ARCADIS
Infrastructure · Water · Environment · Buildings

ARCADIS U.S., Inc.
7051 Fain Park Drive, Suite 119
Montgomery
Alabama 36117
Tel 334.215.4461
www.arcadis.com

Mr. Keith Nowell
Hazardous Materials Specialist, PG, CHG
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502

ENVIRONMENT

Subject:
Results of Skimming Test
Former ARCO Service Station No. 11132
3201 35th Street
Oakland, California 94619
ACEH Site No.: RO0000014

Date:
October 2, 2015

Dear Mr. Nowell:

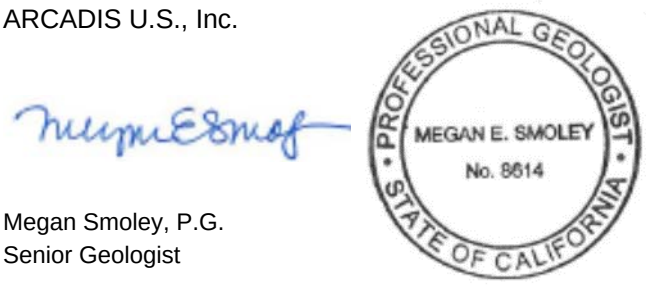
ARCADIS U.S., Inc. (ARCADIS) has prepared this letter on behalf of the Atlantic Richfield Company, a BP affiliated company (ARCO), for the former ARCO service station listed below.

BP Facility No.	ACEH Site No.	Location
11132	RO0000014	3201 35th Street Oakland, California

I declare, to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct. If you have any questions or comments regarding the content of this report, please contact Megan Smoley by telephone at 334.215.4461 ext. 2 or by e-mail at Megan.Smoley@arcadis.com. Note new email address.

Sincerely,

ARCADIS U.S., Inc.



Megan Smoley, P.G.
Senior Geologist

Copies: GeoTracker upload

Contact:
Megan Smoley

Phone:
334.215.4461 ext. 2

Email:
Megan.Smoley@arcadis.com

Our ref:
GP09BPNA.C112

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Subject:
Results of Skimming Test
Former ARCO Service Station No. 11132
3201 35th Street
Oakland, California 94619
ACEH Site No.: RO0000014

Date:
October 2, 2015

Contact:
Megan Smoley

Phone:
334.215.4461 ext. 2

Email:
Megan.Smoley@arcadis.com

Our ref:
GP09BPNA.C112

Dear Mr. Nowell:

ARCADIS has prepared this letter for the former Atlantic Richfield Company (ARCO) service station No. 11132 (the 'Site') located at 3201 35th in Oakland, California (the 'Site'; Figure 1) to discuss results of the skimming test conducted at on-site monitoring well OW-1 on May 7, 2015. This skimming test was conducted as part of site investigation activities included in the *Work Plan – Additional Site Characterization* (the 'work plan'), which was approved by Alameda County Environmental Health (ACEH) through email correspondence dated August 19, 2014 (ARCADIS 2014).

Objective

In order to address residual light non-aqueous phase liquid (LNAPL) observed in well OW-1, ARCADIS conducted a skimming test to monitor recharge, determine LNAPL mobility and conduct a forensic analysis of recovered LNAPL.

Pre-Field Activities

Prior to initiating the proposed activities, the site-specific Health and Safety Plan (HASP) was updated in accordance with state and federal requirements to address hazards associated with the updated scope of work for the Site.

Skimming Test

On May 7, 2015, ARCADIS conducted the skimming test at OW-1 using a peristaltic pump. Gauging, pumping and recharge field data are available in Attachment A.

Prior to the May 7, 2015 skimming test, well OW-1 had not been gauged since the November 2012 dual-phase extraction (DPE) and LNAPL removal activities, where an LNAPL thickness of 0.99 feet was measured in OW-1. An LNAPL thickness of 0.25 feet was measured in well OW-1 on May 7, 2015 prior to pumping using an oil/water interface probe. After pumping to remove the initial LNAPL column (0.18 gallons of LNAPL/water mixture), recovery of groundwater and LNAPL was monitored on the following schedule:

- approximately every minute for the first 10 minutes,
- every two minutes for the next 20 minutes
- every four minutes for the next 40 minutes
- every ten minutes until approximately 4 hours after LNAPL removal

Fluid levels were monitored by ARCADIS field staff, and if necessary, pumping was commenced if fluid levels approached 25 percent (%) of the original LNAPL column. ARCADIS recommends a minimum of three pumping and recharge cycles to collect the data necessary for LNAPL mobility analysis.

LNAPL Sampling

The LNAPL/water mixture from OW-1 was pumped in to a 5-gallon bucket. After the LNAPL/water mixture was allowed to settle, a syringe was used to collect samples for laboratory analysis. The LNAPL was contained in three 40 milliliter (ml) vials and shipped to PACE Analytical Services, Inc. of Pittsburgh, Pennsylvania (PACE Analytical) for the following analysis:

- Paraffins, isoparaffins, aromatics, naphthenes, and oledins (PIANO) Analysis by High Resolution Gas Chromatography/Flame Ionization Detection (GC/FID)

Skimming Test Results

Following removal of the initial LNAPL column, only 0.01 feet of recovery was observed over a 4-hour period. After ARCADIS field staff determined fluid levels had

stabilized, fluid levels were gauged again on May 8, 2015 to observe any change over a 24-hour period. No change in recovery was observed.

LNAPL is typically discussed in terms of mobility and recoverability. The extent of LNAPL mobility (immobile [LNAPL locked in pore spaces], mobile [capable of moving laterally and vertically within existing LNAPL body footprint], or migrating [moving outside existing LNAPL body footprint – therefore expanding footprint]) is typically analyzed through the presence of LNAPL in monitoring wells, LNAPL pore velocity calculations (when transmissivity values are available), and a dissolved-phase plume stability statistical analysis. If LNAPL is determined to be mobile or migrating, recoverability is subsequently analyzed through an LNAPL baildown test, manual skimming test, long-term pneumatic skimming test, or a long-term DPE test.

Based on the available data, which include LNAPL removal activities and a manual skimming test, LNAPL is mobile at the pore scale as it has historically accumulated in onsite monitoring wells. LNAPL mobility at the pore scale is dependent upon the presence of a sufficient driving head and hydraulic gradient; therefore, accumulation of LNAPL in monitoring wells is not a stand-alone indicator of LNAPL mobility. Prior to the DPE and LNAPL removal conducted in November 2012, OW-1 contained 0.99 feet of LNAPL. When OW-1 was gauged again in May 2015 prior to the skimming test, OW-1 contained approximately 0.25 feet of LNAPL. Following the skimming test, approximately 0.01 feet of LNAPL accumulated in OW-1 over a 24-hour time period. These results indicate that mobility is decreasing with time. Based on the minimal recovery observed following the skimming test, qualitatively, LNAPL at this site is not recoverable.

In conclusion, LNAPL is mobile within the pore scale as it is able to accumulate in monitoring wells. LNAPL is qualitatively not recoverable based on observed gauging data following LNAPL manual removal events. This indicates that the LNAPL mobility is decreasing with time. The migration of LNAPL will be determined following the replacement of monitoring well MW-10. Based on the most recent groundwater monitoring event conducted on March 27, 2015, LNAPL is not present in downgradient monitoring wells MW-1, MW-2, MW-5, MW-8, MW-9 and RW-1. A small quantity of LNAPL was detected in MW-10 (0.01 feet), which is consistent with prior monitoring events.

