Chain of Custody and Supporting Documentation

														N	A		5			
Con Co	ET IN I STA		, .	U	HAIN OI		JY RI	ວິ	ßD					ö	#				/H/M	AG20091027_00
					a ma horașese	at being as any country in a sur-							4			1			Page	: 1 of 1
Custome	r Information		Project Inform	nation			Proje	ct In	forma	tion								1		
Site:	SSFL		Client N.&.ne:	Boe	ing		Colle	ctor:	A.G	oldenb	erg				F	Boein	9 PM			
Company:	HWH		Sampling Ever	Nt: ISR	A Sampling,	August 2009	Cont	ict #:					-	1						
Report to:	Sarah Von Raesfeld		Project i i imbe	er: 189	1614.05462			1.1			Req	uester	I Anal	yses			ĺ		Instru	ctions/TAT
Address:	2121 N. California Blv	P	Project Mit nag	er: Alex	(Fischl											-		_		
	Suite 600		PM Phone #:	(925	() 627-4627		_		-										Numer	t: ical values for
	Walnut Creek		Field Con.act:	Allis	on Ruotolo														analyse around	es equate to turn time in days
	CA		Field Contact	#: (626	i) 568-6007		T	·	Met	M							S		<u>Р</u> - Н	g
	94596		Lab Name:	GEL	Laboratorie	s, LLC			als by	etals			Per			SVO	voc		EH-E	<pre>ctract/Extrude &</pre>
Email:	sarah.vonraesfeld@m	whglobal.c	Lab Contact:	Jaci	cie Trudell				y 601	by 6	1	PC	erchi		F	Cs b	s by i	TP		
	sean.leffler@mwhglob	al.com	Lab Addres	204	0 Savage Ro	ad	D2	Dioxi	0/60	010/	РСВ	Bby	ate 3	Per	erch	y SV	SW8	Hhv	0 Note: V	alles and the calle
				Cha	rleston, SC 2	9407	216	in by	20/74	6020	by S	SW	14 W	chlor	lorate	V827	2700	SW/8	bellow	are Turn Around
			Lab Phone:	(843	() 769-7388		Moist	1613	470A	/747 [.]	W80	8082	/ater	ate 6	e 685	oc s	SIM	015	Sellis	
Sample Na	ame		Matrix	Date	Time	No. of Containers	ure Soil	B - Soil	- Water	1A - Soil	82 - Soil	- Water	DI-WET	850 Soil	50 Water	IM - Soil	- Water	M - Soil	Com	ients
EBQW2250		Wat	er	7/200	9 15:20	10		-	Т			H	8	L	2	1	Ŧ		T	
FBQW2245		Wat	er	10. 1200	9 14:50	10		F	Ŧ			E	2		2	T ^w	E			
HZBS0181S	001	Soil		10/2 100	9 10:30	4	2	I		Τ	표	-		N		Ŧ	ш. 	Ŧ		
HZBS0181S	1002	Soil		10/27, 9	9 10:45	4	2	I.T.		т	표	-		~		표		Ŧ		
HZBS0183S	5001	Soil		10/27/2 ::	9 10:55	4	7	I I		т	표	-		N		Ŧ	1	I.		
HZBS0183S	3002	Soil		10/27/20 3	11:15	4	7	Ŧ		т	표	-		N		H	T m	$\frac{1}{1}$		
HZBS0184S	3001	Soil		10/27/20	13:20	4	2	- -		т	표	-		~		표	ш	+ T		
HZBS0184S	\$002	Soil		127/200	9 14:05	4	2	Ξ		т	표			N		E	ш	- -		
HZBS0185S	5001	Soil		. 0/27/200	9 12:35	4	2	T		т	표			°.	•	H	ш	I.T.		
HZBS0185S	\$002	Soil		10/27/200	9 13:00	4	2	Ξ		т	Ŧ			N		Ξ	ш	I _I		
1. Relinqu	lished by:	Date:	2. Receive	by:		Date:	3. Reli	nquis	hed by		.	ă	te:		4. Re	eiveo	þ.			Date:
Allon	1. Pate	0-F5-01	A RUN	Al	ز	10/28/09														
Company MVVH		Time: 16:05	Company:	5		Time: 09/05	Comp	:Aue				F	me:		Comp	any:				Time:
Comment	s: Sample volume for (dioxin analy	sis shipped direct	y CFA	, and sample	volume for all	other an	alysis	shippe	d to G	Ш			seotra	ckerE	Б				
														Data V	alidati	on Pa	ckage	2	Level IV	(

Anaper

-

•

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

in a Day RS Ail			-	
ived by: Kink Line			Date	Received: 10/28/29
ected Hazard Information	Yes	No	*If C Radi	Counts > x2 area background on samples not marked "radioactive", contact the lation Safety Group of further investigation.
Samples marked as radioactive?		V	Max	imum Counts Observed*: 40 CPm
sified Radioactive II or III by RSO?		V		
/Samples marked containing PCBs?		1		· · · · · · · · · · · · · · · · · · ·
ped as a DOT Hazardous?		\checkmark	Haza	ard Class Shipped: UN#:
ples identified as Foreign Soil?		1		
Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received intact and sealed?	>			Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?	>			Preservation Method: 3 - , 4 - blue ice dry ice none other (describe)
Chain of custody documents included with shipment?	/			
Sample containers intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)
Samples requiring chemical preservation at proper pH?	5			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
VOA vials free of headspace (defined as < 6mm bubble)?		v		Sample ID's and containers affected:
Are Encore containers present?			~	(If yes, immediately deliver to Volatiles laboratory)
Samples received within holding time?	~			Id's and tests affected:
Sample ID's on COC match ID's on bottles?	~			Sample ID's and containers affected:
Date & time on COC match date & time on bottles?	~			Sample ID's affected:
Number of containers received match number indicated on COC?			~	Sample ID's affected: received 3 containers for call soil, 8 containers for each water
COC form is properly signed in relinquished/received sections?				
nments: FedEx 9457 3 9457 3 9457 3	63		070 560 770	07- 3** {z-3* {8-4*
	ected Hazard Information //Samples marked as radioactive? sified Radioactive II or III by RSO? //Samples marked containing PCBs? ped as a DOT Hazardous? ples identified as Foreign Soil? Sample Receipt Criteria Shipping containers received intact and sealed? Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$? Chain of custody documents included with shipment? Sample containers intact and sealed? Samples requiring chemical preservation at proper pH? VOA vials free of headspace (defined as < 6mm bubble)? Are Encore containers present? Samples received within holding time? Samples received within holding time? Sample ID's on COC match ID's on bottles? Date & time on COC match date & time on bottles? Number of containers received match number indicated on COC? COC form is properly signed in relinquished/received sections? Inters: FELEX $\mathcal{G} + \mathcal{G} + G$	ected Hazard Information $3 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ $	ected Hazard Information $\frac{3}{2}$ $\frac{2}{2}$ /Samples marked as radioactive?//isified Radioactive II or III by RSO?///Samples marked containing PCBs?//ped as a DOT Hazardous?//bes identified as Foreign Soil?//Sample Receipt Criteria $\frac{3}{2}$ Shipping containers received intact and sealed?//Samples requiring cold preservation within $(0 \le 6 \deg. C)$?//Chain of custody documents included with shipment?//Sample containers intact and sealed?//Samples requiring chemical preservation at proper pH?//VOA vials free of headspace (defined as < 6 mm bubble)?	ected Hazard Information 3 2 * If G Radi//Samples marked as radioactive?// Maxsified Radioactive II or III by RSO?////Samples marked containing PCBs?//ped as a DOT Hazardous?//ped as a DOT Hazardous?//sample containers received intact and sealed?//Sample containers intact and sealed?//Samples requiring chemical preservation at proper pH?//VOA vials free of headspace (defined as < 6mm bubble)?

Customer Informat Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N.G Suite 600 Suite 600 CA CA Sample Name EBOW2249 HVBF33AS01	tion n Raesteld California Blvd reek reek reek reekomvhglobal.com	Project Info Client Name: Sampling Ev Project Nam Project Man	ormatio			Drolor	e Inc.		5							Page: 1 of
Customer Informat Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Suite 600 VValnut C CA 94596 Email: sarah.vo sean.left sean.left sean.left EBQW2249	tion n Raesteld California Blvd reek reek nraesteld@mwhglob	Project Info Client Name: Sampling Ev Project Nam Project Man	ormatio	•		Drolor	te la 6									
Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Walnut C CA 94596 Emalt: sarah vo sean.leff sean.leff Bample Name EBDW2248	n Raesfeld California Blvd reek reek ireek ireek	Client Name: Sampling Ev Project Num Project Mani	and a state of the					DIIIIau								
Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Suite 600 CA 94596 Email: sarah.vo sean.leff Sample Name	n Raesfeld California Blvd reek reek nraesfeld@rmvhglob ler@rmvhglobal.com	Sampling Ev Project Numi Project Manz PM Phone #:		loeing	4	Collect	ï	B. Mai	tasin					ă	being PM:	
Report to: Sarah Vo. Address: 2121 N. C Suite 600 Suite 600 Walnut C Walnut C Remail: 94596 Sample Name Sample Name HVBF33AS01 HVBF33AS01	n Raesfeld California Blvd reek reek rraesfeld@mwhglob er@mwhglobal.com	Project Numi Project Mana PM Phone #:	rent: I	SRA Sampling.	August 2009	Contac	#									
Address: 2121 N. C Suite 600 Walnut C CA 94596 Email: sarah.vo sean.leff sean.leff Sample Name	California Blvd reek reek raesteld@mwhglob er@mwhglobal.com	Project Mana PM Phone #:	ber: 1	891614.05462						Requ	sted	Analy	305			Instructions/TA1
Suite 600 Walnut C CA 94596 Email: sarah.vo sean.leff Sample Name	reek reek nraesfeld@mwhglob er@mwhglobal.com	PM Phone #:	ager: A	viex Fischl												- aread
Walnut C CA 94596 Email: sarah.voi sean.leff sean.leff Sample Name 1 EBQW2249 1	reek nraesfeld@mwhglobi ier@mwhglobal.com			925) 627-4627												Numerical values fo
CA 94596 Email: sarah.vo sean.left sean.left EBQW2249 CHVBF33AS01	nraesfeld@rmwhglob: ler@rmwhglobal.com	Field Contac		Irian Martasin					_							analyses equate to around time in days
24596 Email: sarah.vo sean.left sean.left EBQW2249 2 HVBF33AS01	rraesfeid@mwhglobi ier@mwhglobal.com	Field Contac	:#:	323) 304-4969				Met	м				SI	_		H-Hold
Email: sarah.voi sean.leff Sample Name EBQW2249	nraesfeld@mwhglobi ler@mwhglobal.com	Lab Name:		SEL Laboratori	es, LLC			als by	etals		Pe	svo	/OCs		 T	EH - Extract/Extrud Hold
sean.left Sample Name EBQW2249	ler@mwhgtobal.com	al.c Lab Contact	-	lackie Trudell			Die	601	by 6	F	archic	Cs by	by S	TPH	РНЬ	
Sample Name EBQW2248 2 HVBF33AS01		Lab Address		040 Savage R	oad	D2	Dievi	0/60	010/6	CB	nate	SW	W82	l by S	v SV	Note: Values in the
Sample Name EBQW2249			ľ	Charleston, SC	29407	216 1	by 16	20/74	3020	by SI	314	8270	2700	SW8	V801	bellow are Turn Aro
Sample Name EBQW2249 2 HVBF33AS01		Lab Phone:	Ť	843) 769-7388		Moist	13B	\$70A	747	W80	Soil	oc si	SIM	0158	58M	
EBQW2249 7 HVBF33AS01		Matrix	Dat	e Time	No. of Containers	ure Soil	- Water	- Water	IA - Soil	32 - Soil	DI-WET	M - Soil	- Water	M - Soil	- Water	Comments
2 HVBF33AS01		Water	10/1/2	15:30	6		2	10	\vdash	-			9	-	0	
		Soll	10/1/2	10:18	2	9	-		F	2		50		6		
2 HVBF33AS02		Soil	10/1/2	009 10:40	2	5				ŝ	-	ŝ		5		
HZBS0080AS001		Soll	10/1/2	14:35	3	5	_		2	2	2	5		5		
HZBS0080AS002		Soll	10/1/2	2009 14:45	3	5			8	5	\$	ŝ		5		
HZBS0082AS001		Soli .	10/1/2	2009 8:30	3	5	_		2	2	8	5		2		
HZBS0082AS002		Soli	10/1/2	2009 9:05	3	5			8	5	2	2		2		
HZBS0084AS001		Soil	10/1/2	2009 7:50	3	5	_		~	\$	*	so.		5		
HZBS0084AS002		Soil	10/1/	2009 8:15	3	5			8	5	\$	8	_	5		
M HZBS0123AS001		Sol	10/11.	2009 13:15	3	2	-		2	5	40	S		ŝ	-	
1. Relinquished by:	Date:	2. Receiv	ed by:		Date:	3. Rellr	Iquist	led by:			Dat		F	. Rece	eived by:	Date:
Z	10/ _	1/09 Q.M.	ALU		10/2/09											
Company: MWH	Time	rys company	5-	D	1 1 1 1 1 1 1 1 1 1	Compa	ż				벽	ë	-	Sompa	:Au	Time:
Comments:												Ő	Potrac	ker El	0F	
												Ő	ata Va	lidatio	n Package	V Level IV

.

.

.

239908

CALINIA.

CHAIN OF CUSTODY RECORD

MWHBM20091001_00

:#000

Customer	Information	Project Inform	ation			Proje	oct Info	ormati	u							
Site:	SSFL	Client Name:	Boeing			Colle	ctor:	B. Mai	tasin					Boe	ing PM:	
Company:	HWH	Sampling Even	ISRA S	ampling, Au	gust 2009	Cont	act #:									
Report to:	Sarah Von Raesfeld	Project Number	.: 18916	4.05462						Requ	sted	Analys	80			Instructions/TAT
Address:	2121 N. California Blvd	Project Manage	IT: Alex F	schl										_		 Legend:
	Suite 600	PM Phone #:	(825)	27-4627						_						 Numerical values for
	Walnut Creek	Field Contact:	Brian	Aartasin						_	_					 around time in days
	CA	Field Contact #	: (323)	04-4969				Metz	Me			:	sv			 H - Hold
	94596	Lab Name:	GELL	aboratories, I	TC		_	ls by	tals		Pe	svoo	OCs	П		 Hold
Email:	sarah.vonraesfeld@mwhglobal.	c Lab Contact:	Jackie	Trudell			Dic	601	by 60	P	rchio	s by	by S	PH by		
	sean.leffler@mwhglobal.com	Lab Address:	2040	savage Road		D22	Dioxin b	0/602	010/6	CBt	rate	SW	W82	y SW		 Note: Values in the ce
			Charle	ston, SC 294	107	216 M	n by	20/74	020/	y SV	314	8270	70C	(801)		 bellow are Turn Aroun Times.
		Lab Phone:	(843)	769-7388		loist	13B -	70A -	7471	V808	Soil E	C SI	SIM -	5BM -		
Sample N	ame	Matrix	Date	Time	No. of Containers	re Soil	Water B - Soil	Water	A - Soil	2 - Soil	WET	A - Soil	Water	Water		Comments
/ HZBS0123	AS002	oil	10/1/2009	13:30	3	5,	-		2	5	20	5		6	_	
HZBS0124	AS001 S	oil	10/1/2009	11:00	3	9			8	5	8	9		2		
HZBS0124	AS002	oll	10/1/2009	12:30	3	\$			2	5	5	5	_	9		
V HZBS0175	S001 S	oil	10/1/2009	13:50	9	5	2		2	2		5		5		
/ HZBS0175	S002	oll .	10/1/2009	14:10	3	5	5		2	5	5	5		2		
HZBS0177	S001 S	oli I	10/1/2009	15:00	3	5	5		2	5	5	5		2	_	
HZBS0177	\$002 S	oll	10/1/2009	15:15	3	9	5	_	5	5	-	5		9		
HZBS018(S001 · · S	toll	10/1/2009	9:30	8	w	5		~	5	20	2		5		
HZBS018(35002	soll	10/1/2009	10:00	3	20	50		8	ç	\$	5		9		

•



...

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

-	1				1 2 gand
4	Dient: 55F1				SDG/ARCOC/Work Order: 2222/ Suitaba
F	Received By: AMS				Date Received: 1 @ 2 00
s	uspected Hazard Information	s		*1	If Counts > x^2 area background on samples not marked "radioactive" contact the Dedication
t	OC/Samples marked as radioactive?	12	12	Sa	afety Group of further investigation.
Ē	Classified Radioactive II or III by RSO?	╋	ť	<u>I</u> M	aximum Counts Observed*:
C	OC/Samples marked containing PCBs?	+-	ť	╉	30 cp m
s	hipped as a DOT Hazardous?	+	5	H	azard Class Shipped: LIN#-
S	amples identified as Foreign Soil?	+	1	1	
Ē	Sample Receipt Criteria	18	Ī	10	
1	Shipping containers received intact and sealed?		Z	Z	Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?	1	r		Preservation Method: (ice bags) blue ice dry ice none other (describe) 2,72,3-
3	Chain of custody documents included with shipment?				· · · · · · · · · · · · · · · · · · ·
4	Sample containers intact and sealed?				seals broken etamaged container leaking container other (describe) TCCEIVED (Z) broken Amber 12 10; EBRW2249
5	Samples requiring chemical preservation at proper pH?	/			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	1			Sample ID's and containers affected:
7	Are Encore containers present?	7			(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	7			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	Ϊ			Sample ID's and containers affected:
0	Date & time on COC match date & time on bottles?	7		S	Sample ID's affected:
1	Number of containers received match number indicated on COC?	<i>,</i>		S	Sample ID's affected:
2	COC form is properly signed in relinquished/received sections?	/			
	nments: Fx: 9457 5163 0800 11 11 0795 11 3159 3937				
_	PM (or PMA) review: 1	Initia	als_	A	MB Date _

Date: 10/28/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell

Laboratory GEL Laboratories, LLC

From:

Requestor



Subject: Chain-of-Custody Form Analytical Request Change

Phone: 843-769-7388

E-mail: jacqueline.trudell@gel.com

No. of Pages: 3

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20 091001_00	HVBF33AS01, HVBF33AS02	10/1/09		Run perchlorate by 6850 on 48 hour TAT
r				

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
Change in analytical request	X
Other:	

Thank you

Change Form 238234 Rev4

1

Customei	r Information	Project Infi	ormatic	F			E	-toe	mom	atton										
Site:	SSFL	Cfleest Name	F	Boeing			3	lector.	8	Martas	E					0.0 mg	ä			
Company:	HMM	Sampling EV	Ë	SRA Samp	EPG. Aug	unt 2009	3	and the	4						\vdash					
Report to:	Sarah Von Raesfeld	Project Num	Li ad	891614.05	225						N	noteen	i Anal	200				F	nstruction	MATAT
Addres:	2121 N. California Biwd	Project Man	Lieba	Vex Flech			T								Ŀ	N	N	P	anad:	
	Sutta 600	Plii Phone &		626) 827-4	128		r	······								<u>let</u>	let	ere	lumerice) v	stues for
	Wahnut Creek	Field Centar	-	Atlan Merte	F		<u> </u>									<u>a15</u>	als	nlo	round time	n daya
	જ	Field Contac	- ë	1-108 (828	699	, ; ;	T			Aller A				SV		60	6	rati	Hold	
	94696	Lab Namec	Ē	SEL Lebon	tionfee, L	9	1			otela via ha			5VO(/0Ce		<u>/(0,</u> П	OR	e 6	:H - Extract (chd	and a second sec
Email:	sarah.vonraesfeld@mwhglob	iel.c Lab Contact		lectie Trud			r	1	Die	by BC	P	PĊ	ce by	by S	TPH	5 <u>)</u> PH by	B	85		
	sean.leffler@mwhglobal.com	Lab Addron		PAN Bave	e Road		02	Diaut	odin i		СВ	B-by	SW	W82	by S	25-1 7 5W	80	36	lote: Vatue	in the
		-	ľ	Charleston,	80.294	5	218	n by	ay 10	020	y Ş	8W	8270 314	700	We		1.	30	ellow aro T Times	iov un
		Lab Phone:	f	643) 769-7	386		Molst	1613	man and	17471	NDOS	3082	Sol (SiM)158	1445 5814	Bo	1		
Zemela Ns		Nietrik				No. of ontainens	ure Sci	8 - Sol	- Wate	A-Soi	2-80	- Water	N - Sol	Water	N - Sol	- Water	mon		lamments.	
BOW2249		Water	1045	88 14	8	6			÷			2	-	2		₽				
NBF34AS0	~	Sol	10 Ma	60 5	2	2	-	5			8		\$		8	2	2	đ	6	
NBFS3AS0		Sol	ten 5	60 5	Ę	8		9			8		8		5	2	5	20	6	
V0000SBZ	Sabi	Boll	101 201	я В	ä	5	8			2	9	-	8 3		10	X		10		
ZBS0080A	\$062	Sol	101	5 2 2 2 2 2	12	8	5	kŋ	0	2	\$		• •		10	4		10	1	
(ZBSD062A	S001	Soli .	202	12 890	2	•	9			8	\$	-	\$ 		s	_		R		
ACB00282	2002	3oî	10//2	500	20		9		Н	2	10	-	••		10			01	763	
AX60084Z	S001	Sol	TIMI	54 - 54	8	8	5			81	10	-	10			_		0		
VPROOSIZ	S002	ŝci	₫Ž	008 B:1	12	8	8	S		8	10	-	10		-			0		
(ZBS0123A	Soot-	861	401.2	\$ 8	<u>ة</u>	•	10		$\left \right $	2	-	-			5			2		
. Relinqui	isthed by: Date:	2. Receive			a I	i i i i i i i i i i i i i i i i i i i	3. Re	though the	1 peute	5		ă	ä	Ē	L. Reo	1 pevi	×		B	ä
R	10/	1/09 C	4°0	. 2	و	alse a														
Company:	2001	45 Co.		þ	Ē		E S	Sund				ļĒ 	ĕ	-	Sompt	ä			<u> </u>	;;
Commente													98	ectrac ata Va	ker El	h Pac	888	נ ג רו	vel IV	
) 60/ 4/01	300		52	04	4	X	\sim		È	2									

Page 11 of 243

4

	ustomar	- Information		Project Infoi	matten			Prof	ot Infe	ittern of	5						-			511
	šita:	SSF.		Client Name:	Boa	2		400	ti do	B. Mar	Liss					Boet				
	Company	MWH		Sampling Eve	200 200 200	A Sampling.	August 2009	Con	Her He											
. <u> </u>	Report to:	Sarah Von Raesfeld		Project Numb	er: 189	1614.05482						teques	A bets	nalyee				Π	nstructions/T/	151
1 7	Address:	2121 N. California Blvd	Γ	Project Mana	Per. Nex	Fisch									_		ρ		.octand:	
		Suite 600		PN Phone #:	2 78)	627-4627		 T									pre		Vumentosi values valvene ocuria	27
_		Watnut Creak	ſ	Field Contact	Brta	n Martaaln		1					I				hle		wound time in de	
		ß		Field Contact	57E) #) 304-4069		T		Meta	Ma			Ę	87		irat	·····	4-Hold	
		94596		Lab Namo:	60	Laboratorie	e, LLC	г		is by	tais i		Pe	woo	OCa	ŦT	el		tok	5
1	Email:	sarah.vornaesfeld@mwhg	tobal.c	Lab Contact:	bel	de Trudel			Dio	6010	by 60	PCE	rchio	ie by	TPH by 5	PH by	884			
		sean leffer@mwhglobal.c	ma	Leb Addroso:	8) Savage Ro		D22	odin b Xcodi	V60 2	10/6	B by	nato i	8W	by S	SW			Vote: Values in th	- ¥
					S	rieston, SC	10407	216 N	y 16 h by '	0/74	020/	5W3	314 1	270	700:	9015			adow are Turn A fimas.	é
				Lab Phone:	(943) 789-7368		Noietz	138 - 1613i	70A -	7471/	082-	Soil D	C SIN	15BN	BM -	أتعذ			- 1
· · · · ·	Sample Na	em		Nistrix	Date	-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. of Containers	re Sol	Water 3 - Soll	Water	- 500	Weter	IWET	- 800	- Soll	Water			Comments	
	HZBS0123A	\$002	3		10/1/2008	13:30	•	6	20		2 / 1		8	6	8		0			1 1
-	HZBS0124A	5001	100		10/1/2088	11:00	•	9			2 1	_	9	10	10		0			
- L L L	HZBS0124A	S002	3		104/2008	12:30	•		95		2		9	5	5		0			
	HZBS01755	100	Sel		101/2000	12:50	\$	10	- 9	_	2	4	•	ю	*		2			ļ
	HZBS01769	002	3	*	10/1/2009	14:10	\$	9	9		8		ø		•		Q			
	HZBS01775	1001	3		10/12009	16:00	s	10	9		-		-		-		9			- E
	HZBS01775	002	Solt		10/1/2008	15:15	8	-	5		-		•	•	5		2	4		- I
1	HZB80180S	1001	Sol		14/1/2009	6:30		9			8	_	v	•	•		õ	_		. I.
<u> </u>	HZB\$0180S	1002	80 8		10/1/2008	10:00	9	•	10		~		•				Q			
															-	ŀ				- t
L	1. Relingu	ished by: Da	ä	2. Received	Ä		Datter	S. Rol					Date:		4	Acelva			Date:	
	Cy.		0/1/02	R.W.	A B	Net.	2 2 3			:			• •							
A	Company: MMH	Ë	7.2.1	Comparity)))	0		Cemp	:Aus				Time:		5 0	:Auadu			Цще	
	Comment													Deta Deta	racken Valtda	EDF Hon P	lotage		wet IV	[1
		> 40/2/	S	56 10	121	60/							0							
				1	_	•														

