

June 15, 2015

Ronald Holcomb  
Central Valley Water Board  
1685 E Street  
Fresno, CA 93706

**Re: CA Water Code Section 13267  
Technical Report**

Dear Mr. Holcomb,

We are pleased to submit this technical report pursuant to Section 13267.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations”

Please feel free to contact me with any questions you may have.

Regards,

Mike Havens  
Management  
Havens Oil Company



Handwritten signature of Mike Havens in blue ink, written over a horizontal line.

Attachment: 13267 Technical Report

Date

06-15-2015



**Havens Oil Company  
Sunset-Tejon 10 Lease**

**CA Water Code Section 13267  
Technical Report**

*June 2015*

***Submitted to:***  
Havens Oil Company  
100 Sebastian Rd  
Arvin, CA 93203

***Prepared by:***  
WZI Inc.  
1717 28<sup>th</sup> Street  
Bakersfield, California 93301

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**EXHIBITS**

Exhibit 1	Sump Inventory
Exhibit 2	Pond 1 Diagram/Photos
Exhibit 3	Pond 2 Diagram/Photos
Exhibit 4	Pond 2 Diagram/Photos
Exhibit 5	Location Map

**APPENDICES**

Appendix 1	Water Balance
Appendix 2	Water Sample Laboratory Results

## 1.0 EXECUTIVE SUMMARY

Havens Oil Company operates the Sunset-Tejon 10 oil lease in the Tejon Hills oil field. This lease has several historic sumps onsite (**Exhibit 1**).

On April 1, 2015, the Central Valley Water Board issued a Notice of Violation for discharging to wastewater ponds without filing a Report of Waste Discharge. Under section 13267 of the California Water Code, the Board directed Havens Oil Company to prepare this technical report by June 15, 2015. This report address each required item (A-D) listed in the Notice of Violation.

## 2.0 ITEM A: IDENTIFICATION OF DISCHARGES

*"Identification of any discharges of oil field produced waters to land, including but not limited to ponds, since April of 2014 that are not listed in Attachment A;"*

There were no discharges of water to land or ponds since April 2014. All produced water is stored in tanks before being utilized in waterflood injection wells. According to operator records, no produced water has been discharged to the surface impoundments for several years, and no fluids are directed to these impoundments. All water produced from the Havens and Sherman Havens leases is utilized in the Sherman Havens injection wells. Water production and water injection reported to DOGGR balance within a reasonable margin of measurement error of 5%. See **Appendix 1: Water Balance**.

## 3.0 ITEM B: WASTEWATER SAMPLING

*"Collect representative samples of wastewater within each of the ponds. Samples must be analyzed in accordance with the water quality analysis and reporting requirements contained in Attachment B to this Order;  
If a representative sample cannot feasibly be collected from one or more of the sources discharging to a surface impoundment(s), then a comment will need to be added to the technical report required by this Order demonstrating that collection of a representative sample from a specific source is not feasible within the required timeframe, and propose an alternative sampling procedure and expeditious time schedule for obtaining a representative sample for each source."*

There is no water present in any of the surface impoundments on this site. There has been no produced water discharged to the impoundments for several years. At the direction of the Board, water samples were collected from produced water tanks at the tank battery on May 28, 2015, and sent to the laboratory for analysis. Results of laboratory testing are presented in **Appendix 2: Water Sample Laboratory Results**. Results of radionuclide testing were not received at the time of this report, and will be submitted under separate cover.

#### 4.0 ITEM C: SURFACE IMPOUNDMENTS

*"All available information for each of the surface impoundment(s), including dimensions (i.e., length, width, and depth), latitude and longitude, Assessor's Parcel Numbers of the lease, duration of the discharge (in months), and the volume of wastewater discharged per year."*

Currently, two potential surface impoundments exist on the site. Details are provided in **Exhibits 1, 2, 3, and 4**. The depression listed as Pond 3, and included in the Board's Notice of Violation, is not capable of holding water. As shown in **Exhibit 4a**, this surface depression is a ravine on a hill slope, and cannot retain any fluids.