LNAPL Analytical Results

An LNAPL sample was collected from OW-1 and submitted to Pace Analytical for PIANO analysis. The forensics analysis indicates that the LNAPL consists of hydrocarbons with 6 to 11 carbons, has low paraffin content and high percentage of aromatics, and is depleted of lighter isoparaffins and benzene, which is indicative of a weathered gasoline. Laboratory analytical results are included in Attachment B.

Conclusions

If you have any questions or comments regarding the contents of this letter, please contact Megan Smoley at 334.215.4461 ext. 2 or by e-mail at Megan.Smoley@arcadis.com.

Sincerely,

ARCADIS U.S., Inc.

Megan Smoley, P.G.
Senior Geologist

Attachments:
Figure 1 – Site Location Map
Figure 2 – Site Plan

Attachment A – Skimming Test Field Notes
Attachment B – LNAPL Laboratory Report

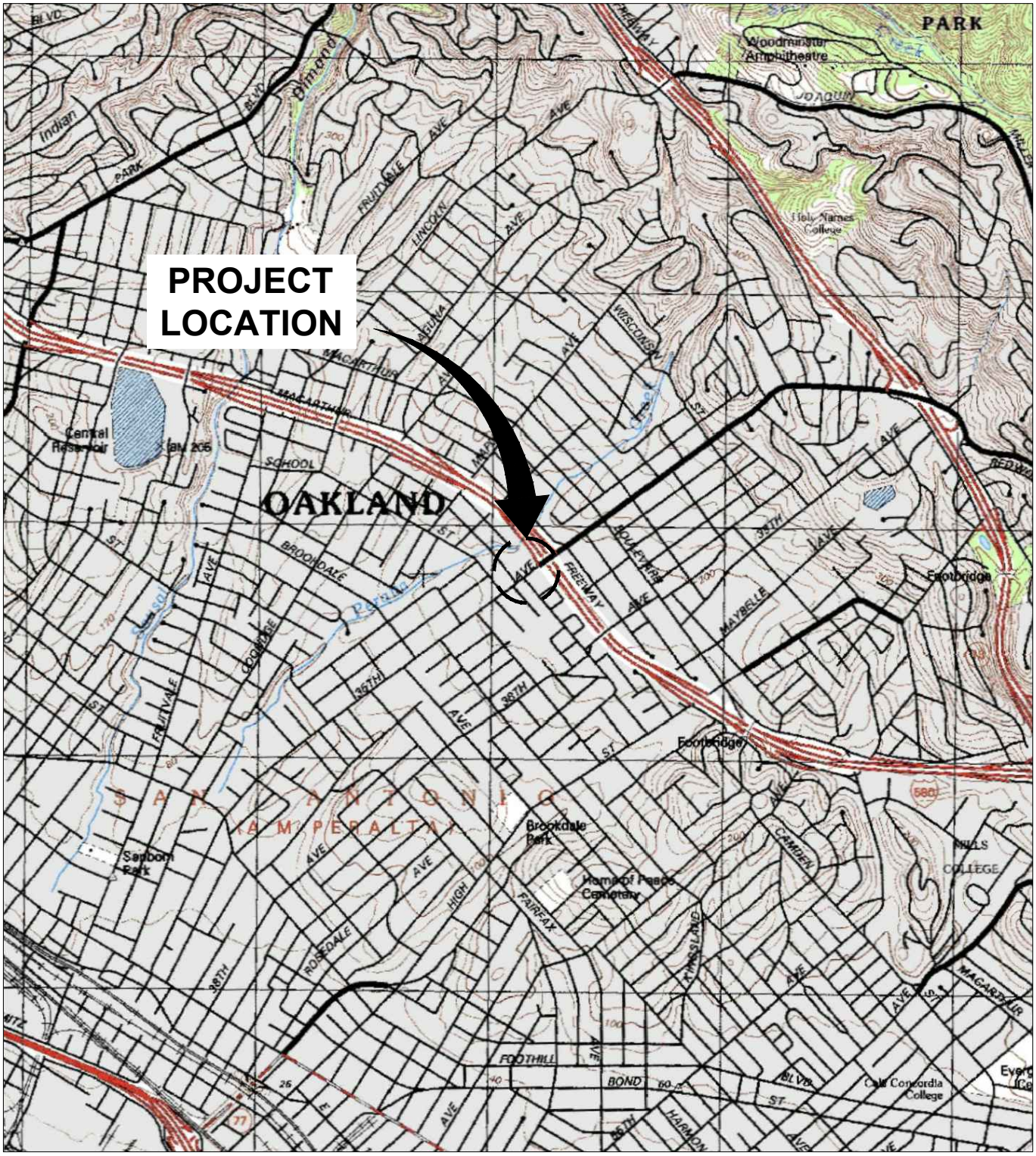
References:

ARCADIS U.S., Inc. (ARCADIS). 2014. Work Plan – Additional Site Characterization, Former BP Service Station No. 11132, 3201 35th Avenue, Oakland, California 94619. June 25.

Copies:
Electronic Copy to Geotracker

ARCADIS

Figures



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND EAST, CALIFORNIA, 1997.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.

