

July 20, 2006

#### VIA EMAIL: <u>larry.johnson@state.nm.us</u> VIA CERTIFIED MAIL

Mr. Larry Johnson Environmental Engineer State of New Mexico Oil Conservation Division 1625 North French Drive Hobbs, New Mexico 88240



1 RP- 747

Re: Crude Oil Leak Investigation Report and Remediation Work Plan, Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery, Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico

#### Dear Mr. Johnson:

This report is submitted to the State of New Mexico, Oil Conservation Division ("OCD") on behalf of Chesapeake Operating, Inc. ("Chesapeake") by Larson and Associates, Inc. ("LA"), its consultant, and presents the laboratory analysis of soil samples that were collected from a crude oil leak at the Ollie J. Boyd Tank Battery ("Site") located in unit letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East, Lea County, New Mexico. On May 2, 2006, Chesapeake personnel discovered a pinhole leak in a buried transfer line between the separator and tanks that resulted in a release of approximately 5 to 10 barrels ("bbl") of crude oil. The leak was repaired and the OCD and landowner, Mr. Irvin Boyd, were notified. Form C-141 was submitted to the OCD on May 10, 2006, and proposed soil sampling to investigate the extent of release. The latitude and longitude for the Site are North 32°, 22', 51.1" and West 103°, 08', 16.9", respectively. Figure 1 presents a location and topographic map. Appendix A presents Form C-141. Contact information for Chesapeake is as follows:

Mr. Harlan Brown
Safety & Environmental Representative
Chesapeake Energy Corporation
6100 N. Western Avenue
Oklahoma City, Oklahoma 73118
(405) 767-4446
hbrown@chkenergy.com

#### **Setting**

The Site is located about four (4) miles southeast of Eunice, New Mexico, at an elevation approximately 3,330 feet above mean sea level ("MSL"). The topography slopes gently east and southeast toward Monument Draw, located about 1.3-miles east of the Site. Monument Draw flows southeast and is the nearest surface water feature. The nearest residence is located about 1-mile southeast of the Site.

No wells are located within 1,000 horizontal feet of the Site and ground water may occur between about 55 and 81 feet below ground surface ("bgs"), based on information from the New



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

July 25, 2006

Brad Blevins

bblevins@chkenergy.com

Chesapeake Energy W. Bender Blvd. Hobbs, NM 88240

Re:

OCD Site Remediation No. 1RP-747

Remediation Closure: Chesapeake O.J. Boyd Btry. Site Reference: UL- C, Sec. 23 T-22S R-37E

Initial C-141 Spill Date: 05-02-06 Closure Report Date: 07-27-06

Dear Mr. Blevins,

The referenced **closure report** submitted to the New Mexico Oil Conservation Division (NMOCD) by Larson & Associates, Inc as agent for Chesapeake Energy is **hereby approved**. Based on the information provided no further action is required at this time.

Please be advised that NMOCD approval of this plan does not relieve Chesapeake Energy of responsibility should remaining contaminants pose a future threat to ground water, surface water, human health or the environment. Additionally, NMOCD approval does not relieve Chesapeake Energy of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance, please call me at (505) 393-6161, x111 or email lwjohnson@state.nm.us

Sincerely,

Larry Johnson - Environmental Engineer

Cc:

Chris Williams - District I Supervisor Patricia Caperton - District 1 Environmental Tech Mr. Larry Johnson July 20, 2006 Page 2

Mexico State Engineer. However, shale was encountered during a previous investigation at approximately 41 feet bgs and ground water was not observed above the shale. Figure 1 presents wells and depth to ground water within one (1) mile of the Site.

Recommended remediation action levels ("RRAL") were calculated using criteria published by the OCD ("Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993"), as follows:

Ranking Criteria	Result	Ranking Score
Depth-to-Groundwater	50 – 99 feet	10
Wellhead Protection Area	No	Ö
Distance to Surface Water	>1000 Horizontal Feet	0
Body		
	Total Score:	10

The following RRAL were calculated based on the total ranking score (10):

Benzene:

10 mg/Kg

BTEX:

50 mg/Kg

TPH:

1,000 mg/Kg

#### **Investigation Results**

On May 24, 2006, LA personnel used a Terraprobe® direct-push sampler to collect soil samples at nine (9) locations (HA-1 through HA-9). The Terraprobe® is an all-terrain direct-push unit that uses a 1.75-inch x 4-foot long stainless steel core barrel to collect a soil core sample. The core barrel was pushed to approximately 4 feet bgs at each location and four (4) samples (i.e., 0 to 1, 1 to 2, 2 to 3 and 3 4 feet) were collected from each core for laboratory and headspace analysis. The core barrel was equipped with dedicated polyethylene liners to prevent sample cross-contamination. Figure 2 presents a Site drawing showing the approximate limits of the spill and the boring locations. Figure 3 presents a detailed drawing.

The laboratory samples were placed in 4-ounce glass sample jars filled to zero headspace, labeled, chilled in an ice chest and delivered under chain-of-custody control to Environmental Lab of Texas, Inc., located in Odessa, Texas. The headspace samples were collected in 8-ounce glass sample jars that were partially filled and the opening sealed with a layer of aluminum foil before replacing the cap. A RAE Instruments Model 2000 photoionization detector ("PID"), calibrated to 100 parts per million ("ppm") isobutylene, was used to measure the concentration of organic vapors in the headspace samples after the samples warmed to ambient temperature. The borings were plugged with bentonite. Table 1 presents a summary of the headspace readings.

Referring to Table 1, all samples exhibited headspace readings greater than 100 ppm, therefore, the laboratory analyzed all samples for benzene, toluene, ethyl benzene and xylene ("BTEX") using EPA method SW-846-8021B. Benzene exceeded the RRAL of 10 milligrams per kilogram ("mg/Kg") in sample HA-1, 0 to 1 feet (39.2 mg/Kg). The following samples reported BTEX above the RRAL of 50 mg/Kg:

Location	Sample (Feet BGS)	BTEX (mg/Kg)
HA-1	0 to 1	650.6

Mr. Larry Johnson July 20, 2006 Page 3

HA-2	0 to 1	108.7
	1 to 2	107.85
	2 to 3	124.13
	3 to 4	166.43
HA-4	0 to 1	216.01
HA-5	0 to 1	250.72
HA-6	0 to 1	235.33
HA-7	0 to 1	291.21
HA-8	0 to 1	481.07
HA-9	0 to 1	78.6

ELTI analyzed all samples for total petroleum hydrocarbons ("TPH") using EPA method SW-846-8015, for gasoline range organics ("GRO") and diesel range organics ("DRO"), and chloride by EPA method 300. The following samples reported TPH above the RRAL:

Location	Sample	ТРН
	(Feet BGS)	C6 to C35
	·	(mg/Kg)
HA-1	0 to 1	21,370
	1 to 2	1,049.7
HA-2	0 to 1	12,370
	1 to 2	12,700
	2 to 3	10,978
	3 to 4	10,769
HA-3	2 to 3	1,038.6
HA-4	0 to 1	10,456
	3 to 4	1,040
HA-5	0 to 1	30,450
HA-6	0 to 1	10,311
HA-7	0 to 1	25,340
	2 to 3	1,271.5
HA-8	0 to 1	24,300
HA-9	0 to 1	3,928

Chloride ranged from 17.9 mg/Kg (HA-8, 1 to 2 feet) to 683 mg/Kg (HA-9, 2 to 3 feet). Table 1 presents a complete summary of the laboratory analysis. Appendix B presents the laboratory reports. Appendix C presents photographs.

#### **Remediation Work Plan**

Chesapeake proposes to excavate soil to reduce the concentrations of BTEX and TPH below the RRAL across the entire spill area. Soil will be excavated to approximately 1-foot bgs at sample locations HA-5, HA-6, HA-8 and HA-9. Soil will be excavated to approximately 2 feet bgs at location HA-1. Soil will be excavated to approximately 3 feet bgs at locations HA-3 and HA-7 and soil will be excavated to greater than 4 feet bgs at locations HA-2 and HA-4. The soil will be hauled to a commercial surface waste management facility (landfarm) and the excavation will be filled with clean soil following OCD approval. Soil samples will be collected from the

Mr. Larry Johnson July 20, 2006 Page 4

sides and bottom of the excavation and analyzed by the laboratory for BTEX and TPH. Additional soil will be removed from the excavation if BTEX and TPH concentrations continue to exceed the RRAL. The OCD shall be provided at least 48-hours notice prior to commencing remediation and a final report will be submitted to the OCD after the remediation has been completed. Chesapeake requests OCD approval of the remediation work plan and authorization to proceed. Please call Mr. Harlan Brown at (405) 767-4446 or email hbrown@chkenergy.com, if you have questions. I may be reached with questions at (432) 687-0901 or email mark@laenvironmental.com. Sincerely,

Larson and Associates, Inc.

Mark J. Larson, P.G., C.P.G., C.G.W.P.

Senior Project Manager/President

**Enclosures** 

cc: Harlan Brown/Chesapeake
Jace Marshall/Chesapeake
Paul Hagemeier/Chesapeake
Brad Blevins/Chesapeake
Chris Williams/OCD – District 1

#### **TABLES**

Summary of Headspace and Laboratory Analyses of Soil Samples from Direct-Push Soil Borings Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery Table 1

				Lea C	Lea County, New Mexico	Mexico				Page I of 2
Sample	. Sample Depth		OF A	Benzene	BTEX	GRO	DRO	DRO	<b>Edl</b>	
Location	(Feet BGS)	Sample Date	(mdd)	(mg/kg)	(mg/kg)	C6-C12	>C12-C28	>C28-C35	C6-C35	Chloride
						(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
RRAL:				10					1,000	and the second s
HA-1	0 - 1	05/24/2006	> 4,000	39.2	9:059	009'9	12,800	1,970	21,370	119
	1-2	05/24/2006	>4,000	0.423	38.33	314	673	62.7	1049.7	142
	2-3	05/24/2006	1,991	<0.025	0.7628	35.7	125	<10	160.7	78.5
	3-4	05/24/2006	1,725	0.0208	3.243	130	294	<10	424	8.96
HA-2	0 - 1	05/24/2006	> 4,000	0.297	108.7	3,700	7,630	1,040	12,370	248
	1-2	05/24/2006	> 4,000	0.218	107.85	3,640	7,920	1,140	12,700	90.4
	2-3	05/24/2006	> 4,000	0.406	124.13	3,270	6,750	856	10,978	179
	3-4	05/24/2006	> 4,000	0.325	166.43	3,380	6,480	606	10,769	160
HA-3	0 - 1	05/24/2006	> 4,000	0.0154	6.46	134	647	74.6	855.6	63.3
	1-2	05/24/2006	3,548	<0.025	1.337	30.7	53.8	<10	84.5	54.3
	2-3	05/24/2006	2,042	<0.025	0.3852	313	999	9.09	1,038.6	49.2
	3-4	05/24/2006	1,450	<0.025	0.0492	9.62	36.4	<10	46.02	46.6
HA-4	0 - 1	05/24/2006	> 4,000	6.31	216.01	4,280	5,510	999	10,456	46
	1-2	05/24/2006	> 4,000	0.0482	6.85	112	216	10.5	338.5	27
	2-3	05/24/2006	950	<0.025	0.3855	29.7	122	<10	151.7	32.1
	3-4	05/24/2006	215	<0.025	0.0387	524	516	<10	1,040	35.6
HA-5	0 - 1	05/25/2006	> 4,000	1.62	250.72	6,820	21,000	2,630	30,450	19.8
	1-2	05/25/2006	> 4,000	<0.025	3.448	22.7	40.4	<10	63.1	33
	2-3	05/25/2006	3,674	<0.025	1.404	5.12	7.73	<10	12.85	47.7
	3-4	05/25/2006	2,708	<0.025	2.525	133	429	27.2	589.2	86.4
HA-6	0 - 1	05/25/2006	> 4,000	5.53	235.33	3470	5870	971	10,311	95.2
	1-2	05/25/2006	1,558	<0.025	0.902	23.6	144	10.6	178.2	197

Summary of Headspace and Laboratory Analyses of Soil Samples from Direct-Push Soil Borings Unit Letter C (NE/4, NW/4), Section 23, Township 22 South, Range 37 East Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery Table 1

ا ,,	<i>.</i>	<b>3</b> 6111		_	7					<u></u>	<del>/                                    </del>	·	}		=		
Page 2 of 2		Chloride (mg/kg)		140	107	23.1	26.3	27.9	27.3	26.7	17.9	27.5	35.3	73.4	138	423	683
	TPH	C6-C35 (mg/kg)	1,000	55.1	90.6	25,340	304.43	1,271.5	742.1	24,300	133.3	57.26	115.41	3,928	31.1	7.77	<30
	DRO	>C28-C35 (mg/kg)		<10	<10	2,240	6.73	83.5	34.8	1,320	<10	<10	7.61	188	<10	<10	<10
	DRO	>C12-C28 (mg/kg)		48.4	90.6	16,800	256	1,050	636	13,600	106	50.5	94.4	2,300	31.1	65.8	<10
<b>Jexico</b>	GRO	C6-C12 (mg/kg)		6.7	<10	6,300	41.7	138	71.3	9,380	27.3	92.9	13.4	1,440	<10	11.9	<10
Lea County, New Mexico	BTEX	(mg/kg)	- 20	<0.125	<0.125	291.21	1.198	1.0137	0.444	481.07	1.001	0.0832	0.0463	78.6	<0.125	0.0907	<0.125
Lea C	Benzene	(mg/kg)	10	<0.025	<0.025	2.71	<0.025	<0.025	<0.025	7.57	<0.05	<0.025	<0.025	6.0	<0.025	<0.025	<0.025
	CARLETTA	(mdd)		226	689	> 4,000	98	2,953	890	> 4,000	2,448	642	490	> 4,000	498	207	102
		Sample Date		05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006	05/25/2006
	Sample Depth	(Feet BGS)		2-3	3-4	0 - 1	1-2	2-3	3 - 4	0 - 1	1-2	2-3	3 - 4	0 - 1	1-2	2-3	3 - 4
	Sample	Location	RRAE:	HA-6		HA-7				HA-8				HA-9			