#### 5.0 ITEM D: LOCATION MAP

*"A location map that includes the following information:*

- I. All surface impoundment(s) at the Facility,*
- II. Include the boundary lines for all leases at the Facility, and*
- III. Legend with the name of the surface impoundment(s)."*

A location map is included in this report as **Exhibit 5**.

#### 6.0 SIGNATURE AND CERTIFICATION

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Richard B. Wilson, PE  
Registered Civil Engineer  
State of California No. 84164

## **EXHIBITS**

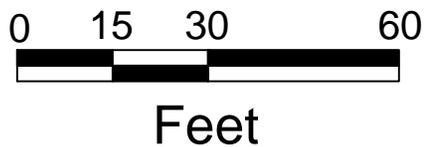
## Havens Sump Inventory

Sump #	Dimensions (feet)		
	Length	Width	Depth
1	84	57	4
2	39	18	2

	<b>WZI INC.</b> BAKERSFIELD, CALIFORNIA
	<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease <b>Sump Inventory</b>
DATE: 6/15	EXHIBIT: 1



Section 11, T11N, R18W



Area Shown



Legend



Sump Area

 <b>WZI INC.</b> BAKERSFIELD, CALIFORNIA		
<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease		
<b>SUMP 1</b>		
DATE:	6/15	EXHIBIT: 2



Section 11, T11N, R18W

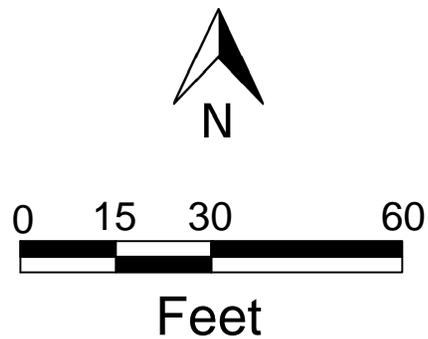
Area Shown



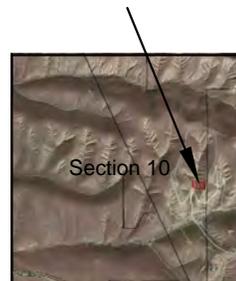
	<b>WZI INC.</b> BAKERSFIELD, CALIFORNIA		
	<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease Sump 1 Ground View to North		
DATE:	6/15	EXHIBIT:	2a



Section 10, T11N, R18W



Area Shown



Legend

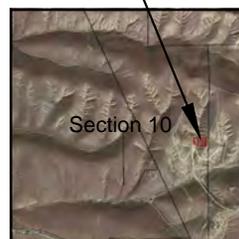


	<b>WZI INC.</b> BAKERSFIELD, CALIFORNIA	
	<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease  <b>SUMP 2</b>	
DATE:	6/15	EXHIBIT: 3



Section 10, T11N, R18W

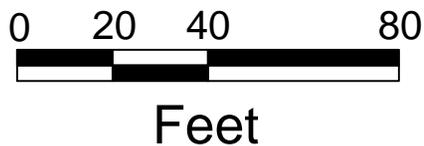
Area Shown



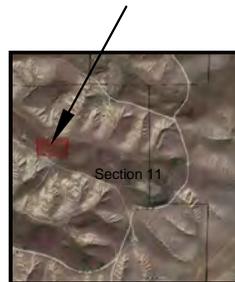
	<b>WZI INC.</b> BAKERSFIELD, CALIFORNIA		
	<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease Sump 2 Ground View to North-East		
DATE:	6/15	EXHIBIT:	3a