Date: 11/05/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail: Sean.leffler@mwhglobal.com

To:	Jackie Trudell
Laboratory	GEL Laboratories, LLC

From: Requestor



Phone: 843-769-7388

No. of Pages: 3

E-mail: jacqueline.trudell@gel.com

Subject: Chain-of-Custody Form Analytical Request Change

Per Request: Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20 091001_00	HVBF33AS01	10/1/09		Cancel perchlorate by 6850 on 48 hour TAT
· ··				2

The reason for these changes:	
Incorrectly marked on COC form	
Lack of sample volume	X
Change in analytical request	
Other:	

Thank you

Change Form 239908 (238234) Rev4

A REAL PROPERTY IN																	Page	1 of 2
Customer Infon	mation	Project In	formati	8		Tere	the section of the se	bund	c									
Sta: SSFL		Criant Nan	ž	Boeing		88	lig	B. Ma	ties!					Boetn				
Company: MMH		Sundans	Ë	BRA Bampfing.	August 2009	8	-											
Report to: Sarah	n Von Reesfeld	Project Na	ij	1891614,05462						00000	nd An	-					Instruction	ertat
Address: 2121	N. Celifornia Blvd	Project Ha	Liebau	Rex Tool		_		-				-			M	P	Lange	
States	600	Pitt Phone		(826) 827-4627		-	-	_						123	1.1	ere	Numerical v	
Watha	ut Creek	Field Cont	ŧ	Britan Martagla		_						-		<u>013</u>	als	nlo	around time	adap u
3		Field Cont		8991-NOS (\$75)		_		Mak				84		60	6	rati	H-Hold	
8976		Lab Name		GEL Laboratoria	8,LLC			de by	itela i	-	Pe	WOX		T	ON	16	Hold	
Email: sarah	.vorreestatigemetrgt	obelo Lab.Conte	8	Jackie Thudel		_		601	by Bi	PC	echiq	oy s to by	TPH	7	B	85		
Sean	leffer@mwhokel.co	m LebiAdao		2040 Sevage Ro	18	02	Diex	0190	10	8-54	rato	SM	by	9 SV	5	6	Note: Values	in the cells
				Charleston, 8C 2	10407	216 1	by 18 in by	90/74	69 64 6020/	SWO	314	6270C	97790	V8015	1	80	believ are Ti Times.	m Anund
		Lab Phone	,	(B43) 709-7388		Actor	138	704	7471	082	Sol) (168	D14	Ba	L		
Semicle Namo		Metrick			Na. of Containers	ture Sci	- Water B - Sol	- Winter	A-80	- Water	CI-IVET	- Viabe	N - 600	- Water	mon		Commenta	
EBONIONIA		Alexe.	- H			t		2	+	2	┢	F		₽ ₽	-		ŕ	
T HABERDARDS		Take the second s		10:10 10:16	-	•	-	L	ŀ		┢		•	È	2 2	4	S A	
HAREAARD		12	1.	94401	~	•	-	L	ŀ			-	9		2	Ø	6)	
HZTASADBOASDOI		808	101 Ling	HCM OUT	-	•	\vdash	L	-			-	•	<u>K</u>		2	1	
HZBS0080AS002		Sdi	101	000 14:45		Ľ	0		*			<u> </u>	8		5	6		
HZBSD062AS001		. 198	đ	- 951 - 951 - 95	•	10	-		2 5		\$		5	-		R		
NZBS0082AS002		Boll	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8038 8008	•	10	-		2		е Т		\$			10	755	
HZBS0084AS001		801	toria	2008 7,500	•		-		97 11				-			9	2	
HZBS0004AS002		8 61	anot .	209 Br15		8	95		8		9		-		_	ø	_	
X HZBS0123AS00T		8di	10112	000 12:15		10	-		8		•		5	\neg		2		
1. Reunquished b		c 2. Rooth	in the		24 E	4 7 1	tan b			F	Ť		4	Para	ä		a	ž
4	10/	1/09/00	3.2		antela													
Company: Land		445 G		þ	915	Compa	1				Timer		Com	:Aug				¥
Commenter												Deta V	atter 1	Pr Pr	8		Joural IV	
755(60/8/0	ESSL	5	120/09	()	Ň	1	μ, L	2	20	10		(M)		15	2	6	

Page 14 of 243

.

Caretonnor	Information		Prolant Infon	mattern			Imd	ant Inte	olian								E	
e that	60E		Chest Verse					the	A Mart	Ę					on the	-110		
Company	MWH		Sampting Eve	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A Sampling.	August 2009	Contraction	No.										
Report to:	Sarah Von Raesfeld		Project Numb	71	1014.06482					Z	Quon b	id An	a a a a a a a a a a a a a a a a a a a				ŝ	buctione/TA
Address:	2121 N. California Biv		Project Manag	an Aa	(Fischi										<u> </u>	~	5	and:
	Sutte 600		PM Phone #		9 627-4827		 T								me		콜콜	natical values it has counts to
	Wednut Creat		Pield Contect		a Martadh										nlo	1	2	and time in day
	S		Field Contact	1925) 14	1) SOL-1000		т-		Meta	Ma			V 8		rat	1	÷	Hold
	94698		Samer del	80	Laboration	a, LLC	r		is by	dala i		Pe			<u>е</u> П		5Ē	
Email:	mgopperent and the second seco	Mhglobal.c	Lab Contact:	1	tie Trudet			Dia	8010	P	PCI	rchito	by S	трн	ж 88°	7		
	sean lefter dumundion	iat.com	Lab Address:	8	0 Savage Ru	B	D2	odin k Dicadi	NBO	CEL	B by	colo :	SWE	by 8	<u>()</u> (511	2	No.	a: Vatues in the
				5	rfeeton, SC	29407	216 N	n by '	0/74	N 81	5143	814 1	70¢ :	W80	8015			on ais Tuin Ad
7			Lab Phone:	ě	1769-7968		ioloti I	133 - 1613	704	V808.	082-	Soil ()	81M -	15BA	26.i			
Semple No			Matth	2 2 2 2	1	No. of Containers	re Sci	Water B - Sol	Wistor	t - Solt	Water	IWET	Water	I - Sol	Water		8	aments
HZBS0123A5	2005	3		101/2004	13:30	•	•	6	t	10		5	4	8	8			
HZHSDIZKA	198	3		10/1/2008	11:00	3	-	┝	F	0		8		1 2	0			
HZBSD124A	2005	3		101/2006	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		•	95		8 1		8		9	01			
HZBS017584	100	800		10112000	1944 1944	•	6	6.1		9	4	5.		-	2			
HZBS0176S(902	3	·	10/12009	14:10	•	9	9		10		9		•	ß	7	4	
HZBS017794	101	8		101200	16:00	*	9	9		10				v	3		M	
HZBS017750	22	108		10/1200	16:16		9	10		•		-	_	6	3	1	4	
HZB80180St	. 100	20		14/1200	8530	8	9	10		90 			_	•	3			
HZBS0180S(200	50		10/12001	10500		•	9		9					ē	7	-	
1. Relinqui	ished by:	Date:	2. Reedwed	ä			3. Rol	ling under				ğ		4		5		Date:
3		to kilos	P.W.S.	North		8 2 200												
Company:		いたか	Company		b		Cent	iAus				Ŭ.		Comp	Ë			Time:
Commente	2												Geotra Data V	tot E	n Ped			2
	the log	UN E	N 12	10-1	l'ha													
2	1 ~ 1 ~ 1	วั	5	5														

Page 15 of 243

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTC	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121	I. California Blvd. Ste. 60	0 Address:	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Jackie Trude	
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:	1	843-766-117	8
E-mail Address:	<u>Sarah</u>	VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	<u>gel.com</u>
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	ecify # of Sam	oles)
			[Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in		_	EPA 8310 (PAH)			
comments)		(enter "X")	EPA 8082 (PCB)	3	5	0
		_	Nickel (6020)	5	10	0
Container Information	:		Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	_(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	_(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	_(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	X	(select all applicable)	Zinc (6020)	5	20	0
Water	X	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDD	9s <u>40</u>			
		LABORATORY	REPORTING REQUIREMENTS	rte Dolivora	bloc	
Normali	×	(10 Rusiness dava)				
Normai.					(Tes/NO)	
RUSH:	5	_(Specify- 24 / 48 / 72HRS)	Drait Results E-mail?	res	(Yes/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRaes	sfeld@mwhgloba	al.com
			Send Original Reports To:			
Special Reporting Rec	luireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	(Yes/No)	Consultant Office		(enter "X")	
	Nia		Other Location (specify		-	
TIC (VOC) Required?	NO	(Yes/NO)	in comments)	v	(optor "V")	
Data Validation Pokee :	Tior III	(Booing Tier I, II or III)	# of Conjes Penorts Pag :	<u> </u>		
				I	-	
		SPECIAL I				
		CONFIRMATIO	N OF TRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received By-			
Name:	Sarah V	on Raesfeld	Name			
Doto	00/02/00)				
	09/02/08	,				-

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	4
Data Qualifiers Definitions	17
Laboratory Certifications	19
Percent Moisture	21
LC/MS/MS Perchlorate Analysis Sample Data Summary Quality Control Summary Sample Data Standards Data Quality Control Miscellaneous Data	25 33 45 74 97 119 136
General Chemistry Analysis Case Narrative Sample Data Summary Quality Control Summary Instrument QC Data Summary Perchlorate	143 144 149 161 164 166



Case Narrative for Boeing - SSFL (MWH) Work Order: 239908 SDG: 239908

November 04, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 02, 2009 and October 28, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory	Sample
Identification	Description
239908001	EBQW2250
239908002	FBQW2245
239908003	HZBS0181S001
239908004	HZBS0181S002
239908005	HZBS0183S001
239908006	HZBS0183S002
239908007	HZBS0184S001
239908008	HZBS0184S002
239908009	HZBS0185S001
239908010	HZBS0185S002
239908012	HVBF33AS02

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: General Chemistry, Perchlorates by LCMSMS..

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline a Judit

Jacqueline Trudell Project Manager

Chain of Custody and Supporting Documentation

														N	A		5			
Con Co	ET IN I STA		, .	U	HAIN OI		JY RI	ວິ	ßD					ö	#				/H/M	AG20091027_00
					a ma horașese	at being as any country in a sur-							4			1			Page	: 1 of 1
Custome	r Information		Project Inform	nation			Proje	ct In	forma	tion								1		
Site:	SSFL		Client N.&.ne:	Boe	ing		Colle	ctor:	A.G	oldenb	erg				F	Boein	9 PM			
Company:	HWH		Sampling Ever	Nt: ISR	A Sampling,	August 2009	Cont	ict #:					-	1						
Report to:	Sarah Von Raesfeld		Project i i imbe	er: 189	1614.05462			1.1			Req	uester	I Anal	yses			ĺ		Instru	ctions/TAT
Address:	2121 N. California Blv	P	Project Mit nag	er: Alex	(Fischl											-		_		
	Suite 600		PM Phone #:	(925	() 627-4627		_		-										Numer	t: ical values for
	Walnut Creek		Field Con.act:	Allis	on Ruotolo														analyse around	es equate to turn time in days
	CA		Field Contact #	#: (626	() 568-6007		T	·	Met	M							S		<u>Р</u> - Н	g
	94596		Lab Name:	GEL	Laboratorie	s, LLC			als by	etals			Per			SVO	voc		EH-E	<pre>ctract/Extrude &</pre>
Email:	sarah.vonraesfeld@m	whglobal.c	Lab Contact:	Jaci	cie Trudell				y 601	by 6	1	PC	erchi		F	Cs b	s by i	TP		
	sean.leffler@mwhglob	al.com	Lab Addres	204	0 Savage Ro	ad	D2	Dioxi	0/60	010/	РСВ	Bby	ate 3	Per	erch	y SV	SW8	Hhv	0 Note: V	alles and the calle
				Cha	rleston, SC 2	9407	216	in by	20/74	6020	by S	SW	14 W	chlor	lorate	V827	2700	SW/8	bellow	are Turn Around
			Lab Phone:	(843	() 769-7388		Moist	1613	470A	/747 [.]	W80	8082	/ater	ate 6	e 685	oc s	SIM	015	Sellis	
Sample Na	ame		Matrix	Date	Time	No. of Containers	ure Soil	B - Soil	- Water	1A - Soil	82 - Soil	- Water	DI-WET	850 Soil	50 Water	IM - Soil	- Water	M - Soil	Com	ients
EBQW2250		Wat	er	7/200	9 15:20	10		-	Т			H	8	L	2	1	Ŧ		T	
FBQW2245		Wat	er	10. 1200	9 14:50	10		F	Ŧ			E	2		2	T ^w	E			
HZBS0181S	001	Soil		10/2 100	9 10:30	4	2	I		Τ	표	-		N		Ŧ	ш. 	Ŧ		
HZBS0181S	1002	Soil		10/27, 9	9 10:45	4	2	I.T.		т	표	-		~		표		Ŧ		
HZBS0183S	5001	Soil		10/27/2 ::	9 10:55	4	7	I I		т	표	-		N		Ŧ	1	I.	-	
HZBS0183S	3002	Soil		10/27/20 3	11:15	4	7	Ŧ		т	표	-		N		H	T m	$\frac{1}{1}$		
HZBS0184S	3001	Soil		10/27/20	13:20	4	2	- -		т	표	-		~		표	ш	+ T		
HZBS0184S	\$002	Soil		127/200	9 14:05	4	2	Ξ		т	표			N		E	<u>ш</u>	- -		
HZBS0185S	5001	Soil		. 0/27/200	9 12:35	4	2	T		т	표			°.	•	H	ш	I.T.		
HZBS0185S	\$002	Soil		10/27/200	9 13:00	4	2	Ξ		т	Ŧ			N		Ξ	ш	I _I		
1. Relinqu	lished by:	Date:	2. Receive	by:		Date:	3. Reli	nquis	hed by		.	ă	te:		4. Re	eiveo	þ.			Date:
Allon	1. Pate	0-F5-01	A RUN	Al	ز	10/28/09														
Company MVVH		Time: 16:05	Company:	5		Time: 09/05	Comp	:Aue				F	me:		Comp	any:				Time:
Comment	s: Sample volume for (dioxin analy	sis shipped direct	y CFA	, and sample	volume for all	other an	alysis	shippe	d to G	Ш			seotra	ckerE	Б				
														Data V	alidati	on Pa	ckage	2	Level IV	(

Anaper

-

•

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SSEL SDG/ARCOC/Work Order: 239908 Received By: ficky Albee Date Received: 10(28/09									
ived by: Kink LL De			Date	Received: 10/28/29					
ected Hazard Information	Yes	No	*If C Radi	Counts > x2 area background on samples not marked "radioactive", contact the lation Safety Group of further investigation.					
Samples marked as radioactive?		V	Max	imum Counts Observed*: 40 CPm					
sified Radioactive II or III by RSO?		V							
/Samples marked containing PCBs?		1		· · · · · · · · · · · · · · · · · · ·					
ped as a DOT Hazardous?		\checkmark	Haza	ard Class Shipped: UN#:					
ples identified as Foreign Soil?		1							
Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)					
Shipping containers received intact and sealed?	>			Circle Applicable: seals broken damaged container leaking container other (describe)					
Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?	>			Preservation Method: 3 - , 4 - blue ice dry ice none other (describe)					
Chain of custody documents included with shipment?	/								
Sample containers intact and sealed?	/			Circle Applicable: seals broken damaged container leaking container other (describe)					
Samples requiring chemical preservation at proper pH?	5			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:					
VOA vials free of headspace (defined as < 6mm bubble)?		v		Sample ID's and containers affected:					
Are Encore containers present?			~	(If yes, immediately deliver to Volatiles laboratory)					
Samples received within holding time?	~			Id's and tests affected:					
Sample ID's on COC match ID's on bottles?	~			Sample ID's and containers affected:					
Date & time on COC match date & time on bottles?	~			Sample ID's affected:					
Number of containers received match number indicated on COC?			~	Sample ID's affected: received 3 containers for call soil, 8 containers for each water					
COC form is properly signed in relinquished/received sections?									
nments: FedEx 9457 3 9457 3 9457 3	63		070 560 770	07- 3** {z-3* {8-4*					
	ected Hazard Information //Samples marked as radioactive? sified Radioactive II or III by RSO? //Samples marked containing PCBs? ped as a DOT Hazardous? ples identified as Foreign Soil? Sample Receipt Criteria Shipping containers received intact and sealed? Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$? Chain of custody documents included with shipment? Sample containers intact and sealed? Samples requiring chemical preservation at proper pH? VOA vials free of headspace (defined as < 6mm bubble)? Are Encore containers present? Samples received within holding time? Samples received within holding time? Sample ID's on COC match ID's on bottles? Date & time on COC match date & time on bottles? Number of containers received match number indicated on COC? COC form is properly signed in relinquished/received sections? Inters: FELEX $\mathcal{G} + \mathcal{G} + G$	ected Hazard Information $3 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ 5 \\ $	ected Hazard Information $\frac{3}{2}$ $\frac{2}{2}$ /Samples marked as radioactive?//isified Radioactive II or III by RSO?///Samples marked containing PCBs?//ped as a DOT Hazardous?//bes identified as Foreign Soil?//Sample Receipt Criteria $\frac{3}{2}$ Shipping containers received intact and sealed?//Samples requiring cold preservation within $(0 \le 6 \deg. C)$?//Chain of custody documents included with shipment?//Sample containers intact and sealed?//Samples requiring chemical preservation at proper pH?//VOA vials free of headspace (defined as < 6 mm bubble)?	ected Hazard Information 3 2 * If G Radi//Samples marked as radioactive?// Maxsified Radioactive II or III by RSO?////Samples marked containing PCBs?//ped as a DOT Hazardous?//ped as a DOT Hazardous?//sample containers received intact and sealed?//Sample containers intact and sealed?//Samples requiring chemical preservation at proper pH?//VOA vials free of headspace (defined as < 6mm bubble)?					

Customer Informat Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N.G Suite 600 Suite 600 CA CA Sample Name EBOW2249 HVBF33AS01	tion n Raesteld California Blvd reek reek reek reekomvhglobal.com	Project Info Client Name: Sampling Ev Project Nam Project Man	ormatio			Drolor	e Inc.		5							Page: 1 of
Customer Informat Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Suite 600 VValnut C CA 94596 Email: sarah.vo sean.left sean.left sean.left EBQW2249	tion n Raesteld California Blvd reek reek nraesteld@mwhglob	Project Info Client Name: Sampling Ev Project Nam Project Man	ormatio	•		Drolor	te la 6									
Site: SSFL Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Walnut C CA 94596 Emalt: sarah vo sean.leff sean.leff Bample Name EBDW2248	n Raesfeld California Blvd reek reek ireek ireek	Client Name: Sampling Ev Project Num Project Mani	and a state of the					DIIIIau								
Company: MWH Report to: Sarah Vo Address: 2121 N. (Suite 600 Suite 600 CA 94596 Email: sarah.vo sean.leff Sample Name	n Raesfeld California Blvd reek reek nraesfeld@rmvhglob ler@rmvhglobal.com	Sampling Ev Project Numi Project Manz PM Phone #:		loeing	4	Collect	ï	B. Mai	tasin					ă	being PM:	
Report to: Sarah Vo. Address: 2121 N. C Suite 600 Suite 600 Walnut C Walnut C Remail: 94596 Sample Name Sample Name HVBF33AS01 HVBF33AS01	n Raesfeld California Blvd reek reek rraesfeld@mwhglob er@mwhglobal.com	Project Numi Project Mana PM Phone #:	rent: I	SRA Sampling.	August 2009	Contac	#									
Address: 2121 N. C Suite 600 Walnut C CA 94596 Email: sarah.vo sean.leff sean.leff Sample Name	California Blvd reek reek raesteld@mwhglob er@mwhglobal.com	Project Mana PM Phone #:	ber: 1	891614.05462						Requ	sted	Analy	305			Instructions/TA1
Suite 600 Walnut C CA 94596 Email: sarah.vo sean.leff Sample Name	reek reek nraesfeld@mwhglob er@mwhglobal.com	PM Phone #:	ager: A	viex Fischl												- aread
Walnut C CA 94596 Email: sarah.voi sean.leff sean.leff Sample Name 1 EBQW2249 1	reek nraesfeld@mwhglobi ier@mwhglobal.com			925) 627-4627												Numerical values fo
CA 94596 Email: sarah.vo sean.left sean.left EBQW2249 CHVBF33AS01	nraesfeld@rmwhglob: ler@rmwhglobal.com	Field Contac		Irian Martasin					_							analyses equate to around time in days
24596 Email: sarah.vo sean.left sean.left EBQW2249 2 HVBF33AS01	rraesfeid@mwhglobi ier@mwhglobal.com	Field Contac	:#:	323) 304-4969				Met	м				SI			H-Hold
Email: sarah.voi sean.leff Sample Name EBQW2249	nraesfeld@mwhglobi ler@mwhglobal.com	Lab Name:		SEL Laboratori	es, LLC			als by	etals		Pe	svo	/OCs		 T	EH - Extract/Extrud Hold
sean.left Sample Name EBQW2249	ler@mwhgtobal.com	al.c Lab Contact	-	lackie Trudell			Die	601	by 6	F	archic	Cs by	by S	TPH	РНЬ	
Sample Name EBQW2248 2 HVBF33AS01		Lab Address		040 Savage R	oad	D2	Dievi	0/60	010/6	CB	nate	SW	W82	l by S	v SV	Note: Values in the
Sample Name EBQW2249			ľ	Charleston, SC	29407	216 1	by 16	20/74	3020	by SI	314	8270	2700	SW8	V801	bellow are Turn Aro
Sample Name EBQW2249 2 HVBF33AS01		Lab Phone:	Ť	843) 769-7388		Moist	13B	\$70A	747	W80	Soil	oc si	SIM	0158	58M	
EBQW2249 7 HVBF33AS01		Matrix	Dat	e Time	No. of Containers	ure Soil	- Water	- Water	IA - Soil	32 - Soil	DI-WET	M - Soil	- Water	M - Soil	- Water	Comments
2 HVBF33AS01		Water	10/1/2	15:30	6		2	10	\vdash	-			9	-	0	
		Soll	10/1/2	10:18	2	9	-		F	2		50		6		
2 HVBF33AS02		Soil	10/1/2	009 10:40	2	5				ŝ	-	ŝ		5		
HZBS0080AS001		Soll	10/1/2	14:35	3	5	_		2	2	2	5		5		
HZBS0080AS002		Soll	10/1/2	2009 14:45	3	5			8	5	\$	ŝ		5		
HZBS0082AS001		Soli .	10/1/2	2009 8:30	3	5	_		2	2	8	5		2		
HZBS0082AS002		Soli	10/1/2	2009 9:05	3	5			8	5	2	2		2		
HZBS0084AS001		Soil	10/1/2	2009 7:50	3	5	_		~	\$	*	so.		5		
HZBS0084AS002		Soil	10/1/	2009 8:15	3	5			8	5	\$	8	_	5		
M HZBS0123AS001		Sol	10/11.	2009 13:15	3	2	-		2	5	40	S		ŝ	-	
1. Relinquished by:	Date:	2. Receiv	ed by:		Date:	3. Rellr	Iquist	led by:			Dat		F	. Rece	eived by:	Date:
Z	10/ _	1/09 Q.M.	ALU		10/2/09											
Company: MWH	Time	rys company	5-	D	1 1 1 1 1 1 1 1 1 1	Compa	ż				벽	ë	-	Sompa	:Au	Time:
Comments:												Ő	Potrac	ker El	0F	
												Ő	ata Va	lidatio	n Package	V Level IV

.

