From: Eloy Luna <eloy.luna@lacity.org>
Sent time: 04/02/2020 11:13:29 AM
To: Mindy Nguyen <Mindy.Nguyen@lacity.org>
Subject: Re: Hollywood Center Project Correspondence Follow-Up Request
Attachments: City of Los Angeles Mail - FW_ Permit No. SR0032994 - UST Soil Closeout Report.pdf City of Los Angeles Mail - FW_ Soil Report Requirements and Soil Tracking Worksheet.pdf 6334 Yucca St#32994-sr-nfa.pdf SR0032994 1770 Ivar LLC Soil Closeout Report 06-19-19.pdf

---

Mindy,

Here you go, thanks and let me know if you need anything else.

Best,

eloy

On Thu, Apr 2, 2020 at 11:09 AM Eloy Luna <eloy.luna@lacity.org> wrote:
> Will do, thank you.
>
> On Thu, Apr 2, 2020 at 11:02 AM Mindy Nguyen <Mindy.Nguyen@lacity.org> wrote:
> > Hi Eloy,
> >
> > You may send directly to me and I can upload it for you.
> >
> > Thank you!
> >
> > On Thu, Apr 2, 2020 at 10:48 AM Eloy Luna <eloy.luna@lacity.org> wrote:
> > > Hello Mindy,
> > >
> > > I have some files under 6334 Yucca Street.
> > > Not sure how to drop it in provided link.
> > >
> > > Would you like for me to email them to you?
> > >
> > > thanks
> > >
> > > eloy
> > >
> > > On Wed, Apr 1, 2020 at 4:27 PM Mindy Nguyen <Mindy.Nguyen@lacity.org> wrote:
> > > > Hello All,
> > > >
> > > > I have just been informed that the link previously provided does not work.
> > > >
> > > > Please use this link instead: https://www.dropbox.com/sh/ljbnuw2l590u2aw/AADJMCH6SDQO0d4wql_u8gMka?dl=0
> > > >
> > > > Thank you in advance for your time and attention to this matter.
> > > >
> > > >
> > > > On Tue, Mar 31, 2020 at 5:09 PM Mindy Nguyen <Mindy.Nguyen@lacity.org> wrote:
> > > > > Hello,
> > > > >
> > > > > By now, you should have already received an email on or after February 4, 2020, requesting all electronic communications, such as emails (including personal emails) and text messages pertaining to the **Hollywood Center Project**, located at 1720-1770 North Vine Street; 1746-1760 Ivar Avenue; 1733 and 1741 Argyle Avenue; and 6236, 6270, and 6334 West Yucca Street.
> > > > >
> > > > > If you have already responded to the first email by indicating that you did not have any correspondence, or by providing all

correspondence in your possession, this email is to request any *additional* correspondence from, to, or between any City staff relating to the Hollywood Center Project, **from the date of your initial response to present**.

If you did not respond to the first email, this email is to request any written or email correspondence from, to, or between any City staff relating to the Hollywood Center Project, dating back **from October 12, 2017 to present**.

Please note that as an Environmental Leadership Development Project (ELDP), the City is required to collect and upload all relevant public records of proceedings regarding the Project at the time the Draft EIR is published, until the administrative record for this Project is certified. That said, I ask that, following compliance with the subject request, you continue to upload any correspondence on this Project, as you receive it, to the following Dropbox link: https://www.dropbox.com/sh/lufus38kl50p0he/AACd9mR7C-Gs7RtPqvuhJdHba?dl=0, within a folder titled under your Full Name, using the following instructions:

1. All **email (digital) correspondence** should be submitted, per the Office of the City Attorney's request, in the format outlined in the instructions attached to this email.

2. Any **written (non-digital) correspondence** should be submitted via a scanned PDF file.

3. Any **text messages** should be screenshot and forwarded to your "lacity.org" email address, and compiled based on the instructions attached to this email.

At a minimum, please conduct a search using the following key words/phrases:

- *CPC-2018-2114*
- *CPC-2018-2115*
- *ENV-2018-2116*
- *VTT-82152*
- *Tract Map 82152*
- *Hollywood Center Project*
- *Hollywood Center*
- *HCP*
- *Millennium*
- *1720-1770 North Vine Street (any address in the range)*
- *1746-1760 Ivar Avenue (any address in the range)*
- *1733 and 1741 Argyle Avenue (any address in the range)*
- *6236, 6270, and 6334 West Yucca Street (any address in the range)*
- *MCAF Vine LLC*

Please submit all documents to me no later than **Thursday, April 2, 2020**.

If you are aware of other City staff who may have worked on this Project but has not been included in this email, please let me know as soon as possible. If you do not have any correspondence regarding this matter, you do not need to respond.

Thank you in advance for your time and cooperation.

--

LOS ANGELES CITY PLANNING

Mindy Nguyen
City Planner
Los Angeles City Planning
221 N. Figueroa St., Suite 1350
Los Angeles, CA 90012
Planning4LA.org
T: (213) 847-3674

E-NEWS

--

Mindy Nguyen
City Planner
Los Angeles City Planning
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T: (213) 847-3674

--

Eloy Luna
Engineer Geologist Associate IV
Los Angeles Fire Department
Underground Storage Tank & Plan Check Unit
200 North Main Street, Suite 1780
Los Angeles, CA 90013

213 978-3708
eloy.luna@lacity.org

--

Mindy Nguyen
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--

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eloy.luna@lacity.org

--
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213 978-3708
eloy.luna@lacity.org

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Connect Create Collaborate

Eloy Luna <eloy.luna@lacity.org>

FW: Permit No. SR0032994 - UST Soil Closeout Report

4 messages

Alycia McCord <alyciam@groupdelta.com>
To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Mr. Luna –

I thought I would follow up with you to determine what the final step is in verifying that everything is complete with the UST removal we completed. Do you send a final confirmation? If so, is

Alycia McCord

Group Delta Consultants, Inc.

Direct Office: (310) 954-9157

Cell: (310) 740-6971

From: Alycia McCord <alyciam@groupdelta.com>
Sent: Wednesday, June 19, 2019 4:52 PM
To: lafd.usttestnotify@lacity.org
Cc: Alycia McCord <alyciam@groupdelta.com>; Joseph Mariani <JMariani@hollywoodctr.com>; Khalatian, Edgar <EKhalatian@mayerbrown.com>; Zachary Aarons <zachary.aarons@gmail
Subject: Permit No. SR0032994 - UST Soil Closeout Report

Mr. Luna –

Please find attached the final UST Soil Closeout Report for Permit No. SR0032994 for 1770 Ivar LLC. located at 6334 Yucca Street, Los Angeles, CA 90028. As per the instructions included

As always, please let me know if you have any questions or concerns regarding this report.

Alycia McCord, PG

PMP, STSC, CPESC | **Senior Geologist**
Group Delta Consultants, Inc.
370 Amapola Avenue, Ste. 212
Torrance, CA 90501

Direct: (310) 954-9157

Office: (310) 320-5100, ext. 203
Mobile: (310) 740-6971
Visit us on the web at http://www.GroupDelta.com

LAFD USTTestNotify <lafd.usttestnotify@lacity.org> Wed, Oct 2, 2019 at 12:25 PM
To: LAFD UstTestNotify <lafd.usttestnotify@lacity.org>, Eloy X Luna <eloy.luna@lacity.org>

Mr. Joseph Mariani is requesting an expedite for this report. I left you a copy on your desk.
[Quoted text hidden]

6334 Yucca St Expedited Rpt Review Request 10-02-19.pdf
194K

Eloy Luna <eloy.luna@lacity.org> Mon, Oct 7, 2019 at 9:57 AM
To: Joseph Mariani <JMariani@hollywoodctr.com>, "Khalatian, Edgar" <EKhalatian@mayerbrown.com>, Zachary Aarons <zachary.aarons@gmail.com>, Alycia McCord <alyciam@groupdelta.com>

Attached please find the LAFD CUPA correspondence pertaining to Service Request No. 32994 for the removal of one 150-gallon underground storage tank located at 6334 Yucca Street. Should you have any questions or concerns regarding this matter please do not hesitate to contact me at your earliest convenience.

Kind regards,

Eloy
[Quoted text hidden]
--
Eloy Luna

Engineer Geologist Associate IV
Los Angeles Fire Department
Underground Storage Tank & Plan Check Unit
200 North Main Street, Suite 1780
Los Angeles, CA 90013

213 978-3708
eloy.luna@lacity.org

6334 Yucca St#32994-sr-nfa.pdf
104K

Eloy Luna <eloy.luna@lacity.org> Mon, Oct 7, 2019 at 10:04 AM
To: Joseph Mariani <JMariani@hollywoodctr.com>, "Khalatian, Edgar" <EKhalatian@mayerbrown.com>, Zachary Aarons <zachary.aarons@gmail.com>, Alycia McCord <alyciam@groupdelta.com>

Please replace this letter with previously emailed letter. A correction has been made on the SR No. on the body of the letter.

Thank you .

el.
[Quoted text hidden]

6334 Yucca St#32994-sr-nfa.pdf
104K

Connect Create Collaborate

Eloy Luna <eloy.luna@lacity.org>

FW: Soil Report Requirements and Soil Tracking Worksheet

12 messages

Alycia McCord <alyciam@groupdelta.com>
To: "eloy.luna@lacity.org" <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Mr. Luna –

I have been referred to you by Inspector Yoshihashi. Would you be able to tell me if there is an LAFD action level for motor oil range total petroleum hydrocarbons?

Alycia McCord

Group Delta Consultants, Inc.

Direct Office: (310) 954-9157

Cell: (310) 740-6971

From: Daryl Yoshihashi <daryl.yoshihashi@lacity.org>
Sent: Monday, April 8, 2019 6:08 AM
To: Alycia McCord <alyciam@groupdelta.com>
Subject: Re: Soil Report Requirements and Soil Tracking Worksheet

Good morning Ms. McCord,

That is a great question. I was referring back to our sheet that we have and I was trying to find one as well. We have a Geologist for the LAFD CUPA.

He would probably know best, as he reviews all of the soils reports after. His name is Eloy Luna. His email is: eloy.luna@lacity.org.

I hope this steers you in the right direction. Please let me know if you have any further questions.

Take care.

On Fri, Apr 5, 2019 at 5:23 PM Alycia McCord <alyciam@groupdelta.com> wrote:

> Hello Inspector Yoshihashi,
>
> I should be receiving my lab results on Monday, April 8. Our UST contains oil. I would assume we are under Group-D. There are no action levels for motor oil range total petroleum hydro range?
>
> GROUP DELTA
>
> **Alycia McCord PG, STSC, CPESC** | **Senior Geologist**
> Group Delta Consultants, Inc.
> 370 Amapola Avenue, Ste. 212
> Torrance, CA 90501
>
> Direct: (310) 954-9157
>
> Office: (310) 320-5100, ext. 203
> Mobile: (310) 740-6971
> Visit us on the web at http://www.GroupDelta.com
>
> Please consider the environment before printing this email.
>
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>
> **From:** Daryl Yoshihashi <daryl.yoshihashi@lacity.org>
> **Sent:** Tuesday, April 2, 2019 4:05 PM
> **To:** Alycia McCord <alyciam@groupdelta.com>
> **Subject:** Soil Report Requirements and Soil Tracking Worksheet
>
> Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.
>
> ---
>
> Good afternoon Ms. McCord,

It was a pleasure meeting you today. Thank you for filling me in on what was going on at the site. It was very helpful.

I attached the Soil Report Requirements and Soil Tracking Sheet that are included in the final soils report.

Thank you.

--

Daryl Yoshihashi, Inspector I

Los Angeles Fire Department

Bureau of Fire Prevention & Public Safety
Environmental Unit
200 N. Main St, Rm 1780

Los Angeles, CA 90012

Phone : (213)-660-9242

daryl.yoshihashi@lacity.org

LAFD CUPA

LAFD Customer Survey

--

Daryl Yoshihashi, Inspector I

Los Angeles Fire Department

Bureau of Fire Prevention & Public Safety
Environmental Unit
200 N. Main St, Rm 1780

Los Angeles, CA 90012

Phone : (213)-660-9242

daryl.yoshihashi@lacity.org

LAFD CUPA

LAFD Customer Survey

Alycia McCord <alyciam@groupdelta.com> Tue, Apr 16, 2019 at 3:20 PM
To: "eloy.luna@lacity.org" <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Mr. Luna –

I am in the process of setting up the crew to go back out to our site and continue to overexcavate at our site. I contacted Inspector Bystrom to ask if I needed to schedule him in to be on site for he sample collection, even though the tank is gone. He said that since we need to continue to dig at this location that this falls to you to decide if you will be there or not.

For planning purposes, should I plan on scheduling you to be on site potentially next week? If so, do I schedule you through the on-line system like I would Inspector Bystrom?

Thank you!

Alycia McCord

Group Delta Consultants, Inc.

Direct Office: (310) 954-9157

Cell: (310) 740-6971

[Quoted text hidden]
[Quoted text hidden]

> [Quoted text hidden]
> [Quoted text hidden]
>
> Thank you.
>
> --
>
> [Quoted text hidden]
> [Quoted text hidden]
> [Quoted text hidden]

--

Daryl Yoshihashi, Inspector I

Los Angeles Fire Department

Bureau of Fire Prevention & Public Safety
Environmental Unit
200 N. Main St, Rm 1780

Los Angeles, CA 90012

Phone : (213)-660-9242

daryl.yoshihashi@lacity.org

LAFD CUPA

LAFD Customer Survey

Eloy Luna <eloy.luna@lacity.org> Wed, Apr 17, 2019 at 3:51 AM
To: Alycia McCord <alyciam@groupdelta.com>
Cc: Alycia McCord <alyciam@groupdelta.com>

Ms. McCord,

Please let me know when you will be doing the ox. I am in Monday through Thursday.

Thanks
[Quoted text hidden]
--
Eloy Luna
Engineer Geologist Associate IV
Los Angeles Fire Department
Underground Storage Tank & Plan Check Unit
200 North Main Street, Suite 1780
Los Angeles, CA 90013

213 978-3708
eloy.luna@lacity.org

Alycia McCord <alyciam@groupdelta.com> Wed, Apr 24, 2019 at 4:15 PM
To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Hello Mr. Luna –

I am waiting to have a firm confirmation. We are tentatively set to be back on site to continue to dig and collect more samples on Monday, April 29. More than likely, we will have the samples collected by 9am. The site location is 6334 Yucca Street, Los Angeles, CA 90028 under permit SR0032994.

Alycia McCord

Group Delta Consultants, Inc.

Direct Office: (310) 954-9157

Cell: (310) 740-6971

[Quoted text hidden]

Alycia McCord <alyciam@groupdelta.com>
To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Mr. Luna –

We are confirmed to continue to dig on Monday, April 29. I will be on site to meet the crew at approximately 6:30am.

Alycia McCord PG, STSC, CPESC | **Senior Geologist**
Group Delta Consultants, Inc.
370 Amapola Avenue, Ste. 212
Torrance, CA 90501

Direct: (310) 954-9157

Office: (310) 320-5100, ext. 203
Mobile: (310) 740-6971
Visit us on the web at http://www.GroupDelta.com

[Quoted text hidden]

Eloy Luna <eloy.luna@lacity.org> Mon, Apr 29, 2019 at 8:59 AM
To: Alycia McCord <alyciam@groupdelta.com>
Cc: Alycia McCord <alyciam@groupdelta.com>

Great, thank you.
Please provide today's sampling as part of your Division 5 permit.

Thanks

el.
[Quoted text hidden]

Alycia McCord <alyciam@groupdelta.com> Mon, Apr 29, 2019 at 1:38 PM
To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Mr. Luna,

I certainly will.

A remaining concern. We need to submit a report 30 days from the date of soil sampling. This is not an issue except for the manifest for the tank rinsate. The waste oil sludge was RCRA hazardous for lead. Due the quantity (~150 gallons), we need to acquire a temporary 60 day US EPA ID for a one-time planned event for generating more than 220 lb/month of hazardous material spill cleanup material (waste code D008). I have been told by DTSC that once they have the EPA ID application that they will issue a number within 15 days. My transporter is ready to go as soon as we have the number. Assuming our reporting clock begins from today, I might have all the rinsate manifest within 30 days.

How should I handle this? Should I inform you of the steps as we complete them for receiving the US EPA ID (ie, application submitted, ID issued, date of drum removal, etc)? I fear the biggest hold up will be waiting for the application approval.

[Quoted text hidden]

Eloy Luna <eloy.luna@lacity.org> Mon, Apr 29, 2019 at 2:07 PM
To: Alycia McCord <alyciam@groupdelta.com>
Cc: Alycia McCord <alyciam@groupdelta.com>

Thanks for the update.
Please submit a complete report once you have obtained all your documents needed to submit a complete report. If you will be needing more than 90 days to submit the report, please request another extension in writing.

Thank you and have a great day.

el.
[Quoted text hidden]

Alycia McCord <alyciam@groupdelta.com> Wed, May 1, 2019 at 12:16 PM
To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Eloy –

I have results back for the additional over excavation. We dug an additional 7 cubic yards (for a total of 10.5 cubic yards), and ended up with sample results that were under the requirements listed on the UST Soil Report Requirements. We are proceeding with backfilling and generating the report. Our US EPA ID application has been shipped to DTSC today.

[Quoted text hidden]

Eloy Luna <eloy.luna@lacity.org> Wed, May 1, 2019 at 1:11 PM
To: Alycia McCord <alyciam@groupdelta.com>
Cc: Alycia McCord <alyciam@groupdelta.com>

Great, thanks for the update.
[Quoted text hidden]

Alycia McCord <alyciam@groupdelta.com> Mon, Jun 10, 2019 at 3:19 PM

To: Eloy Luna <eloy.luna@lacity.org>
Cc: Alycia McCord <alyciam@groupdelta.com>

Eloy –

An update – we have received our Federal EPA ID, and have transported the waste off-site for disposal. I received the last manifest late last week. I have the report in for review with the property owner. I anticipate sending the final report to you this week.

[Quoted text hidden]

Eloy Luna <eloy.luna@lacity.org> Mon, Jun 10, 2019 at 3:49 PM
To: Alycia McCord <alyciam@groupdelta.com>
Cc: Alycia McCord <alyciam@groupdelta.com>

Great, thanks for the update.

[Quoted text hidden]

CITY OF LOS ANGELES
CALIFORNIA

FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

200 NORTH MAIN STREET
ROOM 1700
LOS ANGELES, CA 90012

(213) 978-3700
EMAIL:
LAFD.USTTESTNOTIFY@LACITY.ORG

HTTP://WWW.LAFD.ORG

October 10, 2019

Mario Palumbo
1770 Ivar LLC
1995 Broadway Street, 3rd Floor
New York, NY 10023

Facility ID#:41009
RE:Permit#:32994

1770 Ivar, LLC
6334 Ycca Street
Los Angeles, California

Dear Mr. Palumbo:

The Los Angeles Fire Department (LAFD) has reviewed the "UST Soil Closeout Report", dated, June 19, 2019 as submitted by Group Delta Consultants. Based on the information provided, this Department has determined that no further action is required at the site for removal of one 150-gallon underground storage tank under permit No. 32994.

Please note, this correspondence does not exempt you of any liability under the California Health and Safety Code or Water Code for past, present or future operations at this site. Additionally, you maintain responsibility to correct additional or previously unidentified conditions at the site, which cause, or may thereafter cause, pollution or nuisance, or otherwise pose a threat to water quality or public health.

If you require additional information regarding this matter, please contact Eloy Luna of the Underground Storage Tanks – Plan Check Unit, at (213) 978-3708.

Very truly yours,

RALPH M. TERRAZAS
Fire Chief

Royce Long, CUPA Manager
Environmental Unit

RL: EL: 6334 Yucca Street#32994-sr-nd-nfa
cc: Ms. Alycia A. McCord, Group Delta Consultants
Joseph A. Mariani, Jr., 1770 Ivar LLC

GROUP DELTA

Los Angeles Fire Department
Underground Storage Tank – Enforcement Unit
200 North Main Street, Suite 1700
Los Angeles, California 90012

June 19, 2019
LA1301B

Attention: Mr. Eloy Luna

Subject: **UST Soil Closeout Report**
1770 Ivar LLC
6334 Yucca Street, Los Angeles, California 90028

Dear Mr. Luna,

On behalf of 1770 Ivar LLC., Group Delta Consultants, Inc. (GDC) is pleased to submit one hard copy and one electronic copy via e-mail of the *UST Soil Closeout Report* for the above-referenced site.

If you have any questions pertaining to this report, please do not hesitate to contact me at (310) 740-6971 or by e-mail at alyciam@groupdelta.com.

Sincerely,
Group Delta Consultants

Alycia A. McCord, P.G. 9253
Senior Environmental Geologist

Distribution:
Addressee (1 hard copy and 1 electronic copy provided via e-mail)

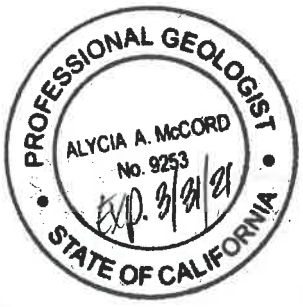
GROUP DELTA

UST SOIL CLOSEOUT REPORT
1770 IVAR LLC.
6334 YUCCA STREET
LOS ANGELES, CALIFORNIA 90028

Permit No. SR0032994

Prepared For:
1770 IVAR LLC.
1995 Broadway, 3rd Floor
New York, NY 10023

Prepared By:
GROUP DELTA CONSULTANTS, INC.
370 Amapola Avenue, Suite 212
Torrance, California 90505



Alycia A. McCord, P.G. 9253, Exp. 3/31/2021
Senior Environmental Geologist

June 17, 2019
GDC Project No. LA1301B

TABLE OF CONTENTS

LIST OF FIGURES

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APPENDICES

Abbreviation	**Term**
Belshire	Belshire Environmental Services, Inc.
Bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, xylenes
Calscience	Eurofins Calscience Environmental Laboratory
CDWR	California Department of Water Resources
CIH	Certified Industrial Hygienist
Dig Alert	Underground Service Alert of Southern California
DTSC	California EPA, Department of Toxic Substances Control
ELAP	Environmental Laboratories Accreditation Program
EPA	United States Environmental Protection Agency
Excell	Excell Excavating, Inc.
Group Delta	Group Delta Consultants, Inc.
HERO	Human and Ecological Risk Office
LAFD	City of Los Angeles Fire Department
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram

Abbreviation	**Term**
ml	milliliter
MSL	Mean sea level
NA	North American
Nieto	Nieto and Sons Trucking, Inc.
PCBs	Polychlorinated biphenyls
PID	Photo-ionization detector
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
RLs	Reporting limits
SCAQMD	South Coast Air Quality Management District
Site	6334 Yucca Street, Los Angeles, California
SLs	Screening levels
TCLP	Toxicity Characterization Leaching Procedure
TPH	Total Petroleum Hydrocarbon
UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This report documents field activities and analytical results from abandoning by removal of an unknown underground storage tank (UST) encountered during an investigation at the 1770 Ivar LLC Site (Site) located at 6334 Yucca Street in Los Angeles, California (**Figure 1**). The current owner, 1770 Ivar LLC., has owned the Site since July 2017. In preparation of future development activities, the owner is underway in determining design criteria and completing processes for permitting. The unknown UST was found during an unrelated investigation at the Site in October 2018.

For this report, Section 1.0 discussed the site description, background, geology and hydrogeology. Section 2.0 discusses pre-field and field activities to abandon the UST by removal. Section 3.0 has a discussion of the laboratory results from the soil sampling. A discussion of handling of waste is included as Section 4.0. A summary and recommendations are included as Section 5.0.

1.1 Site Description and Background

The UST was found at the boundary between the Assessor's Parcel ID Numbers (APN) 5546-004-006 and 5546-004-029, which are two parcels on the southeast corner of the intersection of Yucca Street and Ivar Street (**Figure 1**). The 1-acre Site (combining the two parcels) were initially developed as a parking lot in the 1940s serving the area businesses since the properties were developed. A single story building was added to APN 5546-004-029 in 1979.

1.2 Geology

The Site is located within the southern boundary of the Transverse Ranges geomorphic province. This boundary is structurally characterized by reverse, oblique, and strike-slip offsets along a series of west and northwest trending active faults accommodating west rotation of the Transverse Ranges. These faults include the Santa Monica, Hollywood, and Raymond fault system locally (Dolan, 1997). The Santa Monica Mountains have been uplifted north of this fault zone relative to the Los Angeles Basin to the south due to Miocene extensional tectonics and subsequent compressional tectonics. Mesozoic granitic and Tertiary sedimentary rocks are exposed at the surface within the mountains. Cyclic Quaternary sea level rise and fall has resulted in several episodic deeply eroded canyons and subsequent fill, with modern fan deposition at the base of the mountains. Recent Holocene alluvial deposition is concentrated within the canyons and southward extending drainages.

The project site is situated with an alluvial fan margin, near the toe of a fingering, south extending foothill. Here, at the southern base of the Santa Monica Mountains, canyons cut through Tertiary sedimentary rock of the Topanga Formation and open southward forming alluvial fans. Regional mapping indicates Pleistocene alluvial deposits blanket underlie the Site.

1.3 Hydrogeology

Based on an unrelated investigation completed at the Site and in the immediate vicinity, the Site is situated in an alluvial fan margin giving the Site a few feet of Quaternary deposits overlying the Tertiary sedimentary rock of the Topanga Formation (Group Delta Consultants, Inc. [Group Delta], 2015), which overlies the Lakewood Formation as part of the Hollywood Sub-basin. This evaluation is consistent with the California Department of Water Resources [CDWR] Bulletin 104 (CDWR, 1961), and CDWR Bulletin 118 (CDWR, 2004).

During unrelated investigations, monitoring wells were installed at the Site. The wells were installed on the southern half of the Site at a lower elevation of 392 feet mean sea level (MSL). The UST was located upslope from these wells. Groundwater during drilling was encountered at approximately 59 feet below grade surface (bgs) and a static level of 51 feet bgs. This is consistent with the Bellflower Aquiclude in the area with saturated lenses of sandy and/or gravelly clays.

Review of the State Water Resources Control Board's Geotracker website notes open sites within the vicinity of the Site. A remediation site is located at 5700 Hollywood Boulevard. This site has a surface elevation of approximately 398 feet MSL. During the Fourth Quarter 2018 Groundwater Monitoring Event, the monitoring wells were gauged with depth to water ranging from 84 to 87 feet bgs or an elevation of 307 to 309 feet MSL, which is consistent with the depth of the Exposition Aquifer. The horizontal hydraulic gradient is to the west at approximately 0.005 feet/feet.

2.0 UST ABANDONMENT BY REMOVAL

This section discusses the UST removal and soil sampling procedures, and analytical methods.

2.1 Condition of UST

During excavation activities as part of an unrelated investigation on October 25, 2018, an unknown UST was encountered. Bedding sand was encountered at 2 feet bgs in the upper parking lot. The UST was buried in silty to clayey sand, likely derived locally, and resting on native well bedded alluvial sand deposits. The UST was comprised of steel and had two connection points. One opening was open to atmosphere and the other opening had a portion of pipe connected to the UST, however, this 18-inch pipe was upright and not connected to anything. The UST measured 4 feet long by 2.5 feet wide, approximately 150 gallons (**Figure 2**).

The initial inspection of the newly exposed UST reported the UST appeared to be in stable shape and had the beginning of a corrosion exfoliation rine. From the limited inspection, the UST did not have any obvious holes or weak spots from corrosion. The UST was of single wall design, welded, and contained no rivets. The west end of the UST was partially deformed and may have sustained minor damage when the UST was encountered. During this inspection, a photo-ionization detector (PID) was utilized to determine if the surrounding soils were impacted by volatile organic compounds (VOCs). No readings above background levels were reported. There were no stained soils or detectable odor in the soils. Based on the results of the sampling, the contents appeared to be water and waste oil impacted with lead. On April 2, 2019, the UST was removed under the oversight of a City of Los Angeles Fire Department (LAFD) Inspector.

2.2 Pre-Field Activities

Prior to abandoning the UST by removal, the *Application for Division 5 Permit – Atmospheric Underground Tank* was completed and submitted to the LAFD on November 13, 2018. LAFD responded with a request for the required fees on November 29, 2018. The fees were delivered to LAFD on December 5, 2018. The acknowledgement of the fees allowing the application to go to Plan Check was received on February 4, 2019 with a request to resubmit the application with a current temporary California Environmental Protection Agency (EPA) identification number. On March 4, 2019, LAFD Inspector Stevens contacted Group Delta to request additional information to be submitted, which included the State of California License for the excavation contractor and a scope of work for removing the UST. The Division 5 Permit was issued on March 6, 2019 (**Appendix A**). LAFD Inspector Bystrom was assigned to this case.

Additional pre-field activities included:

- Work with site owner in coordinating access with current tenants on access to UST area and preferred waste staging location on site.
- Scheduled LAFD Inspector Bystrom to be on site for the UST removal on April 2, 2019.

- Notifying Underground Service Alert of Southern California (Dig Alert) prior to excavation activities
- Submitting notification to the South Coast Air Quality Management District (SCAQMD) to utilizing the excavation contractor's Rule 1166 Various Locations Compliance Plan No. 581787.

2.3 UST Removal Activities

Excell Excavating, Inc. (Excell) of Laguna Nigel, California was contracted to excavate around the UST, and after the UST was removed, over excavate as needed. Nieto and Sons Trucking, Inc. (Nieto) on 1281 Brea Canyon Road, Brea, California was contracted to open up and clean out the UST, then remove the UST from the site and dispose of the UST. Certified Industrial Hygienist (CIH) Nancy G. Carraway of Pasadena, California was contracted to certify the UST as clean before removal of the UST commenced. Belshire Environmental Services, Inc. (Belshire) of Foothill Ranch, California was contracted to provide waste containers and transport waste for off-site disposal to approved facilities.

On April 2, 2019 under the supervision of LAFD Inspector Yoshihoshi, who replaced LAFD Inspector Bystrom, the UST was removed. Excell exposed the UST down to the spring line on all sides. The atmosphere of the UST was tested by the CIH to verify that cold cutting could commence. The UST was deemed suitable for cold work, which Nieto cold cut the top of the UST off to allow access to clean out the UST. Nieto attempted to pump the waste oil and water, then proceeded to shovel out a thick waste oil sludge, which filled approximately a third of the UST.

Once the UST was cleaned, the CIH certified the UST as closed and ready for removal (**Appendix B**). Excell and Nieto removed the UST from the excavation and loaded the UST onto a staged truck for shipment for disposal. Once the UST contents and rinsate were secured into three North American (NA)-approved 55-gallon steel drums, Nieto transported the UST off-site for disposal. The UST was destroyed at Ecology Auto Wrecking of Santa Fe Springs on April 4, 2019 (**Appendix C**).

2.3 Condition of the Excavation

The UST excavation is located on the slope between two parcel boundaries. The excavation showed some staining on the southwest side of the pit bottom, which coincided with the location of a pinhole leak in the UST. The four sides of the excavation had no apparent staining or odor. The pit bottom was excavated an additional two feet to permit soil sampling. The pit extent was 58 inches by 55 inches. The depth on the north wall was 84 inches and 40 inches on the south wall side with a total of 3.5 cubic yards of soil removed. The soil was contained in thirteen 55-gallon NA-approved steel drums and staged pending proper profiling and manifesting procedures for off-site disposal. LAFD Inspector Yoshihoshi requested one pit bottom sample and side wall samples from both the north and south sides of the excavation (**Figure 2**).