FORMER BP STATION No. 11132
3201 35TH AVENUE
OAKLAND, CALIFORNIA

SITE LOCATION MAP

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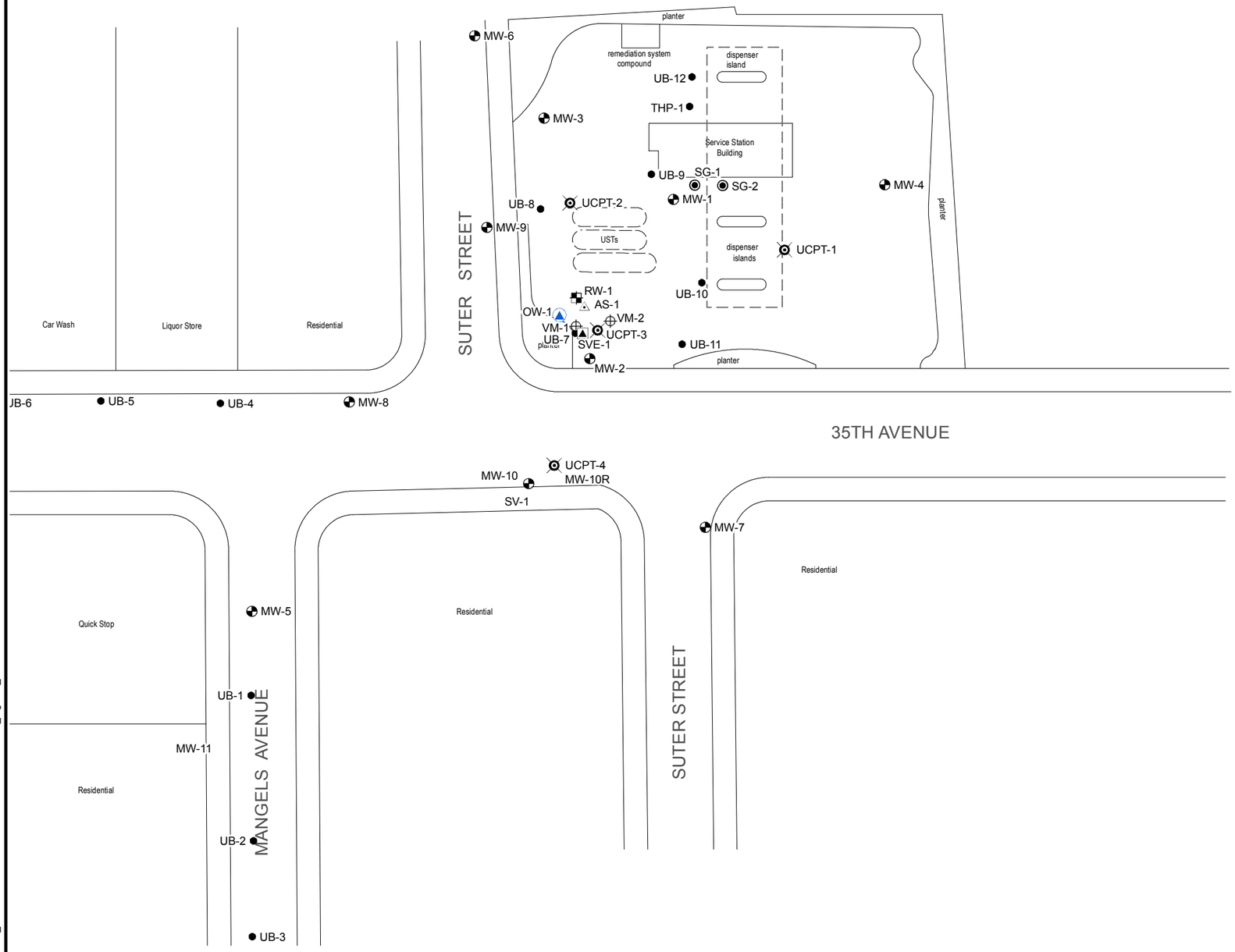
FIGURE
1



LEGEND:

MW-1	GROUNDWATER MONITORING WELL
RW-1	GROUNDWATER RECOVERY WELL
OW-1	OBSERVATION WELL
SVE-1	SOIL VAPOR EXTRACTION WELL
VM-1	SOIL VAPOR MONITORING WELL
UB-1	SOIL BORING
UCPT-1	CPT/UVOST LOCATION
SG-1	SOIL GAS BORING
AS-1	AIR SPARGE WELL
	CANOPY

0 50 100

SCALE IN FEET

NOTES:

1. SITE MAP ADAPTED FROM CAMBRIA ENVIRONMENTAL FIGURES. SITE DIMENSIONS AND FIGURES FACILITY LOCATIONS NOT VERIFIED.

FORMER BP SERVICE STATION #11132
3201 35TH AVENUE
OAKLAND, CALIFORNIA

SITE PLAN

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FIGURE
2

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Attachment A

Skimming Test Field Notes

LNAPL MANUAL SKIMMING LOG

Site Name	BP 11132	Test Well ID	OW-1
Date and Time In	5/7/2015 8:30	Date and Time Out	5/7/2015 15:40
Personnel	Carl Edwards	Weather	Overcast/Cool

Well Construction Details

Ground Surface Elevation (ft amsl)	NA	Screen Slot Size (in)	0.01
Top of Casing Elevation (ft amsl)	NA	screen material/type	Sch 40 PVC
Total Well Depth (ft bgs)	19.19	Filter Pack Type	Sand
Depth to Top of Screen (ft bgs)	20	Depth to Bottom of Screen (ft bgs)	39.91
Well Casing Diameter (in)	2	Borehole Diameter (in)	8

Initial Test Conditions

Static Depth to LNAPL (ft)	17.91	LNAPL Thickness (ft)	0.25
Static Depth to Water (ft)	18.16	Initial LNAPL Volume in Well (gal)	0.04

LNAPL Removal Information

LNAPL Removal Method/Equipment	Bailer
Volume of LNAPL Removed (gal)	0.16
Volume of Groundwater Removed (gal)	0.25

Date	Time (HH:MM:SS)	Elapsed Time (min)	Pump (On/Off?)	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness	Percent of Initial Thickness	Cummulative LNAPL Volume Removed (gallons)	Cummulative Water Volume Removed (gallons)	Observations
05/07/15	11:03:00 AM	--	Pretest	17.91	18.16	0.25	--	--	--	Pretest static fluid levels
05/07/15	11:12:00 AM	0.00	on	--	--					start test
05/07/15	11:13:00 AM	1.00	on	17.90	17.95	0.05	20%			
05/07/15	11:15:00 AM	3.00	on	18.00	18.00	0.00	0%	0.160	0.250	
05/07/15	11:16:00 AM	4.00	off	18.00	18.00	0.00	0%	0.160	0.250	
05/07/15	11:17:00 AM	5.00	off	17.95	17.95	0.00	0%	0.160	0.250	
05/07/15	11:18:00 AM	6.00	off	17.91	17.91	0.00	0%	0.160	0.250	
05/07/15	11:19:00 AM	7.00	off	17.91	17.91	0.00	0%	0.160	0.250	
05/07/15	11:20:00 AM	8.00	off	17.88	17.88	0.00	0%	0.160	0.250	
05/07/15	11:21:00 AM	9.00	off	17.88	17.88	0.00	0%	0.160	0.250	
05/07/15	11:22:00 AM	10.00	off	17.88	17.88	0.00	0%	0.160	0.250	
05/07/15	11:24:00 AM	12.00	off	17.86	17.86	0.00	0%	0.160	0.250	
05/07/15	11:26:00 AM	14.00	off	17.84	17.85	0.01	4%	0.160	0.250	
05/07/15	11:28:00 AM	16.00	off	17.84	17.85	0.01	4%	0.160	0.250	
05/07/15	11:30:00 AM	18.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:32:00 AM	20.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:34:00 AM	22.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:36:00 AM	24.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:38:00 AM	26.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:40:00 AM	28.00	off	17.83	17.84	0.01	4%	0.160	0.250	
05/07/15	11:42:00 AM	30.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	11:46:00 AM	34.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	11:50:00 AM	38.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	11:54:00 AM	42.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	11:56:00 AM	44.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:00:00 PM	48.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:04:00 PM	52.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:08:00 PM	56.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:12:00 PM	60.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:16:00 PM	64.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:20:00 PM	68.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:32:00 PM	80.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:42:00 PM	90.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	12:52:00 PM	100.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:02:00 PM	110.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:12:00 PM	120.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:22:00 PM	130.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:32:00 PM	140.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:42:00 PM	150.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	1:52:00 PM	160.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:02:00 PM	170.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:12:00 PM	180.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:22:00 PM	190.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:32:00 PM	200.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:42:00 PM	210.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	2:52:00 PM	220.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	3:02:00 PM	230.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/07/15	3:12:00 PM	240.00	off	17.82	17.83	0.01	4%	0.160	0.250	
05/08/15	7:00:00 PM	1908.00	off	18.09	18.10	0.01	4%	0.160	0.250	

Notes:
LNAPL = light non-aqueous phase liquid
NA = not availble
ft = feet
in = inches
gal = gallons
bgs = below ground surface
amsl = above mean sea level

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Attachment B

LNAPL Laboratory Report

CPT/UVOST Logs

July 31, 2015

formerly ZymaX Forensics

Megan Smoley
Arcadis
7051 Fain Park Drive, Ste. 119
Montgomery, AL 36117

RE: BP11132 – Oakland, CA
Project Number: GP09BPNA.C112

Pace Analytical received 1 sample(s) received on June 1st, 2015 for analysis labeled OW-1-LNAPL. Per client request, the following analyses were performed:

1. C3-C44 (ASTM 3328)

The sample was performed in house under laboratory number **15730**.