Section 11, T11N, R18W



Area Shown



Legend



Sump Area



**WZI INC.**

BAKERSFIELD, CALIFORNIA

**HAVENS OIL COMPANY**

Tejon Hills Oil Field  
Tejon Sunset A Lease

**SUMP 3**

DATE: 6/15

EXHIBIT: 4

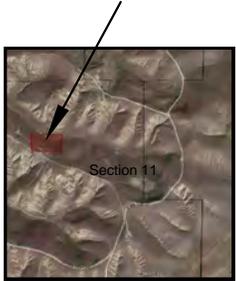
Sump 3 View to South West  
from Sump 1



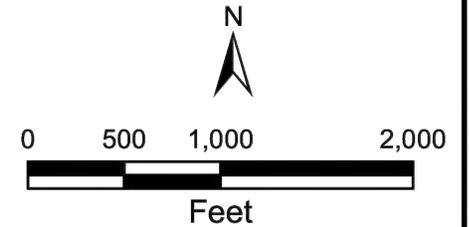
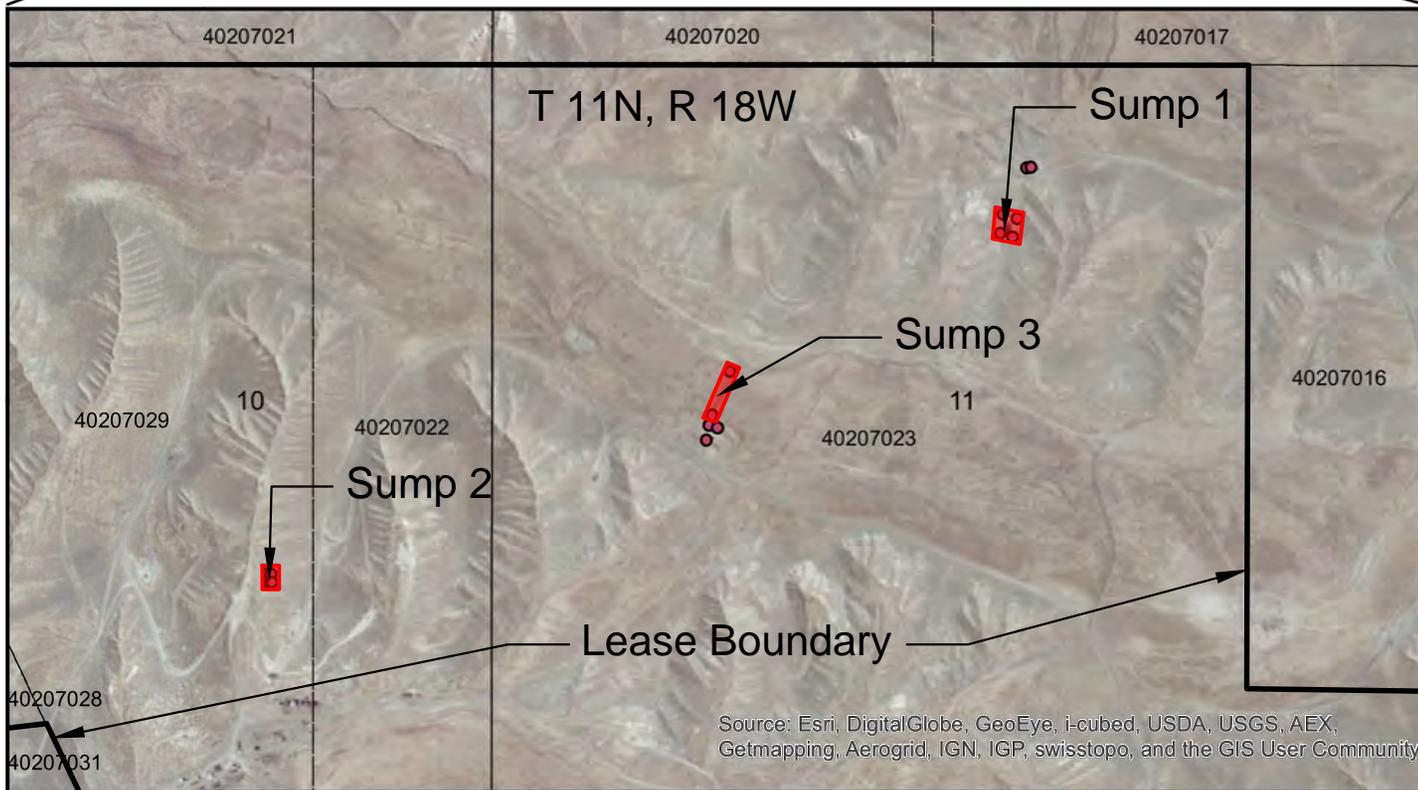
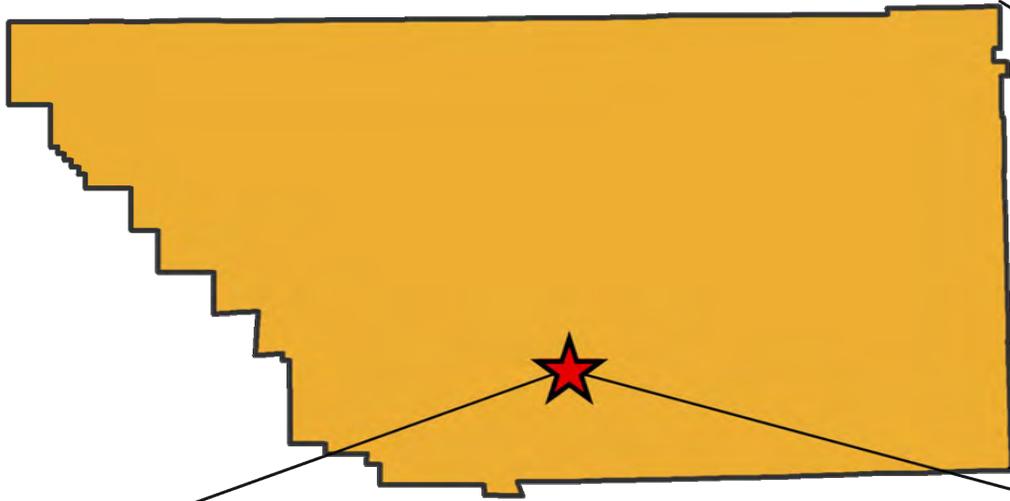
Sump 3 View To South  
from Base of Hill