.

.

239908

CALINIA.

CHAIN OF CUSTODY RECORD

MWHBM20091001_00

:#000

Customer	Information	Project Inform	ation			Proje	oct Info	ormati	u							
Site:	SSFL	Client Name:	Boeing			Colle	ctor:	B. Mai	tasin					Boe	ing PM:	
Company:	HWH	Sampling Even	ISRA S	ampling, Au	gust 2009	Cont	act #:									
Report to:	Sarah Von Raesfeld	Project Number	.: 18916	4.05462						Requ	sted	Analys	80			Instructions/TAT
Address:	2121 N. California Blvd	Project Manage	IT: Alex F	schl										_		 Legend:
	Suite 600	PM Phone #:	(825)	27-4627						_						 Numerical values for
	Walnut Creek	Field Contact:	Brian	Aartasin						_	_					 around time in days
	CA	Field Contact #	: (323)	04-4969				Metz	Me			:	sv			 H - Hold
	94596	Lab Name:	GELL	aboratories, I	TC		_	ls by	tals		Pe	svoo	OCs	П		 Hold
Email:	sarah.vonraesfeld@mwhglobal.	c Lab Contact:	Jackie	Trudell			Dic	601	by 60	P	rchio	s by	by S	PH by		
	sean.leffler@mwhglobal.com	Lab Address:	2040	savage Road		D22	Dioxin b	0/602	010/6	CBt	rate	SWA	W82	y SW		 Note: Values in the ce
			Charle	ston, SC 294	107	216 M	n by	20/74	020/	y SV	314	8270	70C	(801)		 bellow are Turn Aroun Times.
		Lab Phone:	(843)	769-7388		loist	13B -	70A -	7471	V808	Soil E	C SI	SIM -	5BM -		
Sample N	eme	Matrix	Date	Time	No. of Containers	re Soil	Water B - Soil	Water	A - Soil	2 - Soil	WET	A - Soil	Water	Water		Comments
/ HZBS0123	AS002	oil	10/1/2009	13:30	3	5,	-		2	5	20	5		6	_	
HZBS0124	AS001 S	oil	10/1/2009	11:00	3	9			8	5	8	9		2		
HZBS0124	AS002	oll	10/1/2009	12:30	3	\$			2	5	5	5	_	9		
V HZBS0175	S001 S	oil	10/1/2009	13:50	9	5	S.		2	2		5		5		
/ HZBS0175	S002	oll .	10/1/2009	14:10	3	5	5		2	5	5	5		2		
HZBS0177	S001 S	oli I	10/1/2009	15:00	3	5	5		2	5	5	5		2	_	
HZBS0177	\$002 S	oll	10/1/2009	15:15	3	9	5	_	5	5	-	5		9		
HZBS018(S001 · · S	toll	10/1/2009	9:30	8	w	5		~	5	20	2		5		
HZBS018(35002	soll	10/1/2009	10:00	3	20	50		8	s	\$	5		9		

•



...

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

-	1				1 2 gand
4	Dient: 55F1				SDG/ARCOC/Work Order: 2222/ Suitaba
F	Received By: AMS				Date Received: 1 @ 2 00
s	uspected Hazard Information	s		*1	If Counts > x^2 area background on samples not marked "radioactive" contact the Dedication
t	OC/Samples marked as radioactive?	12	12	Sa	afety Group of further investigation.
Ē	Classified Radioactive II or III by RSO?	╋	ť	<u>I</u> M	aximum Counts Observed*:
C	OC/Samples marked containing PCBs?	+-	ť	╉	30 cp m
s	hipped as a DOT Hazardous?	+	5	H	azard Class Shipped: LIN#-
S	amples identified as Foreign Soil?	+	1	1	
Ē	Sample Receipt Criteria	18	Ī	10	
1	Shipping containers received intact and sealed?		Z	Z	Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?	1	r		Preservation Method: (ice bags) blue ice dry ice none other (describe) 2,72,3-
3	Chain of custody documents included with shipment?				· · · · · · · · · · · · · · · · · · ·
4	Sample containers intact and sealed?				seals broken etamaged container leaking container other (describe) TCCEIVED (Z) broken Amber 12 10; EBRW2249
5	Samples requiring chemical preservation at proper pH?	/			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?	1			Sample ID's and containers affected:
7	Are Encore containers present?	7			(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	7			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	Ϊ			Sample ID's and containers affected:
0	Date & time on COC match date & time on bottles?	7		S	Sample ID's affected:
1	Number of containers received match number indicated on COC?	<i>,</i>		S	Sample ID's affected:
2	COC form is properly signed in relinquished/received sections?	/			
	nments: Fx: 9457 5163 0800 11 11 0795 11 3159 3937				
_	PM (or PMA) review: 1	Initia	als_	A	MB Date _

Date: 10/28/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell

Laboratory GEL Laboratories, LLC

From:

Requestor



Subject: Chain-of-Custody Form Analytical Request Change

Phone: 843-769-7388

E-mail: jacqueline.trudell@gel.com

No. of Pages: 3

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20 091001_00	HVBF33AS01, HVBF33AS02	10/1/09		Run perchlorate by 6850 on 48 hour TAT
r				

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
Change in analytical request	X
Other:	

Thank you

Change Form 238234 Rev4

1

Customei	r Information	Project Info	matio			Ĕ	a tog	ntom	tion	1					1			
Site:	SSFL	Cflent Name:		Dujeo		8	lector.	8.1	lartasir					å	In P	-	1	
Company:	HMM	Sumpling EN	쁕	RA Sampling	L August 2009	3	P top	-						-		-		
Report to:	Sarah Von Raesfeld	Project Nune	i i i i i i i i i i i i i i i i i i i	01614.0546						Rogu	popoo	Anabr	50				thet	uctiona/TAT
Addres:	2121 N. California Blvd	Project Mens	N LING	ex Flach		1								î.	N	N		ÿ
	Sutta 600	Pui Phone di		26) 827-4627									-		let	lest		irical velues for
	Wahnut Creek	Flold Contac	8	ten Merteoln		r—									als	nio rak		d time in days
	ક	Field Contact	100	23) 304-486		T			*			1	SV		60	<u>ra</u> 6	H H	8
	94586	Lab Namec	0	EL Laborator	es, LLC	1		R8 D)	etate		Pe	5700	/0Ce	<u>т</u>	10	<u>or</u>		extractic condo
Emeli:	sarzh.vonteesfeld@mwhglob	al.c Lab.Contact:	3	idde Trudell			1	Dia	by Bi	P	PC:	Ce by	by S	TPH b	3	R	0~	
	sean.leffler@mwhglobal.com	Lab Addrees	R	MO Savage F	Deed	02	Diaud	aripus adin i	10/	CB	R.be	SW	W82	y SW	jo/	<u>ر</u> 2	N A	Velues in the
				arteston, 80	29407	218 T	n by	aw 74	020	by S	314 	627	700	801 	4	<u>70</u> .1		r ane Tam Arol
		Lab Phone:		43) 709-7386		Moto	1613	470A 613B	V7471	WDO	Sol	OC SI	SIM	58M	Alus	il Br		2
		El atab		F	No. of	1 1	8-80	- Wate	A-30	2-80		M - So	- Wab	- Wata M - So	(nu)		C E	ments
DYCCYUUU	2	Wetter	104/20	90 16.30	6	•	•	r 9 r 9	8				, ,	1 <u>2</u>		+-		
NEFSASO		Sol	101/20	00 10:16	~	•	6	┝			-	۵		<u> </u>	5	2	A 7	
NBF34S0		Sol	10N20	09 10:46	~	•	•	┢┈		5		•			2	い	6	
ZBS0000	Saot	ßoll	10M/20	90 44:35	~	•			٩		-				X	ž		
ZBS0080A	\$062	Sol	101/20	24×45		10	り		8	•	9	÷.	-		2	21	7	
(ZBS0062A	5001	30Ĭ .	101/20	200	•	3		_	2	9	\$	\$				ų		
VZBOOSAZ	2002	Sol	101/20	9078 800	*	8		Н	2	10	8	••	_			10	~	8
ZBS0084A	S001	Sol	10/1/20	84		9			2	10	-	10	_			2		
CBS0084A	2002	\$cil	101/20	8 8:15	•	8	S		8	8	9	9	_			00		
ZBS0123A	Soot	Bol	101120	8:10 \$	•	10	Η	Н	2	-	\$	10	H	-		ž	1	
. Relinqu	isthed by: Date:	2. Received	i pi		Date:	3. Re	anbut	d berte			And I		4	Receiv	in by			Date:
R	1/0/	1/0% C &	t.M.	ş	balad													
Company:	24/1	ys con		þ		Reg S	Ling			ļ	Ē		Ŭ	hadu	2			Time:
Commente		-										88	otracto a Valk	ie EDF	beckag		Level	>
) 60/ 4/01	3221	2	200	0	X	$\overline{\mathbf{V}}$			2	\mathbf{X}	0						

Page 11 of 243

4

	Customer	- Information		Project Infor	matten			Proj	ect Inf	heme	5									1
	Site:	SSF.		Client Name:	Boal	2		400	ctor	B. Ma	Lies I	1				Boeh				
	Company:	MWH		Sampling Eve	285 285	A Sampling.	August 2009	Con	act #											
1	Report to:	Sarah Von Raesfeld		Project Numb	er: 1891	1614.05482						leque:	A bats	nalyee				Π	netructions	E
	Address:	2121 N. California Blvd		Project Mana	Part Alex	Fischi									_		ρ		Lepond:	
	-	Suite 600		PM Phone #:	(6256	627-4627		······									pre		Numerical valu	5 5 5
		Watnut Creak		Field Contact	Brie	n Merteeln		1					1				hle		around time in	de la
	_	ß		Field Contact	575) #) 304-4969		1		Meta	Ma			Ę	87		irat		H-Hold	
		94538		Lab Namo:	8	Laboratorie	s, LLC			is by	state I		Pe	svoc	OCa	T	R		Hold	
1	Email:	sarah.vornaesfeld@mwhg	global.c	Lab Contact:	1281	de Trudel				6010	by 60	PCI	rchia	is by	TPH by Si	PH by	884	··		
		sean leffler@imwhglobal.c	mag	Leb Address:	204) Sevage Ro	3	D22	Xcodr	/602	10/6	S by :	nte i	8W	by S NB2	SW	30		Note: Values Ir	-
					0 a	rieston, SC 1	10407	216 N	y 16 • by '	0/74	020/	SW8	314 1	270	W80	9015	Ś		Dellow are Tun Times.	N NO
				Lab Phone:	578)) 789-7368		loist	138 - 1613i	70A -	7471/	082 -	Soil D	C SIN	15BN 81M -	BM -	jeil	I		
- · ·	Sample Ne	une.		Nietrtx	Date	- Line -	No. of Containers	re Sol	Water B - Sol	Water	-808	Water	IWET	- 808	- Soll Winter	Water			Comments	
	HZBS0123A	\$002	3		10/1/2008	13:30	•	8	50		~	L.	8	9	0	\Box	0			
-	HZBS0124A	5001	108		10/1/2009	11:00	•	9			2	- 9	\$	10	2	~	0			
	HZBS0124A	S002	3		104/2008	12:30			95		2	-	8	5	5		0			
	HZBS01755	100	1961 1961		1011/2009	12:50	\$	10	6 1	_	2	<u>م</u>	1 0	ю	8		2	_		
	HZBS0176S	002	3	•	10/1/2009	14:10	\$	9	8		2		10	10	5		Q			
	HZBS01775	1001	3		10/12009	16:00	\$	9	9		2		5		*		9			
	HZBS01775	002	Soli		10/1/2008	15:15	8	9	10		•	_	-	-	<u>۳</u>		2	4		
	HZBS0180S	001	8og		14/1/2009	8:30	8	9	10		2	_	ø	•	••		õ			
-	HZBS0180S	2002	808 80		10/1/2009	10:00	"	•	10		~		•	-	-		Q			
									ŀ		ľ	ſ								
	1. Reänqu	lehed by: Da		2. Received	ÿ		Datter	192 Y	(Judinția)	ila pe					4	ACOING 4				
	Cy.		0/1/0	RW	L'UN'	2	2 2 0			:										
	Company: MMM	#	17.21	Company)°	0		Cemp	:Aug				Tinte:		5	:Auadu	-			
and the second se	Comment													Deta Deta	rectron Valitete	EDF Hon P	lotage		wei IV	
~ ~ ~	L K	> 6/2/2/	S	56 10	127	60/														
						•														

Date: 11/05/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail: Sean.leffler@mwhglobal.com

To:	Jackie Trudell
Laboratory	GEL Laboratories, LLC

From: Requestor



Phone: 843-769-7388

No. of Pages: 3

E-mail: jacqueline.trudell@gel.com

Subject: Chain-of-Custody Form Analytical Request Change

Per Request: Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHBM20 091001_00	HVBF33AS01	10/1/09		Cancel perchlorate by 6850 on 48 hour TAT
· · ·				2

The reason for these changes:	
Incorrectly marked on COC form	
Lack of sample volume	X
Change in analytical request	
Other:	

Thank you

Change Form 239908 (238234) Rev4

A A A A A A A A A A A A A A A A A A A																	Page	1 of 2
Customer Inform	nation	Project thi	hermatt	8		Tot	set ind	brmal	c						-			
Site: SSFL		Criant Name		Boeing		88	1100	B. Ma	their					Boetr				
Company: MMH		Sampling Sampling S	ij	BRA Sampling.	August 2000	8	a di	L							-			
Report to: Sarah	Von Reesfeld	Project Nur	ų	1891614,05488						Combo	N Pop						Instruction	erat
Address: 2121 /	N. Celifornia Bhd	Project Nas	LineGan	Ack Floch		_				-	_	-	_		N	P	Leand	
Setta S	000	Pitt Phane ((826) 827-4627		_	-	_							167 167	ere	Numerical ve	tions for adv in these
Wathou	It Creek	Flotd Conta	#	Brian Mariaela		_									als	hlo	around time	a daba
3		Field Conta	-	6991-NOS (575)		_		Mak					-		6	rati	H-Hold	
84688		Lab Names	Ē	GEL Laboratoria	1 LLC	_		de by	itela i	-	Pe	SVOC	-	T	0 io	26	Hold	
Emait: surch.	.vorraesteid@mmhgio	belo Lab.Control		Jackte Thudel		_		601	by Bi	PC	echic	29 10 28 19	TPH	PHD	R S	85		
seant	effer@mwholobel.cor	n Lab'Addros		2040 Sevage Ro	8	02	Diex	0/90	10	8-by	rate	SW	by	y 5V	5	6	Note: Values	in the cells
			Ī	Charleston, 8C 2	9407	216 1	by 10 In by	40/74	6020/	SWB	314	6270	SWOO	V8015		80	Times.	m Anund
		Lab Phone:	Ē	(B43) 709-7388		lots	138	704	7471	082	Sol) (C 81	168	014	<u>Bc</u>	Ļ		
Semala Namo		Methy			No. of Containers	ure Sol	- Walkin 18 - Sol	- Water	A-9d	-Water		M - Soil	N - 600	- Water	mon		Commenta	
Escuranda		Above -	- Hell			t	+	2		2	\uparrow	ľ		Ş	-		ŕ	
T HAREBARDS		Bal	2 Mai	tota tota	~	•	-	L	F		┢		•		2 2	4	S-A:	
LARESTAST?		20	ĝ	8001 94:01	~	•	-	L	F			Ŀ	10		5 3	0	6)	
HZBS0080A6001		100	teres	HEM OUT	5	•	\vdash		-				9	ŕ	24	9	1	
HZBS0080AS002		201	El Mat	000 54:45			0		-				10		5	6)		
HZBSD082AS001		Boll .	a da	82		10	-		2 5		*		S			R		
NZBS0082AB002		Sol	2 2 2	803 800	*	10	-		8		8		10			10	7	
HZBS0084AS001		8al	10Mb	996 7,900		-	_		40 11			-	•		_	9	>	
HZBS000MASD02		3cil	toria	009 Br15		8	9 5		8		-	_	-			୧	_	
X HZBS0123AS00T		3dl	10112	000 12:15		10	_		8		-		8	\neg	_	2		
1. Relinquished by	citetia Citetia	2 Rooth	in pe		Dete	A Pade	ten pe	in the second		F	-		4	Palas	ä		a	ž
ろ	10/	1/090 m	4.00		andela													
Company: Lavel		145 65		þ	010	Compa	1				1000		Com	12 I			5 	¥
Commentar												Ceotr Deta	Alities Inter	L L L	80 B		V I Jane	
1755	60/8/6	ESSL	0	120/00		Ď	1	Υ.	1	20	10	A	N		1/5	2	6	

Page 14 of 243

.

Circlemor	Information		Packant Infor	mattern			(md	act In6	Hermo	5								
C Mar	GOD		Chevel Version	-				ų	E Mar	Ling					Roatho	-He		
Company	HWH		Sempling Eve		A Sampling.	August 2009	C S							T				
Report to:	Sarah Von Raesfeid		Project Numb	19 16	1614.05482							N d		1			ŝ	structions/TA
Address:	2121 N. California Biv	P	Project Mena		Fischi					_					<u> </u>	0		cond:
	Sullie 600		PAL Phono #	2	1284-129										<u>77</u> 2		žŞ	inerical values i trees counts is
	Wetnut Creak		Pield Contect	8	n Martadh		1				<u> </u>				210	1	5	and time in day
	S		Field Contact	272) #	801-105 (T		Neta	M			V 8 		ral	٢	żć	Hold
	94688		Sameri da J	8	Laboratoria	a, LLC	r		as by			Pe			TT TT	~ 1	۵£	
Email:	surah.vonreesfeld@m	whighthe	Lab Contact:	3	de Thudel				8010	by 60	PCI	rchito	5 y 5 3 by	TPH	<u>88</u> жы			
	sean lefter Browhold	tat.com	Adhees	ā	0 Savage Ro	Ę	D22	odin k Okcada	0/802		B by	cate :	SW	by 8	50 / 5W	2	2.	te: Vatures in the
				ð	rieston, SC	20407	216 N	n by '	0/74	020/	5143	314 1	70C	WBO	2015	~	34	kow alla Tulli An Alla
			Lab Phone:	ž	9964-994		iolet:	133 - 1613	704	7471	082-	Soil ()	81M - C 80	15BN	26 i BM -	1		
Semple No	95		Mattrik	Date		No. of Contathone	re Sci	Viator 9 - Soli	Wistor	A-Sol	Water	HWET	Victor	I - Sol	Water		8	aments
HZBS0123A	200	3		101/2000	13:36			6	L	-		•	5	•	ž			
HZHSO124A	ada A	3		10/1/2001	11:00	3	•	┡		10 N		10	•	2	N I			
HZBSD124A	2005	3		10112000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		•	95		2 5		8		10	16			
HZBS017554	8	80		101/2010	÷	•	10	6.1		2 5	4	- 19	10	-	~			
HZBS0175S(82	3	·	1012000	9 ¥	•	2	9		8		9		•	2		9	
HZBS01779(18	3		101200	16:00	*	9	9		10		-	_	10	3	_	2	
HZBS017761	8	78		10/1/2004	16:15		9	10		*		-		9	Ĭ		4	
HZB80180St	. 100	900		00071/01	8530	8	9	17		8				•	2			
HZBS0180S	200	49 63		10112008	10500		•			-		•		•	2	7		
1. Rollingul	shed by:	Date:	2. Received	ž		Dedac	3. Rol	de la contra contra Contra contra c	iếg po			Dete		4		ž		Date:
3	$ \land \mathbf{i} $	to lilos	R. P	No.4		8 2 200												*
Company:		17.7.1 1	Comparison		b		Cent	:Aug			ŕ	ž		Com	ä			Time:
Commente	24												Deta V	atter E	n Pac	-	E Ri 🗆	2#
	the log	U E	V V	101	ha													
י ג ג	1~10%	ว ั	5	2														

Page 15 of 243

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTO	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121 N	I. California Blvd. Ste. 60	0 Address:	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Jackie Trude	
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:	1	843-766-117	8
E-mail Address:	Sarah.	VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	<u>gel.com</u>
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	ecify # of Sam	oles)
				Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in		_	EPA 8310 (PAH)			
comments)		(enter "X")	EPA 8082 (PCB)	3	5	0
			Nickel (6020)	5	10	0
Container Information	:		Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	_(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	_(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	_(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	X	(select all applicable)	Zinc (6020)	5	20	0
Water	Х	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDD	Ds <u>40</u>			
Project TAT:		LABORATORY	REPORTING REQUIREMENTS	rts Dalivara	ahlas.	
Normal	x	(10 Business days)	Draft Results Fav2	its Delivera		
				Vaa	(Vee/Ne)	
RUSH.	5	_(Specily- 24 / 48 / 72HRS)		Tes	(Tes/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRaes	sfeld@mwhglob	al.com
			Send Original Reports To:			
Special Reporting Rec	luireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	(Yes/No)	Consultant Office		(enter "X")	
	Nia		- Other Location (specify		-	
TIC (VOC) Required?	NO	(Yes/No)	in comments)	×	(optor "V")	
Data Validation Pokee :	Tior III	(Reging Tier L II or III)	# of Copies Peparts Peg	<u> </u>		
				I	-	
		SPECIALI	NSTRUCTIONS/LTO NOTES			
		CONFIRMATIO	N OF TRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received By-			
Name:	Sarah V	on Raesfeld	Name			
Data	00/02/00)				
	09/02/08	;	Date: _			-



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 03 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 239908

Prepared by

MEC^x, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Table 1. Sample Identification

Sample Name	Lab	Sub-Lab	Matrix	Collection	Method
	Sample Name	Sample Name		••••••	
EBQW2250	239908001	N/A	WATER	10/27/2009 3:20:00 PM	314.0, 6850
FBQW2245	239908002	N/A	WATER	10/27/2009 2:50:00 PM	314.0, 6850
HZBS0181S001	239908003	N/A	SOIL	10/27/2009 10:30:00 AM	314.0-DI WET, 6850
HZBS0181S002	239908004	N/A	SOIL	10/27/2009 10:45:00 AM	314.0-DI WET, 6850
HZBS0183S001	239908005	N/A	SOIL	10/27/2009 10:55:00 AM	314.0-DI WET, 6850
HZBS0183S002	239908006	N/A	SOIL	10/27/2009 11:15:00 AM	314.0-DI WET, 6850
HZBS0184S001	239908007	N/A	SOIL	10/27/2009 1:20:00 PM	314.0-DI WET, 6850
HZBS0184S002	239908008	N/A	SOIL	10/27/2009 2:05:00 PM	314.0-DI WET, 6850
HZBS0185S001	239908009	N/A	SOIL	10/27/2009 12:35:00 PM	314.0-DI WET, 650
HZBS0185S002	239908010	N/A	SOIL	10/27/2009 1:00:00 PM	314.0-DI WET, 6850
HVBF33AS02	239908012	N/A	SOIL	10/01/2009 10:40:00 AM	6850

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.
Qualifie	r Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

2

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
Н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

*

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
, *	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 314.0 and 6850—Perchlorate