Notes: Analysis performed by Environmental Lab of Texas, I. Ltd., Odessa, Texas 1. BGS: Sample depth in feet below ground surface

Total petroleum hydrocarbons (Sum of C6 - C35) TPH:
 mg/kg:

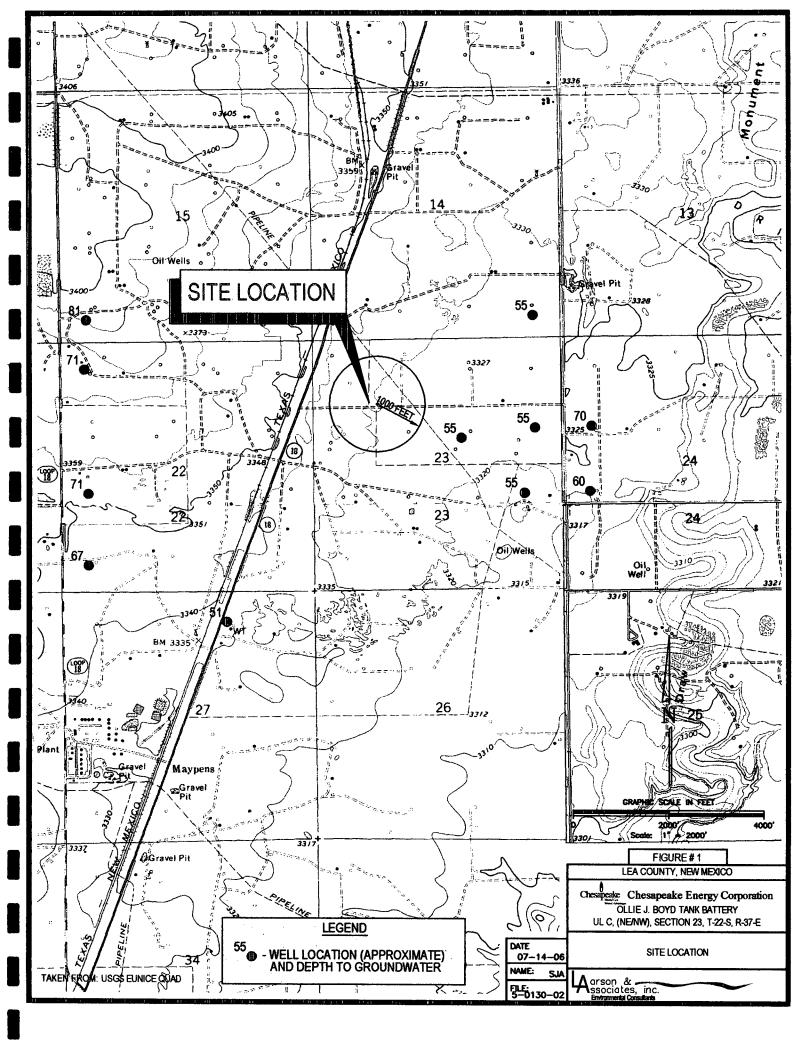
Milligrams per kilogram

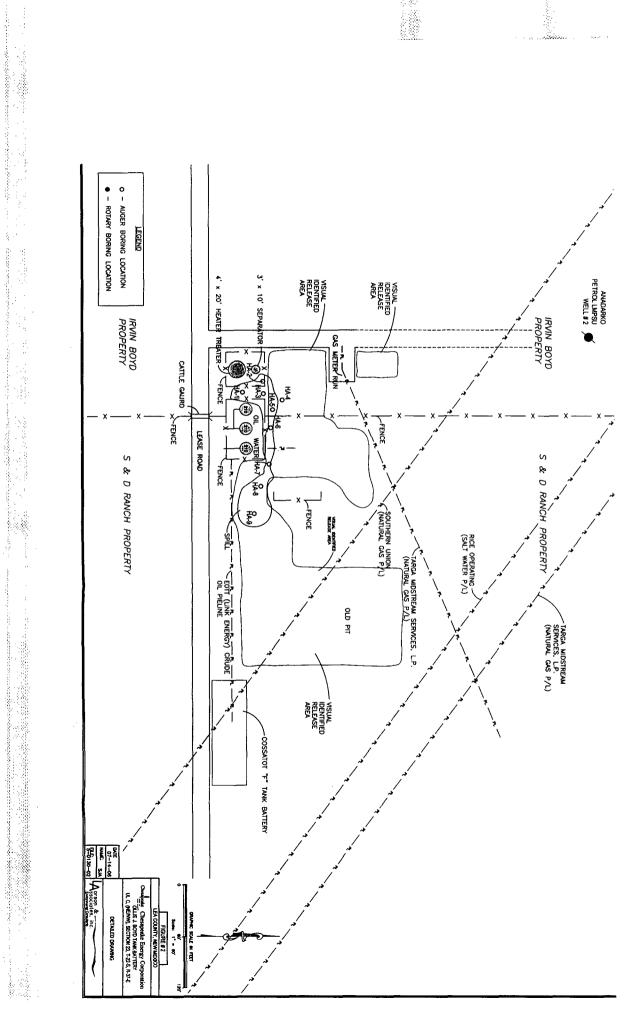
Below method detection limit

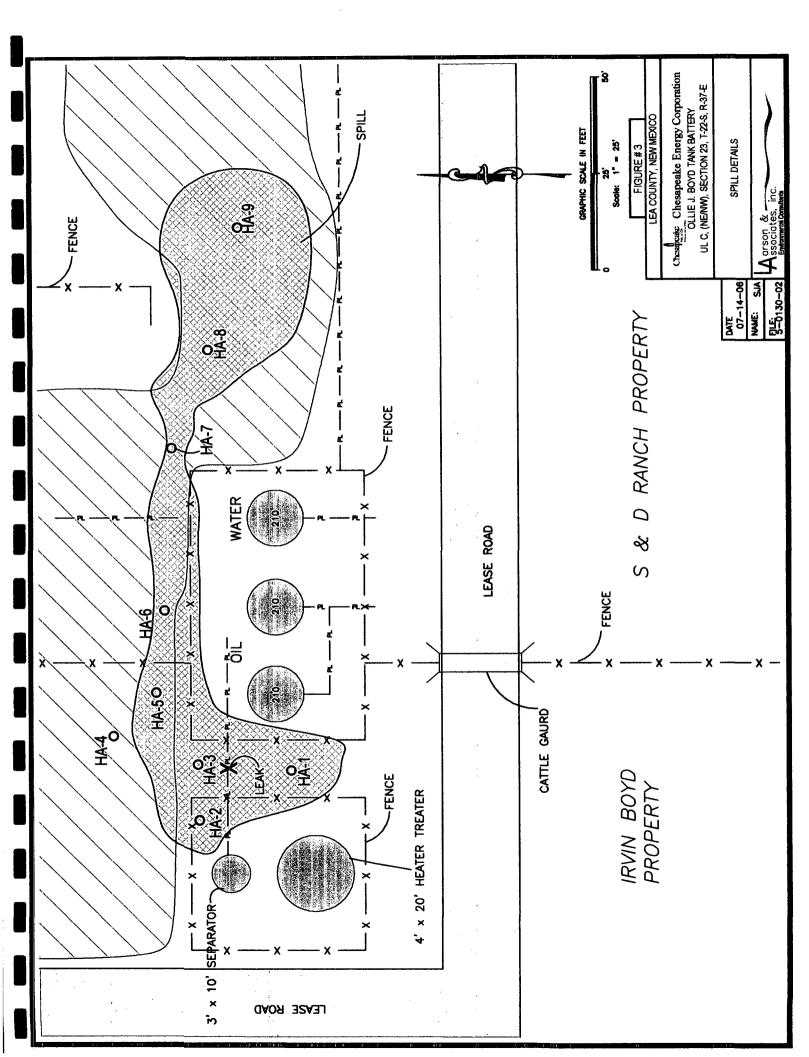
Photoionization detector

Parts per million No data available Over instrument detection limit 4. <. 5. PID: 6. ppm: 7. —: 8. ×.

#### **FIGURES**







#### APPENDIX A

Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brezos Road, Azzos, NM 87410
District IV

\* Attach Additional Sheets If Necessary

# State of New Mexico Energy Minerals and Natural Resources

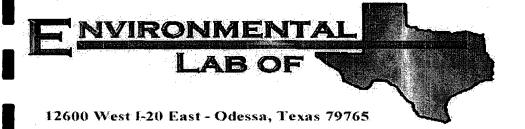
Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back

220 S. St. Fran	icis Dr., Sant	a Fc, NM 8750	5	Sa	anta F	e, NM 875	05				side of form
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						OPERA?	ΓOR	े जि	nitial Report		Final Repor
Name of Co	ompany: C	hesapeake (	Operating.	Inc.			rad Blevins, EH				
Address: 5	014 W. Ca	rlsbad High	way, Hob				No.: (505) 391-				
Facility Nat	nc: Ollic J	, Boyd Tank	Battery			Facility Typ	e: 2" crude oil	line			
Surface Ow	ner: Irvin	Boyd		Mineral (	Owner			Lea	se No.		
		_		IOC	ATTO	MAEDE					
Unit Letter	Section	Township	Range	Feet from the		N OF RE	Feet from the	East/West Li	ne County:	Lea	
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			Latitu	de: North 32° 2	22' 51,	l" Longitud	le: West 103° 0	8' 16. <del>9"</del>			
						_					
Type of Rele	nce: Carde	Ωil	~~~	NAI	UKI	Volume of	Release: 5-10	hhl Valu	ne Recovered	· 0 hbl	
		e in 2" line fro	om separat	or to tank			Hour of Occurrence		and Hour of I		
		***************************************				05/02/200	6, 13:00 hrs	05/02	/2006, 13:00		
Was immedi	ate Notice		7 Vac [	No Not R	manina		Whom? Leak representative (Bra		ttor by Mark I	arson a	and to OCD by
		7	] 163 [	] NO [] NOLK	ccquire	a operator is	shtezemmae (Dia	H DICAHIS)			
By Whom?							Tour 05/03/06 (ho			···	
Was a Water	course Rea		] Yes	71 21-		If YES, V	olume Impacting	the Watercours	e,		
	·	pacted, Desc									
05/02/06, S	pill will be	investigated c	oncurrent	n Taken.* Hole d with a work plan will be submitted	that wa	as submitted to	om separator to to OCD for the site ment.	inks. Leak was on February 2:	isolated and 5, 2006 and 17, 20	line wa:	s replaced on on March 24,
was isolated	and line wa	s replaced.					ately 10' x 125' o	n the north	cast side of the	<u>.</u> ₩	
regulations a public health should their or the environ	all operators nor the env operations l outsent. In a	are required ironment. The have failed to	to report a e acceptan adequately OCD accep	nd/or file certain ce of a C-141 rep vinvestigate and	release ont by t remedi	notifications of the NMOCD nate contaminate	knowledge and used perform corre- parked as "Final Fion that pose a thing of the contract of t	Inderstand that ctive setions fo leport" does no reat to ground	pursuädthe N r releases, wh t relieve the o vater, surface	ich may perator water. I	endanger of liability human health
Signature:		THE TE	<u>}</u>				OIL CON	SERVATI	ON DIVIS	<u>ION</u>	
Printed Nam	e: Mark J.	Larson, Larso	n and Ass	ociates, Inc.		Approved by	District Supervis	ior:			***
Title: Agent	/Consultan	<u>t</u>		······································		Approval Da	te:	Expira	tion Date:		<del></del>
		laenvironmer				Conditions o	f Approval:		Attach	cd 🗆	
Date: May	/ <b>10. 2</b> 006	Pho	ne: (432)	687-0901	i	l			ı		