Section 11, T11N, R18W

Area Shown



	<b>WZI INC.</b> BAKERSFIELD, CALIFORNIA	
	<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease  Sump 3 Ground Views	
DATE:	6/15	EXHIBIT: 4a

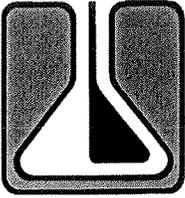


 <b>WZI INC.</b> BAKERSFIELD, CALIFORNIA		
<b>HAVENS OIL COMPANY</b> Tejon Hills Oil Field Tejon Sunset A Lease Sump Location Map With Lease Boundary		
DATE:	6/15	EXHIBIT: 5

## **APPENDIX 1**

Sherman Havens Water Balance						
HAVENS		SHERMAN-HAVENS				
Production		Production		Injection		Balance
Date	Water(bbl)	Date	Water(bbl)	Date	Water/Steam	Water
Mar-15	277	Mar-15	2,544	Mar-15	2,910	-89
Feb-15	248	Feb-15	2,323	Feb-15	2,571	0
Jan-15	239	Jan-15	2,222	Jan-15	2,461	0
Total 2015	764	Total 2015	7,089	Total 2015	7,942	-89
Dec-14	260	Dec-14	1,786	Dec-14	2,046	0
Nov-14	445	Nov-14	2,281	Nov-14	2,726	0
Oct-14	281	Oct-14	2,258	Oct-14	2,539	0
Sep-14	264	Sep-14	2,237	Sep-14	2,501	0
Aug-14	289	Aug-14	2,226	Aug-14	2,515	0
Jul-14	186	Jul-14	2,315	Jul-14	2,501	0
Jun-14	179	Jun-14	1,979	Jun-14	2,158	0
May-14	234	May-14	2,024	May-14	2,258	0
Apr-14	200	Apr-14	2,358	Apr-14	2,697	-139

## **APPENDIX 2**



ZALCO LABORATORIES, INC.

Analytical & Consulting Services

4309 Armour Avenue  
Bakersfield, California 93308

(661) 395-0539  
FAX (661) 395-3069

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June 10, 2015

Jana Marquez  
WZI Inc  
1717 28th St  
Bakersfield, CA 93301

TEL: (661) 326-0191  
FAX: (661) 326-0191

Project ID:  
RE: 1505354

Dear Jana Marquez:

Zalco Laboratories, Inc. received 1 samples on 5/28/2015 for the analyses presented in the following report.