Please call the lab at 412-826-4481, or you may email any questions or concerns to taryn.mancine@pacelabs.com regarding any analytical data reports.

Respectfully submitted,

Taryn Mancine

Taryn Mancine
Project Manager/Scientist

ARCADIS
Infrastructure · Water · Environment · Buildings

ID#: 157730

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #

Send Results to:

Contact & Company Name: Megan Smoley / Arcadis	Telephone: 334-215-4461
Address: 7051 Fain Park Drive, STE 119	Fax:
City: Montgomery State: AL Zip: 36117	E-mail Address: Megan.Smoley@arcadis-us.com
Project Name/Location (City, State): BP 11132 / Oakland, CA	Project #: 60109BPNA.0112
Sampler's Printed Name: Kevin Corrigan	Sampler's Signature:

Preservative	—
Filtered (✓)	—
# of Containers	3
Container Information	40 mL

PARAMETER ANALYSIS & METHOD

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	PIANO Analysis							
OW-1-LNAPL	5/29/15	1300		✓	LNAPL	X							

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

REMARKS

Special Instructions/Comments:

* Regular TAT

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Kevin Corrigan	Printed Name:	Printed Name:	Printed Name: Lan Young
☐ Cooler packed with ice (✓)	☑ Intact ☐ Not Intact	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: ARCADIS US	Firm/Courier:	Firm/Courier:	Firm: PACE
Shipping Tracking #:	Condition/Cooler Temp: 12.8°C	Date/Time: 5/29/2015 14:30	Date/Time:	Date/Time:	Date/Time: 6.1.15 0830

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

Cooler Receipt Form

Client Name: Arcadis Project: GP09BPNA.C112 Lab Work Order: 15730

A. **Shipping/Container Information** (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other:_____ **Air bill Present:** (Yes) No

Tracking Number: 7737 1293 0314

Custody Seal on Cooler/Box Present: (Yes) No **Seals Intact:** (Yes) No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other:_____

Type of Ice: Wet Blue (None) **Ice Intact:** Yes Melted

Cooler Temperature: 12.8°C **Radiation Screened:** Yes (No) **Chain of Custody Present:** (Yes) No

Comments:_____

B. **Laboratory Assignment/Log-in** (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC	✓			
Containers intact	✓			
Were samples in separate bags			✓	
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used			✓	
Are containers properly preserved for the requested testing? (as labeled)			✓	
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments:_____

_____

Cooler contents examined/received by : LJ **Date:** 6.1.15

Project Manager Review : RL **Date:** 6/4/15

7/29/2015

ZymaX ID	15730-1
Sample ID	OW-1-LNAPL
Evaporation	
n-Pentane / n-Heptane	0.00
2-Methylpentane / 2-Methylheptane	0.14
Waterwashing	
Benzene / Cyclohexane	0.89
Toluene / Methylcyclohexane	5.26
Aromatics / Total Paraffins (n+iso+cyc)	1.67
Aromatics / Naphthenes	14.10
Biodegradation	
(C4 - C8 Para + Isopara) / C4 - C8 Olefins	74.93
3-Methylhexane / n-Heptane	1.20
Methylcyclohexane / n-Heptane	0.34
Isoparaffins + Naphthenes / Paraffins	5.91
Octane rating	
2,2,4,-Trimethylpentane / Methylcyclohexane	7.10
Relative percentages - Bulk hydrocarbon composition as PIANO	
% Paraffinic	5.37
% Isoparaffinic	27.37
% Aromatic	62.14
% Naphthenic	4.41
% Olefinic	0.71

7/29/2015

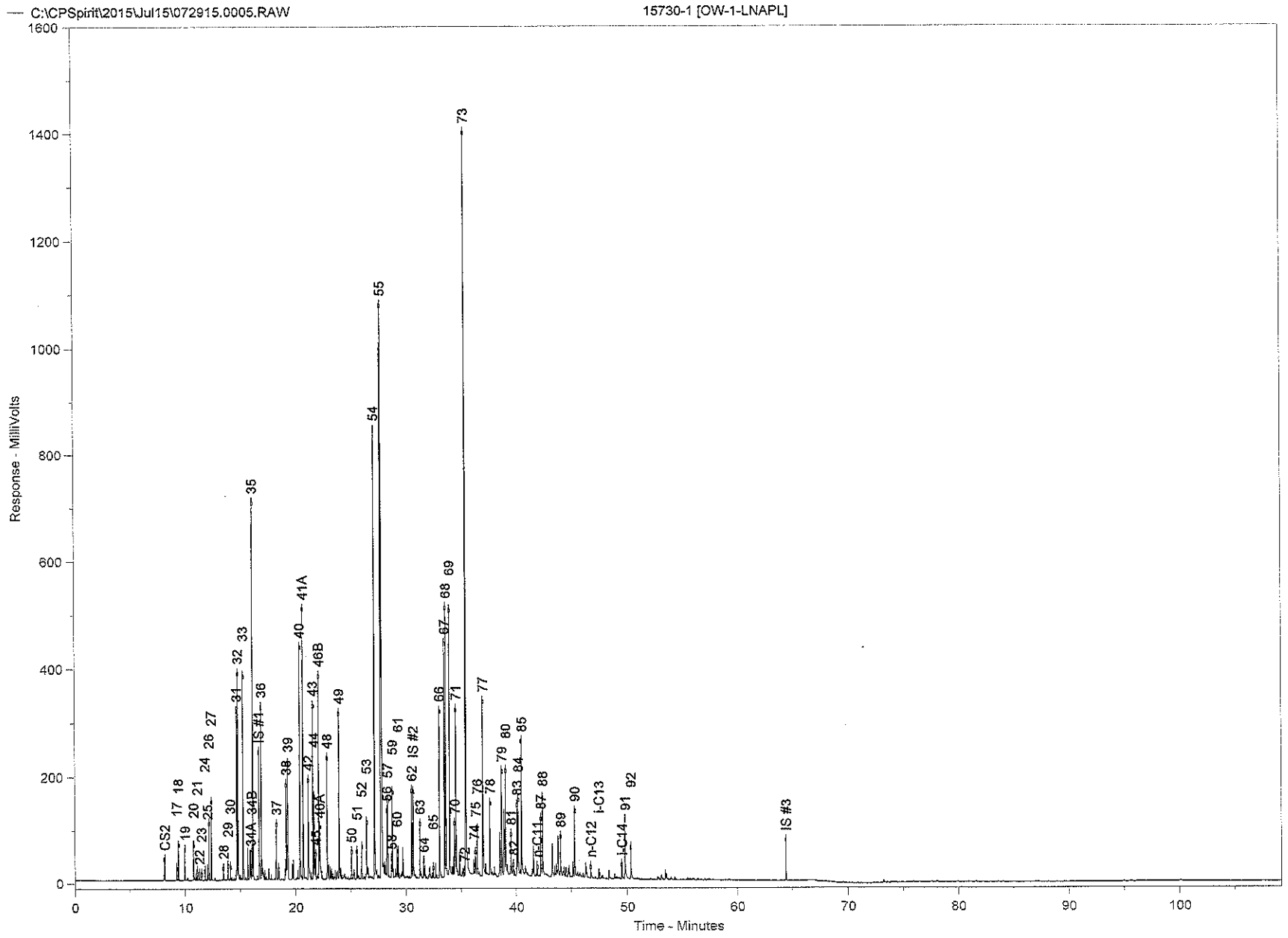
ZymaX ID		15730-1
Sample ID		OW-1-LNAPL
		Relative Area %
1	Propane	0.00
2	Isobutane	0.00
3	Isobutene	0.00
4	Butane/Methanol	0.00
5	trans-2-Butene	0.00
6	cis-2-Butene	0.00
7	3-Methyl-1-butene	0.00
8	Isopentane	0.00
9	1-Pentene	0.00
10	2-Methyl-1-butene	0.00
11	Pentane	0.00
12	trans-2-Pentene	0.00
13	cis-2-Pentene/t-Butanol	0.00
14	2-Methyl-2-butene	0.00
15	2,2-Dimethylbutane	0.00
16	Cyclopentane	0.00
17	2,3-Dimethylbutane/MTBE	0.07
18	2-Methylpentane	0.26
19	3-Methylpentane	0.24
20	Hexane	0.29
21	trans-2-Hexene	0.06
22	3-Methylcyclopentene	0.04
23	3-Methyl-2-pentene	0.04
24	cis-2-Hexene	0.06
25	3-Methyl-trans-2-pentene	0.08
26	Methylcyclopentane	0.52
27	2,4-Dimethylpentane	0.74
28	Benzene	0.10
29	5-Methyl-1-hexene	0.14
30	Cyclohexane	0.12
31	2-Methylhexane/TAME	1.73
32	2,3-Dimethylpentane	2.11
33	3-Methylhexane	2.08
34A	1-trans-3-Dimethylcyclopentane	0.24
34B	1-cis-3-Dimethylcyclopentane	0.32
35	2,2,4-Trimethylpentane	4.14
I.S. #1	à,à,à-Trifluorotoluene	0.00