Since the soil was impacted with waste oil, the PID readings were not reliable to equate to concentrations in soil. There was a chance that additional excavation work would be required. As discussed in Section 3.0, the initial soil sample results for the south wall and pit bottom were above the analytical requirements listed for total petroleum hydrocarbons (TPH) in the *UST Soil Report Requirements* provided by LAFD Inspector Yoshihoshi (**Appendix D**).

On April 29, 2019, additional excavation work was completed. To ensure the results for the new pit bottom and south side wall samples were below the total petroleum limit of 100 milligrams per kilogram (mg/kg), an additional 3.5 cubic yard of soil was removed from the excavation and stored on site in a 20-yard closed top bin pending proper profiling and manifesting procedures for off-site disposal. A bin was utilized with the assumption that the excavation could go up to 15 feet deep. An unrelated investigation during October and November 2018, which exposed the unknow UST while exposing the subsurface conditions to a depth of 15 feet bgs immediately west of the UST. There were no observed odors or staining in the excavation during this investigation. On-going air monitoring was conducted during this investigation, and there were no VOC readings over 50 parts per million (ppm). From this investigation, there was an understanding that the extent of impacted soil from the UST was limited. The final pit extent was 64 inches by 60 inches. The depth on the north wall was 108 inches bgs and 64 inches bgs on the south wall side (**Figure 2**).

After the activities on April 2 and 29, 2019, the excavation was covered and secured with fencing on the private properties. After the results were received from the sampling on April 29, 2019, the excavation was backfilled on May 6 and the area repaved on May 7, 2019. Due to the slope of the excavation, clean fill material was compacted to 95% Proctor density in 6-inch lifts instead of a bentonite cement-slurry backfill that was originally proposed. Then on May 7, 2019, the remaining site restoration activities were completed. The area was repaved, temporary security fencing was removed, permanent fencing was replaced, and the parking areas were restriped.

2.4 Air Monitoring

Rule 1166 monitoring was conducted by Group Delta during all the excavation activities. There were no VOC readings over 50 ppm on April 2 or 29, 2019. The Rule 1166 Compliance Plan Permit 581787 Completion Memorandum was prepared and submitted to SCAQMD on May 14, 2019. The Completion Memorandum include the calibration forms and monitoring forms from April 2 and 29, 2019. The Completion Memorandum is included as **Appendix E**.

2.5 Soil Sampling Procedures

Samples were collected directly from the bucket of excavator, which collected the soil from specific locations within the excavation (**Figure 2**). For non-organic analyses, an 8-oz sealed glass jar with a Teflon™ lined lid was used per soil sample. In addition to filling glass jars, the VOC and TPH samples were preserved utilizing EPA Method 5035. This preservation method was completed by using a TerraCore™ dual analysis sampling kit. The kit includes a dedicated 5-gram

plastic plunger, four volatile organic analysis (VOA) 40-mililiter (ml) container with 5 ml of 20% sodium bisulfate solution with stir bars, one VOA container with 5 ml of methanol, and one 50 ml poly container. A total of 5 VOAs and 1 poly container were collected per sample.

The samples were labeled with a unique sample identification, date, and time. The sample containers were placed in plastic bags, and the bags sealed and placed in a cooler on ice prior being transported under chain-of-custody protocol to Eurofins Calscience Environmental Laboratory (Calscience) in Garden Grove, California, a State-certified laboratory under the Environmental Laboratory Accreditation Program (ELAP) No. 1230.

2.6 Analytical Methods

Each confirmation soil sample was analyzed for the following:

- VOCs plus fuel oxygenates in accordance with EPA Method 8260B, and preserved by EPA Method 5035
- TPH – specified carbon chain in accordance with EPA Methods 8015B(M) and 8015M, and preserved by EPA Method 5035
- Title 22 Metals in accordance with EPA Method 6010B/7471
- Polychlorinated biphenyls (PCBs) in accordance with EPA Method 8082

As a note, PCBs were not required as part of *UST Soil Report Requirement.* However, once the UST was opened where the hardened sludge of waste oil was visible, the tank contents were suspect of containing PCBs. There is no history on this UST and has had an unknown purpose. Waste oil could be from coolant fluids, heat transfer fluids, and PCBs are highly soluble in organic solvents and oils. Since the Site has proposed redevelopment plans underway, the oversight Professional Geologist included this analysis into the sampling suite to eliminate this potential concern from future evaluations.

3.0 SUMMARY OF RESULTS

The results of the confirmation sampling are discussed in this section, and the data is presented on **Tables 1 through 4**, and the laboratory analytical reports are included as **Appendix F**. Screening criteria has been established for the project as listed in the *UST Soil Report Requirements* (**Appendix D**). If a detected result is not listed in the *UST Soil Report Requirements,* then the screening criteria for residential use scenario from either the California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) *Human Health Risk Assessment, Note 3 Screening Levels* (SL; DTSC, April 2019) or EPA's *Regional Screening Levels* (RSLs; EPA, April 2019).

3.1 TPH Analytical Results

For the initial confirmation samples collected on April 2, the samples were analyzed for the TPH full specified carbon chain ranging from C4 to C44 (**Table 1**). The LAFD's *Analytical Requirements* did not include an action level for waste oil. The LAFD Geologist, Mr. Eloy Luna, was contacted to discuss and determine an action level. In Mr. Luna's capacity, he has only been provided one action level for all types of TPH from the state agencies. If the decision was made to keep levels of TPH in soil above the LAFD action levels, Mr. Luna would need to escalate this case to these state agencies. Since this small UST had a limited source size and as described in Section 2.0, a prior investigation showed that the impacted soil was limited. The action level of 100 mg/kg was accepted for heavy end oils. Only the north sidewall (SW-N-040219) was below the action level. On April 29, additional over excavation work to remove impacted soil in the pit bottom and the south wall, and to collect final confirmation samples. Final confirmation samples were collected for the south wall (SW-S-042919) and pit bottom (PB-CENTER-042919). The results for the two final confirmation samples were below the LAFD action level of 100 mg/kg (**Table 1**).

3.2 VOCs Analytical Results

For the initial confirmation samples collected on April 2, the samples were analyzed for the full VOC analytical suite including fuel oxygenates (ie, diisopropyl ether, ethyl-t-butyl ether, methyl-t-butyl ether, tert-amyl-methyl ether, tert-butyl alcohol). No fuel oxygenates concentrations were detected above the laboratory reporting limits of 0.97 micrograms per kilogram (µg/kg) in the two side wall samples, SW-S-040219 and SW-N-040219 (**Table 2**). For the aromatic fuel additives also known as benzene, toluene, ethylbenzene and xylenes (BTEX), a combined total concentration of 50 mg/kg is the LAFD action level for BTEX. Results from the two side wall samples, SW-S-040219 and SW-N-040219 are below the LAFD's *Analytical Requirements*.

However, the pit bottom sample had other VOCs detected. The concentration for naphthalene for this sample was 9,700 µg/kg, which is above the established residential screening criteria (**Table 2**). These results prompted additional over excavation work to remove impacted soil in the pit bottom, and collect final confirmation samples. The additional over excavation was completed on April 29, 2019.

On April 29, final confirmation samples were collected for the south wall (SW-S-042919) and pit bottom (PB-CENTER-042919). There were no detections of VOCs in the two final confirmation samples (**Table 2**).

3.3 Metals Analytical Results

Analyzing for metals was not included as part of LAFD's *Analytical Requirements.* However, as part of the initial assessment of the UST when the UST discovered, waste characterization samples were collected as part of the sampling suite required by disposal facilities. The tank contents contained lead impacted waste oil. Once the UST was removed showing a small leak at the bottom of the UST, metals analysis was added to the sampling suite.

For the metal detections in soil, none of the results were above the established screening criteria. It should be noted that Southern California has a higher acceptable level for arsenic than what is listed in the DTSC SLs or the EPA RSLs. DTSC made a determine of background arsenic levels in Southern California in March 2008, which established the average arsenic background level is 12 mg/kg (DTSC, 2008). Soil analytical results for metals are provided in **Table 3.**

3.4 PCBs Analytical Results

Analyzing for PCBs was not included as part of LAFD's *Analytical Requirements.* Once the tank contents were visible and due the potential age of the UST, there was a high probability that the UST might contain PCBs. For the initial confirmation sampling on April 2, 2019, samples were analyzed for PCBs. No PCBs were detected in the side wall or pit bottom samples (**Table 4**). The final confirmations samples collected on April 29, 2019 were not analyzed for PCBs.

4.0 WASTE MANAGEMENT

Management of waste generated during the UST abandonment is discussed in this section, and the data and documents are included as **Appendices G to I**.

4.1 Sampling Procedures

Samples were collected directly from the waste containers. An 8-oz sealed glass jar with a Teflon™ lined lid was used per sample. The samples were labeled with a unique sample identification, date, and time. The sample containers were placed in plastic bags, and the bags sealed and placed in a cooler on ice prior being transported under chain-of-custody protocol to Calscience.

4.2 Analytical Methods

Each confirmation soil sample was analyzed for the following:

- VOCs plus fuel oxygenates in accordance with EPA Method 8260B
- TPH – specified carbon chain in accordance with EPA Methods 8015B(M) and 8015M, and preserved by EPA Method 5035
- Title 22 Metals in accordance with EPA Method 6010B/7471
- PCBs in accordance with EPA Method 8082
- Toxicity characteristic leaching procedure (TCLP) for VOCs
- TCLP for metals

4.3 Soil

The results of the soil sampling supported classifying the soil removed from the excavation as non-hazardous solid waste utilizing the temporary State ID number CAC002999570 (**Appendix G**). On April 11, a total of 13 NA-approved 55-gallon drums (total of 4.07 tons) were transported by Belshire for disposal at Soil Safe of California – TPST located at 12328 Hibiscus Road in Aldelanto, California. The soil (total of 6.13 tons) from the final over excavation on April 29, 2019 was loaded into a 20-yard closed top bin. The bin was transported off-site by Belshire for disposal at Soil Safe of California – TPST on May 8, 2019. The manifests are included as **Appendix H**.

4.4 Tank Contents and Rinsate

The results of the tank contents and rinsate sampling was classified as Resource Conservation and Recovery Act (RCRA) hazardous waste flammable liquid due to the levels of lead in the waste oil. A temporary State ID number could not be utilized to remove this waste. A temporary Federal ID application was submitted on May 1, 2019 and approved on May 6, 2019. The waste was profiled and accepted by Demenno Kerdoon at 2100 North Alameda Street, Compton, California. The waste was transported off-site by Belshire under the temporary Federal ID CAP000295071 to Demenno Kerdoon on May 24, 2019.

5.0 SUMMARY AND CONCLUSION

On April 2, an unknown 150-gallon UST was permanently abandoned by removal. The UST was cleaned, certified, removed from the excavation and transported off-site for disposal. The pit was over excavated, and confirmation samples were collected. Only the results from one of the samples, SW-N-040219, was in accordance with LAFD action levels. Additional over excavation work was completed on April 29, and more confirmation samples were collected. The results for the remaining confirmation samples were in accordance with LAFD action levels.

The soil from the excavation activities was properly manifested and transported off-site by Belshire for disposal at Soil Safe of California – TPST. The UST contents and rinsate were profiled as RCRA hazardous waste flammable liquid. The UST contents were transported off-site by Belshire under the temporary Federal ID CAP000295071 to Demenno Kerdoon.

The recommendation is for no further action and closure of this case. After review of the confirmation sampling results, depth to groundwater (at approximately 51 feet bgs), and observations made during a deeper excavation adjacent to the UST, the source has been contained and removed with no further threat to groundwater or as an indoor air intrusion risk to any current or future development at the Site.

6.0 REFERENCES

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CDWR. 2004. *California's Groundwater Bulletin 118, South Coast Hydrogeologic Region, Coastal Plain of Los Angeles Groundwater Basin*. February 27.

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DTSC. 2008. California Environmental Protection Agency, Department of Toxic Substances Control, 2008. *Determination of a Southern California Regional Background Arsenic Concentration in Soil*, March.

DTSC. 2019. California Environmental Protection Agency, Department of Toxic Substances Control, 2019. *Human Health Risk Assessment, Note 3* for residential use soil, April.

EPA. 2019. Environmental Protection Agency – Region 9, 2019. *Regional Screening Levels Summary Table*. April.

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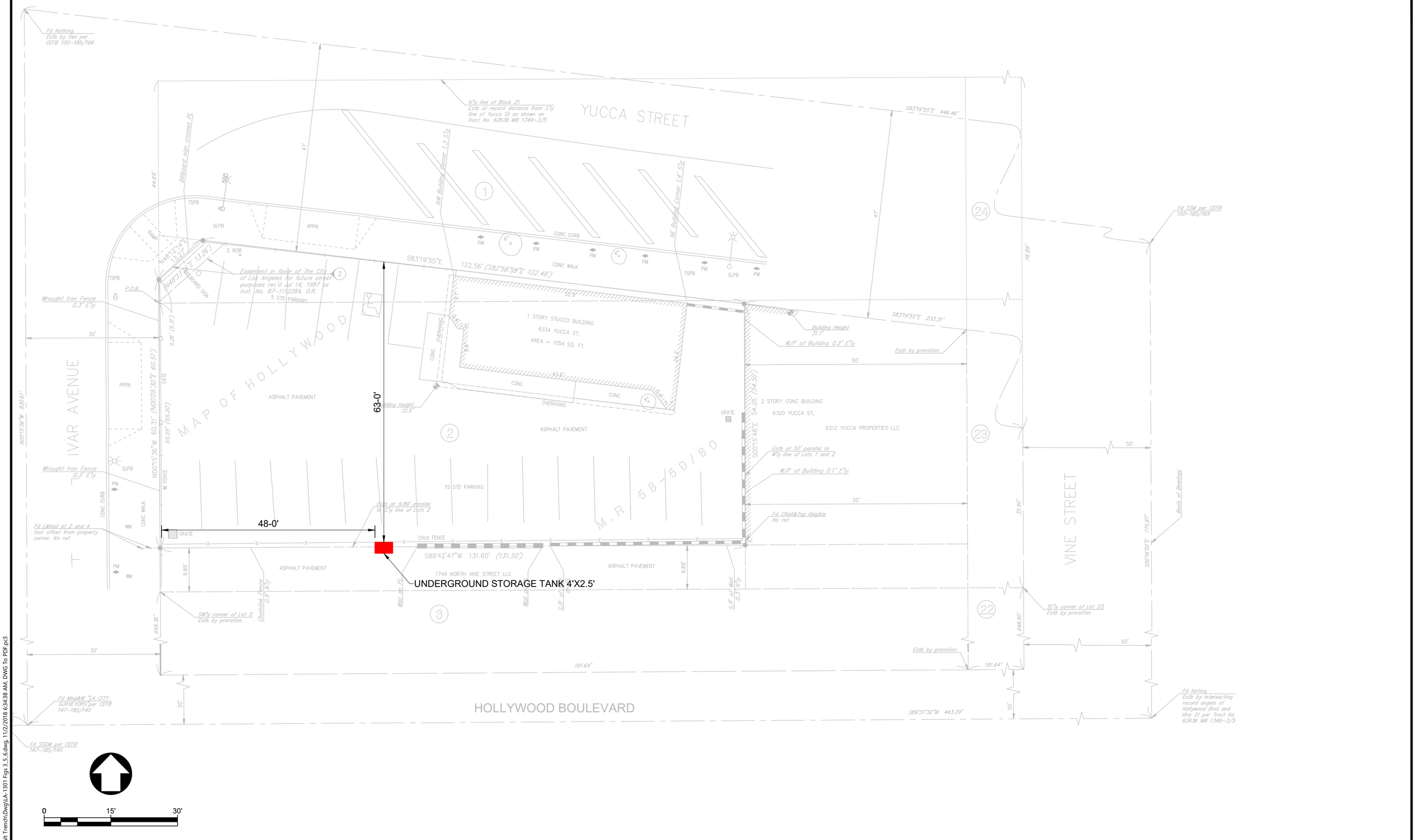
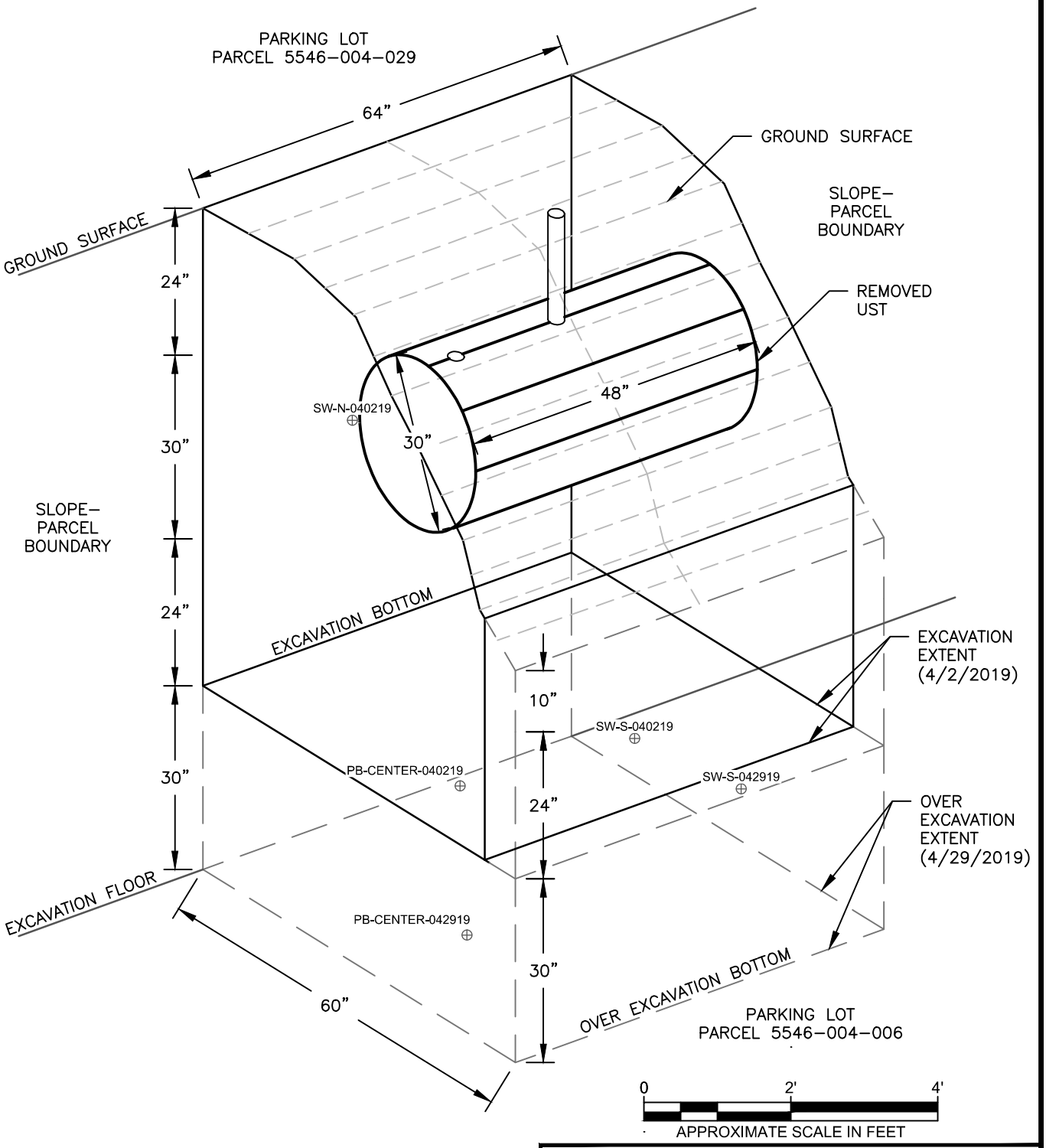
FIGURES



DATE: 11/02/2018	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	SITE PLAN
PREPARED BY: -	APPROVED BY: AM		1770 IVAR LLC HOLLYWOOD, CALIFORNIA
REVISION: -	REVIEWED BY: -		SCALE: AS SHOWN FIGURE NUMBER: 1

LA-1301A



Explanation

SW-N-040219 ⊕ SAMPLE LOCATION

TANK REMOVAL EXCAVATION SAMPLING
PARKING LOTS, PARCELS 5546-004-029 AND 5546-004-006

SAMPLE LOCATION MAP

1770 IVAR LLC
6334 YUCCA STREET, LOS ANGELES, CA 90028

Date: 06/19	GROUP DELTA	Figure
Project No. LA1301B		2

FILE NAME: Z:\GRP.DELTA\YUCCA STREET\EXCAV.DWG\2019\EXCAV.0619\FIG02 LA1301B.EXCAV.ASM.0619.DWG

TABLES

Table 1
Analytical Results for Total Petroleum Hydrocarbons in Soil
UST Removal
1770 Ivar LLC
6334 Yucca Street, Los Angeles, California

Sample ID	Laboratory ID	Sample Date	Units	C6	C7	C8	C9-C10	C11-C12	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C4-C44 Total
SW-S-040219	19-04-0223-2	04/02/19	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**9.1**	**32**	**60**	**110**	**78**	**38**	**12**	**6.2**	**350**
SW-N-040219	19-04-0223-3	04/02/19	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PB-CENTER-040219	19-04-0223-4	04/02/19	mg/kg	<250	<250	<250	**580**	**340**	<250	<250	<250	**930**	**3,500**	**6,200**	**12,000**	**7,600**	**3,500**	**1,200**	**550**	**36,000**
Confirmation Samples (after additional excavation)																				
SW-S-042919	19-04-2258-1	04/29/19	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8.3**	**7.3**	<5.0	<5.0	<5.0	**30**
PB-CENTER-042919	19-04-2258-2	04/29/19	mg/kg	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
LAFD Analytical Requirements			mg/kg																	100

Notes

Samples were analyzed utilizing EPA Method 8015B(M)

Highlight = detected concentration is above the site-specific screening criteria

mg/kg = milligrams per kilogram

< = less than the laboratory reporting limit shown

Bold = detected concentration at or above the laboratory reporting limit

Table 2
Analytical Results for Detected Volatile Organic Compounds in Soil
UST Removal
1770 Ivar LLC
6334 Yucca Street, Los Angeles, California

Sample ID	Laboratory ID	Sample Date	Units	n-Butyl-benzene	sec-Butyl-benzene	Ethyl-benzene	Isopropyl-benzene	p-Isopropyl-toluene	Naph-thalene	n-Propyl-benzene	Toluene	1,2,4-Tri-methyl-benzene	1,3,5-Tri-methyl-benzene	p/m-Xylene	o-Xylene
SW-S-040219	19-04-0223-2	04/02/19	ug/kg	**2.0**	<0.97	<0.97	<0.97	<0.97	**23**	<1.9	<0.97	**9.3**	**2.4**	**2.0**	**1.3**
SW-N-040219	19-04-0223-3	04/02/19	ug/kg	<0.96	<0.96	<0.96	<0.96	<0.96	<9.6	<1.9	<0.96	<1.9	<1.9	<1.9	<0.96
PB-CENTER-040219	19-04-0223-4	04/02/19	ug/kg	**1,600**	**550**	**1,600**	**430**	**580**	**9,700**	**1,800**	**1,200**	**19,000**	**7,000**	**7,200**	**5,800**
Confirmation Samples (after additional excavation)															
SW-S-042919	19-04-2258-1	04/29/19	ug/kg	<5.2	<5.2	<5.2	<5.2	<5.2	<52	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
PB-CENTER-042919	19-04-2258-2	04/29/19	ug/kg	<5.1	<5.1	<5.1	<5.1	<5.1	<51	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1
LAFD Analytical Requirements			ug/kg	--	--	--	--	--	--	--	--	--	--	--	--
DTSC HERO, HHRA, Note 3 - residential scenario			ug/kg	--	--	--	--	--	2,000	--	1,100,000	--	--	--	--
EPA RSL Screening Criteria - residential scenario			ug/kg	3,900,000	7,800,000	5,800	1,900,000	--	--	3,800,000	4,900,000	300,000	270,000	550,000	550,000

Notes

Samples were analyzed utilizing EPA Method 8260B

The lower value between DTSC SLs or EPA RSLs will be used to evaluate detected analytes.

Highlight = detected concentration is above the site-specific screening criteria

ug/kg = micrograms per kilogram

< = less than the laboratory reporting limit shown

Analytes not detected at or above the laboratory reporting limit were excluded from the results table

Bold = detected concentration at or above the laboratory reporting limit

EPA = United States Enviromental Protection Agency

DTSC = California EPA, Department of Toxic Substances Control

RSLs = Regional Screening Levels

-- = Not Available

Sources:

DTSC, 2019. Office of Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA), Note No. 3, Table 1. Screening Levels for Soil, April.

USEPA, 2019. Regional Screening Levels (RSL) Summary Table, April.

Table 3
Analytical Results for Metals in Soil
UST Removal
1770 Ivar LLC
6334 Yucca Street, Los Angeles, California

Sample ID	Laboratory ID	Sample Date	Units	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SW-S-040219	19-04-0223-2	04/02/19	mg/kg	<0.739	<0.739	**65.0**	**0.459**	<0.493	**7.18**	**4.09**	**5.85**	**52.4**	<0.0847	**0.261**	**5.80**	<0.739	<0.246	<0.739	**21.2**	**169**
SW-N-040219	19-04-0223-3	04/02/19	mg/kg	<0.758	**10.2**	**48.3**	**0.484**	**0.799**	**7.30**	**4.71**	**5.68**	**1.56**	<0.0820	**0.285**	**5.63**	<0.758	<0.253	<0.758	**20.2**	**1360**
PB-CENTER-040219	19-04-0223-4	04/02/19	mg/kg	<0.785	<0.785	**54.8**	**0.511**	**0.595**	**10.6**	**4.44**	**6.00**	**72.8**	<0.0820	**0.434**	**7.17**	<0.785	<0.262	<0.785	**26.1**	**344**
Confirmation Samples (after additional excavation)																				
SW-S-042919	19-04-2258-1	04/29/19	mg/kg	<0.765	<0.765	**61.1**	**0.387**	<0.510	**7.43**	**5.92**	**3.67**	**0.544**	**0.175**	<0.255	**6.56**	<0.765	<0.255	<0.765	**18.4**	**16.9**
PB-CENTER-042919	19-04-2258-2	04/29/19	mg/kg	<0.789	<0.789	**37.7**	**0.335**	<0.526	**7.85**	**5.64**	**4.81**	<0.526	<0.0833	**0.331**	**6.35**	<0.789	<0.263	<0.789	**20.3**	**19.2**
DTSC HERO, HHRA, Note 3 - residential scenario			mg/kg	--	12*	--	16	910	--	--	--	80	1.0	--	820	--	--	--	--	--
EPA RSL Screening Criteria - residential scenario			mg/kg	31	0.68	15,000	160	71	120,000	23	3,100	400	11	390	1,500	390	390	0.78	390	23,000

Notes

Samples were analyzed utilizing EPA Method 6010B/7471

The lower value between DTSC SLs or EPA RSLs will be used to evaluate detected analytes, with the exception of arsenic.

Highlight = detected concentration is above the site-specific screening criteria

mg/kg = milligrams per kilogram

< = less than the laboratory reporting limit shown

Analytes not detected at or above the laboratory reporting limit were excluded from the results table

Bold = detected concentration at or above the laboratory reporting limit

EPA = United States Enviromental Protection Agency

DTSC = California EPA, Department of Toxic Substances Control

RSLs = Regional Screening Levels

-- = Not Available

Sources:

DTSC, 2019. Office of Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA), Note No. 3, Table 1. Screening Levels for Soil, April.

USEPA, 2019. Regional Screening Levels (RSL) Summary Table, April.

*Arsenic level determined by DTSC and documented in the *Determination of a Southern California Regional Background Arsenic Concentration in Soil* , March 2008.

Table 4
Analytical Results for Polychlorinated Biphenyls in Soil
UST Removal
1770 Ivar LLC
6334 Yucca Street, Los Angeles, California

Sample ID	Laboratory ID	Sample Date	Units	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268
SW-S-040219	19-04-0223-2	04/02/19	ug/kg	<50	<50	<50	<50	<50	<50	<50	<50	<50
SW-N-040219	19-04-0223-3	04/02/19	ug/kg	<49	<49	<49	<49	<49	<49	<49	<49	<49
PB-CENTER-040219	19-04-0223-4	04/02/19	ug/kg	<50	<50	<50	<50	<50	<50	<50	<50	<50
DTSC HERO, HHRA, Note 3 - residential scenario			ug/kg	4,000	--	--	--	--	--	--	--	--
EPA RSL Screening Criteria - residential scenario			ug/kg	4,100	200	170	230	230	240	240	--	--

Notes

Samples were analyzed utilizing EPA Method 8082

The lower value between DTSC SLs or EPA RSLs will be used to evaluate detected analytes, with the exception of arsenic.

Highlight = detected concentration is above the site-specific screening criteria

ug/kg = micrograms per kilogram

< = less than the laboratory reporting limit shown

Analytes not detected at or above the laboratory reporting limit were excluded from the results table

Bold = detected concentration at or above the laboratory reporting limit

EPA = United States Enviromental Protection Agency

DTSC = California EPA, Department of Toxic Substances Control

RSLs = Regional Screening Levels

-- = Not Available

Sources:

DTSC, 2019. Office of Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA), Note No. 3, Table 1. Screening Levels for Soil, April.

USEPA, 2019. Regional Screening Levels (RSL) Summary Table, April.