Reviewed By: E. Wessling Date Reviewed: November 6, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Methods 314.0 and 6850, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 28 days, was met for all samples with the exception of sample HZBF33AS02 which was analyzed past the holding time. The detect in this sample was qualified as estimated, "J."
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the methodestablished QC limits of 85-115% for 314.0 and 70-130% for 6850 soil recoveries and 85-115% for 6850 water recoveries.
- Laboratory Duplicates: A laboratory duplicate was performed on HZBS0181S001 with acceptable RPDs for the 314.0 analysis. No laboratory duplicate analyses were performed for the 6850 analysis.
- Matrix Spike/Matrix Spike Duplicate: Recoveries and RPDs were within methodestablished QC limits of 80-120% and ≤15%, respectively, for the 6850 analysis. A matrix spike was performed for the 314.0 analysis with recovery of perchlorate within the methodestablished limit of 80-120%.
- Sample Result Verification: The sample results reported on the Form I were verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had a field blank and equipment rinsate sample which were both free of target compound contamination by both analytical methods.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 239908

Analysis Method 314.0

Sample Name	EBQW2250	1	Matrix Ty	pe: WATER	Res	ult Type: Primary Result
Lab Sample Name:	239908001	Sample I	Date: 10/2	27/2009 3:20:00 PM	1 1	Validation Level: V
Analyte	CAS No	Result Value	RL I	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4	1 ug/L	U	U
Sample Name	FBQW2245	l	Matrix Ty	pe: WATER	Res	ult Type: Primary Result
Lab Sample Name:	239908002	Sample I	Date: 10/2	27/2009 2:50:00 PM	1 1	Validation Level: V
Analyte	CAS No	Result Value	RL I	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4	1 ug/L	U	U

•							
Sample Name	HZBS0181S001		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908003	Sample	Date: 1	0/27/2009	9 10:30:00 /	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	3.24	4		1 ug/L	J	J
Sample Name	HZBS0181S002		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908004	Sample	Date: 1	0/27/2009	9 10:45:00 /	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U
Sample Name	HZBS0183S001		Matrix '	Гуре: 5	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908005	Sample	Date: 1	0/27/2009	9 10:55:00 /	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U
Sample Name	HZBS0183S002		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908006	Sample	Date: 1	0/27/2009	9 11:15:00 /	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U
Sample Name	HZBS0184S001		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908007	Sample	Date: 1	0/27/2009	9 1:20:00 PI	M	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U
Sample Name	HZBS0184S002		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908008	Sample	Date: 1	0/27/2009	9 2:05:00 PI	M	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U
Sample Name	HZBS0185S001		Matrix '	Гуре: З	SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908009	Sample	Date: 1	0/27/2009	9 12:35:00 H	PM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL	Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	4	4		1 ug/L	U	U

Analysis Method 314.0-DI WET

Sample Name	HZBS0185S002	Ν	latrix '	Type: SOIL	Rest	ult Type: Pr	rimary Result
Lab Sample Name:	239908010	Sample Da	ate: 1	0/27/2009 1:00:00 PM	1 1	alidation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797730	4	4	1 ug/L	U	U	

Analysis Method 314.0-DI WET

Analysis Method 6850

Sample Name	EBQW2250		Matrix '	Type: WATER	Res	ult Type: Primary Result
Lab Sample Name:	239908001	Sample	Date: 1	0/27/2009 3:20:00 P	м	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U
Sample Name	FBQW2245		Matrix '	Type: WATER	Res	ult Type: Primary Result
Lab Sample Name:	239908002	Sample	Date: 1	0/27/2009 2:50:00 P	M	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U
Sample Name	HVBF33AS02		Matrix '	Type: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908012	Sample	Date: 1	0/1/2009 10:40:00 A	М	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.0605	0.2	0.05 ug/L	HJh	J H
Sample Name	HZBS0181S001		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908003	Sample	Date: 1	0/27/2009 10:30:00	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.0775	0.2	0.05 ug/L	J	J
Sample Name	HZBS0181S002		Matrix '	Type: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908004	Sample Date: 10/27/2009 10:45:00 AM Validation Level: V				Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U
Sample Name	HZBS0183S001		Matrix '	Type: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908005	Sample	Date: 1	0/27/2009 10:55:00	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.173	0.2	0.05 ug/L	J	J
Sample Name	HZBS0183S002		Matrix '	Type: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908006	Sample	Date: 1	0/27/2009 11:15:00	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U

Analysis Method 6850

Sample Name	HZBS0184S001		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908007	Sample	Date: 1	0/27/2009 1:20:00 PI	M V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.72	0.2	0.05 ug/L		
Sample Name	HZBS0184S002		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908008	Sample	Date: 1	0/27/2009 2:05:00 PI	м	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U
Sample Name	HZBS0185S001		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908009	Sample	Date: 1	0/27/2009 12:35:00 I	PM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.141	0.2	0.05 ug/L	J	J
Sample Name	HZBS0185S002		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	239908010	Sample	Date: 1	0/27/2009 1:00:00 PI	м	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
Perchlorate	14797730	0.2	0.2	0.05 ug/L	U	U

Chain of Custody and Supporting Documentation

0 00	TEINE			Ч	IAIN OF	CUSTOD	ΥR	ы	RD					8	C #:			-	WWHAG20	091029_0
	_													24(800	ć,			Page:	1 of 1
Custome	r Information		Project Infor	mation			Proj	ect In	lform	ation										
Site:	SSFL		Client Name:	Boein	ß		Colle	ector:	A. G	Solden	berg					Boein	g PM:			
Company:	HWH		Sampling Ever	nt: ISRA	Sampling, Au	Igust 2009	Con	act #:	ŝ	N-	700	1	300	-						
Report to:	Sarah Von Raesfeld		Project Numbe	ar: 18916	314.05462						Red	lueste	ad Ane	alyses					Instruction	ns/TAT
Address:	2121 N. California Blvd		Project Manag	er: Alex F	-ischl							_							Legend:	
	Suite 600		PM Phone #:	(925)	627-4627					_					_				Numerical v	alues for
	Walnut Creek		Field Contact:	Shelb	y Valenzuela														around time	in days
	CA		Field Contact	#: (626)	255-0503						Meta	Me		F					H- Hold	-
	94596		Lab Name:	GEL 1	aboratories,	TLC					als by	etals	PA	Pe					EH - Extract Hold	VEXtrude &
Email:	sarah.vonraesfeld@mwhglot	bal.c	Lab Contact:	Jackie	e Trudell			1	Die	E	601	by 60	Hs by	by S	F	F				
	sean.leffler@mwhglobal.com	E	Lab Address:	2040	Savage Road	-	D22	Dioxi	oxin t	inerg	0/602	010/6	SW	W82	Perch	oH by			Note: Value	s in the cells
				Charl	eston, SC 29	407	216 N	n by	by 16	etics	20/74	020/	8270	70C	lorat	SW			bellow are T Times.	urn Around
			Lab Phone:	(843)	769-7388		Noistu	1613	13B ·	8330	70A -	7471	C SI	SIM -	e 314	9045				
Sample N	ame		Matrix	Date	Time	No. of Containers	ure Soil	B - Soil	- Water	Water	- Water	A - Soil	M - Soil	- Water	Water	C - Soil		1	Comment	s
EBQW2251		Wate		10/29/2009	14:50	8		-	9	10	10			9	9					
HZET07285	5001	Soil		10/29/2009	10:50	2	10	10	Ŧ	0		10	10	¥	6	10			HVS-3	
HZET07295	5001	Soil		10/29/2009	11:05	2	10	10	1	0		10	10	11		10			HVS-3	
HZET07305	\$001	Soil		10/29/2009	11:25	2	10	10	-	0		10	10	1(10			HVS-3 PL	acher
HZET07315	3001	Soil		10/29/2009	11:45	2	10	10	÷	。		10	10	1		10			HVS-3	



Page 5 of 2281

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SSF1				SDG/ARCOC/Work Order: 2 40083				
Rec	eived By: RMS			Dat	e Received: 10 30 09			
Sus	pected Hazard Information	Yes	No	*If (Rad	Counts > x^2 area background on samples not marked "radioactive", contact the iation Safety Group of further investigation.			
CO	C/Samples marked as radioactive?		1	Max	timum Counts Observed*:			
Clas	sified Radioactive II or III by RSO?		1		3000M			
COC/Samples marked containing PCBs?			1					
Shipped as a DOT Hazardous?			1	Haz	ard Class Shipped: UN#:			
Sam	ples identified as Foreign Soil?							
	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)			
1	Shipping containers received intact and sealed?	1			Circle Applicable: seals broken damaged container leaking container other (describe)			
2	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$?	1			Preservation Method: blue ice dry ice none other (describe)			
3	Chain of custody documents included with shipment?	/						
4	Sample containers intact and sealed?	1			Circle Applicable: seals broken damaged container leaking container other (describe)			
5	Samples requiring chemical preservation at proper pH?	/			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:			
6	VOA vials free of headspace (defined as < 6mm bubble)?		/		Sample ID's and containers affected:			
7	Are Encore containers present?			5	(If yes, immediately deliver to Volatiles laboratory)			
8	Samples received within holding time?	>			Id's and tests affected:			
9	Sample ID's on COC match ID's on bottles?	/			Sample ID's and containers affected:			
10	Date & time on COC match date & time on bottles?	/			Sample ID's affected:			
11	Number of containers received match number indicated on COC?]			Sample ID's affected:			
12	COC form is properly signed in relinquished/received sections?							
Con	iments: Fr: 9457 3158 (25	80	ව				

Date _____ 10/30/09

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTO	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121 N	I. California Blvd. Ste. 60	0 Address:	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Jackie Trude	I
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:	1	843-766-117	8
E-mail Address:	Sarah.	VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	<u>gel.com</u>
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	ecify # of Sam	oles)
•				Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in		_	EPA 8310 (PAH)			
comments)		(enter "X")	EPA 8082 (PCB)	3	5	0
		_	Nickel (6020)	5	10	0
Container Information			Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	_(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	_(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	_(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	Х	(select all applicable)	Zinc (6020)	5	20	0
Water	Х	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDD	9s <u>40</u>			
		LABORATORY	REPORTING REQUIREMENTS	rte Dolivora	bloc	
Normali	v	(10 Rusiness deve)				
Normai.			Draft Drawtha Ermaila		(Tes/NO)	
RUSH:	5	(Specify- 24 / 48 / 72HRS)		res	(Yes/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRaes	sfeld@mwhgloba	al.com
			Send Original Reports To:			
Special Reporting Req	luireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	(Yes/No)	Consultant Office		(enter "X")	
	Na		- Other Location (specify		-	
TIC (VOC) Required?	No	(Yes/No)	in comments)	v	(optor "V")	
Data Validation Pokee :	Tior III	(Booing Tier L II or III)	# of Conjes Penorts Peg	<u> </u>		
Data Validation P ckye				I	-	
		SPECIALI				
		CONFIRMATIO	N OF TRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received Bv-			
Nomo	Sarah W	on Raesfeld	Namo			
indille.						
Date:	09/02/09)	Date:			

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	4
Data Qualifiers Definitions	8
Laboratory Certifications	10
Percent Moisture	12
Subcontract Data Dioxins	16
GC/MS Semivolatile Analysis Sample Data Summary QC Summary Sample Data Standard Data QC Data Miscellaneous Data	841 850 856 871 945 984 1023
HPLC Explosive Analysis Sample Data Summary QC Summary Sample Data Standard Data QC Data Miscellaneous Data	1031 1042 1053 1068 1104 1189 1239
LC/MS/MS Explosives Analysis Sample Data Summary Quality Control Summary Sample Data Standards Data Quality Control Data Miscellaneous Data	1248 1255 1261 1330 1351 1506 1535
Metals Analysis Case Narrative Sample Data Summary Quality Control Summary. Standards Raw Data	1542 1543 1550 1556 1632 1651

Miscellaneous	2196
General Chemistry Analysis	2205
Case Narrative	2206
Sample Data Summary	2213
Quality Control Summary	2220
Instrument QC Data Summary	2223
Perchlorate	2225
рН	2277
Miscellaneous	2280



Case Narrative for Boeing - SSFL (MWH) Work Order: 240083 SDG: 240083

November 09, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on October 30, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory	Sample
Identification	Description
240083001	EBQW2251
240083002	HZET0728S001
240083003	HZET0729S001
240083004	HZET0730S001
240083005	HZET0731S001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Explosives by LCMSMS, GC/MS Semivolatile, General Chemistry, HPLC Explosive, Metals, Percent Moisture and Dioxins (Cape Fear Analytical).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline a Judel Jacqueline Trudell

Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 09 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 240083

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	240083
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	5
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
EBQW2251	240083001	1121001	Water	10/29/2009 2:50:00 PM	1613B, 314.0, 6010B, 6020, 7470A,
HZET0728S001	240083002	1122001	Soil	10/29/2009 10:50:00 AM	8270C, 832TA, 8330 1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8270C, 8321A 8330 9045C
HZET0729S001	240083003	1122002	Soil	10/29/2009 11:05:00 AM	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8270C, 8321A, 8330, 9045C
HZET0730S001	240083004	1122003	Soil	10/29/2009 11:25:00 AM	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8270C, 8321A, 8330, 9045C
HZET0731S001	240083005	1122004	Soil	10/29/2009 11:45:00 AM	1613B, 314.0-DI WET, 6010B, 6020, 7471A, 8270C, 8321A, 8330, 9045C

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	r Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
Н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
* , *	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (08/02).

- Holding Times: Extraction and analytical holding times were met. The samples were extracted and analyzed within one year of collection.
- Instrument Performance: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The aqueous method blank had detects below the PQL for 16 target compounds; therefore, OCDD, 2,3,4,7,8-PeCDF, total HpCDD, and total PeCDF were qualified as nondetected, "U," at the EDL in EBQW2251. Detected results for the remaining total were qualified as estimated, "J," due to detects in the aqueous method blank. The soil method blank had detects or estimated maximum possible concentration (EMPCs) for all target compounds except 2,3,7,8-TCDD. Detects in the soil samples less than the reporting limit or less than 5× the method blank detect were qualified as nondetected, "U," at the EDL if detected below the EDL or at the level of contamination if detected above the EDL. Detected results for all totals were qualified as estimated, "J," due to detects in the soil method blank.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. The RPDs were within the laboratory-established control limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0728S001. Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. The RPDs were within the laboratory-established control limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG; however, the sample was not analyzed for dioxins. EBQW2251 was identified as the equipment rinsate associated with the samples in this SDG. There were no detects above the EDL in this sample.

- Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed confirmation analyses for 2,3,7,8-TCDF. When the original result was reported as an estimated maximum possible concentration (EMPC), the original result was rejected, "R," in favor the confirmation result. When the original result was not reported as an EMPC, or if both the original analysis and the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result was rejected.
- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. (EMPCs) were identified in the sample of this SDG, as denoted by the laboratory "K," code. For individual isomers identified as EMPCs, the results were qualified as estimated nondetects, "UJ." Totals reported as EMPCs were qualified as estimated, "J," as only a portion of the total was identified as an EMPC. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

B. EPA METHOD 8330—Energetics

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Explosives, Nitroaromatics, and Nitramines (DVP-16, *Rev. 0), EPA Methods 8321A and 8330*, and the National Functional Guidelines for Organic Data Review (10/99).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and the soil samples were extracted within 14 days of collection. All samples were analyzed within 40 days of extraction.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries and the aqueous RPDs were within laboratory-established QC limits.

- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0720S001. Recoveries and the aqueous RPDs were within laboratory-established QC limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2251 was identified as the equipment rinsate associated with the samples in this SDG. There were no detects above the MDL in either sample.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for energetic compounds by Method 8330.
- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. The reporting limits (RLs) and/or method detection limits (MDLs) were not adjusted by the laboratory for the actual sample weights extracted. The RLs and/or MDLs were adjusted by the reviewer as necessary. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

C. EPA METHODS 6010B, 6020, 7470A/7471A—Metals and Mercury

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC[×]* Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Methods 6010B, 6020, 7470A/7471A, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: Analytical holding times, six months for ICP and ICP-MS metals and 28 days for mercury, were met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.

- Blanks: Mercury was reported in the soil method blank at -0.00523 mg/kg; therefore, mercury detected in the soil samples was qualified as estimated, "J." Thallium was detected in bracketing CCBs at 0.993 and 0.594 µg/L; therefore, thallium detected in all samples was qualified as nondetected, "U," at the reporting limit if detected below the reporting limit or at the level of contamination if detected above. Method blanks and CCBs had no other applicable detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries and the aqueous RPDs were within laboratory-established QC limits.
- Laboratory Duplicates: Laboratory duplicate analyses were performed on HZET0720S001. The RPDs for mercury and nickel exceeded the control limit; therefore, mercury and nickel detected in the soil samples were qualified as estimated, "J," and nondetects were qualified as estimated, "UJ." The remaining RPDs were within the method-established control limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0720S001. The MSD recoveries for chromium, copper, lead, and nickel exceeded the control limit; therefore, detects for these analytes in the soil samples were qualified as estimated, "J." The remaining recoveries and RPDs were within method-established QC limits.
- Serial Dilution: Serial dilution analyses were performed on HZET0720S001 and EBQW2251. The %Ds were within the method-established control limits.
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. Some ICP-MS analytes in all soil samples were analyzed at 10x dilutions in order to report the analytes within the linear range of the instrument or due to matrix interference. The remaining soil ICP-MS analytes were reported from the laboratory's standard 2x dilution for soils. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2251 was identified as the equipment rinsate associated with the

samples in this SDG. There were no applicable detects above the MDL in either sample.

• Field Duplicates: There were no field duplicate samples identified for this SDG.

D. EPA METHOD 314.0—Perchlorate

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 314.0, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 28 days, was met.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the methodestablished QC limits of 85-115%.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on HZET0728S001. The RPD was within the method-established control limit of ≤15%.
- Matrix Spike/Matrix Spike Duplicate: A matrix spike was performed on HZET0728S001. The recovery was within method-established QC limits of 80-120%.
- Sample Result Verification: The sample results reported on the sample result summary were verified against the raw data. No transcription errors or calculation errors were noted. Perchlorate in HZET0729S001 was reported from a 10x dilution due to matrix interference. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2251 was identified as the equipment rinsate associated with the samples in this SDG. Perchlorate was not detected in either sample.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

E. EPA METHOD 8270C—Semivolatile Organic Compounds (SVOCs)

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 8270C, and the National Functional Guidelines for Organic Data Review (10/99).

- Holding Times: Extraction and analytical holding times were met. The water sample was extracted within seven days of collection and the soil samples were extracted within 14 days of collection. All samples were analyzed within 40 days of extraction.
- GC/MS Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on HZET0728S001. Recoveries and RPDs were within the laboratory-established control limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2251 was identified as the equipment rinsate associated with the samples in this SDG. There were no reportable detects in either sample.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for semivolatile target compounds by Method 8270C low-level.

- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.
- Tentatively Identified Compounds: TICs were not reported by the laboratory for this SDG.
- System Performance: Review is not applicable at a Level V validation.

F. VARIOUS EPA METHODS—General Minerals

Reviewed By: P. Meeks Date Reviewed: November 19, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for General Minerals (DVP-6, Rev. 0), EPA Method 9045C, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding times, 24 hours from preparation for soil pH, was met.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Not applicable to this analysis.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on HZET0731S001. The RPD was within the laboratory-established control limit.
- Matrix Spike/Matrix Spike Duplicate: Not applicable to this analysis.
- Sample Result Verification: Review is not applicable at a Level V validation. Nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: Not applicable to this analysis.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
Validated Sample Result Forms: 240083

Sample Name	EBQW2251	EBQW2251 Matrix Type: WATER Result Type: Primary Result										
Lab Sample Name:	1121001	Sample	Date: 1	0/29/2009 2:50:00 P	'M	Validation Level: V						
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes					
1,2,3,4,6,7,8-HpCDD	35822469	1.42	24	1.3 pg/L	J	J						
1,2,3,4,6,7,8-HpCDF	67562394	0.845	24	0.845 pg/L	U	U						
1,2,3,4,7,8,9-HpCDF	55673897	1.15	24	1.15 pg/L	U	U						
1,2,3,4,7,8-HxCDD	39227286	0.834	24	0.834 pg/L	U	U						
1,2,3,4,7,8-HxCDF	70648269	0.663	24	0.663 pg/L	U	U						
1,2,3,6,7,8-HxCDD	57653857	0.976	24	0.976 pg/L	U	U						
1,2,3,6,7,8-HxCDF	57117449	0.711	24	0.711 pg/L	U	U						
1,2,3,7,8,9-HxCDD	19408743	0.949	24	0.949 pg/L	U	U						
1,2,3,7,8,9-HxCDF	72918219	0.907	24	0.907 pg/L	U	U						
1,2,3,7,8-PeCDD	40321764	0.688	24	0.688 pg/L	U	U						
1,2,3,7,8-PeCDF	57117416	0.661	24	0.661 pg/L	U	U						
2,3,4,6,7,8-HxCDF	60851345	0.653	24	0.653 pg/L	U	U						
2,3,4,7,8-PeCDF	57117314	24	24	24 pg/L	J	U	B, result changed from 0.884 and EDL from 0.647					
2,3,7,8-TCDD	1746016	0.812	4.8	0.812 pg/L	U	U						
2,3,7,8-TCDF	51207319	1.17	4.8	1.17 pg/L	U	U						
OCDD	3268879	48	48	48 pg/L	J	U	B, result changed from 2.84 and EDL from 2.17					
OCDF	39001020	2.02	48	2.02 pg/L	U	U						
TEQ WHO2005 ND=0 with EMPCs		0.36		pg/L								
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.8		pg/L								
Total HpCDD	37871004	24	24	24 pg/L	J	U	B, result changed from 1.42 and EDL from 1.3					
Total HpCDF	38998753	0.845	24	0.743 pg/L	J	J	В					
Total HxCDD	34465468	0.834	24	0.834 pg/L	U	U						
Total HxCDF	55684941	0.711	24	0.653 pg/L	J	J	В					
Total PeCDD	36088229	0.688	24	0.688 pg/L	U	U						
Total PeCDF	30402154	24	24	24 pg/L	J	U	B, result changed from 0.884 and EDL from 0.647					
Total TCDD	41903575	0.812	4.8	0.812 pg/L	U	U						
Total TCDFs	30402143	1.17	4.8	1.17 pg/L	U	U						

Sample Name	HZET0728S001		Matrix 7	Type: SOIL	AM Validation Level: V			
Lab Sample Name:	1122001	Sample	Date: 10	0/29/2009 10:50:00 /				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1,2,3,4,6,7,8-HpCDD	35822469	52.8	2.17	0.437 pg/g				
1,2,3,4,6,7,8-HpCDF	67562394	7.85	2.17	0.122 pg/g				
1,2,3,4,7,8,9-HpCDF	55673897	0.873	2.17	0.2 pg/g	J	J		
1,2,3,4,7,8-HxCDD	39227286	0.414	2.17	0.263 pg/g	JK	IJ	*111	
1,2,3,4,7,8-HxCDF	70648269	2.17	2.17	2.17 pg/g	J	U	B, result changed from 0.499 and EDL from 0.102	
1,2,3,6,7,8-HxCDD	57653857	2.28	2.17	0.294 pg/g				
1,2,3,6,7,8-HxCDF	57117449	2.17	2.17	2.17 pg/g	J	U	B, result changed from 0.372 and EDL from 0.107	
1,2,3,7,8,9-HxCDD	19408743	2.17	2.17	2.17 pg/g	J	U	B, result changed from 1.1 and EDL from 0.292	
1,2,3,7,8,9-HxCDF	72918219	0.541	2.17	0.139 pg/g	JK	UJ	*Ш	
1,2,3,7,8-PeCDD	40321764	0.231	2.17	0.12 pg/g	J	J		
1,2,3,7,8-PeCDF	57117416	2.17	2.17	2.17 pg/g	J	U	B, result changed from 0.289 and EDL from 0.162	
2,3,4,6,7,8-HxCDF	60851345	0.475	2.17	0.11 pg/g	J	J		
2,3,4,7,8-PeCDF	57117314	2.17	2.17	2.17 pg/g	J	U	B, result changed from 0.578 and EDL from 0.153	
2,3,7,8-TCDD	1746016	0.16	0.435	0.103 pg/g	JK	IJ	*Ш	
2,3,7,8-TCDF	51207319	0.543	0.543	0.543 pg/g		U	B, RL changed from 0.435 and EDL from 0.102	
2,3,7,8-TCDF	51207319	0.595	0.435	0.204 pg/g	K	R	D	
OCDD	3268879	573	4.35	0.712 pg/g				
OCDF	39001020	32.8	4.35	0.332 pg/g				
TEQ WHO2005 ND=0 with EMPCs		2		pg/g				
TEQ WHO2005 ND=0.5 wit EMPCs	h	2		pg/g				
Total HpCDD	37871004	313	2.17	0.437 pg/g		1	В	
Total HpCDF	38998753	42.7	2.17	0.122 pg/g		J	В	
Total HxCDD	34465468	15.1	2.17	0.263 pg/g		1	В, *Ш	
Total HxCDF	55684941	13.5	2.17	0.102 pg/g		1	В, *Ш	
Total PeCDD	36088229	3.31	2.17	0.12 pg/g		J	В	
Total PeCDF	30402154	10.2	2.17	0.153 pg/g		1	В	
Total TCDD	41903575	0.619	0.435	0.103 pg/g		1	В, *Ш	
Total TCDFs	30402143	5.2	0.435	0.204 pg/g		J	В, *Ш	