7/29/2015

ZymaX ID		15730-1
Sample ID		OW-1-LNAPL
		Relative Area %
36	n-Heptane	1.73
37	Methylcyclohexane	0.58
38	2,5-Dimethylhexane	1.00
39	2,4-Dimethylhexane	1.24
40	2,3,4-Trimethylpentane	2.55
41	Toluene/2,3,3-Trimethylpentane	3.06
42	2,3-Dimethylhexane	1.12
43	2-Methylheptane	1.87
44	4-Methylheptane	0.86
45	3,4-Dimethylhexane	0.42
46A	3-Ethyl-3-methylpentane	0.73
46B	1,4-Dimethylcyclohexane	2.17
47	3-Methylheptane	0.00
48	2,2,5-Trimethylhexane	1.32
49	n-Octane	1.78
50	2,2-Dimethylheptane	0.27
51	2,4-Dimethylheptane	0.27
52	Ethylcyclohexane	0.45
53	2,6-Dimethylheptane	0.65
54	Ethylbenzene	5.22
55	m+p Xylenes	13.30
56	4-Methyloctane	0.70
57	2-Methyloctane	0.76
58	3-Ethylheptane	0.18
59	3-Methyloctane	0.91
60	o-Xylene	0.28
61	1-Nonene	0.29
62	n-Nonane	0.99
I.S.#2	p-Bromofluorobenzene	0.00
63	Isopropylbenzene	0.57
64	3,3,5-Trimethylheptane	0.18
65	2,4,5-Trimethylheptane	0.11
66	n-Propylbenzene	1.96
67	1-Methyl-3-ethylbenzene	2.70
68	1-Methyl-4-ethylbenzene	3.07
69	1,3,5-Trimethylbenzene	3.31
70	3,3,4-Trimethylheptane	0.82