APPENDIX A

LOS ANGLES FIRE DEPARTMENT
DIV-5 PERMIT

Los Angeles City Fire Department
Underground Storage Tank Project Permit

FIRE DEPT. USE ONLY

DATA MANAGEMENT UNIT	LAFD UNIFIED PROGRAM FACILITY ID:	PERMIT NO.:	DATE GRANTED:	WORK MUST BEGIN BY:	EXPIRATION DATE:
☐ Tanks are registered & Fees paid to date ☐ Fee exempt Signature	FA0041009	SR0032994	3/6/2019	9/6/2019	3/6/2020
	ENFORCEMENT INSPECTOR: SHANE BYSTROM () -		FIRE STATION #: 027	PERMIT TYPE: NEWLY DISCOVERED UST	

LOCATION INFORMATION

DOING BUSINESS AS (DBA): 1770 IVAR, LLC.		**EPA ID NO:** (not required for installation or monitoring) CAC002999570
ADDRESS: 6334 YUCCA ST		**PHONE NO:** 323 961 1610
CITY: LOS ANGELES	**STATE:** CA	**ZIP:** 90028

PROPERTY OWNER

NAME: 1770 IVAR, LLC.		**PHONE NO:** (213) 875-4900
ADDRESS: 1995 BROADWAY 3RD FLR		
CITY: NEW YORK	**STATE:** NY	**ZIP:** 10023
PRINT NAME:	**SIGNATURE:**	

LESSEE/FACILITY OWNER

NAME: MP LOS ANGELES		**PHONE NO:** 323 961 1610
ADDRESS: 1601 VINE ST		
CITY: Los Angeles	**STATE:** CA	**ZIP:** 90028
PRINT NAME:	**SIGNATURE:**	

CONTRACTOR INFORMATION

NAME: Group Delta Consultants / Excell Excavating			**PHONE NO:** 310 320 5100
ADDRESS:			
CITY:	**STATE:**	**ZIP:**	
CITY BUSINESS NUMBER: 35549600011	**STATE CONTRACTOR #:** Excell Ex. 659322	**EXP. DATE:**	**WORK COMP NUMBER -** **EXP. DATE:**
PRINT NAME: ALYCIA MCCORD	**SIGNATURE:**		**TITLE:**

	ITEM	PE	QTY	NOTES:
	UST Installation	5100		INV# - IN0289529 SR# - 32994
	UST Abandonment-In-Place	5200		Newly found UST abandonment by removal
	UST Abandonment by Removal	5201		
	UST Add to/Alter: Monitor/Piping/Disp.	5300		
	UST Tank Entry / Lining / Repair	5301		
	Site Assessment	5400		
	Emergency Plan Check/Site Assessment	5401		

APPROVED

LOS ANGELES FIRE DEPARTMENT
BUREAU OF FIRE PREVENTION
CUPA/UST PLAN CHECK

INSPECTOR NAME: GREGORY STEVENS **INSPECTOR SIGNATURE:**

LOS ANGELES FIRE DEPARTMENT

UNDERGOURNG STORAGE TANK - PROJECT PERMIT STATEMENT

FIRE PREVENTION BUREAU CUPA SECTION
200 NORTH MAIN STREET, ROOM 1780
LOS ANGELES, CA 90012
TEL: (213) 978-3700
FAX: (213) 978-3615

INVOICE

Invoice Date: 1/14/2019
Permit No/RFI: SR0032994
Invoice No: IN0289529
Owner Name: 1770 IVAR, LLC.
Owner Address: 1995 BROADWAY 3RD FLR
NEW YORK, NY 10023
Owner Phone No: (213) 875-4900

CONTRACTOR (Company Name/Self):

1770 IVAR, LLC.
6334 YUCCA ST
LOS ANGELES, CA 90028

Site Address: 6334 YUCCA ST
LOS ANGELES, CA 90028

	DATE	PE	DESCRIPTION	AMOUNT
PAYMENTS				
	1/14/2019	9917	PRE-PAYMENT (D5)	($1,944.00)
			PAYMENTS SUBTOTAL:	**($1,944.00)**
			CHARGES:	**$0.00**
			PENALTIES:	**$0.00**
			PAYMENTS:	**($1,944.00)**
			ADJUSTMENTS:	**$0.00**
			INVOICE TOTAL DUE:	**($1,944.00)**

For Division 5 Permits:
Plan Check and Inspection services are calculated on a fee for service basis. Each type of transaction has been assigned a charge based on the estimated time required for the service.
If Plan Check/Inspection services exceeded the assigned hours, additional charges will accrue in 1 hour increments. These additional charges will be billed to the Responsible Party.

For Payments:
200 North Main Street, Room 1700
Los Angeles, CA 90012
Phone: (213) 978-3700
Email: lafd.usttestnotify@lacity.org

Last Payment: **Fund 100 Dept #38 RevS. 3897**
Check No: 79272
Check Date: 12/3/2018
Amount Paid: $1,944.00
Signature: _____

LOS ANGELES FIRE DEPARTMENT
Email: lafdustplancheck@lacity.org
Application for Division 5 Permit — Atmospheric Underground Tank

Fire Department Use Only

CERS ID:	LAFD Unified Program Facility ID:	Permit No.	Fire Station #	Date Granted (This work must start within 6 mos.)
	Enforcement Inspector	Permit Type:		Expiration Date: (This work must be completed)

LOCATION INFORMATION 2/4/19 = CAC002995TO

Doing Business As (DBA): 1770 IVAR LLC — EPA ID No. CAC002987576 exp. 02/01/19

Address: Number 6334 — Dir. — Street Name YUCCA — St., Ave., Blvd., etc. ST. — Phone No.: (323) 961-1610

City: Los Angeles — State: CA — Zip: 90028

PROPERTY OWNER

Name: 1770 IVAR LLC — Phone Number: (212) 875-4900

Address: 1995 BROADWAY, 3RD FLOOR — Email: zaarons@millenniumptrs.com

City: NEW YORK — State: NY — Zip: 10023

Print Name: MARIO PALUMBO — Signature:

LESSEE/FACILITY OWNER

Name: MP LOS ANGELES — Phone Number: (323) 961-1610

Address: 1601 VINE ST. c/o MP LOS ANGELES — Email: JMAIANI@HOLLYWOODCTR.COM

City: LOS ANGELES — State: CA. — Zip: 90028

Print Name: JOSEPH MAIANI JR. — Signature:

CONTRACTOR INFORMATION

Company Name: Group Delta Consultants — Phone Number: (310) 320-5100

Address: 370 AMAPOLA AVE., SUITE 212 — Email: alycam@groupdelta.com

City: TORRANCE — State: CA — Zip: 90501

City Business Number: 35549600011 — State Contractors Number: 659322 — Comp Number: PSW0001750

Print Name: ALYCIA A. MCCORD — Signature: — Title: Sr. Geologist / PG

ITEM	PE	QTY	NOTES:
☐ UST(s) Installation	5100		
☒ UST(s) Abandonment by Removal	5201	1	55-gallon steel tank
☐ UST(s) Abandonment-In-Place	5200		
☐ UST(s) Tank Entry / Lining / Repair	5301		
☐ UST(s) Add to / Alter: Monitor / Piping / Disp.	5300		
☐ Site Assessment	5400		
☐ Emergency Plan Check / Site Assessment	5401		

Please indicate payment method by checking appropriate box: Credit Card ☐ Check ☑

LOS ANGELES FIRE DEPARTMENT

FIRE PREVENTION BUREAU CUPA SECTION
200 NORTH MAIN STREET, ROOM 1780
LOS ANGELES, CA 90012
TEL: (213) 978-3700
FAX: (213) 978-3615

UNDERGOURNG STORAGE TANK - PROJECT PERMIT STATEMENT

INVOICE

Invoice Date: 1/14/2019
Permit No/RFI: SR0032994
Invoice No: IN0289529
Owner Name: 1770 IVAR, LLC.
Owner Address: 1995 BROADWAY 3RD FLR
NEW YORK, NY 10023
Owner Phone No: (213) 875-4900

CONTRACTOR (Company Name/Self):

1770 IVAR, LLC.
6334 YUCCA ST
LOS ANGELES, CA 90028

Site Address: 6334 YUCCA ST
LOS ANGELES, CA 90028

	DATE	PE	DESCRIPTION	AMOUNT
PAYMENTS				
	1/14/2019	9917	PRE-PAYMENT (D5)	($1,944.00)
			PAYMENTS SUBTOTAL:	**($1,944.00)**
			CHARGES:	**$0.00**
			PENALTIES:	**$0.00**
			PAYMENTS:	**($1,944.00)**
			ADJUSTMENTS:	**$0.00**
			INVOICE TOTAL DUE:	**($1,944.00)**

For Division 5 Permits:
Plan Check and Inspection services are calculated on a fee for service basis.
Each type of transaction has been assigned a charge based on the estimated time required for the service.
If Plan Check/Inspection services exceeded the assigned hours, additional charges will accrue in 1 hour increments. These additional charges will be billed to the Responsible Party.

For Payments:
200 North Main Street, Room 1700
Los Angeles, CA 90012
Phone: (213) 978-3700
Email: lafd.usttestnotify@lacity.org

Last Payment: Fund 100 Dept #38 RevS. 3897
Check No: 79272
Check Date: 12/3/2018
Amount Paid: $1,944.00
Signature:

L.A.F.D.
UNDERGROUND TANK - PLAN CHECK
PAID
DATE: 1-14-19
CHECK NUMBER: 79272
INITIALS:
AMOUNT: 1944.00

THIS CERTIFICATE MUST BE POSTED AT PLACE OF BUSINESS

CITY OF LOS ANGELES TAX REGISTRATION CERTIFICATE

THIS CERTIFICATE IS GOOD UNTIL SUSPENDED OR CANCELLED

BUSINESS TAX ISSUED: 6/14/2009

ACCOUNT NO.	FUND/CLASS	DESCRIPTION	STARTED	STATUS
0000355495-0001-1	L049	Professions/Occupations	04/30/1996	Active

ISSUED TO

GROUP DELTA CONSULTING INC

2291 W 205TH STREET #105
TORRANCE, CA 90501-1451

32 MAUCHLY STE B
IRVINE, CA 92618-2336

ISSUED BY:

Antoinette D. Christovale

DIRECTOR OF FINANCE

NOTIFY THE OFFICE OF FINANCE IN WRITING OF ANY CHANGE IN OWNERSHIP OR ADDRESS
FORM 2000 (rev. 6/01) IMPORTANT - READ REVERSE SIDE

P.O. BOX 53200, LOS ANGELES CA 90053-0200

(http://finance.lacity.org/)

Annual Business Taxes

Renewal Confirmation

This is a confirmation receipt for your submitted renewal. Please print and keep this receipt for your records.

Transaction Information:

Your Renewal was submitted and received on 02/28/2018.
The confirmation number for this transaction is **F00003554950000112018**

Your on-line payment for $9,366.75 was submitted and received.

Based on the information that you have submitted thus far, the following are your identified taxable business activities.

Note: The issuance of a Tax Registration Certificate and the payment of the business tax do not authorize the conduct or continuance of any illegal business or of a legal business in an illegal manner within the City of Los Angeles. The City has enacted regulatory ordinances in areas such as zoning, building safety, police, fire, hazardous material disclosure, sanitation, health, etc., which must be complied with in order to lawfully conduct a business within the City. Failure to comply with these regulatory ordinances may result in legal action being taken against the taxpayer.

Legal Name: GROUP DELTA CONSULTANTS INC

Account Number: 000035549500011

Business Location: 370 AMAPOLA AVENUE SUITE #212
TORRANCE, CA 90501-7243

Taxable Activities:

Business Activity	Basis for Tax
Professions / Occupations (L049)	2202660

Print this Screen | Exit E-Filing

Connect With Us

LA BUSINESS PORTAL (http://business.lacity.org/)

Disclaimer

Non-financial information such as name, business address (including home-based businesses), mailing address, etc., contained in your City of Los Angeles tax and permit records, is subject to public disclosure under provisions of the California Public Records Act, Government Code Section 6250 et seq. Your residential information may also be subject to public disclosure if that location is utilized for business and/or mailing purposes.

Contact Us

200 N. Spring Street, Los Angeles, CA 90012

Call 311

Submit Feedback (http://finance.lacity.org/submit-feedback)

GROUP DELTA

Memorandum

GDC Project: LA1301B

To: **Inspector Gregory Stevens**

From: Alycia A. McCord, Group Delta Consultants, Inc.

Date: March 5, 2019

Subject: Scope of Work for UST Removal

The purpose of this memorandum is to provide a scope of work (SOW) outlining field procedures to permanently abandon a small (less than 200 gallon) underground storage tank (UST) encountered at 6334 Yucca Street in Los Angeles, California (Site). The UST was encountered during a fault investigation conducted at the Site in October and November 2018.

Tank Condition

During excavation activities, the trench was expanded to the east. Bedding sand was encountered in the weathered bedrock being investigated as part of a fault investigation. The bedding sand was covering small tank. The tank has 2 connection points. One point was open with not piping connected. The tank measured 4 feet long X 2.5 feet wide. Other than the connection point being open, the tank appears to be in stable shape. Though the tank has the beginning of a corrosion exfoliation layer, the tank did not have any holes or obvious weak spots from corrosion. Based on the exposed western edge of the tank, the tank appears to be homemade. The tank is of single wall design, welded, and no rivets. The ends are not smooth welded or rounded ends. It appears that a sheet of metal was welded in side a metal tube and the excess was torched off unevenly.

Since the tank was exposed on the top and one side, an assessment of the tank and surrounding soils were conducted. A photo-ionization detector (PID) was utilized to determine if the tank had leaked. No readings above background levels were reported. There were no stained soils or detectable odor in the soils.

Sampling of Fluid in Tank

A polyethylene bailer was deployed into the tank to collect the contents of the tank. The contents are layered with bedding sand and sediment on the bottom, water, and an oily sludge floating on top of the water. Samples were collected of tank contents, specifically the oily sludge, water/sediment, and soil immediately outside the tank. The samples were submitted to Eurofins Calscience Laboratory Inc. in Gardena, California. The samples were analyzed for total petroleum hydrocarbons carbon chain (TPH-cc) by US Environmental Protection Agency (EPA) Method 8015B (M), volatile organic compounds (VOCs) by EPA Method 8260B, and metals by EPA Method 6010B.

Scope for Tank Removal

The procedure for cleaning and removing the tank included the following steps:

- Expose tank complete on all sides. Soil will be placed in steel 55-gallon North American (NA)-approved drums or a 20-yard closed top bin. The existing piping will be capped at the edge of the excavation.
- A vacuum truck will pump out tank contents.
- After pumping out the tank, the tank will be degassed, if necessary, and triple rinsed.
- Once the tank is cleaned, a marine chemist will test and certify the tank is cleaned.
- The vacuum truck will pump the contents from the tank and rinsate into steel 55-gallon NA-approved drums.
- The tank will be removed from the excavation and loaded on a truck for transport to an approved disposal facility.
- The excavation will be over excavated. Based on observations during the fault investigation, the over excavation will be an additional 2 feet below the tank into the weathered bedrock.
- Pit bottom samples will be collected from beneath each end of the tank. At the request of the Fire Inspector, wall samples will be collected.
- The samples will be analyzed for TPH-cc by EPA Method 8015B (M), VOCs by EPA Method 8260B, and metals by EPA Method 6010B.
- Once the samples have been received, reviewed, and confirmed to report no detections above established screening criteria, the excavation will be backfilled with slurry and paved to match the existing grade.

Waste Handling

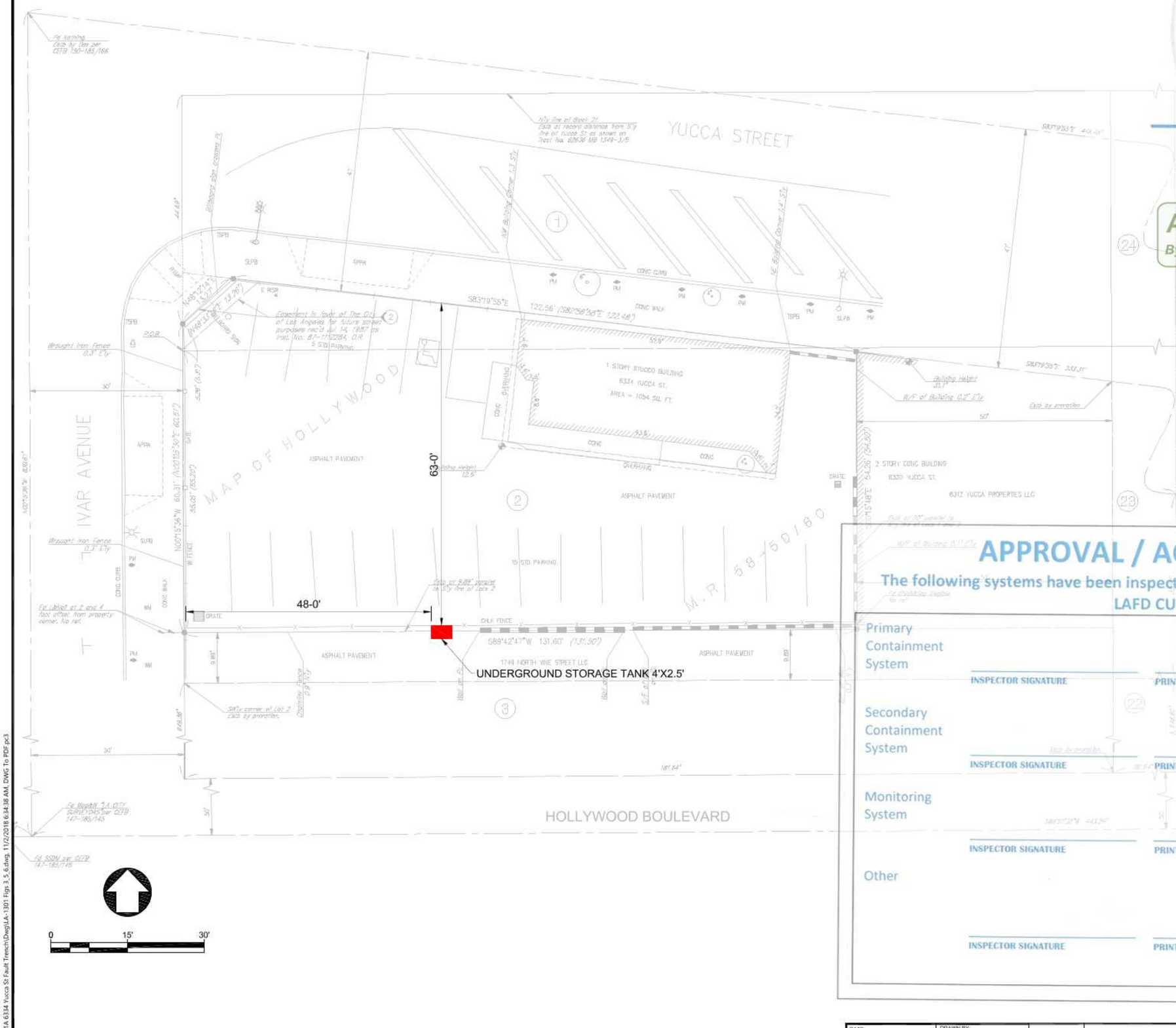
Based on the expected quantity of waste generated during this tank removal, the tank contents and rinsate will be placed in steel 55-gallon NA-approved drums. The soil will be placed either in steel 55-gallon NA-approved drums or a 20-yard closed top bin pending waste profiling for transport for off-site disposal in accordance with State and Federal regulations. The waste containers will be sealed, labeled, and stored in an area free of vehicular traffic.

If you have any questions, please feel free to contact me at (310) 740-6971.

Sincerely,
GROUP DELTA CONSULTANTS, INC.

Alycia McCord, PG 9253, STSC-21768
Senior Geologist

GROUP DELTA



SUBJECT TO FIELD INSPECTION

Approval of these plans and/or specifications does not exempt them from compliance with all pertinent sections of Municipal, State, or Federal code, law, or regulation

APPROVED

LOS ANGELES FIRE DEPARTMENT CUPA
UNDERGROUND STORAGE TANK PLAN CHECK

APPROVED SR 32994
By Gregory Wm. Stevens at 10:49 am, Mar 06, 2019

APPROVAL / ACCEPTANCE

The following systems have been inspected and approved/accepted by the LAFD CUPA

Primary Containment System
INSPECTOR SIGNATURE ____ PRINT NAME ____ DATE __/__/__

Secondary Containment System
INSPECTOR SIGNATURE ____ PRINT NAME ____ DATE __/__/__

Monitoring System
INSPECTOR SIGNATURE ____ PRINT NAME ____ DATE __/__/__

Other
INSPECTOR SIGNATURE ____ PRINT NAME ____ DATE __/__/__

DATE: 11/02/2018	DRAWN BY: JMT	GROUP DELTA	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	SITE PLAN	LA-1301A
PREPARED BY: -	APPROVED BY: AM			1770 IVAR LLC HOLLYWOOD, CALIFORNIA	SCALE: AS SHOWN
REVISION: -	REVIEWED BY: -				FIGURE NUMBER: 1

APPENDIX B

UST CERTIFICATION FOR REMOVAL

UNIFIED PROGRAM CONSOLIDATED FORM

HAZARDOUS WASTE

HAZARDOUS WASTE TANK CLOSURE CERTIFICATION

SINGLE WALL STEEL TANK, RIBBED, ~ 500-GALLON CAPACITY

I. FACILITY IDENTIFICATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3

FACILITY ID# 1

TANK OWNER NAME 740: 1770 IVAR LLC

TANK OWNER ADDRESS 741: 6334 YUCCA STREET

TANK OWNER CITY 742: LOS ANGELES | STATE 743: CALIFORNIA | ZIP CODE 744: 90028

II. TANK CLOSURE INFORMATION

TANK INTERIOR ATMOSPHERE READINGS	Tank ID # (Attach additional copies of this page for more than three tanks)	Concentration of Flammable Vapor, % Top	Center	Bottom	Concentration of Oxygen, % Top	Center	Bottom
1	0402/1 745	0 746a	0 746b	0 746c	20.9 747a	20.9 747b	20.9 747c
2	748	749a	749b	749c	750a	750b	750c
3	751	752a	752b	752c	753a	753b	753c

III. CERTIFICATION

On examination of the tank, I certify the tank is visually free from product, sludge, scale (thin, flaky residual of tank contents), rinsate and debris. I further certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF CERTIFIER: Nancy G. Carraway

NAME OF CERTIFIER (Print) 754: Nancy G. Carraway

TITLE OF CERTIFIER 755: Certified Industrial Hygienist

ADDRESS 756: 991 East California Boulevard

CITY 757: Pasadena, California 91106

PHONE 758: 626 676 7681

DATE 759: 04/02/2019

CERTIFICATION TIME: 9:49am - 9:52am

STATUS OR AFFILIATION OF CERTIFYING PERSON

Certifier is a representative of the CUPA, authorized agency, or LIA: 760

☐ Yes ☒ No

Name of CUPA, authorized agency, or LIA: 761: LOS ANGELES CITY FIRE DEPARTMENT

If certifier is other than CUPA / LIA check appropriate box below: 762

- ☒ a. Certified Industrial Hygienist (CIH)
- ☐ b. Certified Safety Professional (CSP)
- ☐ c. Certified Marine Chemist (CMC)
- ☐ d. Registered Environmental Health Specialist (REHS)
- ☐ e. Professional Engineer (PE)
- ☐ f. Class II Registered Environmental Assessor
- ☐ g. Contractors' State License Board licensed contractor (with hazardous substance removal certification)

TANK PREVIOUSLY HELD FLAMMABLE OR COMBUSTIBLE MATERIALS: GASOLINE 763

(If yes, the tank interior atmosphere shall be re-checked with a combustible gas indicator prior to work being conducted on the tank.) ☑ Yes ☐ No

CERTIFIER'S TANK MANAGEMENT INSTRUCTIONS FOR SCRAP DEALER, DISPOSAL FACILITY, ETC: 764

INERT TANK INTERIOR BEFORE TORCH CUTTING OR USING SPARKING TOOLS ON OR NEAR TANK. TANK IS NOT SUITABLE FOR FOOD OR POTABLE WATER STORAGE, FOR PERSONNEL ENTRY, OR FOR HOT WORK. TANK IS SUITABLE FOR COLD WORK.

A copy of this certificate shall accompany the tank to the recycling / disposal facility and be provided to the CUPA. If there is no CUPA, copies shall be submitted to the LIA and authorized agency; owner / operator of the tank system; removal contractor; and the recycling / disposal facility.

APPENDIX C

TANK DISPOSAL MANIFEST

CERTIFICATE OF DESTRUCTION

NIETO AND SONS TRUCKING, INC.
1281 BREA CANYON ROAD
BREA, CA 92821
(714) 990-6855

COMPANY : Construction Site
JOB SITE : 6334 Yucca Street
Los Angeles

DESCRIPTION : *1-150 gallon tank*

TANK HAS BEEN SCRAPED,
CRUSHED AND DESTROYED BY
NIETO AND SONS TRUCKING
AT
ECOLOGY AUTO WRECKING
13780 E. IMPERIAL HIGHWAY
SANTA FE SPRINGS, CA 90670

SIGNATURE : Dave Nieto
BY : DAVE NIETO – NIETO AND SONS TRUCKING, INC.
DATE : 04 / 04 / 19

APPENDIX D

UST SOIL REPORT REQUIREMENTS

UST SOIL REPORT REQUIREMENTS

A complete soil report is due 30 days from the date of soil sampling

MAIL COMPLETED SOIL REPORT TO:
LOS ANGELES FIRE DEPARTMENT
UNDERGROUND STORAGE TANK - ENFORCEMENT UNIT
200 NORTH MAIN STREET, SUITE 1700
LOS ANGELES, CALIFORNIA 90012

Also EMAIL COMPLETED SOIL REPORT TO:
lafd.usttestnotify@lacity.org

FACILITY ADDRESS	PERMIT #	FACILITY ID	DATE
6334 YUCCA	32994	0041009	4-2-19

The soil report should follow the Los Angeles Fire Department's General Report submittal guidelines. To assist you, the guidelines are available at **http://www.lafd.org/sites/default/files/pdf_files/fpb41_tank_aband.pdf**.

The following documentation shall be included as part of your report:

- A copy of the Los Angeles Fire Department Division 5-Permit
- Marine Chemist Certificate
- Copy of the Hazardous Waste Manifest for Disposal of Tank's Rinsate
- Certificate of Tank Disposal/Destruction and associated piping
- Soil manifest for soil removed from the site
- Scaled plot plan, clearly illustrating the location and depth of all the samples collected
- All analytical results should be presented in milligram per kilogram (mg/kg)
- All names in the chain of custody must be legible
- A copy of this page
- ***If soil analysis results exceed the LAFD Minimum Action Levels, include an Unauthorized Release Report (URR) with your soil report***

ANALYTICAL REQUIREMENTS

Group A Gasoline	Group-B Diesel	Analytical Method	Required MDL's (ug/kg)	LAFD Minimum Action Levels mg/kg
Analyte	Analyte			
TPHg**		Cal-LUFT GC/FID or GC/MS (8015 M)	100-200	100
	TPHd**	Cal-LUFT GC/FID (8015 M)	1000	100
BTEX	BTEX	EPA Method 8260B (8021B)	1	Benzene –1, TEX-50
MTBE	MTBE	EPA Method 8260B	2	>MDL's
DIPE	DIPE	EPA Method 8260B	2	1
ETBE	ETBE	EPA Method 8260B	2	1
TAME	TAME	EPA Method 8260B	2	1
TBA	TBA	EPA Method 8260B	20	20
Group-C	**Methanol***	Cal-LUFT GC/FID	1000	100
	Ethanol*	Cal-LUFT GC/FID (EPA 8260B)	500	100
Group-D	**Waste Oil Tank:** Test for TPHg, TPHd and heavy ends oils, using Cal-Luft GC/FID or GC/MS and BTEX and Oxygenates, **and full suite of VOCs,** using EPA Method 8260B			

In every group include Naphthalene as part of the test.
*If tanks historically or currently contain Methanol or Ethanol, test for those compounds.
**Soil samples shall be prepared using EPA Method 5035 for all VOC's and TPHg.

LOCATION	ANALYTE****	SAMPLES	LOCATION	ANALYTE**	SAMPLES
Tank 1			Dispenser (TPHg)		
Tank 2			Dispenser (TPHd)		
Tank 3			Piping		
Tank 4			Water samples		
Tank 5			Stockpiles		
Tank 6			Other		
Total number of samples			Total number of samples		

****Select one or more from groups A through D**

UST SOIL REPORT REQUIREMENTS

1.0 Cover Letter/Introduction/Table of Contents

2.0 Site Identification
- 2.1 Current owner/s
- 2.2 Current business activities
- 2.3 Spill, leak, and accident history
- 2.4 Number, capacity, and contents of tanks and other components

3.0 Background and Summary
- 3.1 Site description
- 3.2 Previous investigation
- 3.3 Wet ink signature
- 3.4 Geologist Seal with I.D number and expire date (stamp)
- 3.5 Name and address of individual that produced the report

NOTE: All reports must include the wet-ink signature and seal of one of the following licensed professionals: Professional Civil Engineer (PE), Professional Geologist (PG), Certified Engineering Geologist (CEG), Certified Hydrogeologist (CHG), Professional Petroleum Engineer (PPE)

4.0 Geology and Hydrology
- 4.1 Geology
- 4.2 Hydrology

5.0 Tank Removal Activities, Procedures, On-site Inspection
- 5.1 Tank Removal/or abandonment in place activities
- 5.2 Clarifier Removal/associated with a UST **only**
- 5.3 Dispenser Replacement/Upgrade activities
- 5.4 Piping Replacement/Upgrade activities
- 5.5 Laboratory Analyses and Chain-of –Custody
- 5.6 Condition of tanks and pit upon removal
- 5.7 Date of removal activities & sampling protocols
- 5.8 Name & address of Removal Company

6.0 Soil Disposal Operations/Contaminated soil

7.0 AQMD Rule 1166 Air Monitoring

8.0 Recommendations/Conclusion

9.0 List of Figures/Maps
- 9.1 Site Location Map with cross streets
- 9.2 Site Plan (soil sample locations)

10.0 List of Tables
- 10.1 Soil analytical Laboratory Results per LAFD guidelines
- 10.2 Indicate which analytical method and detection limit used
- 10.3 Report all “non-detect” (ND) with < numerical MDL value (not just the ND without the detection limit value)

11.0 List of Appendices
- 11.1 Copy of the LAFD Div-5 Permit
- 11.2 UST Certification for Removal
- 11.3 Tank Rinsate Disposal Manifest
- 11.4 Analytical Results with chain of custody
- 11.5 Soil Disposal Manifest
- 11.6 AQMD Rule 1166 Field Monitoring Data Sheets
- 11.7 Tank disposal manifest/with facility address
- 11.8 UST Soil Report Requirements

APPENDIX E

AQMD RULE 1166
COMPLETION MEMORANDUM

GROUP DELTA

To: South Coast Air Quality Management District
Engineering & Compliance Division
Toxics and Waste Management Unit
21865 E. Copley Drive
Diamond Bar, CA. 91765-4182

May 14, 2019

From: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501

Attention: Senior Enforcement Manager

SUBJECT: Rule 1166 Compliance Plan Permit 581787 Completion Memorandum
Site Location: 6334 Yucca Street, Los Angeles, CA 90028
Initial Notification: 554751

Dear Senior Enforcement Manager:

Per Condition 28 of Plan #581787, Group Delta Consultants, Inc. (GDC) submits this *Rule 1166 Compliance Plan Permit #581787 Completion Memorandum*. The excavation project was initiated on March 26, 2019 and completed on April 29, 2019. This completion memorandum will contain the required documents accumulated during April 2019.

Per Condition 14 of Plan #581787, all the organic vapor analyzer (OVA) monitoring forms and associated daily equipment calibration forms have been included as Attachment 1 and Attachment 2, respectively. There were only two days of excavation activities, April 2 and 29.

If there are any further questions or concerns regarding this submittal, please contact me at (310) 320-5100 or via e-mail at alyciam@groupdelta.com.

Sincerely,

GROUP DELTA CONSULTANTS, INC.