# APPENDIX B

# **Laboratory Reports**



# Analytical Report

# Prepared for:

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, TX 79710

Project: Chesapeake/ Ollie J. Boyd Project Number: 5-0130

Location: None Given

Lab Order Number: 6E25029

Report Date: 06/02/06

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1 0-1'	6E25029-01	Soil	05/24/06 08:12	05/25/06 16:00
HA-1 1-2'	6E25029-02	Soil	05/24/06 08:22	05/25/06 16:00
HA-1 2-3'	6E25029-03	Soil	05/24/06 08:28	05/25/06 16:00
HA-1 3-4'	6E25029-04	Soil	05/24/06 08:35	05/25/06 16:00
HA-2 0-1'	6E25029-05	Soil	05/24/06 08:44	05/25/06 16:00
HA-2 1-2'	6E25029-06	Soil	05/24/06 08:51	05/25/06 16:00
HA-2 2-3'	6E25029-07	Soil	05/24/06 08:59	05/25/06 16:00
HA-2 3-4'	6E25029-08	Soil	05/24/06 09:04	05/25/06 16:00
HA-3 0-1'	6E25029-09	Soil	05/24/06 09:20	05/25/06 16:00
HA-3 1-2'	6E25029-10	Soil	05/24/06 09:26	05/25/06 16:00
HA-3 2-3'	6E25029-11	Soil	05/24/06 09:35	05/25/06 16:00
HA-3 3-4'	6E25029-12	Soil	05/24/06 09:43	05/25/06 16:00
HA-4 0-1'	6E25029-13	Soil	05/24/06 12:45	05/25/06 16:00
HA-4 1-2'	6E25029-14	Soil	05/24/06 12:51	05/25/06 16:00
HA-4 2-3'	6E25029-15	Soil	05/24/06 12:55	05/25/06 16:00
HA-4 3-4'	6E25029-16	Soil	05/24/06 13:00	05/25/06 16:00
HA-5 0-1'	6E25029-17	Soil	05/25/06 08:00	05/25/06 16:00
HA-5 1-2'	6E25029-18	Soil	05/25/06 08:05	05/25/06 16:00
HA-5 2-3'	6E25029-19	Soil	05/25/06 08:11	05/25/06 16:0
HA-5 3-4'	6E25029-20	Soil	05/25/06 08:17	05/25/06 16:0
HA-6 0-1'	6E25029-21	Soil	05/25/06 08:32	05/25/06 16:0
HA-6 1-2'	6E25029-22	Soil	05/25/06 08:38	05/25/06 16:0
HA-6 2-3'	6E25029-23	Soil	05/25/06 08:46	05/25/06 16:0
HA-6 3-4'	6E25029-24	Soil	05/25/06 08:51	05/25/06 16:0
HA-7 0-1'	6E25029-25	Soil	05/25/06 09:01	05/25/06 16:0
HA-7 1-2'	6E25029-26	Soil	05/25/06 09:06	05/25/06 16:0
· HA-7 2-3'	6E25029-27	Soil	05/25/06 09:12	05/25/06 16:0
HA-7 3-4'	6E25029-28	Soil	05/25/06 09:17	05/25/06 16:0
HA-8 0-1'	6E25029-29	Soil	05/25/06 09:25	05/25/06 16:0
HA-8 1-2'	6E25029-30	Soil	05/25/06 09:32	05/25/06 16:0
HA-8 2-3'	6E25029-31	Soil	05/25/06 09:37	05/25/06 16:0
HA-8 3-4'	6E25029-32	Soil	05/25/06 09:41	05/25/06 16:0
HA-9 0-1'	6E25029-33	Soil	05/25/06 09:51	05/25/06 16:0
HA-9 1-2'	6E25029-34	Soil	05/25/06 09:55	05/25/06 16:0

Larson & Associates, Inc.

P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130

Project Manager: Mark Larson

Fax: (432) 687-0456

Reported:

06/02/06 17:38

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-9 2-3'	6E25029-35	Soil	05/25/06 10:02	05/25/06 16:00
HA-9 3-4'	6E25029-36	Soil	05/25/06 10:08	05/25/06 16:00

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-1 0-1' (6E25029-01) Soil									
Benzene	39.2	1.00	mg/kg dry	1000	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	195	1.00	**	"	11	n	**	π	
Ethylbenzene	147	1.00	n	"		n	, ,	н	
Xylene (p/m)	186	1.00	n	11		11	"	II .	
Xylene (o)	83.4	1.00	" .	11	Ħ	h .	н	Ħ	
Surrogate: a,a,a-Trifluorotoluene		178 %	80-1	20	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		127 %	80-1	120	"	"	"	n	S-04
Carbon Ranges C6-C12	6600	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	12800	20.0	н	n		u	11	n .	
Carbon Ranges C28-C35	1970	20.0	u	n	"	11	11	11	
Total Hydrocarbon nC6-nC35	21400	20.0	**	**	11	11	Ħ	n	
Surrogate: 1-Chlorooctane		109 %	70-	130	"	"	"	"	S-04
Surrogate: I-Chlorooctadecane	•	50.2 %	70-	130	"	"	"	<b>"</b>	S-06
HA-1 1-2' (6E25029-02) Soil					_				
Benzene	0.423	0.0500	mg/kg dry	50	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	6.01	0.0500	**	н	11	**	11	n	
Ethylbenzene	9.98	0.0500	11	н	*	n	Ħ	Ħ	
Xylene (p/m)	15.3	0.0500	n	н	19	u	11	Ħ	
Xylene (o)	6.62	0.0500			Ħ	"	**	99	
Surrogate: a,a,a-Trifluorotoluene		169 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		190 %	80-	120	"	"	"	n .	S-04
Carbon Ranges C6-C12	314	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	673	10.0	u	19	н	н	н	н ,	
Carbon Ranges C28-C35	62.7	10.0	11	n	11	**		и	
Total Hydrocarbon nC6-nC35	1050	10.0	н		"	n		**	
Surrogate: 1-Chlorooctane		95.6 %	70-	130	"	"	11	"	
Surrogate: 1-Chlorooctadecane		88.6 %	70-	130	"	"	<b>"</b> .	"	

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-1 2-3' (6E25029-03) Soil					-				
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	0.0638	0.0250	"	н	**	u	n	11:	
Ethylbenzene	0.211	0.0250	. 14	n	n	11	н	Ħ	
Xylene (p/m)	0.343	0.0250	Ir	11	н	11	. н	π	
Xylene (o)	0.145	0.0250	ü	**	Ħ	11	II.	11	
Surrogate: a,a,a-Trifluorotoluene		111 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	35.7	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	125	10.0	Ħ	11	н	II	11	**	
Carbon Ranges C28-C35	ND	10.0	11	н	**	H		н	
Total Hydrocarbon nC6-nC35	161	10.0	Ħ	"	11	н	н	IF	
Surrogate: 1-Chlorooctane	T. T.	105 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		105 %	70-	130	"	" "	• и	"	
HA-1 3-4' (6E25029-04) Soil									
Benzene	J [0.0208]	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	<del></del>
Toluene	0.408	0.0250	79	"	и	u ·	Ņ	II .	
Ethylbenzene	0.831	0.0250	n	u	11	, н	**	11	
Xylene (p/m)	1.27	0.0250		11	91	Ħ	u	и	
Xylene (o)	0.713	0.0250		"	п	n		n	
Surrogate: a,a,a-Trifluorotoluene		114 %	80-	120	"	"	"	n n	
Surrogate: 4-Bromofluorobenzene		106 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	130	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	294	10.0			"	"	"	n	
Carbon Ranges C28-C35	ND	10.0		"	11	"	n	•	
Total Hydrocarbon nC6-nC35	424	10.0			ú	н	и	11	
Surrogate: 1-Chlorooctane		114 %		130	"	. "	"	"	
Surrogate: 1-Chlorooctadecane		113 %		130	"	"	"		

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-2 0-1' (6E25029-05) Soil	<del></del>					<u></u>	······································		
Benzene	0.297	0.250	mg/kg dry	250	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	10.1	0.250	11	**	u	н	11	ti .	
Ethylbenzene	23.0	0.250	n	11	H		Ħ	11	
Xylene (p/m)	51.8	0.250	**	"	n	H	tt	Ħ	
Xylene (o)	23.5	0.250	**	"	**	**	H		
Surrogate: a,a,a-Trifluorotoluene		146 %	80-1	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		159 %	80-1	20	"	"	"	"	S-04
Carbon Ranges C6-C12	3700	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	7630	20.0	ų	11	**	"	n	**	
Carbon Ranges C28-C35	1040	20.0	n	"	"	II.	и .	п	
Total Hydrocarbon nC6-nC35	12400	20.0	11	н	"	u	**	11	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	11	S-04
Surrogate: 1-Chlorooctadecane		32.2 %	70	130	"	"	"	"	S-06
HA-2 1-2' (6E25029-06) Soil									
Benzene	0.218	0.200	mg/kg dry	200	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	7.73	0.200	11	11	11	**	**	n	
Ethylbenzene	24.1	0.200	п	"	11	11	н	Ŋ	
Xylene (p/m)	51.2	0.200	11	н	,,	*1	11	11	
Xylene (o)	24.6	0.200	Ħ	11	u	It	11	11	
Surrogate: a,a,a-Trifluorotoluene		138 %	80-	120	. "	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		172 %	80-	120	"	"	• "	"	S-04
Carbon Ranges C6-C12	3640	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	7920	20.0	n		11	Ħ	н	n	
Carbon Ranges C28-C35	1140	20.0	11	и.	11	Ħ	11	н	
Total Hydrocarbon nC6-nC35	12700	20.0	11	п	n	н .	· u		
Surrogate: 1-Chlorooctane		73.2 %	70-	130	"	"	"	"	S-04
Surrogate: 1-Chlorooctadecane		57.8 %	70-	130	"	"	"	"	S-06

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-2 2-3' (6E25029-07) Soil									
Benzene	0.406	0.100	mg/kg dry	100	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	9.92	0.100	11	"	11	н	н	. "	
Ethylbenzene	29.2	0.100	. 11	"	**	u	n	u	
Xylene (p/m)	53.4	0.100	·	n	u	11	п	н	
Xylene (o)	31.2	0.100	n	11	11	, H	u	11	
Surrogate: a,a,a-Trifluorotoluene		212 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		158 %	80-	120	"	. "	"	"	S-04
Carbon Ranges C6-C12	3270	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	6750	20.0	ır	11	**	**	11	н	
Carbon Ranges C28-C35	958	20.0	11	11	Ħ	11		Ħ	
Total Hydrocarbon nC6-nC35	11000	20.0	. "		**	10	#	11	
Surrogate: 1-Chlorooctane		64.0 %	70-	130	"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		48.8 %	70	130	"	"	"	"	S-06
HA-2 3-4' (6E25029-08) Soil									
Benzene	J [0.325]	0.500	mg/kg dry	500	EE63104	05/31/06	06/01/06	EPA 8021B	J
Toluene	11.4	0.500	tr		n	"	н	11	*
Ethylbenzene	38.8	0.500	n		. 11	n	ır	n	
Xylene (p/m)	81.8	0.500	u	11	u	. 4	**	ıı	
Xylene (o)	34.1	0.500	11	11	**	"	11	н	
Surrogate: a,a,a-Trifluorotoluene		136 %	80-	120	"	"	. "	"	S-04
Surrogate: 4-Bromofluorobenzene		156 %	80-	120	. "	"	"	· "	S-04
Carbon Ranges C6-C12	3380	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	6480	20.0	u	11	11	"	. н	"	
Carbon Ranges C28-C35	909	20.0	u	11	II	11		н	
Total Hydrocarbon nC6-nC35	10800	20.0	19	"	"	11	11	n	
Surrogate: 1-Chlorooctane		67.8 %	70-	130	"	"	"	"	S-06
Surrogate: 1-Chlorooctadecane		53.4 %	70-	130	<b>#</b> .	n.	"	. "	S-06
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Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-3 0-1' (6E25029-09) Soil				Diution	Dateir	Tioparou	7 Illuly Zed		
Benzene	J [0.0154]	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	0.589	0.0250	11	"	10	11	11	ti	
Ethylbenzene	1.56	0.0250	и	**	w	n	и	н	
Xylene (p/m)	2.88	0.0250	n	н	u	11	11	11	
Xylene (o)	1.42	0.0250	"	**	n	11	110	"	
Surrogate: a,a,a-Trifluorotoluene		112 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	80-1	120	"	"	"	"	
Carbon Ranges C6-C12	134	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	647	20.0	" .	11	"	н	11	n	
Carbon Ranges C28-C35	74.6	20.0	11	. 11	**	н	п	н	
Total Hydrocarbon nC6-nC35	856	20.0	n	н	11	11		u	
Surrogate: 1-Chlorooctane		53.8 %	70	130	"	"	"	"	S-00
Surrogate: 1-Chlorooctadecane		53.2 %	70-	130	"	"	"	"	S-0
HA-3 1-2' (6E25029-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	0.0966	0.0250	н	n		п	u	n	
Ethylbenzene	0.359	0.0250	н	**	11	11	н	н	
Xylene (p/m)	0.573	0.0250	11	u	n	11	Ħ	11	
Xylene (o)	0.308	0.0250	и	".	U	II	н	Ħ	
Surrogate: a,a,a-Trifluorotoluene		103 %	80-	120	"	. "	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	80-	120	"	· "	"	"	
Carbon Ranges C6-C12	30.7	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	53.8	10.0	11	ù	Ħ	n	11	It	
Carbon Ranges C28-C35	ND	10.0	11	*	11	11	It	<b>n</b> .	
Total Hydrocarbon nC6-nC35	84.5	10.0		ti	**	. "	и	* H	
Surrogate: 1-Chlorooctane		115 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		116 %	70-	130	"	"	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-3 2-3' (6E25029-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	J [0.0246]	0.0250	п	н	ft.	**	и .	**	J
Ethylbenzene	0.101	0.0250	11	11	Ħ	**	11	•	
Xylene (p/m)	0.183	0.0250	11	n	"	"	11	n	
Xylene (o)	0.0766	0.0250	"	**		H	11	и	
Surrogate: a,a,a-Trifluorotoluene		108 %	80	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	80	120	"	"	"	"	
Carbon Ranges C6-C12	313	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	665	10.0	II.		"	u	11	11	
Carbon Ranges C28-C35	60.6	10.0	11	#	"	11	. 11	Ħ	
Total Hydrocarbon nC6-nC35	1040	10.0	11	11	ıı	n	11	11	
Surrogate: 1-Chlorooctane		96.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		89.8 %	70-	130	"	"	"	<i>u</i>	
HA-3 3-4' (6E25029-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	н	н	н	11	н :	Ħ	
Ethylbenzene	J [0.0175]	0.0250	. <b>n</b>	ıı	11	n	u	n	
Xylene (p/m)	0.0317	0.0250	н	11	11	"	."	**	
Xylene (o)	ND	0.0250	. 11	н	н	11	11	II .	
Surrogate: a,a,a-Trifluorotoluene		105 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		85.5 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	J [9.62]	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	36.4	10.0		11	11	"	"	n	
Carbon Ranges C28-C35	ND	10.0	н	**	•	п	19	н	
Total Hydrocarbon nC6-nC35	36.4	10.0	H	***	II .			н	
Surrogate: 1-Chlorooctane		122 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		124 %	70-	130	"	"	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-4 0-1' (6E25029-13) Soil									
Benzene	6.31	0.500	mg/kg dry	500	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	60.5	0.500	n	n	н	н	н	11	
Ethylbenzene	20.9	0.500	n	11	n	Ħ	n	п	
Xylene (p/m)	90.4	0.500	11	n	n		tt	u.	
Xylene (o)	37.9	0.500		н	"	II.	"	н .	
Surrogate: a,a,a-Trifluorotoluene		167 %	. 80-	120	"	"	,,	"	S-04
Surrogate: 4-Bromofluorobenzene		148 %	80-	120	"	"	"	"	S-04
Carbon Ranges C6-C12	4280	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	5510	20.0	**	. н	· •	**	11	If	
Carbon Ranges C28-C35	666	20.0	**	**	н	11	11	11	
Total Hydrocarbon nC6-nC35	10400	20.0	11	н .	**	n	"	#	
Surrogate: 1-Chlorooctane		112 %	70	130	"	n	. "	"	S-04
Surrogate: 1-Chlorooctadecane		63.4 %	70-	130	"	"	"	<b>"</b>	S-06
HA-4 1-2' (6E25029-14) Soil									
Benzene	0.0482	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	0.882	0.0250	11	n		u,	11	"	
Ethylbenzene	1.38	0.0250	Ħ	н	**	*	11	#	•
Xylene (p/m)	3.13	0.0250	н	, n	*1	**	ц	, H	
Xylene (o)	1.41	0.0250	n	Ħ	**	"	11	11	
Surrogate: a,a,a-Trifluorotoluene		130 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		115 %	80-	120	"	"	"	**	
Carbon Ranges C6-C12	112	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	216	10.0		11	"	n	**		
Carbon Ranges C28-C35	10.5	10.0	11	11		11	11	u	
Total Hydrocarbon nC6-nC35	338	10.0	N	н	11	n	II	н	
Surrogate: 1-Chlorooctane		115 %	70-	130	"	"	"	"	- X
Surrogate: 1-Chlorooctadecane		116%	70-	130	"	"	"	. "	