7/29/2015

ZymaX ID		15730-1
Sample ID		OW-1-LNAPL
		Relative Area %
71	1-Methyl-2-ethylbenzene	1.89
72	3-Methylnonane	0.05
73	1,2,4-Trimethylbenzene	11.12
74	Isobutylbenzene	0.17
75	sec-Butylbenzene	0.37
76	n-Decane	0.59
77	1,2,3-Trimethylbenzene	2.41
78	Indan	0.91
79	1,3-Diethylbenzene	1.34
80	1,4-Diethylbenzene	1.34
81	n-Butylbenzene	0.57
82	1,3-Dimethyl-5-ethylbenzene	0.21
83	1,4-Dimethyl-2-ethylbenzene	0.88
84	1,3-Dimethyl-4-ethylbenzene	1.06
85	1,2-Dimethyl-4-ethylbenzene	1.77
86	Undecene	0.00
87	1,2,4,5-Tetramethylbenzene	0.76
88	1,2,3,5-Tetramethylbenzene	1.02
89	1,2,3,4-Tetramethylbenzene	0.58
90	Naphthalene	0.96
91	2-Methyl-naphthalene	0.80
92	1-Methyl-naphthalene	0.42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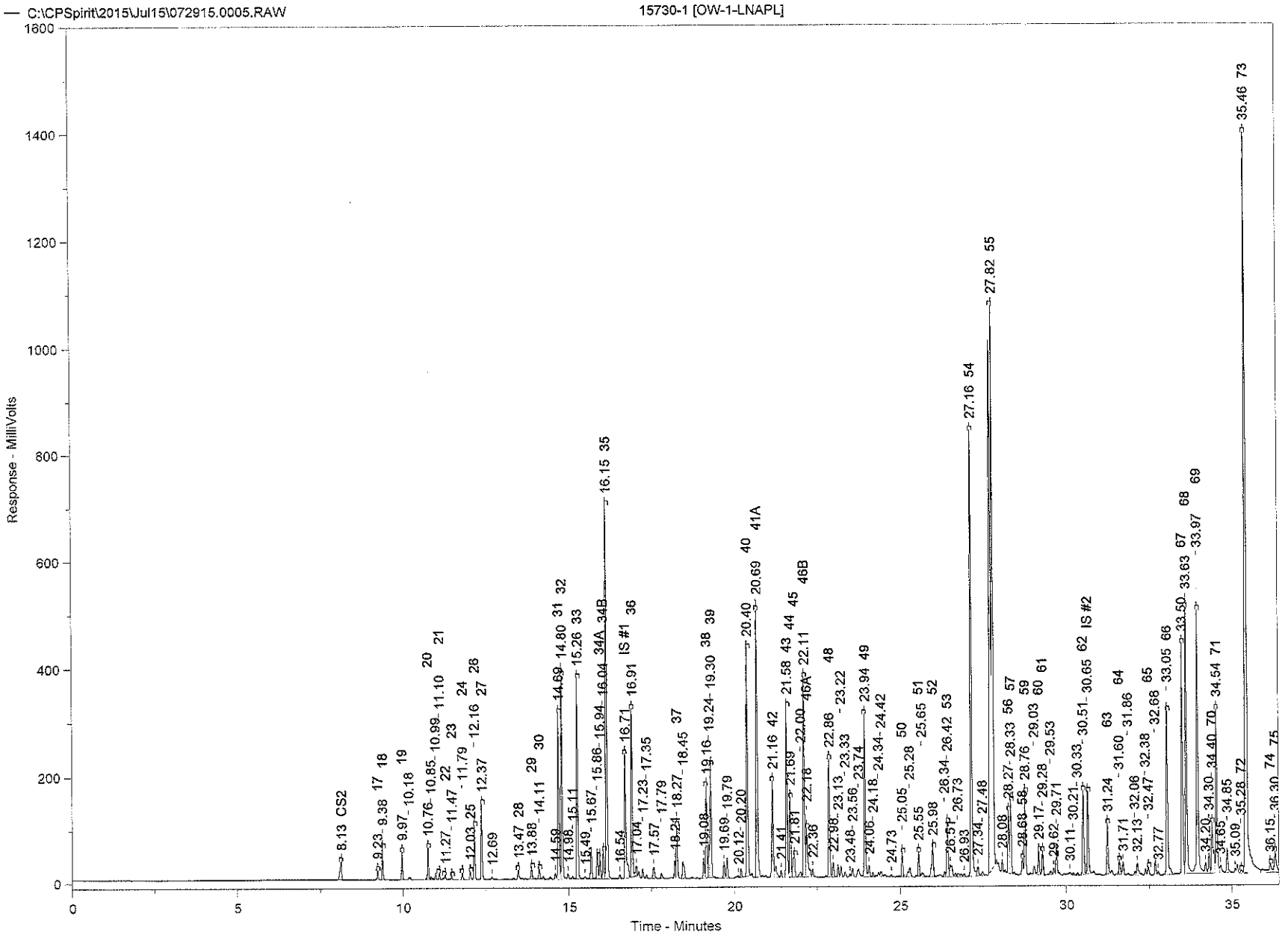
15730-1 [OW-1-LNAPL]
Response - MilliVolts
Time - Minutes
CS2
IS #1
IS #2
IS #3
i-C13
n-C12
i-C14
n-C11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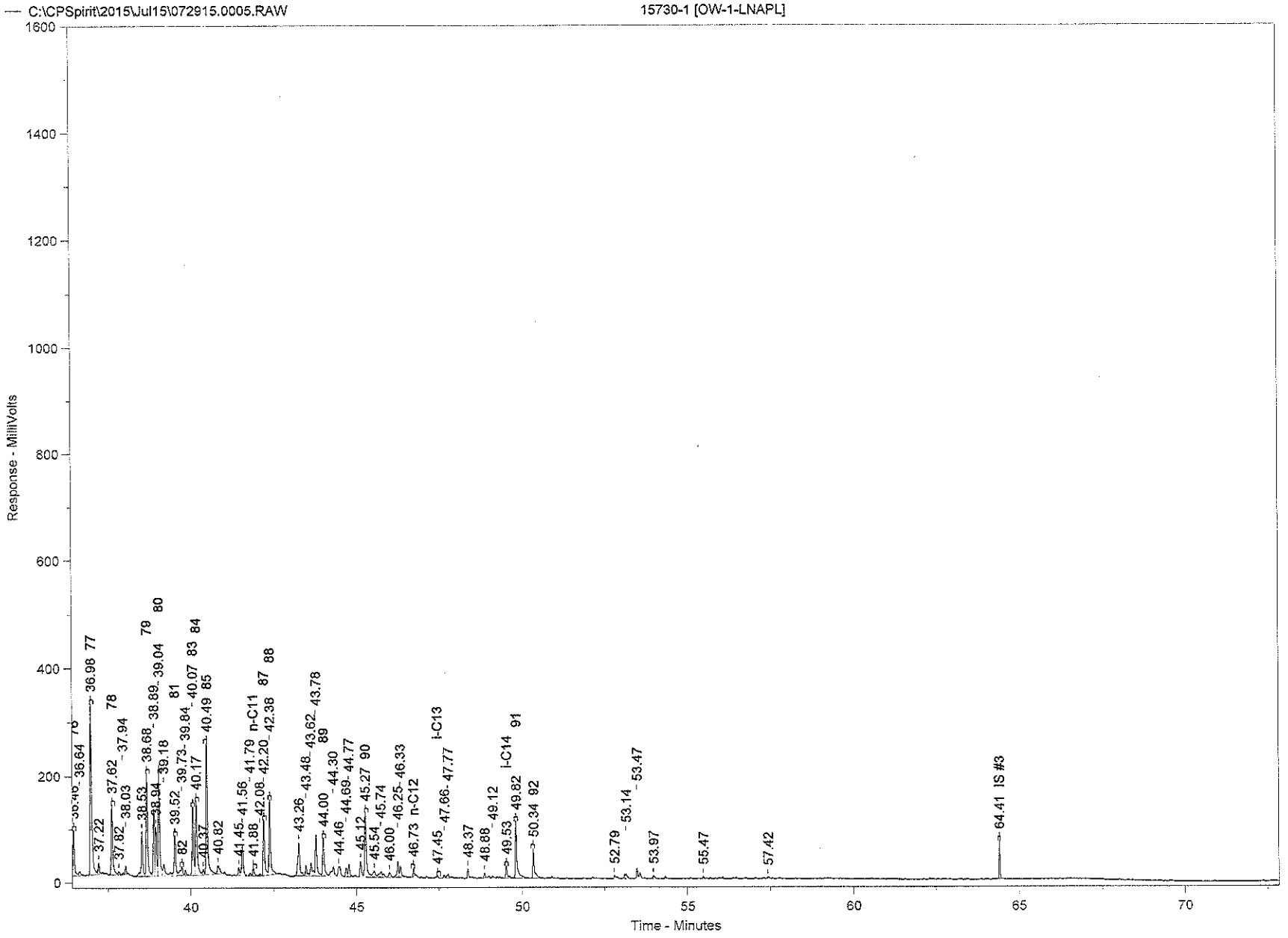
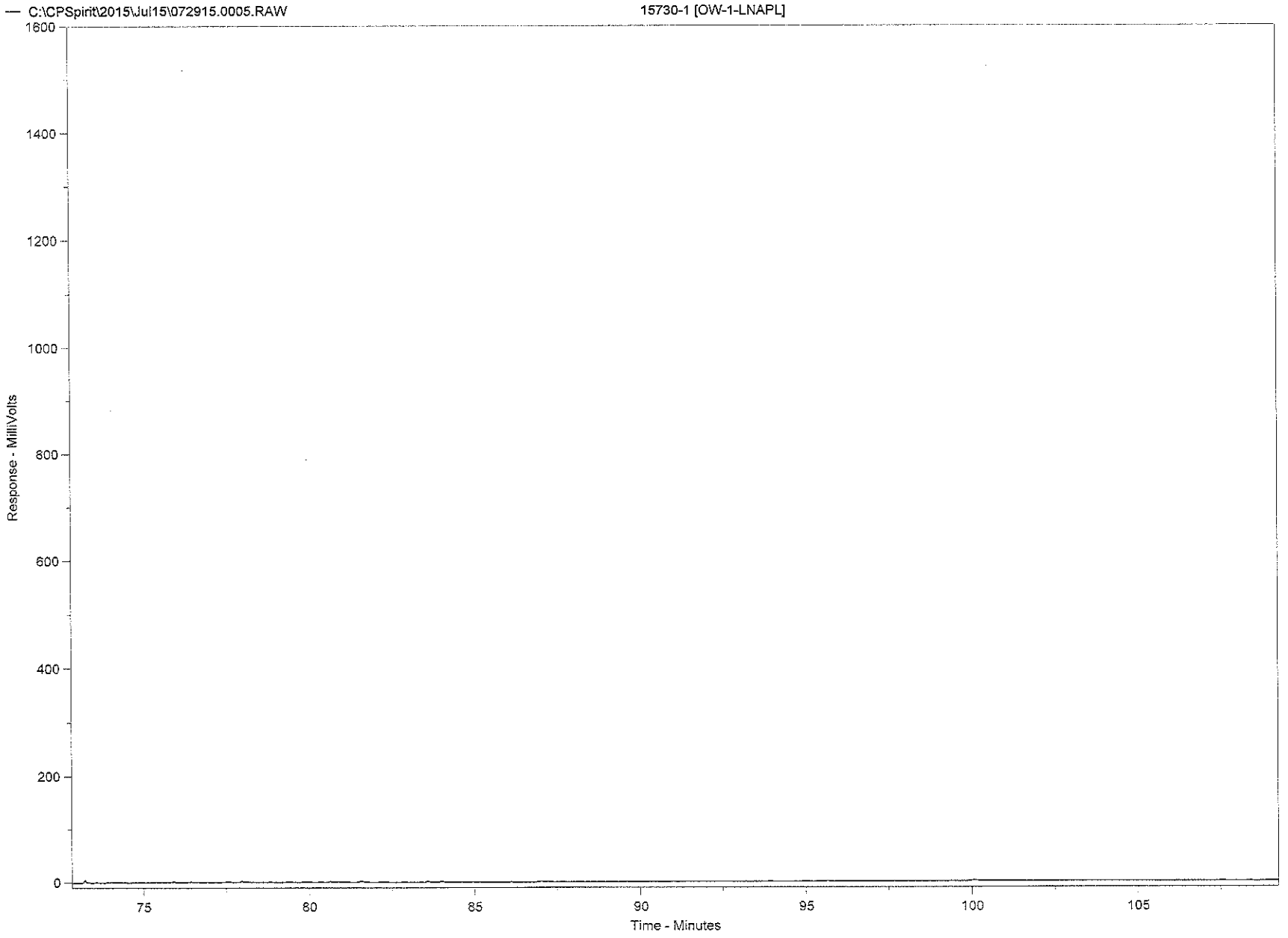
15730-1 [OW-1-LNAPL]
Response - MilliVolts
Time - Minutes
0
200
400
600
800
1000
1200
1400
1600
0
5
10
15
20
25
30
35
8.13 CS2
9.23 17
9.38 18
9.97 19
10.18
10.76
10.85 20
10.99 21
11.10
11.27
11.47 22
11.79 23
12.03 25
12.16 24
12.37 27
12.69 28
13.47 28
13.88
14.11 29
14.58 30
14.69 31
14.80 32
14.98
15.11
15.26 33
15.49
15.67
15.86
15.94
16.04 34A
34B
16.15 35
16.54
16.71 IS #1
16.91 36
17.04
17.23
17.35
17.57
17.79
18.24
18.27
18.45 37
19.08
19.16
19.24
19.30 38
39
19.69
19.79
20.12
20.20
20.40 40
20.69 41A
21.16 42
21.41
21.58 43
21.61
21.69 44
22.00 45
22.11 46A
22.18
22.36
46B
22.86 48
22.98
23.13
23.22
23.33
23.48
23.56
23.74
23.94 49
24.06
24.18
24.34
24.42
24.73
25.05
25.28 50
25.55
25.65 51
25.98
26.34
26.42 52
26.51
26.73 53
26.93
27.16 54
27.34
27.48
27.82 55
28.08
28.27
28.33 56
28.58
28.68
28.76 57
29.03 59
29.17
29.28
29.53 60
29.62
29.71 61
30.11
30.21
30.33
30.51
30.65 62
IS #2
31.24 63
31.60
31.71
31.86 64
32.06
32.13
32.38
32.47
32.68 65
32.77
33.05 66
33.50
33.63 67
33.97 68
69
34.20
34.30
34.40 70
34.54 71
34.65
34.85
35.09
35.28 72
35.46 73
36.15
36.30 74
75