Alycia A. McCord
Senior Geologist, PG 9253

Attachments:
Attachment 1 – Monitoring Forms
Attachment 2 – Equipment Calibration Forms

ATTACHMENT 1

MONITORING FORMS

VOC Soil Monitoring Records

Company Name	Facility/Site Information
Excel Excavating Inc.	
Plan #: 581787	Name: 1770 IVAR LLC
ID #: 124204	Address: 6334 Yucca St.
Reference No(s).	City: Los Angeles Zip: 90028

Monitor Information		Calibration Data		Monitoring Personnel		Excavation Summary (Upon completion of each page)	
Brand:	Rae	Gas:	Hexane	Name:	Alyssa McCord, PG	Total Cubic Yds (This page)	3.5
Model:	Mini Rae	Date	4.2.2019	Company:	Group Delta	Total Cubic Yds (To date)	3.5
Type	PID	By	A. McCord	Phone:	(310) 740-6971	Removed from Site (To date)	0

Time	VOC Concentration (PPMV) @ Excavated Load			Comment	Time	VOC Concentration (PPMV) @ Excavated Load			Comment
Every 5 min.	Reading	Hexane Factor	Adjusted Reading		Every 5 min.	Reading	Hexane Factor	Adjusted Reading	
0615	0.0	—	—						
0630	3.3	—	—						
0645	1.2	—	—						
0700	0.8	—	—						
0715	3.7	—	—						
0730	2.1	—	—						
0745	1.7	—	—						
0800	2.2	—	—						
0815	1.7	—	—						
0830	0.9	—	—						
0845	4.3	—	—						
0849	stop plugging								

I certify that the information contained in the above document is true and correct. I further certify that the above listed hydrocarbon monitor was operated in a manner consistent with the manufacturer's specifications and the conditions specified within this plan. In addition, I certify that the above readings represent the actual measurements I observed and recorded during the excavation process.

SIGNATURE: Alyssa McCord DATE: 4/02/2019

Revised 12/07/05

VOC Soil Monitoring Records

Company Name	Facility/Site Information
Excell Excavating Inc. P.O. Box 66176 Laguna Niguel, CA 92607	Name: 1770 Ivar LLC
Plan #: 5981787	Address: 6334 Yucca St.
ID #: 124204	City: Los Angeles Zip: 90028
Reference No(s).	

Monitor Information		Calibration Data		Monitoring Personnel		Excavation Summary (Upon completion of each page)	
Brand:	Rae	Gas:	Hexane	Name:	Alycia McCord	Total Cubic Yds (This page)	7
Model:	MiniRae 2000	Date	4/29/2019	Company:	Group Delta	Total Cubic Yds (To date)	10.5
Type	PID	By	A. McCord	Phone:	310-740-6971	Removed from Site (To date)	3.5

Time	VOC Concentration (PPMV) @ Excavated Load			Comment	Time	VOC Concentration (PPMV)@ Excavated Load			Comment
Every 5 min.	Reading	Hexane Factor	Adjusted Reading		Every 5 min.	Reading	Hexane Factor	Adjusted Reading	
0745	0.1	—	—						
0800	0.0	—	—						
0815	0.1	—	—						
0816	stop digging								

I certify that the information contained in the above document is true and correct. I further certify that the above listed hydrocarbon monitor was operated in a manner consistent with the manufacturer's specifications and the conditions specified within this plan. In addition, I certify that the above readings represent the actual measurements I observed and recorded during the excavation process.

SIGNATURE: Alycia McCord DATE: 4/29/2019

Revised 12/07/05

ATTACHMENT 2

EQUIPMENT CALIBRATION FORMS

Equipment Calibration Daily Log

Gas Detectors

Project Name 1770 IVAR. LLC

Project No. LA13001 B Location 6334 Yucca St.

Date: 04.02-2019

Time: AM 0600

PM

Combustible Gas Indicator

Model Supplied by marine chemist Serial No.

Ambient Air Readings

Comments

	AM	Adjustment	PM
O_2 (%)		(span)	
CO (ppm)		(zero)	
H_2S (ppm)		(zero)	
LEL (%)		(zero)	

Operator Signature (AM) (PM)

Photo-Ionization Detector

Model Mini Rae PGM-7600 Serial No. 594-900486

Bulb Type ☒ 10.6 meV (56 ppm baseline)
☐ 11.7 meV (66 ppm baseline)
☐ Other

Post warm-up background 0.0 (ppm)

Comments

Calibration Gas:

	AM	Adjustment	PM
100 ppm ~~isobutylene~~ hexane	99.9	—	
fresh air	0	-	

Operator Signature (Begin) (End)

Organic Vapor Analyzer

Model Serial No.

Calibration Gas: (ppm)

Gas Select

Comments

	AM	Adjustment	PM
Reading			
Background			

Operator Signature (AM) (PM)

Checked by Date 04.02-2019

Group Delta
Consultants

F-1027B
04/11

Equipment Calibration Daily Log

Gas Detectors

Project Name 1770 Ivar. LLC

Project No. LA1301B Location 6334 Yucca St.

Date: 04.29.2019

Time: AM 0730

PM

Combustible Gas Indicator

Model _____ Serial No. _____

Ambient Air Readings

Comments _____

	AM	Adjustment	PM
O_2 (%)		(span)	
CO (ppm)		(zero)	
H_2S (ppm)		(zero)	
LEL (%)		(zero)	

Operator Signature _____ (AM) _____ (PM)

Photo-Ionization Detector

Model MiniRae PGM-7600 Serial No. 594-907382

Bulb Type [X] 10.6 meV (56 ppm baseline)
[ ] 11.7 meV (66 ppm baseline)
[ ] Other _____

Post warm-up background 0.0 (ppm)

Comments _____

Calibration Gas:

	AM	Adjustment	PM
100 ppm ~~isobutylene~~ hexane	100.1	—	
freshair	0.0	—	

Operator Signature Ashley McCord (Begin) _____ (End) _____

Organic Vapor Analyzer

Model _____ Serial No. _____

Calibration Gas: _____ (ppm) Gas Select _____

Comments _____

	AM	Adjustment	PM
Reading			
Background			

Operator Signature _____ (AM) _____ (PM)

Checked by Ashley McCord Date 04.29.2019

Group Delta
Consultants

F-1027B
04/11

APPENDIX F

CONFIRMATION SAMPLES ANALYTICAL REPORTS

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Supplemental Report 1

The original report has been revised/corrected.

WORK ORDER NUMBER: 19-04-0223

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Group Delta Consultants, Inc.

Client Project Name: Yucca / LA1301B

Attention: Alycia McCord
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Vikas Patel

Approved for release on 06/03/2019 by:
Vikas Patel
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: Yucca / LA1301B
Work Order Number: 19-04-0223

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/03/19. They were assigned to Work Order 19-04-0223.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order:	19-04-0223
		Project Name:	Yucca / LA1301B
		PO Number:	LA1301B
		Date/Time Received:	04/03/19 11:45
		Number of Containers:	23
Attn:	Alycia McCord		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
TB040219	19-04-0223-1	04/02/19 07:00	2	Aqueous
SW-S-040219	19-04-0223-2	04/02/19 10:35	7	Solid
SW-N-040219	19-04-0223-3	04/02/19 10:30	7	Solid
PB-CENTER-040219	19-04-0223-4	04/02/19 10:40	7	Solid

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Detections Summary

Client: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Work Order: 19-04-0223
Project Name: Yucca / LA1301B
Received: 04/03/19

Attn: Alycia McCord

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SW-S-040219 (19-04-0223-2)						
Barium	65.0		0.493	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.459		0.246	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.18		0.246	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.09		0.246	mg/kg	EPA 6010B	EPA 3050B
Copper	5.85		0.493	mg/kg	EPA 6010B	EPA 3050B
Lead	52.4		0.493	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.261		0.246	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.80		0.246	mg/kg	EPA 6010B	EPA 3050B
Vanadium	21.2		0.246	mg/kg	EPA 6010B	EPA 3050B
Zinc	169		0.985	mg/kg	EPA 6010B	EPA 3050B
C17-C18	1.5	J	1.2*	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	9.1		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	32		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	60		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	110		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	78		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	38		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	12		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	6.2		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	350		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
n-Butylbenzene	2.0		0.97	ug/kg	EPA 8260B	EPA 5035
Naphthalene	23		9.7	ug/kg	EPA 8260B	EPA 5035
1,2,4-Trimethylbenzene	9.3		1.9	ug/kg	EPA 8260B	EPA 5035
1,3,5-Trimethylbenzene	2.4		1.9	ug/kg	EPA 8260B	EPA 5035
p/m-Xylene	2.0		1.9	ug/kg	EPA 8260B	EPA 5035
o-Xylene	1.3		0.97	ug/kg	EPA 8260B	EPA 5035

Return to Contents

* MDL is shown

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Detections Summary

Client: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Work Order: 19-04-0223
Project Name: Yucca / LA1301B
Received: 04/03/19

Attn: Alycia McCord

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SW-N-040219 (19-04-0223-3)						
Arsenic	10.2		0.758	mg/kg	EPA 6010B	EPA 3050B
Barium	48.3		0.505	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.484		0.253	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.799		0.505	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.30		0.253	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.71		0.253	mg/kg	EPA 6010B	EPA 3050B
Copper	5.68		0.505	mg/kg	EPA 6010B	EPA 3050B
Lead	1.56		0.505	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.285		0.253	mg/kg	EPA 6010B	EPA 3050B
Nickel	5.63		0.253	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.2		0.253	mg/kg	EPA 6010B	EPA 3050B
Zinc	1360		1.01	mg/kg	EPA 6010B	EPA 3050B

Return to Contents

* MDL is shown

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Detections Summary

Client: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Work Order: 19-04-0223
Project Name: Yucca / LA1301B
Received: 04/03/19

Attn: Alycia McCord

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
PB-CENTER-040219 (19-04-0223-4)						
Barium	54.8		0.524	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.511		0.262	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.595		0.524	mg/kg	EPA 6010B	EPA 3050B
Chromium	10.6		0.262	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.44		0.262	mg/kg	EPA 6010B	EPA 3050B
Copper	6.00		0.524	mg/kg	EPA 6010B	EPA 3050B
Lead	72.8		0.524	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.434		0.262	mg/kg	EPA 6010B	EPA 3050B
Nickel	7.17		0.262	mg/kg	EPA 6010B	EPA 3050B
Vanadium	26.1		0.262	mg/kg	EPA 6010B	EPA 3050B
Zinc	344		1.05	mg/kg	EPA 6010B	EPA 3050B
C9-C10	580		250	mg/kg	EPA 8015B (M)	EPA 3550B
C11-C12	340		250	mg/kg	EPA 8015B (M)	EPA 3550B
C13-C14	120	J	63*	mg/kg	EPA 8015B (M)	EPA 3550B
C17-C18	170	J	63*	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	930		250	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	3500		250	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	6200		250	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	12000		250	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	7600		250	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	3500		250	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	1200		250	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	550		250	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	36000		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
n-Butylbenzene	1600		100	ug/kg	EPA 8260B	EPA 5035
sec-Butylbenzene	550		100	ug/kg	EPA 8260B	EPA 5035
Ethylbenzene	1600		100	ug/kg	EPA 8260B	EPA 5035
Isopropylbenzene	430		100	ug/kg	EPA 8260B	EPA 5035
p-Isopropyltoluene	580		100	ug/kg	EPA 8260B	EPA 5035
Naphthalene	9700		1000	ug/kg	EPA 8260B	EPA 5035
n-Propylbenzene	1800		200	ug/kg	EPA 8260B	EPA 5035
Toluene	1200		100	ug/kg	EPA 8260B	EPA 5035
1,2,4-Trimethylbenzene	19000		200	ug/kg	EPA 8260B	EPA 5035
1,3,5-Trimethylbenzene	7000		200	ug/kg	EPA 8260B	EPA 5035
p/m-Xylene	7200		200	ug/kg	EPA 8260B	EPA 5035
o-Xylene	5800		100	ug/kg	EPA 8260B	EPA 5035

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* MDL is shown

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Detections Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order: Project Name: Received:	19-04-0223 Yucca / LA1301B 04/03/19
Attn:	Alycia McCord		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**GC 50**	**04/03/19**	**04/04/19 02:38**	**190403B04**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	5.0	1.2	1.00	
C7	ND	5.0	1.2	1.00	
C8	ND	5.0	1.2	1.00	
C9-C10	ND	5.0	1.2	1.00	
C11-C12	ND	5.0	1.2	1.00	
C13-C14	ND	5.0	1.2	1.00	
C15-C16	ND	5.0	1.2	1.00	
C17-C18	1.5	5.0	1.2	1.00	J
C19-C20	9.1	5.0	1.2	1.00	
C21-C22	32	5.0	1.2	1.00	
C23-C24	60	5.0	1.2	1.00	
C25-C28	110	5.0	1.2	1.00	
C29-C32	78	5.0	1.2	1.00	
C33-C36	38	5.0	1.2	1.00	
C37-C40	12	5.0	1.2	1.00	
C41-C44	6.2	5.0	1.2	1.00	
C6-C44 Total	350	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-A**	**04/02/19 10:30**	**Solid**	**GC 50**	**04/03/19**	**04/04/19 02:57**	**190403B04**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	5.0	1.2	1.00	
C7	ND	5.0	1.2	1.00	
C8	ND	5.0	1.2	1.00	
C9-C10	ND	5.0	1.2	1.00	
C11-C12	ND	5.0	1.2	1.00	
C13-C14	ND	5.0	1.2	1.00	
C15-C16	ND	5.0	1.2	1.00	
C17-C18	ND	5.0	1.2	1.00	
C19-C20	ND	5.0	1.2	1.00	
C21-C22	ND	5.0	1.2	1.00	
C23-C24	ND	5.0	1.2	1.00	
C25-C28	ND	5.0	1.2	1.00	
C29-C32	ND	5.0	1.2	1.00	
C33-C36	ND	5.0	1.2	1.00	
C37-C40	ND	5.0	1.2	1.00	
C41-C44	ND	5.0	1.2	1.00	
C6-C44 Total	ND	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	98	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**GC 50**	**04/03/19**	**04/04/19 12:28**	**190403B04**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	250	63	50.0	
C7	ND	250	63	50.0	
C8	ND	250	63	50.0	
C9-C10	580	250	63	50.0	
C11-C12	340	250	63	50.0	
C13-C14	120	250	63	50.0	J
C15-C16	ND	250	63	50.0	
C17-C18	170	250	63	50.0	J
C19-C20	930	250	63	50.0	
C21-C22	3500	250	63	50.0	
C23-C24	6200	250	63	50.0	
C25-C28	12000	250	63	50.0	
C29-C32	7600	250	63	50.0	
C33-C36	3500	250	63	50.0	
C37-C40	1200	250	63	50.0	
C41-C44	550	250	63	50.0	
C6-C44 Total	36000	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	125	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3548**	**N/A**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:39**	**190403B04**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	5.0	1.3	1.00	
C7	ND	5.0	1.3	1.00	
C8	ND	5.0	1.3	1.00	
C9-C10	ND	5.0	1.3	1.00	
C11-C12	ND	5.0	1.3	1.00	
C13-C14	ND	5.0	1.3	1.00	
C15-C16	ND	5.0	1.3	1.00	
C17-C18	ND	5.0	1.3	1.00	
C19-C20	ND	5.0	1.3	1.00	
C21-C22	ND	5.0	1.3	1.00	
C23-C24	ND	5.0	1.3	1.00	
C25-C28	ND	5.0	1.3	1.00	
C29-C32	ND	5.0	1.3	1.00	
C33-C36	ND	5.0	1.3	1.00	
C37-C40	ND	5.0	1.3	1.00	
C41-C44	ND	5.0	1.3	1.00	
C6-C44 Total	ND	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**ICP 8300**	**04/03/19**	**04/03/19 21:11**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.739	0.985	
Arsenic	ND	0.739	0.985	
Barium	65.0	0.493	0.985	
Beryllium	0.459	0.246	0.985	
Cadmium	ND	0.493	0.985	
Chromium	7.18	0.246	0.985	
Cobalt	4.09	0.246	0.985	
Copper	5.85	0.493	0.985	
Lead	52.4	0.493	0.985	
Molybdenum	0.261	0.246	0.985	
Nickel	5.80	0.246	0.985	
Selenium	ND	0.739	0.985	
Silver	ND	0.246	0.985	
Thallium	ND	0.739	0.985	
Vanadium	21.2	0.246	0.985	
Zinc	169	0.985	0.985	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-A**	**04/02/19 10:30**	**Solid**	**ICP 8300**	**04/03/19**	**04/03/19 21:13**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.758	1.01	
Arsenic	10.2	0.758	1.01	
Barium	48.3	0.505	1.01	
Beryllium	0.484	0.253	1.01	
Cadmium	0.799	0.505	1.01	
Chromium	7.30	0.253	1.01	
Cobalt	4.71	0.253	1.01	
Copper	5.68	0.505	1.01	
Lead	1.56	0.505	1.01	
Molybdenum	0.285	0.253	1.01	
Nickel	5.63	0.253	1.01	
Selenium	ND	0.758	1.01	
Silver	ND	0.253	1.01	
Thallium	ND	0.758	1.01	
Vanadium	20.2	0.253	1.01	
Zinc	1360	1.01	1.01	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**ICP 8300**	**04/03/19**	**04/03/19 21:15**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.785	1.05	
Arsenic	ND	0.785	1.05	
Barium	54.8	0.524	1.05	
Beryllium	0.511	0.262	1.05	
Cadmium	0.595	0.524	1.05	
Chromium	10.6	0.262	1.05	
Cobalt	4.44	0.262	1.05	
Copper	6.00	0.524	1.05	
Lead	72.8	0.524	1.05	
Molybdenum	0.434	0.262	1.05	
Nickel	7.17	0.262	1.05	
Selenium	ND	0.785	1.05	
Silver	ND	0.262	1.05	
Thallium	ND	0.785	1.05	
Vanadium	26.1	0.262	1.05	
Zinc	344	1.05	1.05	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-27722**	**N/A**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:42**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	ND	0.966	0.966	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 6010B
Units: mg/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**ICP 8300**	**04/03/19**	**04/05/19 16:31**	**190405LA1A**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Lead	ND	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**ICP 8300**	**04/03/19**	**04/05/19 16:32**	**190405LA1A**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Lead	ND	0.500	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-021-2913**	**N/A**	**Aqueous**	**ICP 8300**	**04/03/19**	**04/05/19 16:19**	**190405LA1A**

Parameter	Result	RL	DF	Qualifiers
Lead	ND	0.500	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:15**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0847	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-A**	**04/02/19 10:30**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:21**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:24**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-4519**	**N/A**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:56**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 15:14**	**190403L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	32	24-168	
2,4,5,6-Tetrachloro-m-Xylene	74	25-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-A**	**04/02/19 10:30**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 15:32**	**190403L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	49	1.00	
Aroclor-1221	ND	49	1.00	
Aroclor-1232	ND	49	1.00	
Aroclor-1242	ND	49	1.00	
Aroclor-1248	ND	49	1.00	
Aroclor-1254	ND	49	1.00	
Aroclor-1260	ND	49	1.00	
Aroclor-1262	ND	49	1.00	
Aroclor-1268	ND	49	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	80	24-168	
2,4,5,6-Tetrachloro-m-Xylene	81	25-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 15:50**	**190403L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	70	24-168	
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	

Method Blank	099-12-535-5150	N/A	Solid	GC 58	04/03/19	04/04/19 06:34	190403L06

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
TB040219	**19-04-0223-1-A**	**04/02/19 07:00**	**Aqueous**	**GC/MS XX**	**04/03/19**	**04/03/19 19:12**	**190403L029**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	5.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	2.0	1.00	
1,1,2,2-Tetrachloroethane	ND	10	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	89	77-120	
Dibromofluoromethane	105	80-128	
1,2-Dichloroethane-d4	111	80-129	
Toluene-d8	95	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-001-28429**	**N/A**	**Aqueous**	**GC/MS XX**	**04/03/19**	**04/03/19 18:27**	**190403L029**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	20	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	50	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	0.50	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	10	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	5.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	1.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.0	1.00	
c-1,3-Dichloropropene	ND	0.50	1.00	
t-1,3-Dichloropropene	ND	0.50	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	10	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	10	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	1.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	2.0	1.00	
1,1,2,2-Tetrachloroethane	ND	10	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	1.0	1.00	
1,2,4-Trichlorobenzene	ND	1.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
Trichloroethene	ND	1.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	1.0	1.00	
1,3,5-Trimethylbenzene	ND	1.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	0.50	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	77-120	
Dibromofluoromethane	105	80-128	
1,2-Dichloroethane-d4	112	80-129	
Toluene-d8	96	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-C**	**04/02/19 10:35**	**Solid**	**GC/MS R**	**04/02/19**	**04/03/19 20:40**	**190403L027**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	49	1.00	
Benzene	ND	0.97	1.00	
Bromobenzene	ND	0.97	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.97	1.00	
Bromoform	ND	4.9	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	2.0	0.97	1.00	
sec-Butylbenzene	ND	0.97	1.00	
tert-Butylbenzene	ND	0.97	1.00	
Carbon Disulfide	ND	9.7	1.00	
Carbon Tetrachloride	ND	0.97	1.00	
Chlorobenzene	ND	0.97	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.97	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.97	1.00	
4-Chlorotoluene	ND	0.97	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.9	1.00	
1,2-Dibromoethane	ND	0.97	1.00	
Dibromomethane	ND	0.97	1.00	
1,2-Dichlorobenzene	ND	0.97	1.00	
1,3-Dichlorobenzene	ND	0.97	1.00	
1,4-Dichlorobenzene	ND	0.97	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.97	1.00	
1,2-Dichloroethane	ND	0.97	1.00	
1,1-Dichloroethene	ND	0.97	1.00	
c-1,2-Dichloroethene	ND	0.97	1.00	
t-1,2-Dichloroethene	ND	0.97	1.00	
1,2-Dichloropropane	ND	0.97	1.00	
1,3-Dichloropropane	ND	0.97	1.00	
2,2-Dichloropropane	ND	4.9	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.97	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.97	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.97	1.00	
p-Isopropyltoluene	ND	0.97	1.00	
Methylene Chloride	ND	9.7	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	23	9.7	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.97	1.00	
1,1,1,2-Tetrachloroethane	ND	0.97	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.97	1.00	
Toluene	ND	0.97	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloroethane	ND	0.97	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.7	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.7	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	9.3	1.9	1.00	
1,3,5-Trimethylbenzene	2.4	1.9	1.00	
Vinyl Acetate	ND	9.7	1.00	
Vinyl Chloride	ND	0.97	1.00	
p/m-Xylene	2.0	1.9	1.00	
o-Xylene	1.3	0.97	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.97	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.97	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.97	1.00	
Ethanol	ND	490	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 3 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	103	79-133	
1,2-Dichloroethane-d4	112	71-155	
Toluene-d8	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-C**	**04/02/19 10:30**	**Solid**	**GC/MS R**	**04/02/19**	**04/03/19 21:07**	**190403L027**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	48	1.00	
Benzene	ND	0.96	1.00	
Bromobenzene	ND	0.96	1.00	
Bromochloromethane	ND	1.9	1.00	
Bromodichloromethane	ND	0.96	1.00	
Bromoform	ND	4.8	1.00	
Bromomethane	ND	19	1.00	
2-Butanone	ND	19	1.00	
n-Butylbenzene	ND	0.96	1.00	
sec-Butylbenzene	ND	0.96	1.00	
tert-Butylbenzene	ND	0.96	1.00	
Carbon Disulfide	ND	9.6	1.00	
Carbon Tetrachloride	ND	0.96	1.00	
Chlorobenzene	ND	0.96	1.00	
Chloroethane	ND	1.9	1.00	
Chloroform	ND	0.96	1.00	
Chloromethane	ND	19	1.00	
2-Chlorotoluene	ND	0.96	1.00	
4-Chlorotoluene	ND	0.96	1.00	
Dibromochloromethane	ND	1.9	1.00	
1,2-Dibromo-3-Chloropropane	ND	4.8	1.00	
1,2-Dibromoethane	ND	0.96	1.00	
Dibromomethane	ND	0.96	1.00	
1,2-Dichlorobenzene	ND	0.96	1.00	
1,3-Dichlorobenzene	ND	0.96	1.00	
1,4-Dichlorobenzene	ND	0.96	1.00	
Dichlorodifluoromethane	ND	1.9	1.00	
1,1-Dichloroethane	ND	0.96	1.00	
1,2-Dichloroethane	ND	0.96	1.00	
1,1-Dichloroethene	ND	0.96	1.00	
c-1,2-Dichloroethene	ND	0.96	1.00	
t-1,2-Dichloroethene	ND	0.96	1.00	
1,2-Dichloropropane	ND	0.96	1.00	
1,3-Dichloropropane	ND	0.96	1.00	
2,2-Dichloropropane	ND	4.8	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 5 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	1.9	1.00	
c-1,3-Dichloropropene	ND	0.96	1.00	
t-1,3-Dichloropropene	ND	1.9	1.00	
Ethylbenzene	ND	0.96	1.00	
2-Hexanone	ND	19	1.00	
Isopropylbenzene	ND	0.96	1.00	
p-Isopropyltoluene	ND	0.96	1.00	
Methylene Chloride	ND	9.6	1.00	
4-Methyl-2-Pentanone	ND	19	1.00	
Naphthalene	ND	9.6	1.00	
n-Propylbenzene	ND	1.9	1.00	
Styrene	ND	0.96	1.00	
1,1,1,2-Tetrachloroethane	ND	0.96	1.00	
1,1,2,2-Tetrachloroethane	ND	1.9	1.00	
Tetrachloroethene	ND	0.96	1.00	
Toluene	ND	0.96	1.00	
1,2,3-Trichlorobenzene	ND	1.9	1.00	
1,2,4-Trichlorobenzene	ND	1.9	1.00	
1,1,1-Trichloroethane	ND	0.96	1.00	
1,1,2-Trichloroethane	ND	0.96	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.6	1.00	
Trichloroethene	ND	1.9	1.00	
Trichlorofluoromethane	ND	9.6	1.00	
1,2,3-Trichloropropane	ND	1.9	1.00	
1,2,4-Trimethylbenzene	ND	1.9	1.00	
1,3,5-Trimethylbenzene	ND	1.9	1.00	
Vinyl Acetate	ND	9.6	1.00	
Vinyl Chloride	ND	0.96	1.00	
p/m-Xylene	ND	1.9	1.00	
o-Xylene	ND	0.96	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.9	1.00	
Tert-Butyl Alcohol (TBA)	ND	19	1.00	
Diisopropyl Ether (DIPE)	ND	0.96	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.96	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.96	1.00	
Ethanol	ND	480	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 6 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	104	79-133	
1,2-Dichloroethane-d4	113	71-155	
Toluene-d8	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-E**	**04/02/19 10:40**	**Solid**	**GC/MS R**	**04/02/19**	**04/04/19 22:11**	**190404L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5100	100	
Benzene	ND	100	100	
Bromobenzene	ND	100	100	
Bromochloromethane	ND	200	100	
Bromodichloromethane	ND	100	100	
Bromoform	ND	510	100	
Bromomethane	ND	2000	100	
2-Butanone	ND	2000	100	
n-Butylbenzene	1600	100	100	
sec-Butylbenzene	550	100	100	
tert-Butylbenzene	ND	100	100	
Carbon Disulfide	ND	1000	100	
Carbon Tetrachloride	ND	100	100	
Chlorobenzene	ND	100	100	
Chloroethane	ND	200	100	
Chloroform	ND	100	100	
Chloromethane	ND	2000	100	
2-Chlorotoluene	ND	100	100	
4-Chlorotoluene	ND	100	100	
Dibromochloromethane	ND	200	100	
1,2-Dibromo-3-Chloropropane	ND	510	100	
1,2-Dibromoethane	ND	100	100	
Dibromomethane	ND	100	100	
1,2-Dichlorobenzene	ND	100	100	
1,3-Dichlorobenzene	ND	100	100	
1,4-Dichlorobenzene	ND	100	100	
Dichlorodifluoromethane	ND	200	100	
1,1-Dichloroethane	ND	100	100	
1,2-Dichloroethane	ND	100	100	
1,1-Dichloroethene	ND	100	100	
c-1,2-Dichloroethene	ND	100	100	
t-1,2-Dichloroethene	ND	100	100	
1,2-Dichloropropane	ND	100	100	
1,3-Dichloropropane	ND	100	100	
2,2-Dichloropropane	ND	510	100	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 8 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	100	
c-1,3-Dichloropropene	ND	100	100	
t-1,3-Dichloropropene	ND	200	100	
Ethylbenzene	1600	100	100	
2-Hexanone	ND	2000	100	
Isopropylbenzene	430	100	100	
p-Isopropyltoluene	580	100	100	
Methylene Chloride	ND	1000	100	
4-Methyl-2-Pentanone	ND	2000	100	
Naphthalene	9700	1000	100	
n-Propylbenzene	1800	200	100	
Styrene	ND	100	100	
1,1,1,2-Tetrachloroethane	ND	100	100	
1,1,2,2-Tetrachloroethane	ND	200	100	
Tetrachloroethene	ND	100	100	
Toluene	1200	100	100	
1,2,3-Trichlorobenzene	ND	200	100	
1,2,4-Trichlorobenzene	ND	200	100	
1,1,1-Trichloroethane	ND	100	100	
1,1,2-Trichloroethane	ND	100	100	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	100	
Trichloroethene	ND	200	100	
Trichlorofluoromethane	ND	1000	100	
1,2,3-Trichloropropane	ND	200	100	
1,2,4-Trimethylbenzene	19000	200	100	
1,3,5-Trimethylbenzene	7000	200	100	
Vinyl Acetate	ND	1000	100	
Vinyl Chloride	ND	100	100	
p/m-Xylene	7200	200	100	
o-Xylene	5800	100	100	
Methyl-t-Butyl Ether (MTBE)	ND	200	100	
Tert-Butyl Alcohol (TBA)	ND	2000	100	
Diisopropyl Ether (DIPE)	ND	100	100	
Ethyl-t-Butyl Ether (ETBE)	ND	100	100	
Tert-Amyl-Methyl Ether (TAME)	ND	100	100	
Ethanol	ND	51000	100	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 9 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	94	79-133	
1,2-Dichloroethane-d4	92	71-155	
Toluene-d8	100	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-30886**	**N/A**	**Solid**	**GC/MS R**	**04/03/19**	**04/03/19 11:47**	**190403L027**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	50	1.00	
Benzene	ND	1.0	1.00	
Bromobenzene	ND	1.0	1.00	
Bromochloromethane	ND	2.0	1.00	
Bromodichloromethane	ND	1.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	20	1.00	
2-Butanone	ND	20	1.00	
n-Butylbenzene	ND	1.0	1.00	
sec-Butylbenzene	ND	1.0	1.00	
tert-Butylbenzene	ND	1.0	1.00	
Carbon Disulfide	ND	10	1.00	
Carbon Tetrachloride	ND	1.0	1.00	
Chlorobenzene	ND	1.0	1.00	
Chloroethane	ND	2.0	1.00	
Chloroform	ND	1.0	1.00	
Chloromethane	ND	20	1.00	
2-Chlorotoluene	ND	1.0	1.00	
4-Chlorotoluene	ND	1.0	1.00	
Dibromochloromethane	ND	2.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.00	
1,2-Dibromoethane	ND	1.0	1.00	
Dibromomethane	ND	1.0	1.00	
1,2-Dichlorobenzene	ND	1.0	1.00	
1,3-Dichlorobenzene	ND	1.0	1.00	
1,4-Dichlorobenzene	ND	1.0	1.00	
Dichlorodifluoromethane	ND	2.0	1.00	
1,1-Dichloroethane	ND	1.0	1.00	
1,2-Dichloroethane	ND	1.0	1.00	
1,1-Dichloroethene	ND	1.0	1.00	
c-1,2-Dichloroethene	ND	1.0	1.00	
t-1,2-Dichloroethene	ND	1.0	1.00	
1,2-Dichloropropane	ND	1.0	1.00	
1,3-Dichloropropane	ND	1.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 11 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	2.0	1.00	
c-1,3-Dichloropropene	ND	1.0	1.00	
t-1,3-Dichloropropene	ND	2.0	1.00	
Ethylbenzene	ND	1.0	1.00	
2-Hexanone	ND	20	1.00	
Isopropylbenzene	ND	1.0	1.00	
p-Isopropyltoluene	ND	1.0	1.00	
Methylene Chloride	ND	10	1.00	
4-Methyl-2-Pentanone	ND	20	1.00	
Naphthalene	ND	10	1.00	
n-Propylbenzene	ND	2.0	1.00	
Styrene	ND	1.0	1.00	
1,1,1,2-Tetrachloroethane	ND	1.0	1.00	
1,1,2,2-Tetrachloroethane	ND	2.0	1.00	
Tetrachloroethene	ND	1.0	1.00	
Toluene	ND	1.0	1.00	
1,2,3-Trichlorobenzene	ND	2.0	1.00	
1,2,4-Trichlorobenzene	ND	2.0	1.00	
1,1,1-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloroethane	ND	1.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.00	
Trichloroethene	ND	2.0	1.00	
Trichlorofluoromethane	ND	10	1.00	
1,2,3-Trichloropropane	ND	2.0	1.00	
1,2,4-Trimethylbenzene	ND	2.0	1.00	
1,3,5-Trimethylbenzene	ND	2.0	1.00	
Vinyl Acetate	ND	10	1.00	
Vinyl Chloride	ND	1.0	1.00	
p/m-Xylene	ND	2.0	1.00	
o-Xylene	ND	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	20	1.00	
Diisopropyl Ether (DIPE)	ND	1.0	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1.00	
Ethanol	ND	500	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 12 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	96	79-133	
1,2-Dichloroethane-d4	94	71-155	
Toluene-d8	98	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-30890**	**N/A**	**Solid**	**GC/MS R**	**04/04/19**	**04/04/19 13:07**	**190404L020**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	5000	50.0	
Benzene	ND	100	50.0	
Bromobenzene	ND	100	50.0	
Bromochloromethane	ND	200	50.0	
Bromodichloromethane	ND	100	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2000	50.0	
2-Butanone	ND	2000	50.0	
n-Butylbenzene	ND	100	50.0	
sec-Butylbenzene	ND	100	50.0	
tert-Butylbenzene	ND	100	50.0	
Carbon Disulfide	ND	1000	50.0	
Carbon Tetrachloride	ND	100	50.0	
Chlorobenzene	ND	100	50.0	
Chloroethane	ND	200	50.0	
Chloroform	ND	100	50.0	
Chloromethane	ND	2000	50.0	
2-Chlorotoluene	ND	100	50.0	
4-Chlorotoluene	ND	100	50.0	
Dibromochloromethane	ND	200	50.0	
1,2-Dibromo-3-Chloropropane	ND	500	50.0	
1,2-Dibromoethane	ND	100	50.0	
Dibromomethane	ND	100	50.0	
1,2-Dichlorobenzene	ND	100	50.0	
1,3-Dichlorobenzene	ND	100	50.0	
1,4-Dichlorobenzene	ND	100	50.0	
Dichlorodifluoromethane	ND	200	50.0	
1,1-Dichloroethane	ND	100	50.0	
1,2-Dichloroethane	ND	100	50.0	
1,1-Dichloroethene	ND	100	50.0	
c-1,2-Dichloroethene	ND	100	50.0	
t-1,2-Dichloroethene	ND	100	50.0	
1,2-Dichloropropane	ND	100	50.0	
1,3-Dichloropropane	ND	100	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 14 of 15