Sample Name	e Name HZET0729S001 Matrix Type: SOIL				Result Type: Primary Result				
Lab Sample Name:	1122002	Sample 1	Date: 1	0/29/2009 11:05:00	AM Validation Level: V				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes		
1,2,3,4,6,7,8-HpCDD	35822469	16.1	2.08	0.266 pg/g					
1,2,3,4,6,7,8-HpCDF	67562394	2.49	2.08	0.0835 pg/g					
1,2,3,4,7,8,9-HpCDF	55673897	0.22	2.08	0.161 pg/g	J	J			
1,2,3,4,7,8-HxCDD	39227286	2.08	2.08	2.08 pg/g	J	U	B, result changed from 0.193 and EDL from 0.153		
1,2,3,4,7,8-HxCDF	70648269	2.08	2.08	2.08 pg/g	J	U	B, result changed from 0.196 and EDL from 0.131		
1,2,3,6,7,8-HxCDD	57653857	0.536	2.08	0.191 pg/g	JK	UJ	*Ш		
1,2,3,6,7,8-HxCDF	57117449	0.178	2.08	0.144 pg/g	JK	UJ	*Ш		
1,2,3,7,8,9-HxCDD	19408743	2.08	2.08	2.08 pg/g	J	U	B, result changed from 0.263 and EDL from 0.18		
1,2,3,7,8,9-HxCDF	72918219	2.08	2.08	2.08 pg/g	J	U	B, result changed from 0.14 and EDL from 0.0893		
1,2,3,7,8-PeCDD	40321764	0.109	2.08	0.109 pg/g	U	U			
1,2,3,7,8-PeCDF	57117416	0.081	2.08	0.081 pg/g	U	U			
2,3,4,6,7,8-HxCDF	60851345	0.2	2.08	0.164 pg/g	J	J			
2,3,4,7,8-PeCDF	57117314	0.236	2.08	0.09 pg/g	JK	UJ	*III		
2,3,7,8-TCDD	1746016	0.0946	0.416	0.0946 pg/g	U	U			
2,3,7,8-TCDF	51207319	0.416	0.416	0.416 pg/g	J	U	B, result changed from 0.329 and EDL from 0.158		
2,3,7,8-TCDF	51207319	0.467	0.416	0.113 pg/g		R	D		
OCDD	3268879	212	4.16	0.426 pg/g					
OCDF	39001020	7.98	4.16	0.261 pg/g					
TEQ WHO2005 ND=0 with EMPCs		0.529		pg/g					
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.632		pg/g					
Total HpCDD	37871004	47.9	2.08	0.266 pg/g		J	В		
Total HpCDF	38998753	6.73	2.08	0.0835 pg/g		J	В		
Total HxCDD	34465468	4.06	2.08	0.153 pg/g		J	В, *Ш		
Total HxCDF	55684941	4.39	2.08	0.0893 pg/g		J	B, *III		
Total PeCDD	36088229	0.135	2.08	0.109 pg/g	J	J	В		
Total PeCDF	30402154	2.85	2.08	0.081 pg/g		J	B, *III		
Total TCDD	41903575	0.437	0.416	0.0946 pg/g		J	В		
Total TCDFs	30402143	0.91	0.416	0.158 pg/g		J	В		

Sample Name	HZET0730S001		Matrix 7	Type: SOIL	Res	Result Type: Primary Result M Validation Level: V			
Lab Sample Name:	1122003	Sample	Date: 10	0/29/2009 11:25:00	AM V				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes		
1,2,3,4,6,7,8-HpCDD	35822469	2.77	2.36	0.215 pg/g					
1,2,3,4,6,7,8-HpCDF	67562394	2.36	2.36	2.36 pg/g	J	U	B, result changed from 1.23 and EDL from 0.106		
1,2,3,4,7,8,9-HpCDF	55673897	0.194	2.36	0.194 pg/g	U	U			
1,2,3,4,7,8-HxCDD	39227286	0.143	2.36	0.143 pg/g	U	U			
1,2,3,4,7,8-HxCDF	70648269	2.36	2.36	2.36 pg/g	J	U	B, result changed from 0.217 and EDL from 0.0944		
1,2,3,6,7,8-HxCDD	57653857	0.163	2.36	0.163 pg/g	U	U			
1,2,3,6,7,8-HxCDF	57117449	0.151	2.36	0.0929 pg/g	JK	UJ	*Ш		
1,2,3,7,8,9-HxCDD	19408743	0.161	2.36	0.161 pg/g	U	U			
1,2,3,7,8,9-HxCDF	72918219	0.0992	2.36	0.0992 pg/g	U	U			
1,2,3,7,8-PeCDD	40321764	0.102	2.36	0.102 pg/g	U	U			
1,2,3,7,8-PeCDF	57117416	2.36	2.36	2.36 pg/g	J	U	B, result changed from 0.109 and EDL from 0.106		
2,3,4,6,7,8-HxCDF	60851345	0.224	2.36	0.101 pg/g	J	J			
2,3,4,7,8-PeCDF	57117314	2.36	2.36	2.36 pg/g	J	U	B, result changed from 0.254 and EDL from 0.106		
2,3,7,8-TCDD	1746016	0.0926	0.471	0.0926 pg/g	U	U			
2,3,7,8-TCDF	51207319	0.322	0.471	0.175 pg/g	JK	R	D		
2,3,7,8-TCDF	51207319	0.471	0.471	0.471 pg/g	J	U	B, result changed from 0.437 and EDL from 0.171		
OCDD	3268879	31.5	4.71	0.351 pg/g					
OCDF	39001020	0.89	4.71	0.287 pg/g	J	J			
TEQ WHO2005 ND=0 with EMPCs		0.221		pg/g					
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.347		pg/g					
Total HpCDD	37871004	8.23	2.36	0.215 pg/g		J	В		
Total HpCDF	38998753	1.92	2.36	0.106 pg/g	J	J	В		
Total HxCDD	34465468	0.584	2.36	0.143 pg/g	J	J	В		
Total HxCDF	55684941	2.61	2.36	0.0929 pg/g		J	B, *III		
Total PeCDD	36088229	0.102	2.36	0.102 pg/g	U	U			
Total PeCDF	30402154	2.52	2.36	0.106 pg/g		J	В		
Total TCDD	41903575	0.172	0.471	0.0926 pg/g	J	J	В		
Total TCDFs	30402143	1.14	0.471	0.175 pg/g		J	B, *III		

Sample Name	HZET0731S001		Matrix 7	Type: SOIL	Result Type: Primary Result				
Lab Sample Name:	1122004	Sample	Date: 10	0/29/2009 11:45:00	AM Validation Level: V				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes		
1,2,3,4,6,7,8-HpCDD	35822469	11.6	2.13	0.274 pg/g					
1,2,3,4,6,7,8-HpCDF	67562394	2.92	2.13	0.133 pg/g					
,2,3,4,7,8,9-HpCDF	55673897	0.277	2.13	0.228 pg/g	JK	UJ	*Ш		
,2,3,4,7,8-HxCDD	39227286	0.132	2.13	0.132 pg/g	U	U			
,2,3,4,7,8-HxCDF	70648269	0.361	2.13	0.119 pg/g	JK	UJ	*Ш		
,2,3,6,7,8-HxCDD	57653857	0.385	2.13	0.146 pg/g	J	J			
,2,3,6,7,8-HxCDF	57117449	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.252 and EDL from 0.121		
,2,3,7,8,9-HxCDD	19408743	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.306 and EDL from 0.146		
,2,3,7,8,9-HxCDF	72918219	0.157	2.13	0.157 pg/g	U	U			
,2,3,7,8-PeCDD	40321764	0.126	2.13	0.126 pg/g	U	U			
,2,3,7,8-PeCDF	57117416	0.17	2.13	0.0776 pg/g	JK	UJ	*Ⅲ		
2,3,4,6,7,8-HxCDF	60851345	0.305	2.13	0.123 pg/g	JK	UJ	*Ⅲ		
2,3,4,7,8-PeCDF	57117314	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.294 and EDL from 0.0771		
2,3,7,8-TCDD	1746016	0.106	0.425	0.106 pg/g	U	U			
,3,7,8-TCDF	51207319	0.379	0.425	0.122 pg/g	J	R	D		
,3,7,8-TCDF	51207319	0.425	0.425	0.425 pg/g	J	U	B, result changed from 0.366 and EDL from 0.165		
OCDD	3268879	161	4.25	0.538 pg/g					
OCDF	39001020	7.16	4.25	0.294 pg/g					
TEQ WHO2005 ND=0 with EMPCs		0.489		pg/g					
TEQ WHO2005 ND=0.5 with EMPCs	h	0.62		pg/g					
Total HpCDD	37871004	35.1	2.13	0.274 pg/g		J	В		
Total HpCDF	38998753	7.25	2.13	0.133 pg/g		J	B, *III		
otal HxCDD	34465468	2.92	2.13	0.132 pg/g		J	В		
otal HxCDF	55684941	4.12	2.13	0.119 pg/g		J	B, *III		
Total PeCDD	36088229	0.49	2.13	0.126 pg/g	J	J	В		
Total PeCDF	30402154	3.69	2.13	0.0771 pg/g		J	B, *III		
Total TCDD	41903575	0.182	0.425	0.106 pg/g	J	J	В		
Fotal TCDFs	30402143	0.8	0.425	0.165 pg/g		J	В		

Sample Name	EBQW2251		Matrix T	ype: WATER	Res	ult Type: Primary Result	
Lab Sample Name:	240083001	Sample	Date: 10	/29/2009 2:50:00 PI	м	Validation Level: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier	
Perchlorate	14797730	4	4	1 ug/L	U	U	
Analysis Metho	od 314.0-D	N WET					
Sample Name	HZET0728S001		Matrix T	ype: SOIL	Res	ult Type: Primary Result	
Lab Sample Name:	240083002	Sample	Date: 10	/29/2009 10:50:00 /	AM V	Validation Level: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier	
Perchlorate	14797730	4	4	1 ug/L	U	U	
Sample Name	HZET0729S001		Matrix T	ype: SOIL	Res	ult Type: Primary Result	
Lab Sample Name:	240083003	Sample	Date: 10	/29/2009 11:05:00 /	AM V	Validation Level: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier	
Perchlorate	14797730	40	40	10 ug/L	U	U	
Sample Name	HZET0730S001		Matrix T	ype: SOIL	Res	ult Type: Primary Result	
Lab Sample Name:	240083004	Sample	Date: 10	/29/2009 11:25:00 /	AM V	Validation Level: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier	
Perchlorate	14797730	4	4	1 ug/L	U	U	
Sample Name	HZET0731S001		Matrix T	ype: SOIL	Res	ult Type: Primary Result	
Lab Sample Name:	240083005	Sample	Date: 10	/29/2009 11:45:00 /	AM V	Validation Level: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier	
Perchlorate	14797730	4	4	1 ug/L	U	U	

Analysis Method 314.0

Sample Name	EBQW2251		Matrix 7	Type: WATER	Res	ult Type: Prir	nary Result
Lab Sample Name:	240083001	Sample	Date: 1	0/29/2009 2:50:00 P	м	Validation Lev	el: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	68	200	68 ug/L	U	U	
Antimony	7440360	3	10	3 ug/L	U	U	
Boron	7440428	15	50	15 ug/L	U	U	
Sample Name	HZET0728S001		Matrix 7	Type: SOIL	Res	ult Type: Prir	nary Result
Lab Sample Name:	240083002	Sample	Date: 1	0/29/2009 10:50:00	AM V	Validation Lev	el: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	9210	21.2	7.22 mg/kg			
Antimony	7440360	0.713	1.06	0.35 mg/kg	J	1	
Boron	7440428	1.71	5.31	1.06 mg/kg	J	1	
Sample Name	HZET0729S001		Matrix 7	Type: SOIL	Res	ult Type: Prir	nary Result
Lab Sample Name:	240083003	Sample	Date: 1	0/29/2009 11:05:00	AM	Validation Lev	el: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	7820	19.9	6.77 mg/kg			
Antimony	7440360	0.328	0.995	0.328 mg/kg	U	U	
Boron	7440428	1.95	4.98	0.995 mg/kg	J	J	
Sample Name	HZET0730S001		Matrix 7	Type: SOIL	Res	ult Type: Prir	nary Result
Lab Sample Name:	240083004	Sample	Date: 1	0/29/2009 11:25:00	AM V	Validation Lev	el: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	8330	22	7.48 mg/kg			
Antimony	7440360	0.363	1.1	0.363 mg/kg	U	U	
Boron	7440428	1.1	5.5	1.1 mg/kg	U	U	
Sample Name	HZET0731S001		Matrix 7	Гуре: SOIL	Res	ult Type: Prin	nary Result
Lab Sample Name:	240083005	Sample	Date: 1	0/29/2009 11:45:00	AM	Validation Lev	el: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429905	7410	20.3	6.89 mg/kg			
Antimony	7440360	0.335	1.01	0.335 mg/kg	U	U	
Boron	7440428	1.01	5.07	1.01 mg/kg	U	U	

Sample Name	EBQW2251		Matrix '	Type: WATER	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083001	Sample	Date: 1	0/29/2009 2:50:00 PI	м	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440382	1.6	5	1.6 ug/L	U	U	
Barium	7440393	0.6	2	0.6 ug/L	U	U	
Beryllium	7440417	0.1	0.5	0.1 ug/L	U	U	
Cadmium	7440439	0.11	1	0.11 ug/L	U	U	
Chromium	7440473	2	10	2 ug/L	U	U	
Cobalt	7440484	0.1	1	0.1 ug/L	U	U	
Copper	7440508	0.33	1	0.33 ug/L	U	U	
Lead	7439921	0.5	2	0.5 ug/L	U	U	
Molybdenum	7439987	0.167	0.5	0.167 ug/L	U	U	
Nickel	7440020	1.9	2	0.5 ug/L	J	J	E, Q
Selenium	7782492	1	5	1 ug/L	U	U	
Silver	7440224	0.2	1	0.2 ug/L	U	U	
Fhallium	7440280	1	1	1 ug/L	J	U	B, result changed from 0.688 and MDL from 0.3
Vanadium	7440622	3	10	3 ug/L	U	U	
Zinc	7440666	3	10	3 ug/L	U	U	
Sample Name	HZET0728S001		Matrix '	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083002	Sample	Date: 1	0/29/2009 10:50:00 #	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440382	3.38	1.05	0.209 mg/kg			
Barium	7440393	90	2.09	0.524 mg/kg			
Beryllium	7440417	0.272	0.524	0.105 mg/kg	J	J	
Cadmium	7440439	0.282	0.209	0.0209 mg/kg			
Chromium	7440473	12.4	3.14	1.05 mg/kg	Ν	J	Q
Cobalt	7440484	5.2	1.05	0.314 mg/kg			
Copper	7440508	11.3	1.05	0.346 mg/kg	N	J	Q
Lead	7439921	9.83	0.419	0.105 mg/kg	N	J	Q
Molybdenum	7439987	0.376	0.209	0.0628 mg/kg			
Nickel	7440020	8.99	2.09	0.524 mg/kg	*N	J	E, Q
Selenium	7702402	0.524	1.05	0.524 mg/kg	U	U	
	7782492						
Silver	7440224	0.0568	0.209	0.0419 mg/kg	J	J	
Silver Thallium	7440224 7440280	0.0568	0.209	0.0419 mg/kg 0.296 mg/kg	J	J	B, RL changed from 0.209 and MDL from 0.0628
Silver Thallium Vanadium	7440224 7440224 7440280 7440622	0.0568 0.296 23.5	0.209 0.296 10.5	0.0419 mg/kg 0.296 mg/kg 2.09 mg/kg	J	U J	B, RL changed from 0.209 and MDL from 0.0628

Sample Name	HZET0729S001		Matrix	Type: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083003	Sample	Date:	10/29/2009 11:05:00	AM	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440382	2.8	0.991	0.198 mg/kg			
Barium	7440393	103	3.97	0.991 mg/kg			
Beryllium	7440417	0.265	0.496	0.0991 mg/kg	J	J	
Cadmium	7440439	0.719	0.198	0.0198 mg/kg			
Chromium	7440473	11.3	2.97	0.991 mg/kg	Ν	J	Q
Cobalt	7440484	5.28	0.991	0.297 mg/kg			
Copper	7440508	12.6	0.991	0.327 mg/kg	Ν	J	Q
ead	7439921	8.64	0.397	0.0991 mg/kg	N	J	Q
Molybdenum	7439987	0.267	0.198	0.0595 mg/kg			
Nickel	7440020	8.09	1.98	0.496 mg/kg	*N	J	E, Q
Selenium	7782492	0.496	0.991	0.496 mg/kg	U	U	
Silver	7440224	0.0533	0.198	0.0397 mg/kg	J	J	
Fhallium	7440280	0.271	0.271	0.271 mg/kg		U	B, RL changed from 0.198 and MDL from 0.0595
Vanadium	7440622	25.4	9.91	1.98 mg/kg			
Zinc	7440666	143	19.8	3.97 mg/kg			
Sample Name	HZET0730S001		Matrix	Type: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083004	Sample	Date:	10/29/2009 11:25:00	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Arsenic	7440382	3.05	1.08	0.217 mg/kg			
Barium	7440393	54.3	2.17	0.542 mg/kg			
Beryllium	7440417	0.326	0.542	0.108 mg/kg	J	J	
Cadmium	7440439	0.119	0.217	0.0217 mg/kg	J	J	
Chromium	7440473	12.6	3.25	1.08 mg/kg	N	J	Q
Cobalt	7440484	3.81	1.08	0.325 mg/kg			
Copper	7440508	6.13	1.08	0.358 mg/kg	N	J	Q
ead	7439921	3.84	0.433	0.108 mg/kg	Ν	J	Q
Molybdenum	7439987	0.11	0.217	0.065 mg/kg	J	J	
Vickel	7440020	6.65	2.17	0.542 mg/kg	*N	J	E, Q
Selenium	7782492	0.542	1.08	0.542 mg/kg	U	U	
Silver	7440224	0.0433	0.217	0.0433 mg/kg	U	U	
Fhallium	7440280	0.217	0.217	0.217 mg/kg	J	U	B, result changed from 0.216 and MDL from 0.065
Vanadium	7440622	21.4	10.8	2.17 mg/kg			
Zinc	7440666	46	10.8	2.17 mg/kg			

Sample Name	HZET0731S001		Matrix	Type: SOIL	Re	esult Type: Pr	imary Result
Lab Sample Name:	240083005	Sample	Date:	10/29/2009 11:45:00 A	АМ	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation r Qualifier	Validation Notes
Arsenic	7440382	3.12	1.04	0.209 mg/kg			
Barium	7440393	54.2	2.09	0.522 mg/kg			
Beryllium	7440417	0.323	0.522	0.104 mg/kg	J	J	
Cadmium	7440439	0.15	0.209	0.0209 mg/kg	J	J	
Chromium	7440473	12.2	3.13	8 1.04 mg/kg	Ν	J	Q
Cobalt	7440484	3.73	1.04	0.313 mg/kg			
Copper	7440508	6.74	1.04	0.344 mg/kg	Ν	J	Q
Lead	7439921	6.32	0.417	0.104 mg/kg	Ν	J	Q
Molybdenum	7439987	0.219	0.209	0.0626 mg/kg			
Nickel	7440020	6.42	2.09	0.522 mg/kg	*N	J	E, Q
Selenium	7782492	0.522	1.04	0.522 mg/kg	U	U	
Silver	7440224	0.0417	0.209	0.0417 mg/kg	U	U	
Thallium	7440280	0.23	0.23	8 0.23 mg/kg		U	B, RL changed from 0.209 and MDL from 0.0626
Vanadium	7440622	20.8	10.4	2.09 mg/kg			
Zinc	7440666	49.7	10.4	2.09 mg/kg			
Analysis Metho	od 7470A						
Sample Name	EBQW2251		Matrix	Type: WATER	Re	esult Type: Pr	imary Result
Lab Sample Name:	240083001	Sample	Date:	10/29/2009 2:50:00 PM	Ν	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifie	Validation r Qualifier	Validation Notes

7439976

0.066

0.2

0.066 ug/L

U

U

Analysis Method 7471A

Sample Name	HZET0728S001		Matrix 7	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083002	Sample	Date: 1	0/29/2009 10:50:00	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439976	0.0219	0.0128	0.00435 mg/kg	*	J	B, E
Sample Name	HZET0729S001		Matrix 7	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083003	Sample	Date: 1	0/29/2009 11:05:00	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439976	0.0119	0.0122	0.00414 mg/kg	J*	J	B, E
Sample Name	HZET0730S001		Matrix 7	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083004	Sample	Date: 1	0/29/2009 11:25:00	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439976	0.0041	0.0121	0.0041 mg/kg	U*	UJ	B, E
Sample Name	HZET0731S001		Matrix 7	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083005	Sample	Date: 1	0/29/2009 11:45:00	AM V	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439976	0.0248	0.0111	0.00378 mg/kg	*	J	B, E

Sample Name	EBQW2251		Matrix Type: WATER Result Type: Primary Result							
Lab Sample Name:	240083001	Sample I	Date: 1	0/29/2009 2:50:00 PI	м	Validation Level: V				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes			
1-Methyl naphthalene	90120	0.192	0.192	0.0481 ug/L	U	U				
2-Methylnaphthalene	91576	0.192	0.192	0.0481 ug/L	U	U				
Acenaphthene	83329	0.192	0.192	0.0481 ug/L	U	U				
Acenaphthylene	208968	0.192	0.192	0.0481 ug/L	U	U				
Anthracene	120127	0.192	0.192	0.0481 ug/L	U	U				
Benzo(a)anthracene	56553	0.192	0.192	0.0481 ug/L	U	U				
Benzo(a)pyrene	50328	0.192	0.192	0.0481 ug/L	U	U				
Benzo(b)fluoranthene	205992	0.192	0.192	0.0481 ug/L	U	U				
Benzo(ghi)perylene	191242	0.192	0.192	0.0481 ug/L	U	U				
Benzo(k)fluoranthene	207089	0.192	0.192	0.0481 ug/L	U	U				
Chrysene	218019	0.192	0.192	0.0481 ug/L	U	U				
Dibenzo(a,h)anthracene	53703	0.192	0.192	0.0481 ug/L	U	U				
Fluoranthene	206440	0.192	0.192	0.0481 ug/L	U	U				
Fluorene	86737	0.192	0.192	0.0481 ug/L	U	U				
Indeno(1,2,3-cd)pyrene	193395	0.192	0.192	0.0481 ug/L	U	U				
Naphthalene	91203	0.192	0.192	0.0481 ug/L	U	U				
Phenanthrene	85018	0.192	0.192	0.0481 ug/L	U	U				
Pyrene	129000	0.192	0.192	0.0481 ug/L	U	U				