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-4 2-3' (6E25029-15) Soil			-						
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	0.0539	0.0250	"	"	It	tf	u	н	
Ethylbenzene	0.0886	0.0250	**	н	**	Ħ	' 11	11	
Xylene (p/m)	0.168	0.0250	tt	н		11	**	11	
Xylene (o)	0.0750	0.0250	11	**	If	U	ıı	•	
Surrogate: a,a,a-Trifluorotoluene		107 %	80-1	120	"	"	"	"	-
Surrogate: 4-Bromofluorobenzene		86.5 %	80-1	120	"	"	<b>"</b>	<i>n</i> .	
Carbon Ranges C6-C12	29.7	10.0	mg/kg dry	1	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	122	10.0	"	n	n	п	н	u	
Carbon Ranges C28-C35	ND	10.0	11	Ħ	If	H	н	п	
Total Hydrocarbon nC6-nC35	152	10.0	10	n	11	n	11	п	
Surrogate: 1-Chlorooctane		106 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		108 %	70-, A	130	"	"	"	"	
HA-4 3-4' (6E25029-16) Soil				•					
Benzene	ND	0.0250	mg/kg dry	25	EE63104	05/31/06	06/01/06	EPA 8021B	
Toluene	J [0.0168]	0.0250	Ħ	**	н	Ħ	**	**	
Ethylbenzene	ND	0.0250	"	**	"	"	"	"	
Xylene (p/m)	J [0.0219]	0.0250	11	11	n	11	11	**	
Xylene (o)	ND	0.0250	H		н	Ü	11	11	
Surrogate: a,a,a-Trifluorotoluene		106 %	80	120	. "	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.5 %	80	120	n	"	. "	"	
Carbon Ranges C6-C12	524	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	516	10.0		11	11	*	11	<b>u</b> .	
Carbon Ranges C28-C35	ND	10.0	"	Ħ	11	te	n	п	
Total Hydrocarbon nC6-nC35	1040	10.0	н	n	w	n	**	п	
Surrogate: 1-Chlorooctane		93.8 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		84.4 %	70-	130	"	"	"	"	

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HA-5 0-1' (6E25029-17) Soil									
Benzene	1.62	0.500	mg/kg dry	500	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	45.3	0.500	."	11	11	u	"	"	
Ethylbenzene	66.7	0.500	Ħ	**	**	"	H	н	
Xylene (p/m)	95.5	0.500	11	*1	11	11	11	11	
Xylene (o)	41.6	0.500	11	"	Ħ	"	11	11	
Surrogate: a,a,a-Trifluorotoluene		128 %	80-1	120	"	"	"	"	S-0
Surrogate: 4-Bromofluorobenzene		146 %	80-1	120	"	<b>"</b>	"	"	S-0
Carbon Ranges C6-C12	6820	20.0	mg/kg dry	2	EE62615	05/26/06	05/30/06	EPA 8015M	
Carbon Ranges C12-C28	21000	20.0	u	и	ıı	H	н	и .	
Carbon Ranges C28-C35	2630	20.0	•	н	п	н	н	II.	
Total Hydrocarbon nC6-nC35	30400	20.0		11	**	11	11	n	
Surrogate: 1-Chlorooctane		122 %	70-	130	"	"	"	"	S-C
Surrogate: 1-Chlorooctadecane		57.4 %	70-	130	"	"	"	"	S-0
HA-5 1-2' (6E25029-18) Soil							·		
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	0.267	0.0250	n	u	11	11	н		
Ethylbenzene	0.945	0.0250	11	Ħ	н	н	"	n	
Xylene (p/m)	1.46	0.0250	" .	n	"	11	11	n .	
Xylene (o)	0.776	0.0250	*	11			Ħ	H	
Surrogate: a,a,a-Trifluorotoluene		105 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	22.7	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	40.4	10.0	Ħ	. #	н		11		
Carbon Ranges C28-C35	ND	10.0	"	11	"	и	н	11	
Total Hydrocarbon nC6-nC35	63.1	10.0	, "	н		. 11	11	16	
Surrogate: 1-Chlorooctane		100 %	5 70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	5 70-	130 ·	"	"	"	"	

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-5 2-3' (6E25029-19) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	0.117	0.0250	11	11	и	**	u	Ħ	
Ethylbenzene	0.393	0.0250	11	"	ti	Ir .	n	Ħ	
Xylene (p/m)	0.565	0.0250	и		**	n	"	n	
Xylene (o)	0.329	0.0250	11	11	11	п	н	11	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-1	120	"	"	"	"	
Carbon Ranges C6-C12	J [5.12]	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	J [7.73]	10.0	u	ıı	ч	If	Ħ		
Carbon Ranges C28-C35	ND	10.0	u	11	n	*1	n	n	
Total Hydrocarbon nC6-nC35	ND	10.0	н	11	#	11	u	**	
Surrogate: 1-Chlorooctane		86.6 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.8 %	70-	130	"	"	"	"	
HA-5 3-4' (6E25029-20) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	0.149	0.0250	**	*1	11	"	**	. "	
Ethylbenzene	0.635	0.0250	Ħ	16	Ħ	**	"	ч	
Xylene (p/m)	1.16	0.0250	u	. н	н	tt	u	n	
Xylene (o)	0.581	0.0250	11	11	11	н	u	Ħ	
Surrogate: a,a,a-Trifluorotoluene		109 %	80-	120	"	"	.,,	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-	120	"	n	"	"	
Carbon Ranges C6-C12	133	10.0	mg/kg dry	1	EE62615	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	429	10.0	**	10	11	n,	n	н	
Carbon Ranges C28-C35	27.2	10.0	11	11	**	ıı	11	н	
Total Hydrocarbon nC6-nC35	589	10.0	**	n	"	"	"	**	
Surrogate: 1-Chlorooctane		77.8 %	70-	130	"	"	. "	"	
Surrogate: 1-Chlorooctadecane		77.2 %	70-	130	"	"	"	n	