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	200	50.0	
c-1,3-Dichloropropene	ND	100	50.0	
t-1,3-Dichloropropene	ND	200	50.0	
Ethylbenzene	ND	100	50.0	
2-Hexanone	ND	2000	50.0	
Isopropylbenzene	ND	100	50.0	
p-Isopropyltoluene	ND	100	50.0	
Methylene Chloride	ND	1000	50.0	
4-Methyl-2-Pentanone	ND	2000	50.0	
Naphthalene	ND	1000	50.0	
n-Propylbenzene	ND	200	50.0	
Styrene	ND	100	50.0	
1,1,1,2-Tetrachloroethane	ND	100	50.0	
1,1,2,2-Tetrachloroethane	ND	200	50.0	
Tetrachloroethene	ND	100	50.0	
Toluene	ND	100	50.0	
1,2,3-Trichlorobenzene	ND	200	50.0	
1,2,4-Trichlorobenzene	ND	200	50.0	
1,1,1-Trichloroethane	ND	100	50.0	
1,1,2-Trichloroethane	ND	100	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	1000	50.0	
Trichloroethene	ND	200	50.0	
Trichlorofluoromethane	ND	1000	50.0	
1,2,3-Trichloropropane	ND	200	50.0	
1,2,4-Trimethylbenzene	ND	200	50.0	
1,3,5-Trimethylbenzene	ND	200	50.0	
Vinyl Acetate	ND	1000	50.0	
Vinyl Chloride	ND	100	50.0	
p/m-Xylene	ND	200	50.0	
o-Xylene	ND	100	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	200	50.0	
Tert-Butyl Alcohol (TBA)	ND	2000	50.0	
Diisopropyl Ether (DIPE)	ND	100	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	100	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	100	50.0	
Ethanol	ND	50000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0223
Torrance, CA 90501-7243	Preparation:	EPA 5035
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 15 of 15

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	97	79-133	
1,2-Dichloroethane-d4	96	71-155	
Toluene-d8	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-040219	**19-04-0223-2-A**	**04/02/19 10:35**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 02:06**	**190404L038**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
2,2-Dichloropropane	ND	100	1.00	
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	96	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-N-040219	**19-04-0223-3-A**	**04/02/19 10:30**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 02:34**	**190404L038**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 1311
		Method:	EPA 8260B
		Units:	ug/L
Project: Yucca / LA1301B			Page 4 of 8

Parameter	Result	RL	DF	Qualifiers
2,2-Dichloropropane	ND	100	1.00	
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	96	80-126	
1,2-Dichloroethane-d4	101	80-134	
Toluene-d8	102	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-CENTER-040219	**19-04-0223-4-A**	**04/02/19 10:40**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 03:03**	**190404L038**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
2,2-Dichloropropane	ND	100	1.00	
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	96	80-126	
1,2-Dichloroethane-d4	102	80-134	
Toluene-d8	102	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-519-1768**	**N/A**	**Aqueous**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:13**	**190404L038**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	
2,2-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	80-120	
Dibromofluoromethane	95	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-03-2270-9	**Sample**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 23:18**	**190403S04**
19-03-2270-9	**Matrix Spike**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:19**	**190403S04**
19-03-2270-9	**Matrix Spike Duplicate**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:39**	**190403S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	463.7	116	457.6	114	64-130	1	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Yucca / LA1301B			Page 2 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0150-1	**Sample**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:48**	**190402S04**
19-04-0150-1	**Matrix Spike**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:50**	**190402S04**
19-04-0150-1	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:52**	**190402S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	6.929	28	4.246	17	50-115	48	0-20	3,4
Arsenic	1.062	25.00	28.94	111	25.31	97	75-125	13	0-20	
Barium	56.96	25.00	95.08	152	93.45	146	75-125	2	0-20	3
Beryllium	0.7540	25.00	28.72	112	26.46	103	75-125	8	0-20	
Cadmium	ND	25.00	28.66	115	26.33	105	75-125	8	0-20	
Chromium	5.050	25.00	33.67	114	32.71	111	75-125	3	0-20	
Cobalt	3.417	25.00	29.99	106	27.79	97	75-125	8	0-20	
Copper	3.332	25.00	30.99	111	29.01	103	75-125	7	0-20	
Lead	14.64	25.00	38.97	97	35.54	84	75-125	9	0-20	
Molybdenum	ND	25.00	25.70	103	22.38	90	75-125	14	0-20	
Nickel	2.787	25.00	30.65	111	28.31	102	75-125	8	0-20	
Selenium	ND	25.00	25.53	102	23.05	92	75-125	10	0-20	
Silver	ND	12.50	13.79	110	12.74	102	75-125	8	0-20	
Thallium	ND	25.00	27.49	110	25.00	100	75-125	9	0-20	
Vanadium	17.20	25.00	43.60	106	45.10	112	75-125	3	0-20	
Zinc	16.03	25.00	45.63	118	42.00	104	75-125	8	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 1311
		Method:	EPA 6010B
Project: Yucca / LA1301B			Page 3 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-03-1306-17	**Sample**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:24**	**190405SA1**
19-03-1306-17	**Matrix Spike**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:25**	**190405SA1**
19-03-1306-17	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:27**	**190405SA1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Lead	ND	5.000	4.908	98	5.188	104	84-120	6	0-7	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Yucca / LA1301B			Page 4 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0190-3	**Sample**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:01**	**190404S01**
19-04-0190-3	**Matrix Spike**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:03**	**190404S01**
19-04-0190-3	**Matrix Spike Duplicate**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:05**	**190404S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.7589	91	0.7848	94	71-137	3	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Yucca / LA1301B			Page 5 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0094-1	**Sample**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:46**	**190403S06**
19-04-0094-1	**Matrix Spike**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:10**	**190403S06**
19-04-0094-1	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:28**	**190403S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	92.50	92	89.00	89	50-135	4	0-20	
Aroclor-1260	ND	100.0	91.00	91	92.00	92	50-135	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 1311
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 6 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0158-1	**Sample**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:42**	**190404S010**
19-04-0158-1	**Matrix Spike**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:11**	**190404S010**
19-04-0158-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:39**	**190404S010**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	5000	4604	92	4635	93	78-120	1	0-20	
Carbon Tetrachloride	ND	5000	4174	83	4373	87	67-139	5	0-20	
Chlorobenzene	ND	5000	4665	93	4757	95	80-120	2	0-20	
1,2-Dibromoethane	ND	5000	4657	93	4794	96	80-123	3	0-20	
1,2-Dichlorobenzene	ND	5000	4563	91	4660	93	76-120	2	0-20	
1,2-Dichloroethane	ND	5000	4991	100	5135	103	76-130	3	0-20	
1,1-Dichloroethene	ND	5000	4522	90	4556	91	70-130	1	0-27	
Ethylbenzene	ND	5000	4691	94	4789	96	73-127	2	0-20	
Toluene	ND	5000	4908	98	4977	100	72-126	1	0-20	
Trichloroethene	ND	5000	4634	93	4663	93	74-122	1	0-20	
Vinyl Chloride	ND	5000	5219	104	5059	101	65-131	3	0-24	
p/m-Xylene	ND	10000	9529	95	9705	97	70-130	2	0-30	
o-Xylene	ND	5000	4786	96	4926	99	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	5000	3615	72	3745	75	69-123	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3548	**LCS**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:59**	**190403B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	453.6	113	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 3050B
Method: EPA 6010B

Project: Yucca / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-27722	**LCS**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:45**	**190402L04**
097-01-002-27722	**LCSD**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:46**	**190402L04**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	25.00	25.15	101	24.39	98	80-120	73-127	3	0-20	
Arsenic	25.00	24.40	98	24.40	98	80-120	73-127	0	0-20	
Barium	25.00	26.30	105	26.18	105	80-120	73-127	0	0-20	
Beryllium	25.00	23.42	94	23.33	93	80-120	73-127	0	0-20	
Cadmium	25.00	25.44	102	25.39	102	80-120	73-127	0	0-20	
Chromium	25.00	25.00	100	24.73	99	80-120	73-127	1	0-20	
Cobalt	25.00	25.75	103	25.60	102	80-120	73-127	1	0-20	
Copper	25.00	24.46	98	24.39	98	80-120	73-127	0	0-20	
Lead	25.00	26.43	106	25.86	103	80-120	73-127	2	0-20	
Molybdenum	25.00	24.72	99	24.24	97	80-120	73-127	2	0-20	
Nickel	25.00	25.83	103	25.70	103	80-120	73-127	1	0-20	
Selenium	25.00	24.13	97	23.44	94	80-120	73-127	3	0-20	
Silver	12.50	12.01	96	11.92	95	80-120	73-127	1	0-20	
Thallium	25.00	25.67	103	24.57	98	80-120	73-127	4	0-20	
Vanadium	25.00	23.72	95	23.56	94	80-120	73-127	1	0-20	
Zinc	25.00	25.47	102	24.98	100	80-120	73-127	2	0-20	

Total number of LCS compounds: 16

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.	Date Received: 04/03/19
370 Amapola Avenue, Suite 212	Work Order: 19-04-0223
Torrance, CA 90501-7243	Preparation: EPA 1311
	Method: EPA 6010B
Project: Yucca / LA1301B	Page 3 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-021-2913	**LCS**	**Aqueous**	**ICP 8300**	**04/03/19**	**04/05/19 16:21**	**190405LA1A**
099-14-021-2913	**LCSD**	**Aqueous**	**ICP 8300**	**04/03/19**	**04/05/19 16:22**	**190405LA1A**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Lead	5.000	4.956	99	5.019	100	80-120	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Yucca / LA1301B			Page 4 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-4519	**LCS**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:59**	**190404L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7234	87	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Yucca / LA1301B			Page 5 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-5150	**LCS**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 06:52**	**190403L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	92.50	92	50-135	
Aroclor-1260	100.0	87.00	87	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B

Project: Yucca / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-001-28429	**LCS**	**Aqueous**	**GC/MS XX**	**04/03/19**	**04/03/19 16:34**	**190403L029**
099-14-001-28429	**LCSD**	**Aqueous**	**GC/MS XX**	**04/03/19**	**04/03/19 17:03**	**190403L029**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acetone	50.00	42.89	86	43.45	87	53-137	39-151	1	0-21	
Benzene	50.00	48.75	98	49.95	100	79-121	72-128	2	0-20	
Bromobenzene	50.00	56.18	112	56.79	114	80-120	73-127	1	0-20	
Bromochloromethane	50.00	48.84	98	49.85	100	80-122	73-129	2	0-20	
Bromodichloromethane	50.00	56.17	112	56.24	112	80-124	73-131	0	0-20	
Bromoform	50.00	52.92	106	54.55	109	73-127	64-136	3	0-20	
Bromomethane	50.00	68.61	137	65.52	131	50-150	33-167	5	0-26	
2-Butanone	50.00	48.06	96	51.00	102	60-126	49-137	6	0-20	
n-Butylbenzene	50.00	59.10	118	56.48	113	72-138	61-149	5	0-20	
sec-Butylbenzene	50.00	57.13	114	56.19	112	77-131	68-140	2	0-20	
tert-Butylbenzene	50.00	60.82	122	60.81	122	80-125	72-132	0	0-20	
Carbon Disulfide	50.00	37.49	75	38.04	76	50-150	33-167	1	0-22	
Carbon Tetrachloride	50.00	53.25	107	54.07	108	65-143	52-156	2	0-20	
Chlorobenzene	50.00	51.87	104	51.74	103	80-120	73-127	0	0-20	
Chloroethane	50.00	51.34	103	54.62	109	62-128	51-139	6	0-20	
Chloroform	50.00	50.03	100	51.33	103	80-120	73-127	3	0-20	
Chloromethane	50.00	49.17	98	51.28	103	43-133	28-148	4	0-20	
2-Chlorotoluene	50.00	58.31	117	56.88	114	80-121	73-128	2	0-20	
4-Chlorotoluene	50.00	56.74	113	55.83	112	80-120	73-127	2	0-20	
Dibromochloromethane	50.00	55.78	112	55.50	111	80-123	73-130	1	0-20	
1,2-Dibromo-3-Chloropropane	50.00	55.25	110	60.82	122	66-126	56-136	10	0-20	
1,2-Dibromoethane	50.00	52.10	104	52.88	106	80-120	73-127	1	0-20	
Dibromomethane	50.00	52.16	104	52.30	105	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	50.00	54.13	108	53.46	107	80-120	73-127	1	0-20	
1,3-Dichlorobenzene	50.00	55.12	110	53.89	108	80-120	73-127	2	0-20	
1,4-Dichlorobenzene	50.00	54.22	108	53.11	106	80-120	73-127	2	0-20	
Dichlorodifluoromethane	50.00	63.37	127	62.90	126	50-150	33-167	1	0-30	
1,1-Dichloroethane	50.00	41.09	82	42.60	85	72-126	63-135	4	0-20	
1,2-Dichloroethane	50.00	56.75	113	56.60	113	76-120	69-127	0	0-20	
1,1-Dichloroethene	50.00	42.66	85	43.79	88	66-132	55-143	3	0-20	
c-1,2-Dichloroethene	50.00	49.10	98	50.74	101	78-120	71-127	3	0-20	
t-1,2-Dichloroethene	50.00	44.70	89	46.09	92	66-132	55-143	3	0-20	
1,2-Dichloropropane	50.00	49.52	99	50.31	101	80-120	73-127	2	0-20	
1,3-Dichloropropane	50.00	50.06	100	50.81	102	80-120	73-127	1	0-20	
2,2-Dichloropropane	50.00	60.32	121	60.75	121	50-150	33-167	1	0-20	
1,1-Dichloropropene	50.00	50.06	100	50.75	102	75-123	67-131	1	0-20	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5030C
Method: EPA 8260B

Project: Yucca / LA1301B

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
c-1,3-Dichloropropene	50.00	56.32	113	56.56	113	77-131	68-140	0	0-20	
t-1,3-Dichloropropene	50.00	51.98	104	52.51	105	76-136	66-146	1	0-20	
Ethylbenzene	50.00	56.36	113	56.49	113	80-120	73-127	0	0-20	
2-Hexanone	50.00	49.03	98	55.25	111	63-123	53-133	12	0-20	
Isopropylbenzene	50.00	59.70	119	59.72	119	80-128	72-136	0	0-20	
p-Isopropyltoluene	50.00	59.28	119	58.11	116	73-133	63-143	2	0-20	
Methylene Chloride	50.00	44.43	89	44.94	90	61-133	49-145	1	0-27	
4-Methyl-2-Pentanone	50.00	52.31	105	55.45	111	65-125	55-135	6	0-20	
Naphthalene	50.00	58.06	116	59.22	118	69-129	59-139	2	0-20	
n-Propylbenzene	50.00	57.44	115	56.25	113	80-128	72-136	2	0-20	
Styrene	50.00	53.27	107	54.01	108	80-126	72-134	1	0-20	
1,1,1,2-Tetrachloroethane	50.00	55.86	112	56.56	113	80-129	72-137	1	0-20	
1,1,2,2-Tetrachloroethane	50.00	48.37	97	50.93	102	74-122	66-130	5	0-20	
Tetrachloroethene	50.00	38.00	76	39.10	78	55-139	41-153	3	0-23	
Toluene	50.00	51.53	103	53.28	107	80-120	73-127	3	0-20	
1,2,3-Trichlorobenzene	50.00	61.26	123	59.31	119	72-132	62-142	3	0-20	
1,2,4-Trichlorobenzene	50.00	65.34	131	63.06	126	74-134	64-144	4	0-20	
1,1,1-Trichloroethane	50.00	53.06	106	55.03	110	76-124	68-132	4	0-20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	50.00	43.94	88	42.32	85	54-150	38-166	4	0-30	
1,1,2-Trichloroethane	50.00	49.28	99	49.78	100	80-120	73-127	1	0-20	
Trichloroethene	50.00	49.83	100	50.17	100	79-121	72-128	1	0-20	
Trichlorofluoromethane	50.00	58.80	118	59.00	118	72-132	62-142	0	0-20	
1,2,3-Trichloropropane	50.00	54.13	108	56.98	114	75-123	67-131	5	0-20	
1,2,4-Trimethylbenzene	50.00	58.01	116	57.44	115	74-128	65-137	1	0-20	
1,3,5-Trimethylbenzene	50.00	60.60	121	59.79	120	77-131	68-140	1	0-20	
Vinyl Acetate	50.00	70.88	142	72.51	145	50-150	33-167	2	0-20	
Vinyl Chloride	50.00	51.02	102	54.32	109	63-129	52-140	6	0-20	
p/m-Xylene	100.0	121.0	121	120.7	121	80-122	73-129	0	0-20	
o-Xylene	50.00	55.47	111	55.62	111	80-128	72-136	0	0-20	
Methyl-t-Butyl Ether (MTBE)	50.00	43.43	87	44.70	89	69-123	60-132	3	0-20	

Total number of LCS compounds: 66
Total number of ME compounds: 0
Total number of ME compounds allowed: 3
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-30886	**LCS**	**Solid**	**GC/MS R**	**04/03/19**	**04/03/19 10:28**	**190403L027**
095-01-025-30886	**LCSD**	**Solid**	**GC/MS R**	**04/03/19**	**04/03/19 10:54**	**190403L027**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	46.03	92	48.94	98	80-120	73-127	6	0-20	
Carbon Tetrachloride	50.00	48.28	97	50.81	102	65-137	53-149	5	0-20	
Chlorobenzene	50.00	47.68	95	51.26	103	80-120	73-127	7	0-20	
1,2-Dibromoethane	50.00	48.33	97	51.64	103	80-120	73-127	7	0-20	
1,2-Dichlorobenzene	50.00	50.84	102	54.54	109	80-120	73-127	7	0-20	
1,2-Dichloroethane	50.00	43.41	87	47.20	94	80-120	73-127	8	0-20	
1,1-Dichloroethene	50.00	50.35	101	52.58	105	68-128	58-138	4	0-20	
Ethylbenzene	50.00	51.10	102	54.32	109	80-120	73-127	6	0-20	
Toluene	50.00	47.06	94	50.14	100	80-120	73-127	6	0-20	
Trichloroethene	50.00	46.18	92	48.32	97	80-120	73-127	5	0-20	
Vinyl Chloride	50.00	51.55	103	48.93	98	67-127	57-137	5	0-20	
p/m-Xylene	100.0	103.8	104	110.5	111	75-125	67-133	6	0-25	
o-Xylene	50.00	53.04	106	56.41	113	75-125	67-133	6	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	50.64	101	53.25	106	70-124	61-133	5	0-20	
Tert-Butyl Alcohol (TBA)	250.0	256.6	103	274.0	110	73-121	65-129	7	0-20	
Diisopropyl Ether (DIPE)	50.00	49.27	99	51.88	104	69-129	59-139	5	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	55.14	110	57.34	115	70-124	61-133	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	53.28	107	56.14	112	74-122	66-130	5	0-20	
Ethanol	500.0	455.7	91	492.9	99	51-135	37-149	8	0-27	

Total number of LCS compounds: 19
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0223
Preparation: EPA 5035
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-30890	**LCS**	**Solid**	**GC/MS R**	**04/04/19**	**04/04/19 11:20**	**190404L020**
095-01-025-30890	**LCSD**	**Solid**	**GC/MS R**	**04/04/19**	**04/04/19 11:47**	**190404L020**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	50.00	51.28	103	51.42	103	80-120	73-127	0	0-20	
Carbon Tetrachloride	50.00	54.30	109	54.34	109	65-137	53-149	0	0-20	
Chlorobenzene	50.00	50.73	101	50.78	102	80-120	73-127	0	0-20	
1,2-Dibromoethane	50.00	50.87	102	51.37	103	80-120	73-127	1	0-20	
1,2-Dichlorobenzene	50.00	53.11	106	53.82	108	80-120	73-127	1	0-20	
1,2-Dichloroethane	50.00	47.28	95	47.71	95	80-120	73-127	1	0-20	
1,1-Dichloroethene	50.00	62.28	125	62.83	126	68-128	58-138	1	0-20	
Ethylbenzene	50.00	54.01	108	53.90	108	80-120	73-127	0	0-20	
Toluene	50.00	50.27	101	50.30	101	80-120	73-127	0	0-20	
Trichloroethene	50.00	49.83	100	50.17	100	80-120	73-127	1	0-20	
Vinyl Chloride	50.00	51.24	102	53.31	107	67-127	57-137	4	0-20	
p/m-Xylene	100.0	109.9	110	109.1	109	75-125	67-133	1	0-25	
o-Xylene	50.00	55.79	112	55.70	111	75-125	67-133	0	0-25	
Methyl-t-Butyl Ether (MTBE)	50.00	51.65	103	52.20	104	70-124	61-133	1	0-20	
Tert-Butyl Alcohol (TBA)	250.0	252.0	101	264.4	106	73-121	65-129	5	0-20	
Diisopropyl Ether (DIPE)	50.00	52.39	105	53.29	107	69-129	59-139	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	50.00	54.96	110	55.52	111	70-124	61-133	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	50.00	52.11	104	51.85	104	74-122	66-130	1	0-20	
Ethanol	500.0	487.5	97	545.1	109	51-135	37-149	11	0-27	

Total number of LCS compounds: 19
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0223
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 10 of 10

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-519-1768	**LCS**	**Aqueous**	**GC/MS QQ**	**04/04/19**	**04/04/19 21:47**	**190404L038**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	44.04	88	80-120	73-127	
Carbon Tetrachloride	50.00	40.98	82	66-138	54-150	
Chlorobenzene	50.00	44.71	89	80-120	73-127	
1,2-Dibromoethane	50.00	45.38	91	80-120	73-127	
1,2-Dichlorobenzene	50.00	43.88	88	80-120	73-127	
1,2-Dichloroethane	50.00	48.28	97	80-129	72-137	
1,1-Dichloroethene	50.00	44.45	89	71-131	61-141	
Ethylbenzene	50.00	44.97	90	80-123	73-130	
Toluene	50.00	46.78	94	79-121	72-128	
Trichloroethene	50.00	44.70	89	80-120	73-127	
Vinyl Chloride	50.00	52.69	105	70-136	59-147	
p/m-Xylene	100.0	91.53	92	75-125	67-133	
o-Xylene	50.00	46.06	92	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	37.10	74	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-04-0223 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 6010B	EPA 1311	771	ICP 8300	1
EPA 7471A	EPA 7471A Total	868	Mercury 07	1
EPA 8015B (M)	EPA 3550B	972	GC 50	1
EPA 8082	EPA 3545	669	GC 58	1
EPA 8260B	EPA 5035	823	GC/MS R	2
EPA 8260B	EPA 1311	486	GC/MS QQ	2
EPA 8260B	EPA 5030C	1189	GC/MS XX	2

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Glossary of Terms and Qualifiers

Work Order: 19-04-0223

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **19-04-0223**

Date: April 2, 2019
Page: 1 of 1

LABORATORY CLIENT: Group Delta Consultants	CLIENT PROJECT NAME / NO.: LA1301B
ADDRESS: 370 Amapola Ave, Suite 212	PROJECT CONTACT: Alycia McCord
CITY: Torrance STATE: CA ZIP: 90501	LAB CONTACT OR QUOTE NO: Vik Patel
TEL: (310) 320-5100 E-MAIL: alycia@groupdelta.com	GLOBAL ID: / LOG CODE: / SAMPLER(S): (PRINT) A McCord

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS: COC A

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) ☐ GRO	TPH(d) ☐ DRO	TPH ☐ C6-C36 ☒ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☒ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☒ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	TCLP-VOCs	TCLP-Metals		
1	TB040219	4.2.19	0700	H2O	2		X							X												
2	SW-S-040219	4.2.19	1035	SOIL	7	X	X				X			X	X	X			X		X		X	X		
3	SW-N-040219	4.2.19	1030	SOIL	7	X	X				X			X	X	X			X		X		X	X		
4	PB-CENTER-040219	4.2.19	1040	SOIL	7	X	X				X			X	X	X			X		X		X	X		

Relinquished by: (Signature) Alycia McCord	Received by: (Signature/Affiliation) EC	Date: 04/03/19	Time: 1045
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 4/3/19	Time: 1145
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2016-04-01-Revision

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WORK ORDER NUMBER: 19-04-0223

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: GROUP DELTA

DATE: 04/03/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 3.8 °C (w/ CF): 3.6 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 671

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 671

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: SM

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☑	☐	☐
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☑	☐	☐
☑ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: 181012A)

Aqueous: ☐ VOA ☑ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☐ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☑ TerraCores® (6) ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, Labeled/Checked by: SM

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: 30

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Supplemental Report 1

The original report has been revised/corrected.

WORK ORDER NUMBER: 19-04-2258

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Group Delta Consultants, Inc.