C:\CPSpirit\2015\Jul15\072915.0005.RAW
15730-1 [OW-1-LNAPL]
Response - MilliVolts
Time - Minutes
1600
1400
1200
1000
800
600
400
200
0
40
45
50
55
60
65
70
36.64
36.98
77
37.22
37.62
37.82
38.03
37.94
78
38.53
38.68
38.84
38.89
79
80
39.04
39.18
81
82
39.52
39.73
39.84
40.07
83
84
40.17
40.37
40.49
85
40.82
41.45
41.56
41.79
n-C11
87
88
41.88
42.08
42.20
42.38
43.26
43.48
43.62
43.78
89
44.00
44.30
44.46
44.69
44.77
45.12
45.27
90
45.54
45.74
46.00
46.25
46.33
46.73
n-C12
i-C13
47.45
47.66
47.77
48.37
48.88
49.12
49.53
i-C14
49.82
91
50.34
92
52.79
53.14
53.47
53.97
55.47
57.42
64.41
IS #3


C:\CPSpirit\2015\Jul15\072915.0005.RAW
15730-1 [OW-1-LNAPL]
1600
1400
1200
1000
800
600
400
200
0
Response - MilliVolts
75
80
85
90
95
100
105
Time - Minutes

Sample Name = **15730-1 [OW-1-LNAPL]**

Instrument = Instrument 1
Heading 1 =
Heading 2 =

Acquisition Port = DP#

Raw File Name = **C:\CPSpirit\2015\Jul15\072915.0005.RAW**
Method File Name = C:\CPSpirit\C344.met
Calibration File Name = C:\CPSpirit\070715.cal

Date Taken (end) = 7/30/2015 6:52:14 PM
Method Version = 44
Calibration Version = 2