We appreciate your business and look forward to serving you in the future. Please feel free to call our office if you have any questions regarding these test results.

Sincerely,

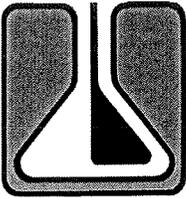
A handwritten signature in black ink, appearing to read "Juan Magana", is written over a faint, larger version of the signature.

Juan Magana  
Project Manager  
CC:

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Note: Samples analyzed for regulatory purposes should be put on ice immediately after sampling and received by the laboratory at temperatures between 0-6°C. Microbiological analysis requires samples to be at least 4-10°C when received at the laboratory. For additional information regarding the limitations of the method(s) referred to, please call us at 661-395-0539.



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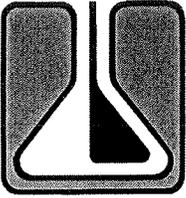
WZI Inc 1717 28th St Bakersfield, CA 93301	Project: RWQCB Oilfield Ponds - 2Q2015 Project #: Attention: Jana Marquez	Work Order No.: 1505354 Reported: 06/10/2015 Received: 05/28/2015 10:00
--	---	---

Lab Sample ID: 1505354-01 Client Sample ID: Havens Tank 1353	Collected By: Justin Graves Date Collected: 5/28/2015 8:45:00AM
---	--

Analyte	Results	PQL	Units	Flag	Method	Date Prepared	Date Analyzed	Init.
<b>Alkalinity</b>								
Total Alkalinity	130	10	mg/L		SM 2320B	5/28/15	5/28/15	SAM
Bicarbonate (HCO3)	130	10	mg/L		SM 2320B	5/28/15	5/28/15	SAM
Carbonate (CO3)	<10	10	mg/L		SM 2320B	5/28/15	5/28/15	SAM
Hydroxide (OH)	<10	10	mg/L		SM 2320B	5/28/15	5/28/15	SAM
<b>CAM, Toxicity (17 Metals)</b>								
			<i>TTLC Limits</i>					
Antimony	<0.20	0.20	500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Arsenic	<0.020	0.020	500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Barium	<0.10	0.10	10000	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Beryllium	<0.010	0.010	75	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Cadmium	<0.010	0.010	100	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Chromium	<0.050	0.050	2500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Cobalt	<0.10	0.10	8000	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Copper	<0.050	0.050	2500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Lead	<0.050	0.050	1000	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Mercury	<0.0020	0.0020	20	mg/L	SW846 7470A	5/28/15	5/28/15	SS
Molybdenum	<0.10	0.10	3500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Nickel	<0.050	0.050	2000	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Selenium	<0.05	0.05	100	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Silver	<0.020	0.020	500	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Thallium	<0.50	0.50	700	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Vanadium	<0.10	0.10	2400	mg/L	SW846 6010B	5/28/15	5/29/15	SS
Zinc	<0.050	0.050	5000	mg/L	SW846 6010B	5/28/15	5/29/15	SS
<b>General Chemistry</b>								
			<i>MCL Limits</i>					
Fluoride	2.1	0.10	2	mg/L	EPA 300.0	5/28/15	5/28/15	MSS
Nitrate as NO3	<4.00	4.00	45	mg/L	EPA 300.0	5/28/15	5/28/15	MSS
Electrical Conductivity	0.45	0.010		mmhos/cm	SM 2510B	5/28/15	5/28/15	SAM
Bromide	0.13	0.10		mg/L	EPA 300.0	5/28/15	5/28/15	MSS
Chloride	49	4.0		mg/L	EPA 300.0	5/28/15	5/28/15	MSS
pH	7.15			pH Units	EPA 150.1	5/28/15	5/28/15	SAM
Sulfate as SO4	2.8	0.50		mg/L	EPA 300.0	5/28/15	5/28/15	MSS
Total Dissolved Solids	280	10		mg/L	SM 2540C	6/1/15	6/1/15	MSS
<b>Hardness</b>								

