,700	17,000	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	**0.76**	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA
	All Others	NL	NL	NL	<0.33	NA	NA	<0.33	NA	<0.33	NA	NA	NA	NA	NA	<0.33	NA	<0.33	<0.33	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	NA

NOTES:
mg/kg: Milligrams per kilogram or parts per million - lab results for PCBs, VOCs, and SVOCs have been converted from micrograms per kilogram µg/kg)
RSL-R: Residential Regional Screening Level, United States Environmental Protection Agency (USEPA) Region 9, April 2009
RSL-I: Industrial Regional Screening Level, United States Environmental Protection Agency (USEPA) Region 9, April 2009
Samples depicted in red equal or exceed the corresponding RSL-R or the RSL-I
SSLs: Soil Screening Levels: RWQCB, 1996, Table 4-1, Maximim Soil Screening Levels for TPH and BTEX above Drinking Water Aquifers
<0.33: Less than laboratory detection limit
NA: Not analyzed
NL: Not Listed on applicable regulatory table
* B13-2.0 and B13-5.0 were analyzed 7 days past the 14 day hold time. This is not expected to alter the conclusions or recommendations of the report

APPENDIX A

APPENDIX A

References

California Regional Water Quality Control Board (CRWQCB), 1996, Interim Site Assessment and Cleanup Guidebook, dated May 1996.

Leighton Consulting, Inc., 2009a, Revised Proposal to Perform Additional Site Assessment, Marina Park, 1516 West Balboa Boulevard, Newport Beach, California, Proposal No. P60101173, dated July 17, 2009.

Leighton Consulting, Inc., 2009b, Phase I and Phase II Environmental Site Assessment, Marina Park, 1516 West Balboa Boulevard, Newport Beach, California, Project No. 602497-001, dated April 3, 2009.

United States Department of Agriculture, 1978, Soil Conservation Service and Forest Service, Soil Survey of Orange County and Western Part Riverside County, California, dated September 1978.

United States Environmental Protection Agency (USEPA). Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. RSL Table Update. April 2009.

APPENDIX B

March 26, 2009

ACCREDITED IN ACCORDANCE WITH

Meredith Church
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614

TEL: (949) 681-4208
FAX: (949) 757-7230

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 104410

RE: Newport-SCE Parcel, 602497-001

Attention: Meredith Church

Enclosed are the results for sample(s) received on March 10, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-001

Client Sample ID: B1-0.5
Collection Date: 3/10/2009 11:10:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate:	3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	18	10		mg/Kg	1	3/17/1909 04:19 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 04:19 PM
T/R Hydrocarbons: C18-C28	32	10		mg/Kg	1	3/17/1909 04:19 PM
T/R Hydrocarbons: C28-C36	33	10		mg/Kg	1	3/17/1909 04:19 PM
T/R Hydrocarbons: C36-C40	23	10		mg/Kg	1	3/17/1909 04:19 PM
T/R Hydrocarbons: C8-C40 Total	110	10		mg/Kg	1	3/17/1909 04:19 PM
Surr: p-Terphenyl	113	57-144		%REC	1	3/17/1909 04:19 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate:	3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1254	4200	330		µg/Kg	20	3/17/2009 10:25 AM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 09:01 PM
Surr: Decachlorobiphenyl	77.6	30-124		%REC	1	3/16/2009 09:01 PM
Surr: Decachlorobiphenyl	104	30-124		%REC	20	3/17/2009 10:25 AM
Surr: Tetrachloro-m-xylene	82.3	40-118		%REC	1	3/16/2009 09:01 PM
Surr: Tetrachloro-m-xylene	71.6	40-118		%REC	20	3/17/2009 10:25 AM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042			PrepDate:	3/20/2009	Analyst: **DMP**
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
1,4-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
2,4-Dimethylphenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	3/24/2009 12:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-001

Client Sample ID: B1-0.5
Collection Date: 3/10/2009 11:10:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
2,4-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2-Chloronaphthalene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2-Chlorophenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2-Methylnaphthalene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2-Methylphenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
2-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
2-Nitrophenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	3/24/2009 12:48 AM
3-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 12:48 AM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	3/24/2009 12:48 AM
4-Chloroaniline	ND	660		µg/Kg	1	3/24/2009 12:48 AM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 12:48 AM
4-Methylphenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
4-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
4-Nitrophenol	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
Acenaphthene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Acenaphthylene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Anthracene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzidine (M)	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
Benzo(a)anthracene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzo(a)pyrene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Benzoic acid	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
Benzyl alcohol	ND	660		µg/Kg	1	3/24/2009 12:48 AM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Butylbenzylphthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Chrysene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Di-n-butylphthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-001

Client Sample ID: B1-0.5
Collection Date: 3/10/2009 11:10:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
Di-n-octylphthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Dibenzofuran	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Diethylphthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Dimethylphthalate	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Fluoranthene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Fluorene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Hexachlorobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Hexachlorobutadiene	ND	660		µg/Kg	1	3/24/2009 12:48 AM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	3/24/2009 12:48 AM
Hexachloroethane	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Isophorone	ND	330		µg/Kg	1	3/24/2009 12:48 AM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	3/24/2009 12:48 AM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Naphthalene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Nitrobenzene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Pentachlorophenol	ND	1600		µg/Kg	1	3/24/2009 12:48 AM
Phenanthrene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Phenol	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Pyrene	ND	330		µg/Kg	1	3/24/2009 12:48 AM
Surr: 1,2-Dichlorobenzene-d4	86.0	49-103		%REC	1	3/24/2009 12:48 AM
Surr: 2,4,6-Tribromophenol	0.490	47-129	S	%REC	1	3/24/2009 12:48 AM
Surr: 2-Chlorophenol-d4	22.9	54-109	S	%REC	1	3/24/2009 12:48 AM
Surr: 2-Fluorobiphenyl	108	59-108		%REC	1	3/24/2009 12:48 AM
Surr: 2-Fluorophenol	15.9	50-111	S	%REC	1	3/24/2009 12:48 AM
Surr: 4-Terphenyl-d14	112	58-135		%REC	1	3/24/2009 12:48 AM
Surr: Nitrobenzene-d5	106	54-115		%REC	1	3/24/2009 12:48 AM
Surr: Phenol-d5	69.9	58-112		%REC	1	3/24/2009 12:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-002

Client Sample ID: B1-2.0
Collection Date: 3/10/2009 11:20:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate:	3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	3/17/1909 10:56 AM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 10:56 AM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	3/17/1909 10:56 AM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	3/17/1909 10:56 AM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 10:56 AM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	3/17/1909 10:56 AM
Surr: p-Terphenyl	115	57-144		%REC	1	3/17/1909 10:56 AM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate:	3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1254	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 08:31 PM
Surr: Decachlorobiphenyl	76.6	30-124		%REC	1	3/16/2009 08:31 PM
Surr: Tetrachloro-m-xylene	84.1	40-118		%REC	1	3/16/2009 08:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-003

Client Sample ID: B2-0.5
Collection Date: 3/10/2009 11:30:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate: 3/16/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	55	10		mg/Kg	1	3/17/1909 01:38 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 01:38 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	3/17/1909 01:38 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	3/17/1909 01:38 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 01:38 PM
T/R Hydrocarbons: C8-C40 Total	55	10		mg/Kg	1	3/17/1909 01:38 PM
Surr: p-Terphenyl	111	57-144		%REC	1	3/17/1909 01:38 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090319A	QC Batch: E09VS078			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	3/19/2009 02:22 PM
Surr: Bromofluorobenzene (FID)	90.9	59-145		%REC	1	3/19/2009 02:22 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate: 3/16/2009		Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1254	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 09:30 PM
Surr: Decachlorobiphenyl	72.5	30-124		%REC	1	3/16/2009 09:30 PM
Surr: Tetrachloro-m-xylene	80.0	40-118		%REC	1	3/16/2009 09:30 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,1-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-003

Client Sample ID: B2-0.5
Collection Date: 3/10/2009 11:30:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	3/19/2009 02:35 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
2-Butanone	ND	50		µg/Kg	1	3/19/2009 02:35 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
2-Hexanone	ND	50		µg/Kg	1	3/19/2009 02:35 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
4-Methyl-2-pentanone	ND	50		µg/Kg	1	3/19/2009 02:35 PM
Acetone	ND	50		µg/Kg	1	3/19/2009 02:35 PM
Benzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Bromobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Bromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Bromoform	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Bromomethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Carbon disulfide	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Chlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Chloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Chloroform	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Chloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM

Qualifiers:
- B — Analyte detected in the associated Method Blank
- H — Holding times for preparation or analysis exceeded
- S — Spike/Surrogate outside of limits due to matrix interference
- DO — Surrogate Diluted Out
- E — Value above quantitation range
- ND — Not Detected at the Reporting Limit

Results are wet unless otherwise specified

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-003

Client Sample ID: B2-0.5
Collection Date: 3/10/2009 11:30:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Dibromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Dibromomethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Ethyl Acetate	ND	50		µg/Kg	1	3/19/2009 02:35 PM
Ethyl Ether	ND	50		µg/Kg	1	3/19/2009 02:35 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Ethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Freon-113	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Iodomethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
m,p-Xylene	ND	10		µg/Kg	1	3/19/2009 02:35 PM
Methylene chloride	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
MTBE	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Naphthalene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
o-Xylene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Styrene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Tert-Butanol	ND	100		µg/Kg	1	3/19/2009 02:35 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Toluene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
trans-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Trichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Vinyl acetate	ND	50		µg/Kg	1	3/19/2009 02:35 PM
Vinyl chloride	ND	5.0		µg/Kg	1	3/19/2009 02:35 PM
Xylenes, Total	ND	15		µg/Kg	1	3/19/2009 02:35 PM
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%REC	1	3/19/2009 02:35 PM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	3/19/2009 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B2-0.5
Lab Order:	104410	**Collection Date:**	3/10/2009 11:30:00 AM
Project:	Newport-SCE Parcel, 602497-001	**Matrix:**	SOIL
Lab ID:	104410-003		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 8260B						
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
Surr: Dibromofluoromethane	54.5	70-130	S	%REC	1	3/19/2009 02:35 PM
Surr: Toluene-d8	109	70-130		%REC	1	3/19/2009 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-004

Client Sample ID: B2-1.5
Collection Date: 3/10/2009 11:36:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate: 3/16/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	52	10		mg/Kg	1	3/17/1909 02:05 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 02:05 PM
T/R Hydrocarbons: C18-C28	12	10		mg/Kg	1	3/17/1909 02:05 PM
T/R Hydrocarbons: C28-C36	13	10		mg/Kg	1	3/17/1909 02:05 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 02:05 PM
T/R Hydrocarbons: C8-C40 Total	78	10		mg/Kg	1	3/17/1909 02:05 PM
Surr: p-Terphenyl	114	57-144		%REC	1	3/17/1909 02:05 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090319A	QC Batch: E09VS078			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	3/19/2009 02:37 PM
Surr: Bromofluorobenzene (FID)	89.0	59-145		%REC	1	3/19/2009 02:37 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate: 3/16/2009		Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1254	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 10:00 PM
Surr: Decachlorobiphenyl	84.5	30-124		%REC	1	3/16/2009 10:00 PM
Surr: Tetrachloro-m-xylene	94.3	40-118		%REC	1	3/16/2009 10:00 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,1-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM

Qualifiers:

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H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-004

Client Sample ID: B2-1.5
Collection Date: 3/10/2009 11:36:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	3/19/2009 02:53 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
2-Butanone	ND	50		µg/Kg	1	3/19/2009 02:53 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
2-Hexanone	ND	50		µg/Kg	1	3/19/2009 02:53 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
4-Methyl-2-pentanone	ND	50		µg/Kg	1	3/19/2009 02:53 PM
Acetone	ND	50		µg/Kg	1	3/19/2009 02:53 PM
Benzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Bromobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Bromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Bromoform	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Bromomethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Carbon disulfide	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Chlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Chloroethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Chloroform	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Chloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM

Qualifiers:

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-004

Client Sample ID: B2-1.5
Collection Date: 3/10/2009 11:36:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Dibromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Dibromomethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Ethyl Acetate	ND	50		µg/Kg	1	3/19/2009 02:53 PM
Ethyl Ether	ND	50		µg/Kg	1	3/19/2009 02:53 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Ethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Freon-113	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Iodomethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
m,p-Xylene	ND	10		µg/Kg	1	3/19/2009 02:53 PM
Methylene chloride	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
MTBE	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Naphthalene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
o-Xylene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Styrene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Tert-Butanol	ND	100		µg/Kg	1	3/19/2009 02:53 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Toluene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
trans-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Trichloroethene	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Vinyl acetate	ND	50		µg/Kg	1	3/19/2009 02:53 PM
Vinyl chloride	ND	5.0		µg/Kg	1	3/19/2009 02:53 PM
Xylenes, Total	ND	15		µg/Kg	1	3/19/2009 02:53 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/19/2009 02:53 PM
Surr: 4-Bromofluorobenzene	97.0	70-130		%REC	1	3/19/2009 02:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-004

Client Sample ID: B2-1.5
Collection Date: 3/10/2009 11:36:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 8260B						
RunID: MS5_090319A QC Batch: T09VS076 PrepDate: Analyst: **HH**						
Surr: Dibromofluoromethane	61.4	70-130	S	%REC	1	3/19/2009 02:53 PM
Surr: Toluene-d8	116	70-130		%REC	1	3/19/2009 02:53 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B **EPA 8270C**						
RunID: MS6_090320A QC Batch: 54042 PrepDate: 3/20/2009 Analyst: **DMP**						
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
1,4-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
2,4-Dimethylphenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2-Chloronaphthalene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2-Chlorophenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2-Methylnaphthalene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2-Methylphenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
2-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
2-Nitrophenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	3/24/2009 01:16 AM
3-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 01:16 AM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	3/24/2009 01:16 AM
4-Chloroaniline	ND	660		µg/Kg	1	3/24/2009 01:16 AM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 01:16 AM
4-Methylphenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
4-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
4-Nitrophenol	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
Acenaphthene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Acenaphthylene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Anthracene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzidine (M)	ND	1600		µg/Kg	1	3/24/2009 01:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-004

Client Sample ID: B2-1.5
Collection Date: 3/10/2009 11:36:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
Benzo(a)anthracene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzo(a)pyrene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Benzoic acid	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
Benzyl alcohol	ND	660		µg/Kg	1	3/24/2009 01:16 AM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Butylbenzylphthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Chrysene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Di-n-butylphthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Di-n-octylphthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Dibenzofuran	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Diethylphthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Dimethylphthalate	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Fluorene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Hexachlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Hexachlorobutadiene	ND	660		µg/Kg	1	3/24/2009 01:16 AM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	3/24/2009 01:16 AM
Hexachloroethane	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Isophorone	ND	330		µg/Kg	1	3/24/2009 01:16 AM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	3/24/2009 01:16 AM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Naphthalene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Nitrobenzene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Pentachlorophenol	ND	1600		µg/Kg	1	3/24/2009 01:16 AM
Phenanthrene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Phenol	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Pyrene	ND	330		µg/Kg	1	3/24/2009 01:16 AM
Surr: 1,2-Dichlorobenzene-d4	74.0	49-103		%REC	1	3/24/2009 01:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B2-1.5
Lab Order:	104410	**Collection Date:**	3/10/2009 11:36:00 AM
Project:	Newport-SCE Parcel, 602497-001	**Matrix:**	SOIL
Lab ID:	104410-004		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
Surr: 2,4,6-Tribromophenol	1.45	47-129	S	%REC	1	3/24/2009 01:16 AM
Surr: 2-Chlorophenol-d4	11.9	54-109	S	%REC	1	3/24/2009 01:16 AM
Surr: 2-Fluorobiphenyl	97.3	59-108		%REC	1	3/24/2009 01:16 AM
Surr: 2-Fluorophenol	6.93	50-111	S	%REC	1	3/24/2009 01:16 AM
Surr: 4-Terphenyl-d14	108	58-135		%REC	1	3/24/2009 01:16 AM
Surr: Nitrobenzene-d5	92.2	54-115		%REC	1	3/24/2009 01:16 AM
Surr: Phenol-d5	41.9	58-112	S	%REC	1	3/24/2009 01:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-005

Client Sample ID: B3-0.5
Collection Date: 3/10/2009 11:43:00 AM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868				PrepDate: 3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	34	10		mg/Kg	1	3/17/1909 01:11 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 01:11 PM
T/R Hydrocarbons: C18-C28	11	10		mg/Kg	1	3/17/1909 01:11 PM
T/R Hydrocarbons: C28-C36	15	10		mg/Kg	1	3/17/1909 01:11 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 01:11 PM
T/R Hydrocarbons: C8-C40 Total	59	10		mg/Kg	1	3/17/1909 01:11 PM
Surr: p-Terphenyl	110	57-144		%REC	1	3/17/1909 01:11 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874				PrepDate: 3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1254	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 10:30 PM
Surr: Decachlorobiphenyl	80.5	30-124		%REC	1	3/16/2009 10:30 PM
Surr: Tetrachloro-m-xylene	87.5	40-118		%REC	1	3/16/2009 10:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-006

Client Sample ID: B3-1.3
Collection Date: 3/10/2009 1:12:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate: 3/16/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	42	10		mg/Kg	1	3/17/1909 02:58 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 02:58 PM
T/R Hydrocarbons: C18-C28	16	10		mg/Kg	1	3/17/1909 02:58 PM
T/R Hydrocarbons: C28-C36	28	10		mg/Kg	1	3/17/1909 02:58 PM
T/R Hydrocarbons: C36-C40	20	10		mg/Kg	1	3/17/1909 02:58 PM
T/R Hydrocarbons: C8-C40 Total	110	10		mg/Kg	1	3/17/1909 02:58 PM
Surr: p-Terphenyl	108	57-144		%REC	1	3/17/1909 02:58 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090319A	QC Batch: E09VS078			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	3/19/2009 02:51 PM
Surr: Bromofluorobenzene (FID)	90.6	59-145		%REC	1	3/19/2009 02:51 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate: 3/16/2009		Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1254	22	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 10:59 PM
Surr: Decachlorobiphenyl	75.4	30-124		%REC	1	3/16/2009 10:59 PM
Surr: Tetrachloro-m-xylene	76.9	40-118		%REC	1	3/16/2009 10:59 PM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,1-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-006

Client Sample ID: B3-1.3
Collection Date: 3/10/2009 1:12:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
1,1-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	3/19/2009 03:11 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
2-Butanone	ND	50		µg/Kg	1	3/19/2009 03:11 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
2-Hexanone	ND	50		µg/Kg	1	3/19/2009 03:11 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
4-Methyl-2-pentanone	ND	50		µg/Kg	1	3/19/2009 03:11 PM
Acetone	ND	50		µg/Kg	1	3/19/2009 03:11 PM
Benzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Bromobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Bromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Bromoform	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Bromomethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Carbon disulfide	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Chlorobenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Chloroethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Chloroform	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Chloromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM

Qualifiers:
- B — Analyte detected in the associated Method Blank
- H — Holding times for preparation or analysis exceeded
- S — Spike/Surrogate outside of limits due to matrix interference
- DO — Surrogate Diluted Out
- E — Value above quantitation range
- ND — Not Detected at the Reporting Limit

Results are wet unless otherwise specified

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-006

Client Sample ID: B3-1.3
Collection Date: 3/10/2009 1:12:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				**EPA 8260B**		
RunID: MS5_090319A	QC Batch: T09VS076			PrepDate:		Analyst: **HH**
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Dibromochloromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Dibromomethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Ethyl Acetate	ND	50		µg/Kg	1	3/19/2009 03:11 PM
Ethyl Ether	ND	50		µg/Kg	1	3/19/2009 03:11 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Ethylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Freon-113	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Iodomethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
m,p-Xylene	ND	10		µg/Kg	1	3/19/2009 03:11 PM
Methylene chloride	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
MTBE	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Naphthalene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
o-Xylene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Styrene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Tert-Butanol	ND	100		µg/Kg	1	3/19/2009 03:11 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Toluene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
trans-1,3-Dichloropropene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Trichloroethene	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Vinyl acetate	ND	50		µg/Kg	1	3/19/2009 03:11 PM
Vinyl chloride	ND	5.0		µg/Kg	1	3/19/2009 03:11 PM
Xylenes, Total	ND	15		µg/Kg	1	3/19/2009 03:11 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	3/19/2009 03:11 PM
Surr: 4-Bromofluorobenzene	93.8	70-130		%REC	1	3/19/2009 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-006

Client Sample ID: B3-1.3
Collection Date: 3/10/2009 1:12:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 8260B						
RunID: MS5_090319A QC Batch: T09VS076 PrepDate: Analyst: **HH**						
Surr: Dibromofluoromethane	60.5	70-130	S	%REC	1	3/19/2009 03:11 PM
Surr: Toluene-d8	112	70-130		%REC	1	3/19/2009 03:11 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B **EPA 8270C**						
RunID: MS6_090320A QC Batch: 54042 PrepDate: 3/20/2009 Analyst: **DMP**						
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
1,4-Dichlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
2,4-Dimethylphenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2-Chloronaphthalene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2-Chlorophenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2-Methylnaphthalene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2-Methylphenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
2-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
2-Nitrophenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	3/24/2009 01:43 AM
3-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 01:43 AM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	3/24/2009 01:43 AM
4-Chloroaniline	ND	660		µg/Kg	1	3/24/2009 01:43 AM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	3/24/2009 01:43 AM
4-Methylphenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
4-Nitroaniline	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
4-Nitrophenol	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
Acenaphthene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Acenaphthylene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Anthracene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzidine (M)	ND	1600		µg/Kg	1	3/24/2009 01:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-006

Client Sample ID: B3-1.3
Collection Date: 3/10/2009 1:12:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
Benzo(a)anthracene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzo(a)pyrene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Benzoic acid	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
Benzyl alcohol	ND	660		µg/Kg	1	3/24/2009 01:43 AM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Butylbenzylphthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Chrysene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Di-n-butylphthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Di-n-octylphthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Dibenzofuran	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Diethylphthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Dimethylphthalate	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Fluoranthene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Fluorene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Hexachlorobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Hexachlorobutadiene	ND	660		µg/Kg	1	3/24/2009 01:43 AM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	3/24/2009 01:43 AM
Hexachloroethane	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Isophorone	ND	330		µg/Kg	1	3/24/2009 01:43 AM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	3/24/2009 01:43 AM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Naphthalene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Nitrobenzene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Pentachlorophenol	ND	1600		µg/Kg	1	3/24/2009 01:43 AM
Phenanthrene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Phenol	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Pyrene	ND	330		µg/Kg	1	3/24/2009 01:43 AM
Surr: 1,2-Dichlorobenzene-d4	67.4	49-103		%REC	1	3/24/2009 01:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B3-1.3
Lab Order:	104410	**Collection Date:**	3/10/2009 1:12:00 PM
Project:	Newport-SCE Parcel, 602497-001	**Matrix:**	SOIL
Lab ID:	104410-006		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090320A	QC Batch: 54042				PrepDate: 3/20/2009	Analyst: **DMP**
Surr: 2,4,6-Tribromophenol	1.21	47-129	S	%REC	1	3/24/2009 01:43 AM
Surr: 2-Chlorophenol-d4	15.9	54-109	S	%REC	1	3/24/2009 01:43 AM
Surr: 2-Fluorobiphenyl	90.3	59-108		%REC	1	3/24/2009 01:43 AM
Surr: 2-Fluorophenol	9.99	50-111	S	%REC	1	3/24/2009 01:43 AM
Surr: 4-Terphenyl-d14	97.7	58-135		%REC	1	3/24/2009 01:43 AM
Surr: Nitrobenzene-d5	85.9	54-115		%REC	1	3/24/2009 01:43 AM
Surr: Phenol-d5	47.0	58-112	S	%REC	1	3/24/2009 01:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-007

Client Sample ID: B4-0.5
Collection Date: 3/10/2009 12:15:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate:	3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	32	10		mg/Kg	1	3/17/1909 12:17 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 12:17 PM
T/R Hydrocarbons: C18-C28	14	10		mg/Kg	1	3/17/1909 12:17 PM
T/R Hydrocarbons: C28-C36	16	10		mg/Kg	1	3/17/1909 12:17 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 12:17 PM
T/R Hydrocarbons: C8-C40 Total	62	10		mg/Kg	1	3/17/1909 12:17 PM
Surr: p-Terphenyl	112	57-144		%REC	1	3/17/1909 12:17 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate:	3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1254	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 11:29 PM
Surr: Decachlorobiphenyl	72.9	30-124		%REC	1	3/16/2009 11:29 PM
Surr: Tetrachloro-m-xylene	77.0	40-118		%REC	1	3/16/2009 11:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-008

Client Sample ID: B4-1.8
Collection Date: 3/10/2009 12:30:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868			PrepDate:	3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	3/17/1909 12:45 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 12:45 PM
T/R Hydrocarbons: C18-C28	16	10		mg/Kg	1	3/17/1909 12:45 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	3/17/1909 12:45 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 12:45 PM
T/R Hydrocarbons: C8-C40 Total	16	10		mg/Kg	1	3/17/1909 12:45 PM
Surr: p-Terphenyl	114	57-144		%REC	1	3/17/1909 12:45 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874			PrepDate:	3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1221	ND	33		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1232	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1242	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1248	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1254	28	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1260	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1262	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Aroclor 1268	ND	16		µg/Kg	1	3/16/2009 11:59 PM
Surr: Decachlorobiphenyl	80.6	30-124		%REC	1	3/16/2009 11:59 PM
Surr: Tetrachloro-m-xylene	87.3	40-118		%REC	1	3/16/2009 11:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-009

Client Sample ID: B5-0.5
Collection Date: 3/10/2009 12:45:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC8_090317A	QC Batch: 53868				PrepDate: 3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	26	10		mg/Kg	1	3/17/1909 11:50 AM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 11:50 AM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	3/17/1909 11:50 AM
T/R Hydrocarbons: C28-C36	13	10		mg/Kg	1	3/17/1909 11:50 AM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 11:50 AM
T/R Hydrocarbons: C8-C40 Total	40	10		mg/Kg	1	3/17/1909 11:50 AM
Surr: p-Terphenyl	113	57-144		%REC	1	3/17/1909 11:50 AM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090316B	QC Batch: 53874				PrepDate: 3/16/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1221	ND	33		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1232	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1242	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1248	48	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1254	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1260	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1262	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Aroclor 1268	ND	16		µg/Kg	1	3/17/2009 12:29 AM
Surr: Decachlorobiphenyl	78.7	30-124		%REC	1	3/17/2009 12:29 AM
Surr: Tetrachloro-m-xylene	85.2	40-118		%REC	1	3/17/2009 12:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Mar-09*

CLIENT: Leighton Consulting, Inc.
Lab Order: 104410
Project: Newport-SCE Parcel, 602497-001
Lab ID: 104410-010

Client Sample ID: B5-2.0
Collection Date: 3/10/2009 12:55:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT			**EPA 8015B(M)**			
RunID: GC8_090317A	QC Batch: 53868			PrepDate:	3/16/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	3/17/1909 11:24 AM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	3/17/1909 11:24 AM
T/R Hydrocarbons: C18-C28	28	10		mg/Kg	1	3/17/1909 11:24 AM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	3/17/1909 11:24 AM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	3/17/1909 11:24 AM
T/R Hydrocarbons: C8-C40 Total	28	10		mg/Kg	1	3/17/1909 11:24 AM
Surr: p-Terphenyl	107	57-144		%REC	1	3/17/1909 11:24 AM
PCBS BY GC/ECD						
EPA 3550B			**EPA 8082**			
RunID: GC5_090317B	QC Batch: 53914			PrepDate:	3/17/2009	Analyst: **HL**
Aroclor 1016	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1221	ND	33		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1232	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1242	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1248	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1254	92000	8200		µg/Kg	500	3/17/2009 05:01 PM
Aroclor 1260	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1262	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Aroclor 1268	ND	16		µg/Kg	1	3/17/2009 03:31 PM
Surr: Decachlorobiphenyl	127	30-124	S	%REC	1	3/17/2009 03:31 PM
Surr: Decachlorobiphenyl	0	30-124	SDO	%REC	500	3/17/2009 05:01 PM
Surr: Tetrachloro-m-xylene	0	40-118	SDO	%REC	500	3/17/2009 05:01 PM
Surr: Tetrachloro-m-xylene	85.5	40-118		%REC	1	3/17/2009 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **MB-53874** SampType: **MBLK** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/16/2009** RunNo: **106929**
Client ID: **PBS** Batch ID: **53874** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/16/2009** SeqNo: **1674089**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Aroclor 1262	ND	16									
Aroclor 1268	ND	16									
Surr: Decachlorobiphenyl	11.022		16.67		66.1	30	124				
Surr: Tetrachloro-m-xylene	12.924		16.67		77.5	40	118				

Sample ID: **LCS-53874** SampType: **LCS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/16/2009** RunNo: **106929**
Client ID: **LCSS** Batch ID: **53874** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/16/2009** SeqNo: **1674090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	118.453	16	166.7	0	71.1	56	113				
Aroclor 1260	122.869	16	166.7	0	73.7	58	111				
Surr: Decachlorobiphenyl	11.462		16.67		68.8	30	124				
Surr: Tetrachloro-m-xylene	12.915		16.67		77.5	40	118				

Sample ID: **104410-002AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/16/2009** RunNo: **106929**
Client ID: **B1-2.0** Batch ID: **53874** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/16/2009** SeqNo: **1674091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	134.792	16	166.7	0	80.9	51	111				
Aroclor 1260	148.574	16	166.7	0	89.1	39	123				
Surr: Decachlorobiphenyl	13.666		16.67		82.0	30	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **104410-002AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/16/2009** RunNo: **106929**
Client ID: **B1-2.0** Batch ID: **53874** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/16/2009** SeqNo: **1674091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	15.112		16.67		90.7	40	118				

Sample ID: **104410-002AMSD** SampType: **MSD** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/16/2009** RunNo: **106929**
Client ID: **B1-2.0** Batch ID: **53874** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/16/2009** SeqNo: **1674092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	133.346	16	166.7	0	80.0	51	111	134.8	1.08	20	
Aroclor 1260	146.506	16	166.7	0	87.9	39	123	148.6	1.40	20	
Surr: Decachlorobiphenyl	13.647		16.67		81.9	30	124		0	0	
Surr: Tetrachloro-m-xylene	15.021		16.67		90.1	40	118		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **MB-53914** SampType: **MBLK** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **PBS** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Aroclor 1262	ND	16									
Aroclor 1268	ND	16									
Surr: Decachlorobiphenyl	11.579		16.67		69.5	30	124				
Surr: Tetrachloro-m-xylene	13.256		16.67		79.5	40	118				

Sample ID: **LCS-53914** SampType: **LCS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **LCSS** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	122.269	16	166.7	0	73.4	56	113				
Aroclor 1260	129.342	16	166.7	0	77.6	58	111				
Surr: Decachlorobiphenyl	11.913		16.67		71.5	30	124				
Surr: Tetrachloro-m-xylene	13.275		16.67		79.6	40	118				

Sample ID: **104410-010AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **B5-2.0** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	26.298		16.67		158	30	124				S
Surr: Tetrachloro-m-xylene	14.625		16.67		87.7	40	118				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **104410-010AMSD** SampType: **MSD** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **B5-2.0** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	25.862		16.67		155	30	124		0	0	S
Surr: Tetrachloro-m-xylene	14.722		16.67		88.3	40	118		0	0	

Sample ID: **104410-010AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **B5-2.0** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	8200	166.7	0	0	51	111				SDO
Aroclor 1260	ND	8200	166.7	0	0	39	123				SDO
Surr: Decachlorobiphenyl	0		16.67		0	30	124				SDO
Surr: Tetrachloro-m-xylene	0		16.67		0	40	118				SDO

Sample ID: **104410-010AMSD** SampType: **MSD** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **3/17/2009** RunNo: **107004**
Client ID: **B5-2.0** Batch ID: **53914** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **3/17/2009** SeqNo: **1675816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	8200	166.7	0	0	51	111	929.3	0	20	SDO
Aroclor 1260	ND	8200	166.7	0	0	39	123	0	0	20	SDO
Surr: Decachlorobiphenyl	0		16.67		0	30	124		0	0	SDO
Surr: Tetrachloro-m-xylene	0		16.67		0	40	118		0	0	SDO

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **T090319LC2** SampType: **LCS** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **LCSS** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	49.790	5.0	50.00	0	99.6	70	130				
Benzene	88.860	5.0	100.0	0	88.9	70	130				
Chlorobenzene	47.350	5.0	50.00	0	94.7	70	130				
MTBE	47.590	5.0	50.00	0	95.2	70	130				
Toluene	91.600	5.0	100.0	0	91.6	70	130				
Trichloroethene	45.460	5.0	50.00	0	90.9	70	130				
Surr: 1,2-Dichloroethane-d4	42.860		50.00		85.7	70	130				
Surr: 4-Bromofluorobenzene	48.610		50.00		97.2	70	130				
Surr: Dibromofluoromethane	49.730		50.00		99.5	70	130				
Surr: Toluene-d8	50.880		50.00		102	70	130				

Sample ID: **T090319MB2MS** SampType: **MS** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **ZZZZZZ** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	51.820	5.0	50.00	0	104	70	130				
Benzene	102.540	5.0	100.0	0	103	70	130				
Chlorobenzene	52.460	5.0	50.00	0	105	70	130				
MTBE	51.090	5.0	50.00	0	102	70	130				
Toluene	104.980	5.0	100.0	0	105	70	130				
Trichloroethene	51.030	5.0	50.00	0	102	70	130				
Surr: 1,2-Dichloroethane-d4	44.530		50.00		89.1	70	130				
Surr: 4-Bromofluorobenzene	51.740		50.00		103	70	130				
Surr: Dibromofluoromethane	50.690		50.00		101	70	130				
Surr: Toluene-d8	54.990		50.00		110	70	130				

Sample ID: **T090319MB2MSD** SampType: **MSD** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **ZZZZZZ** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **T090319MB2MSD** SampType: **MSD** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **ZZZZZZ** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	51.330	5.0	50.00	0	103	70	130	51.82	0.950	20	
Benzene	102.480	5.0	100.0	0	102	70	130	102.5	0.0585	20	
Chlorobenzene	51.590	5.0	50.00	0	103	70	130	52.46	1.67	20	
MTBE	52.560	5.0	50.00	0	105	70	130	51.09	2.84	20	
Toluene	103.000	5.0	100.0	0	103	70	130	105.0	1.90	20	
Trichloroethene	50.040	5.0	50.00	0	100	70	130	51.03	1.96	20	
Surr: 1,2-Dichloroethane-d4	44.350		50.00		88.7	70	130		0	20	
Surr: 4-Bromofluorobenzene	51.240		50.00		102	70	130		0	20	
Surr: Dibromofluoromethane	52.140		50.00		104	70	130		0	20	
Surr: Toluene-d8	54.910		50.00		110	70	130		0	20	

Sample ID: **T090319MB2** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **PBS** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **T090319MB2** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **PBS** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Butanone	ND	50									
2-Chlorotoluene	ND	5.0									
2-Hexanone	ND	50									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
4-Methyl-2-pentanone	ND	50									
Acetone	ND	50									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromochloromethane	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon disulfide	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0									
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Di-isopropyl ether	ND	5.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **T090319MB2** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **PBS** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	5.0									
Ethyl Acetate	ND	50									
Ethyl Ether	ND	50									
Ethyl Tert-butyl ether	ND	5.0									
Ethylbenzene	ND	5.0									
Freon-113	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Iodomethane	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	10									
Methylene chloride	ND	5.0									
MTBE	ND	5.0									
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
Tert-amyl methyl ether	ND	5.0									
Tert-Butanol	ND	100									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
trans-1,3-Dichloropropene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl acetate	ND	50									
Vinyl chloride	ND	5.0									
Xylenes, Total	ND	15									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **T090319MB2** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **107234**
Client ID: **PBS** Batch ID: **T09VS076** TestNo: **EPA 8260B** Analysis Date: **3/19/2009** SeqNo: **1679400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	45.950		50.00		91.9	70	130				
Surr: 4-Bromofluorobenzene	48.740		50.00		97.5	70	130				
Surr: Dibromofluoromethane	52.540		50.00		105	70	130				
Surr: Toluene-d8	53.290		50.00		107	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-54042** SampType: **MBLK** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **PBS** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330									
1,2-Dichlorobenzene	ND	330									
1,3-Dichlorobenzene	ND	330									
1,4-Dichlorobenzene	ND	330									
2,4,5-Trichlorophenol	ND	330									
2,4,6-Trichlorophenol	ND	330									
2,4-Dichlorophenol	ND	1600									
2,4-Dimethylphenol	ND	330									
2,4-Dinitrophenol	ND	1600									
2,4-Dinitrotoluene	ND	330									
2,6-Dinitrotoluene	ND	330									
2-Chloronaphthalene	ND	330									
2-Chlorophenol	ND	330									
2-Methylnaphthalene	ND	330									
2-Methylphenol	ND	330									
2-Nitroaniline	ND	1600									
2-Nitrophenol	ND	330									
3,3´-Dichlorobenzidine	ND	660									
3-Nitroaniline	ND	1600									
4,6-Dinitro-2-methylphenol	ND	1600									
4-Bromophenyl-phenylether	ND	330									
4-Chloro-3-methylphenol	ND	660									
4-Chloroaniline	ND	660									
4-Chlorophenyl-phenylether	ND	330									
4-Methylphenol	ND	330									
4-Nitroaniline	ND	1600									
4-Nitrophenol	ND	1600									
Acenaphthene	ND	330									
Acenaphthylene	ND	330									
Anthracene	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-54042**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **3/20/2009**	RunNo: **107270**
Client ID: **PBS**	Batch ID: **54042**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **3/23/2009**	SeqNo: **1680777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzidine (M)	ND	1600									
Benzo(a)anthracene	ND	330									
Benzo(a)pyrene	ND	330									
Benzo(b)fluoranthene	ND	330									
Benzo(g,h,i)perylene	ND	330									
Benzo(k)fluoranthene	ND	330									
Benzoic acid	ND	1600									
Benzyl alcohol	ND	660									
Bis(2-chloroethoxy)methane	ND	330									
Bis(2-chloroethyl)ether	ND	330									
Bis(2-chloroisopropyl)ether	ND	330									
Bis(2-ethylhexyl)phthalate	ND	330									
Butylbenzylphthalate	ND	330									
Chrysene	ND	330									
Di-n-butylphthalate	ND	330									
Di-n-octylphthalate	ND	330									
Dibenz(a,h)anthracene	ND	330									
Dibenzofuran	ND	330									
Diethylphthalate	ND	330									
Dimethylphthalate	ND	330									
Fluoranthene	ND	330									
Fluorene	ND	330									
Hexachlorobenzene	ND	330									
Hexachlorobutadiene	ND	660									
Hexachlorocyclopentadiene	ND	660									
Hexachloroethane	ND	330									
Indeno(1,2,3-cd)pyrene	ND	330									
Isophorone	ND	330									
N-Nitrosodi-n-propylamine	ND	330									
N-Nitrosodiphenylamine	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-54042** SampType: **MBLK** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **PBS** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	330									
Nitrobenzene	ND	330									
Pentachlorophenol	ND	1600									
Phenanthrene	ND	330									
Phenol	ND	330									
Pyrene	ND	330									
Surr: 1,2-Dichlorobenzene-d4	3005.000		3330		90.2	49	103				
Surr: 2,4,6-Tribromophenol	3380.333		3330		102	47	129				
Surr: 2-Chlorophenol-d4	3199.000		3330		96.1	54	109				
Surr: 2-Fluorobiphenyl	3513.000		3330		105	59	108				
Surr: 2-Fluorophenol	3104.333		3330		93.2	50	111				
Surr: 4-Terphenyl-d14	3693.000		3330		111	58	135				
Surr: Nitrobenzene-d5	3581.000		3330		108	54	115				
Surr: Phenol-d5	3308.333		3330		99.3	58	112				