Peak Name	Ret. Time	Area %	Area
CS2	8.13	0.2196	118696.20
17	9.23	0.0599	32393.30
18	9.38	0.2184	118011.00
19	9.97	0.2007	108476.80
	10.18	0.0368	19867.35
20	10.76	0.2417	130632.20
	10.85	0.0349	18875.98
	10.99	0.0519	28039.65
21	11.10	0.0501	27090.87
22	11.27	0.0331	17890.62
23	11.47	0.0300	16202.01
24	11.79	0.0542	29314.33
25	12.03	0.0674	36441.31
26	12.16	0.4359	235558.30
27	12.37	0.6269	338785.20
	12.69	0.0212	11462.53
28	13.47	0.0873	47197.07
29	13.88	0.1159	62637.92
30	14.11	0.0985	53213.39
	14.59	0.0544	29415.52
31	14.69	1.4586	788256.00
32	14.80	1.7816	962836.50
	14.98	0.0561	30316.72
	15.11	0.0281	15208.27
33	15.26	1.7529	947324.30
	15.49	0.0311	16816.83
	15.67	0.2891	156263.20
	15.86	0.2696	145684.20
34A	15.94	0.2055	111050.70
34B	16.04	0.2703	146074.50
35	16.15	3.4881	1885099.00
	16.54	0.0411	22208.75
IS #1	16.71	1.2426	671562.30
36	16.91	1.4606	789350.90
	17.04	0.1032	55779.23
	17.23	0.0799	43175.70
	17.35	0.0346	18704.94
	17.57	0.1472	79530.77
	17.79	0.0612	33075.23
	18.21	0.1455	78645.81
37	18.27	0.4910	265350.50
	18.45	0.2354	127243.10
	19.08	0.1834	99095.23
38	19.16	0.8426	455373.50
	19.24	0.2775	149988.20
39	19.30	1.0426	563454.60
	19.69	0.1474	79645.11
	19.79	0.1895	102410.20
	20.12	0.0311	16811.84
	20.20	0.0800	43258.55
40	20.40	2.1464	1159969.00
41A	20.69	2.5804	1394552.00
42	21.16	0.9480	512331.30
	21.41	0.0640	34596.89
43	21.58	1.5744	850831.10

Peak Name	Ret. Time	Area %	Area
44	21.69	0.7241	391336.40
45	21.81	0.3520	190258.10
	22.00	0.0849	45872.19
46B	22.11	1.8312	989660.50
46A	22.18	0.6116	330507.50
	22.36	0.0691	37328.73
48	22.86	1.1170	603661.70
	22.98	0.1555	84043.45
	23.13	0.1154	62368.92
	23.22	0.1029	55598.87
	23.33	0.0620	33519.05
	23.48	0.0327	17682.68
	23.56	0.0946	51126.69
	23.74	0.1492	80636.09
49	23.94	1.5005	810919.40
	24.06	0.1220	65913.34
	24.18	0.0367	19817.91
	24.34	0.0361	19536.31
	24.42	0.0599	32371.94
	24.73	0.0264	14283.16
50	25.05	0.2313	124980.30
	25.28	0.1656	89488.98
51	25.55	0.2237	120917.70
	25.65	0.0603	32581.79
52	25.98	0.3826	206743.90
	26.34	0.0500	27009.54
53	26.42	0.5452	294637.60
	26.51	0.2160	116733.60
	26.73	0.0540	29157.79
	26.93	0.0338	18269.51
54	27.16	4.4045	2380345.00
	27.34	0.1040	56198.87
	27.48	0.0488	26369.35
55	27.82	11.2146	6060744.00
	28.08	0.1056	57056.71
56	28.27	0.5881	317837.30
57	28.33	0.6418	346841.80
58	28.68	0.1538	83125.05
59	28.76	0.7683	415232.70
	29.03	0.0870	47001.77
60	29.17	0.2352	127126.00
61	29.28	0.2469	133421.50
	29.53	0.0505	27283.37
	29.62	0.0573	30981.13
	29.71	0.2596	140315.30
	30.11	0.0302	16303.50
	30.21	0.0201	10859.53
	30.33	0.0258	13951.48
62	30.51	0.8353	451415.10
IS #2	30.65	0.7919	427944.20
63	31.24	0.4786	258648.40
64	31.60	0.1558	84205.22
	31.71	0.1348	72837.30
	31.86	0.0266	14379.11
	32.06	0.0381	20568.40
	32.13	0.1711	92452.35
	32.38	0.0620	33526.45
65	32.47	0.0960	51878.79
	32.68	0.1487	80347.09
	32.77	0.0395	21336.20
66	33.05	1.6501	891747.50
67	33.50	2.2725	1228120.00
68	33.63	2.5857	1397383.00
69	33.97	2.7908	1508245.00
	34.20	0.1249	67507.77
	34.30	0.1999	108036.40
70	34.40	0.6924	374168.90

Peak Name	Ret. Time	Area %	Area
71	34.54	1.5899	859247.40
	34.65	0.1094	59099.11
	34.85	0.2753	148767.00
	35.09	0.0240	12966.22
72	35.28	0.0384	20776.89
73	35.46	9.3785	5068448.00
74	36.15	0.1460	78883.83
75	36.30	0.3137	169544.10
76	36.46	0.4938	266843.20
	36.64	0.0678	36638.35
77	36.98	2.0336	1099004.00
	37.22	0.1108	59905.88
78	37.62	0.7656	413780.10
	37.82	0.0396	21408.34
	37.94	0.0194	10459.38
	38.03	0.0709	38290.82
	38.53	0.5194	280722.90
79	38.68	1.1319	611701.20
	38.89	0.7117	384608.60
	38.94	0.4606	248918.20
80	39.04	1.1311	611300.80
	39.18	0.1944	105051.20
81	39.52	0.4782	258408.80
82	39.73	0.1784	96405.99
	39.84	0.0696	37616.88
83	40.07	0.7389	399313.50
84	40.17	0.8959	484189.50
	40.37	0.0594	32108.44
85	40.49	1.4903	805422.90
	40.82	0.1512	81719.78
	41.45	0.0803	43376.34
	41.56	0.3572	193066.30
	41.79	0.0297	16040.20
n-C11	41.88	0.1013	54757.38
	42.08	0.0225	12181.25
87	42.20	0.6370	344258.40
88	42.38	0.8614	465546.80
	43.26	0.4818	260376.40
	43.48	0.1314	70999.56
	43.62	0.2092	113052.10
	43.78	0.4857	262505.70
89	44.00	0.4862	262764.60
	44.30	0.1928	104175.90
	44.46	0.1770	95630.87
	44.69	0.0817	44133.70
	44.77	0.1341	72455.56
	45.12	0.1782	96307.28
90	45.27	0.8067	435971.00
	45.54	0.1171	63273.07
	45.74	0.1189	64247.68
	46.00	0.0743	40130.02
	46.25	0.1894	102338.10
	46.33	0.1597	86280.50
n-C12	46.73	0.0690	37270.05
i-C13	47.45	0.0337	18233.70
	47.66	0.0285	15413.26
	47.77	0.0430	23231.27
	48.37	0.0889	48044.95
	48.88	0.0455	24614.33
	49.12	0.0210	11335.45
i-C14	49.53	0.1620	87566.84
91	49.82	0.6725	363429.80
92	50.34	0.3541	191379.70
	52.79	0.0579	31304.32
	53.14	0.0942	50882.45
	53.47	0.0747	40396.22
	53.97	0.0500	27045.43

Peak Name	Ret. Time	Area %	Area
	55.47	0.0198	10695.47
	57.42	0.0240	12972.73
IS #3	64.41	0.2576	139193.10

Total Area = 5.404322E+07 Total Height = 1.724612E+07 Total Amount = 1

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

Submittal Type:	**GEO_REPORT**
Report Title:	**Results of Skimming Test 100215**
Report Type:	**Correspondence**
Report Date:	**10/2/2015**
Facility Global ID:	**T0600100213**
Facility Name:	**BP #11132**
File Name:	**CA 11132 151002 BP - Results of Skimming Test.pdf**
Organization Name:	**ARCADIS**
Username:	**ARCADISBP**
IP Address:	**108.171.135.189**
Submittal Date/Time:	**10/2/2015 4:44:35 PM**
Confirmation Number:	**2683100104**