Client Project Name: 6334 Yucca St. / LA1301B

Attention: Alycia McCord
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Vikas Patel

Approved for release on 06/03/2019 by:
Vikas Patel
Project Manager

ResultLink

Email your PM

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Client Project Name: 6334 Yucca St. / LA1301B
Work Order Number: 19-04-2258

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/29/19. They were assigned to Work Order 19-04-2258.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order:	19-04-2258
		Project Name:	6334 Yucca St. / LA1301B
		PO Number:	LA1301B
		Date/Time Received:	04/29/19 11:25
		Number of Containers:	2
Attn:	Alycia McCord		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SW-S-042919	19-04-2258-1	04/29/19 08:10	1	Solid
PB-Center-042919	19-04-2258-2	04/29/19 08:15	1	Solid

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Detections Summary

Client: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Work Order: 19-04-2258
Project Name: 6334 Yucca St. / LA1301B
Received: 04/29/19

Attn: Alycia McCord

Client SampleID / Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SW-S-042919 (19-04-2258-1)						
Barium	61.1		0.510	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.387		0.255	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.43		0.255	mg/kg	EPA 6010B	EPA 3050B
Cobalt	5.92		0.255	mg/kg	EPA 6010B	EPA 3050B
Copper	3.67		0.510	mg/kg	EPA 6010B	EPA 3050B
Lead	0.544		0.510	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.56		0.255	mg/kg	EPA 6010B	EPA 3050B
Vanadium	18.4		0.255	mg/kg	EPA 6010B	EPA 3050B
Zinc	16.9		1.02	mg/kg	EPA 6010B	EPA 3050B
Mercury	0.175		0.0794	mg/kg	EPA 7471A	EPA 7471A Total
C21-C22	1.6	J	1.3*	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	3.5	J	1.3*	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	8.3		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	7.3		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	4.3	J	1.3*	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	4.2	J	1.3*	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	29		5.0	mg/kg	EPA 8015B (M)	EPA 3550B
PB-Center-042919 (19-04-2258-2)						
Barium	37.7		0.526	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.335		0.263	mg/kg	EPA 6010B	EPA 3050B
Chromium	7.85		0.263	mg/kg	EPA 6010B	EPA 3050B
Cobalt	5.64		0.263	mg/kg	EPA 6010B	EPA 3050B
Copper	4.81		0.526	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.331		0.263	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.35		0.263	mg/kg	EPA 6010B	EPA 3050B
Vanadium	20.3		0.263	mg/kg	EPA 6010B	EPA 3050B
Zinc	19.2		1.05	mg/kg	EPA 6010B	EPA 3050B

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: 6334 Yucca St. / LA1301B

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-042919	**19-04-2258-1-A**	**04/29/19 08:10**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 05:10**	**190429B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	5.0	1.3	1.00	
C7	ND	5.0	1.3	1.00	
C8	ND	5.0	1.3	1.00	
C9-C10	ND	5.0	1.3	1.00	
C11-C12	ND	5.0	1.3	1.00	
C13-C14	ND	5.0	1.3	1.00	
C15-C16	ND	5.0	1.3	1.00	
C17-C18	ND	5.0	1.3	1.00	
C19-C20	ND	5.0	1.3	1.00	
C21-C22	1.6	5.0	1.3	1.00	J
C23-C24	3.5	5.0	1.3	1.00	J
C25-C28	8.3	5.0	1.3	1.00	
C29-C32	7.3	5.0	1.3	1.00	
C33-C36	4.3	5.0	1.3	1.00	J
C37-C40	4.2	5.0	1.3	1.00	J
C41-C44	ND	5.0	1.3	1.00	
C6-C44 Total	29	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	95	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: 6334 Yucca St. / LA1301B

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-Center-042919	**19-04-2258-2-A**	**04/29/19 08:15**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 05:31**	**190429B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	4.9	1.2	1.00	
C7	ND	4.9	1.2	1.00	
C8	ND	4.9	1.2	1.00	
C9-C10	ND	4.9	1.2	1.00	
C11-C12	ND	4.9	1.2	1.00	
C13-C14	ND	4.9	1.2	1.00	
C15-C16	ND	4.9	1.2	1.00	
C17-C18	ND	4.9	1.2	1.00	
C19-C20	ND	4.9	1.2	1.00	
C21-C22	ND	4.9	1.2	1.00	
C23-C24	ND	4.9	1.2	1.00	
C25-C28	ND	4.9	1.2	1.00	
C29-C32	ND	4.9	1.2	1.00	
C33-C36	ND	4.9	1.2	1.00	
C37-C40	ND	4.9	1.2	1.00	
C41-C44	ND	4.9	1.2	1.00	
C6-C44 Total	ND	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	93	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: 6334 Yucca St. / LA1301B

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3583**	**N/A**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 03:25**	**190429B02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
C6	ND	5.0	1.3	1.00	
C7	ND	5.0	1.3	1.00	
C8	ND	5.0	1.3	1.00	
C9-C10	ND	5.0	1.3	1.00	
C11-C12	ND	5.0	1.3	1.00	
C13-C14	ND	5.0	1.3	1.00	
C15-C16	ND	5.0	1.3	1.00	
C17-C18	ND	5.0	1.3	1.00	
C19-C20	ND	5.0	1.3	1.00	
C21-C22	ND	5.0	1.3	1.00	
C23-C24	ND	5.0	1.3	1.00	
C25-C28	ND	5.0	1.3	1.00	
C29-C32	ND	5.0	1.3	1.00	
C33-C36	ND	5.0	1.3	1.00	
C37-C40	ND	5.0	1.3	1.00	
C41-C44	ND	5.0	1.3	1.00	
C6-C44 Total	ND	5.0	1.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-042919	**19-04-2258-1-A**	**04/29/19 08:10**	**Solid**	**ICP 8300**	**04/29/19**	**04/30/19 12:38**	**190429L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.765	1.02	
Arsenic	ND	0.765	1.02	
Barium	61.1	0.510	1.02	
Beryllium	0.387	0.255	1.02	
Cadmium	ND	0.510	1.02	
Chromium	7.43	0.255	1.02	
Cobalt	5.92	0.255	1.02	
Copper	3.67	0.510	1.02	
Lead	0.544	0.510	1.02	
Molybdenum	ND	0.255	1.02	
Nickel	6.56	0.255	1.02	
Selenium	ND	0.765	1.02	
Silver	ND	0.255	1.02	
Thallium	ND	0.765	1.02	
Vanadium	18.4	0.255	1.02	
Zinc	16.9	1.02	1.02	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-Center-042919	**19-04-2258-2-A**	**04/29/19 08:15**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:13**	**190429L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.789	1.05	
Arsenic	ND	0.789	1.05	
Barium	37.7	0.526	1.05	
Beryllium	0.335	0.263	1.05	
Cadmium	ND	0.526	1.05	
Chromium	7.85	0.263	1.05	
Cobalt	5.64	0.263	1.05	
Copper	4.81	0.526	1.05	
Lead	ND	0.526	1.05	
Molybdenum	0.331	0.263	1.05	
Nickel	6.35	0.263	1.05	
Selenium	ND	0.789	1.05	
Silver	ND	0.263	1.05	
Thallium	ND	0.789	1.05	
Vanadium	20.3	0.263	1.05	
Zinc	19.2	1.05	1.05	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-27807**	**N/A**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:02**	**190429L01**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	ND	0.966	0.966	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
		Units:	mg/kg
Project: 6334 Yucca St. / LA1301B			Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-042919	**19-04-2258-1-A**	**04/29/19 08:10**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 20:02**	**190429L05**

Parameter	Result	RL	DF	Qualifiers
Mercury	0.175	0.0794	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-Center-042919	**19-04-2258-2-A**	**04/29/19 08:15**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:51**	**190429L05**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-4566**	**N/A**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:46**	**190429L05**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-S-042919	**19-04-2258-1-A**	**04/29/19 08:10**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 18:08**	**190429L041**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	130	1.00	
Benzene	ND	5.2	1.00	
Bromobenzene	ND	5.2	1.00	
Bromochloromethane	ND	5.2	1.00	
Bromodichloromethane	ND	5.2	1.00	
Bromoform	ND	5.2	1.00	
Bromomethane	ND	26	1.00	
2-Butanone	ND	52	1.00	
n-Butylbenzene	ND	5.2	1.00	
sec-Butylbenzene	ND	5.2	1.00	
tert-Butylbenzene	ND	5.2	1.00	
Carbon Disulfide	ND	52	1.00	
Carbon Tetrachloride	ND	5.2	1.00	
Chlorobenzene	ND	5.2	1.00	
Chloroethane	ND	5.2	1.00	
Chloroform	ND	5.2	1.00	
Chloromethane	ND	26	1.00	
2-Chlorotoluene	ND	5.2	1.00	
4-Chlorotoluene	ND	5.2	1.00	
Dibromochloromethane	ND	5.2	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	5.2	1.00	
Dibromomethane	ND	5.2	1.00	
1,2-Dichlorobenzene	ND	5.2	1.00	
1,3-Dichlorobenzene	ND	5.2	1.00	
1,4-Dichlorobenzene	ND	5.2	1.00	
Dichlorodifluoromethane	ND	5.2	1.00	
1,1-Dichloroethane	ND	5.2	1.00	
1,2-Dichloroethane	ND	5.2	1.00	
1,1-Dichloroethene	ND	5.2	1.00	
c-1,2-Dichloroethene	ND	5.2	1.00	
t-1,2-Dichloroethene	ND	5.2	1.00	
1,2-Dichloropropane	ND	5.2	1.00	
1,3-Dichloropropane	ND	5.2	1.00	
2,2-Dichloropropane	ND	5.2	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 6334 Yucca St. / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.2	1.00	
c-1,3-Dichloropropene	ND	5.2	1.00	
t-1,3-Dichloropropene	ND	5.2	1.00	
Ethylbenzene	ND	5.2	1.00	
2-Hexanone	ND	52	1.00	
Isopropylbenzene	ND	5.2	1.00	
p-Isopropyltoluene	ND	5.2	1.00	
Methylene Chloride	ND	52	1.00	
4-Methyl-2-Pentanone	ND	52	1.00	
Naphthalene	ND	52	1.00	
n-Propylbenzene	ND	5.2	1.00	
Styrene	ND	5.2	1.00	
1,1,1,2-Tetrachloroethane	ND	5.2	1.00	
1,1,2,2-Tetrachloroethane	ND	5.2	1.00	
Tetrachloroethene	ND	5.2	1.00	
Toluene	ND	5.2	1.00	
1,2,3-Trichlorobenzene	ND	10	1.00	
1,2,4-Trichlorobenzene	ND	5.2	1.00	
1,1,1-Trichloroethane	ND	5.2	1.00	
1,1,2-Trichloroethane	ND	5.2	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	52	1.00	
Trichloroethene	ND	5.2	1.00	
1,2,3-Trichloropropane	ND	5.2	1.00	
1,2,4-Trimethylbenzene	ND	5.2	1.00	
Trichlorofluoromethane	ND	52	1.00	
1,3,5-Trimethylbenzene	ND	5.2	1.00	
Vinyl Acetate	ND	52	1.00	
Vinyl Chloride	ND	5.2	1.00	
p/m-Xylene	ND	5.2	1.00	
o-Xylene	ND	5.2	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.2	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	92	80-120	
Dibromofluoromethane	104	79-133	
1,2-Dichloroethane-d4	102	71-155	
Toluene-d8	104	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PB-Center-042919	**19-04-2258-2-A**	**04/29/19 08:15**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 18:36**	**190429L041**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	130	1.00	
Benzene	ND	5.1	1.00	
Bromobenzene	ND	5.1	1.00	
Bromochloromethane	ND	5.1	1.00	
Bromodichloromethane	ND	5.1	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	25	1.00	
2-Butanone	ND	51	1.00	
n-Butylbenzene	ND	5.1	1.00	
sec-Butylbenzene	ND	5.1	1.00	
tert-Butylbenzene	ND	5.1	1.00	
Carbon Disulfide	ND	51	1.00	
Carbon Tetrachloride	ND	5.1	1.00	
Chlorobenzene	ND	5.1	1.00	
Chloroethane	ND	5.1	1.00	
Chloroform	ND	5.1	1.00	
Chloromethane	ND	25	1.00	
2-Chlorotoluene	ND	5.1	1.00	
4-Chlorotoluene	ND	5.1	1.00	
Dibromochloromethane	ND	5.1	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	5.1	1.00	
Dibromomethane	ND	5.1	1.00	
1,2-Dichlorobenzene	ND	5.1	1.00	
1,3-Dichlorobenzene	ND	5.1	1.00	
1,4-Dichlorobenzene	ND	5.1	1.00	
Dichlorodifluoromethane	ND	5.1	1.00	
1,1-Dichloroethane	ND	5.1	1.00	
1,2-Dichloroethane	ND	5.1	1.00	
1,1-Dichloroethene	ND	5.1	1.00	
c-1,2-Dichloroethene	ND	5.1	1.00	
t-1,2-Dichloroethene	ND	5.1	1.00	
1,2-Dichloropropane	ND	5.1	1.00	
1,3-Dichloropropane	ND	5.1	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/29/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-2258
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: 6334 Yucca St. / LA1301B		Page 4 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.1	1.00	
c-1,3-Dichloropropene	ND	5.1	1.00	
t-1,3-Dichloropropene	ND	5.1	1.00	
Ethylbenzene	ND	5.1	1.00	
2-Hexanone	ND	51	1.00	
Isopropylbenzene	ND	5.1	1.00	
p-Isopropyltoluene	ND	5.1	1.00	
Methylene Chloride	ND	51	1.00	
4-Methyl-2-Pentanone	ND	51	1.00	
Naphthalene	ND	51	1.00	
n-Propylbenzene	ND	5.1	1.00	
Styrene	ND	5.1	1.00	
1,1,1,2-Tetrachloroethane	ND	5.1	1.00	
1,1,2,2-Tetrachloroethane	ND	5.1	1.00	
Tetrachloroethene	ND	5.1	1.00	
Toluene	ND	5.1	1.00	
1,2,3-Trichlorobenzene	ND	10	1.00	
1,2,4-Trichlorobenzene	ND	5.1	1.00	
1,1,1-Trichloroethane	ND	5.1	1.00	
1,1,2-Trichloroethane	ND	5.1	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	51	1.00	
Trichloroethene	ND	5.1	1.00	
1,2,3-Trichloropropane	ND	5.1	1.00	
1,2,4-Trimethylbenzene	ND	5.1	1.00	
Trichlorofluoromethane	ND	51	1.00	
1,3,5-Trimethylbenzene	ND	5.1	1.00	
Vinyl Acetate	ND	51	1.00	
Vinyl Chloride	ND	5.1	1.00	
p/m-Xylene	ND	5.1	1.00	
o-Xylene	ND	5.1	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	80-120	
Dibromofluoromethane	105	79-133	
1,2-Dichloroethane-d4	103	71-155	
Toluene-d8	106	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 6334 Yucca St. / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-796-15334**	**N/A**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 14:49**	**190429L041**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	120	1.00	
Benzene	ND	5.0	1.00	
Bromobenzene	ND	5.0	1.00	
Bromochloromethane	ND	5.0	1.00	
Bromodichloromethane	ND	5.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	25	1.00	
2-Butanone	ND	50	1.00	
n-Butylbenzene	ND	5.0	1.00	
sec-Butylbenzene	ND	5.0	1.00	
tert-Butylbenzene	ND	5.0	1.00	
Carbon Disulfide	ND	50	1.00	
Carbon Tetrachloride	ND	5.0	1.00	
Chlorobenzene	ND	5.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	5.0	1.00	
Chloromethane	ND	25	1.00	
2-Chlorotoluene	ND	5.0	1.00	
4-Chlorotoluene	ND	5.0	1.00	
Dibromochloromethane	ND	5.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	5.0	1.00	
Dibromomethane	ND	5.0	1.00	
1,2-Dichlorobenzene	ND	5.0	1.00	
1,3-Dichlorobenzene	ND	5.0	1.00	
1,4-Dichlorobenzene	ND	5.0	1.00	
Dichlorodifluoromethane	ND	5.0	1.00	
1,1-Dichloroethane	ND	5.0	1.00	
1,2-Dichloroethane	ND	5.0	1.00	
1,1-Dichloroethene	ND	5.0	1.00	
c-1,2-Dichloroethene	ND	5.0	1.00	
t-1,2-Dichloroethene	ND	5.0	1.00	
1,2-Dichloropropane	ND	5.0	1.00	
1,3-Dichloropropane	ND	5.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: 6334 Yucca St. / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.0	1.00	
c-1,3-Dichloropropene	ND	5.0	1.00	
t-1,3-Dichloropropene	ND	5.0	1.00	
Ethylbenzene	ND	5.0	1.00	
2-Hexanone	ND	50	1.00	
Isopropylbenzene	ND	5.0	1.00	
p-Isopropyltoluene	ND	5.0	1.00	
Methylene Chloride	ND	50	1.00	
4-Methyl-2-Pentanone	ND	50	1.00	
Naphthalene	ND	50	1.00	
n-Propylbenzene	ND	5.0	1.00	
Styrene	ND	5.0	1.00	
1,1,1,2-Tetrachloroethane	ND	5.0	1.00	
1,1,2,2-Tetrachloroethane	ND	5.0	1.00	
Tetrachloroethene	ND	5.0	1.00	
Toluene	ND	5.0	1.00	
1,2,3-Trichlorobenzene	ND	10	1.00	
1,2,4-Trichlorobenzene	ND	5.0	1.00	
1,1,1-Trichloroethane	ND	5.0	1.00	
1,1,2-Trichloroethane	ND	5.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	1.00	
Trichloroethene	ND	5.0	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	5.0	1.00	
Trichlorofluoromethane	ND	50	1.00	
1,3,5-Trimethylbenzene	ND	5.0	1.00	
Vinyl Acetate	ND	50	1.00	
Vinyl Chloride	ND	5.0	1.00	
p/m-Xylene	ND	5.0	1.00	
o-Xylene	ND	5.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	93	80-120	
Dibromofluoromethane	103	79-133	
1,2-Dichloroethane-d4	102	71-155	
Toluene-d8	104	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: 6334 Yucca St. / LA1301B			Page 1 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-2257-1	**Sample**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 04:48**	**190429S02**
19-04-2257-1	**Matrix Spike**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 04:07**	**190429S02**
19-04-2257-1	**Matrix Spike Duplicate**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 04:28**	**190429S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	1528	400.0	1773	61	1684	39	64-130	5	0-15	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3050B
Method: EPA 6010B

Project: 6334 Yucca St. / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
PB-Center-042919	**Sample**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:13**	**190429S01**
PB-Center-042919	**Matrix Spike**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:10**	**190429S01**
PB-Center-042919	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:11**	**190429S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	12.82	51	13.81	55	50-115	7	0-20	
Arsenic	ND	25.00	25.82	103	26.20	105	75-125	1	0-20	
Barium	37.71	25.00	64.87	109	73.03	141	75-125	12	0-20	3
Beryllium	0.3351	25.00	26.62	105	27.28	108	75-125	2	0-20	
Cadmium	ND	25.00	26.87	107	27.19	109	75-125	1	0-20	
Chromium	7.853	25.00	33.32	102	35.86	112	75-125	7	0-20	
Cobalt	5.637	25.00	29.64	96	30.17	98	75-125	2	0-20	
Copper	4.813	25.00	30.34	102	31.88	108	75-125	5	0-20	
Lead	ND	25.00	24.88	100	25.00	100	75-125	0	0-20	
Molybdenum	0.3306	25.00	25.06	99	25.60	101	75-125	2	0-20	
Nickel	6.354	25.00	33.65	109	34.55	113	75-125	3	0-20	
Selenium	ND	25.00	23.69	95	23.60	94	75-125	0	0-20	
Silver	ND	12.50	12.42	99	12.80	102	75-125	3	0-20	
Thallium	ND	25.00	18.18	73	19.65	79	75-125	8	0-20	3
Vanadium	20.32	25.00	45.01	99	47.75	110	75-125	6	0-20	
Zinc	19.24	25.00	48.30	116	47.35	112	75-125	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received: 04/29/19
370 Amapola Avenue, Suite 212	Work Order: 19-04-2258
Torrance, CA 90501-7243	Preparation: EPA 7471A Total
	Method: EPA 7471A
Project: 6334 Yucca St. / LA1301B	Page 3 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
PB-Center-042919	**Sample**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:51**	**190429S05**
PB-Center-042919	**Matrix Spike**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:53**	**190429S05**
PB-Center-042919	**Matrix Spike Duplicate**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:56**	**190429S05**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.7088	85	0.7191	86	71-137	1	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: 6334 Yucca St. / LA1301B			Page 4 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-2257-1	**Sample**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 15:46**	**190429S019**
19-04-2257-1	**Matrix Spike**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 17:11**	**190429S019**
19-04-2257-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 17:39**	**190429S019**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	40.55	81	40.21	80	61-127	1	0-20	
Carbon Tetrachloride	ND	50.00	32.82	66	32.93	66	51-135	0	0-29	
Chlorobenzene	ND	50.00	23.74	47	24.53	49	57-123	3	0-20	3
1,2-Dibromoethane	ND	50.00	39.59	79	39.07	78	64-124	1	0-20	
1,2-Dichlorobenzene	ND	50.00	14.32	29	15.01	30	35-131	5	0-25	3
1,2-Dichloroethane	ND	50.00	41.65	83	41.04	82	80-120	1	0-20	
1,1-Dichloroethene	ND	50.00	42.07	84	42.18	84	47-143	0	0-25	
Ethylbenzene	ND	50.00	21.09	42	21.58	43	57-129	2	0-22	3
Toluene	ND	50.00	29.60	59	29.76	60	63-123	1	0-20	3
Trichloroethene	ND	50.00	29.79	60	29.18	58	44-158	2	0-20	
Vinyl Chloride	ND	50.00	37.04	74	40.93	82	49-139	10	0-47	
p/m-Xylene	ND	100.0	41.32	41	42.84	43	70-130	4	0-30	3
o-Xylene	ND	50.00	22.06	44	22.60	45	70-130	2	0-30	3
Methyl-t-Butyl Ether (MTBE)	ND	50.00	34.81	70	34.41	69	57-123	1	0-21	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: 6334 Yucca St. / LA1301B			Page 1 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3583	**LCS**	**Solid**	**GC 49**	**04/29/19**	**04/30/19 03:47**	**190429B02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	404.6	101	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/29/19
Work Order: 19-04-2258
Preparation: EPA 3050B
Method: EPA 6010B

Project: 6334 Yucca St. / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-27807	**LCS**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:04**	**190429L01**
097-01-002-27807	**LCSD**	**Solid**	**ICP 8300**	**04/29/19**	**04/29/19 21:06**	**190429L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	25.00	27.52	110	27.26	109	80-120	73-127	1	0-20	
Arsenic	25.00	25.79	103	25.90	104	80-120	73-127	0	0-20	
Barium	25.00	26.10	104	25.80	103	80-120	73-127	1	0-20	
Beryllium	25.00	24.33	97	23.96	96	80-120	73-127	2	0-20	
Cadmium	25.00	25.76	103	25.38	102	80-120	73-127	1	0-20	
Chromium	25.00	25.06	100	24.75	99	80-120	73-127	1	0-20	
Cobalt	25.00	24.94	100	24.69	99	80-120	73-127	1	0-20	
Copper	25.00	23.89	96	23.55	94	80-120	73-127	1	0-20	
Lead	25.00	25.27	101	24.97	100	80-120	73-127	1	0-20	
Molybdenum	25.00	24.62	98	24.40	98	80-120	73-127	1	0-20	
Nickel	25.00	26.70	107	26.44	106	80-120	73-127	1	0-20	
Selenium	25.00	23.23	93	23.53	94	80-120	73-127	1	0-20	
Silver	12.50	11.97	96	11.79	94	80-120	73-127	2	0-20	
Thallium	25.00	23.42	94	22.94	92	80-120	73-127	2	0-20	
Vanadium	25.00	23.94	96	23.57	94	80-120	73-127	2	0-20	
Zinc	25.00	26.71	107	26.38	106	80-120	73-127	1	0-20	

Total number of LCS compounds: 16

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: 6334 Yucca St. / LA1301B			Page 3 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-4566	**LCS**	**Solid**	**Mercury 07**	**04/29/19**	**04/29/19 19:49**	**190429L05**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7371	88	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/29/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-2258
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: 6334 Yucca St. / LA1301B			Page 4 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-796-15334	**LCS**	**Solid**	**GC/MS CC**	**04/29/19**	**04/29/19 16:42**	**190429L041**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	58.52	117	80-120	73-127	
Carbon Tetrachloride	50.00	57.34	115	65-137	53-149	
Chlorobenzene	50.00	50.95	102	80-120	73-127	
1,2-Dibromoethane	50.00	56.78	114	80-120	73-127	
1,2-Dichlorobenzene	50.00	52.26	105	80-120	73-127	
1,2-Dichloroethane	50.00	53.43	107	80-120	73-127	
1,1-Dichloroethene	50.00	58.91	118	68-128	58-138	
Ethylbenzene	50.00	51.75	103	80-120	73-127	
Toluene	50.00	54.08	108	80-120	73-127	
Trichloroethene	50.00	56.01	112	80-120	73-127	
Vinyl Chloride	50.00	50.83	102	67-127	57-137	
p/m-Xylene	100.0	104.9	105	75-125	67-133	
o-Xylene	50.00	52.34	105	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	45.40	91	70-124	61-133	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-04-2258 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 7471A	EPA 7471A Total	868	Mercury 07	1
EPA 8015B (M)	EPA 3550B	1028	GC 49	1
EPA 8260B	EPA 5030C	823	GC/MS CC	2

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Glossary of Terms and Qualifiers

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN-OF-CUSTODY RECORD

WO NO. / LAB USE ONLY: **19-04-2258**

Date: APRIL 29, 2019
Page: 1 of

LABORATORY CLIENT: Group Delta Consultants	CLIENT PROJECT NAME / NO.: 1334 Yucca St.
ADDRESS: 310 Anapola Ave, Suite 212	PROJECT CONTACT: Alycia McCord
CITY: Torrance STATE: CA ZIP: 90501	P.O. NO.: LA1301B
TEL: (310)320-5100 E-MAIL: alycam@groupdelta.com	LAB CONTACT OR QUOTE NO.: Vik Patel
GLOBAL ID:	LOG CODE: SAMPLER(S): (PRINT) A McCord

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")
☐ SAME DAY ☒ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	TPH(g) GRO	TPH(d) DRO	TPH C6-C36 / C6-C44	TPH	BTEX / MTBE 8260	VOCs (8260)	Oxygenates (8260)	Prep (5035) En Core / Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs 8270 / 8270 SIM	T22 Metals 6010/747X / 6020/747X	Cr(VI) 7196 / 7199 / 218.6
1	SW-S-042919	4.29.19	810	SOIL	1	X					X			X							X	
2	PB-Center-042919	4.29.19	815	SOIL	1	X					X			X							X	

Relinquished by: (Signature) Alycia McCord	Received by: (Signature/Affiliation) EC	Date: 04/29/19	Time: 1040
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 4/29/19	Time: 1125
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2016-04-01-Revision

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WORK ORDER NUMBER: 19-04-2258

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: GROUP DELTA

DATE: 04/29/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 3.9 °C (w/ CF): 3.7 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 671

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 671

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: [illegible]

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☐ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☐ TerraCores® (___) ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: [illegible]

Reviewed by: 300

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APPENDIX G

WASTE CHARACTERIZATION ANALYTICAL REPORTS

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WORK ORDER NUMBER: 19-04-0221

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Group Delta Consultants, Inc.

Client Project Name: Yucca / LA1301B

Attention: Alycia McCord
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Approved for release on 04/05/2019 by:
Vikas Patel
Project Manager

ResultLink ▸

Email your PM ▸

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Contents

Client Project Name: Yucca / LA1301B
Work Order Number: 19-04-0221

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/03/19. They were assigned to Work Order 19-04-0221.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order:	19-04-0221
		Project Name:	Yucca / LA1301B
		PO Number:	LA1301B
		Date/Time Received:	04/03/19 11:45
		Number of Containers:	1
Attn:	Alycia McCord		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SS-UST-040219	19-04-0221-1	04/02/19 08:16	1	Solid

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Detections Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order: Project Name: Received:	19-04-0221 Yucca / LA1301B 04/03/19
Attn:	Alycia McCord		Page 1 of 1

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
SS-UST-040219 (19-04-0221-1)						
Barium	73.6		0.488	mg/kg	EPA 6010B	EPA 3050B
Beryllium	0.366		0.244	mg/kg	EPA 6010B	EPA 3050B
Chromium	8.72		0.244	mg/kg	EPA 6010B	EPA 3050B
Cobalt	4.78		0.244	mg/kg	EPA 6010B	EPA 3050B
Copper	9.11		0.488	mg/kg	EPA 6010B	EPA 3050B
Lead	38.3		0.488	mg/kg	EPA 6010B	EPA 3050B
Nickel	6.96		0.244	mg/kg	EPA 6010B	EPA 3050B
Vanadium	21.8		0.244	mg/kg	EPA 6010B	EPA 3050B
Zinc	67.0		0.976	mg/kg	EPA 6010B	EPA 3050B
C23-C24	310		240	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	960		240	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	1200		240	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	900		240	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	430		240	mg/kg	EPA 8015B (M)	EPA 3550B
C41-C44	250		240	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	4300		240	mg/kg	EPA 8015B (M)	EPA 3550B

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Subcontracted analyses, if any, are not included in this summary.

* MDL is shown

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-A**	**04/02/19 08:16**	**Solid**	**GC 50**	**04/03/19**	**04/04/19 12:08**	**190403B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	240	10.0	
C7	ND	240	10.0	
C8	ND	240	10.0	
C9-C10	ND	240	10.0	
C11-C12	ND	240	10.0	
C13-C14	ND	240	10.0	
C15-C16	ND	240	10.0	
C17-C18	ND	240	10.0	
C19-C20	ND	240	10.0	
C21-C22	ND	240	10.0	
C23-C24	310	240	10.0	
C25-C28	960	240	10.0	
C29-C32	1200	240	10.0	
C33-C36	900	240	10.0	
C37-C40	430	240	10.0	
C41-C44	250	240	10.0	
C6-C44 Total	4300	240	10.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	63	61-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3548**	**N/A**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:39**	**190403B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-A**	**04/02/19 08:16**	**Solid**	**ICP 8300**	**04/03/19**	**04/03/19 21:07**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.732	0.976	
Arsenic	ND	0.732	0.976	
Barium	73.6	0.488	0.976	
Beryllium	0.366	0.244	0.976	
Cadmium	ND	0.488	0.976	
Chromium	8.72	0.244	0.976	
Cobalt	4.78	0.244	0.976	
Copper	9.11	0.488	0.976	
Lead	38.3	0.488	0.976	
Molybdenum	ND	0.244	0.976	
Nickel	6.96	0.244	0.976	
Selenium	ND	0.732	0.976	
Silver	ND	0.244	0.976	
Thallium	ND	0.732	0.976	
Vanadium	21.8	0.244	0.976	
Zinc	67.0	0.976	0.976	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-27722**	**N/A**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:42**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	ND	0.966	0.966	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-A**	**04/02/19 08:16**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 13:58**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0833	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-4519**	**N/A**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:56**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-A**	**04/02/19 08:16**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 14:38**	**190403L06**

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	106	24-168	
2,4,5,6-Tetrachloro-m-Xylene	100	25-145	