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative  
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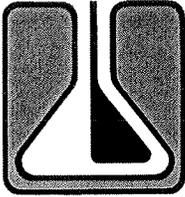
WZI Inc 1717 28th St Bakersfield, CA 93301	Project: RWQCB Oilfield Ponds - 2Q2015 Project #: Attention: Jana Marquez	Work Order No.: 1505354 Reported: 06/10/2015 Received: 05/28/2015 10:00
--	---	---

Lab Sample ID: 1505354-01	Collected By: Justin Graves
Client Sample ID: Havens Tank 1353	Date Collected: 5/28/2015 8:45:00AM

Analyte	Results	PQL	Units	Flag	Method	Date Prepared	Date Analyzed	Init.
<b>Hardness</b>								
Hardness (as CaCO3)	12	2.0	mg/L		SM 2340B	5/29/15	5/29/15	SS
<b>Metals</b>								
Lithium	<0.10	0.10	mg/L		EPA 200.7	5/29/15	5/29/15	SS
<b>Metals - As Received</b>								
Magnesium	<0.050	0.050	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Potassium	<0.50	0.50	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Sodium	77	7.0	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Calcium	4.8	0.050	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Iron	1.4	0.10	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Boron	1.6	0.10	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Barium	<0.10	0.10	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Copper	<0.050	0.050	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Silica (SiO2)	19	4.0	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Strontium	<0.10	0.10	mg/L		EPA 200.7	5/29/15	5/29/15	SS
Manganese	0.039	0.030	mg/L		EPA 200.7	5/29/15	5/29/15	SS
<b>Petroleum Hydrocarbons</b>								
Diesel Range Hydrocarbons	236	10.0	mg/kg		SW846 8015B	5/30/15	6/2/15	BIG
Motor Oil Range Hydrocarbons	90.5	25.0	mg/kg		SW846 8015B	5/30/15	6/2/15	BIG
<b>Semivolatile Organic Compounds</b>								
Indeno(1,2,3-cd)pyrene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Naphthalene	182	50.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Acenaphthylene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Acenaphthene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Fluorene	12.4	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Phenanthrene	12.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Anthracene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Fluoranthene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Pyrene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Benzo (a) anthracene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Chrysene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM
Benzo (b) fluoranthene	<10.0	10.0	ug/L		SW846 8270C	5/28/15	5/29/15	JMM

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTL: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative  
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ZALCO LABORATORIES, INC.

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Bakersfield, California 93308

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FAX (661) 395-3069

Table with 3 columns: Client Info (WZI Inc, 1717 28th St, Bakersfield, CA 93301), Project Info (Project: RWQCB Oilfield Ponds - 2Q2015, Project #: , Attention: Jana Marquez), and Work Order Info (Work Order No.: 1505354, Reported: 06/10/2015, Received: 05/28/2015 10:00)

Table with 2 columns: Lab Sample Info (Lab Sample ID: 1505354-01, Client Sample ID: Havens Tank 1353) and Collection Info (Collected By: Justin Graves, Date Collected: 5/28/2015 8:45:00AM)

Table with 9 columns: Analyte, Results, PQL, Units, Flag, Method, Date Prepared, Date Analyzed, Init. Section: Semivolatile Organic Compounds. Rows include Benzo (k) fluoranthene, Benzo (a) pyrene, Dibenz (a,h) anthracene, Benzo (g,h,i) perylene.

Table with 5 columns: Surrogates, % Recovery, Recovery Limits, Flag, Date Analyzed. Rows include Nitrobenzene-d5, 2-Fluorobiphenyl, Terphenyl-d14.

Volatile Organic Compounds

Table with 9 columns: Analyte, Results, PQL, Units, Flag, Method, Date Prepared, Date Analyzed, Init. Rows include m,p-Xylene, Benzene, Xylenes, total, Methyl tert-Butyl Ether, Ethylbenzene, Toluene, o-Xylene.

Table with 5 columns: Surrogates, % Recovery, Recovery Limits, Flag, Date Analyzed. Rows include 1,2-Dichloroethane-d4, Toluene-d8, 4-Bromofluorobenzene.

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative

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