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-6 0-1' (6E25029-21) Soil	· · · · · · · · · · · · · · · · · · ·								
Benzene	5.53	0.250	mg/kg dry	250	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	57.5	0.250	ır	"	н	"	н	n	
Ethylbenzene	57.1	0.250	If	"		11	II .	H	
Xylene (p/m)	78.7	0.250	"	"	. 0	10	"	n	
Xylene (o)	36.5	0.250	н	н	н	, н	"	. "	
Surrogate: a,a,a-Trifluorotoluene		189 %	80-	120	"	"		"	S-04
Surrogate: 4-Bromofluorobenzene		173 %	80-2	120	"	"	"	"	S-0-
Carbon Ranges C6-C12	3470	20.0	mg/kg dry	2	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	5870	20.0	91 .	Ħ		н	. "	11	
Carbon Ranges C28-C35	971	20.0	11	91	"	н	n	TT .	
Total Hydrocarbon nC6-nC35	10300	20.0	Ħ	**	u	Ħ	**	11	
Surrogate: 1-Chlorooctane		86.6 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		73.8 %	70	130	"	"	"	"	
HA-6 1-2' (6E25029-22) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	•
Toluene	0.133	0.0250	ri .		11	"	я	11	
Ethylbenzene	0.233	0.0250	#1	**	н	"	#	11	
Xylene (p/m)	0.375	0.0250	41	u	н	n	11	н .	
Xylene (0)	0.161	0.0250	"	н	n	**	"	· n	
Surrogate: a,a,a-Trifluorotoluene		100 %	80-	120 .	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	23.6	10.0	mg/kg dry	. 1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	144	10.0		"	**	и	H	"	
Carbon Ranges C28-C35	10.6	10.0	н		11	н	11	n	
Total Hydrocarbon nC6-nC35	178	10.0	п	11	. "	11	11	· · · · · · · · · · · · · · · · · · ·	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-	130	<b>"</b>	"	"	<i>"</i>	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-6 2-3' (6E25029-23) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	**	11	n	H	11	*	
Ethylbenzene	ND	0.0250	11	н	11	"	n	H	
Xylene (p/m)	ND	0.0250	11	,11	11	II	Ħ		
Xylene (o)	ND	0.0250	Ħ	n	u	n	u	11	
Surrogate: a,a,a-Trifluorotoluene		102 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	80-	120	"	<b>"</b> .	"	. "	
Carbon Ranges C6-C12	J [6.70]	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	J
Carbon Ranges C12-C28	48.4	10.0	11	11	n	н	11		
Carbon Ranges C28-C35	ND	10.0		<b>\$1</b>	11	"	"	11	
Total Hydrocarbon nC6-nC35	48.4	10.0	n	н		11		11	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		99.4 %	70	130	"	"	и .	"	
HA-6 3-4' (6E25029-24) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	"		H .	11	ш ,	**	
Ethylbenzene	ND ·	0.0250	H		11	n	11	H	
Xylene (p/m)	ND	0.0250	"	n	n	n	Ħ	Ħ	
Xylene (o)	ND	0.0250	11	11		11	11	it .	
Surrogate: a,a,a-Trifluorotoluene		103 %	80-	120	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		91.2 %	80-	120	"	"	<b>"</b>	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	J [9.06]	10.0	11	H	11	11	11	n	j
Carbon Ranges C28-C35	ND	10.0	Ħ	н	**	н	. 11	п	
Total Hydrocarbon nC6-nC35	ND	10.0	. 11	. н	11	**	, "	11 .	
Surrogate: 1-Chlorooctane		98.4 %	70-	130	"	"	"	н	
Surrogate: 1-Chlorooctadecane		98.0 %	70-	130	"	. "	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-7 0-1' (6E25029-25) Soil						P			
Benzene	2.71	0.500	mg/kg dry	500	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	57.3	0.500	11	"	u	н	н	. н	
Ethylbenzene	75.5	0.500	11	**	**	**	н .	11	
Xylene (p/m)	106	0.500	II .	11	Ħ		н	11	
Xylene (o)	49.7	0.500	**	11	11	"	n	11	
Surrogate: a,a,a-Trifluorotoluene		126 %	80-	120	n	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		115 %	80	120	"	"	"	. "	
Carbon Ranges C6-C12	6300	20.0	mg/kg dry	2	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	16800	20.0	11	**		n ·	"	н .	
Carbon Ranges C28-C35	2240	20.0	11	н	n	н	н	**	
Total Hydrocarbon nC6-nC35	25300	20.0	н	# .	11	Ħ	н .	u	
Surrogate: 1-Chlorooctane		129 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.2 %	70-	130	"	"	"	"	
HA-7 1-2' (6E25029-26) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/02/06	EPA 8021B	
Toluene	0.117	0.0250	11	"	u	n	Ħ		
Ethylbenzene	0.380	0.0250	II		11	н	n	rı	
Xylene (p/m)	0.445	0.0250	n	н	n	я	**	11	
Xylene (o)	0.256	0.0250	н	н	н	11	**	10	
Surrogate: a,a,a-Trifluorotoluene		102 %	80-	120	. "	n .	"	"	
Surrogate: 4-Bromofluorobenzene		97.2 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	41.7	10.0	mg/kg dry	. 1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	256	10.0	н	**	н	. "	"	11	
Carbon Ranges C28-C35	J [6.73]	10.0	11	11	**	n	*	n	•
Total Hydrocarbon nC6-nC35	298	10.0	"	н	н	11		n	•
Surrogate: 1-Chlorooctane		99.4 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.0 %	70-	130	"	"	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
HA-7 2-3' (6E25029-27) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/02/06	EPA 8021B	
Toluene	0.0727	0.0250	**	11	Ħ	**	ıt	11	
Ethylbenzene	0.314	0.0250	**	11	11	n		Ħ	
Xylene (p/m)	0.404	0.0250	11	n	19	n	11	II.	
Xylene (o)	0.223	0.0250	n	11	н	"	"	н	
Surrogate: a,a,a-Trifluorotoluene		103 %	80-1	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	80-1	120	"	"	"	"	
Carbon Ranges C6-C12	138	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	1050	10.0	н	u.	11	. 11	н	n	
Carbon Ranges C28-C35	83.5	10.0			"	11	11	"	
Total Hydrocarbon nC6-nC35	1270	10.0	"	11	11	н	. 11	11	
Surrogate: 1-Chlorooctane		108 %	70-1	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70-1	130	"	"	"	"	٠
HA-7 3-4' (6E25029-28) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/02/06	EPA 8021B	
Toluene	0.0682	0.0250	II	**		н	R	ч	
Ethylbenzene	0.179	0.0250	*1	н	n	"	**	**	
Xylene (p/m)	0.143	0.0250	ır	11	н	n	H	н	
Xylene (o)	0.0538	0.0250	11	11	**	n	н .	п	
Surrogate: a,a,a-Trifluorotoluene		99.5 %	80-	120	"	"	n	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-	120	"	"	"	. "	
Carbon Ranges C6-C12	71.3	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	636	10.0	11	11	n	11	11	11	
Carbon Ranges C28-C35	34.8	10.0	it.	u	н	н	If	, a	
Total Hydrocarbon nC6-nC35	742	10.0	111	**	R	н	п	n	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	и.	
Surrogate: 1-Chlorooctadecane		109 %	70-	130	"	"	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-8 0-1' (6E25029-29) Soil									
Benzene	7.57	0.250	mg/kg dry	250	EF60107	06/01/06	06/02/06	EPA 8021B	
Toluene	112	0.250	II		"	н	**	11	
Ethylbenzene	125	0.250	11	n	17	"	**	11	
Xylene (p/m)	158	0.250	Ħ	**	11	n	"	"	
Xylene (o)	78.5	0.250	11	11		н	н	н	
Surrogate: a,a,a-Trifluorotoluene		244 %	80-	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		226 %	80-	120	"	"	"	"	S-04
Carbon Ranges C6-C12	9380	20.0	mg/kg dry	2	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	13600	20.0	n	Ħ	"	"	11	Ħ	
Carbon Ranges C28-C35	1320	20.0	tr		11	11	n	Ħ	
Total Hydrocarbon nC6-nC35	24300	20.0	**	11	н	п	11	и	
Surrogate: 1-Chlorooctane		157 %	70-	130	"	"	."	"	S-0-
Surrogate: 1-Chlorooctadecane		118%	70	130	"	"	"	n	S-0
HA-8 1-2' (6E25029-30) Soil									
Benzene	ND	0.0500	mg/kg dry	50	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	0.153	0.0500	Ħ	11		<b>H</b> .		н	
Ethylbenzene	0.289	0.0500	n	"	11	II.		11	
Xylene (p/m)	0.392	0.0500	11	. "	**		11	**	
Xylene (o)	0.167	0.0500	. "	11	**	n	11	W	
Surrogate: a,a,a-Trifluorotoluene		112 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-	120	"	"	,	"	
Carbon Ranges C6-C12	27.3	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	106	10.0	и		n	u	n	н	
Carbon Ranges C28-C35	ND	10.0	н	Ħ	. 4	n	"	н	
Total Hydrocarbon nC6-nC35	133	10.0	u	11		H	"	н ,	
Surrogate: 1-Chlorooctane		100 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		97.8 %	70-	130	"	"	"	"	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte .	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-8 2-3' (6E25029-31) Soil				·					
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	J [0.0164]	0.0250	**.	**	**	и	и	11	J
Ethylbenzene	0.0288	0.0250	11	11	*	н	lf	н	
Xylene (p/m)	0.0380	0.0250	11	**		n	"	It	
Xylene (o)	ND	0.0250	H .		"	н	Ħ		
Surrogate: a,a,a-Trifluorotoluene		108 %	80-	120	,,	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	J [6.76]	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	J
Carbon Ranges C12-C28	50.5	10.0		11	ır	н	11	R	
Carbon Ranges C28-C35	ND	10.0	11	н	n	11	**	11	
Total Hydrocarbon nC6-nC35	50.5	10.0	R	**	H		н	19	
Surrogate: 1-Chlorooctane		102 %	70-	130	"	"	"	"	-
Surrogate: 1-Chlorooctadecane		101 %	70-	130	"	"	"	. "	
HA-8 3-4' (6E25029-32) Soil	_								
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	n	11	n	ft	. "	n	
Ethylbenzene	J [0.0191]	0.0250	"	11	и,	**	Ħ	ti	j
Xylene (p/m)	0.0272	0.0250	**	u	ĸ	n	"	11	
Xylene (o)	ND	0.0250	н	**	. "	. 11	11	11	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-	120	"	"	,,	n	, , , , , , , , , , , , , , , , , , , ,
Surrogate: 4-Bromofluorobenzene		80.5 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	13.4	10.0	mg/kg dry	1	EE62608	05/26/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	94.4	10.0		н .	n	11	11	• н	
Carbon Ranges C28-C35	J [7.61]	10.0	"	н	*	. !!	ıı	"	
Total Hydrocarbon nC6-nC35	108	10.0		н	"	11	и	11	
Surrogate: 1-Chlorooctane		101 %	70-	130		"	"	"	
Surrogate: 1-Chlorooctadecane		101 %	70-	-130	"	. "	"	"	

Larson & Associates, Inc.

P.O. Box 50685 Midland TX, 79710 Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-9 0-1' (6E25029-33) Soil									
Benzene	0.900	0.100	mg/kg dry	100	EF60107	06/01/06	06/02/06	EPA 8021B	
Toluene	14.8	0.100	11		"	11	n		
Ethylbenzene	21.1	0.100	II	11	11	11		<b>"</b>	
Xylene (p/m)	28.3	0.100	<b>91</b>	. #	11	11		"	
Xylene (o)	13.5	0.100	11	n	11	"	u u	и	
Surrogate: a,a,a-Trifluorotoluene		162 %	80-1	120	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		112 %	80-1	120	"	"	"	<b>"</b>	
Carbon Ranges C6-C12	1440	10.0	mg/kg dry	1	EE63112	05/31/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	2300	10.0	n	11	tt	. "	"	. "	
Carbon Ranges C28-C35	188	10.0	u	11	11	11	n	"	
Total Hydrocarbon nC6-nC35	3930	10.0	19	**	n		и	n	
Surrogate: 1-Chlorooctane		128 %	70	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		115 %	70	130	"	"	"	"	
HA-9 1-2' (6E25029-34) Soil									_
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	**	п	п	н	11	п	
Ethylbenzene	ND	0.0250	•	n	н	н	11	u	
Xylene (p/m)	'ND	0.0250	<b>11</b>	11	11	II	11	Ħ	
Xylene (o)	ND	0.0250	11	"	".	"	n	n	
Surrogate: a,a,a-Trifluorotoluene		105 %	80-	120	n	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %	80-	120	n	"	"	"	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1 -	EE63112	05/31/06	06/01/06	EPA 8015M	
Carbon Ranges C12-C28	31.1	10.0	**	11	**	Ħ	41	11	
Carbon Ranges C28-C35	ND	10.0	"	11	H	н	н	#	
Total Hydrocarbon nC6-nC35	31.1	10.0	"	0	. "	11	п	н	
Surrogate: 1-Chlorooctane		92.0 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		88.6 %	70-	130	"	"	"	"	

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-9 2-3' (6E25029-35) Soil				Dilution	Daten	Trepared	Anaryzeu	Mediod	Notes
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	<del></del>
Toluene	ND	0.0250	"	*	"	"	ш	11	
Ethylbenzene	0.0304	0.0250	- 11	"	11	"	n	n.	
Xylene (p/m)	0.0424	0.0250	11.	•	**	п	u	**	
Xylene (o)	J [0.0179]	0.0250	11	н	"	н	11	n	J
Surrogate: a,a,a-Trifluorotoluene		105 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	80-	120	"	"	"	"	
Carbon Ranges C6-C12	11.9	10.0	mg/kg dry	1	EE63112	05/31/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	65.8	10.0	н	11	n	н	10	If	
Carbon Ranges C28-C35	ND	10.0	**	11	**	11	R	и	
Total Hydrocarbon nC6-nC35	77.7	10.0	. 11	"	11	11	и	ti ti	
Surrogate: 1-Chlorooctane		95.2 %	70	130	"	"	"	ii.	
Surrogate: 1-Chlorooctadecane		90.2 %	70-	130	"	"	"	"	
HA-9 3-4' (6E25029-36) Soil	÷								
Benzene	ND	0.0250	mg/kg dry	25	EF60107	06/01/06	06/01/06	EPA 8021B	
Toluene	ND	0.0250	"	и .	н	n	11	II.	•
Ethylbenzene	ND	0.0250	u	. 11	"	"	11	ч	
Xylene (p/m)	ND	0.0250	и		**	11	"	Ħ	
Xylene (o)	ND	0.0250	**	11	н	**	11	u	
Surrogate: a,a,a-Trifluorotoluene		102 %	80-	120	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.8 %	80-	120	"	"	<b>"</b> "	<b>"</b>	
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EE63112	05/31/06	05/31/06	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0		н	n		<b>n</b>	If .	
Carbon Ranges C28-C35	ND	10.0	Ħ	11	11	н	**	11	
Total Hydrocarbon nC6-nC35	ND	10.0	n	н	"	11	**	ij	
Surrogate: 1-Chlorooctane		95.0 %	70-	130	"	"	"	"	
Surrogate: 1-Chlorooctadecane		87.8 %	70-	130	"	"	"	"	

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-1 0-1' (6E25029-01) Soil									
% Moisture	10.4	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-1 1-2' (6E25029-02) Soil									
% Moisture	11.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-1 2-3' (6E25029-03) Soil									
% Moisture	11.0	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-1 3-4' (6E25029-04) Soil									
% Moisture	11.0	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	•
HA-2 0-1' (6E25029-05) Soil									
% Moisture	10.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-2 1-2' (6E25029-06) Soil									
% Moisture	9.3	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-2 2-3' (6E25029-07) Soil	· 				٠			·	
% Moisture	9,9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-2 3-4' (6E25029-08) Soil									
% Moisture	7.3	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-3 0-1' (6E25029-09) Soil	•								
% Moisture	11.5	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-3 1-2' (6E25029-10) Soil									
% Moisture	12.6	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-3 2-3' (6E25029-11) Soil									
% Moisture	8.7	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-3 3-4' (6E25029-12) Soil									
% Moisture	8.1	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-4 0-1' (6E25029-13) Soil					· · · · · · · · · · · · · · · · · · ·				
% Moisture	8.5	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-4 1-2' (6E25029-14) Soil									
% Moisture	6.6	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-4 2-3' (6E25029-15) Soil							•		
% Moisture	8.2	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-4 3-4' (6E25029-16) Soil									
% Moisture	7.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-5 0-1' (6E25029-17) Soil									
% Moisture	7.4	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-5 1-2' (6E25029-18) Soil									
% Moisture	10.2	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	-
HA-5 2-3' (6E25029-19) Soil									
% Moisture	10.7	0.1	%	1 .	EF60103	05/31/06	06/01/06	% calculation	
HA-5 3-4' (6E25029-20) Soil									
% Moisture	10.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

**Reported:** 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-6 0-1' (6E25029-21) Soil				- Diamon	Duton	Tropulou	7 Hidry Zect	Widalod	11000
% Moisture	8.0	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-6 1-2' (6E25029-22) Soil									
% Moisture	9.2	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-6 2-3' (6E25029-23) Soil									
% Moisture	8.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-6 3-4' (6E25029-24) Soil									
% Moisture	9.5	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-7 0-1' (6E25029-25) Soil									
% Moisture	3.4	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-7 1-2' (6E25029-26) Soil									
% Moisture	12.6	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-7 2-3' (6E25029-27) Soil	·		<del></del>			······			
% Moisture	6.7	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-7 3-4' (6E25029-28) Soil									
% Moisture	8.9	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-8 0-1' (6E25029-29) Soil									
% Moisture	4.4	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-8 1-2' (6E25029-30) Soil									
% Moisture	6.1	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456 Reported: 06/02/06 17:38

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-8 2-3' (6E25029-31) Soil									
% Moisture	6.2	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-8 3-4' (6E25029-32) Soil	· ·								
% Moisture	8.0	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-9 0-1' (6E25029-33) Soil									
% Moisture	12.3	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-9 1-2' (6E25029-34) Soil									
% Moisture	6.1	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	,
HA-9 2-3' (6E25029-35) Soil						·			
% Moisture	6.8	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	
HA-9 3-4' (6E25029-36) Soil		· ·							
% Moisture	7.7	0.1	%	1	EF60103	05/31/06	06/01/06	% calculation	