Sample Name	HZET0728S001		Matrix Type: SOIL Result Type: Primary Result					
Lab Sample Name:	240083002	Sample I	Date: 1	0/29/2009 10:50:00 4	AM V	vel: V		
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1-Methyl naphthalene	90120	7.22	7.22	1.81 ug/kg	U	U		
2-Methylnaphthalene	91576	7.22	7.22	1.81 ug/kg	U	U		
Acenaphthene	83329	7.22	7.22	1.81 ug/kg	U	U		
Acenaphthylene	208968	7.22	7.22	1.81 ug/kg	U	U		
Anthracene	120127	3.95	7.22	1.81 ug/kg	J	J		
Benzo(a)anthracene	56553	68.4	7.22	1.81 ug/kg				
Benzo(a)pyrene	50328	50.4	7.22	1.81 ug/kg				
Benzo(b)fluoranthene	205992	62.1	7.22	1.81 ug/kg				
Benzo(ghi)perylene	191242	20	7.22	1.81 ug/kg	J	J		
Benzo(k)fluoranthene	207089	30.8	7.22	1.81 ug/kg				
Chrysene	218019	69.3	7.22	1.81 ug/kg				
Dibenzo(a,h)anthracene	53703	7.22	7.22	1.81 ug/kg	U	U		
Fluoranthene	206440	64.8	7.22	1.81 ug/kg				
Fluorene	86737	7.22	7.22	1.81 ug/kg	U	U		
Indeno(1,2,3-cd)pyrene	193395	20.1	7.22	1.81 ug/kg				
Naphthalene	91203	7.22	7.22	1.08 ug/kg	U	U		
Phenanthrene	85018	7.44	7.22	1.81 ug/kg	J	J		
Pyrene	129000	79.2	7.22	1.81 ug/kg				

Sample Name	HZET0729S001		Matrix Type: SOIL Result Type: Primary Result					
Lab Sample Name:	240083003	Sample I	Date: 1	0/29/2009 11:05:00 4	AM V	Validation Le	wel: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1-Methyl naphthalene	90120	6.73	6.73	1.68 ug/kg	U	U		
2-Methylnaphthalene	91576	6.73	6.73	1.68 ug/kg	U	U		
Acenaphthene	83329	1.97	6.73	1.68 ug/kg	J	J		
Acenaphthylene	208968	6.73	6.73	1.68 ug/kg	U	U		
Anthracene	120127	32	6.73	1.68 ug/kg				
Benzo(a)anthracene	56553	335	6.73	1.68 ug/kg				
Benzo(a)pyrene	50328	247	6.73	1.68 ug/kg				
Benzo(b)fluoranthene	205992	340	6.73	1.68 ug/kg				
Benzo(ghi)perylene	191242	80.3	6.73	1.68 ug/kg				
Benzo(k)fluoranthene	207089	129	6.73	1.68 ug/kg				
Chrysene	218019	351	6.73	1.68 ug/kg				
Dibenzo(a,h)anthracene	53703	6.73	6.73	1.68 ug/kg	U	U		
Fluoranthene	206440	367	6.73	1.68 ug/kg				
Fluorene	86737	1.84	6.73	1.68 ug/kg	J	J		
Indeno(1,2,3-cd)pyrene	193395	91.8	6.73	1.68 ug/kg				
Naphthalene	91203	6.73	6.73	1.01 ug/kg	U	U		
Phenanthrene	85018	76.9	6.73	1.68 ug/kg				
Pyrene	129000	421	6.73	1.68 ug/kg				

Sample Name	HZET0730S001		Matrix Type: SOIL Result Type: Primary Result					
Lab Sample Name:	240083004	Sample I	Date: 1	0/29/2009 11:25:00 4	AM V	Validation Le	vel: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1-Methyl naphthalene	90120	7.45	7.45	1.86 ug/kg	U	U		
2-Methylnaphthalene	91576	7.45	7.45	1.86 ug/kg	U	U		
Acenaphthene	83329	7.45	7.45	1.86 ug/kg	U	U		
Acenaphthylene	208968	7.45	7.45	1.86 ug/kg	U	U		
Anthracene	120127	2.49	7.45	1.86 ug/kg	J	J		
Benzo(a)anthracene	56553	18.4	7.45	1.86 ug/kg	J	J		
Benzo(a)pyrene	50328	12.3	7.45	1.86 ug/kg	J	J		
Benzo(b)fluoranthene	205992	15	7.45	1.86 ug/kg	J	J		
Benzo(ghi)perylene	191242	3.92	7.45	1.86 ug/kg	J	J		
Benzo(k)fluoranthene	207089	7.45	7.45	1.86 ug/kg	U	U		
Chrysene	218019	16	7.45	1.86 ug/kg	J	J		
Dibenzo(a,h)anthracene	53703	7.45	7.45	1.86 ug/kg	U	U		
Fluoranthene	206440	31.7	7.45	1.86 ug/kg				
Fluorene	86737	7.45	7.45	1.86 ug/kg	U	U		
Indeno(1,2,3-cd)pyrene	193395	4.26	7.45	1.86 ug/kg	J	J		
Naphthalene	91203	7.45	7.45	1.12 ug/kg	U	U		
Phenanthrene	85018	6.7	7.45	1.86 ug/kg	J	J		
Pyrene	129000	32.6	7.45	1.86 ug/kg				

Sample Name	HZET0731S001		Matrix 1	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083005	Sample I	Date: 1	0/29/2009 11:45:00 4	AM V	wel: V	
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1-Methyl naphthalene	90120	7.06	7.06	1.76 ug/kg	U	U	
2-Methylnaphthalene	91576	7.06	7.06	1.76 ug/kg	U	U	
Acenaphthene	83329	7.06	7.06	1.76 ug/kg	U	U	
Acenaphthylene	208968	7.06	7.06	1.76 ug/kg	U	U	
Anthracene	120127	9.34	7.06	1.76 ug/kg	J	J	
Benzo(a)anthracene	56553	123	7.06	1.76 ug/kg			
Benzo(a)pyrene	50328	96.5	7.06	1.76 ug/kg			
Benzo(b)fluoranthene	205992	127	7.06	1.76 ug/kg			
Benzo(ghi)perylene	191242	31.3	7.06	1.76 ug/kg			
Benzo(k)fluoranthene	207089	48.2	7.06	1.76 ug/kg			
Chrysene	218019	125	7.06	1.76 ug/kg			
Dibenzo(a,h)anthracene	53703	7.06	7.06	1.76 ug/kg	U	U	
Fluoranthene	206440	144	7.06	1.76 ug/kg			
Fluorene	86737	7.06	7.06	1.76 ug/kg	U	U	
Indeno(1,2,3-cd)pyrene	193395	34.4	7.06	1.76 ug/kg			
Naphthalene	91203	7.06	7.06	1.06 ug/kg	U	U	
Phenanthrene	85018	19.3	7.06	1.76 ug/kg	J	J	
Pyrene	129000	163	7.06	1.76 ug/kg			

Analysis Method 8321A

Sample Name	EBQW2251		Matrix '	Fype: WATER	Res	ult Type: Primary Result
Lab Sample Name:	240083001	Sample	Date: 1	0/29/2009 2:50:00 P	М	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
2,4-Diamino-6-nitrotoluene	6629294	1.3	1.3	0.39 ug/L	U	U
2,6-Diamino-4-nitrotoluene	59229753	1.3	1.3	0.39 ug/L	U	U
Sample Name	HZET0728S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083002	Sample	Date: 1	0/29/2009 10:50:00 /	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
2,4-Diamino-6-nitrotoluene	6629294	2000	2000	500 ug/Kg	U	U
2,6-Diamino-4-nitrotoluene	59229753	2000	2000	500 ug/Kg	U	U
Sample Name	HZET0729S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083003	Sample	Date: 1	0/29/2009 11:05:00	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
2,4-Diamino-6-nitrotoluene	6629294	2000	2000	500 ug/Kg	U	U
2,6-Diamino-4-nitrotoluene	59229753	2000	2000	500 ug/Kg	U	U
Sample Name	HZET0730S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083004	Sample	Date: 1	0/29/2009 11:25:00 4	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
2,4-Diamino-6-nitrotoluene	6629294	2000	2000	500 ug/Kg	U	U
2,6-Diamino-4-nitrotoluene	59229753	2000	2000	500 ug/Kg	U	U
Sample Name	HZET0731S001		Matrix '	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083005	Sample	Date: 1	0/29/2009 11:45:00	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
2,4-Diamino-6-nitrotoluene	6629294	2000	2000	500 ug/Kg	U	U
2,6-Diamino-4-nitrotoluene	59229753	2000	2000	500 ug/Kg	U	U

Sample Name	EBQW2251		Matrix Type: WATER Result Type: Lab Repeat An							
Lab Sample Name:	240083001	Sample l	Date: 1	0/29/2009 2:50:00 PI	м	Validation Level: V				
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes			
1,3,5-Trinitrobenzene	99354	0.325	0.325	0.0649 ug/L	U	U				
2,4,6-Trinitrotoluene	118967	0.487	0.487	0.162 ug/L	U	U				
2,4-Dinitrotoluene	121142	0.487	0.487	0.162 ug/L	U	U				
2,6-Dinitrotoluene	606202	0.487	0.487	0.162 ug/L	U	U				
2-Amino-4,6-dinitrotoluene	35572782	0.487	0.487	0.162 ug/L	U	U				
3,4-Dinitrotoluene	610-39-9	103		%						
4-Amino-2,6-dinitrotoluene	19406510	0.487	0.487	0.162 ug/L	U	U				
HMX	2691410	0.487	0.487	0.162 ug/L	U	U				
m-Dinitrobenzene	99650	0.325	0.325	0.0649 ug/L	U	U				
m-Nitrotoluene	99081	0.325	0.325	0.126 ug/L	U	U				
Nitrobenzene	98953	0.325	0.325	0.0649 ug/L	U	U				
Nitroglycerin	55630	1.95	1.95	0.649 ug/L	U	U				
o-Nitrotoluene	88722	0.487	0.487	0.162 ug/L	U	U				
PETN	78115	1.95	1.95	0.649 ug/L	U	U				
p-Nitrotoluene	99990	0.487	0.487	0.162 ug/L	U	U				
RDX	121824	0.487	0.487	0.162 ug/L	U	U				
Tetryl	479458	1.46	1.46	0.487 ug/L	U	U				

Sample Name	HZET0728S001		Matrix 7	Type: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240083002	Sample l	Date: 10	0/29/2009 10:50:00 /	AM V	Validation Le	wel: V
Sample Name Lab Sample Name: Analyte 1,3,5-Trinitrobenzene 2,4,6-Trinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene 3,4-Dinitrotoluene 4-Amino-2,6-dinitrotoluene 4-Amino-2,6-dinitrotoluene HMX n-Dinitrobenzene n-Nitrotoluene Nitrobenzene Nitroglycerin o-Nitrotoluene PETN p-Nitrotoluene RDX	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,3,5-Trinitrobenzene	99354	150	150	50 ug/Kg	U	U	
2,4,6-Trinitrotoluene	118967	150	150	50 ug/Kg	U	U	
2,4-Dinitrotoluene	121142	150	150	50 ug/Kg	U	U	
2,6-Dinitrotoluene	606202	150	150	50 ug/Kg	U	U	
2-Amino-4,6-dinitrotoluene	35572782	150	150	50 ug/Kg	U	U	
3,4-Dinitrotoluene	610-39-9	108		%			
4-Amino-2,6-dinitrotoluene	19406510	150	150	50 ug/Kg	U	U	
HMX	2691410	150	150	50 ug/Kg	U	U	
m-Dinitrobenzene	99650	150	150	50 ug/Kg	U	U	
m-Nitrotoluene	99081	150	150	50 ug/Kg	U	U	
Nitrobenzene	98953	150	150	50 ug/Kg	U	U	
Nitroglycerin	55630	1000	1000	250 ug/Kg	U	U	
o-Nitrotoluene	88722	150	150	50 ug/Kg	U	U	
PETN	78115	500	500	82.5 ug/Kg	U	U	
p-Nitrotoluene	99990	150	150	50 ug/Kg	U	U	
RDX	121824	150	150	50 ug/Kg	U	U	
Tetryl	479458	150	150	50 ug/Kg	U	U	

Sample Name	HZET0729S001		Matrix 7	Type: SOIL	Res	ult Type: La	ab Repeat An
Lab Sample Name:	240083003	Sample l	Date: 10	0/29/2009 11:05:00 /	AM V	Validation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,3,5-Trinitrobenzene	99354	150	150	50 ug/Kg	U	U	
2,4,6-Trinitrotoluene	118967	150	150	50 ug/Kg	U	U	
2,4-Dinitrotoluene	121142	150	150	50 ug/Kg	U	U	
2,6-Dinitrotoluene	606202	150	150	50 ug/Kg	U	U	
2-Amino-4,6-dinitrotoluene	35572782	150	150	50 ug/Kg	U	U	
3,4-Dinitrotoluene	610-39-9	115		%			
4-Amino-2,6-dinitrotoluene	19406510	150	150	50 ug/Kg	U	U	
HMX	2691410	150	150	50 ug/Kg	U	U	
m-Dinitrobenzene	99650	150	150	50 ug/Kg	U	U	
m-Nitrotoluene	99081	150	150	50 ug/Kg	U	U	
Nitrobenzene	98953	150	150	50 ug/Kg	U	U	
Nitroglycerin	55630	1000	1000	250 ug/Kg	U	U	
o-Nitrotoluene	88722	150	150	50 ug/Kg	U	U	
PETN	78115	500	500	82.5 ug/Kg	U	U	
p-Nitrotoluene	99990	150	150	50 ug/Kg	U	U	
RDX	121824	150	150	50 ug/Kg	U	U	
Tetryl	479458	150	150	50 ug/Kg	U	U	

Sample Name	HZET0730S001		Matrix 7	Fype: SOIL	Res	ult Type: La	ıb Repeat An	
Lab Sample Name:	240083004	Sample l	Date: 10	0/29/2009 11:25:00 /	AM V	M Validation Level: V		
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1,3,5-Trinitrobenzene	99354	150	150	50 ug/Kg	U	U		
2,4,6-Trinitrotoluene	118967	150	150	50 ug/Kg	U	U		
2,4-Dinitrotoluene	121142	150	150	50 ug/Kg	U	U		
2,6-Dinitrotoluene	606202	150	150	50 ug/Kg	U	U		
2-Amino-4,6-dinitrotoluene	35572782	150	150	50 ug/Kg	U	U		
3,4-Dinitrotoluene	610-39-9	112		%				
4-Amino-2,6-dinitrotoluene	19406510	150	150	50 ug/Kg	U	U		
HMX	2691410	150	150	50 ug/Kg	U	U		
m-Dinitrobenzene	99650	150	150	50 ug/Kg	U	U		
m-Nitrotoluene	99081	150	150	50 ug/Kg	U	U		
Nitrobenzene	98953	150	150	50 ug/Kg	U	U		
Nitroglycerin	55630	1000	1000	250 ug/Kg	U	U		
o-Nitrotoluene	88722	150	150	50 ug/Kg	U	U		
PETN	78115	500	500	82.5 ug/Kg	U	U		
p-Nitrotoluene	99990	150	150	50 ug/Kg	U	U		
RDX	121824	150	150	50 ug/Kg	U	U		
Tetryl	479458	150	150	50 ug/Kg	U	U		

Sample Name	HZET0731S001		Matrix 7	Type: SOIL	Res	ult Type: La	ıb Repeat An
Lab Sample Name:	240083005	Sample 1	Date: 10	0/29/2009 11:45:00 /	AM V	Validation Le	vel: V
Sample Name Lab Sample Name: Analyte 1,3,5-Trinitrobenzene 2,4,6-Trinitrotoluene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,6-Dinitrotoluene 2-Amino-4,6-dinitrotoluene 3,4-Dinitrotoluene 4-Amino-2,6-dinitrotoluene 4-Amino-2,6-dinitrotoluene 1-Amino-2,6-dinitrotoluene 1-Nitrotoluene Nitrobenzene Nitrobenzene Nitrobenzene Nitrotoluene PETN p-Nitrotoluene	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,3,5-Trinitrobenzene	99354	150	150	50 ug/Kg	U	U	
2,4,6-Trinitrotoluene	118967	150	150	50 ug/Kg	U	U	
2,4-Dinitrotoluene	121142	150	150	50 ug/Kg	U	U	
2,6-Dinitrotoluene	606202	150	150	50 ug/Kg	U	U	
2-Amino-4,6-dinitrotoluene	35572782	150	150	50 ug/Kg	U	U	
3,4-Dinitrotoluene	610-39-9	113		%			
4-Amino-2,6-dinitrotoluene	19406510	150	150	50 ug/Kg	U	U	
HMX	2691410	150	150	50 ug/Kg	U	U	
m-Dinitrobenzene	99650	150	150	50 ug/Kg	U	U	
m-Nitrotoluene	99081	150	150	50 ug/Kg	U	U	
Nitrobenzene	98953	150	150	50 ug/Kg	U	U	
Nitroglycerin	55630	1000	1000	250 ug/Kg	U	U	
o-Nitrotoluene	88722	150	150	50 ug/Kg	U	U	
PETN	78115	500	500	82.5 ug/Kg	U	U	
p-Nitrotoluene	99990	150	150	50 ug/Kg	U	U	
RDX	121824	150	150	50 ug/Kg	U	U	
Tetryl	479458	150	150	50 ug/Kg	U	U	

Sample Name	HZET0728S001		Matrix	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083002	Sample	Date: 1	0/29/2009 10:50:00 A	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
pН	E-10139	5.54	0.1	0.01 PH UNI	Н	
Sample Name	HZET0729S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083003	Sample	Date: 1	0/29/2009 11:05:00 A	AM N	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
pH	E-10139	6.05	0.1	0.01 PH UNI	Н	
Sample Name	HZET0730S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083004	Sample	Date: 1	0/29/2009 11:25:00 A	AM N	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
pH	E-10139	7.56	0.1	0.01 PH UNI	Н	
Sample Name	HZET0731S001		Matrix 7	Fype: SOIL	Res	ult Type: Primary Result
Lab Sample Name:	240083005	Sample	Date: 1	0/29/2009 11:45:00 A	AM V	Validation Level: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Validation Notes Qualifier
рН	E-10139	6.25	0.1	0.01 PH UNI	Н	

Analysis Method 9045C

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	3
Data Reveiw Qualifiers Definitions	7
Laboratory Certifications	9
Percent Moisture	11
GC Semivolatile PCB Analysis Sample Data Summary Quality Control Summary Sample Data Standards Data Quality Control Data Miscellaneous Data	15 22 24 30 36 114 143



Case Narrative for Boeing - SSFL (MWH) Work Order: 240254 SDG: 240254

November 11, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on November 03, 2009 for analysis. The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following sample:

Laboratory	Sample
Identification	Description
240254001	HZET0730AS001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: GC Semivolatile PCB and Percent Moisture.

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Gaequeline a Judel

Jacqueline Trudell Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 11 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 240254

Prepared by

MEC^x, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	240254
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
HZET0730AS001	240254001	N/A	Soil	11/2/2009 12:46:00 PM	8082

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

Revision 0

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
М	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.
III. Method Analyses

A. EPA METHOD 8082—PCBs

Reviewed By: P. Meeks Date Reviewed: January 27, 2010

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for Organochlorine Pesticides/PCBs by GC (DVP-4, Rev. 0), EPA Method 8082, and the National Functional Guidelines for Organic Data Review (10/99).

- Holding Times: Extraction and analytical holding times were met. The soil sample was extracted within 14 days of collection and analyzed within 40 days of extraction.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The method blank had no target compound detects above the MDL.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.
- Surrogate Recovery: Recoveries were within laboratory-established QC limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. The recoveries and RPDs were within the laboratory-established control limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: This SDG had no identified field blank or equipment rinsate samples.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for Aroclors by Method 8082.
- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the reporting limit.

Validated Sample Result Forms: 240254

Analysis Method 8082

Sample Name	HZET0730AS0	001	Matrix [Fype: Soil	Res	ult Type: Pr	imary Result
Lab Sample Name:	240254001	Sample I	Date: 1	1/2/2009 12:46:00 PI	М	Validation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aroclor-1016	12674112	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1221	11104282	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1232	11141165	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1242	53469219	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1248	12672296	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1254	11097691	3.58	3.58	1.19 ug/kg	U	U	
Aroclor-1260	11096825	3.58	3.58	1.19 ug/kg	U	U	

Chain of Custody and Supporting Documentation

								24	0246 24	0254		
			5	AIN OF CUST	ODY REC	ORI	0		C	C #:	MWHSD20001102	5
Sustomer	Information	Project Infor	mation		Project	Infor	natior				Page: 1 of 1	
Site:	SSFL	Client Name:	Boeing		Collecto	5	Daws	L LO		Boeingr PM:	ana anana akir matalaratik da katir katira na mata	
Company:	MWH	Sampling Evel	nt: ISRA	Sampling, August 200	09 Contact	#			the lot and to be an end of the second s		a na managana managana ang managana na mang na	***
Report to:	Sarah Von Raesfeld	Project Numb	er: 18916	14.05462				Rec	uested Analyses		Instructions/TAT	
Address:	2121 N. California Blvd	Project Manag	er: Alex F	ischl							. proprie	
	Suite 600	PM Phone #:	(925) (327-4627	-	_	-				Numerical values for	5
	Walnut Creek	Field Contact:	Shelby	/ Valenzuela		_	_	_			analyses equate to the area and an area area and an	
	CA	Field Contact	#: (626)	255-0503						-	H-Hold	
	94596	Lab Name:	GELL	aboratories, LLC			R/				EH - Extract/Extrude Hold	oð
Email:	sarah.vonraesfeld@mwhglob	al.c Lab Contact:	Jackie	Trudeli	F	R/	AD 9	PA				
	sean.leffler@mwhglobal.com	Lab Address:	2040	Savage Road	D2	AD 90	05.0				Note: Values in the c	ells
			Charle	ston, SC 29407	216 N	01.1	Stron	6 OM			bellow are Turn Arou Times	nd
		Lab Phone:	(843)	769- 7388	N808 Noist	Gam	tium	Triti				
Sample Na	me	Matrix	Date	Time Contain	2 - Soil ure Soil	na Soil	90 Soil	um Soit			Comments	
HZET0730A	S001	Soil	11/2/2009	12:46 2	5 5	2	2				HVS-3	
			the second se									

11(3/09 Time: O& C Date: Data Validation Package 💟 Level IV artes Company:GEC 4. Received by: Comments: Gamma Spec should include Na-22, K-40, Mn-54, Co-60, Cs-134, Cs-137, Eu-152, Eu-154, Th-228, Th-232, U-235, U-238 and Geotracker EDF Am-241. 3 Date: Time: 3. Relinquished by: Company: Time: Date: 2. Received by: rector Company: Date: it/2/04 Time: (500 1. Relinquished by: duk h Company: MWH

.