Method Blank	099-12-535-5150	N/A	Solid	GC 58	04/03/19	04/04/19 06:34	190403L06

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-B**	**04/02/19 08:16**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 16:34**	**190404L030**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	130	1.00	
Benzene	ND	5.1	1.00	
Bromobenzene	ND	5.1	1.00	
Bromochloromethane	ND	5.1	1.00	
Bromodichloromethane	ND	5.1	1.00	
Bromoform	ND	5.1	1.00	
Bromomethane	ND	25	1.00	
2-Butanone	ND	51	1.00	
n-Butylbenzene	ND	5.1	1.00	
sec-Butylbenzene	ND	5.1	1.00	
tert-Butylbenzene	ND	5.1	1.00	
Carbon Disulfide	ND	51	1.00	
Carbon Tetrachloride	ND	5.1	1.00	
Chlorobenzene	ND	5.1	1.00	
Chloroethane	ND	5.1	1.00	
Chloroform	ND	5.1	1.00	
Chloromethane	ND	25	1.00	
2-Chlorotoluene	ND	5.1	1.00	
4-Chlorotoluene	ND	5.1	1.00	
Dibromochloromethane	ND	5.1	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	5.1	1.00	
Dibromomethane	ND	5.1	1.00	
1,2-Dichlorobenzene	ND	5.1	1.00	
1,3-Dichlorobenzene	ND	5.1	1.00	
1,4-Dichlorobenzene	ND	5.1	1.00	
Dichlorodifluoromethane	ND	5.1	1.00	
1,1-Dichloroethane	ND	5.1	1.00	
1,2-Dichloroethane	ND	5.1	1.00	
1,1-Dichloroethene	ND	5.1	1.00	
c-1,2-Dichloroethene	ND	5.1	1.00	
t-1,2-Dichloroethene	ND	5.1	1.00	
1,2-Dichloropropane	ND	5.1	1.00	
1,3-Dichloropropane	ND	5.1	1.00	
2,2-Dichloropropane	ND	5.1	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 2 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.1	1.00	
c-1,3-Dichloropropene	ND	5.1	1.00	
t-1,3-Dichloropropene	ND	5.1	1.00	
Ethylbenzene	ND	5.1	1.00	
2-Hexanone	ND	51	1.00	
Isopropylbenzene	ND	5.1	1.00	
p-Isopropyltoluene	ND	5.1	1.00	
Methylene Chloride	ND	51	1.00	
4-Methyl-2-Pentanone	ND	51	1.00	
Naphthalene	ND	51	1.00	
n-Propylbenzene	ND	5.1	1.00	
Styrene	ND	5.1	1.00	
1,1,1,2-Tetrachloroethane	ND	5.1	1.00	
1,1,2,2-Tetrachloroethane	ND	5.1	1.00	
Tetrachloroethene	ND	5.1	1.00	
Toluene	ND	5.1	1.00	
1,2,3-Trichlorobenzene	ND	10	1.00	
1,2,4-Trichlorobenzene	ND	5.1	1.00	
1,1,1-Trichloroethane	ND	5.1	1.00	
1,1,2-Trichloroethane	ND	5.1	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	51	1.00	
Trichloroethene	ND	5.1	1.00	
1,2,3-Trichloropropane	ND	5.1	1.00	
1,2,4-Trimethylbenzene	ND	5.1	1.00	
Trichlorofluoromethane	ND	51	1.00	
1,3,5-Trimethylbenzene	ND	5.1	1.00	
Vinyl Acetate	ND	51	1.00	
Vinyl Chloride	ND	5.1	1.00	
p/m-Xylene	ND	5.1	1.00	
o-Xylene	ND	5.1	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.1	1.00	
Tert-Butyl Alcohol (TBA)	ND	51	1.00	
Diisopropyl Ether (DIPE)	ND	10	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	10	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	10	1.00	
Ethanol	ND	250	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 3 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	113	79-133	
1,2-Dichloroethane-d4	110	71-155	
Toluene-d8	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-796-15250**	**N/A**	**Solid**	**GC/MS CC**	**04/05/19**	**04/04/19 13:57**	**190404L030**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	120	1.00	
Benzene	ND	5.0	1.00	
Bromobenzene	ND	5.0	1.00	
Bromochloromethane	ND	5.0	1.00	
Bromodichloromethane	ND	5.0	1.00	
Bromoform	ND	5.0	1.00	
Bromomethane	ND	25	1.00	
2-Butanone	ND	50	1.00	
n-Butylbenzene	ND	5.0	1.00	
sec-Butylbenzene	ND	5.0	1.00	
tert-Butylbenzene	ND	5.0	1.00	
Carbon Disulfide	ND	50	1.00	
Carbon Tetrachloride	ND	5.0	1.00	
Chlorobenzene	ND	5.0	1.00	
Chloroethane	ND	5.0	1.00	
Chloroform	ND	5.0	1.00	
Chloromethane	ND	25	1.00	
2-Chlorotoluene	ND	5.0	1.00	
4-Chlorotoluene	ND	5.0	1.00	
Dibromochloromethane	ND	5.0	1.00	
1,2-Dibromo-3-Chloropropane	ND	10	1.00	
1,2-Dibromoethane	ND	5.0	1.00	
Dibromomethane	ND	5.0	1.00	
1,2-Dichlorobenzene	ND	5.0	1.00	
1,3-Dichlorobenzene	ND	5.0	1.00	
1,4-Dichlorobenzene	ND	5.0	1.00	
Dichlorodifluoromethane	ND	5.0	1.00	
1,1-Dichloroethane	ND	5.0	1.00	
1,2-Dichloroethane	ND	5.0	1.00	
1,1-Dichloroethene	ND	5.0	1.00	
c-1,2-Dichloroethene	ND	5.0	1.00	
t-1,2-Dichloroethene	ND	5.0	1.00	
1,2-Dichloropropane	ND	5.0	1.00	
1,3-Dichloropropane	ND	5.0	1.00	
2,2-Dichloropropane	ND	5.0	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 5 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5.0	1.00	
c-1,3-Dichloropropene	ND	5.0	1.00	
t-1,3-Dichloropropene	ND	5.0	1.00	
Ethylbenzene	ND	5.0	1.00	
2-Hexanone	ND	50	1.00	
Isopropylbenzene	ND	5.0	1.00	
p-Isopropyltoluene	ND	5.0	1.00	
Methylene Chloride	ND	50	1.00	
4-Methyl-2-Pentanone	ND	50	1.00	
Naphthalene	ND	50	1.00	
n-Propylbenzene	ND	5.0	1.00	
Styrene	ND	5.0	1.00	
1,1,1,2-Tetrachloroethane	ND	5.0	1.00	
1,1,2,2-Tetrachloroethane	ND	5.0	1.00	
Tetrachloroethene	ND	5.0	1.00	
Toluene	ND	5.0	1.00	
1,2,3-Trichlorobenzene	ND	10	1.00	
1,2,4-Trichlorobenzene	ND	5.0	1.00	
1,1,1-Trichloroethane	ND	5.0	1.00	
1,1,2-Trichloroethane	ND	5.0	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50	1.00	
Trichloroethene	ND	5.0	1.00	
1,2,3-Trichloropropane	ND	5.0	1.00	
1,2,4-Trimethylbenzene	ND	5.0	1.00	
Trichlorofluoromethane	ND	50	1.00	
1,3,5-Trimethylbenzene	ND	5.0	1.00	
Vinyl Acetate	ND	50	1.00	
Vinyl Chloride	ND	5.0	1.00	
p/m-Xylene	ND	5.0	1.00	
o-Xylene	ND	5.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	5.0	1.00	
Tert-Butyl Alcohol (TBA)	ND	50	1.00	
Diisopropyl Ether (DIPE)	ND	10	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	10	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	10	1.00	
Ethanol	ND	250	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 6 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	111	79-133	
1,2-Dichloroethane-d4	112	71-155	
Toluene-d8	99	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SS-UST-040219	**19-04-0221-1-A**	**04/02/19 08:16**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 01:37**	**190404L038**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	
2,2-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 1311
	Method:	EPA 8260B
	Units:	ug/L
Project: Yucca / LA1301B		Page 2 of 4

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	96	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-519-1768**	**N/A**	**Aqueous**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:13**	**190404L038**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	
2,2-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 1311
	Method:	EPA 8260B
	Units:	ug/L
Project: Yucca / LA1301B		Page 4 of 4

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	80-120	
Dibromofluoromethane	95	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-03-2270-9	**Sample**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 23:18**	**190403S04**
19-03-2270-9	**Matrix Spike**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:19**	**190403S04**
19-03-2270-9	**Matrix Spike Duplicate**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:39**	**190403S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	463.7	116	457.6	114	64-130	1	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 3050B
		Method:	EPA 6010B
Project: Yucca / LA1301B			Page 2 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0150-1	**Sample**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:48**	**190402S04**
19-04-0150-1	**Matrix Spike**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:50**	**190402S04**
19-04-0150-1	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:52**	**190402S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	6.929	28	4.246	17	50-115	48	0-20	3,4
Arsenic	1.062	25.00	28.94	111	25.31	97	75-125	13	0-20	
Barium	56.96	25.00	95.08	152	93.45	146	75-125	2	0-20	3
Beryllium	0.7540	25.00	28.72	112	26.46	103	75-125	8	0-20	
Cadmium	ND	25.00	28.66	115	26.33	105	75-125	8	0-20	
Chromium	5.050	25.00	33.67	114	32.71	111	75-125	3	0-20	
Cobalt	3.417	25.00	29.99	106	27.79	97	75-125	8	0-20	
Copper	3.332	25.00	30.99	111	29.01	103	75-125	7	0-20	
Lead	14.64	25.00	38.97	97	35.54	84	75-125	9	0-20	
Molybdenum	ND	25.00	25.70	103	22.38	90	75-125	14	0-20	
Nickel	2.787	25.00	30.65	111	28.31	102	75-125	8	0-20	
Selenium	ND	25.00	25.53	102	23.05	92	75-125	10	0-20	
Silver	ND	12.50	13.79	110	12.74	102	75-125	8	0-20	
Thallium	ND	25.00	27.49	110	25.00	100	75-125	9	0-20	
Vanadium	17.20	25.00	43.60	106	45.10	112	75-125	3	0-20	
Zinc	16.03	25.00	45.63	118	42.00	104	75-125	8	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Yucca / LA1301B			Page 3 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0190-3	**Sample**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:01**	**190404S01**
19-04-0190-3	**Matrix Spike**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:03**	**190404S01**
19-04-0190-3	**Matrix Spike Duplicate**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:05**	**190404S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.7589	91	0.7848	94	71-137	3	0-14	

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 3545
	Method:	EPA 8082
Project: Yucca / LA1301B		Page 4 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0094-1	**Sample**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:46**	**190403S06**
19-04-0094-1	**Matrix Spike**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:10**	**190403S06**
19-04-0094-1	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:28**	**190403S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	92.50	92	89.00	89	50-135	4	0-20	
Aroclor-1260	ND	100.0	91.00	91	92.00	92	50-135	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0247-1	**Sample**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 14:54**	**190404S008**
19-04-0247-1	**Matrix Spike**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 15:37**	**190404S008**
19-04-0247-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 16:06**	**190404S008**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	59.58	119	46.91	94	61-127	24	0-20	4
Carbon Tetrachloride	ND	50.00	68.64	137	52.32	105	51-135	27	0-29	3
Chlorobenzene	ND	50.00	54.80	110	44.29	89	57-123	21	0-20	4
1,2-Dibromoethane	ND	50.00	52.62	105	46.05	92	64-124	13	0-20	
1,2-Dichlorobenzene	ND	50.00	55.24	110	44.02	88	35-131	23	0-25	
1,2-Dichloroethane	ND	50.00	56.72	113	48.38	97	80-120	16	0-20	
1,1-Dichloroethene	ND	50.00	64.87	130	50.29	101	47-143	25	0-25	
Ethylbenzene	ND	50.00	56.62	113	44.41	89	57-129	24	0-22	4
Toluene	ND	50.00	57.84	116	46.79	94	63-123	21	0-20	4
Trichloroethene	ND	50.00	56.41	113	44.44	89	44-158	24	0-20	4
Vinyl Chloride	ND	50.00	64.59	129	58.78	118	49-139	9	0-47	
p/m-Xylene	ND	100.0	116.1	116	91.74	92	70-130	23	0-30	
o-Xylene	ND	50.00	56.95	114	45.34	91	70-130	23	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	44.83	90	37.90	76	57-123	17	0-21	
Tert-Butyl Alcohol (TBA)	ND	250.0	256.4	103	242.5	97	30-168	6	0-34	
Diisopropyl Ether (DIPE)	ND	50.00	57.11	114	47.42	95	57-129	19	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	50.00	48.01	96	39.78	80	55-127	19	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	50.00	52.75	106	45.25	91	58-124	15	0-20	
Ethanol	ND	500.0	563.6	113	537.1	107	17-167	5	0-47	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 1311
	Method:	EPA 8260B
Project: Yucca / LA1301B		Page 6 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0158-1	**Sample**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:42**	**190404S010**
19-04-0158-1	**Matrix Spike**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:11**	**190404S010**
19-04-0158-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:39**	**190404S010**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	5000	4604	92	4635	93	78-120	1	0-20	
Carbon Tetrachloride	ND	5000	4174	83	4373	87	67-139	5	0-20	
Chlorobenzene	ND	5000	4665	93	4757	95	80-120	2	0-20	
1,2-Dibromoethane	ND	5000	4657	93	4794	96	80-123	3	0-20	
1,2-Dichlorobenzene	ND	5000	4563	91	4660	93	76-120	2	0-20	
1,2-Dichloroethane	ND	5000	4991	100	5135	103	76-130	3	0-20	
1,1-Dichloroethene	ND	5000	4522	90	4556	91	70-130	1	0-27	
Ethylbenzene	ND	5000	4691	94	4789	96	73-127	2	0-20	
Toluene	ND	5000	4908	98	4977	100	72-126	1	0-20	
Trichloroethene	ND	5000	4634	93	4663	93	74-122	1	0-20	
Vinyl Chloride	ND	5000	5219	104	5059	101	65-131	3	0-24	
p/m-Xylene	ND	10000	9529	95	9705	97	70-130	2	0-30	
o-Xylene	ND	5000	4786	96	4926	99	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	5000	3615	72	3745	75	69-123	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3548	**LCS**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:59**	**190403B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	453.6	113	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0221
Preparation: EPA 3050B
Method: EPA 6010B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-27722	**LCS**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:45**	**190402L04**
097-01-002-27722	**LCSD**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:46**	**190402L04**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	25.00	25.15	101	24.39	98	80-120	73-127	3	0-20	
Arsenic	25.00	24.40	98	24.40	98	80-120	73-127	0	0-20	
Barium	25.00	26.30	105	26.18	105	80-120	73-127	0	0-20	
Beryllium	25.00	23.42	94	23.33	93	80-120	73-127	0	0-20	
Cadmium	25.00	25.44	102	25.39	102	80-120	73-127	0	0-20	
Chromium	25.00	25.00	100	24.73	99	80-120	73-127	1	0-20	
Cobalt	25.00	25.75	103	25.60	102	80-120	73-127	1	0-20	
Copper	25.00	24.46	98	24.39	98	80-120	73-127	0	0-20	
Lead	25.00	26.43	106	25.86	103	80-120	73-127	2	0-20	
Molybdenum	25.00	24.72	99	24.24	97	80-120	73-127	2	0-20	
Nickel	25.00	25.83	103	25.70	103	80-120	73-127	1	0-20	
Selenium	25.00	24.13	97	23.44	94	80-120	73-127	3	0-20	
Silver	12.50	12.01	96	11.92	95	80-120	73-127	1	0-20	
Thallium	25.00	25.67	103	24.57	98	80-120	73-127	4	0-20	
Vanadium	25.00	23.72	95	23.56	94	80-120	73-127	1	0-20	
Zinc	25.00	25.47	102	24.98	100	80-120	73-127	2	0-20	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Yucca / LA1301B			Page 3 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-4519	**LCS**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:59**	**190404L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7234	87	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0221
Torrance, CA 90501-7243	Preparation:	EPA 3545
	Method:	EPA 8082
Project: Yucca / LA1301B		Page 4 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-5150	**LCS**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 06:52**	**190403L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	92.50	92	50-135	
Aroclor-1260	100.0	87.00	87	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 5 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-796-15250	**LCS**	**Solid**	**GC/MS CC**	**04/05/19**	**04/04/19 13:00**	**190404L030**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	56.24	112	80-120	73-127	
Carbon Tetrachloride	50.00	61.80	124	65-137	53-149	
Chlorobenzene	50.00	52.77	106	80-120	73-127	
1,2-Dibromoethane	50.00	52.90	106	80-120	73-127	
1,2-Dichlorobenzene	50.00	52.03	104	80-120	73-127	
1,2-Dichloroethane	50.00	54.52	109	80-120	73-127	
1,1-Dichloroethene	50.00	54.91	110	68-128	58-138	
Ethylbenzene	50.00	53.71	107	80-120	73-127	
Toluene	50.00	54.39	109	80-120	73-127	
Trichloroethene	50.00	54.65	109	80-120	73-127	
Vinyl Chloride	50.00	56.95	114	67-127	57-137	
p/m-Xylene	100.0	109.8	110	75-125	67-133	
o-Xylene	50.00	54.15	108	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	42.05	84	70-124	61-133	
Tert-Butyl Alcohol (TBA)	250.0	266.4	107	73-121	65-129	
Diisopropyl Ether (DIPE)	50.00	53.56	107	69-129	59-139	
Ethyl-t-Butyl Ether (ETBE)	50.00	45.09	90	70-124	61-133	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.31	103	74-122	66-130	
Ethanol	500.0	612.4	122	51-135	37-149	

Total number of LCS compounds: 19
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0221
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 6 of 6

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-519-1768	**LCS**	**Aqueous**	**GC/MS QQ**	**04/04/19**	**04/04/19 21:47**	**190404L038**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	44.04	88	80-120	73-127	
Carbon Tetrachloride	50.00	40.98	82	66-138	54-150	
Chlorobenzene	50.00	44.71	89	80-120	73-127	
1,2-Dibromoethane	50.00	45.38	91	80-120	73-127	
1,2-Dichlorobenzene	50.00	43.88	88	80-120	73-127	
1,2-Dichloroethane	50.00	48.28	97	80-129	72-137	
1,1-Dichloroethene	50.00	44.45	89	71-131	61-141	
Ethylbenzene	50.00	44.97	90	80-123	73-130	
Toluene	50.00	46.78	94	79-121	72-128	
Trichloroethene	50.00	44.70	89	80-120	73-127	
Vinyl Chloride	50.00	52.69	105	70-136	59-147	
p/m-Xylene	100.0	91.53	92	75-125	67-133	
o-Xylene	50.00	46.06	92	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	37.10	74	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-04-0221 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 7471A	EPA 7471A Total	868	Mercury 07	1
EPA 8015B (M)	EPA 3550B	972	GC 50	1
EPA 8082	EPA 3545	669	GC 58	1
EPA 8260B	EPA 1311	486	GC/MS QQ	2
EPA 8260B	EPA 5030C	823	GC/MS CC	2

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Glossary of Terms and Qualifiers

Work Order: 19-04-0221

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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For courier service / sample drop off information, contact ua2B_sales@eurofinsus.com or call us.

CHAIN-OF-CUSTODY RECORD

Date: April 2, 2019
Page: 1 of 1

WO NO. / LAB USE ONLY: 19-04-0221

LABORATORY CLIENT: Group Delta Consultants
ADDRESS: 370 Amapola Ave, Suite 212
CITY: Torrance STATE: CA ZIP: 90501
TEL: (310) 320-5100 E-MAIL: alycia@groupdelta.com

CLIENT PROJECT NAME / NO.: Yucca St / LA1301B
PROJECT CONTACT: Alycia McCord
GLOBAL ID: LOG CODE:

P.O. NO.: LA1301B
LAB CONTACT OR QUOTE NO.: Vik Patel
SAMPLER(S): (PRINT) A McCord

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD")
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD
☐ GEOLT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:
COC B

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C8-C36 ☒ C28-C44	TPH	BTEX / MTBE ☐ 8260 ☐	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☒6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 218.6	TCLP - VOCs	TCLP - Metals		
1	B3-VAST-040219	4.2.19	0816	Soil	1	X					X			X	X				X		X		X	X		
2																										
3																										
4																										
5																										
6																										
7																										
8																										

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 04/03/19	Time: 1045
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 4/3/19	Time: 1145
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

2015-04-01-Revision

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WORK ORDER NUMBER: 19-04-0221

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: GROUP DELTA

DATE: 04/03/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 3.8°C (w/ CF): 3.6°C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 671

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 671

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: BM

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOAna$_2$ ☐ 100PJ ☐ 100PJna$_2$ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB ☐ 125PBznna (pH__9)
☐ 250AGB ☐ 250CGB ☐ 250CGBs (pH__2) ☐ 250PB ☐ 250PBn (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJs (pH__2) ☐ 500PB
☐ 1AGB ☑ 1AGBna$_2$ ☐ 1AGBs (pH__2) ☐ 1AGBs (O&G) ☐ 1PB ☐ 1PBna (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☐ TerraCores® (___) ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: BM

Reviewed by: 360

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WORK ORDER NUMBER: 19-04-0222

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Group Delta Consultants, Inc.

Client Project Name: Yucca / LA1301B

Attention: Alycia McCord
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Vikas Patel

Approved for release on 04/08/2019 by:
Vikas Patel
Project Manager

ResultLink

Email your PM

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Client Project Name: Yucca / LA1301B
Work Order Number: 19-04-0222

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Work Order Narrative

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/03/19. They were assigned to Work Order 19-04-0222.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order:	19-04-0222
		Project Name:	Yucca / LA1301B
		PO Number:	LA1301B
		Date/Time Received:	04/03/19 11:45
		Number of Containers:	1
Attn:	Alycia McCord		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
Sludge-03-TB	19-04-0222-1	04/02/19 09:30	1	Sludge

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Detections Summary

Client: Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Work Order: 19-04-0222
Project Name: Yucca / LA1301B
Received: 04/03/19

Attn: Alycia McCord

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
Sludge-03-TB (19-04-0222-1)						
Antimony	6.46		0.746	mg/kg	EPA 6010B	EPA 3050B
Arsenic	19.3		0.746	mg/kg	EPA 6010B	EPA 3050B
Barium	238		0.498	mg/kg	EPA 6010B	EPA 3050B
Cadmium	14.6		0.498	mg/kg	EPA 6010B	EPA 3050B
Chromium	17.4		0.249	mg/kg	EPA 6010B	EPA 3050B
Cobalt	2.74		0.249	mg/kg	EPA 6010B	EPA 3050B
Copper	93.6		0.498	mg/kg	EPA 6010B	EPA 3050B
Lead	10000		4.98	mg/kg	EPA 6010B	EPA 3050B
Molybdenum	0.616		0.249	mg/kg	EPA 6010B	EPA 3050B
Nickel	4.03		0.249	mg/kg	EPA 6010B	EPA 3050B
Vanadium	0.815		0.249	mg/kg	EPA 6010B	EPA 3050B
Zinc	2230		0.995	mg/kg	EPA 6010B	EPA 3050B
Cadmium	0.419		0.100	mg/L	EPA 6010B	EPA 1311
Lead	619		0.500	mg/L	EPA 6010B	EPA 1311
C9-C10	8100		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C19-C20	7100		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C21-C22	21000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C23-C24	37000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C25-C28	73000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C29-C32	59000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C33-C36	31000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C37-C40	8900		4900	mg/kg	EPA 8015B (M)	EPA 3550B
C6-C44 Total	260000		4900	mg/kg	EPA 8015B (M)	EPA 3550B
Benzene	110		100	ug/L	EPA 8260B	EPA 1311
Toluene	780		100	ug/L	EPA 8260B	EPA 1311
1,2,4-Trimethylbenzene	170		100	ug/L	EPA 8260B	EPA 1311
p/m-Xylene	400		200	ug/L	EPA 8260B	EPA 1311
o-Xylene	200		100	ug/L	EPA 8260B	EPA 1311
Benzene	6100		5000	ug/kg	EPA 8260B	EPA 5030C
n-Butylbenzene	26000		5000	ug/kg	EPA 8260B	EPA 5030C
sec-Butylbenzene	5200		5000	ug/kg	EPA 8260B	EPA 5030C
Ethylbenzene	40000		5000	ug/kg	EPA 8260B	EPA 5030C
Isopropylbenzene	6100		5000	ug/kg	EPA 8260B	EPA 5030C
Naphthalene	150000		50000	ug/kg	EPA 8260B	EPA 5030C
n-Propylbenzene	25000		5000	ug/kg	EPA 8260B	EPA 5030C
Toluene	110000		5000	ug/kg	EPA 8260B	EPA 5030C
1,2,4-Trimethylbenzene	200000		5000	ug/kg	EPA 8260B	EPA 5030C
1,3,5-Trimethylbenzene	59000		5000	ug/kg	EPA 8260B	EPA 5030C

* MDL is shown

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Detections Summary

Client:	Group Delta Consultants, Inc. 370 Amapola Avenue, Suite 212 Torrance, CA 90501-7243	Work Order:	19-04-0222
		Project Name:	Yucca / LA1301B
		Received:	04/03/19
Attn:	Alycia McCord		

Client SampleID

Analyte	Result	Qualifiers	RL	Units	Method	Extraction
p/m-Xylene	190000		5000	ug/kg	EPA 8260B	EPA 5030C
o-Xylene	84000		5000	ug/kg	EPA 8260B	EPA 5030C

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**GC 50**	**04/03/19**	**04/04/19 02:18**	**190403B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	4900	200	
C7	ND	4900	200	
C8	ND	4900	200	
C9-C10	8100	4900	200	
C11-C12	ND	4900	200	
C13-C14	ND	4900	200	
C15-C16	ND	4900	200	
C17-C18	ND	4900	200	
C19-C20	7100	4900	200	
C21-C22	21000	4900	200	
C23-C24	37000	4900	200	
C25-C28	73000	4900	200	
C29-C32	59000	4900	200	
C33-C36	31000	4900	200	
C37-C40	8900	4900	200	
C41-C44	ND	4900	200	
C6-C44 Total	260000	4900	200	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	61-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-490-3548**	**N/A**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:39**	**190403B04**

Parameter	Result	RL	DF	Qualifiers
C6	ND	5.0	1.00	
C7	ND	5.0	1.00	
C8	ND	5.0	1.00	
C9-C10	ND	5.0	1.00	
C11-C12	ND	5.0	1.00	
C13-C14	ND	5.0	1.00	
C15-C16	ND	5.0	1.00	
C17-C18	ND	5.0	1.00	
C19-C20	ND	5.0	1.00	
C21-C22	ND	5.0	1.00	
C23-C24	ND	5.0	1.00	
C25-C28	ND	5.0	1.00	
C29-C32	ND	5.0	1.00	
C33-C36	ND	5.0	1.00	
C37-C40	ND	5.0	1.00	
C41-C44	ND	5.0	1.00	
C6-C44 Total	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	61-145	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**ICP 8300**	**04/03/19**	**04/03/19 21:09**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	6.46	0.746	0.995	
Arsenic	19.3	0.746	0.995	
Barium	238	0.498	0.995	
Beryllium	ND	0.249	0.995	
Cadmium	14.6	0.498	0.995	
Chromium	17.4	0.249	0.995	
Cobalt	2.74	0.249	0.995	
Copper	93.6	0.498	0.995	
Molybdenum	0.616	0.249	0.995	
Nickel	4.03	0.249	0.995	
Selenium	ND	0.746	0.995	
Silver	ND	0.249	0.995	
Thallium	ND	0.746	0.995	
Vanadium	0.815	0.249	0.995	
Zinc	2230	0.995	0.995	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**ICP 8300**	**04/02/19**	**04/04/19 17:15**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Lead	10000	4.98	9.95	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-27722**	**N/A**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:42**	**190402L04**

Parameter	Result	RL	DF	Qualifiers
Antimony	ND	0.725	0.966	
Arsenic	ND	0.725	0.966	
Barium	ND	0.483	0.966	
Beryllium	ND	0.242	0.966	
Cadmium	ND	0.483	0.966	
Chromium	ND	0.242	0.966	
Cobalt	ND	0.242	0.966	
Copper	ND	0.483	0.966	
Lead	ND	0.483	0.966	
Molybdenum	ND	0.242	0.966	
Nickel	ND	0.242	0.966	
Selenium	ND	0.725	0.966	
Silver	ND	0.242	0.966	
Thallium	ND	0.725	0.966	
Vanadium	ND	0.242	0.966	
Zinc	ND	0.966	0.966	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 6010B
Units: mg/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**ICP 8300**	**04/03/19**	**04/05/19 16:29**	**190405LA1A**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Cadmium	0.419	0.100	1.00	
Lead	619	0.500	1.00	

Method Blank	099-14-021-2913	N/A	Aqueous	ICP 8300	04/03/19	04/05/19 16:19	190405LA1A

Parameter	Result	RL	DF	Qualifiers
Cadmium	ND	0.100	1.00	
Lead	ND	0.500	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**Mercury 07**	**04/04/19**	**04/04/19 13:56**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-272-4519**	**N/A**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:56**	**190404L01**

Parameter	Result	RL	DF	Qualifiers
Mercury	ND	0.0820	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**GC 58**	**04/03/19**	**04/04/19 16:43**	**190403L06**

Comment(s): - The reporting limit is elevated resulting from matrix interference.

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	250	5.00	
Aroclor-1221	ND	250	5.00	
Aroclor-1232	ND	250	5.00	
Aroclor-1242	ND	250	5.00	
Aroclor-1248	ND	250	5.00	
Aroclor-1254	ND	250	5.00	
Aroclor-1260	ND	250	5.00	
Aroclor-1262	ND	250	5.00	
Aroclor-1268	ND	250	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	64	24-168	
2,4,5,6-Tetrachloro-m-Xylene	120	25-145	

Method Blank	099-12-535-5150	N/A	Solid	GC 58	04/03/19	04/04/19 06:34	190403L06

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	
Aroclor-1268	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	90	24-168	
2,4,5,6-Tetrachloro-m-Xylene	92	25-145	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**GC/MS CC**	**04/03/19**	**04/04/19 20:50**	**190404L031**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	130000	500	
Benzene	6100	5000	500	
Bromobenzene	ND	5000	500	
Bromochloromethane	ND	5000	500	
Bromodichloromethane	ND	5000	500	
Bromoform	ND	5000	500	
Bromomethane	ND	25000	500	
2-Butanone	ND	50000	500	
n-Butylbenzene	26000	5000	500	
sec-Butylbenzene	5200	5000	500	
tert-Butylbenzene	ND	5000	500	
Carbon Disulfide	ND	50000	500	
Carbon Tetrachloride	ND	5000	500	
Chlorobenzene	ND	5000	500	
Chloroethane	ND	5000	500	
Chloroform	ND	5000	500	
Chloromethane	ND	25000	500	
2-Chlorotoluene	ND	5000	500	
4-Chlorotoluene	ND	5000	500	
Dibromochloromethane	ND	5000	500	
1,2-Dibromo-3-Chloropropane	ND	10000	500	
1,2-Dibromoethane	ND	5000	500	
Dibromomethane	ND	5000	500	
1,2-Dichlorobenzene	ND	5000	500	
1,3-Dichlorobenzene	ND	5000	500	
1,4-Dichlorobenzene	ND	5000	500	
Dichlorodifluoromethane	ND	5000	500	
1,1-Dichloroethane	ND	5000	500	
1,2-Dichloroethane	ND	5000	500	
1,1-Dichloroethene	ND	5000	500	
c-1,2-Dichloroethene	ND	5000	500	
t-1,2-Dichloroethene	ND	5000	500	
1,2-Dichloropropane	ND	5000	500	
1,3-Dichloropropane	ND	5000	500	
2,2-Dichloropropane	ND	5000	500	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	5000	500	
c-1,3-Dichloropropene	ND	5000	500	
t-1,3-Dichloropropene	ND	5000	500	
Ethylbenzene	40000	5000	500	
2-Hexanone	ND	50000	500	
Isopropylbenzene	6100	5000	500	
p-Isopropyltoluene	ND	5000	500	
Methylene Chloride	ND	50000	500	
4-Methyl-2-Pentanone	ND	50000	500	
Naphthalene	150000	50000	500	
n-Propylbenzene	25000	5000	500	
Styrene	ND	5000	500	
1,1,1,2-Tetrachloroethane	ND	5000	500	
1,1,2,2-Tetrachloroethane	ND	5000	500	
Tetrachloroethene	ND	5000	500	
Toluene	110000	5000	500	
1,2,3-Trichlorobenzene	ND	10000	500	
1,2,4-Trichlorobenzene	ND	5000	500	
1,1,1-Trichloroethane	ND	5000	500	
1,1,2-Trichloroethane	ND	5000	500	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	50000	500	
Trichloroethene	ND	5000	500	
1,2,3-Trichloropropane	ND	5000	500	
1,2,4-Trimethylbenzene	200000	5000	500	
Trichlorofluoromethane	ND	50000	500	
1,3,5-Trimethylbenzene	59000	5000	500	
Vinyl Acetate	ND	50000	500	
Vinyl Chloride	ND	5000	500	
p/m-Xylene	190000	5000	500	
o-Xylene	84000	5000	500	
Methyl-t-Butyl Ether (MTBE)	ND	5000	500	
Tert-Butyl Alcohol (TBA)	ND	50000	500	
Diisopropyl Ether (DIPE)	ND	10000	500	
Ethyl-t-Butyl Ether (ETBE)	ND	10000	500	
Tert-Amyl-Methyl Ether (TAME)	ND	10000	500	
Ethanol	ND	250000	500	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	109	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0222
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 3 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	111	79-133	
1,2-Dichloroethane-d4	107	71-155	
Toluene-d8	104	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/kg

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-796-15251**	**N/A**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 14:26**	**190404L031**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	12000	50.0	
Benzene	ND	500	50.0	
Bromobenzene	ND	500	50.0	
Bromochloromethane	ND	500	50.0	
Bromodichloromethane	ND	500	50.0	
Bromoform	ND	500	50.0	
Bromomethane	ND	2500	50.0	
2-Butanone	ND	5000	50.0	
n-Butylbenzene	ND	500	50.0	
sec-Butylbenzene	ND	500	50.0	
tert-Butylbenzene	ND	500	50.0	
Carbon Disulfide	ND	5000	50.0	
Carbon Tetrachloride	ND	500	50.0	
Chlorobenzene	ND	500	50.0	
Chloroethane	ND	500	50.0	
Chloroform	ND	500	50.0	
Chloromethane	ND	2500	50.0	
2-Chlorotoluene	ND	500	50.0	
4-Chlorotoluene	ND	500	50.0	
Dibromochloromethane	ND	500	50.0	
1,2-Dibromo-3-Chloropropane	ND	1000	50.0	
1,2-Dibromoethane	ND	500	50.0	
Dibromomethane	ND	500	50.0	
1,2-Dichlorobenzene	ND	500	50.0	
1,3-Dichlorobenzene	ND	500	50.0	
1,4-Dichlorobenzene	ND	500	50.0	
Dichlorodifluoromethane	ND	500	50.0	
1,1-Dichloroethane	ND	500	50.0	
1,2-Dichloroethane	ND	500	50.0	
1,1-Dichloroethene	ND	500	50.0	
c-1,2-Dichloroethene	ND	500	50.0	
t-1,2-Dichloroethene	ND	500	50.0	
1,2-Dichloropropane	ND	500	50.0	
1,3-Dichloropropane	ND	500	50.0	
2,2-Dichloropropane	ND	500	50.0	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0222
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 5 of 6

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	500	50.0	
c-1,3-Dichloropropene	ND	500	50.0	
t-1,3-Dichloropropene	ND	500	50.0	
Ethylbenzene	ND	500	50.0	
2-Hexanone	ND	5000	50.0	
Isopropylbenzene	ND	500	50.0	
p-Isopropyltoluene	ND	500	50.0	
Methylene Chloride	ND	5000	50.0	
4-Methyl-2-Pentanone	ND	5000	50.0	
Naphthalene	ND	5000	50.0	
n-Propylbenzene	ND	500	50.0	
Styrene	ND	500	50.0	
1,1,1,2-Tetrachloroethane	ND	500	50.0	
1,1,2,2-Tetrachloroethane	ND	500	50.0	
Tetrachloroethene	ND	500	50.0	
Toluene	ND	500	50.0	
1,2,3-Trichlorobenzene	ND	1000	50.0	
1,2,4-Trichlorobenzene	ND	500	50.0	
1,1,1-Trichloroethane	ND	500	50.0	
1,1,2-Trichloroethane	ND	500	50.0	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	5000	50.0	
Trichloroethene	ND	500	50.0	
1,2,3-Trichloropropane	ND	500	50.0	
1,2,4-Trimethylbenzene	ND	500	50.0	
Trichlorofluoromethane	ND	5000	50.0	
1,3,5-Trimethylbenzene	ND	500	50.0	
Vinyl Acetate	ND	5000	50.0	
Vinyl Chloride	ND	500	50.0	
p/m-Xylene	ND	500	50.0	
o-Xylene	ND	500	50.0	
Methyl-t-Butyl Ether (MTBE)	ND	500	50.0	
Tert-Butyl Alcohol (TBA)	ND	5000	50.0	
Diisopropyl Ether (DIPE)	ND	1000	50.0	
Ethyl-t-Butyl Ether (ETBE)	ND	1000	50.0	
Tert-Amyl-Methyl Ether (TAME)	ND	1000	50.0	
Ethanol	ND	25000	50.0	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.	Date Received:	04/03/19
370 Amapola Avenue, Suite 212	Work Order:	19-04-0222
Torrance, CA 90501-7243	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/kg
Project: Yucca / LA1301B		Page 6 of 6

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	79-133	
1,2-Dichloroethane-d4	105	71-155	
Toluene-d8	101	80-120	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Sludge-03-TB	**19-04-0222-1-A**	**04/02/19 09:30**	**Sludge**	**GC/MS QQ**	**04/03/19**	**04/05/19 03:32**	**190404L038**

Comment(s): - The analysis was performed on a TCLP extract of the sample.