Larson & Associates, Inc. P.O. Box 50685

Project: Chesapeake/Ollie J. Boyd

Fax: (432) 687-0456

P.O. Box 50685 Midland TX, 79710

Project Number: 5-0130

Reported: 06/02/06 17:38

Project Manager: Mark Larson

		Reporting		Cmilea	Source		%REC		RPD	
Analyte	Result	Limit	Units	Spike Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE62608 - Solvent Extraction (	(GC)									
Blank (EE62608-BLK1)				Prepared:	05/26/06	Analyzed	1: 05/31/06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	H							
Carbon Ranges C28-C35	ND	10.0	н							
Total Hydrocarbon nC6-nC35	ND	10.0	tt							
Surrogate: 1-Chlorooctane	47.6		mg/kg	50.0		95.2	70-130			
Surrogate: 1-Chlorooctadecane	43.9		"	50.0		87.8	70-130			
LCS (EE62608-BS1)				Prepared:	05/26/06	Analyzed	1: 05/31/06			
Carbon Ranges C6-C12	585	10.0	mg/kg wet	500		117	75-125			
Carbon Ranges C12-C28	565	10.0	Ħ	500		113	75-125			
Total Hydrocarbon nC6-nC35	1150	10.0	"	1000		115	75-125			
Surrogate: 1-Chlorooctane	55.9		mg/kg	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	45.0		"	50.0		90.0	70-130			
Calibration Check (EE62608-CCV1)				Prepared:	: 05/26/06	Analyze	d: 05/31/06	;		
Carbon Ranges C6-C12	297		mg/kg	250		119	80-120			
Carbon Ranges C12-C28	299		•	250		120	80-120			
Total Hydrocarbon nC6-nC35	596		11	500		119	80-120			
Surrogate: 1-Chlorooctane	63.9		"	50.0		128	70-130			
Surrogate: 1-Chlorooctadecane	62.4		"	50.0		125	70-130			
Matrix Spike (EE62608-MS1)	So	urce: 6E250	29-23	Prepared	: 05/26/06	Analyze	d: 05/31/06	i .		
Carbon Ranges C6-C12	609	10.0	mg/kg dry	549	6.70	110	75-125			
Carbon Ranges C12-C28	598	10.0	н.	549	48.4	100	75-125		•	
Total Hydrocarbon nC6-nC35	1210	10.0	. 11	1100	48.4	106	75-125			
Surrogate: 1-Chlorooctane	55.4		mg/kg	50.0		111	70-130	<del></del>		
Surrogate: 1-Chlorooctadecane	44.7		"	50.0		89.4	70-130			
						•				

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

•		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE62608 - Solvent Extraction (	GC)								·	
Matrix Spike Dup (EE62608-MSD1)	Sou	ırce: 6E250	29-23	Prepared:	05/26/06	Analyzed	: 05/31/06			
Carbon Ranges C6-C12	606	10.0	mg/kg dry	549	6.70	109	75-125	0.494	20	
Carbon Ranges C12-C28	603	10.0	11	549	48.4	101	75-125	0.833	20	
Total Hydrocarbon nC6-nC35	1210	10.0	**	1100	48.4	106	75-125	0.00	20	
Surrogate: 1-Chlorooctane	55.5		mg/kg	50.0		111	70-130			
Surrogate: 1-Chlorooctadecane	45.2		<i>n</i> ·	50.0		90.4	70-130			
Batch EE62615 - Solvent Extraction (	(GC)						·			
Blank (EE62615-BLK1)				Prepared:	05/26/06	Analyzed	l: 05/30/06	5		
Carbon Ranges C6-C12	ND	10.0	mg/kg wet			<del></del>				
Carbon Ranges C12-C28	ND	10.0	a							
Carbon Ranges C28-C35	ND	10.0	н							
Total Hydrocarbon nC6-nC35	ND	10.0	Ħ							
Surrogate: 1-Chlorooctane	37.6		mg/kg	50.0		75.2	70-130			
Surrogate: 1-Chlorooctadecane	39.4		"	50.0		78.8	70-130			
LCS (EE62615-BS1)				Prepared	05/26/06	Analyzed	1: 05/30/06	5		
Carbon Ranges C6-C12	514	10.0	mg/kg wet	500		103	75-125			
Carbon Ranges C12-C28	538	10.0	н	500		108	75-125			
Total Hydrocarbon nC6-nC35	1050	10.0	"	1000		105	75-125			
Surrogate: 1-Chlorooctane	45.9		mg/kg	50.0		91.8	70-130			
Surrogate: 1-Chlorooctadecane	43.2		<i>"</i> .	50.0		86.4	70-130			
Calibration Check (EE62615-CCV1)				Prepared	: 05/26/06	Analyze	d: 05/31/0	6		
Carbon Ranges C6-C12	277		mg/kg	250		111	80-120			
Carbon Ranges C12-C28	277		n	250		111	80-120			
Total Hydrocarbon nC6-nC35	554		"	500		111	80-120			
Surrogate: 1-Chlorooctane	48.9		"	50.0		97.8	70-130			
Surrogate: I-Chlorooctadecane	48.6	•	"	50.0		97.2	70-130		,	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE62615 - Solvent Extraction (	(GC)									
Matrix Spike (EE62615-MS1)	Sou	rce: 6E250	29-03	Prepared:	05/26/06	Analyzed	: 05/31/06			
Carbon Ranges C6-C12	536	10.0	mg/kg dry	562	35.7	89.0	75-125			
Carbon Ranges C12-C28	577	10.0	II	562	125	80.4	75-125			
Total Hydrocarbon nC6-nC35	1110	10.0	H	1120	161	84.7	75-125			
Surrogate: 1-Chlorooctane	46.5		mg/kg	50.0		93.0	70-130		***	
Surrogate: 1-Chlorooctadecane	41.9		**	50.0		83.8	70-130			
Matrix Spike Dup (EE62615-MSD1)	Sou	ırce: 6E250	29-03	Prepared:	05/26/06	Analyzed	1: 05/31/06			
Carbon Ranges C6-C12	541	10.0	mg/kg dry	562	35.7	89.9	75-125	0.929	20	
Carbon Ranges C12-C28	585	10.0	н	562	125	81.9	75-125	1.38	20	
Total Hydrocarbon nC6-nC35	1130	10.0	11	1120	161	86.5	75-125	1.79	20	
Surrogate: 1-Chlorooctane	46.8		mg/kg	50.0	-	93.6	70-130			
Surrogate: 1-Chlorooctadecane	42.2		"	50.0		84.4	70-130			
Batch EE63104 - EPA 5030C (GC)										
Blank (EE63104-BLK1)				Prepared	& Analyz	ed: 05/31/	06			······································
Benzene	ND	0.0250	mg/kg wet				<del></del>			
Toluene	ND	0.0250	11							
Ethylbenzene	ND	0.0250	**							
Xylene (p/m)	ND									
	ND	0.0250	It							
	ND	0.0250 0.0250	11							
Xylene (o) Surrogate: a,a,a-Trifluorotoluene				40.0		104	80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene	ND		II .	40.0 40.0		104 89.8	80-120 80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene	ND 41.6		" ug/kg	40.0	& Analyz	89.8	80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene LCS (EE63104-BS1)	ND 41.6	0.0250	" ug/kg	40.0 Prepared	& Analyz	89.8	80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene  LCS (EE63104-BS1) Benzene	ND 41.6 35.9	0.0250	ug/kg " mg/kg wet	40.0 Prepared	& Analyz	89.8 ed: 05/31/	80-120 '06			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene  LCS (EE63104-BS1) Benzene Toluene	ND 41.6 35.9	0.0250	ug/kg " mg/kg wet	40.0 Prepared 1.25	& Analyz	89.8 ed: 05/31/ 90.4	80-120 /06 80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene  LCS (EE63104-BS1) Benzene Toluene Ethylbenzene	ND 41.6 35.9 1.13 1.14	0.0250 0.0250 0.0250	ug/kg " mg/kg wet	40.0 Prepared 1.25 1.25	& Analyz	89.8 ed: 05/31/ 90.4 91.2	80-120 (06 80-120 80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene  LCS (EE63104-BS1) Benzene Toluene	ND 41.6 35.9 1.13 1.14 1.28	0.0250 0.0250 0.0250 0.0250	ug/kg " mg/kg wet " "	40.0 Prepared 1.25 1.25 1.25	& Analyz	89.8 ed: 05/31/ 90.4 91.2 102	80-120 706 80-120 80-120 80-120			
Xylene (o) Surrogate: a,a,a-Trifluorotoluene Surrogate: 4-Bromofluorobenzene  LCS (EE63104-BS1) Benzene Toluene Ethylbenzene Xylene (p/m)	ND 41.6 35.9 1.13 1.14 1.28 2.54	0.0250 0.0250 0.0250 0.0250 0.0250	ug/kg " mg/kg wet " "	40.0 Prepared 1.25 1.25 1.25 2.50	& Analyz	89.8 ed: 05/31/ 90.4 91.2 102 102	80-120 80-120 80-120 80-120 80-120			

P.O. Box 50685 Midland TX, 79710 Project: Chesapeake/Ollie J. Boyd

Fax: (432) 687-0456

Reported: 06/02/06 17:38

Project Number: 5-0130 Project Manager: Mark Larson

#### Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE63104 - EPA 5030C (GC)										
Calibration Check (EE63104-CCV1)				Prepared:	05/31/06	Analyzed	: 06/01/06			
Benzene	42.2		ug/kg	50.0		84.4	80-120			
Toluene	43.0		н —	50.0		86.0	80-120			
Ethylbenzene	49.4		н	50.0		98.8	80-120			
Xylene (p/m)	98.2		11	100		98.2	80-120			
Xylene (o)	52.0		n	50.0		104	80-120			
Surrogate: a,a,a-Trifluorotoluene	41.8		"	40.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	47.1		"	40.0		118	80-120			
Matrix Spike (EE63104-MS1)	Sou	rce: 6E2500	8-01	Prepared:	05/31/06	Analyzed	1: 06/01/06			
Benzene	1.17	0.0250	mg/kg dry	1.29	ND	90.7	80-120			
Toluene	1.19	0.0250	11	1.29	ND	92.2	80-120			
Ethylbenzene	1.25	0.0250	tr	1.29	ND	96.9	80-120			
Xylene (p/m)	2.67	0.0250	"	2.57	ND	104	80-120			
Xylene (o)	1.43	0.0250	11	1.29	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	42.2		ug/kg	40.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	41.0		"	40.0		102	80-120			
Matrix Spike Dup (EE63104-MSD1)	Sou	rce: 6E2500	08-01	Prepared:	05/31/06	Analyzed	1: 06/01/06			
Benzene	1.10	0.0250	mg/kg dry	1.29	ND	85.3	80-120	6.14	20	
Toluene	1.12	0.0250	11	1.29	ND	86.8	80-120	6.03	20	
Ethylbenzene	1.23	0.0250	n	1.29	ND	95.3	80-120	1.66	20	
Xylene (p/m)	2.58	0.0250	.11	2.57	ND	100	80-120	3.92	20	
Xylene (o)	1.29	0.0250	*1	1.29	ND	100	80-120	10.4	20	
Surrogate: a,a,a-Trifluorotoluene	42.2		ug/kg	40.0		106	80-120			
Surrogate: 4-Bromofluorobenzene	40.0		u	40.0		100	80-120			
Batch EE63112 - Solvent Extraction	(GC)									
Blank (EE63112-BLK1)				Prepared	& Analyz	ted: 05/31/	′06			
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	II.							
Carbon Ranges C28-C35	ND	10.0	. "							
Total Hydrocarbon nC6-nC35	ND	10.0	n							
Surrogate: 1-Chlorooctane	45.7	····	mg/kg	50.0	·····	91.4	70-130			
Surrogate: 1-Chlorooctadecane	44.3		"	50.0		88.6	70-130			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE63112 - Solvent Extraction (	(GC)									
LCS (EE63112-BS1)				Prepared	& Analyze	ed: 05/31/0	06			
Carbon Ranges C6-C12	557	10.0	mg/kg wet	500		111	75-125			
Carbon Ranges C12-C28	547	10.0	11	500		109	75-125			
Carbon Ranges C28-C35	ND	10.0	n	0.00			75-125			
Total Hydrocarbon nC6-nC35	1100	10.0	11	1000		110	75-125			
Surrogate: 1-Chlorooctane	53.1		mg/kg	50.0		106	70-130		-9	
Surrogate: 1-Chlorooctadecane	45.3		"	50.0		90.6	70-130			
Calibration Check (EE63112-CCV1)				Prepared:	05/31/06	Analyzed	l: 06/01/06			
Carbon Ranges C6-C12	294		mg/kg	250		118	80-120			
Carbon Ranges C12-C28	297		**	250		119	80-120			
Total Hydrocarbon nC6-nC35	590		n	500		118	80-120			
Surrogate: 1-Chlorooctane	63.5		<i>n</i>	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	61.9		"	50.0		124	70-130			
Matrix Spike (EE63112-MS1)	So	urce: 6E260	02-04	Prepared	& Analyz	ed: 05/31/	06			
Carbon Ranges C6-C12	649	10.0	mg/kg dry	524	ND	124	75-125			
Carbon Ranges C12-C28	649	10.0	H	524	35.5	117	75-125			
Carbon Ranges C28-C35	ND	10.0	Ħ	0.00	ND		75-125			
Total Hydrocarbon nC6-nC35	1300	10.0		1050	35.5	120	75-125			
Surrogate: 1-Chlorooctane	55.1		mg/kg	50.0		110	70-130			
Surrogate: 1-Chlorooctadecane	46.1		"	50.0		92.2	70-130			
Matrix Spike Dup (EE63112-MSD1)	So	urce: 6E260	002-04	Prepared	& Analyz	ed: 05/31/	06			
Carbon Ranges C6-C12	647	10.0	mg/kg dry	524	ND	123	75-125	0.309	20	
Carbon Ranges C12-C28	638	10.0	Ħ	524	35.5	115	75-125	1.71	20	
Carbon Ranges C28-C35	ND	10.0	11	0.00	ND		75-125		20	
Total Hydrocarbon nC6-nC35	1290	10.0	**	1050	35.5	119	75-125	0.772	20	
Surrogate: 1-Chlorooctane	54.6		mg/kg	50.0		109	70-130			