Sample ID: **LCS-54042** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **LCSS** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	3050.000	330	3330	0	91.6	61	107				
1,4-Dichlorobenzene	2890.667	330	3330	0	86.8	56	100				
2,4-Dinitrotoluene	3327.667	330	3330	0	99.9	72	130				
2-Chlorophenol	3008.667	330	3330	0	90.4	64	105				
4-Chloro-3-methylphenol	3560.000	660	3330	0	107	74	125				
4-Nitrophenol	4197.000	1600	3330	0	126	77	137				
Acenaphthene	3419.333	330	3330	0	103	63	117				
N-Nitrosodi-n-propylamine	3594.000	330	3330	0	108	71	121				
Pentachlorophenol	3133.667	1600	3330	0	94.1	69	125				
Phenol	3342.000	330	3330	0	100	67	111				
Pyrene	3164.333	330	3330	0	95.0	60	122				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **LCS-54042** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **LCSS** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1,2-Dichlorobenzene-d4	2811.000		3330		84.4	49	103				
Surr: 2,4,6-Tribromophenol	3668.000		3330		110	47	129				
Surr: 2-Chlorophenol-d4	2943.333		3330		88.4	54	109				
Surr: 2-Fluorobiphenyl	3525.667		3330		106	59	108				
Surr: 2-Fluorophenol	2836.000		3330		85.2	50	111				
Surr: 4-Terphenyl-d14	3115.333		3330		93.6	58	135				
Surr: Nitrobenzene-d5	3325.667		3330		99.9	54	115				
Surr: Phenol-d5	3112.000		3330		93.5	58	112				

Sample ID: **104519-002AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **ZZZZZZ** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	3014.667	330	3330	0	90.5	60	105				
1,4-Dichlorobenzene	2830.667	330	3330	0	85.0	50	99				
2,4-Dinitrotoluene	3313.667	330	3330	0	99.5	70	130				
2-Chlorophenol	3153.333	330	3330	0	94.7	58	107				
4-Chloro-3-methylphenol	3626.667	660	3330	0	109	72	124				
4-Nitrophenol	4299.000	1600	3330	0	129	69	139				
Acenaphthene	3496.333	330	3330	0	105	59	118				
N-Nitrosodi-n-propylamine	3697.667	330	3330	0	111	61	125				
Pentachlorophenol	3311.667	1600	3330	0	99.4	56	131				
Phenol	3493.000	330	3330	0	105	60	113				
Pyrene	3089.667	330	3330	0	92.8	51	130				
Surr: 1,2-Dichlorobenzene-d4	2772.667		3330		83.3	49	103				
Surr: 2,4,6-Tribromophenol	3732.667		3330		112	47	129				
Surr: 2-Chlorophenol-d4	3081.000		3330		92.5	54	109				
Surr: 2-Fluorobiphenyl	3534.667		3330		106	59	108				
Surr: 2-Fluorophenol	2949.667		3330		88.6	50	111				
Surr: 4-Terphenyl-d14	3223.333		3330		96.8	58	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **104519-002AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **ZZZZZZ** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	3338.667		3330		100	54	115				
Surr: Phenol-d5	3219.000		3330		96.7	58	112				

Sample ID: **104519-002AMSD** SampType: **MSD** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **3/20/2009** RunNo: **107270**
Client ID: **ZZZZZZ** Batch ID: **54042** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **3/23/2009** SeqNo: **1680780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	3272.333	330	3330	0	98.3	60	105	3015	8.20	20	
1,4-Dichlorobenzene	3069.000	330	3330	0	92.2	50	99	2831	8.08	20	
2,4-Dinitrotoluene	3606.333	330	3330	0	108	70	130	3314	8.46	20	
2-Chlorophenol	3368.333	330	3330	0	101	58	107	3153	6.59	20	
4-Chloro-3-methylphenol	3870.667	660	3330	0	116	72	124	3627	6.51	20	
4-Nitrophenol	4482.000	1600	3330	0	135	69	139	4299	4.17	20	
Acenaphthene	3845.333	330	3330	0	115	59	118	3496	9.51	20	
N-Nitrosodi-n-propylamine	3928.333	330	3330	0	118	61	125	3698	6.05	20	
Pentachlorophenol	3613.000	1600	3330	0	108	56	131	3312	8.70	20	
Phenol	3744.333	330	3330	0	112	60	113	3493	6.95	20	
Pyrene	3367.000	330	3330	0	101	51	130	3090	8.59	20	
Surr: 1,2-Dichlorobenzene-d4	2990.000		3330		89.8	49	103		0	0	
Surr: 2,4,6-Tribromophenol	3932.667		3330		118	47	129		0	0	
Surr: 2-Chlorophenol-d4	3271.000		3330		98.2	54	109		0	0	
Surr: 2-Fluorobiphenyl	3877.333		3330		116	59	108		0	0	S
Surr: 2-Fluorophenol	3172.667		3330		95.3	50	111		0	0	
Surr: 4-Terphenyl-d14	3450.667		3330		104	58	135		0	0	
Surr: Nitrobenzene-d5	3580.333		3330		108	54	115		0	0	
Surr: Phenol-d5	3431.000		3330		103	58	112		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_S_ATL

Sample ID: **MB-53868** SampType: **MBLK** TestCode: **HC_S_ATL** Units: **mg/Kg** Prep Date: **3/16/2009** RunNo: **107003**
Client ID: **PBS** Batch ID: **53868** TestNo: **EPA 8015B(M LUFT** Analysis Date: **3/17/1909** SeqNo: **1675387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C8-C10	ND	10									
T/R Hydrocarbons: C10-C18	ND	10									
T/R Hydrocarbons: C18-C28	ND	10									
T/R Hydrocarbons: C28-C36	ND	10									
T/R Hydrocarbons: C36-C40	ND	10									
T/R Hydrocarbons: C8-C40 Total	ND	10									
Surr: p-Terphenyl	78.681		80.00		98.4	57	144				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_S_VOAC4C12

Sample ID: **E090319MB1** SampType: **MBLK** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **107164**
Client ID: **PBS** Batch ID: **E09VS078** TestNo: **EPA 8015B** Analysis Date: **3/19/2009** SeqNo: **1678173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	ND	1.0									
Surr: Bromofluorobenzene (FID)	86.207		100.0		86.2	59	145				

Sample ID: **104410-006AMS** SampType: **MS** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **107164**
Client ID: **B3-1.3** Batch ID: **E09VS078** TestNo: **EPA 8015B** Analysis Date: **3/19/2009** SeqNo: **1678177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.481	1.0	5.000	0	89.6	39	135				
Surr: Bromofluorobenzene (FID)	104.104		100.0		104	59	145				

Sample ID: **104410-006AMSD** SampType: **MSD** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **107164**
Client ID: **B3-1.3** Batch ID: **E09VS078** TestNo: **EPA 8015B** Analysis Date: **3/19/2009** SeqNo: **1678178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.455	1.0	5.000	0	89.1	39	135	4.481	0.582	20	
Surr: Bromofluorobenzene (FID)	104.796		100.0		105	59	145		0	0	

Sample ID: **E090319LCS1** SampType: **LCS** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **107164**
Client ID: **LCSS** Batch ID: **E09VS078** TestNo: **EPA 8015B** Analysis Date: **3/19/2009** SeqNo: **1678179**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.784	1.0	5.000	0	95.7	73	120				
Surr: Bromofluorobenzene (FID)	90.156		100.0		90.2	59	145				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 104410
Project: Newport-SCE Parcel, 602497-001

ANALYTICAL QC SUMMARY REPORT

BatchID: 53868

Sample ID: **LCS-53868** SampType: **LCS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **3/16/2009** RunNo: **107003**
Client ID: **LCSS** Batch ID: **53868** TestNo: **EPA 8015B(M LUFT** Analysis Date: **3/17/1909** SeqNo: **1675383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1021.900	10	1000	0	102	81	128				
Surr: p-Terphenyl	89.756		80.00		112	57	144				

Sample ID: **104410-009AMS** SampType: **MS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **3/16/2009** RunNo: **107003**
Client ID: **B5-0.5** Batch ID: **53868** TestNo: **EPA 8015B(M LUFT** Analysis Date: **3/17/1909** SeqNo: **1675385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1089.485	10	1000	11.74	108	58	145				
Surr: p-Terphenyl	97.132		80.00		121	57	144				

Sample ID: **104410-009AMSD** SampType: **MSD** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **3/16/2009** RunNo: **107003**
Client ID: **B5-0.5** Batch ID: **53868** TestNo: **EPA 8015B(M LUFT** Analysis Date: **3/17/1909** SeqNo: **1675386**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1057.622	10	1000	11.74	105	58	145	1089	2.97	20	
Surr: p-Terphenyl	91.527		80.00		114	57	144		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

August 12, 2009

Meredith Church
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
TEL: (949) 681-4208
FAX: (949) 757-7230

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 106685

RE: SCE Newport, 602497-003

Attention: Meredith Church

Enclosed are the results for sample(s) received on August 03, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

CASE NARRATIVE

Analytical Comments for EPA 8015B(M) (C8-C40)

Samples 106654-001AMS and 106654-001AMSD. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Sample 106654-001AMSD, RPD for Matrix Spike Duplicate (MSD) is outside criteria; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Analytical Comments for EPA 8260B

Sample 106685-006A, surrogate recovery biased low possibly due to matrix interferences.

Samples 106685-006AMS and 106685-006AMSD, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

Analytical Comments for EPA 8270C

Sample 106685-006A, surrogate recovery biased low possibly due to matrix interferences.

Advanced Technology Laboratories
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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:03:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-001A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 07:23 PM
Surr: Bromofluorobenzene (FID)	85.4	71-130		%REC	1	8/4/2009 07:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:03:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-001B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.20		mg/L	1	8/6/2009 06:40 PM
T/R Hydrocarbons: C10-C18	0.23	0.20		mg/L	1	8/6/2009 06:40 PM
T/R Hydrocarbons: C18-C28	0.45	0.20		mg/L	1	8/6/2009 06:40 PM
T/R Hydrocarbons: C28-C36	ND	0.20		mg/L	1	8/6/2009 06:40 PM
T/R Hydrocarbons: C36-C40	ND	0.20		mg/L	1	8/6/2009 06:40 PM
T/R Hydrocarbons: C8-C40 Total	0.68	0.20		mg/L	1	8/6/2009 06:40 PM
Surr: p-Terphenyl	78.5	35-131		%REC	1	8/6/2009 06:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:03:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-001C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 11:01 AM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 11:01 AM
Surr: Decachlorobiphenyl	83.4	29-130		%REC	1	8/7/2009 11:01 AM
Surr: Tetrachloro-m-xylene	85.2	48-126		%REC	1	8/7/2009 11:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
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DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-2
Lab Order:	106685	**Collection Date:**	8/3/2009 9:47:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-002A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 02:20 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 02:20 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 02:20 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 02:20 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 02:20 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 02:20 PM
Surr: p-Terphenyl	98.4	57-144		%REC	1	8/6/2009 02:20 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 09:40 PM
Surr: Bromofluorobenzene (FID)	95.5	59-145		%REC	1	8/4/2009 09:40 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 12:12 AM
Surr: Decachlorobiphenyl	97.6	30-124		%REC	1	8/7/2009 12:12 AM
Surr: Tetrachloro-m-xylene	86.7	40-118		%REC	1	8/7/2009 12:12 AM

Qualifiers:

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H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-5
Lab Order:	106685	**Collection Date:**	8/3/2009 9:52:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-003A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 02:29 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 02:29 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 02:29 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 02:29 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 02:29 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 02:29 PM
Surr: p-Terphenyl	95.6	57-144		%REC	1	8/6/2009 02:29 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 09:55 PM
Surr: Bromofluorobenzene (FID)	94.4	59-145		%REC	1	8/4/2009 09:55 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 12:42 AM
Surr: Decachlorobiphenyl	91.9	30-124		%REC	1	8/7/2009 12:42 AM
Surr: Tetrachloro-m-xylene	72.8	40-118		%REC	1	8/7/2009 12:42 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-5
Lab Order:	106685	**Collection Date:**	8/3/2009 9:52:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-003A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,1-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	8/5/2009 12:33 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Benzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Bromobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Bromoform	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Bromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Chlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Chloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Chloroform	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Chloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Dibromochloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Dibromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-5
Lab Order:	106685	**Collection Date:**	8/3/2009 9:52:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-003A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Ethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
m,p-Xylene	ND	10		µg/Kg	1	8/5/2009 12:33 PM
Methylene chloride	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
MTBE	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Naphthalene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
o-Xylene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Styrene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Tert-Butanol	ND	100		µg/Kg	1	8/5/2009 12:33 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Toluene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Trichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Vinyl chloride	ND	5.0		µg/Kg	1	8/5/2009 12:33 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%REC	1	8/5/2009 12:33 PM
Surr: 4-Bromofluorobenzene	99.6	70-130		%REC	1	8/5/2009 12:33 PM
Surr: Dibromofluoromethane	113	70-130		%REC	1	8/5/2009 12:33 PM
Surr: Toluene-d8	109	70-130		%REC	1	8/5/2009 12:33 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
	EPA 3550B		**EPA 8270C**			
RunID: MS 13_090805A	QC Batch: 57085			PrepDate:	8/5/2009	Analyst: **DMP**
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
1,4-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-5
Lab Order:	106685	**Collection Date:**	8/3/2009 9:52:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-003A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
2,4-Dimethylphenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2-Chloronaphthalene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2-Chlorophenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2-Methylnaphthalene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2-Methylphenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
2-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
2-Nitrophenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	8/5/2009 04:02 PM
3-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 04:02 PM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	8/5/2009 04:02 PM
4-Chloroaniline	ND	660		µg/Kg	1	8/5/2009 04:02 PM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 04:02 PM
4-Methylphenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
4-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
4-Nitrophenol	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
Acenaphthene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Acenaphthylene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Anthracene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzidine (M)	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
Benzo(a)anthracene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzo(a)pyrene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Benzoic acid	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
Benzyl alcohol	ND	660		µg/Kg	1	8/5/2009 04:02 PM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	8/5/2009 04:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-5
Lab Order:	106685	**Collection Date:**	8/3/2009 9:52:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-003A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Butylbenzylphthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Chrysene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Di-n-butylphthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Di-n-octylphthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Dibenzofuran	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Diethylphthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Dimethylphthalate	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Fluorene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Hexachlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Hexachlorobutadiene	ND	660		µg/Kg	1	8/5/2009 04:02 PM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	8/5/2009 04:02 PM
Hexachloroethane	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Isophorone	ND	330		µg/Kg	1	8/5/2009 04:02 PM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	8/5/2009 04:02 PM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Naphthalene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Nitrobenzene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Pentachlorophenol	ND	1600		µg/Kg	1	8/5/2009 04:02 PM
Phenanthrene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Phenol	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Pyrene	ND	330		µg/Kg	1	8/5/2009 04:02 PM
Surr: 1,2-Dichlorobenzene-d4	59.3	49-103		%REC	1	8/5/2009 04:02 PM
Surr: 2,4,6-Tribromophenol	82.0	47-129		%REC	1	8/5/2009 04:02 PM
Surr: 2-Chlorophenol-d4	67.1	54-109		%REC	1	8/5/2009 04:02 PM
Surr: 2-Fluorobiphenyl	68.6	59-108		%REC	1	8/5/2009 04:02 PM
Surr: 2-Fluorophenol	66.9	50-111		%REC	1	8/5/2009 04:02 PM
Surr: 4-Terphenyl-d14	82.7	58-135		%REC	1	8/5/2009 04:02 PM
Surr: Nitrobenzene-d5	63.9	54-115		%REC	1	8/5/2009 04:02 PM
Surr: Phenol-d5	68.9	58-112		%REC	1	8/5/2009 04:02 PM

Qualifiers:

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H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:55:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-005A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 05:58 PM
Surr: Bromofluorobenzene (FID)	90.4	71-130		%REC	1	8/4/2009 05:58 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:55:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-005B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.20		mg/L	1	8/6/2009 06:49 PM
T/R Hydrocarbons: C10-C18	ND	0.20		mg/L	1	8/6/2009 06:49 PM
T/R Hydrocarbons: C18-C28	ND	0.20		mg/L	1	8/6/2009 06:49 PM
T/R Hydrocarbons: C28-C36	ND	0.20		mg/L	1	8/6/2009 06:49 PM
T/R Hydrocarbons: C36-C40	ND	0.20		mg/L	1	8/6/2009 06:49 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.20		mg/L	1	8/6/2009 06:49 PM
Surr: p-Terphenyl	80.2	35-131		%REC	1	8/6/2009 06:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 10:55:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-005C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 11:30 AM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 11:30 AM
Surr: Decachlorobiphenyl	81.7	29-130		%REC	1	8/7/2009 11:30 AM
Surr: Tetrachloro-m-xylene	92.2	48-126		%REC	1	8/7/2009 11:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 03:43 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 03:43 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 03:43 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 03:43 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 03:43 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 03:43 PM
Surr: p-Terphenyl	92.7	57-144		%REC	1	8/6/2009 03:43 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 10:09 PM
Surr: Bromofluorobenzene (FID)	97.3	59-145		%REC	1	8/4/2009 10:09 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1254	360	33		µg/Kg	2	8/7/2009 07:38 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 01:11 AM
Surr: Decachlorobiphenyl	95.9	30-124		%REC	1	8/7/2009 01:11 AM
Surr: Decachlorobiphenyl	102	30-124		%REC	2	8/7/2009 07:38 AM
Surr: Tetrachloro-m-xylene	97.3	40-118		%REC	1	8/7/2009 01:11 AM
Surr: Tetrachloro-m-xylene	89.6	40-118		%REC	2	8/7/2009 07:38 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,1-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,1-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	8/5/2009 12:17 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Benzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Bromobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Bromoform	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Bromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Chlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Chloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Chloroform	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Chloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
Dibromochloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Dibromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Ethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
m,p-Xylene	ND	10		µg/Kg	1	8/5/2009 12:17 PM
Methylene chloride	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
MTBE	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Naphthalene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
o-Xylene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Styrene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Tert-Butanol	ND	100		µg/Kg	1	8/5/2009 12:17 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Toluene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Trichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Vinyl chloride	ND	5.0		µg/Kg	1	8/5/2009 12:17 PM
Surr: 1,2-Dichloroethane-d4	109	70-130		%REC	1	8/5/2009 12:17 PM
Surr: 4-Bromofluorobenzene	98.8	70-130		%REC	1	8/5/2009 12:17 PM
Surr: Dibromofluoromethane	53.7	70-130	S	%REC	1	8/5/2009 12:17 PM
Surr: Toluene-d8	105	70-130		%REC	1	8/5/2009 12:17 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
	EPA 3550B			**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085			PrepDate:	8/5/2009	Analyst: **DMP**
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
1,4-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
2,4-Dimethylphenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2-Chloronaphthalene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2-Chlorophenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2-Methylnaphthalene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2-Methylphenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
2-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
2-Nitrophenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	8/5/2009 08:38 PM
3-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 08:38 PM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	8/5/2009 08:38 PM
4-Chloroaniline	ND	660		µg/Kg	1	8/5/2009 08:38 PM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 08:38 PM
4-Methylphenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
4-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
4-Nitrophenol	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
Acenaphthene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Acenaphthylene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Anthracene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzidine (M)	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
Benzo(a)anthracene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzo(a)pyrene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Benzoic acid	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
Benzyl alcohol	ND	660		µg/Kg	1	8/5/2009 08:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085			PrepDate:	8/5/2009	Analyst: **DMP**
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Butylbenzylphthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Chrysene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Di-n-butylphthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Di-n-octylphthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Dibenzofuran	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Diethylphthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Dimethylphthalate	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Fluoranthene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Fluorene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Hexachlorobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Hexachlorobutadiene	ND	660		µg/Kg	1	8/5/2009 08:38 PM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	8/5/2009 08:38 PM
Hexachloroethane	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Isophorone	ND	330		µg/Kg	1	8/5/2009 08:38 PM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	8/5/2009 08:38 PM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Naphthalene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Nitrobenzene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Pentachlorophenol	ND	1600		µg/Kg	1	8/5/2009 08:38 PM
Phenanthrene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Phenol	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Pyrene	ND	330		µg/Kg	1	8/5/2009 08:38 PM
Surr: 1,2-Dichlorobenzene-d4	67.6	49-103		%REC	1	8/5/2009 08:38 PM
Surr: 2,4,6-Tribromophenol	9.32	47-129	S	%REC	1	8/5/2009 08:38 PM
Surr: 2-Chlorophenol-d4	37.2	54-109	S	%REC	1	8/5/2009 08:38 PM
Surr: 2-Fluorobiphenyl	75.1	59-108		%REC	1	8/5/2009 08:38 PM
Surr: 2-Fluorophenol	25.8	50-111	S	%REC	1	8/5/2009 08:38 PM
Surr: 4-Terphenyl-d14	86.7	58-135		%REC	1	8/5/2009 08:38 PM
Surr: Nitrobenzene-d5	71.4	54-115		%REC	1	8/5/2009 08:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-2
Lab Order:	106685	**Collection Date:**	8/3/2009 10:33:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-006A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
Surr: Phenol-d5	66.1	58-112		%REC	1	8/5/2009 08:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-5
Lab Order:	106685	**Collection Date:**	8/3/2009 10:48:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-007A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 04:15 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 04:15 PM
T/R Hydrocarbons: C18-C28	21	10		mg/Kg	1	8/6/2009 04:15 PM
T/R Hydrocarbons: C28-C36	20	10		mg/Kg	1	8/6/2009 04:15 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 04:15 PM
T/R Hydrocarbons: C8-C40 Total	41	10		mg/Kg	1	8/6/2009 04:15 PM
Surr: p-Terphenyl	100	57-144		%REC	1	8/6/2009 04:15 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 10:24 PM
Surr: Bromofluorobenzene (FID)	94.6	59-145		%REC	1	8/4/2009 10:24 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1254	59	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 01:41 AM
Surr: Decachlorobiphenyl	96.2	30-124		%REC	1	8/7/2009 01:41 AM
Surr: Tetrachloro-m-xylene	103	40-118		%REC	1	8/7/2009 01:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-009A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 07:02 PM
Surr: Bromofluorobenzene (FID)	90.7	71-130		%REC	1	8/4/2009 07:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-009B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 12:00 PM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 12:00 PM
Surr: Decachlorobiphenyl	84.2	29-130		%REC	1	8/7/2009 12:00 PM
Surr: Tetrachloro-m-xylene	87.2	48-126		%REC	1	8/7/2009 12:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-009C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.22		mg/L	1	8/6/2009 06:58 PM
T/R Hydrocarbons: C10-C18	ND	0.22		mg/L	1	8/6/2009 06:58 PM
T/R Hydrocarbons: C18-C28	ND	0.22		mg/L	1	8/6/2009 06:58 PM
T/R Hydrocarbons: C28-C36	ND	0.22		mg/L	1	8/6/2009 06:58 PM
T/R Hydrocarbons: C36-C40	ND	0.22		mg/L	1	8/6/2009 06:58 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.22		mg/L	1	8/6/2009 06:58 PM
Surr: p-Terphenyl	74.2	35-131		%REC	1	8/6/2009 06:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:20:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-010A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 04:04 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 04:04 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 04:04 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 04:04 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 04:04 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 04:04 PM
Surr: p-Terphenyl	99.0	57-144		%REC	1	8/6/2009 04:04 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 10:38 PM
Surr: Bromofluorobenzene (FID)	98.4	59-145		%REC	1	8/4/2009 10:38 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 02:11 AM
Surr: Decachlorobiphenyl	95.9	30-124		%REC	1	8/7/2009 02:11 AM
Surr: Tetrachloro-m-xylene	106	40-118		%REC	1	8/7/2009 02:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8-5
Lab Order:	106685	**Collection Date:**	8/3/2009 11:24:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-011A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 02:39 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 02:39 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 02:39 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 02:39 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 02:39 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 02:39 PM
Surr: p-Terphenyl	100	57-144		%REC	1	8/6/2009 02:39 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 10:53 PM
Surr: Bromofluorobenzene (FID)	94.7	59-145		%REC	1	8/4/2009 10:53 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 02:41 AM
Surr: Decachlorobiphenyl	95.3	30-124		%REC	1	8/7/2009 02:41 AM
Surr: Tetrachloro-m-xylene	58.6	40-118		%REC	1	8/7/2009 02:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8 Dup
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-012A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 05:36 PM
Surr: Bromofluorobenzene (FID)	89.1	71-130		%REC	1	8/4/2009 05:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8 Dup
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-012B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 12:30 PM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 12:30 PM
Surr: Decachlorobiphenyl	82.8	29-130		%REC	1	8/7/2009 12:30 PM
Surr: Tetrachloro-m-xylene	88.5	48-126		%REC	1	8/7/2009 12:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B8 Dup
Lab Order:	106685	**Collection Date:**	8/3/2009 11:27:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-012C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.22		mg/L	1	8/6/2009 07:06 PM
T/R Hydrocarbons: C10-C18	ND	0.22		mg/L	1	8/6/2009 07:06 PM
T/R Hydrocarbons: C18-C28	ND	0.22		mg/L	1	8/6/2009 07:06 PM
T/R Hydrocarbons: C28-C36	ND	0.22		mg/L	1	8/6/2009 07:06 PM
T/R Hydrocarbons: C36-C40	ND	0.22		mg/L	1	8/6/2009 07:06 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.22		mg/L	1	8/6/2009 07:06 PM
Surr: p-Terphenyl	71.7	35-131		%REC	1	8/6/2009 07:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:58:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-013A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 06:40 PM
Surr: Bromofluorobenzene (FID)	91.4	71-130		%REC	1	8/4/2009 06:40 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:58:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-013B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.20		mg/L	1	8/6/2009 07:15 PM
T/R Hydrocarbons: C10-C18	ND	0.20		mg/L	1	8/6/2009 07:15 PM
T/R Hydrocarbons: C18-C28	ND	0.20		mg/L	1	8/6/2009 07:15 PM
T/R Hydrocarbons: C28-C36	ND	0.20		mg/L	1	8/6/2009 07:15 PM
T/R Hydrocarbons: C36-C40	ND	0.20		mg/L	1	8/6/2009 07:15 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.20		mg/L	1	8/6/2009 07:15 PM
Surr: p-Terphenyl	73.0	35-131		%REC	1	8/6/2009 07:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 11:58:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-013C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 01:00 PM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 01:00 PM
Surr: Decachlorobiphenyl	80.0	29-130		%REC	1	8/7/2009 01:00 PM
Surr: Tetrachloro-m-xylene	88.9	48-126		%REC	1	8/7/2009 01:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 02:48 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 02:48 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 02:48 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 02:48 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 02:48 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 02:48 PM
Surr: p-Terphenyl	83.8	57-144		%REC	1	8/6/2009 02:48 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 11:07 PM
Surr: Bromofluorobenzene (FID)	96.6	59-145		%REC	1	8/4/2009 11:07 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1254	280	33		µg/Kg	2	8/7/2009 08:08 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 03:10 AM
Surr: Decachlorobiphenyl	107	30-124		%REC	1	8/7/2009 03:10 AM
Surr: Decachlorobiphenyl	103	30-124		%REC	2	8/7/2009 08:08 AM
Surr: Tetrachloro-m-xylene	113	40-118		%REC	1	8/7/2009 03:10 AM
Surr: Tetrachloro-m-xylene	103	40-118		%REC	2	8/7/2009 08:08 AM
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
				EPA 8260B		
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1,1,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,1,1-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
			EPA 8260B			
RunID: MS4_090805A	QC Batch: K09VS145			PrepDate:		Analyst: **HH**
1,1,2,2-Tetrachloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,1,2-Trichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,1-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,1-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,1-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2,3-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2,3-Trichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2,4-Trichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2-Dibromo-3-chloropropane	ND	10		µg/Kg	1	8/5/2009 12:48 PM
1,2-Dibromoethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2-Dichloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,3-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,3-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
1,4-Dichlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
2,2-Dichloropropane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
2-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
4-Chlorotoluene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
4-Isopropyltoluene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Benzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Bromobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Bromodichloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Bromoform	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Bromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Carbon tetrachloride	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Chlorobenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Chloroethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Chloroform	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Chloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
cis-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
cis-1,3-Dichloropropene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Di-isopropyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 8260B						
RunID: MS4_090805A QC Batch: K09VS145 PrepDate: Analyst: **HH**						
Dibromochloromethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Dibromomethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Dichlorodifluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Ethyl Tert-butyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Ethylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Hexachlorobutadiene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Isopropylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
m,p-Xylene	ND	10		µg/Kg	1	8/5/2009 12:48 PM
Methylene chloride	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
MTBE	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
n-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
n-Propylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Naphthalene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
o-Xylene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
sec-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Styrene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Tert-amyl methyl ether	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Tert-Butanol	ND	100		µg/Kg	1	8/5/2009 12:48 PM
tert-Butylbenzene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Tetrachloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Toluene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
trans-1,2-Dichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Trichloroethene	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Trichlorofluoromethane	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Vinyl chloride	ND	5.0		µg/Kg	1	8/5/2009 12:48 PM
Surr: 1,2-Dichloroethane-d4	118	70-130		%REC	1	8/5/2009 12:48 PM
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	8/5/2009 12:48 PM
Surr: Dibromofluoromethane	117	70-130		%REC	1	8/5/2009 12:48 PM
Surr: Toluene-d8	108	70-130		%REC	1	8/5/2009 12:48 PM
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B **EPA 8270C**						
RunID: MS 13_090805A QC Batch: 57085 PrepDate: 8/5/2009 Analyst: **DMP**						
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
1,4-Dichlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
2,4-Dimethylphenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2-Chloronaphthalene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2-Chlorophenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2-Methylnaphthalene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2-Methylphenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
2-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
2-Nitrophenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	8/5/2009 04:30 PM
3-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 04:30 PM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	8/5/2009 04:30 PM
4-Chloroaniline	ND	660		µg/Kg	1	8/5/2009 04:30 PM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	8/5/2009 04:30 PM
4-Methylphenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
4-Nitroaniline	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
4-Nitrophenol	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
Acenaphthene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Acenaphthylene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Anthracene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzidine (M)	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
Benzo(a)anthracene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzo(a)pyrene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzo(k)fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Benzoic acid	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
Benzyl alcohol	ND	660		µg/Kg	1	8/5/2009 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085			PrepDate:	8/5/2009	Analyst: **DMP**
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Butylbenzylphthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Chrysene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Di-n-butylphthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Di-n-octylphthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Dibenzofuran	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Diethylphthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Dimethylphthalate	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Fluoranthene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Fluorene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Hexachlorobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Hexachlorobutadiene	ND	660		µg/Kg	1	8/5/2009 04:30 PM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	8/5/2009 04:30 PM
Hexachloroethane	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Isophorone	ND	330		µg/Kg	1	8/5/2009 04:30 PM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	8/5/2009 04:30 PM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Naphthalene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Nitrobenzene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Pentachlorophenol	ND	1600		µg/Kg	1	8/5/2009 04:30 PM
Phenanthrene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Phenol	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Pyrene	ND	330		µg/Kg	1	8/5/2009 04:30 PM
Surr: 1,2-Dichlorobenzene-d4	68.4	49-103		%REC	1	8/5/2009 04:30 PM
Surr: 2,4,6-Tribromophenol	83.1	47-129		%REC	1	8/5/2009 04:30 PM
Surr: 2-Chlorophenol-d4	76.4	54-109		%REC	1	8/5/2009 04:30 PM
Surr: 2-Fluorobiphenyl	75.3	59-108		%REC	1	8/5/2009 04:30 PM
Surr: 2-Fluorophenol	75.8	50-111		%REC	1	8/5/2009 04:30 PM
Surr: 4-Terphenyl-d14	89.9	58-135		%REC	1	8/5/2009 04:30 PM
Surr: Nitrobenzene-d5	70.2	54-115		%REC	1	8/5/2009 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-2
Lab Order:	106685	**Collection Date:**	8/3/2009 11:53:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-014A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS 13_090805A	QC Batch: 57085				PrepDate: 8/5/2009	Analyst: **DMP**
Surr: Phenol-d5	78.5	58-112		%REC	1	8/5/2009 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B10-6
Lab Order:	106685	**Collection Date:**	8/3/2009 11:56:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-015A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 02:58 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 02:58 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 02:58 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 02:58 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 02:58 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 02:58 PM
Surr: p-Terphenyl	93.5	57-144		%REC	1	8/6/2009 02:58 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 11:22 PM
Surr: Bromofluorobenzene (FID)	92.4	59-145		%REC	1	8/4/2009 11:22 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 03:40 AM
Surr: Decachlorobiphenyl	93.4	30-124		%REC	1	8/7/2009 03:40 AM
Surr: Tetrachloro-m-xylene	102	40-118		%REC	1	8/7/2009 03:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B9-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:20:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-016A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 05:15 PM
Surr: Bromofluorobenzene (FID)	91.2	71-130		%REC	1	8/4/2009 05:15 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B9-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:20:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-016B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 01:30 PM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 01:30 PM
Surr: Decachlorobiphenyl	79.6	29-130		%REC	1	8/7/2009 01:30 PM
Surr: Tetrachloro-m-xylene	92.4	48-126		%REC	1	8/7/2009 01:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B9-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:20:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-016C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.20		mg/L	1	8/6/2009 07:24 PM
T/R Hydrocarbons: C10-C18	ND	0.20		mg/L	1	8/6/2009 07:24 PM
T/R Hydrocarbons: C18-C28	ND	0.20		mg/L	1	8/6/2009 07:24 PM
T/R Hydrocarbons: C28-C36	ND	0.20		mg/L	1	8/6/2009 07:24 PM
T/R Hydrocarbons: C36-C40	ND	0.20		mg/L	1	8/6/2009 07:24 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.20		mg/L	1	8/6/2009 07:24 PM
Surr: p-Terphenyl	74.8	35-131		%REC	1	8/6/2009 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B9-2
Lab Order:	106685	**Collection Date:**	8/3/2009 12:12:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-017A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate:	8/5/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 03:54 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 03:54 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 03:54 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 03:54 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 03:54 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 03:54 PM
Surr: p-Terphenyl	86.2	57-144		%REC	1	8/6/2009 03:54 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 11:37 PM
Surr: Bromofluorobenzene (FID)	94.0	59-145		%REC	1	8/4/2009 11:37 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1254	350	33		µg/Kg	2	8/7/2009 08:38 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 04:10 AM
Surr: Decachlorobiphenyl	99.9	30-124		%REC	1	8/7/2009 04:10 AM
Surr: Decachlorobiphenyl	99.8	30-124		%REC	2	8/7/2009 08:38 AM
Surr: Tetrachloro-m-xylene	98.2	40-118		%REC	2	8/7/2009 08:38 AM
Surr: Tetrachloro-m-xylene	108	40-118		%REC	1	8/7/2009 04:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B9-6
Lab Order:	106685	**Collection Date:**	8/3/2009 12:17:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-018A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 03:07 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 03:07 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 03:07 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 03:07 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 03:07 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 03:07 PM
Surr: p-Terphenyl	93.6	57-144		%REC	1	8/6/2009 03:07 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/4/2009 11:51 PM
Surr: Bromofluorobenzene (FID)	93.5	59-145		%REC	1	8/4/2009 11:51 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 04:40 AM
Surr: Decachlorobiphenyl	100	30-124		%REC	1	8/7/2009 04:40 AM
Surr: Tetrachloro-m-xylene	109	40-118		%REC	1	8/7/2009 04:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B11-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:57:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-019A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
			EPA 8015B			
RunID: GC6_090804A	QC Batch: I09VW0134			PrepDate:		Analyst: **BD**
T/R Hydrocarbons: C4-C12	ND	0.20		mg/L	1	8/4/2009 06:19 PM
Surr: Bromofluorobenzene (FID)	92.5	71-130		%REC	1	8/4/2009 06:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B11-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:57:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-019B		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3510C			**EPA 8082**		
RunID: GC4_090807A	QC Batch: 57126			PrepDate:	8/6/2009	Analyst: **BB**
Aroclor 1016	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1221	ND	1.0		µg/L	1	8/7/2009 02:00 PM
Aroclor 1232	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1242	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1248	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1254	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1260	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1262	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Aroclor 1268	ND	0.50		µg/L	1	8/7/2009 02:00 PM
Surr: Decachlorobiphenyl	84.0	29-130		%REC	1	8/7/2009 02:00 PM
Surr: Tetrachloro-m-xylene	92.2	48-126		%REC	1	8/7/2009 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B11-GW
Lab Order:	106685	**Collection Date:**	8/3/2009 12:57:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	GROUNDWATER
Lab ID:	106685-019C		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
	EPA 3510C			**EPA 8015B(M)**		
RunID: GC16_090806F	QC Batch: 57067			PrepDate:	8/4/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	0.20		mg/L	1	8/6/2009 07:33 PM
T/R Hydrocarbons: C10-C18	ND	0.20		mg/L	1	8/6/2009 07:33 PM
T/R Hydrocarbons: C18-C28	ND	0.20		mg/L	1	8/6/2009 07:33 PM
T/R Hydrocarbons: C28-C36	ND	0.20		mg/L	1	8/6/2009 07:33 PM
T/R Hydrocarbons: C36-C40	ND	0.20		mg/L	1	8/6/2009 07:33 PM
T/R Hydrocarbons: C8-C40 Total	ND	0.20		mg/L	1	8/6/2009 07:33 PM
Surr: p-Terphenyl	77.8	35-131		%REC	1	8/6/2009 07:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B11-2
Lab Order:	106685	**Collection Date:**	8/3/2009 12:51:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-020A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 03:16 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 03:16 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 03:16 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 03:16 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 03:16 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 03:16 PM
Surr: p-Terphenyl	96.7	57-144		%REC	1	8/6/2009 03:16 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/5/2009 12:06 AM
Surr: Bromofluorobenzene (FID)	96.4	59-145		%REC	1	8/5/2009 12:06 AM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 05:10 AM
Surr: Decachlorobiphenyl	98.0	30-124		%REC	1	8/7/2009 05:10 AM
Surr: Tetrachloro-m-xylene	108	40-118		%REC	1	8/7/2009 05:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B11-5
Lab Order:	106685	**Collection Date:**	8/3/2009 12:56:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-021A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090806C	QC Batch: 57087			PrepDate: 8/5/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/6/2009 03:27 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/6/2009 03:27 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/6/2009 03:27 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/6/2009 03:27 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/6/2009 03:27 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/6/2009 03:27 PM
Surr: p-Terphenyl	101	57-144		%REC	1	8/6/2009 03:27 PM
HYDROCARBON CHAIN IDENTIFICATION						
				EPA 8015B		
RunID: GC2_090804B	QC Batch: E09VS246			PrepDate:		Analyst: **KHN**
T/R Hydrocarbons: C4-C12	ND	1.0		mg/Kg	1	8/5/2009 12:21 AM
Surr: Bromofluorobenzene (FID)	92.9	59-145		%REC	1	8/5/2009 12:21 AM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC5_090806B	QC Batch: 57129			PrepDate: 8/6/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1221	ND	33		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1232	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1242	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1248	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1254	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1260	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1262	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Aroclor 1268	ND	16		µg/Kg	1	8/7/2009 05:39 AM
Surr: Decachlorobiphenyl	96.3	30-124		%REC	1	8/7/2009 05:39 AM
Surr: Tetrachloro-m-xylene	106	40-118		%REC	1	8/7/2009 05:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **MB-57129** SampType: **MBLK** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/6/2009** RunNo: **111484**
Client ID: **PBS** Batch ID: **57129** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/6/2009** SeqNo: **1757122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Aroclor 1262	ND	16									
Aroclor 1268	ND	16									
Surr: Decachlorobiphenyl	12.911		16.67		77.5	30	124				
Surr: Tetrachloro-m-xylene	14.894		16.67		89.3	40	118				