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Clier	t: SSFL			SDG/ARCOC/	Work Order: 740246/ 7.40254
Rece	ived By: Kicky Albee			Date Received:	11/3/09
Susp	ected Hazard Information	Yes	No	Counts > x2 area b Radiation Safety (background on samples not marked "radioactive", contact Group of further investigation.
COC	/Samples marked as radioactive?		~	imum Counts Ob	served*: 40 cpm
Class	ified Radioactive II or III by RSO?		5		
COC	Samples marked containing PCBs?		2		
Shipp	ed as a DOT Hazardous?		V	ard Class Shipped	: UN#:
Samp	les identified as Foreign Soil?		2		
	Sample Receipt Criteria	Yes	NA	Comments	/Qualifiers (Required for Non-Conforming Items)
1.	Shipping containers received intact and sealed?			seals broken	Circle Applicable: damaged container leaking container other (describe)
2	Samples requiring cold preservation within $0 \le 6$ deg. C?	v		fee bags	Preservation Method:) blue ice dry ice none other (describe)
3	Chain of custody documents included with shipment?	ζ			
4	Sample containers intact and sealed?	ŝ		seals broken	Circle Applicable: damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		1	Sample ID's, containe If Preservation added	ers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?		ί	Sample ID's and cont	ainers affected:
7	Are Encore containers present?			(If yes, immediately o	eliver to Volatiles laboratory)
8	Samples received within holding time?	٢		Id's and tests affected	
9	Sample ID's on COC match ID's on bottles?	1		Sample ID's and cont	ainers affected:
10	Date & time on COC match date & time on bottles?	~		Sample ID's affected:	
11	Number of containers received match number indicated on COC?	2		Sample ID's affected:	
12	COC form is properly signed in relinquished/received sections?	~			
Comn	ents: FelEx 7960	85	7-	3766	
	PM (or PMA) review: Initia	ls		51	Date 113/09

A

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTC	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121	N. California Blvd. Ste. 60	Address:	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Jackie Trude	
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:		843-766-117	8
E-mail Address:	<u>Sarah</u>	.VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	<u>gel.com</u>
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	becify # of Sam	ples)
_				Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		(enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in			EPA 8310 (PAH)			
comments)		_ (enter "X")	EPA 8082 (PCB)	3	5	0
			Nickel (6020)	5	10	0
Container Information	:		Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	X	(select all applicable)	Zinc (6020)	5	20	0
Water	X	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		_(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDI	Ds <u>40</u>			
Project TAT:		LABORATORY	REPORTING REQUIREMENTS	rts Dolivor:	ahles	
Normal	¥	(10 Business dave)	Draft Results Fax?		(Yes/No)	
				Vaa	(Y_{00}/N_0)	
RUSH.	5	_(Specily- 24 / 48 / 72HRS)		res	(res/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRae	sfeld@mwhglob	al.com
			Send Original Reports To:			
Special Reporting Rec	luireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	(Yes/No)	Consultant Office		(enter "X")	
	Nie		Other Location (specify		-	
TIC (VOC) Required?	NO	(Yes/No)	in comments)	v	(optor "V")	
Data Validation Pokee :	Tior III	(Reging Tier L II or III)	# of Copies Reports Reg :	<u> </u>		
				1	-	
		SPECIAL	INSTRUCTIONS/LTO NOTES			
		CONFIRMATIO	N OF TRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received Bv-			
- ,.	Sorah V	on Roosfold	Lie iteolitou by			
ivame:	Salah V	011 1/465161U				
Date:	09/02/09)	Date:			-

Chain of Custody and Supporting Documentation

0.00	DNIB		CH	AIN OF CU	STOD)	/ RECO	ORD Coc #:		MWHSD20091102_00
									Page: 1 of 1
Customer	r Information	Project Inforr	nation		_	Project Ir	nformation		
Site:	SSFL	Client Name:	Boeing			Collector:	S. Dawson	Boeing PM:	
Company:	HWH	Sampling Ever	nt: ISRA S	ampling, Augus	t 2009	Contact #			
Report to:	Sarah Von Raesfeld	Project Numbe	r: 189161	14.05462			Requested Analyses		Instructions/TAT
Address:	2121 N. California Blvd	Project Manag	er: Alex Fi	schl					- edend
	Suite 600	PM Phone #:	(925) 6	27-4627					Numerical values for
	Walnut Creek	Field Contact:	Shelby	Valenzuela					analyses equate to turn around time in days
	CA	Field Contact #	#: (626) 2	55-0503					H - Hold
	94596	Lab Name:	GEL L	aboratories, LLC					EH - Extract/Extrude & Hold
Email:	sarah.vonraesfeld@mwhglobal.	c Lab Contact:	Jackie	Trudell					
	sean.leffler@mwhglobal.com	Lab Address:	2040 S	avage Road		Perc			Note: Values in the cells
			Charle	ston, SC 29407		hlora 216 M			bellow are Turn Around Times.
		Lab Phone:	(843) 7	69-7388		te 68 Aoisti			
Sample Ne	ame	Matrix	Date	Time Cor	lo. of ntainers	350 Soil ure Soil			Comments
HVBF33BSC	31	oil	11/2/2009	12:56	+	5 5			HVS Borrow

1. Relinquished by: GUAATTAN	Date: 11/2/09	2. Received by: Feltx	Date:	3. Relinquished by:	Date:	4. Received by:	Date: U(3/09
Company: MWH	Time: 15 ⁷ 80	Company:	Time:	Company:	Time:	company	Time: の名てく
Comments:					Geo	racker EDF	2

140289

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Clie	nt: 55+L				SDG/ARCOC/Work Order: 74D259
Rec	eived By: Ricky Alber				Date Received: 11/3/05
Sus	ected Hazard Information	Yes	°N No	*If (Counts > x2 area background on samples not marked "radioactive", contact
COC	Samples marked as radioactive?	F	1	Max	Radiation Safety Group of further investigation.
Class	sified Radioactive II or III by RSO?		17		Counts Observed . 40 Gra
COC	Samples marked containing PCBs?		0	1-	
Ship	ped as a DOT Hazardous?		v	Haz	ard Class Shipped: UN#:
Sam	oles identified as Foreign Soil?		1		
	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1.	Shipping containers received intact and sealed?	· v			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $0 \le 6$ deg. C?	7			Preservation Method: <u>tree bages</u> blue ice dry ice none other (describe) 560
3	Chain of custody documents included with shipment?	Y.			
4	Sample containers intact and sealed?	2			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		~		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		~		Sample ID's and containers affected:
7	Are Encore containers present?			~	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	~			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	~			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	~			Sample ID's affected:
11	Number of containers received match number indicated on COC?	~			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	1			
Comm	ents: FedEx 7960	85	7	7	3766

T

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTC	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121	N. California Blvd. Ste. 60	Address:	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Jackie Trude	II
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:		843-766-117	8
E-mail Address:	<u>Sarah</u>	.VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	<u>gel.com</u>
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	becify # of Sam	ples)
_				Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		(enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in			EPA 8310 (PAH)			
comments)		_ (enter "X")	EPA 8082 (PCB)	3	5	0
			Nickel (6020)	5	10	0
Container Information	:		Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	X	(select all applicable)	Zinc (6020)	5	20	0
Water	X	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		_(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDI	Ds <u>40</u>			
Project TAT:		LABORATORY	REPORTING REQUIREMENTS	rts Dolivor:	ahles	
Normal	¥	(10 Business dave)	Laboratory Results Revolts		(Yes/No)	
				Vaa	(Y_{00}/N_{0})	
RUSH.	5	_(Specily- 24 / 48 / 72HRS)		res	(res/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRae	sfeld@mwhglob	al.com
			Send Original Reports To:			
Special Reporting Rec	luireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	(Yes/No)	Consultant Office		(enter "X")	
	Nie		Other Location (specify		-	
TIC (VOC) Required?	NO	(Yes/No)	in comments)	v	(optor "V")	
Data Validation Pokee :	Tior III	(Reging Tier L II or III)	# of Copies Reports Reg :	<u> </u>		
				1	-	
		SPECIAL	INSTRUCTIONS/LTO NOTES			
		CONFIRMATIO	N OF TRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received Bv-			
- ,.	Sorah V	on Roosfold	Lie iteolitou by			
ivame:	Salah V	011 1/465161U				
Date:	09/02/09)	Date:			-

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	3
Data Qualifiers Definitions	7
Laboratory Certifications	9
LC/MS/MS Perchlorate Analysis Sample Data Summary Quality Control Summary Sample Data Standards Data Quality Control Miscellaneous Data	11 16 18 39 42 59 68



Case Narrative for Boeing - SSFL (MWH) Work Order: 240289 SDG: 240289

November 11, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on November 03, 2009 for analysis. The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following sample:

Laboratory	Sample
Identification	Description
240289001	HVBF33BS01

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Perchlorates by LCMSMS.

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Gaequeline a Judel

Jacqueline Trudell Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by $4 {\tt X}$ or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 11 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 240289

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	240289
Project Manager:	Dixie Hambrick
Matrix:	water
QC Level:	V
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
HVBF33BS01	240289001	N/A	SOIL	11/2/2009 12:56:00 PM	6850

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
Н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 6850—Perchlorate

Reviewed By: P. Meeks Date Reviewed: November 23, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for Metals (DVP-20, Rev. 0), EPA Method 6850, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, 28 days, was met.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Blank Spikes and Laboratory Control Samples: The recovery was within the methodestablished QC limits of 80-120%.
- Laboratory Duplicates: No laboratory duplicate analyses were performed.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. The recoveries and the RPD were within method-established QC limits of 70-130% and ≤15%, respectively.
- Internal Standard: The internal standard recovery was within the laboratory-established control limits.
- Sample Result Verification: The sample results reported on the sample result summary was verified against the raw data. No transcription errors or calculation errors were noted. Reported nondetects are valid to the reporting limit.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2251 was identified as the equipment rinsate associated with the samples in this SDG. Both samples were analyzed by Method 314.0. Perchlorate was not detected in either sample.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 240289

Analysis Method 6850

Sample Name	HVBF33BS01	I	Matrix 1	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	240289001	Sample I	Date: 1	1/2/2009 12:56:00 PM	Л	alidation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Perchlorate	14797730	0.308	0.2	0.05 ug/L			

Chain of Custody and Supporting Documentation

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Company: MWH	Time:	Company:	Time:	Company:	Time:	Company:	Time:
Comments: Sample volume for	dioxins shipped	I directly to CFA			Geotra Data V	icker EDF	

Page 4 of 489

Date: 11/13/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail:Sean.s.leffler@us.mwhglobal.com

То:	Jackie Trudell	Phone: 843-769-
Laboratory	GEL Laboratories, LLC	E-mail: Jacqueline.trude
From: Requestor	Sean Leffler signature	
Subject:	Chain-of-Custody Form Analytical Request Change	No. of Pages: 2

e: 843-769-7388

il: eline.trudell@gel.com

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHAG2	A2ET0100S001,	11/10/09		Change IDs from AZET0100S001,
0091110_0	A2ET0101S001,			AZET0101S001, AZET0102S001
0	A2E10102S001			

The reason for these changes: Incorrectly marked on COC form Χ Lack of sample volume Change in analytical request Other:

Thank you

Change Form 240897 Rev1

1

												2				
N. C.			Ċ	HAIN OF	CUSTOD	Y RE	S	ð				:# 000		MWH.	AG20091110_00	
														Page	: 1 of 1	
Customer	r Information	Project infor	mation			Proje	ct Info	rmati	5							-
Site:	SSFL	Client Name:	Boeir	þ		Collec	tor:	A. Gold	enberg				Boeing PM:			
Company:	HWH	Sampling Eve	nt: ISRA	Sampling, A	ugust 2009	Conta	# 5									
Report to:	Sarah Von Raesfeld	Project Numb	er: 1891	614.05462					R.	aqueste	d Analys	88		Instru	ctions/TAT	
Address:	2121 N. California Blvd	Project Mana	ger: Alex	Fischi												
	Suite 600	PM Phone #:	(925)	627-4627				-						Numer	ical values for	
	Walnut Creek	Field Contact	Shelt	oy Valenzuel										around	as equate to turn time in days	
	CA	Field Contact	#: (626)	255-0503	20 20									о н - н	P	
	94596	Lab Name:	GE	Laboratories	ILC									H-HE	xtract/Extrude &	
Email:	sarah.vonraesfeld@mwhglobal.	Lab Contact:	Jacki	e Trudell	4.1											
	sean.leffler@mwhglobal.com	Lab Address:	2040	Savage Ros	q	D2	Diovi		_					Note: \	alues in the cells	
			Charl	leston, SC 26	3407	216 1	n hv							Dellow Times	are Turn Around	
		Lab Phone:	(843)	769-7388		Noist	1613									-
Sample Na	Ð	Matrix	Date	Tme	No. of Containers	ure Soil	R - Soil		· · · · ·					Сот	nents	
AZET01003	801 A2 ET 0108 Sool 7 S	coll	11/10/2009	14:33	ł	67	_							A2LF-1		
AZETO 1019.	H AZETOIOSODI F () S	loil	11/10/2009	14:29	1	с,								A2LF-1		
NZET01023	889 AZETO1025001 J S.	toll	11/10/2009	14:38	1	e e								A2LF-1		

1. Relinquished by:	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
Company: MWH	Time:	Company:	Time:	Company:	Time:	Company:	Time:
Comments: Sample volume for	dioxins shipped	d directly to CFA			Geotri Data V	icker EDF	

Page 6 of 489

@ SSL 11/13/09

240897

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	mpling, August 2009	Start:	8/24/2009	End:	9/30/2009
LTO DATE:			LTO	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	2121	I. California Blvd. Ste. 60	0 Address:	20	040 Savage R	Rd.
	Wa	alnut Creek, CA 94596		Cha	rleston, SC 2	9407
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		lackie Trudel	1
Phone Number:		925-627-4654	Phone Number	843-769-7388		
Fax Number:		925-627-4501	Fax Number:		843-766-1178	3
E-mail Address:	Sarah	VonRaesfeld@mwhglobal.com	E-mail Address:	jacque	line.trudell@g	gel.com
		SAMPLE	CONTAINER ORDER FORM			
Date Required:			Requested Analyses:	(Sp	pecify # of Samp	oles)
				Water	Soil	Contingent
			Dioxins (1613B)	15	124	0
Date Sample Pickup:			EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site		(enter "X")	TCE (8260B)	5	12	0
Consultant Office		(enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in			EPA 8310 (PAH)			
comments)		_(enter "X")	EPA 8082 (PCB)	3	5	0
			Nickel (6020)	5	10	0
Container Information	:		Chromium (6020)	5	10	0
Trip Blank (VOA only)	No	(Yes/No)	Silver (6020)	5	10	0
Temp Blank (VOA Only)	No	(Yes/No)	Cadmium (6020)	10	35	0
DI Water Required?	No	(Yes/No)	Arsenic (6020)	5	10	0
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	170	0
			Lead (6020)	10	65	0
Sample Matrix:			Copper (6020)	10	75	0
Soil	Χ	(select all applicable)	Zinc (6020)	5	20	0
Water	Х	(select all applicable)	Mercury by 7471A/7470A	5	25	0
Vapor		(select all applicable)				
Est. Total # of Samples:	175	Est. Total # of EDD	Ds <u>40</u>			
		LABORATORY	REPORTING REQUIREMENTS	rto Dolivor	ablee.	
Project TAT:	v	(10 Dusinger dava)		rts Delivera		
Normal.		(10 Business days)		Vaa		
RUSH:	5	_(Specify- 24 / 48 / 72HRS)	Draft Results E-mail?	Yes	(Yes/NO)	
Other :		(Specify # of Days)	Specify Fax/E-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRae	sfeld@mwhgloba	al.com
			Send Original Reports To:		(, , , , , , , , , , , , , , , , , , ,	
Special Reporting Red	Juireme	ents:	Project Site		(enter "X")	
Contingent Analysis?	No	_(Yes/No)	Consultant Office		(enter "X")	
TIC (VOC) Required?	No	(Yes/No)	Other Location (specify			
TIC (SVOC) Required?	No	(Yes/No)	in comments)	X	(enter "X")	
Data Validation Pckge.:	Tier III	_ (Boeing Tier I, II or III)	# of Copies Reports Req.: _	1	-	
		SPECIAL I	NSTRUCTIONS/LTO NOTES			
		CONFIRMATIO	IN OF IRANSMITTAL & RECEIPT			
LTO Sent By:			LTO Received By-			
Name:	Sarah V	on Raesfeld	Name:			
Date: 09/02/09 Date:						

Table of Contents

Case Narrative	1	
Chain of Custody and Supporting Documentation	3	
Data Qualifiers Definitions	8	
Laboratory Certifications	10	
Subcontract Data Dioxins		



Case Narrative for Boeing - SSFL (MWH) Work Order: 240897 SDG: 240897

November 18, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 11, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory	Sample		
Identification	Description		
240897001	A2ET0100S001		
240897002	A2ET0101S001		
240897003	A2ET0102S001		

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Dioxins (Cape Fear Analytical).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline a Judel

Jacqueline Trudell Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.


State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 16 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 240897

Prepared by

MEC^x, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	240897
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
A2ET0100S001	1123001	N/A	SOIL	11/10/2009 2:33:00 PM	1613B
A2ET0101S001	1123002	N/A	SOIL	11/10/2009 2:29:00 PM	1613B
A2ET0102S001	1123003	N/A	SOIL	11/10/2009 2:38:00 PM	1613B

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	- Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
T- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
Н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
М	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
* , *	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (08/02).

- Holding Times: Extraction and analytical holding times were met. The samples were extracted and analyzed within one year of collection.
- Instrument Performance: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The soil method blank had detects or estimated maximum possible concentration (EMPCs) for all target compounds except 2,3,7,8-TCDD and total TCDD. Detects in the soil samples less than the reporting limit or less than 5x the method blank concentrations were qualified as nondetected, "U," at the EDL if detected below the EDL or at the level of contamination if detected above the EDL. The result for total HpCDD in sample A2ET0101S001 was qualified as nondetected, "U," since the concentration was the same as the isomer qualified as nondected for method blank contamination, and the result for total HxCDD was qualified as an estimated nondetect, "UJ," since the result was the sum of all of the isomers reported as EMPCs. Detected results for all remaining totals except TCDD were qualified as estimated, "J," due to detects in the soil method blank.
- Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. The RPDs were within the laboratory-established control limits.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on A2ET0100S001. Recoveries were within the acceptance criteria listed in Table 6 of Method 1613. The RPDs were within the laboratory-established control limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG; however, the sample was not analyzed for dioxins. The samples in this SDG had no associated equipment rinsate.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed confirmation analyses for 2,3,7,8-TCDF. When the original result was reported as an EMPC, the original result was rejected, "R," in favor the confirmation result. When the original result was not reported as an EMPC, or if both the original analysis and the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result. In cases where the confirmation 2,3,7,8-TCDF result was retained, the reviewer changed the reported result for Total TCDF to match the confirmation result.
- Compound Quantification and Reported Detection Limits: Review is not applicable at a Level V validation. EMPCs were identified in the sample of this SDG, as denoted by the laboratory "K," code. For individual isomers identified as EMPCs, the results were qualified as estimated nondetects, "UJ." Totals reported as EMPCs were qualified as estimated, "J," as only a portion of the total was identified as an EMPC. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." Nondetects are valid to the estimated detection limit (EDL).

Validated Sample Result Forms: 240897

Analysis Method 1613B

Sample Name	A2ET0100S001		Matrix 7	Fype: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	1123001	Sample 1	Date: 1	1/10/2009 2:33:00 P	'M	Validation Le	vel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	2.21	2.21	2.21 pg/g	J	U	B, result changed from 1.02 and EDL 0.138
1,2,3,4,6,7,8-HpCDF	67562394	2.21	2.21	2.21 pg/g	ЈК	UJ	*III, result changed from 0.362 and EDL from 0.0815
1,2,3,4,7,8,9-HpCDF	55673897	0.131	2.21	0.131 pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.119	2.21	0.119 pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	2.21	2.21	2.21 pg/g	J	U	B, result changed from 0.108 and EDL 0.0759
1,2,3,6,7,8-HxCDD	57653857	2.21	2.21	2.21 pg/g	JK	UJ	*III, result changed from 0.162 and EDL from 0.138
1,2,3,6,7,8-HxCDF	57117449	0.145	2.21	0.0806 pg/g	J	J	
1,2,3,7,8,9-HxCDD	19408743	2.21	2.21	2.21 pg/g	J	U	B, result changed from 0.222 and EDL 0.135
1,2,3,7,8,9-HxCDF	72918219	0.106	2.21	0.106 pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.0933	2.21	0.0933 pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.132	2.21	0.0771 pg/g	J	J	
2,3,4,6,7,8-HxCDF	60851345	0.157	2.21	0.0808 pg/g	J	J	
2,3,4,7,8-PeCDF	57117314	2.21	2.21	2.21 pg/g	ЈК	UJ	*III, result changed from 0.245 and EDL from 0.0646
2,3,7,8-TCDD	1746016	0.0917	0.441	0.0917 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.281	0.441	0.0697 pg/g	J	R	D
2,3,7,8-TCDF	51207319	0.441	0.441	0.441 pg/g	J	U	B, result changed from 0.439 and EDL 0.194
OCDD	3268879	5.78	4.41	0.229 pg/g			
OCDF	39001020	4.41	4.41	4.41 pg/g	J	U	B, result changed from 0.494 and EDL 0.224
TEQ WHO2005 ND=0 with EMPCs		0.217		pg/g			
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.268		pg/g			
Total HpCDD	37871004	2.37	2.21	0.138 pg/g		J	В
Total HpCDF	38998753	0.566	2.21	0.0815 pg/g	J	J	В, *Ш
Total HxCDD	34465468	1.04	2.21	0.119 pg/g	J	J	В, *Ш
Total HxCDF	55684941	1.34	2.21	0.0759 pg/g	J	J	В
Total PeCDD	36088229	0.4	2.21	0.0933 pg/g	J	J	В
Total PeCDF	30402154	2.38	2.21	0.0646 pg/g		J	В, *Ш
Total TCDD	41903575	2.7	0.441	0.0917 pg/g			
Total TCDFs	30402143	1.95	0.441	0.194 pg/g		J	В

Sample Name	A2ET0101S001		Matrix '	Type: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	1123002	Sample	Date: 1	1/10/2009 2:29:00 P	М	Validation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.318 and EDL 0.168
1,2,3,4,6,7,8-HpCDF	67562394	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.195 and EDL 0.0759
1,2,3,4,7,8,9-HpCDF	55673897	0.158	2.14	0.124 pg/g	J	J	
1,2,3,4,7,8-HxCDD	39227286	2.14	2.14	2.14 pg/g	JK	UJ	*III, result changed from 0.142 and EDL from 0.0957
1,2,3,4,7,8-HxCDF	70648269	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.147 and EDL 0.0657
1,2,3,6,7,8-HxCDD	57653857	2.14	2.14	2.14 pg/g	JK	UJ	*III, result changed from 0.142 and EDL from 0.11
1,2,3,6,7,8-HxCDF	57117449	2.14	2.14	2.14 pg/g	JK	UJ	*III, result changed from 0.144 and EDL from 0.0695
1,2,3,7,8,9-HxCDD	19408743	2.14	2.14	2.14 pg/g	JK	UJ	*III, result changed from 0.176 and EDL from 0.108
1,2,3,7,8,9-HxCDF	72918219	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.152 and EDL 0.0887
1,2,3,7,8-PeCDD	40321764	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.113 and EDL 0.0692
1,2,3,7,8-PeCDF	57117416	0.137	2.14	0.0565 pg/g	J	J	
2,3,4,6,7,8-HxCDF	60851345	0.164	2.14	0.0668 pg/g	J	J	
2,3,4,7,8-PeCDF	57117314	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.17 and EDL 0.0473
2,3,7,8-TCDD	1746016	0.0866	0.428	0.0866 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.428	0.428	0.428 pg/g	J	U	B, result changed from 0.236 and EDL 0.106
2,3,7,8-TCDF	51207319	0.382	0.428	0.0959 pg/g	J	R	D
OCDD	3268879	4.28	4.28	4.28 pg/g	J	U	B, result changed from 0.798 and EDL 0.228
OCDF	39001020	4.28	4.28	4.28 pg/g	J	U	B, result changed from 0.454 and EDL 0.214
TEQ WHO2005 ND=0 with EMPCs		0.306		pg/g			
TEQ WHO2005 ND=0.5 with EMPCs	h	0.349		pg/g			
Total HpCDD	37871004	2.14	2.14	2.14 pg/g	J	U	B, result changed from 0.318 and EDL 0.168
Total HpCDF	38998753	0.353	2.14	0.0759 pg/g	J	J	В
Total HxCDD	34465468	2.14	2.14	2.14 pg/g	J	UJ	B,*III,result changed from 0.461, EDL from 0.0957
Total HxCDF	55684941	0.608	2.14	0.0657 pg/g	J	J	В, *Ш
Total PeCDD	36088229	0.113	2.14	0.0692 pg/g	J	J	В
Total PeCDF	30402154	0.306	2.14	0.0473 pg/g	J	J	В
Total TCDD	41903575	0.089	0.428	0.0866 pg/g	J	J	
Total TCDFs	30402143	0.236	0.428	0.106 pg/g		1	B, \$, result changed from 0.579