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

#### Organics by GC - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EF60107 - EPA 5030C (GC)										
Blank (EF60107-BLK1)				Prepared	& Analyzo	ed: 06/01/	06			
Benzene	ND	0.0250	mg/kg wet	,						
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"						•	
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	40.5		ug/kg	40.0		101	80-120			
Surrogate: 4-Bromofluorobenzene	35.9		"	40.0		89.8	80-120			
LCS (EF60107-BS1)			_	Prepared	& Analyz	ed: 06/01/	06			
Benzene	1.12	0.0250	mg/kg wet	1.25		89.6	80-120			
Toluene	1.14	0.0250	11	1.25	•	91.2	80-120			
Ethylbenzene	1.23	0.0250	"	1.25		98.4	80-120			
Xylene (p/m)	2.63	0.0250	11	2.50		105	80-120			
Xylene (o)	1.32	0.0250	н .	1.25		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.8		ug/kg	40.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	44.0		"	40.0		110	80-120			
Calibration Check (EF60107-CCV1)				Prepared	& Analyz	ed: 06/01/	06			
Benzene	45.7		ug/kg	50.0		91.4	80-120			
Toluene	45.2		ll.	50.0		90.4	80-120			
Ethylbenzene	49.5		11	50.0		99.0	80-120			
Xylene (p/m)	98.5		"	100		98.5	80-120			
Xylene (o)	50.9		ıı	50.0		102	80-120			
Surrogate: a,a,a-Trifluorotoluene	46.0		"	40.0		115	80-120			
Surrogate: 4-Bromofluorobenzene	39.4		"	40.0		98.5	80-120			
Matrix Spike (EF60107-MS1)	So	urce: 6E250	29-36	Prepared	: 06/01/06	Analyze	d: 06/02/0	6		
Benzene	1.24	0.0250	mg/kg dry	1.35	ND	91.9	80-120			<del></del>
Toluene	1.25	0.0250	11	1.35	ND	92.6	80-120			
Ethylbenzene	1.25	0.0250	11	1.35	ND	92.6	80-120		*	
Xylene (p/m)	2.84	0.0250	11	2.71	ND	105	80-120			
Xylene (o)	1.39	0.0250	11	1.35	ND	103	80-120			
Surrogate: a,a,a-Trifluorotoluene	44.3		ug/kg	40.0		111	80-120			<del></del>
Surrogate: 4-Bromofluorobenzene	38.4		"	40.0		96.0	80-120			

Surrogate: a,a,a-Trifluorotoluene

Surrogate: 4-Bromofluorobenzene

Analyte

Project: Chesapeake/ Ollie J. Boyd

Spike

Level

40.0

40.0

Source

Result

%REC

Limits

80-120

80-120

RPD

%REC

108

97.8

Project Number: 5-0130 Project Manager: Mark Larson

Reporting

Limit

Result

43.2

39.1

Fax: (432) 687-0456

Reported: 06/02/06 17:38

Notes

RPD

Limit

#### Organics by GC - Quality Control Environmental Lab of Texas

Units

Matrix Spike Dup (EF60107-MSD1)	Sou	rce: 6E2502	29-36	Prepared:	06/01/06	Analyzed	1: 06/02/06		
Benzene	1.25	0.0250	mg/kg dry		ND	92.6	80-120	0.759	20
Toluene	1.26	0.0250	tt	1.35	ND	93.3	80-120	0.753	20
Ethylbenzene	1.31	0.0250	н	1.35	ND	97.0	80-120	4.64	20
Xylene (p/m)	2.90	0.0250	"	2.71	ND	107	80-120	1.89	20
Xylene (o)	1.43	0.0250	n	1.35	ND	106	80-120	2.87	20

ug/kg

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF60103 - General Prepara	ation (Prep)									
Blank (EF60103-BLK1)				Prepared:	05/31/06	Analyzed	: 06/01/06			
% Solids	100		%							
Duplicate (EF60103-DUP1)	Sou	rce: 6E3100	5-02	Prepared:	05/31/06	Analyzed	: 06/01/06			
% Solids	84.9		%		81.1			4.58	20	
Duplicate (EF60103-DUP2)	Sou	rce: 6E3100	3-02	Prepared:	05/31/06	Analyzed	: 06/01/06			
% Solids	93.5		%		93.6			0.107	20	
Duplicate (EF60103-DUP3)	Sou	rce: 6E3100	06-06	Prepared:	05/31/06	Analyzed	: 06/01/06			
% Solids	92.2		%		92.7			0.541	20	
Duplicate (EF60103-DUP4)	Sou	rce: 6E2502	9-14	Prepared:	05/31/06	Analyzed	: 06/01/06			
% Solids	93.7		%		93.4			0.321	20	
Duplicate (EF60103-DUP5)	Sou	rce: 6E2502	29-34	Prepared	05/31/06	Analyzed	: 06/01/06			
% Solids	94.1		%		93.9			0.213	20	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Reported: 06/02/06 17:38

#### **Notes and Definitions**

S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

RalandkJul

Date: <u>Q-05-06</u>

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.

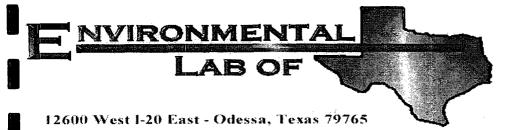
# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Checkli Yes   Yes   Yes   Yes	No   No   No   No   No	Net prese		
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CHENT NAME.	SITE MANAGER.			CHAIN OF CHISTORY RECORD
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5 - 0130	CIL'D Boad	N G N		SOCIOTES, Inc. Fax: 432-687-0456 Environmental Consultants 432-687-0901
ת		108		507 N. Marienfeld, Ste. 202 • Midland, TX 79701
5 5		H		LAB. 1.D. REMARKS
ANU ANU ANU	SAMPLE IDENTIFICATION	L8 JJ_		2
5 0811 X	HA-5 2-31	1 ×		1-10 LETSOLO
1 0817	1 3-4'			-70
0832	HA-6 0-1			7
0838				-20
0846	2-31			-23
<b>0</b> 85i	3-4			7.4
901	11-0 P-M			26
9050				76
2150	2-3			28
4150	3-4			2
0925	HA-8 0-1'			-28
5432	, 7-7			28
r260	2-3			2
0941	3-4			32
0951	HA-9 0-11			
2550	, 7-1			42
1 1002	2-3			35
9001		<b>→</b>		
SAMMED BY: (Signature)	DATE: \$125/05/ TIME: 1200	BHED BY: (Signature)	DATE: SI 25	RECEIVED BY: (Signature) TIME:
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)	DATE	SAMPLE SHIPPED BY: (Circle)
	TIME:		TIME:	BUS AI
COMMENTS:		10.	TURNAROUND TIME NEEDED	
VOCTA CO CA 1 OLAN 197770		DECEMBED BY, (Classetter)		YELLOW - RECEIVING LAB (TO BE RETURNED TO
ADDRESS:		- Kecelyen bi: (Jajridinine)	(Sec.)	PINK - PROJECT MANAGER
CONTACT	STATE: ZIP: PHONE:	- DATE: 2/22/06 T	TIME: 4400	GOLD - QA/QC COORDINATOR
SAMPLE CONDITION WHEN RECEIVED:		LA CONTACT PERSON:	1,0	SAMPLE TYPE:



# Analytical Report

#### Prepared for:

Mark Larson
Larson & Associates, Inc.
P.O. Box 50685
Midland, TX 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Location: None Given

Lab Order Number: 6F15007

Report Date: 06/20/06

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson

Fax: (432) 687-0456

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA-1 0-1'	6F15007-01	Soil	05/24/06 08:12	05/25/06 16:00
HA-1 1-2'	6F15007-02	Soil	05/24/06 08:22	05/25/06 16:00
HA-1 2-3'	6F15007-03	Soil	05/24/06 08:28	05/25/06 16:00
'HA-1 3-4'	6F15007-04	Soil	05/24/06 08:35	05/25/06 16:00
HA-2 0-1'	6F15007-05	Soil	05/24/06 08:44	05/25/06 16:00
HA-2 1-2'	6F15007-06	Soil	05/24/06 08:51	05/25/06 16:00
HA-2 2-3'	6F15007-07	Soil	05/24/06 08:59	05/25/06 16:00
HA-2 3-4'	6F15007-08	Soil ·	05/24/06 09:04	05/25/06 16:00
HA-3 0-1'	6F15007-09	Soil	05/24/06 09:20	05/25/06 16:00
HA-3 1-2'	6F15007-10	Soil	05/24/06 09:26	05/25/06 16:00
HA-3 2-3'	6F15007-11	Soil	05/24/06 09:35	05/25/06 16:00
HA-3 3-4'	6F15007-12	Soil	05/24/06 09:43	05/25/06 16:00
HA-4 0-1'	6F15007-13	Soil	05/24/06 12:45	05/25/06 16:00
HA-4 1-2'	6F15007-14	Soil	05/24/06 12:51	05/25/06 16:00
HA-4 2-3'	6F15007-15	Soil	05/24/06 12:55	05/25/06 16:00
HA-4 3-4'	6F15007-16	Soil	05/24/06 13:00	05/25/06 16:00
HA-5 0-1'	6F15007-17	Soil	05/25/06 08:00	05/25/06 16:00
HA-5 1-2'	6F15007-18	Soil	05/25/06 08:05	05/25/06 16:00
HA-5 2-3'	6F15007-19	Soil	05/25/06 08:11	05/25/06 16:00
HA-5 3-4'	6F15007-20	Soil	05/25/06 08:17	05/25/06 16:00
HA-6 0-1'	6F15007-21	Soil	05/25/06 08:32	05/25/06 16:00
HA-6 1-2'	6F15007-22	Soil	05/25/06 08:38	05/25/06 16:00
HA-6 2-3'	6F15007-23	Soil	05/25/06 08:46	05/25/06 16:00
HA-6 3-4'	6F15007-24	Soil	05/25/06 08:51	05/25/06 16:00
HA-7 0-1'	6F15007-25	Soil	05/25/06 09:01	05/25/06 16:00
HA-7 1-2'	6F15007-26	Soil	05/25/06 09:06	05/25/06 16:00
HA-7 2-3'	6F15007-27	Soil	05/25/06 09:12	05/25/06 16:00
HA-7 3-4'	6F15007-28	Soil	05/25/06 09:17	05/25/06 16:00
HA-8 0-1'	6F15007-29	Soil	05/25/06 09:25	05/25/06 16:00
HA-8 1-2'	6F15007-30	Soil	05/25/06 09:32	05/25/06 16:00
HA-8 2-3'	6F15007-31	Soil	05/25/06 09:37	05/25/06 16:00
HA-8 3-4'	6F15007-32	Soil	05/25/06 09:41	05/25/06 16:00
HA-9 0-1'	6F15007-33	Soil	05/25/06 09:51	05/25/06 16:00
HA-9 1-2'	6F15007-34	Soil	05/25/06 09:55	05/25/06 16:00

P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130

Project Manager: Mark Larson

Fax: (432) 687-0456

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory	ID Matrix	Date Sampled	Date Received
HA-9 2-3'	6F15007-3	5 Soil	05/25/06 10:02	05/25/06 16:00
HA-9 3-4'	6F15007-3	6 Soil	05/25/06 10:08	05/25/06 16:00

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Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-1 0-1' (6F15007-01) Soil							·		
Chloride	119	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-1 1-2' (6F15007-02) Soil		·						· .	
Chloride	142	10.0	mg/kg	20	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-1 2-3' (6F15007-03) Soil									
Chloride	78.5	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-1 3-4' (6F15007-04) Soil									
Chloride	96.8	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-2 0-1' (6F15007-05) Soil									
Chloride	248	10.0	mg/kg	20	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-2 1-2' (6F15007-06) Soil									
Chloride	90.4	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-2 2-3' (6F15007-07) Soil									
Chloride	179	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-2 3-4' (6F15007-08) Soil									٠
Chloride	160	10.0	mg/kg	20	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-3 0-1' (6F15007-09) Soil									
Chloride	63.3	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-3 1-2' (6F15007-10) Soil									
Chloride	54.3	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	