Sample ID: **LCS-57129** SampType: **LCS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/6/2009** RunNo: **111484**
Client ID: **LCSS** Batch ID: **57129** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/6/2009** SeqNo: **1757123**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	142.917	16	166.7	0	85.7	56	113				
Aroclor 1260	157.177	16	166.7	0	94.3	58	111				
Surr: Decachlorobiphenyl	15.036		16.67		90.2	30	124				
Surr: Tetrachloro-m-xylene	17.191		16.67		103	40	118				

Sample ID: **106727-005AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/6/2009** RunNo: **111484**
Client ID: **ZZZZZZ** Batch ID: **57129** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/6/2009** SeqNo: **1757124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	131.355	16	166.7	0	78.8	51	111				
Aroclor 1260	152.117	16	166.7	0	91.3	39	123				
Surr: Decachlorobiphenyl	15.189		16.67		91.1	30	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_S

Sample ID: **106727-005AMS**	SampType: **MS**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/6/2009**	RunNo: **111484**
Client ID: **ZZZZZZ**	Batch ID: **57129**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/6/2009**	SeqNo: **1757124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	14.991		16.67		89.9	40	118				

Sample ID: **106727-005AMSD**	SampType: **MSD**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/6/2009**	RunNo: **111484**
Client ID: **ZZZZZZ**	Batch ID: **57129**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/6/2009**	SeqNo: **1757125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	133.900	16	166.7	0	80.3	51	111	131.4	1.92	20	
Aroclor 1260	154.630	16	166.7	0	92.8	39	123	152.1	1.64	20	
Surr: Decachlorobiphenyl	14.807		16.67		88.8	30	124		0	0	
Surr: Tetrachloro-m-xylene	15.266		16.67		91.6	40	118		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_W

Sample ID: **MB-57126** SampType: **MBLK** TestCode: **8082_W** Units: **µg/L** Prep Date: **8/6/2009** RunNo: **111503**
Client ID: **PBW** Batch ID: **57126** TestNo: **EPA 8082** **EPA 3510C** Analysis Date: **8/7/2009** SeqNo: **1757548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.50									
Aroclor 1221	ND	1.0									
Aroclor 1232	ND	0.50									
Aroclor 1242	ND	0.50									
Aroclor 1248	ND	0.50									
Aroclor 1254	ND	0.50									
Aroclor 1260	ND	0.50									
Aroclor 1262	ND	0.50									
Aroclor 1268	ND	0.50									
Surr: Decachlorobiphenyl	0.346		0.5000		69.1	29	130				
Surr: Tetrachloro-m-xylene	0.392		0.5000		78.4	48	126				

Sample ID: **LCSA-57126** SampType: **LCS** TestCode: **8082_W** Units: **µg/L** Prep Date: **8/6/2009** RunNo: **111503**
Client ID: **LCSW** Batch ID: **57126** TestNo: **EPA 8082** **EPA 3510C** Analysis Date: **8/7/2009** SeqNo: **1757549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	3.739	0.50	5.000	0	74.8	59	113				
Aroclor 1260	3.898	0.50	5.000	0	78.0	60	114				
Surr: Decachlorobiphenyl	0.387		0.5000		77.4	29	130				
Surr: Tetrachloro-m-xylene	0.436		0.5000		87.1	48	126				

Sample ID: **MB-57126MSA** SampType: **MS** TestCode: **8082_W** Units: **µg/L** Prep Date: **8/6/2009** RunNo: **111503**
Client ID: **ZZZZZZ** Batch ID: **57126** TestNo: **EPA 8082** **EPA 3510C** Analysis Date: **8/7/2009** SeqNo: **1757550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	3.738	0.50	5.000	0	74.8	59	113				
Aroclor 1260	3.856	0.50	5.000	0	77.1	60	114				
Surr: Decachlorobiphenyl	0.382		0.5000		76.4	29	130				
Surr: Tetrachloro-m-xylene	0.429		0.5000		85.7	48	126				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8082_W

Sample ID: **MB-57126MSDA**	SampType: **MSD**	TestCode: **8082_W**	Units: **µg/L**	Prep Date: **8/6/2009**	RunNo: **111503**
Client ID: **ZZZZZZ**	Batch ID: **57126**	TestNo: **EPA 8082**	**EPA 3510C**	Analysis Date: **8/7/2009**	SeqNo: **1757551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	3.778	0.50	5.000	0	75.6	59	113	3.738	1.06	20	
Aroclor 1260	3.901	0.50	5.000	0	78.0	60	114	3.856	1.15	20	
Surr: Decachlorobiphenyl	0.386		0.5000		77.2	29	130		0	0	
Surr: Tetrachloro-m-xylene	0.437		0.5000		87.4	48	126		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **K090805LC1** SampType: **LCS** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **LCSS** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	51.920	5.0	50.00	0	104	70	130				
Benzene	99.490	5.0	100.0	0	99.5	70	130				
Chlorobenzene	53.930	5.0	50.00	0	108	70	130				
MTBE	51.210	5.0	50.00	0	102	70	130				
Toluene	101.540	5.0	100.0	0	102	70	130				
Trichloroethene	48.900	5.0	50.00	0	97.8	70	130				
Surr: 1,2-Dichloroethane-d4	53.840		50.00		108	70	130				
Surr: 4-Bromofluorobenzene	51.610		50.00		103	70	130				
Surr: Dibromofluoromethane	54.170		50.00		108	70	130				
Surr: Toluene-d8	53.390		50.00		107	70	130				

Sample ID: **106685-006AMS** SampType: **MS** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **B7-2** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	56.990	5.0	50.00	0	114	70	130				
Benzene	91.510	5.0	100.0	0	91.5	70	130				
Chlorobenzene	48.190	5.0	50.00	0	96.4	70	130				
MTBE	51.730	5.0	50.00	0	103	70	130				
Toluene	92.400	5.0	100.0	0	92.4	70	130				
Trichloroethene	80.810	5.0	50.00	0	162	70	130				S
Surr: 1,2-Dichloroethane-d4	51.910		50.00		104	70	130				
Surr: 4-Bromofluorobenzene	49.560		50.00		99.1	70	130				
Surr: Dibromofluoromethane	26.130		50.00		52.3	70	130				S
Surr: Toluene-d8	51.360		50.00		103	70	130				

Sample ID: **106685-006AMSD** SampType: **MSD** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **B7-2** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **106685-006AMSD** SampType: **MSD** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **B7-2** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	63.950	5.0	50.00	0	128	70	130	56.99	11.5	20	
Benzene	95.260	5.0	100.0	0	95.3	70	130	91.51	4.02	20	
Chlorobenzene	48.570	5.0	50.00	0	97.1	70	130	48.19	0.785	20	
MTBE	49.000	5.0	50.00	0	98.0	70	130	51.73	5.42	20	
Toluene	97.560	5.0	100.0	0	97.6	70	130	92.40	5.43	20	
Trichloroethene	85.840	5.0	50.00	0	172	70	130	80.81	6.04	20	S
Surr: 1,2-Dichloroethane-d4	49.480		50.00		99.0	70	130		0	20	
Surr: 4-Bromofluorobenzene	50.870		50.00		102	70	130		0	20	
Surr: Dibromofluoromethane	22.300		50.00		44.6	70	130		0	20	S
Surr: Toluene-d8	53.610		50.00		107	70	130		0	20	

Sample ID: **K090805MB1** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **PBS** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	10									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **K090805MB1**	SampType: **MBLK**	TestCode: **8260_S**	Units: **µg/Kg**	Prep Date:	RunNo: **111443**
Client ID: **PBS**	Batch ID: **K09VS145**	TestNo: **EPA 8260B**		Analysis Date: **8/5/2009**	SeqNo: **1756326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Chlorotoluene	ND	5.0									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0									
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
Di-isopropyl ether	ND	5.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	5.0									
Ethyl Tert-butyl ether	ND	5.0									
Ethylbenzene	ND	5.0									
Hexachlorobutadiene	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylene	ND	10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_S

Sample ID: **K090805MB1** SampType: **MBLK** TestCode: **8260_S** Units: **µg/Kg** Prep Date: RunNo: **111443**
Client ID: **PBS** Batch ID: **K09VS145** TestNo: **EPA 8260B** Analysis Date: **8/5/2009** SeqNo: **1756326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	ND	5.0									
MTBE	ND	5.0									
n-Butylbenzene	ND	5.0									
n-Propylbenzene	ND	5.0									
Naphthalene	ND	5.0									
o-Xylene	ND	5.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
Tert-amyl methyl ether	ND	5.0									
Tert-Butanol	ND	100									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl chloride	ND	5.0									
Surr: 1,2-Dichloroethane-d4	54.310		50.00		109	70	130				
Surr: 4-Bromofluorobenzene	50.580		50.00		101	70	130				
Surr: Dibromofluoromethane	56.260		50.00		113	70	130				
Surr: Toluene-d8	53.050		50.00		106	70	130				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-57085**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/5/2009**	RunNo: **111444**
Client ID: **PBS**	Batch ID: **57085**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/5/2009**	SeqNo: **1756266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330									
1,2-Dichlorobenzene	ND	330									
1,3-Dichlorobenzene	ND	330									
1,4-Dichlorobenzene	ND	330									
2,4,5-Trichlorophenol	ND	330									
2,4,6-Trichlorophenol	ND	330									
2,4-Dichlorophenol	ND	1600									
2,4-Dimethylphenol	ND	330									
2,4-Dinitrophenol	ND	1600									
2,4-Dinitrotoluene	ND	330									
2,6-Dinitrotoluene	ND	330									
2-Chloronaphthalene	ND	330									
2-Chlorophenol	ND	330									
2-Methylnaphthalene	ND	330									
2-Methylphenol	ND	330									
2-Nitroaniline	ND	1600									
2-Nitrophenol	ND	330									
3,3´-Dichlorobenzidine	ND	660									
3-Nitroaniline	ND	1600									
4,6-Dinitro-2-methylphenol	ND	1600									
4-Bromophenyl-phenylether	ND	330									
4-Chloro-3-methylphenol	ND	660									
4-Chloroaniline	ND	660									
4-Chlorophenyl-phenylether	ND	330									
4-Methylphenol	ND	330									
4-Nitroaniline	ND	1600									
4-Nitrophenol	ND	1600									
Acenaphthene	ND	330									
Acenaphthylene	ND	330									
Anthracene	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-57085**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/5/2009**	RunNo: **111444**
Client ID: **PBS**	Batch ID: **57085**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/5/2009**	SeqNo: **1756266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzidine (M)	ND	1600									
Benzo(a)anthracene	ND	330									
Benzo(a)pyrene	ND	330									
Benzo(b)fluoranthene	ND	330									
Benzo(g,h,i)perylene	ND	330									
Benzo(k)fluoranthene	ND	330									
Benzoic acid	ND	1600									
Benzyl alcohol	ND	660									
Bis(2-chloroethoxy)methane	ND	330									
Bis(2-chloroethyl)ether	ND	330									
Bis(2-chloroisopropyl)ether	ND	330									
Bis(2-ethylhexyl)phthalate	ND	330									
Butylbenzylphthalate	ND	330									
Chrysene	ND	330									
Di-n-butylphthalate	ND	330									
Di-n-octylphthalate	ND	330									
Dibenz(a,h)anthracene	ND	330									
Dibenzofuran	ND	330									
Diethylphthalate	ND	330									
Dimethylphthalate	ND	330									
Fluoranthene	ND	330									
Fluorene	ND	330									
Hexachlorobenzene	ND	330									
Hexachlorobutadiene	ND	660									
Hexachlorocyclopentadiene	ND	660									
Hexachloroethane	ND	330									
Indeno(1,2,3-cd)pyrene	ND	330									
Isophorone	ND	330									
N-Nitrosodi-n-propylamine	ND	330									
N-Nitrosodiphenylamine	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
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ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **MB-57085** SampType: **MBLK** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **PBS** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	330									
Nitrobenzene	ND	330									
Pentachlorophenol	ND	1600									
Phenanthrene	ND	330									
Phenol	ND	330									
Pyrene	ND	330									
Surr: 1,2-Dichlorobenzene-d4	2841.000		3330		85.3	49	103				
Surr: 2,4,6-Tribromophenol	3180.333		3330		95.5	47	129				
Surr: 2-Chlorophenol-d4	3021.000		3330		90.7	54	109				
Surr: 2-Fluorobiphenyl	2881.000		3330		86.5	59	108				
Surr: 2-Fluorophenol	2991.000		3330		89.8	50	111				
Surr: 4-Terphenyl-d14	3005.333		3330		90.3	58	135				
Surr: Nitrobenzene-d5	2887.333		3330		86.7	54	115				
Surr: Phenol-d5	3085.667		3330		92.7	58	112				

Sample ID: **LCS-57085** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **LCSS** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2838.667	330	3330	0	85.2	61	107				
1,4-Dichlorobenzene	2875.667	330	3330	0	86.4	56	100				
2,4-Dinitrotoluene	3180.333	330	3330	0	95.5	72	130				
2-Chlorophenol	2733.667	330	3330	0	82.1	64	105				
4-Chloro-3-methylphenol	2955.667	660	3330	0	88.8	74	125				
4-Nitrophenol	2887.000	1600	3330	0	86.7	77	137				
Acenaphthene	2885.333	330	3330	0	86.6	63	117				
N-Nitrosodi-n-propylamine	3055.667	330	3330	0	91.8	71	121				
Pentachlorophenol	2897.667	1600	3330	0	87.0	69	125				
Phenol	2795.000	330	3330	0	83.9	67	111				
Pyrene	3107.333	330	3330	0	93.3	60	122				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **LCS-57085** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **LCSS** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1,2-Dichlorobenzene-d4	2793.333		3330		83.9	49	103				
Surr: 2,4,6-Tribromophenol	3216.667		3330		96.6	47	129				
Surr: 2-Chlorophenol-d4	2931.333		3330		88.0	54	109				
Surr: 2-Fluorobiphenyl	2832.000		3330		85.0	59	108				
Surr: 2-Fluorophenol	2849.667		3330		85.6	50	111				
Surr: 4-Terphenyl-d14	2954.667		3330		88.7	58	135				
Surr: Nitrobenzene-d5	2759.667		3330		82.9	54	115				
Surr: Phenol-d5	2931.000		3330		88.0	58	112				

Sample ID: **106650-014AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **ZZZZZZ** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2592.000	330	3330	0	77.8	60	105				
1,4-Dichlorobenzene	2460.000	330	3330	0	73.9	50	99				
2,4-Dinitrotoluene	3379.000	330	3330	0	101	70	130				
2-Chlorophenol	2516.333	330	3330	0	75.6	58	107				
4-Chloro-3-methylphenol	2980.333	660	3330	0	89.5	72	124				
4-Nitrophenol	3025.333	1600	3330	0	90.9	69	139				
Acenaphthene	2905.333	330	3330	0	87.2	59	118				
N-Nitrosodi-n-propylamine	2901.000	330	3330	0	87.1	61	125				
Pentachlorophenol	3106.667	1600	3330	0	93.3	56	131				
Phenol	2657.333	330	3330	0	79.8	60	113				
Pyrene	3263.667	330	3330	0	98.0	51	130				
Surr: 1,2-Dichlorobenzene-d4	2413.667		3330		72.5	49	103				
Surr: 2,4,6-Tribromophenol	3194.667		3330		95.9	47	129				
Surr: 2-Chlorophenol-d4	2649.000		3330		79.5	54	109				
Surr: 2-Fluorobiphenyl	2738.333		3330		82.2	59	108				
Surr: 2-Fluorophenol	2593.667		3330		77.9	50	111				
Surr: 4-Terphenyl-d14	3115.000		3330		93.5	58	135				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S_FULL