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	110	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
2,2-Dichloropropane	ND	100	1.00	
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	780	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	170	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	400	200	1.00	
o-Xylene	200	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	95	80-126	
1,2-Dichloroethane-d4	101	80-134	
Toluene-d8	102	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-519-1768**	**N/A**	**Aqueous**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:13**	**190404L038**

Parameter	Result	RL	DF	Qualifiers
Acetone	ND	2000	1.00	
Benzene	ND	100	1.00	
Bromobenzene	ND	100	1.00	
Bromochloromethane	ND	200	1.00	
Bromodichloromethane	ND	100	1.00	
Bromoform	ND	500	1.00	
Bromomethane	ND	5000	1.00	
2-Butanone	ND	2000	1.00	
n-Butylbenzene	ND	100	1.00	
sec-Butylbenzene	ND	100	1.00	
tert-Butylbenzene	ND	100	1.00	
Carbon Disulfide	ND	1000	1.00	
Carbon Tetrachloride	ND	50	1.00	
Chlorobenzene	ND	100	1.00	
Chloroethane	ND	300	1.00	
Chloroform	ND	100	1.00	
Chloromethane	ND	1000	1.00	
2-Chlorotoluene	ND	100	1.00	
4-Chlorotoluene	ND	100	1.00	
Dibromochloromethane	ND	200	1.00	
1,2-Dibromo-3-Chloropropane	ND	500	1.00	
1,2-Dibromoethane	ND	100	1.00	
Dibromomethane	ND	100	1.00	
1,2-Dichlorobenzene	ND	100	1.00	
1,3-Dichlorobenzene	ND	100	1.00	
1,4-Dichlorobenzene	ND	100	1.00	
Dichlorodifluoromethane	ND	500	1.00	
1,1-Dichloroethane	ND	100	1.00	
1,2-Dichloroethane	ND	50	1.00	
1,1-Dichloroethene	ND	100	1.00	
c-1,2-Dichloroethene	ND	100	1.00	
t-1,2-Dichloroethene	ND	100	1.00	
1,2-Dichloropropane	ND	100	1.00	
1,3-Dichloropropane	ND	100	1.00	
2,2-Dichloropropane	ND	100	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 8260B
Units: ug/L

Project: Yucca / LA1301B

Parameter	Result	RL	DF	Qualifiers
1,1-Dichloropropene	ND	100	1.00	
c-1,3-Dichloropropene	ND	50	1.00	
t-1,3-Dichloropropene	ND	50	1.00	
Ethylbenzene	ND	100	1.00	
2-Hexanone	ND	1000	1.00	
Isopropylbenzene	ND	100	1.00	
p-Isopropyltoluene	ND	100	1.00	
Methylene Chloride	ND	1000	1.00	
4-Methyl-2-Pentanone	ND	1000	1.00	
Naphthalene	ND	1000	1.00	
n-Propylbenzene	ND	100	1.00	
Styrene	ND	100	1.00	
1,1,1,2-Tetrachloroethane	ND	200	1.00	
1,1,2,2-Tetrachloroethane	ND	100	1.00	
Tetrachloroethene	ND	100	1.00	
Toluene	ND	100	1.00	
1,2,3-Trichlorobenzene	ND	100	1.00	
1,2,4-Trichlorobenzene	ND	100	1.00	
1,1,1-Trichloroethane	ND	100	1.00	
1,1,2-Trichloroethane	ND	100	1.00	
Trichloroethene	ND	100	1.00	
Trichlorofluoromethane	ND	1000	1.00	
1,2,3-Trichloropropane	ND	500	1.00	
1,2,4-Trimethylbenzene	ND	100	1.00	
1,3,5-Trimethylbenzene	ND	100	1.00	
Vinyl Acetate	ND	1000	1.00	
Vinyl Chloride	ND	50	1.00	
p/m-Xylene	ND	200	1.00	
o-Xylene	ND	100	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	100	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	80-120	
Dibromofluoromethane	95	80-126	
1,2-Dichloroethane-d4	100	80-134	
Toluene-d8	103	80-120	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-03-2270-9	**Sample**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 23:18**	**190403S04**
19-03-2270-9	**Matrix Spike**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:19**	**190403S04**
19-03-2270-9	**Matrix Spike Duplicate**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 20:39**	**190403S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	463.7	116	457.6	114	64-130	1	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3050B
Method: EPA 6010B

Project: Yucca / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0150-1	**Sample**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:48**	**190402S04**
19-04-0150-1	**Matrix Spike**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:50**	**190402S04**
19-04-0150-1	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:52**	**190402S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Antimony	ND	25.00	6.929	28	4.246	17	50-115	48	0-20	3,4
Arsenic	1.062	25.00	28.94	111	25.31	97	75-125	13	0-20	
Barium	56.96	25.00	95.08	152	93.45	146	75-125	2	0-20	3
Beryllium	0.7540	25.00	28.72	112	26.46	103	75-125	8	0-20	
Cadmium	ND	25.00	28.66	115	26.33	105	75-125	8	0-20	
Chromium	5.050	25.00	33.67	114	32.71	111	75-125	3	0-20	
Cobalt	3.417	25.00	29.99	106	27.79	97	75-125	8	0-20	
Copper	3.332	25.00	30.99	111	29.01	103	75-125	7	0-20	
Lead	14.64	25.00	38.97	97	35.54	84	75-125	9	0-20	
Molybdenum	ND	25.00	25.70	103	22.38	90	75-125	14	0-20	
Nickel	2.787	25.00	30.65	111	28.31	102	75-125	8	0-20	
Selenium	ND	25.00	25.53	102	23.05	92	75-125	10	0-20	
Silver	ND	12.50	13.79	110	12.74	102	75-125	8	0-20	
Thallium	ND	25.00	27.49	110	25.00	100	75-125	9	0-20	
Vanadium	17.20	25.00	43.60	106	45.10	112	75-125	3	0-20	
Zinc	16.03	25.00	45.63	118	42.00	104	75-125	8	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 1311
		Method:	EPA 6010B
Project: Yucca / LA1301B			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-03-1306-17	**Sample**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:24**	**190405SA1**
19-03-1306-17	**Matrix Spike**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:25**	**190405SA1**
19-03-1306-17	**Matrix Spike Duplicate**	**Solid**	**ICP 8300**	**04/04/19**	**04/05/19 16:27**	**190405SA1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Cadmium	ND	5.000	5.045	101	5.198	104	82-124	3	0-7	
Lead	ND	5.000	4.908	98	5.188	104	84-120	6	0-7	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received: 04/03/19
370 Amapola Avenue, Suite 212	Work Order: 19-04-0222
Torrance, CA 90501-7243	Preparation: EPA 7471A Total
	Method: EPA 7471A
Project: Yucca / LA1301B	Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0190-3	**Sample**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:01**	**190404S01**
19-04-0190-3	**Matrix Spike**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:03**	**190404S01**
19-04-0190-3	**Matrix Spike Duplicate**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 12:05**	**190404S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	ND	0.8350	0.7589	91	0.7848	94	71-137	3	0-14	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received: 04/03/19
370 Amapola Avenue, Suite 212	Work Order: 19-04-0222
Torrance, CA 90501-7243	Preparation: EPA 3545
	Method: EPA 8082
Project: Yucca / LA1301B	Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0094-1	**Sample**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:46**	**190403S06**
19-04-0094-1	**Matrix Spike**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:10**	**190403S06**
19-04-0094-1	**Matrix Spike Duplicate**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 07:28**	**190403S06**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	92.50	92	89.00	89	50-135	4	0-20	
Aroclor-1260	ND	100.0	91.00	91	92.00	92	50-135	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.	Date Received: 04/03/19
370 Amapola Avenue, Suite 212	Work Order: 19-04-0222
Torrance, CA 90501-7243	Preparation: EPA 5030C
	Method: EPA 8260B
Project: Yucca / LA1301B	Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0247-1	**Sample**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 14:54**	**190404S008**
19-04-0247-1	**Matrix Spike**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 15:37**	**190404S008**
19-04-0247-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 16:06**	**190404S008**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	50.00	59.58	119	46.91	94	61-127	24	0-20	4
Carbon Tetrachloride	ND	50.00	68.64	137	52.32	105	51-135	27	0-29	3
Chlorobenzene	ND	50.00	54.80	110	44.29	89	57-123	21	0-20	4
1,2-Dibromoethane	ND	50.00	52.62	105	46.05	92	64-124	13	0-20	
1,2-Dichlorobenzene	ND	50.00	55.24	110	44.02	88	35-131	23	0-25	
1,2-Dichloroethane	ND	50.00	56.72	113	48.38	97	80-120	16	0-20	
1,1-Dichloroethene	ND	50.00	64.87	130	50.29	101	47-143	25	0-25	
Ethylbenzene	ND	50.00	56.62	113	44.41	89	57-129	24	0-22	4
Toluene	ND	50.00	57.84	116	46.79	94	63-123	21	0-20	4
Trichloroethene	ND	50.00	56.41	113	44.44	89	44-158	24	0-20	4
Vinyl Chloride	ND	50.00	64.59	129	58.78	118	49-139	9	0-47	
p/m-Xylene	ND	100.0	116.1	116	91.74	92	70-130	23	0-30	
o-Xylene	ND	50.00	56.95	114	45.34	91	70-130	23	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	50.00	44.83	90	37.90	76	57-123	17	0-21	
Tert-Butyl Alcohol (TBA)	ND	250.0	256.4	103	242.5	97	30-168	6	0-34	
Diisopropyl Ether (DIPE)	ND	50.00	57.11	114	47.42	95	57-129	19	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	50.00	48.01	96	39.78	80	55-127	19	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	50.00	52.75	106	45.25	91	58-124	15	0-20	
Ethanol	ND	500.0	563.6	113	537.1	107	17-167	5	0-47	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 1311
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-04-0158-1	**Sample**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/04/19 23:42**	**190404S010**
19-04-0158-1	**Matrix Spike**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:11**	**190404S010**
19-04-0158-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS QQ**	**04/03/19**	**04/05/19 00:39**	**190404S010**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	5000	4604	92	4635	93	78-120	1	0-20	
Carbon Tetrachloride	ND	5000	4174	83	4373	87	67-139	5	0-20	
Chlorobenzene	ND	5000	4665	93	4757	95	80-120	2	0-20	
1,2-Dibromoethane	ND	5000	4657	93	4794	96	80-123	3	0-20	
1,2-Dichlorobenzene	ND	5000	4563	91	4660	93	76-120	2	0-20	
1,2-Dichloroethane	ND	5000	4991	100	5135	103	76-130	3	0-20	
1,1-Dichloroethene	ND	5000	4522	90	4556	91	70-130	1	0-27	
Ethylbenzene	ND	5000	4691	94	4789	96	73-127	2	0-20	
Toluene	ND	5000	4908	98	4977	100	72-126	1	0-20	
Trichloroethene	ND	5000	4634	93	4663	93	74-122	1	0-20	
Vinyl Chloride	ND	5000	5219	104	5059	101	65-131	3	0-24	
p/m-Xylene	ND	10000	9529	95	9705	97	70-130	2	0-30	
o-Xylene	ND	5000	4786	96	4926	99	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	5000	3615	72	3745	75	69-123	4	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: Yucca / LA1301B			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-490-3548	**LCS**	**Solid**	**GC 50**	**04/03/19**	**04/03/19 19:59**	**190403B04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	453.6	113	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 3050B
Method: EPA 6010B

Project: Yucca / LA1301B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-27722	**LCS**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:45**	**190402L04**
097-01-002-27722	**LCSD**	**Solid**	**ICP 8300**	**04/02/19**	**04/03/19 14:46**	**190402L04**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Antimony	25.00	25.15	101	24.39	98	80-120	73-127	3	0-20	
Arsenic	25.00	24.40	98	24.40	98	80-120	73-127	0	0-20	
Barium	25.00	26.30	105	26.18	105	80-120	73-127	0	0-20	
Beryllium	25.00	23.42	94	23.33	93	80-120	73-127	0	0-20	
Cadmium	25.00	25.44	102	25.39	102	80-120	73-127	0	0-20	
Chromium	25.00	25.00	100	24.73	99	80-120	73-127	1	0-20	
Cobalt	25.00	25.75	103	25.60	102	80-120	73-127	1	0-20	
Copper	25.00	24.46	98	24.39	98	80-120	73-127	0	0-20	
Lead	25.00	26.43	106	25.86	103	80-120	73-127	2	0-20	
Molybdenum	25.00	24.72	99	24.24	97	80-120	73-127	2	0-20	
Nickel	25.00	25.83	103	25.70	103	80-120	73-127	1	0-20	
Selenium	25.00	24.13	97	23.44	94	80-120	73-127	3	0-20	
Silver	12.50	12.01	96	11.92	95	80-120	73-127	1	0-20	
Thallium	25.00	25.67	103	24.57	98	80-120	73-127	4	0-20	
Vanadium	25.00	23.72	95	23.56	94	80-120	73-127	1	0-20	
Zinc	25.00	25.47	102	24.98	100	80-120	73-127	2	0-20	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Group Delta Consultants, Inc.
370 Amapola Avenue, Suite 212
Torrance, CA 90501-7243

Project: Yucca / LA1301B

Date Received: 04/03/19
Work Order: 19-04-0222
Preparation: EPA 1311
Method: EPA 6010B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-021-2913	**LCS**	**Aqueous**	**ICP 8300**	**04/03/19**	**04/05/19 16:21**	**190405LA1A**
099-14-021-2913	**LCSD**	**Aqueous**	**ICP 8300**	**04/03/19**	**04/05/19 16:22**	**190405LA1A**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Cadmium	5.000	5.057	101	5.122	102	80-120	1	0-20	
Lead	5.000	4.956	99	5.019	100	80-120	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: Yucca / LA1301B			Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-16-272-4519	**LCS**	**Solid**	**Mercury 07**	**04/04/19**	**04/04/19 11:59**	**190404L01**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Mercury	0.8350	0.7234	87	85-121	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 3545
		Method:	EPA 8082
Project: Yucca / LA1301B			Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-5150	**LCS**	**Solid**	**GC 58**	**04/03/19**	**04/04/19 06:52**	**190403L06**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
Aroclor-1016	100.0	92.50	92	50-135	
Aroclor-1260	100.0	87.00	87	50-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-796-15251	**LCS**	**Solid**	**GC/MS CC**	**04/04/19**	**04/04/19 13:00**	**190404L031**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	56.24	112	80-120	73-127	
Carbon Tetrachloride	50.00	61.80	124	65-137	53-149	
Chlorobenzene	50.00	52.77	106	80-120	73-127	
1,2-Dibromoethane	50.00	52.90	106	80-120	73-127	
1,2-Dichlorobenzene	50.00	52.03	104	80-120	73-127	
1,2-Dichloroethane	50.00	54.52	109	80-120	73-127	
1,1-Dichloroethene	50.00	54.91	110	68-128	58-138	
Ethylbenzene	50.00	53.71	107	80-120	73-127	
Toluene	50.00	54.39	109	80-120	73-127	
Trichloroethene	50.00	54.65	109	80-120	73-127	
Vinyl Chloride	50.00	56.95	114	67-127	57-137	
p/m-Xylene	100.0	109.8	110	75-125	67-133	
o-Xylene	50.00	54.15	108	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	42.05	84	70-124	61-133	
Tert-Butyl Alcohol (TBA)	250.0	266.4	107	73-121	65-129	
Diisopropyl Ether (DIPE)	50.00	53.56	107	69-129	59-139	
Ethyl-t-Butyl Ether (ETBE)	50.00	45.09	90	70-124	61-133	
Tert-Amyl-Methyl Ether (TAME)	50.00	51.31	103	74-122	66-130	
Ethanol	500.0	612.4	122	51-135	37-149	

Total number of LCS compounds: 19
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Group Delta Consultants, Inc.		Date Received:	04/03/19
370 Amapola Avenue, Suite 212		Work Order:	19-04-0222
Torrance, CA 90501-7243		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: Yucca / LA1301B			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-519-1768	**LCS**	**Aqueous**	**GC/MS QQ**	**04/04/19**	**04/04/19 21:47**	**190404L038**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	50.00	44.04	88	80-120	73-127	
Carbon Tetrachloride	50.00	40.98	82	66-138	54-150	
Chlorobenzene	50.00	44.71	89	80-120	73-127	
1,2-Dibromoethane	50.00	45.38	91	80-120	73-127	
1,2-Dichlorobenzene	50.00	43.88	88	80-120	73-127	
1,2-Dichloroethane	50.00	48.28	97	80-129	72-137	
1,1-Dichloroethene	50.00	44.45	89	71-131	61-141	
Ethylbenzene	50.00	44.97	90	80-123	73-130	
Toluene	50.00	46.78	94	79-121	72-128	
Trichloroethene	50.00	44.70	89	80-120	73-127	
Vinyl Chloride	50.00	52.69	105	70-136	59-147	
p/m-Xylene	100.0	91.53	92	75-125	67-133	
o-Xylene	50.00	46.06	92	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	50.00	37.10	74	72-126	63-135	

Total number of LCS compounds: 14
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 19-04-0222 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 6010B	EPA 3050B	771	ICP 8300	1
EPA 6010B	EPA 3050B	1080	ICP 8300	1
EPA 6010B	EPA 1311	771	ICP 8300	1
EPA 7471A	EPA 7471A Total	868	Mercury 07	1
EPA 8015B (M)	EPA 3550B	972	GC 50	1
EPA 8082	EPA 3545	669	GC 58	1
EPA 8260B	EPA 1311	486	GC/MS QQ	2
EPA 8260B	EPA 5030C	823	GC/MS CC	2

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Glossary of Terms and Qualifiers

Work Order: 19-04-0222

Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN-OF-CUSTODY RECORD

Date APR. 2, 2019
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WO NO. / LAB USE ONLY: 19-04-0222

LABORATORY CLIENT: Group Delta Consultants
ADDRESS: 370 Amapola Ave, Suite 212
CITY: Torrance STATE: CA ZIP: 90501
TEL: (310) 320-5100 E-MAIL: alycia@groupdelta.com

CLIENT PROJECT NAME / NO.: Tucca / LA13018
PROJECT CONTACT: Alycia McCoed
GLOBAL ID:
LOG CODE:

P.O. NO.: LA13018
LAB CONTACT OR QUOTE NO: Vik Patel
SAMPLER(S): (PRINT) A McCoed

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:
COC C

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☒ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☒ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6	17 Metals	TCLP VOCs
01	Sludge-03-TB	04.02.19	0930	~~Soil~~ Sludge	1	X					X			X	X				X		X		X	X

Relinquished by: (Signature) Alycia McCoed
Relinquished by: (Signature)
Relinquished by: (Signature)

Received by: (Signature/Affiliation) EC
Received by: (Signature/Affiliation) EC
Received by: (Signature/Affiliation)

Date: 04/03/19 Time: 1045
Date: 4/3/19 Time: 1145
Date: Time:

2016-04-01-Revision

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eurofins | Calscience

WORK ORDER NUMBER: 19-04-0222

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: GROUP DELTA

DATE: 04/03/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.2°C); Temperature (w/o CF): 3.8°C (w/ CF): 3.6°C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 671

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 671

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 896

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☐ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☑ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☐ TerraCores® (___) ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 896

Reviewed by: 360

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APPENDIX H

SOIL DISPOSAL MANIFESTS

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
/ /			A07	A5-0283	0011

Generator and/or Consultant

Generator's Name and Billing Address: 1770 IVAR, LLC 1995 BROADWAY, 3RD FLOOR NEW YORK, NY 10023	Generator's Phone #: 212-875-4900 Person to Contact: FAX#:	 Customer Account Number
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	 Customer Account Number
Generation Site (Transport from): *(name & address)* 1770 IVAR ST., LLC 6334 YUCCA STREET LOS ANGELES, CA 90028	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* SOIL SAFE 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Facility Phone #: (800) 862-8001 Person to Contact: JOE PROVANSAL FAX#: (760) 246-8004	
Transporter Name and Mailing Address: BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 305728	Transporter's Phone #: 949-460-5200 Person to Contact: LARRY MOOTHART FAX#: 949-460-5210	CAR000183913 450647 Customer Account Number

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	7 CM	Soil	45800	111420	4380
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					2.19

List any exception to items listed above: Scale Ticket # 15630

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐ MILA TESFU MARIAM | Signature and date: | Month 4 | Day 11 | Year 19

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Brandon Rogers | Signature and date: | Month 4 | Day 11 | Year 19

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: J. PROVANSAL / BILL BISHOP / BARRY MEEK | Signature and date: 4-23-19

Please print or type.

6334 YUCCA 2048750

TRANSPORTER COPY

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
/ /			A07	A5-0283	002

Generator and/or Consultant

Generator's Name and Billing Address: 1770 IVAR, LLC 1995 BROADWAY, 3RD FLOOR NEW YORK, NY 10023	Generator's Phone #: 212-875-4900 Person to Contact: FAX#:	 Customer Account Number
Consultant's Name and Billing Address:	Consultant's Phone #: Person to Contact: FAX#:	 Customer Account Number
Generation Site (Transport from): *(name & address)* 1770 IVAR ST., LLC 6334 YUCCA STREET LOS ANGELES, CA 90028	Site Phone #: Person to Contact: FAX#:	
Designated Facility (Transport to): *(name & address)* SOIL SAFE 12328 HIBISCUS AVENUE ADELANTO, CA 92301	Facility Phone #: (800) 862-8001 Person to Contact: JOE PROVANSAL FAX#: (760) 246-8004	
Transporter Name and Mailing Address: BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 305728	Transporter's Phone #: 949-460-5200 Person to Contact: LARRY MOOTHART FAX#: 949-460-5210	CAR000183813 450647 Customer Account Number

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	6 DM	Soil	45180	41460	3760
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					1.88

List any exception to items listed above: Scale Ticket # 15162

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☒ Consultant ☐ — MIA JOSEPH WALIAN — Signature and date: — Month 4 Day 11 Year 2019

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Brandon Rogers — Signature and date: — Month 4 Day 11 Year 19

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: J. PROVANSAL / BILL BISHOP / BARRY MEEK — Signature and date: 11-23-19

Please print or type.

6334 Yucca / 924051

TRANSPORTER COPY

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
/ /		184929	A07	A5-0283	13

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	
1770 IVAR, LLC 1995 BROADWAY, 3RD FLOOR NEW YORK, NY 10023	212-875-4900	
	Person to Contact:	
	FAX#:	Customer Account Number

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number

Generation Site (Transport from): *(name & address)*	Site Phone #:	
1770 IVAR ST., LLC 6334 YUCCA STREET LOS ANGELES, CA 90028	Person to Contact:	
	FAX#:	

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	
SOIL SAFE 12328 HIBISCUS AVENUE ADELANTO, CA 92301	(800) 862-8001	
	Person to Contact: JOE PROVANSAL	
	FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #:	
BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 Bin#128944DL BESI: 306494	949-460-5200	CAR000183913
	Person to Contact: LARRY MOOTHART	450647
	FAX#: 949-460-5210	Customer Account Number

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	10yds	Soil	50080	37800	12280
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					6.13

List any exception to items listed above: Scale Ticket # 15206

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐ — Signature and date: — Month 5 Day 8 Year 19

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: — Signature and date: — Month 5 Day 8 Year 19

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: J. PROVANSAL / BILL BISHOP / BARRY MEEK — Signature and date: 5.8.19

Please print or type.

TRANSPORTER COPY

Soil Safe of California, Inc.

ADE 152066

12328 Hibiscus Ave. Adelanto, CA 92301

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

Manifest Number: A5-0283 Load #: 3 5/8/2019

Generator Site Information:

1770 Ivar Street., LLC

6334 Yucca Street

Los Angeles, Ca 90028

Weighmaster Weighed at:

SOIL SAFE OF CALIFORNIA, INC..

12328 HIBISCUS AVE

ADELANTO, CA 92301

			Lbs	Tons	
Joe Provansal	**Time In:** 9:03:57 AM	**Gross Weight:**	50080	25.04	Manual Wt
Joe Provansal	**Time out:** 9:21:11 AM	**Tare Weight:**	37820	18.91	Manual Wt
		Net Weight:	12260	6.13	

Truck Number: 929

Trailer Number: 732

Commodity: Non Haz - Solids

Driver on Gross and Tare Transporter: Besi - Jayson

APPENDIX I

TANK RINSATE DISPOSAL MANIFESTS

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CAP0002950711	1	(212) 675-4900	013711595 FLE

GENERATOR

5. Generator's Name and Mailing Address
1770 Ivar, LLC
1995 Broadway, 3rd Floor
New York, NY 10023
Generator's Phone: (212) 675-4900

Generator's Site Address (if different than mailing address)
1770 Ivar St., LLC
6334 Yucca Street
Los Angeles, CA 90028

6. Transporter 1 Company Name
BELSHIRE
U.S. EPA ID Number
CAR000183913

7. Transporter 2 Company Name
Nieto Carlson Trucking, Inc.
U.S. EPA ID Number
CAT080016116

8. Designated Facility Name and Site Address
DeMenno Kerdoon
2000 N. Alameda St.
Compton, CA 90222
Facility's Phone: (310) 537-7100
U.S. EPA ID Number
CAT080013352

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN1993, Waste Flammable Liquid, n.o.s. (Lead), 3, PG II	1	DM	30	G	D001	D008	724
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
ERG#: 128
Flammable liquid (motor oil) with Lead
WEAR ALL APPROPRIATE PROTECTIVE CLOTHING
BESI: 307294
1 X 55

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Joseph Mariani IV
Signature:
Month: 5 Day: 24 Year: 19

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Abelino Garcia
Signature:
Month: 5 Day: 24 Year: 19

Transporter 2 Printed/Typed Name: Jeff Wyrick
Signature:
Month: 5 Day: 30 Year: 19

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H039			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Emilio Morales
Signature:
Month: 05 Day: 30 Year: 19

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

TRANSPORTER COPY

6334 YUCC
20001677

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAP000295071
2. Page 1 of 1
3. Emergency Response Phone: (212) 875-4900
4. Manifest Tracking Number: 013711594 FLE

5. Generator's Name and Mailing Address:
1770 Ivar, LLC
1995 Broadway, 3rd Floor
New York, NY 10023
Generator's Phone: (212) 875-4900

Generator's Site Address (if different than mailing address):
1770 Ivar St., LLC
6334 Yucca Street
Los Angeles, CA 90028

6. Transporter 1 Company Name: BELSHIRE — U.S. EPA ID Number: CAR000183913

7. Transporter 2 Company Name: Nieto and Sons Trucking Inc — U.S. EPA ID Number: CAT080016116

8. Designated Facility Name and Site Address:
DeMenno Kerdoon
2000 N. Alameda St.
Compton, CA 90222
Facility's Phone: (310) 537-7100
U.S. EPA ID Number: CAT080013352

GENERATOR

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, UN1993, Waste Flammable Liquid, n.o.s., (Lead), 3, PG II	2	DM	110	G	D001	D008	724
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
ERG#:128
Flammable liquid (motor oil) with Lead
WEAR ALL APPROPRIATE PROTECTIVE CLOTHING
BESI:307294
2X55

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible handwritten name] — Signature: [signature] — Month 5 Day [illegible] Year [illegible]

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Abelino Garcia — Signature: [signature] — Month 5 Day 24 Year 19
Transporter 2 Printed/Typed Name: Jeff Wyrick — Signature: [signature] — Month 5 Day 30 Year 19

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H039 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Emilio Morales — Signature: [signature] — Month 05 Day 30 Year 19

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

TRANSPORTER COPY

6334 YUCC
20011083