P.O. Box 50685 Midland TX, 79710 Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-3 2-3' (6F15007-11) Soil	· · · · · · · · · · · · · · · · · · ·								
Chloride	49.2	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-3 3-4' (6F15007-12) Soil							<del></del>		
Chloride	46.6	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-4 0-1' (6F15007-13) Soil									
Chloride	46.0	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-4 1-2' (6F15007-14) Soil			_					<u>.                                    </u>	
Chloride	27.0	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-4 2-3' (6F15007-15) Soil						<u>.</u>			
Chloride	32.1	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-4 3-4' (6F15007-16) Soil									
Chloride	35.6	5.00	mg/kg	10	EF61801	06/18/06	06/19/06	EPA 300.0	
HA-5 0-1' (6F15007-17) Soil									
Chloride	19.8	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-5 1-2' (6F15007-18) Soil									
Chloride	33.0	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-5 2-3' (6F15007-19) Soil								·	
Chloride	47.7	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-5 3-4' (6F15007-20) Soil									
Chloride	86.4	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

A1-4-	Danule	Reporting	1 Indea	<b>5</b> .1	<b>.</b>				
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
HA-6 0-1' (6F15007-21) Soil							<del></del>		
Chloride	95.2	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-6 1-2' (6F15007-22) Soil			·						
Chloride	197	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-6 2-3' (6F15007-23) Soil									
Chloride	140	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-6 3-4' (6F15007-24) Soil									<u> </u>
Chloride	107	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-7 0-1' (6F15007-25) Soil									
Chloride	23.1	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-7 1-2' (6F15007-26) Soil									
Chloride	26.3	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-7 2-3' (6F15007-27) Soil									
Chloride	27.9	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-7 3-4' (6F15007-28) Soil									
Chloride	27.3	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-8 0-1' (6F15007-29) Soil									
Chloride	26.7	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-8 1-2' (6F15007-30) Soil									
Chloride	17.9	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	

Larson & Associates, Inc. P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Fax: (432) 687-0456

Project Number: 5-0130 Project Manager: Mark Larson

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
HA-8 2-3' (6F15007-31) Soil									
Chloride	27.5	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-8 3-4' (6F15007-32) Soil									
Chloride	35.3	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	,
HA-9 0-1' (6F15007-33) Soil									
Chloride	73.4	5.00	mg/kg	10	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-9 1-2' (6F15007-34) Soil									
Chloride	138	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-9 2-3' (6F15007-35) Soil									
Chloride	423	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	
HA-9 3-4' (6F15007-36) Soil	·	· .							
Chloride	683	10.0	mg/kg	20	EF62002	06/19/06	06/19/06	EPA 300.0	

P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/Ollie J. Boyd

Project Number: 5-0130
Project Manager: Mark Larson

Fax: (432) 687-0456

## General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD_	Limit	Notes
Batch EF61801 - General Preparation	ı (WetChem	1)			·					
Blank (EF61801-BLK1)				Prepared:	06/18/06	Analyzed	: 06/19/06		·	
Chloride	ND	0.500	mg/kg							
LCS (EF61801-BS1)				Prepared:	06/18/06	Analyzed	: 06/19/06			
Chloride	10.4	0.500	mg/kg	10.0		104	80-120			
Calibration Check (EF61801-CCV1)				Prepared:	06/18/06	Analyzed	: 06/19/06			
Chloride	10.4		mg/L	10.0		104	80-120			
Duplicate (EF61801-DUP1)	So	urce: 6F1600	06-03	Prepared:	06/18/06	Analyzed	l: 06/19/06			
Chloride	11.8	5.00	mg/kg		12.1			2.51	20	
Duplicate (EF61801-DUP2)	So	urce: 6F150(	7-08	Prepared	: 06/18/06	Analyzed	l: 06/19/06			•
Chloride	153	10.0	mg/kg		160			4.47	20	
Matrix Spike (EF61801-MS1)	So	urce: 6F160(	06-03	Prepared	: 06/18/06	Analyzed	l: 06/19/06			
Chloride	101	5.00	mg/kg	100	12.1	88.9	80-120		· · · · · · · · · · · · · · · ·	
Matrix Spike (EF61801-MS2)	So	urce: 6F150(	07-08	Prepared	: 06/18/06	Analyzed	1: 06/19/06			
Chloride	354	10.0	mg/kg	200	160	97.0	80-120	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Batch EF62002 - Water Extraction										
Blank (EF62002-BLK1)				Prepared	& Analyz	ed: 06/19/	06			
Chloride	ND	0.500	mg/kg							
LCS (EF62002-BS1)				Prepared	& Analyz	zed: 06/19/	06			
Chloride	10.3	0.500	mg/kg	10.0		103	80-120			

P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Fax: (432) 687-0456

Project Number: 5-0130

Project Manager: Mark Larson

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EF62002 - Water Extraction			·			·				··
Calibration Check (EF62002-CCV1)				Prepared	& Analyzo	ed: 06/19/	06			
Chloride	10.6		mg/kg	10.0		106	80-120			
Duplicate (EF62002-DUP1)	Soui	rce: 6F1500	7-22	Prepared	& Analyze	ed: 06/19/	06			
Chloride	203	10.0	mg/kg		197	1 10 Acc		3.00	20	
Duplicate (EF62002-DUP2)	Soui	rce: 6F1500	7-35	Prepared	& Analyz	ed: 06/19/	06			
Chloride	414	10.0	mg/kg		423			2.15	20	
Matrix Spike (EF62002-MS1)	Sou	rce: 6F150(	7-22	Prepared	& Analyz	ed: 06/19/	06		,	
Chloride	414	10.0	mg/kg	200	197	108	80-120			
Matrix Spike (EF62002-MS2)	Sou	rce: 6F1500	7-35	Prepared	& Analyz	ed: 06/19/	06			
Chloride	676	10.0	mg/kg	200	423	126	80-120			S-

P.O. Box 50685

Midland TX, 79710

Project: Chesapeake/ Ollie J. Boyd

Project Number: 5-0130 Project Manager: Mark Larson Fax: (432) 687-0456

#### **Notes and Definitions**

S-08 Value outside Laboratory historical or method prescribed QC limits.

DET Analyte DETECTED

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

Sample results reported on a dry weight basis dry

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

> Kalandkjull Report Approved By:

Date:

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director

Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas. Page 9 of 9

CHAIN—OF—CUSTODY RECORD	8 0000	SSOCIATES, Inc. Fax: 432-687-0456	ultants	Marienfeld, St	LAB. I.D. REMARKS NUMBER (I.E., FILTRED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE) (I.AB USE ONLY) GRAB COMPOSITE)	-01 (4775-02-1 / GF15007	100	.00	- Û.Q.	99	0)()	-01	320		9		7		7		3)		DATE:	RECEIVED BT: (Signature) TIME:	SAMPLE SHIPPED BY: (Circle)	BUS A	HAND DELIVERED UPS OTHER: WHITE - RECEIVING LAB	 	LA AFTER RECEIPT)  PINK — PROJECT MANAGER	_	SAMPLE TYPE: COPY
PARAMETERS/METHOD NUMBER	\$		Z 1 C	· ·	WUMBER WUMBER	X																	- - - - -	RELINQUISHED BY: (Signature)  TIME: 1600	(Signature) DATE:	TIME:	Add CI of 15-06 as refatterned e-me. 1		RECEIVED BY: (Signature)	DATE: ELEVICIO TIME: 4 C.C.	LA CONTACT PERSON: し.C.
SITE MANAGER:	MARK Larson		Onlie Boyd	LAB. PO #	SAMPLE IDENTIFICATION	14/4-1		2-3	7 10	14A-2. 0-1		· my	3-4:	HA-3 0-11		2-3'	.7. 3-4.	14A-4 0-1'		2-5'	3-4	1		DATE: <u>\$\frac{72\color{600}}{500}\$</u> TIME: 1200	RECEIVED BY		& Add CIT		2	STATE: ZIP: The phone of the ph	
CLIENT NAME:	Chesapeahe	PROJECT NO.:	051013	PAGE 1 OF	10 <sub>S</sub>	× ×		J.,	430			YX				,				5571	1500	0.580 11 (	1/25 OBO 1 1/2	SAMPLED BY: (Signoffure)	RELINQUISHED BY: (Signature)		COMMENTS:		RECEIVING LABORATORY:	CITY	SAMPLE CONDITION WHEN RECEIVED:

E MANAGER: PARAMETERS/METHOD NUMBER   CHAIN—OF—CUSTODY RECORD	Larson Triners	So N. Marienfeld, Ste. 202 •	LAB.1D. NUMBER NUMBER (IAB.USE ONLY)	$1 \times 5 \times 2.3$ $1 \times $	3-4'	A-6	77.	2.51			2.3		-8 O-1'	1.2.		3.4	· 1-O - 5-			1	RECEIVED BY: (Signature) DATE: SAMPLE SHIPPED BY: (Circle)	TIME: REDEX BUS A	ш '	RECEIVED BY: (Signature)  LA AFTER RECEIVING TO BE RETURNED TO BE	ZIP. DATE: 7/2/0/C TIME: 4 0.0 GOLD	LA CONTACT PERSON: 1, () SAMPLE TYPE: A CONTACT PERSON: 1, ()
SITE MANAGER:	<b>-</b>   -	1 1	SAMPLE IDENTIFICATION	WA-5 2	3.	-6	1-2,	2-31		7-7	1.6.	3-4		1-2.1	2.31		<u>î</u> 0-1	7 7	7: 5: 7				Add &		STATE: ZIP: PHONE:	
CLIENT NAME:	PROJECT NO.	€ 0F	NOS SILVM IMIL IVO	X 0.800 X	(1871)	7887	6838	0.646	1000		7100		2750	0.93.2.	0.63.0	14.0	1390	35.00	7,00	SAMPLED BY: (Signature)	RELINQUISHED BY: (Signature)		COMMENTS:	RECEIVING LABORATORY:	ADDRESS: CITY: CONTACT:	SAMPLE CONDITION WHEN RECEIVED:

# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Marke I and				
ent			, can set t	
e/Time: 5/15/00 4:00	0			
Si Tille			<b>U</b>	
er# 106 15029 /6F150				
als				
ials:			·	
Sample Receipt	Checkli	st		
nderature of container/cooler?	Yes	No	[,O C	
oping container/cooler in good condition?	73	No		
tody Seals intaction shipping container/cooler?	Yes	No	Net present	
tody Seals intact on sample bottles?	Yes	No	Not present	
in of custody present?	Yes I	No 1		,
nple Instructions complete on Chain of Custody?	7	No	i	
ain of Custody signed when relinquished and received?	X38	No 1		
ain of custody agrees with sample label(s)	1000	No		
ntainer labels legible and intact?	1	No 1		
mple Matrix and properties same as on chain of custody?	Xes	No 1	!	
moles in procer container/bottle?	1 753	No I	•	
mples properly preserved?	<b>X</b>	No I		
mole bottles intact?	100	l No l		
eservations documented on Chain of Custody?	1	l No l		
entainers documented on Chain of Custody?	T TE	No I	1	
ifficient sample amount for indicated test?	1 7/5	No 1		
I samples received within sufficient hold time?	(C)s	No		
DC samples have zero headspace?	(FES	No	Not Applicable	
ther coservations:				· · · · · · · · · · · · · · · · · · ·
Variance Docu				
Contact Person: Date/Time:			Contacted by:	
Regarding:			· -	
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Corrective Action Takent				
		<del></del>		
	·			
			·	

#### Jeanne McMurrey

From: To:

"Mark Larson" <mark@laenvironmental.com> "Jeanne McMurrey" <jeanne@elabtexas.com> Thursday, June 15, 2006 7:47 AM

Sent:

Subject:

RE: 6E25029 Chesapeake/ Ollie J. Boyd

Jeanne: Please run chloride on all samples.

Thanks, Mark

----Original Message----

From: Jeanne McMurrey [mailto:jeanne@elabtexas.com]

**Sent:** Monday, June 05, 2006 3:22 PM

To: Mark Larson

Subject: RE: 6E25029 Chesapeake/ Ollie J. Boyd

Jeanne McMurrey Environmental Lab of Texas I, Ltd. 12600 West I-20 East Odessa, Texas 79765 432-563-1800

This message has been scanned for viruses and dangerous content by BasinBroadband, and is believed to be clean.

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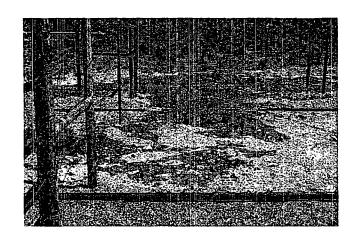
#### APPENDIX C

**Photographs** 

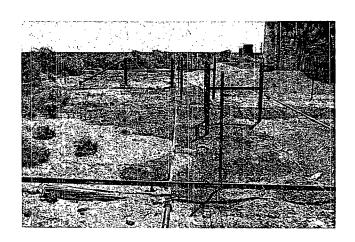
# UL C, (NE/NW), SECTION 23, T-22-S, R-37-E LEA COUNTY, NEW MEXICO



Chesapeake Operating, Inc.,
 Ollie J. Boyd Tank Battery Location Sign



2. Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery - Leak Site, Looking North

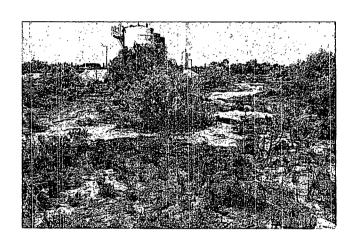


3. Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery - Leak Site, Looking East

# UL C, (NE/NW), SECTION 23, T-22-S, R-37-E LEA COUNTY, NEW MEXICO



4. Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery - Leak Site, Looking East



5. Chesapeake Operating, Inc., Ollie J. Boyd Tank Battery - Leak Site, Looking West