Sample ID: **106650-014AMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **ZZZZZZ** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Nitrobenzene-d5	2525.333		3330		75.8	54	115				
Surr: Phenol-d5	2743.667		3330		82.4	58	112				

Sample ID: **106650-014AMSD** SampType: **MSD** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/5/2009** RunNo: **111444**
Client ID: **ZZZZZZ** Batch ID: **57085** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/5/2009** SeqNo: **1756269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2521.333	330	3330	0	75.7	60	105	2592	2.76	20	
1,4-Dichlorobenzene	2391.667	330	3330	0	71.8	50	99	2460	2.82	20	
2,4-Dinitrotoluene	3298.333	330	3330	0	99.0	70	130	3379	2.42	20	
2-Chlorophenol	2446.667	330	3330	0	73.5	58	107	2516	2.81	20	
4-Chloro-3-methylphenol	2952.667	660	3330	0	88.7	72	124	2980	0.933	20	
4-Nitrophenol	2977.000	1600	3330	0	89.4	69	139	3025	1.61	20	
Acenaphthene	2864.000	330	3330	0	86.0	59	118	2905	1.43	20	
N-Nitrosodi-n-propylamine	2831.667	330	3330	0	85.0	61	125	2901	2.42	20	
Pentachlorophenol	3041.333	1600	3330	0	91.3	56	131	3107	2.13	20	
Phenol	2564.000	330	3330	0	77.0	60	113	2657	3.58	20	
Pyrene	3215.667	330	3330	0	96.6	51	130	3264	1.48	20	
Surr: 1,2-Dichlorobenzene-d4	2383.333		3330		71.6	49	103		0	0	
Surr: 2,4,6-Tribromophenol	3176.667		3330		95.4	47	129		0	0	
Surr: 2-Chlorophenol-d4	2587.667		3330		77.7	54	109		0	0	
Surr: 2-Fluorobiphenyl	2732.667		3330		82.1	59	108		0	0	
Surr: 2-Fluorophenol	2552.333		3330		76.6	50	111		0	0	
Surr: 4-Terphenyl-d14	2997.667		3330		90.0	58	135		0	0	
Surr: Nitrobenzene-d5	2658.000		3330		79.8	54	115		0	0	
Surr: Phenol-d5	2679.333		3330		80.5	58	112		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_S_ATL

Sample ID: **MB-57087**	SampType: **MBLK**	TestCode: **HC_S_ATL**	Units: **mg/Kg**	Prep Date: **8/5/2009**	RunNo: **111474**
Client ID: **PBS**	Batch ID: **57087**	TestNo: **EPA 8015B(M LUFT**		Analysis Date: **8/6/2009**	SeqNo: **1756826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C8-C10	ND	10									
T/R Hydrocarbons: C10-C18	ND	10									
T/R Hydrocarbons: C18-C28	ND	10									
T/R Hydrocarbons: C28-C36	ND	10									
T/R Hydrocarbons: C36-C40	ND	10									
T/R Hydrocarbons: C8-C40 Total	ND	10									
Surr: p-Terphenyl	79.460		80.00		99.3	57	144				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_S_VOAC4C12

Sample ID: **E090804LCS3** SampType: **LCS** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **111447**
Client ID: **LCSS** Batch ID: **E09VS246** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1756412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.210	1.0	5.000	0	84.2	73	120				
Surr: Bromofluorobenzene (FID)	90.520		100.0		90.5	59	145				

Sample ID: **106685-002AMS** SampType: **MS** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **111447**
Client ID: **B6-2** Batch ID: **E09VS246** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1756413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.118	1.0	5.000	0	82.4	39	135				
Surr: Bromofluorobenzene (FID)	94.864		100.0		94.9	59	145				

Sample ID: **106685-002AMSD** SampType: **MSD** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **111447**
Client ID: **B6-2** Batch ID: **E09VS246** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1756414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	4.088	1.0	5.000	0	81.8	39	135	4.118	0.731	20	
Surr: Bromofluorobenzene (FID)	92.606		100.0		92.6	59	145		0	0	

Sample ID: **E090804MB4** SampType: **MBLK** TestCode: **HC_S_VOAC** Units: **mg/Kg** Prep Date: RunNo: **111447**
Client ID: **PBS** Batch ID: **E09VS246** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1756415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	ND	1.0									
Surr: Bromofluorobenzene (FID)	90.669		100.0		90.7	59	145				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_W_ATL

Sample ID: **MB-57067**	SampType: **MBLK**	TestCode: **HC_W_ATL**	Units: **mg/L**	Prep Date: **8/4/2009**	RunNo: **111496**
Client ID: **PBW**	Batch ID: **57067**	TestNo: **EPA 8015B(M**	**EPA 3510C**	Analysis Date: **8/6/2009**	SeqNo: **1757447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C8-C10	ND	0.20									
T/R Hydrocarbons: C10-C18	ND	0.20									
T/R Hydrocarbons: C18-C28	ND	0.20									
T/R Hydrocarbons: C28-C36	ND	0.20									
T/R Hydrocarbons: C36-C40	ND	0.20									
T/R Hydrocarbons: C8-C40 Total	ND	0.20									
Surr: p-Terphenyl	0.040		0.08000		50.6	35	131				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

TestCode: HC_W_VOAC4C12

Sample ID: **090804LCS2** SampType: **LCS** TestCode: **HC_W_VOAC** Units: **mg/L** Prep Date: RunNo: **111429**
Client ID: **LCSW** Batch ID: **I09VW0134** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1755962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	0.815	0.20	1.000	0	81.5	69	125				
Surr: Bromofluorobenzene (FID)	91.838		100.0		91.8	71	130				

Sample ID: **090804MB1** SampType: **MBLK** TestCode: **HC_W_VOAC** Units: **mg/L** Prep Date: RunNo: **111429**
Client ID: **PBW** Batch ID: **I09VW0134** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1755963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	ND	0.20									
Surr: Bromofluorobenzene (FID)	90.205		100.0		90.2	71	130				

Sample ID: **106685-001AMS** SampType: **MS** TestCode: **HC_W_VOAC** Units: **mg/L** Prep Date: RunNo: **111429**
Client ID: **B6-GW** Batch ID: **I09VW0134** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1755971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	0.909	0.20	1.000	0	90.9	69	125				
Surr: Bromofluorobenzene (FID)	89.181		100.0		89.2	71	130				

Sample ID: **106685-001AMSD** SampType: **MSD** TestCode: **HC_W_VOAC** Units: **mg/L** Prep Date: RunNo: **111429**
Client ID: **B6-GW** Batch ID: **I09VW0134** TestNo: **EPA 8015B** Analysis Date: **8/4/2009** SeqNo: **1755972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C4-C12	0.912	0.20	1.000	0	91.2	69	125	0.9090	0.329	20	
Surr: Bromofluorobenzene (FID)	89.026		100.0		89.0	71	130		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57087

Sample ID: **LCS-57087** SampType: **LCS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/5/2009** RunNo: **111474**
Client ID: **LCSS** Batch ID: **57087** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/6/2009** SeqNo: **1756809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1212.490	10	1000	0	121	81	128				
Surr: p-Terphenyl	108.220		80.00		135	57	144				

Sample ID: **106654-001AMS** SampType: **MS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/5/2009** RunNo: **111474**
Client ID: **ZZZZZZ** Batch ID: **57087** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/6/2009** SeqNo: **1756823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	18729.500	500	1000	25280	-656	58	145				S
Surr: p-Terphenyl	0		80.00		0	57	144				SDO

Sample ID: **106654-001AMSD** SampType: **MSD** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/5/2009** RunNo: **111474**
Client ID: **ZZZZZZ** Batch ID: **57087** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/6/2009** SeqNo: **1756824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	11541.500	500	1000	25280	-1370	58	145	18730	47.5	20	SR
Surr: p-Terphenyl	0		80.00		0	57	144		0	0	SDO

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57067

Sample ID: **LCS-57067** SampType: **LCS** TestCode: **8015_W_DM** Units: **mg/L** Prep Date: **8/4/2009** RunNo: **111496**
Client ID: **LCSW** Batch ID: **57067** TestNo: **EPA 8015B(M EPA 3510C** Analysis Date: **8/6/2009** SeqNo: **1757437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.917	0.20	1.000	0	91.7	42	118				
Surr: p-Terphenyl	0.041		0.08000		50.8	35	131				

Sample ID: **MB-57067MS** SampType: **MS** TestCode: **8015_W_DM** Units: **mg/L** Prep Date: **8/4/2009** RunNo: **111496**
Client ID: **ZZZZZZ** Batch ID: **57067** TestNo: **EPA 8015B(M EPA 3510C** Analysis Date: **8/6/2009** SeqNo: **1757438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.866	0.20	1.000	0	86.6	42	118				
Surr: p-Terphenyl	0.042		0.08000		53.1	35	131				

Sample ID: **MB-57067MSD** SampType: **MSD** TestCode: **8015_W_DM** Units: **mg/L** Prep Date: **8/4/2009** RunNo: **111496**
Client ID: **ZZZZZZ** Batch ID: **57067** TestNo: **EPA 8015B(M EPA 3510C** Analysis Date: **8/6/2009** SeqNo: **1757439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	0.887	0.20	1.000	0	88.7	42	118	0.8663	2.39	20	
Surr: p-Terphenyl	0.040		0.08000		50.1	35	131		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
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CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#:
Logged By: Date: 08/04/09

Method of Transport: Client ☐ ATL ☑ CA OverN ☐ FEDEX ☐ Other:

Sample Condition Upon Receipt
1. CHILLED 5.7, 6.3 Y☑ N☐ 4. SEALED Y☐ N☑
2. HEADSPACE (VOA) Y☐ N☐ 5. # OF SPLS MATCH COC Y☑ N☐
3. CONTAINER INTACT Y☑ N☐ 6. PRESERVED Y☑ N☐

Client: Leighton Consulting
Attn: Meredith Church
Address: 17781 Cowan
City Irvine State CA Zip Code 92614
TEL: (949) 250-1421
FAX: (949) 250-1114

Project Name: SCE Newport Project #: 602497002 Sampler: (Printed Name) Mark Withrow (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Mark Withrow	8-3-09	1520		8/3/09	16:50
	8/3/09	16:50		8/3/09	1650
	8/3/09	1800		8/3/09	1800

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Mark Withrow 8-3-09
Print Name Date
Signature

Send Report To: Attn: same Co: 4S Address above City State Zip

Bill To: Attn: same Co: 4S Address above City State Zip

Special Instructions/Comments:
Hold B7 for VOCs 8260 SVOCs 8270
whiteout Comments by Meredith Church

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles) + oxygenates	8270C (BNA) SVOCs	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	TPH carbon field	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	106685-01	B6-GW	8-3	1003		X							X			MOV	X		E	9	VG		
	002	B6-2	8-3	947		X							X		X				E	1	T		
	003	B6-5	8-3	952		X	X	X					X		X				E	1	T		
	004	B6-7	8-3	955										X	X				E	1	T		HOLD
	005	B7-GW	8-3	1055		X	X	X					X	X			X		E	9	VG		hold vials for VOCs + SVOCs
	006	B7-2	8-3	1033		X	X	X					X		X				E	1	T		
	007	B7-5	8-3	1048		X							X		X				E	1	T		
	008	B7-7	8-3	1051										X	X				E	1	T		HOLD

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode ____ OTHER ____

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: _____

Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☑ CA OverN ☐ FEDEX ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y☑ N☐
2. HEADSPACE (VOA) Y☐ N☐
3. CONTAINER INTACT Y☑ N☐
4. SEALED Y☐ N☑
5. # OF SPLS MATCH COC Y☑ N☐
6. PRESERVED Y☐ N☐

Client: Leighton Consulting
Attn: Meredith Church
Address: 17781 Cowan
City: Irvine State: CA Zip Code: 92614
TEL: (949) 250-1421
FAX: (949) 250-1114

Project Name: SCE Newport
Project #: 602497002
Sampler: (Printed Name) Mark Withrow (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Mark Withrow	8-3-09	1520		8/3/09	16:50
	8/3/09	16:50		8/3/09	1650
	8/3/09	1800		8/3/09	1800

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Mark Withrow 8-3-09
Print Name Date
Signature

Send Report To:
Attn: Same as
Co: above
Address
City State Zip

Bill To:
Attn: Same
Co: as
Address above
City State Zip

Special Instructions/Comments:
Hold B10 for VOCs 8260 SVOCs 8270

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested

Q A / Q C: RTNE ☐ CT ☐ SWRCB ☐ Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles) + Oxygenates	8270C (BNA) SVOCs	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	TPH C4-C40 Hold				SOIL	WATER	GROUND WATER	WASTEWATER				TAT	Container(s) #	Type	PRESERVATION	REMARKS
	106685-009	B8-GW	8-3	1127		X							X					MDW	~~X~~	X					E	5	G V		
	010	B8-2	8-3	1120		X							X					X							E	1	T		
	011	B8-5	8-3	1124		X							X					X							E	1	T		
	012	B8 DUP	8-3	1127		X							X					MDW	~~X~~	X					E	5	G V	MDW	
	013	B10-GW	8-3	1158		X							X	X						X					E	9	G V		Hold GW Sample for VOCs & SVOCs
	014	B10-2	8-3	1153		X	X	X					X					X							E	1	T		
	015	B10-6	8-3	1156		X	~~X~~	~~X~~	MDW				X					X							E	1	T		
	016	B9-GW	8-3	1220		X							X							X					E	5	G V		
	017	B9-2	8-3	1212		X							X					X							E	1	T		
	018	B9-6	8-3	1217		X							X					X							E	1	T		

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
(562) 989-4045 • Fax (562) 989-4040

FOR LABORATORY USE ONLY:

P.O.#: MAW ~~602497002~~

Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☑ CA OverN ☐ FEDEX ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED Y☑ N☐ 4. SEALED Y☐ N☑
2. HEADSPACE (VOA) Y☐ N☑ 5. # OF SPLS MATCH COC Y☑ N☐
3. CONTAINER INTACT Y☑ N☐ 6. PRESERVED Y☐ N☐

Client: Leighton Consulting
Attn: Meredith Church
Address: 17781 Cowan
City: Irvine State: CA Zip Code: 92614
TEL: (949) 250-1421
FAX: (949) 250-1124

Project Name: SCE Newport
Project #: 602497002
Sampler: (Printed Name) Mark Withrow (Signature)

Relinquished by: (Signature and Printed Name)	Date: 8-3-09	Time: 1520	Received by: (Signature and Printed Name)	Date: 8/3/09	Time: 1650
Relinquished by: (Signature and Printed Name)	Date: 8/3/09	Time: 1650	Received by: (Signature and Printed Name)	Date: 8/3/09	Time: 1650
Relinquished by: (Signature and Printed Name)	Date: 8/3/09	Time: 1800	Received by: (Signature and Printed Name)	Date: 8/3/09	Time: 1800

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Mark Withrow 8-3-09
Print Name Date
Signature

Send Report To:
Attn: Same
Co: as
Address: above
City _____ State _____ Zip _____

Bill To:
Attn: Meredith Church
Co: Same
Address: as
City: above State _____ Zip _____

Special Instructions/Comments:

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample : $2.00 / sample / mo (after 45 days)
- Records : $1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested

Q A / Q C: RTNE ☐ CT ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample I.D. / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNAs)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	TPH	TPH C4-C40			SOIL	WATER	GROUND WATER	WASTEWATER			TAT	Container(s) #	Type	PRESERVATION	REMARKS
	106685 # 019	B11-GW	8-3	1257		X								X					X	X				E	5	G V		
	020	B11-2	8-3	1251		X								X				X						E	1	T		
	021	B11-5	8-3	1256		X								X				X						E	1	T		
	022	B12-GW	8-3	1335									X							X				E	5	G V		HOLD
	023	B12-2	8-3	1329									X					X						E	1	T		
	024	B12-6	8-3	1332									X					X						E	1	T		
	025	B13-GW	8-3	1315									X							X				E	5	G V		
	026	B13-2	8-3	1312									X					X						E	1	T		
	027	B13-5	8-3	1316									X					X						E	1	T		
	028	Trip Blank	—	—									X						X					E	1	V		

• TAT starts 8 a.m. following day if samples received after 3 p.m.

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

DISTRIBUTION: **White** with report, **Yellow** to folder, **Pink** to submitter.

Rachelle Arada

From: Meredith Church [mchurch@leightongroup.com]

Sent: Tuesday, August 04, 2009 11:07 AM

To: Rachelle Arada

Subject: PN

Hi Rachelle,
We submitted samples for a project yesterday, the PN was listed as 602597-002. The PN should be 602597-003, please list this number on the invoice. Also, we've had problems receiving some of the invoices within 30 days of the work. Could you please check with whoever send the invoices in your office and let them we know that we need the invoices either mailed or emailed to our accounting department within in 30 days of the work. Thanks!!

Meredith Church, PG

Project Geologist

LEIGHTON
Solutions You Can Build On
17781 Cowan
Irvine, CA 92614
(949) 681-4208 (Direct)
(949) 293-2519 (Cell)
(949) 477-4040 (Office)
(949) 250-1114 (Fax)

Rachelle Arada

From: Meredith Church [mchurch@leightongroup.com]
Sent: Tuesday, August 11, 2009 6:35 PM
To: Rachelle Arada
Subject: additional analysis

Hi Rachelle,
For the Newport Beach Project (submitted on 8/3), we need some additional analysis. In addition, I made a typo on the project number, it should be 602497-003 (not 602597).

Please Analyze
B6-7' for TPH-cc (we don't need TPHg, C10 on up will be fine for all these requests)
B7-5' for SVOCs
B7-7' for PCBs and TPH-cc
B12-2' for PCBs and TPH-cc
B12-6' for PCBs and TPH-cc

I will probably be out of the office tomorrow, so if you have any questions, please call me on my cell phone.
Thanks!

Meredith Church, PG
Project Geologist

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Irvine, CA 92614
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(949) 293-2519 (Cell)
(949) 477-4040 (Office)
(949) 250-1114 (Fax)

August 18, 2009

Meredith Church
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614
TEL: (949) 681-4208
FAX: (949) 757-7230

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 106685

RE: SCE Newport, 602497-003

Attention: Meredith Church

Enclosed are the results for sample(s) received on August 03, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B6-7
Lab Order:	106685	**Collection Date:**	8/3/2009 9:55:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-004A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090817C	QC Batch: 57378				PrepDate: 8/17/2009	Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/17/2009 04:00 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/17/2009 04:00 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/17/2009 04:00 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/17/2009 04:00 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/17/2009 04:00 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/17/2009 04:00 PM
Surr: p-Terphenyl	118	57-144		%REC	1	8/17/2009 04:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-5
Lab Order:	106685	**Collection Date:**	8/3/2009 10:48:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-007A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090812D	QC Batch: 57271				PrepDate: 8/12/2009	Analyst: **DMP**
1,2,4-Trichlorobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
1,2-Dichlorobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
1,3-Dichlorobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
1,4-Dichlorobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2,4,5-Trichlorophenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2,4,6-Trichlorophenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2,4-Dichlorophenol	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
2,4-Dimethylphenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2,4-Dinitrophenol	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
2,4-Dinitrotoluene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2,6-Dinitrotoluene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2-Chloronaphthalene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2-Chlorophenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2-Methylnaphthalene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2-Methylphenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
2-Nitroaniline	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
2-Nitrophenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
3,3´-Dichlorobenzidine	ND	660		µg/Kg	1	8/14/2009 06:56 PM
3-Nitroaniline	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
4,6-Dinitro-2-methylphenol	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
4-Bromophenyl-phenylether	ND	330		µg/Kg	1	8/14/2009 06:56 PM
4-Chloro-3-methylphenol	ND	660		µg/Kg	1	8/14/2009 06:56 PM
4-Chloroaniline	ND	660		µg/Kg	1	8/14/2009 06:56 PM
4-Chlorophenyl-phenylether	ND	330		µg/Kg	1	8/14/2009 06:56 PM
4-Methylphenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
4-Nitroaniline	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
4-Nitrophenol	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
Acenaphthene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Acenaphthylene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Anthracene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Benzidine (M)	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
Benzo(a)anthracene	440	330		µg/Kg	1	8/14/2009 06:56 PM
Benzo(a)pyrene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Benzo(b)fluoranthene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Benzo(g,h,i)perylene	ND	330		µg/Kg	1	8/14/2009 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-5
Lab Order:	106685	**Collection Date:**	8/3/2009 10:48:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-007A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090812D	QC Batch: 57271				PrepDate: 8/12/2009	Analyst: **DMP**
Benzo(k)fluoranthene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Benzoic acid	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
Benzyl alcohol	ND	660		µg/Kg	1	8/14/2009 06:56 PM
Bis(2-chloroethoxy)methane	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Bis(2-chloroethyl)ether	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Bis(2-chloroisopropyl)ether	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Bis(2-ethylhexyl)phthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Butylbenzylphthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Chrysene	430	330		µg/Kg	1	8/14/2009 06:56 PM
Di-n-butylphthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Di-n-octylphthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Dibenz(a,h)anthracene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Dibenzofuran	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Diethylphthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Dimethylphthalate	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Fluoranthene	470	330		µg/Kg	1	8/14/2009 06:56 PM
Fluorene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Hexachlorobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Hexachlorobutadiene	ND	660		µg/Kg	1	8/14/2009 06:56 PM
Hexachlorocyclopentadiene	ND	660		µg/Kg	1	8/14/2009 06:56 PM
Hexachloroethane	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Indeno(1,2,3-cd)pyrene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Isophorone	ND	330		µg/Kg	1	8/14/2009 06:56 PM
N-Nitrosodi-n-propylamine	ND	330		µg/Kg	1	8/14/2009 06:56 PM
N-Nitrosodiphenylamine	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Naphthalene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Nitrobenzene	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Pentachlorophenol	ND	1600		µg/Kg	1	8/14/2009 06:56 PM
Phenanthrene	460	330		µg/Kg	1	8/14/2009 06:56 PM
Phenol	ND	330		µg/Kg	1	8/14/2009 06:56 PM
Pyrene	760	330		µg/Kg	1	8/14/2009 06:56 PM
Surr: 1,2-Dichlorobenzene-d4	64.6	49-103		%REC	1	8/14/2009 06:56 PM
Surr: 2,4,6-Tribromophenol	51.7	47-129		%REC	1	8/14/2009 06:56 PM
Surr: 2-Chlorophenol-d4	69.7	54-109		%REC	1	8/14/2009 06:56 PM
Surr: 2-Fluorobiphenyl	76.2	59-108		%REC	1	8/14/2009 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-5
Lab Order:	106685	**Collection Date:**	8/3/2009 10:48:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-007A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS						
EPA 3550B				**EPA 8270C**		
RunID: MS6_090812D	QC Batch: 57271				PrepDate: 8/12/2009	Analyst: **DMP**
Surr: 2-Fluorophenol	67.3	50-111		%REC	1	8/14/2009 06:56 PM
Surr: 4-Terphenyl-d14	83.6	58-135		%REC	1	8/14/2009 06:56 PM
Surr: Nitrobenzene-d5	80.1	54-115		%REC	1	8/14/2009 06:56 PM
Surr: Phenol-d5	71.6	58-112		%REC	1	8/14/2009 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
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DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B7-7
Lab Order:	106685	**Collection Date:**	8/3/2009 10:51:00 AM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-008A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090816A	QC Batch: 57376			PrepDate: 8/14/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/16/2009 01:59 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/16/2009 01:59 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/16/2009 01:59 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/16/2009 01:59 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/16/2009 01:59 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/16/2009 01:59 PM
Surr: p-Terphenyl	119	57-144		%REC	1	8/16/2009 01:59 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC4_090814A	QC Batch: 57365			PrepDate: 8/14/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1221	ND	33		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1232	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1242	36	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1248	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1254	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1260	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1262	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Aroclor 1268	ND	16		µg/Kg	1	8/14/2009 07:24 PM
Surr: Decachlorobiphenyl	82.0	30-124		%REC	1	8/14/2009 07:24 PM
Surr: Tetrachloro-m-xylene	87.8	40-118		%REC	1	8/14/2009 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B12-2
Lab Order:	106685	**Collection Date:**	8/3/2009 1:29:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-023A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090816A	QC Batch: 57376			PrepDate: 8/14/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/16/2009 04:24 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/16/2009 04:24 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/16/2009 04:24 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/16/2009 04:24 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/16/2009 04:24 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/16/2009 04:24 PM
Surr: p-Terphenyl	118	57-144		%REC	1	8/16/2009 04:24 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC4_090814A	QC Batch: 57365			PrepDate: 8/14/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1221	ND	33		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1232	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1242	28	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1248	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1254	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1260	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1262	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Aroclor 1268	ND	16		µg/Kg	1	8/14/2009 07:54 PM
Surr: Decachlorobiphenyl	74.1	30-124		%REC	1	8/14/2009 07:54 PM
Surr: Tetrachloro-m-xylene	81.8	40-118		%REC	1	8/14/2009 07:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *18-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B12-6
Lab Order:	106685	**Collection Date:**	8/3/2009 1:32:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-024A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HYDROCARBON CHAIN IDENTIFICATION						
LUFT				**EPA 8015B(M)**		
RunID: GC16_090816A	QC Batch: 57376			PrepDate: 8/14/2009		Analyst: **CBR**
T/R Hydrocarbons: C8-C10	ND	10		mg/Kg	1	8/16/2009 02:08 PM
T/R Hydrocarbons: C10-C18	ND	10		mg/Kg	1	8/16/2009 02:08 PM
T/R Hydrocarbons: C18-C28	ND	10		mg/Kg	1	8/16/2009 02:08 PM
T/R Hydrocarbons: C28-C36	ND	10		mg/Kg	1	8/16/2009 02:08 PM
T/R Hydrocarbons: C36-C40	ND	10		mg/Kg	1	8/16/2009 02:08 PM
T/R Hydrocarbons: C8-C40 Total	ND	10		mg/Kg	1	8/16/2009 02:08 PM
Surr: p-Terphenyl	118	57-144		%REC	1	8/16/2009 02:08 PM
PCBS BY GC/ECD						
EPA 3550B				**EPA 8082**		
RunID: GC4_090814A	QC Batch: 57365			PrepDate: 8/14/2009		Analyst: **BB**
Aroclor 1016	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1221	ND	33		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1232	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1242	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1248	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1254	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1260	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1262	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Aroclor 1268	ND	16		µg/Kg	1	8/14/2009 08:24 PM
Surr: Decachlorobiphenyl	82.1	30-124		%REC	1	8/14/2009 08:24 PM
Surr: Tetrachloro-m-xylene	86.0	40-118		%REC	1	8/14/2009 08:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57378

Sample ID: **LCS-57378** SampType: **LCS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/17/2009** RunNo: **111861**
Client ID: **LCSS** Batch ID: **57378** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/17/2009** SeqNo: **1764755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1086.170	10	1000	0	109	81	128				
Surr: p-Terphenyl	99.740		80.00		125	57	144				

Sample ID: **106814-007AMS** SampType: **MS** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/17/2009** RunNo: **111861**
Client ID: **ZZZZZZ** Batch ID: **57378** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/17/2009** SeqNo: **1764756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	953.800	10	1000	0	95.4	58	145				
Surr: p-Terphenyl	89.180		80.00		111	57	144				

Sample ID: **106814-007AMSD** SampType: **MSD** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/17/2009** RunNo: **111861**
Client ID: **ZZZZZZ** Batch ID: **57378** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/17/2009** SeqNo: **1764757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1044.000	10	1000	0	104	58	145	953.8	9.03	20	
Surr: p-Terphenyl	96.930		80.00		121	57	144		0	0	

Sample ID: **MB-57378** SampType: **MBLK** TestCode: **8015_S_DM** Units: **mg/Kg** Prep Date: **8/17/2009** RunNo: **111861**
Client ID: **PBS** Batch ID: **57378** TestNo: **EPA 8015B(M LUFT** Analysis Date: **8/17/2009** SeqNo: **1764758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	10									
ORO	ND	10									
Surr: p-Terphenyl	88.550		80.00		111	57	144				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57378

Sample ID: **LCS-57378**	SampType: **LCS**	TestCode: **8015_S_DSL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **LCSS**	Batch ID: **57378**	TestNo: **EPA 8015B(M**	**LUFT**	Analysis Date: **8/17/2009**	SeqNo: **1764727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1086.170	10	1000	0	109	81	128				
Surr: p-Terphenyl	99.740		80.00		125	57	144				

Sample ID: **106814-007AMS**	SampType: **MS**	TestCode: **8015_S_DSL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **ZZZZZZ**	Batch ID: **57378**	TestNo: **EPA 8015B(M**	**LUFT**	Analysis Date: **8/17/2009**	SeqNo: **1764728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	953.800	10	1000	0	95.4	58	145				
Surr: p-Terphenyl	89.180		80.00		111	57	144				

Sample ID: **106814-007AMSD**	SampType: **MSD**	TestCode: **8015_S_DSL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **ZZZZZZ**	Batch ID: **57378**	TestNo: **EPA 8015B(M**	**LUFT**	Analysis Date: **8/17/2009**	SeqNo: **1764729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	1044.000	10	1000	0	104	58	145	953.8	9.03	20	
Surr: p-Terphenyl	96.930		80.00		121	57	144		0	0	

Sample ID: **MB-57378**	SampType: **MBLK**	TestCode: **8015_S_DSL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **PBS**	Batch ID: **57378**	TestNo: **EPA 8015B(M**	**LUFT**	Analysis Date: **8/17/2009**	SeqNo: **1764730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
DRO	ND	10									
Surr: p-Terphenyl	88.550		80.00		111	57	144				

Sample ID: **MB-57378**	SampType: **MBLK**	TestCode: **HC_S_ATL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **PBS**	Batch ID: **57378**	TestNo: **EPA 8015B(M**	**LUFT**	Analysis Date: **8/17/2009**	SeqNo: **1764842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C8-C10	ND	10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57378

Sample ID: **MB-57378**	SampType: **MBLK**	TestCode: **HC_S_ATL**	Units: **mg/Kg**	Prep Date: **8/17/2009**	RunNo: **111861**
Client ID: **PBS**	Batch ID: **57378**	TestNo: **EPA 8015B(M LUFT**		Analysis Date: **8/17/2009**	SeqNo: **1764842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C18	ND	10									
T/R Hydrocarbons: C18-C28	ND	10									
T/R Hydrocarbons: C28-C36	ND	10									
T/R Hydrocarbons: C36-C40	ND	10									
T/R Hydrocarbons: C8-C40 Total	ND	10									
Surr: p-Terphenyl	88.550		80.00		111	57	144				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID:	**MB-57271**	SampType:	**MBLK**	TestCode:	**8270_S_FUL**	Units:	**µg/Kg**	Prep Date:	**8/12/2009**	RunNo:	**111709**			
Client ID:	**PBS**	Batch ID:	**57271**	TestNo:	**EPA 8270C**		**EPA 3550B**	Analysis Date:	**8/12/2009**	SeqNo:	**1761607**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	330									
1,2-Dichlorobenzene	ND	330									
1,2-Diphenylhydrazine	ND	330									
1,3-Dichlorobenzene	ND	330									
1,4-Dichlorobenzene	ND	330									
1,4-Dioxane	ND	330									
2,4,5-Trichlorophenol	ND	330									
2,4,6-Trichlorophenol	ND	330									
2,4-Dichlorophenol	ND	1600									
2,4-Dimethylphenol	ND	330									
2,4-Dinitrophenol	ND	1600									
2,4-Dinitrotoluene	ND	330									
2,6-Dinitrotoluene	ND	330									
2-Chloronaphthalene	ND	330									
2-Chlorophenol	ND	330									
2-Methylnaphthalene	ND	330									
2-Methylphenol	ND	330									
2-Nitroaniline	ND	1600									
2-Nitrophenol	ND	330									
3,3´-Dichlorobenzidine	ND	660									
3-Nitroaniline	ND	1600									
4,6-Dinitro-2-methylphenol	ND	1600									
4-Bromophenyl-phenylether	ND	330									
4-Chloro-3-methylphenol	ND	660									
4-Chloroaniline	ND	660									
4-Chlorophenyl-phenylether	ND	330									
3/4-Methylphenol	ND	330									
4-Methylphenol	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID: **MB-57271**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/12/2009**	RunNo: **111709**
Client ID: **PBS**	Batch ID: **57271**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/12/2009**	SeqNo: **1761607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Nitroaniline	ND	1600									
4-Nitrophenol	ND	1600									
Acenaphthene	ND	330									
Acenaphthylene	ND	330									
Aniline	ND	330									
Anthracene	ND	330									
Benzidine (M)	ND	1600									
Benzo(a)anthracene	ND	330									
Benzo(a)pyrene	ND	330									
Benzo(b)fluoranthene	ND	330									
Benzo(g,h,i)perylene	ND	330									
Benzo(k)fluoranthene	ND	330									
Benzoic acid	ND	1600									
Benzyl alcohol	ND	660									
Bis(2-chloroethoxy)methane	ND	330									
Bis(2-chloroethyl)ether	ND	330									
Bis(2-chloroisopropyl)ether	ND	330									
Bis(2-ethylhexyl)phthalate	ND	330									
Butylbenzylphthalate	ND	330									
Carbazole	ND	330									
Chrysene	ND	330									
Di-n-butylphthalate	ND	330									
Di-n-octylphthalate	ND	330									
Dibenz(a,h)anthracene	ND	330									
Dibenzofuran	ND	330									
Diethylphthalate	ND	330									
Dimethylphthalate	ND	330									
Fluoranthene	ND	330									
Fluorene	ND	330									
Hexachlorobenzene	ND	330									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID: **MB-57271**	SampType: **MBLK**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/12/2009**	RunNo: **111709**
Client ID: **PBS**	Batch ID: **57271**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/12/2009**	SeqNo: **1761607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	660									
Hexachlorocyclopentadiene	ND	660									
Hexachloroethane	ND	330									
Indeno(1,2,3-cd)pyrene	ND	330									
Isophorone	ND	330									
N-Nitrosodi-n-propylamine	ND	330									
N-Nitrosodimethylamine	ND	330									
N-Nitrosodiphenylamine	ND	330									
Naphthalene	ND	330									
Nitrobenzene	ND	330									
Pentachlorophenol	ND	1600									
Phenanthrene	ND	330									
Phenol	ND	330									
Pyrene	ND	330									
Pyridine	ND	1600									
Surr: 1,2-Dichlorobenzene-d4	2505.000		3330		75.2	49	103				
Surr: 2,4,6-Tribromophenol	2620.000		3330		78.7	47	129				
Surr: 2-Chlorophenol-d4	2590.333		3330		77.8	54	109				
Surr: 2-Fluorobiphenyl	2573.000		3330		77.3	59	108				
Surr: 2-Fluorophenol	2630.333		3330		79.0	50	111				
Surr: 4-Terphenyl-d14	3021.000		3330		90.7	58	135				
Surr: Nitrobenzene-d5	3126.333		3330		93.9	54	115				
Surr: Phenol-d5	2790.333		3330		83.8	58	112				

Sample ID: **LCS-57271**	SampType: **LCS**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/12/2009**	RunNo: **111709**
Client ID: **LCSS**	Batch ID: **57271**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/12/2009**	SeqNo: **1761608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2911.000	330	3330	0	87.4	61	107				
1,4-Dichlorobenzene	2555.667	330	3330	0	76.7	56	100				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
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CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID: **LCS-57271** SampType: **LCS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/12/2009** RunNo: **111709**
Client ID: **LCSS** Batch ID: **57271** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/12/2009** SeqNo: **1761608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	3459.667	330	3330	0	104	72	130				
2-Chlorophenol	2594.000	330	3330	0	77.9	64	105				
4-Chloro-3-methylphenol	2956.000	660	3330	0	88.8	74	125				
4-Nitrophenol	3111.667	1600	3330	0	93.4	77	137				
Acenaphthene	2744.000	330	3330	0	82.4	63	117				
N-Nitrosodi-n-propylamine	3141.333	330	3330	0	94.3	71	121				
Pentachlorophenol	3327.000	1600	3330	0	99.9	69	125				
Phenol	2823.667	330	3330	0	84.8	67	111				
Pyrene	2669.667	330	3330	0	80.2	60	122				
Surr: 1,2-Dichlorobenzene-d4	2587.000		3330		77.7	49	103				
Surr: 2,4,6-Tribromophenol	3180.667		3330		95.5	47	129				
Surr: 2-Chlorophenol-d4	2738.333		3330		82.2	54	109				
Surr: 2-Fluorobiphenyl	2723.667		3330		81.8	59	108				
Surr: 2-Fluorophenol	2706.667		3330		81.3	50	111				
Surr: 4-Terphenyl-d14	3399.333		3330		102	58	135				
Surr: Nitrobenzene-d5	3286.667		3330		98.7	54	115				
Surr: Phenol-d5	2948.667		3330		88.5	58	112				

Sample ID: **106760-014DMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/12/2009** RunNo: **111709**
Client ID: **ZZZZZZ** Batch ID: **57271** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/12/2009** SeqNo: **1761609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2855.000	330	3330	0	85.7	60	105				
1,4-Dichlorobenzene	2480.667	330	3330	0	74.5	50	99				
2,4-Dinitrotoluene	3488.667	330	3330	0	105	70	130				
2-Chlorophenol	2629.000	330	3330	0	78.9	58	107				
4-Chloro-3-methylphenol	2984.667	660	3330	0	89.6	72	124				
4-Nitrophenol	3118.667	1600	3330	0	93.7	69	139				
Acenaphthene	2774.667	330	3330	0	83.3	59	118				
N-Nitrosodi-n-propylamine	3134.000	330	3330	0	94.1	61	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID: **106760-014DMS** SampType: **MS** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/12/2009** RunNo: **111709**
Client ID: **ZZZZZZ** Batch ID: **57271** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/12/2009** SeqNo: **1761609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	3313.333	1600	3330	0	99.5	56	131				
Phenol	2856.667	330	3330	0	85.8	60	113				
Pyrene	2662.000	330	3330	0	79.9	51	130				
Surr: 1,2-Dichlorobenzene-d4	2548.333		3330		76.5	49	103				
Surr: 2,4,6-Tribromophenol	3254.000		3330		97.7	47	129				
Surr: 2-Chlorophenol-d4	2767.333		3330		83.1	54	109				
Surr: 2-Fluorobiphenyl	2714.333		3330		81.5	59	108				
Surr: 2-Fluorophenol	2742.667		3330		82.4	50	111				
Surr: 4-Terphenyl-d14	3489.667		3330		105	58	135				
Surr: Nitrobenzene-d5	3269.333		3330		98.2	54	115				
Surr: Phenol-d5	2990.000		3330		89.8	58	112				

Sample ID: **106760-014DMSD** SampType: **MSD** TestCode: **8270_S_FUL** Units: **µg/Kg** Prep Date: **8/12/2009** RunNo: **111709**
Client ID: **ZZZZZZ** Batch ID: **57271** TestNo: **EPA 8270C** **EPA 3550B** Analysis Date: **8/12/2009** SeqNo: **1761610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	2832.667	330	3330	0	85.1	60	105	2855	0.785	20	
1,4-Dichlorobenzene	2518.667	330	3330	0	75.6	50	99	2481	1.52	20	
2,4-Dinitrotoluene	3332.667	330	3330	0	100	70	130	3489	4.57	20	
2-Chlorophenol	2606.000	330	3330	0	78.3	58	107	2629	0.879	20	
4-Chloro-3-methylphenol	2857.000	660	3330	0	85.8	72	124	2985	4.37	20	
4-Nitrophenol	2764.000	1600	3330	0	83.0	69	139	3119	12.1	20	
Acenaphthene	2672.000	330	3330	0	80.2	59	118	2775	3.77	20	
N-Nitrosodi-n-propylamine	3075.333	330	3330	0	92.4	61	125	3134	1.89	20	
Pentachlorophenol	3220.000	1600	3330	0	96.7	56	131	3313	2.86	20	
Phenol	2799.667	330	3330	0	84.1	60	113	2857	2.02	20	
Pyrene	2573.000	330	3330	0	77.3	51	130	2662	3.40	20	
Surr: 1,2-Dichlorobenzene-d4	2552.333		3330		76.6	49	103		0	0	
Surr: 2,4,6-Tribromophenol	3040.333		3330		91.3	47	129		0	0	
Surr: 2-Chlorophenol-d4	2759.333		3330		82.9	54	109		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57271

Sample ID: **106760-014DMSD**	SampType: **MSD**	TestCode: **8270_S_FUL**	Units: **µg/Kg**	Prep Date: **8/12/2009**	RunNo: **111709**
Client ID: **ZZZZZZ**	Batch ID: **57271**	TestNo: **EPA 8270C**	**EPA 3550B**	Analysis Date: **8/12/2009**	SeqNo: **1761610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	2665.000		3330		80.0	59	108		0	0	
Surr: 2-Fluorophenol	2737.667		3330		82.2	50	111		0	0	
Surr: 4-Terphenyl-d14	3319.333		3330		99.7	58	135		0	0	
Surr: Nitrobenzene-d5	3226.667		3330		96.9	54	115		0	0	
Surr: Phenol-d5	2930.333		3330		88.0	58	112		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57365

Sample ID: **MB-57365** SampType: **MBLK** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/14/2009** RunNo: **111832**
Client ID: **PBS** Batch ID: **57365** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/14/2009** SeqNo: **1764109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Aroclor 1262	ND	16									
Aroclor 1268	ND	16									
Surr: Decachlorobiphenyl	14.643		16.67		87.8	30	124				
Surr: Tetrachloro-m-xylene	17.207		16.67		103	40	118				

Sample ID: **LCS-57365** SampType: **LCS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/14/2009** RunNo: **111832**
Client ID: **LCSS** Batch ID: **57365** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/14/2009** SeqNo: **1764110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	124.175	16	166.7	0	74.5	56	113				
Aroclor 1260	133.330	16	166.7	0	80.0	58	111				
Surr: Decachlorobiphenyl	14.003		16.67		84.0	30	124				
Surr: Tetrachloro-m-xylene	15.948		16.67		95.7	40	118				

Sample ID: **106685-008AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/14/2009** RunNo: **111832**
Client ID: **B7-7** Batch ID: **57365** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/14/2009** SeqNo: **1764111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	163.763	16	166.7	0	98.3	51	111				
Aroclor 1260	164.930	16	166.7	0	99.0	39	123				
Surr: Decachlorobiphenyl	15.707		16.67		94.2	30	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57365

Sample ID: **106685-008AMS**	SampType: **MS**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/14/2009**	RunNo: **111832**
Client ID: **B7-7**	Batch ID: **57365**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/14/2009**	SeqNo: **1764111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	16.853		16.67		101	40	118				

Sample ID: **106685-008AMSD**	SampType: **MSD**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/14/2009**	RunNo: **111832**
Client ID: **B7-7**	Batch ID: **57365**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/14/2009**	SeqNo: **1764112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	165.588	16	166.7	0	99.4	51	111	163.8	1.11	20	
Aroclor 1260	165.392	16	166.7	0	99.2	39	123	164.9	0.280	20	
Surr: Decachlorobiphenyl	15.798		16.67		94.8	30	124		0	0	
Surr: Tetrachloro-m-xylene	17.182		16.67		103	40	118		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Rachelle Arada

From: Meredith Church [mchurch@leightongroup.com]

Sent: Tuesday, August 11, 2009 6:35 PM

To: Rachelle Arada

Subject: additional analysis

Hi Rachelle,
For the Newport Beach Project (submitted on 8/3), we need some additional analysis. In addition, I made a typo on the project number, it should be 602497-003 (not 602597).

Please Analyze
B6-7' for TPH-cc (we don't need TPHg, C10 on up will be fine for all these requests)
B7-5' for SVOCs
B7-7' for PCBs and TPH-cc
B12-2' for PCBs and TPH-cc
B12-6' for PCBs and TPH-cc

I will probably be out of the office tomorrow, so if you have any questions, please call me on my cell phone.
Thanks!

Meredith Church, PG

Project Geologist

LEIGHTON
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Irvine, CA 92614
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(949) 293-2519 (Cell)
(949) 477-4040 (Office)
(949) 250-1114 (Fax)

August 26, 2009

Meredith Church
Leighton Consulting, Inc.
17781 Cowan Street
Irvine, CA 92614

TEL: (949) 681-4208
FAX: (949) 757-7230

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 106685

RE: SCE Newport, 602497-003

Attention: Meredith Church

Enclosed are the results for sample(s) received on August 03, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an addendum report. Please incorporate with documentation previously submitted.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Eddie F. Rodriguez
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and Advanced Technology Laboratories.

CLIENT: Leighton Consulting, Inc.
Project: SCE Newport, 602497-003
Lab Order: 106685

CASE NARRATIVE

Analytical Comments for EPA 8082

Samples 106685-026A and 106685-027A were analyzed beyond hold time.

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B13-2
Lab Order:	106685	**Collection Date:**	8/3/2009 1:12:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-026A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3550B			**EPA 8082**		
RunID: GC5_090821A	QC Batch: 57576				PrepDate: 8/21/2009	Analyst: **BB**
Aroclor 1016	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1221	ND	33	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1232	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1242	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1248	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1254	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1260	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1262	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Aroclor 1268	ND	16	H	µg/Kg	1	8/24/2009 04:44 AM
Surr: Decachlorobiphenyl	93.8	30-124	H	%REC	1	8/24/2009 04:44 AM
Surr: Tetrachloro-m-xylene	98.3	40-118	H	%REC	1	8/24/2009 04:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *26-Aug-09*

CLIENT:	Leighton Consulting, Inc.	**Client Sample ID:**	B13-5
Lab Order:	106685	**Collection Date:**	8/3/2009 1:16:00 PM
Project:	SCE Newport, 602497-003	**Matrix:**	SOIL
Lab ID:	106685-027A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS BY GC/ECD						
	EPA 3550B			**EPA 8082**		
RunID: GC5_090821A	QC Batch: 57576				PrepDate: 8/21/2009	Analyst: **BB**
Aroclor 1016	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1221	ND	33	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1232	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1242	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1248	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1254	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1260	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1262	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Aroclor 1268	ND	16	H	µg/Kg	1	8/24/2009 05:14 AM
Surr: Decachlorobiphenyl	93.0	30-124	H	%REC	1	8/24/2009 05:14 AM
Surr: Tetrachloro-m-xylene	93.1	40-118	H	%REC	1	8/24/2009 05:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57576

Sample ID: **MB-57576** SampType: **MBLK** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/21/2009** RunNo: **112127**
Client ID: **PBS** Batch ID: **57576** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/23/2009** SeqNo: **1769952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	16									
Aroclor 1221	ND	33									
Aroclor 1232	ND	16									
Aroclor 1242	ND	16									
Aroclor 1248	ND	16									
Aroclor 1254	ND	16									
Aroclor 1260	ND	16									
Aroclor 1262	ND	16									
Aroclor 1268	ND	16									
Surr: Decachlorobiphenyl	14.372		16.67		86.2	30	124				
Surr: Tetrachloro-m-xylene	16.308		16.67		97.8	40	118				

Sample ID: **LCS-57576** SampType: **LCS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/21/2009** RunNo: **112127**
Client ID: **LCSS** Batch ID: **57576** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/23/2009** SeqNo: **1769953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	141.699	16	166.7	0	85.0	56	113				
Aroclor 1260	155.838	16	166.7	0	93.5	58	111				
Surr: Decachlorobiphenyl	13.808		16.67		82.8	30	124				
Surr: Tetrachloro-m-xylene	15.311		16.67		91.8	40	118				

Sample ID: **107030-001AMS** SampType: **MS** TestCode: **8082_S** Units: **µg/Kg** Prep Date: **8/21/2009** RunNo: **112127**
Client ID: **ZZZZZZ** Batch ID: **57576** TestNo: **EPA 8082** **EPA 3550B** Analysis Date: **8/23/2009** SeqNo: **1769954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	132.432	16	166.7	0	79.5	51	111				
Aroclor 1260	149.482	16	166.7	0	89.7	39	123				
Surr: Decachlorobiphenyl	14.623		16.67		87.7	30	124				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Leighton Consulting, Inc.
Work Order: 106685
Project: SCE Newport, 602497-003

ANALYTICAL QC SUMMARY REPORT

BatchID: 57576

Sample ID: **107030-001AMS**	SampType: **MS**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/21/2009**	RunNo: **112127**
Client ID: **ZZZZZZ**	Batch ID: **57576**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/23/2009**	SeqNo: **1769954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Tetrachloro-m-xylene	15.511		16.67		93.0	40	118				

Sample ID: **107030-001AMSD**	SampType: **MSD**	TestCode: **8082_S**	Units: **µg/Kg**	Prep Date: **8/21/2009**	RunNo: **112127**
Client ID: **ZZZZZZ**	Batch ID: **57576**	TestNo: **EPA 8082**	**EPA 3550B**	Analysis Date: **8/23/2009**	SeqNo: **1769955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	133.725	16	166.7	0	80.2	51	111	132.4	0.972	20	
Aroclor 1260	150.607	16	166.7	0	90.4	39	123	149.5	0.750	20	
Surr: Decachlorobiphenyl	14.066		16.67		84.4	30	124		0	0	
Surr: Tetrachloro-m-xylene	15.550		16.67		93.3	40	118		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Advanced Technology Laboratories
3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

Rachelle Arada

From: Meredith Church [mchurch@leightongroup.com]
Sent: Wednesday, August 19, 2009 3:28 PM
To: Rachelle Arada
Subject: RE: Addendum report for SCE Newport, 602497-003 (ATL# 106685add)

I apologize, I meant B13-2' and B13-5'. Thanks. Yes, they are past the 14 day hold time, but please go ahead an analyze.

Meredith Church, PG
Project Geologist

LEIGHTON
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Irvine, CA 92614
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(949) 293-2519 (Cell)
(949) 477-4040 (Office)
(949) 250-1114 (Fax)

From: Rachelle Arada [mailto:Rachelle@atlglobal.com]
Sent: Wednesday, August 19, 2009 8:14 AM
To: Meredith Church
Subject: RE: Addendum report for SCE Newport, 602497-003 (ATL# 106685add)

Hi Meredith,

I got your request below. I didn't find sample B3-2' in our system, please check. Also, sample B13-5' is beyond hold time for PCB analysis. Do you still want to proceed?

Thanks,
Rachelle

> -----Original Message-----
> **From:** Meredith Church [mailto:mchurch@leightongroup.com]
> **Sent:** Tuesday, August 18, 2009 6:39 PM
> **To:** Rachelle Arada
> **Subject:** RE: Addendum report for SCE Newport, 602497-003 (ATL# 106685add)
>
> Hi Rachelle,
> Can you please run B3-2' and B13-5' for PCBs. Thank you!
>
>
> # Meredith Church, PG
> **Project Geologist**
>
> **LEIGHTON**
> **Solutions You Can Build On**
> 17781 Cowan
>

Irvine, CA 92614
(949) 681-4208 (Direct)
(949) 293-2519 (Cell)
(949) 477-4040 (Office)
(949) 250-1114 (Fax)

From: Rachelle Arada [mailto:Rachelle@atlglobal.com]
Sent: Tuesday, August 18, 2009 11:31 AM
To: Meredith Church
Subject: Addendum report for SCE Newport, 602497-003 (ATL# 106685add)

Hi Meredith,

Enclosed are the results for the above project.

Thanks,

Rachelle Arada
Project Coordinator

Advanced Technology Laboratories
www.atlglobal.com
Tel: (562) 989-4045 ext. 237
Fax: (562) 989-4040

Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Nevada and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. *Advanced Technology Labs - Your Partner for Quality Environmental Testing*

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APPENDIX C

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B6
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface - SILTY SAND, light brown, moist, dense, fine grained sand.
						SP		@0.5' -COBBLY SAND, light brown, moist, dense, fine grained sand.
		6	B6-2		0.0			
								@ 4' - POORLY GRADED SAND, light brown, moist, dense, fine grained sand.
5		6	B6-5		0.0			
		6	B6-7		0.0			@ 7' - Groundwater encountered. Soil becomes wet.
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 7' bgs.
								Groundwater sample collected at 1003.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B7
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface -COBBLY SILT, light brown, moist, loose.
						SP		@2' -COBBLY SAND, brown, moist, dense, fine grained sand.
		6	B7-2		0.0			
5		6	B7-5		0.0			
		6	B7-7		0.0			@7' -Groundwater encountered, soil becomes wet.
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 7' bgs.
								Groundwater sample collected at 1055.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B8
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface -COBBLY SILT, light brown, moist, loose.
						SP		@1' -COBBLY SAND, brown, moist, dense, fine grained sand.
		6	B8-2		0.0			
								@4' -Rock layer encountered.
5								@4.5' -POORLY GRADED SAND, reddish brown, moist, dense, trace sea shells.
		6	B8-5		0.0			
								@5.9' -Groundwater encountered, soil becomes wet.
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 5.9' bgs.
								Groundwater sample collected at 1127.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B9
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface -COBBLY SILT, light brown, dry, loose.
						SP		@1.5' -COBBLY SAND, brown, moist, dense, fine grained sand.
		6	B9-2		0.0			
5		6	B9-6		0.0			@4.5' - SILT layer, brown, moist, hard. @5' -COBBLY SAND, brown, moist, dense, fine grained sand. @6' -Groundwater encountered, soil becomes wet.
10								
15								
20								
25								Total Depth= 8' bgs. Groundwater was encountered at 6' bgs. Groundwater sample collected at 1220.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B10
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface -COBBLY SILT, light brown, moist, loose.
						SP		@1.5' -COBBLY SAND, reddish brown, moist, dense, fine grained sand.
		6	B10-2		0.0			
5								@5' -COBBLY SAND, grey brown, less cobbles.
		6	B10-6		0.0			@6' -Groundwater encountered, soil becomes wet.
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 6' bgs.
								Groundwater sample collected at 1158.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B11
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface -COBBLY SILT, light brown, moist, loose.
						SP		@1' -POORLY GRADED SAND, light brown, moist, dense, fine grained sand.
		6	B11-2		0.0			@2.5' -POORLY GRADED SAND, reddish brown, moist, dense, fine grained sand.
5		6	B11-5		0.0			@5' -Groundwater encountered, soil becomes wet. ∇
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 5' bgs.
								Groundwater sample collected at 1257.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B12
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SP		Surface -COBBLY SAND, light brown, dry, loose, fine grained sand.
		6	B12-2		0.0			
								@3' -POORLY GRADED SAND, light brown, moist, dense, fine grained sand.
								@4' -POORLY GRADED SAND, brown, moist, dense, fine grained sand.
5		6	B12-6		0.0			
						SM		@6' -SILTY SAND, brown, wet, dense, fine grained sand.
								Groundwater encountered.
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 6' bgs.
								Groundwater sample collected at 1335.
30								

SOIL BORING LOG

PROJECT NUMBER	602497003	**BORING/WELL NUMBER**	B13
PROJECT NAME	SCE Newport Beach	**DATE DRILLED**	8/3/2009
LOCATION	1516 W. Balboa Blvd, Newport Beach, CA	**CASING TYPE/DIAMETER**	N/A
DRILLING METHOD	Direct Push	**SCREEN TYPE/SLOT**	N/A
SAMPLING METHOD	Acetate Sleeve	**FILTER PACK TYPE**	N/A
GROUND ELEVATION	N/A ft.	**GROUT TYPE**	N/A
TOP OF CASING ELEV.	N/A	**DEPTH TO WATER**	N/A ft.
LOGGED BY	MDW	**TOTAL DRILL DEPTH**	8 ft.
REMARKS			

DEPTH (ft. BGL)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	PID (ppm)	U.S.C.S.		LITHOLOGIC DESCRIPTION
						SM		Surface-COBBLY SILT, light brown, moist, loose.
		6	B13-2		0.0			
						SP		@1.5'-COBBLY SAND, brown, moist, dense.
								@4'-COBBLY SAND, reddish brown, moist, trace sea shells.
5		6	B13-5		0.0			@5.5' -Groundwater encountered, soil becomes wet. ∇
10								
15								
20								
25								Total Depth= 8' bgs.
								Groundwater was encountered at 5.5' bgs.
								Groundwater sample collected at 1315.
30								