Tuesday, December 08, 2009

Page 2 of 3

Sample Name	A2ET0102S001		Matrix 1	Type: SOIL	Res	ult Type: Pr	imary Result
Lab Sample Name:	1123003	Sample 1	Date: 1	1/10/2009 2:38:00 P	М	Validation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	0.122	1.98	0.122 pg/g	U	U	
1,2,3,4,6,7,8-HpCDF	67562394	0.0651	1.98	0.0651 pg/g	U	U	
1,2,3,4,7,8,9-HpCDF	55673897	0.11	1.98	0.11 pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.0911	1.98	0.0911 pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.0572	1.98	0.0572 pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	0.1	1.98	0.1 pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.0586	1.98	0.0586 pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.1	1.98	0.1 pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.0772	1.98	0.0772 pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.058	1.98	0.058 pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	0.0585	1.98	0.0585 pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.0606	1.98	0.0606 pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	0.052	1.98	0.052 pg/g	U	U	
2,3,7,8-TCDD	1746016	0.0734	0.396	0.0734 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.396	0.396	0.396 pg/g	J	U	B, result changed from 0.252 and EDL 0.0626
2,3,7,8-TCDF	51207319	0.244	0.396	0.0834 pg/g	JK	R	D
OCDD	3268879	3.96	3.96	3.96 pg/g	J	U	B, result changed from 0.461 and EDL 0.178
DCDF	39001020	0.144	3.96	0.144 pg/g	U	U	
TEQ WHO2005 ND=0 with EMPCs		0.0245		pg/g			
TEQ WHO2005 ND=0.5 with EMPCs	h	0.0421		pg/g			
Fotal HpCDD	37871004	0.122	1.98	0.122 pg/g	U	U	
Total HpCDF	38998753	0.0651	1.98	0.0651 pg/g	U	U	
Fotal HxCDD	34465468	0.0911	1.98	0.0911 pg/g	U	U	
Total HxCDF	55684941	0.0572	1.98	0.0572 pg/g	U	U	
Fotal PeCDD	36088229	0.058	1.98	0.058 pg/g	U	U	
Fotal PeCDF	30402154	0.052	1.98	0.052 pg/g	U	U	
Total TCDD	41903575	0.0808	0.396	0.0734 pg/g	J	J	
Total TCDFs	30402143	0.244	0.396	0.0834 pg/g	J	J	B, *III

			CHA	IN OF C	ισοτου	/ RECO	RD	÷ COC #:		MWHAG20091116_00 Page: 1 of 1
	-					Proiect Inf	ormation			
Customer	- Information	Project Intorn	lation						Docing DM.	
Cito.	ceri	Client Name:	Boeing			Collector:	A. Goldenberg		DOUTIN FIN.	
Sile:		Sampling Even	t: ISRA Sa	mpling, Auç	just 2009	Contact #:				
Company:		D-ciact Numher	r. 1891614	.05462			Rei	quested Analyses		Instructions/ I A I
Report to:	Sarah Von Raesteld			Ŕ						Legend:
Address:	2121 N. California Blvd	Project Manage	BI: AIEX LIS							Numerical values for
	Suite 600	PM Phone #:	(925) 62	7-4627						analyses equate to turn around time in days
	Walnut Creek	Field Contact:	Shelby /	Valenzuela						
	CA	Field Contact #	#: (626) 25	55-0503						EH - Extract/Extrude &
	94596	Lab Name:	GEL La	boratories,	LLC					
Email [.]	sean leffler@mwhglobal.com	Lab Contact:	Jackie 1	[rudel]		D	 			
	sarah vonraesfeld@mwhgloba	I.c Lab Address:	2040 St	avage Roac		ioxin D22	etals		*	Note: Values in the cells bellow are Turn Around
			Charles	ton, SC 29	407	by ^ 16 N	602			Times.
		Lab Phone:	(843) 74	69-7388		613I	0 So			
			Date	Time	No. of Containers	3 - Soi ire Soi	il Lead			Comments
Sample N	Vame	Matrix	196							AZLF-3
A7FT0200	S001	Soil	11/16/2009	10:50	5		-+			A2LF-3
	5003	Soil	11/16/2009	10:44	2	3 H	3			A21 F-3
A2E10201	1000	Soil	11/16/2009	10:38	2	н	3			A21 E-3
	10007	Soil	11/16/2009	10:30	2	н С	3			2-1420
AZEI UZUS	35001									



241179

-

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Clien	t:55F)			SDG/ARCOC/Work Order: 24/179	
Recei	ived By: RMS	·		Date Received:)(), Z 79	
Susp	ected Hazard Information	Yes	No	*If Counts > x^2 area background on samples not marked "radioactive", con the Radiation Safety Group of further investigation.	ntact
COC	Samples marked as radioactive?		1	Maximum Counts Observed*:	
Class	ified Radioactive II or III by RSO?		/	Boopm	
COC	Samples marked containing PCBs?		/		
Shipp	ed as a DOT Hazardous?			Hazard Class Shipped: UN#:	
Samp	les identified as Foreign Soil?		/		
	Sample Receipt Criteria	Yes	NA	2 Comments/Qualifiers (Required for Non-Conforming Items)	
1	Shipping containers received intact and sealed?	1		Circle Applicable: seals broken damaged container leaking container other (describe)	
2	Samples requiring cold preservation within $0 \le 6$ deg. C?	٦		Preservation Method: ice bags blue ice dry ice none other (describe)	
3	Chain of custody documents included with shipment?	1			
4	Sample containers intact and sealed?	>		Circle Applicable: seals broken damaged container leaking container other (describe)	
5	Samples requiring chemical preservation at proper pH?		/	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:	
6	VOA vials free of headspace (defined as < 6mm bubble)?		/	Sample ID's and containers affected:	
7	Are Encore containers present?			(If yes, immediately deliver to Volatiles laboratory)	
8	Samples received within holding time?	~		Id's and tests affected:	
9	Sample ID's on COC match ID's on bottles?	/		Sample ID's and containers affected:	
10	Date & time on COC match date & time on bottles?	\$		Sample ID's affected:	
11	Number of containers received match number indicated on COC?	1		Sample ID's affected:	
12	COC form is properly signed in relinquished/received sections?	<i>」</i>			
Comm	1ents: _; 4233 4940 6022				

J

117/09

Date: 11/19/09

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail:Sean.s.leffler@us.mwhglobal.com

To:	Jackie Trudell	Phone: 843-769-7388
Laboratory	GEL Laboratories, LLC	E-mail: Jacqueline.trudell@gel.com
From: Requestor	Sean Leffler signature:	

Subject: Chain-of-Custody Form Analytical Request Change

No. of Pages: 2

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHAG2 009116_00	A2ET0200S001, A2ET0201S001, A2ET0202S001, A2ET0203S001	11/16/09		Run dioxins by 1613 on 3 day TAT

 The reason for these changes:

 Incorrectly marked on COC form

 Lack of sample volume

 Change in analytical request

 X

Other:

Thank you

0.00										Page: I u I
		Protect Informa	tion			Project Inf	ormation	and statements of a subscript of a statement of the state		naga ay kisina dengkapan marangan dan kanan kanan kendalan kanan
Customer		Cilert Name	Boeino	1977-91994	ad logical states as the deductor to a second	Collector:	A. Goldenberg		Boeing PM:	
Site:	SSFL	Cherry America	ICDA Can	nuling Aug	ist 2009	Contact #:				
Company:	HWM	Sampling Evenu		An i A under			Reguest	ed Analyses		Instructions/TAT
Report to:	Sarah Von Raesfeld	Project Number:	1891614.	05462						
Address:	2121 N. California Blvd	Project Manager.	Alex Fisc	Ę		-				Legeno: Numerical values for
	Suite 600	PM Phone #:	(925) 627	1-4627						analyses equate to tu around time in days
	Walmut Creek	Field Contact:	Shelby V	alenzuela						H LINK
	CA	Field Contact #:	(626) 25(5-0503						EH - Extract/Extrude
	94596	Lab Name:	GEL Lab	ioratories, L	Ŋ					
Email.	sean leffler@mwholobal.com	Lab Contact:	Jackle T	ndell		D				
	scenary voorgesfeld@mwhglobal.c	Lab Address:	2040 Sa	vage Road		loxin D22	etals			bellow are Turn Arou
			Charlest	on, SC 294	07	by 1	: 602			Times.
		Lab Phone:	(843) 76	9-7388		l613E loistu	0 Soi		9	
					No. of	3 - So ine So				Comments
Sample N	Vame	Matrix	Date	ALLI		й <u>х</u>				A2LF-3
A DE TOOOD	Soil	-	1/16/2009	10:50	2	<u>د</u>				A2LF-3
76510400	log.	-	1/16/2009	10:44	2	17 17 17	9			A21 F-3
AZE 10201	Sout	-	1/16/2009	10:38	2	\$ •	6			AZLF-3
AZETUZUZ	Soil Soil	-	1/16/2009	10:30	2	3 2 2	3			
AZE 10205	linge					0				
								•		
					10405	1 Ralindi	ished by:	Date:	4. Received by:	Date:

DSSL 11/19/09

Comments: Sample volume for clicking shipped directly to CFA and is to be placed on hold

Time:

Company:

Time:

II] 17 | 09 Time: Company: 8350

11/10/05 R.M. Halling

Company: MWH

3. Relinquished by:

Date:

2. Received by:

Date:

1. Relinquished by

Geotracker EDF Contracted EDF EDF Contracted EDF EDF Contracted ED

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	3
Data Qualifier Definitions	9
Laboratory Certifications	11
Subcontract Data Dioxins	16
Metals Analysis Case Narrative Sample Data Summary Quality Control Summary Standards Raw Data Miscellaneous	527 528 533 538 552 555 633



Case Narrative for Boeing - SSFL (MWH) Work Order: 241179 SDG: 241179

November 30, 2009

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on November 17, 2009 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following samples:

Laboratory	Sample
Identification	Description
241179001	A2ET0200S001
241179002	A2ET0201S001
241179003	A2ET0202S001
241179004	A2ET0203S001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Metals, Percent Moisture, and Dioxins (Cape Fear Analytical).

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline a Judel

Jacqueline Trudell Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68–00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

List of current GEL Certifications as of 30 November 2009



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 241179

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	241179
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	4
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
A2ET0200S001	241179001	1144001	SOIL	11/16/2009 10:50:00 AM	1613B, 6020
A2ET0201S001	241179002	1144002	SOIL	11/16/2009 10:44:00 AM	1613B, 6020
A2ET0202S001	241179003	1144003	SOIL	11/16/2009 10:38:00 AM	1613B, 6020
A2ET0203S001	241179004	1144004	SOIL	11/16/2009 10:30:00 AM	1613B, 6020

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratories within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Not applicable
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualifier	Organics	Inorganics
н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
М	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 1613—Dioxin/Furans

Reviewed By: P. Meeks Date Reviewed: December 7, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^X* Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines Chlorinated Dioxin/Furan Data Review (08/02).

- Holding Times: Extraction and analytical holding times were met. The samples were extracted and analyzed within one year of collection.
- Instrument Performance: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The method blank had detects of estimated maximum possible concentrations (EMPCs) for all analytes except 2,3,7,8-TCDD and total TCDD. Individual isomers detected below the reporting limit or at concentrations less than 5× the method blank concentration were qualified as nondetected, "U," at the estimated detection limit (EDL) if detected below the EDL or at the level of contamination if detected above. When total concentrations were the same as the individual isomer concentration, the total was also qualified as nondetected, "U," at the EDL or at the level of contamination if detected below the EDL or at the EDL if detected below the EDL or at the EDL if detected below the EDL or at the level of contamination if detected, "U," at the EDL if detected below the EDL or at the level of as nondetected, "U," at the EDL if detected below the EDL or at the level of as estimated, "J."

Blank Spikes and Laboratory Control Samples: Recoveries were within the acceptance criteria listed in Table 6 of Method 1613 and the RPDs were within the laboratory-established control limits.

- MS/MSD analyses were performed on A2ET0200S001. Recoveries and the RPDs were within the laboratory-established control limits.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was identified as the field blank associated with the samples in this SDG; however, the sample was not analyzed for dioxins. The samples in this SDG had no identified equipment rinsate.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

- Internal Standards Performance: Internal standard recoveries are not routinely evaluated at a Level V validation; however, the recoveries were reported on the sample result summaries. The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613.
- Compound Identification: Review is not applicable at a Level V validation. The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The laboratory performed confirmation analyses for 2,3,7,8-TCDF. When the original result was reported as an EMPC, the original result was rejected, "R," in favor the confirmation result. When the original result was not reported as an EMPC, or if both the original analysis and the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result. When the confirmation analysis were both reported as EMPCs, the confirmation result was rejected, "R," in favor of the initial result. When the confirmation analysis was retained, the total TCDF result was changed by the reviewer to match the confirmation result.
- Compound Quantification and Reported Detection Limits: EMPCs were identified in the sample of this SDG, as denoted by the laboratory "K," code. For individual isomers identified as EMPCs, the results were qualified as estimated nondetects, "UJ." Totals reported as EMPCs were qualified as estimated, "J," as only a portion of the total was identified as an EMPC. The laboratory calculated and reported compound-specific detection limits. Any detect below the laboratory lower calibration level was qualified as estimated, "J." Nondetects are valid to the EDL.

B. EPA METHOD 6020—Lead

Reviewed By: P. Meeks Date Reviewed: December 7, 2009

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *MEC^x* Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6020, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, six months for ICP-MS, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: Method blanks and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: Recoveries were within laboratoryestablished QC limits.

- Laboratory Duplicates: A laboratory duplicate analysis was performed on A2ET0200S001. The RPD was within the method-established control limit.
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on A2ET0200S001. Recoveries and the RPD were within laboratory-established QC limits.
- Serial Dilution: A serial dilution analysis was performed on A2ET0200S001. The %D was within the method-established control limit.
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.
- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank associated with the samples in this SDG. There were no detects in this sample. The samples in this SDG had no associated equipment rinsate.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 241179

Analysis Method 1613B

Sample Name	A2ET0200S001		Matrix Type: SOIL Result Type: Primary Result				
Lab Sample Name: 1 Analyte	1144001	Sample	Date: 1	1/16/2009 10:50:00	AM Validation Level: V		
	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	2.07	2.07	2.07 pg/g	J	U	B, result changed from 2.03 and EDL from 0.232
1,2,3,4,6,7,8-HpCDF	67562394	2.07	2.07	2.07 pg/g	JK	UJ	*III, result changed from 0.341 and EDL from 0.112
1,2,3,4,7,8,9-HpCDF	55673897	0.189	2.07	0.189 pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.137	2.07	0.137 pg/g	U	U	
1,2,3,4,7,8-HxCDF	70648269	0.115	2.07	0.115 pg/g	U	U	
1,2,3,6,7,8-HxCDD	57653857	2.07	2.07	2.07 pg/g	ЈК	UJ	*III, result changed from 0.155 and EDL from 0.153
1,2,3,6,7,8-HxCDF	57117449	0.118	2.07	0.118 pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	0.152	2.07	0.152 pg/g	U	U	
1,2,3,7,8,9-HxCDF	72918219	0.17	2.07	0.17 pg/g	U	U	
1,2,3,7,8-PeCDD	40321764	0.114	2.07	0.114 pg/g	U	U	
1,2,3,7,8-PeCDF	57117416	2.07	2.07	2.07 pg/g	ЈК	UJ	*III, result changed from 0.122 and EDL from 0.0895
2,3,4,6,7,8-HxCDF	60851345	0.122	2.07	0.122 pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	2.07	2.07	2.07 pg/g	ЈК	UJ	*III, result changed from 0.144 and EDL from 0.0916
2,3,7,8-TCDD	1746016	0.109	0.414	0.109 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.366	0.414	0.118 pg/g	J	R	D
2,3,7,8-TCDF	51207319	0.414	0.414	0.414 pg/g	J	U	B, result changed from 0.28 and EDL from 0.169
OCDD	3268879	21	4.14	0.38 pg/g			
OCDF	39001020	1.07	4.14	0.394 pg/g	J	J	
TEQ WHO2005 ND=0 with EMPCs		0.121		pg/g			
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.274		pg/g			
Total HpCDD	37871004	4.21	2.07	0.232 pg/g			
Total HpCDF	38998753	0.731	2.07	0.112 pg/g	J	J	B, *III
Total HxCDD	34465468	0.423	2.07	0.137 pg/g	J	J	B, *III
Total HxCDF	55684941	0.399	2.07	0.115 pg/g	J	J	В
Total PeCDD	36088229	0.114	2.07	0.114 pg/g	U	U	
Total PeCDF	30402154	0.581	2.07	0.0895 pg/g	J	J	B, *III
Total TCDD	41903575	0.235	0.414	0.109 pg/g	J	J	В
Total TCDFs	30402143	0.414	0.414	0.414 pg/g	BJ	U	B, result changed from 0.28 and EDL from 0.169

Sample Name	A2ET0201S001	Matrix Type: SOIL Sample Date: 11/16/2009 10:40:00 A			Result Type: Primary Result AM Validation Level: V		
Lab Sample Name:	1144002						
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.742 and EDL from 0.297
1,2,3,4,6,7,8-HpCDF	67562394	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.3 and EDL from 0.12
1,2,3,4,7,8,9-HpCDF	55673897	2.13	2.13	2.13 pg/g	JK	UJ	*III, result changed from 0.288 and EDL from 0.211
1,2,3,4,7,8-HxCDD	39227286	2.13	2.13	2.13 pg/g	JK	UJ	*III, result changed from 0.227 and EDL from 0.138
1,2,3,4,7,8-HxCDF	70648269	2.13	2.13	2.13 pg/g	JK	UJ	*III, result changed from 0.196 and EDL from 0.0842
1,2,3,6,7,8-HxCDD	57653857	0.423	2.13	0.152 pg/g	J	J	
1,2,3,6,7,8-HxCDF	57117449	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.416 and EDL from 0.0877
1,2,3,7,8,9-HxCDD	19408743	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.517 and EDL from 0.152
1,2,3,7,8,9-HxCDF	72918219	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.309 and EDL from 0.129
1,2,3,7,8-PeCDD	40321764	0.208	2.13	0.106 pg/g	J	J	
1,2,3,7,8-PeCDF	57117416	2.13	2.13	2.13 pg/g	JK	UJ	*III, result changed from 0.229 and EDL from 0.0952
2,3,4,6,7,8-HxCDF	60851345	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.268 and EDL from 0.0907
2,3,4,7,8-PeCDF	57117314	2.13	2.13	2.13 pg/g	J	U	B, result changed from 0.208 and EDL from 0.0868
2,3,7,8-TCDD	1746016	0.106	0.426	0.106 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.426	0.426	0.426 pg/g	J	U	B, result changed from 0.423 and EDL from 0.157
2,3,7,8-TCDF	51207319	0.373	0.426	0.176 pg/g	JK	R	D
OCDD	3268879	5.14	4.26	0.507 pg/g			
OCDF	39001020	4.26	4.26	4.26 pg/g	JK	UJ	*III, result changed from 0.865 and EDL from 0.382
TEQ WHO2005 ND=0 with EMPCs		0.565		pg/g			
TEQ WHO2005 ND=0.5 with EMPCs	h	0.618		pg/g			
Total HpCDD	37871004	1.45	2.13	0.297 pg/g	J	J	В
Total HpCDF	38998753	0.588	2.13	0.12 pg/g	J	J	В, *Ш
Total HxCDD	34465468	1.17	2.13	0.138 pg/g	J	J	В, *Ш
Total HxCDF	55684941	1.48	2.13	0.0842 pg/g	J	J	B, *III
Total PeCDD	36088229	0.208	2.13	0.106 pg/g	J	J	В
Total PeCDF	30402154	0.865	2.13	0.0868 pg/g	J	J	В, *Ш
Total TCDD	41903575	0.116	0.426	0.106 pg/g	J	J	
Total TCDFs	30402143	0.423	0.426	0.176 pg/g	В	J	B, \$, Result changed from 0.628

Tuesday, December 08, 2009

Sample Name	A2ET0202S001	Matrix Type: SOIL			Result Type: Primary Result		
Lab Sample Name: Analyte	1144003 CAS No	Sample 1	Date: 1	1/16/2009 10:38:00	M Validation Level: V		
		Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
1,2,3,4,6,7,8-HpCDD	35822469	1.88	1.88	1.88 pg/g	J	U	B, result changed from 0.847 and EDL from 0.2
1,2,3,4,6,7,8-HpCDF	67562394	1.88	1.88	1.88 pg/g	J	U	B, result changed from 0.147 and EDL from 0.1
1,2,3,4,7,8,9-HpCDF	55673897	0.174	1.88	0.174 pg/g	U	U	
1,2,3,4,7,8-HxCDD	39227286	0.109	1.88	0.109 pg/g	U	U	
,2,3,4,7,8-HxCDF	70648269	0.089	1.88	0.089 pg/g	U	U	
,2,3,6,7,8-HxCDD	57653857	0.118	1.88	0.118 pg/g	U	U	
1,2,3,6,7,8-HxCDF	57117449	0.0953	1.88	0.0953 pg/g	U	U	
1,2,3,7,8,9-HxCDD	19408743	1.88	1.88	1.88 pg/g	J	U	B, result changed from 0.12 and EDL from 0.119
1,2,3,7,8,9-HxCDF	72918219	0.137	1.88	0.137 pg/g	U	U	
,2,3,7,8-PeCDD	40321764	0.0902	1.88	0.0902 pg/g	U	U	
,2,3,7,8-PeCDF	57117416	0.0778	1.88	0.0778 pg/g	U	U	
2,3,4,6,7,8-HxCDF	60851345	0.0973	1.88	0.0973 pg/g	U	U	
2,3,4,7,8-PeCDF	57117314	0.0739	1.88	0.0739 pg/g	U	U	
2,3,7,8-TCDD	1746016	0.107	0.375	0.107 pg/g	U	U	
2,3,7,8-TCDF	51207319	0.339	0.375	0.113 pg/g	JK	R	D
2,3,7,8-TCDF	51207319	0.375	0.375	0.375 pg/g	J	U	B, result changed from 0.243 and EDL from 0.156
DCDD	3268879	7.24	3.75	0.305 pg/g			
DCDF	39001020	0.344	3.75	0.344 pg/g	U	U	
TEQ WHO2005 ND=0 with EMPCs		0.0484		pg/g			
TEQ WHO2005 ND=0.5 with EMPCs	h	0.192		pg/g			
Fotal HpCDD	37871004	1.71	1.88	0.2 pg/g	J	J	В
Total HpCDF	38998753	0.311	1.88	0.1 pg/g	J	J	В
Total HxCDD	34465468	0.24	1.88	0.109 pg/g	J	J	В
Fotal HxCDF	55684941	0.183	1.88	0.089 pg/g	J	J	В
Fotal PeCDD	36088229	0.0902	1.88	0.0902 pg/g	U	U	
Fotal PeCDF	30402154	0.123	1.88	0.0739 pg/g	J	J	В
Fotal TCDD	41903575	0.258	0.375	0.107 pg/g	J	J	
fotal TCDFs	30402143	0.709	0.375	0.156 pg/g	В	J	В

Sample Name	A2ET0203S001	Matrix Type: SOIL			Res	Result Type: Primary Result		
Lab Sample Name: Analyte	1144004 CAS No	Sample Date: 11/16/2009 10:30:00 AM				Validation Level: V		
		Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes	
1,2,3,4,6,7,8-HpCDD	35822469	4.8	2	0.286 pg/g				
,2,3,4,6,7,8-HpCDF	67562394	2	2	2 pg/g	J	U	B, result changed from 0.852 and EDL from 0.125	
1,2,3,4,7,8,9-HpCDF	55673897	0.221	2	0.221 pg/g	U	U		
,2,3,4,7,8-HxCDD	39227286	0.128	2	0.128 pg/g	U	U		
1,2,3,4,7,8-HxCDF	70648269	2	2	2 pg/g	JK	UJ	*III, result changed from 0.102 and EDL from 0.0908	
1,2,3,6,7,8-HxCDD	57653857	0.278	2	0.142 pg/g	J	J		
1,2,3,6,7,8-HxCDF	57117449	2	2	2 pg/g	ЈК	UJ	*III, result changed from 0.114 and EDL from 0.0915	
1,2,3,7,8,9-HxCDD	19408743	2	2	2 pg/g	JK	UJ	*III, result changed from 0.275 and EDL from 0.141	
,2,3,7,8,9-HxCDF	72918219	0.129	2	0.129 pg/g	U	U		
,2,3,7,8-PeCDD	40321764	0.112	2	0.112 pg/g	U	U		
,2,3,7,8-PeCDF	57117416	0.138	2	0.138 pg/g	U	U		
2,3,4,6,7,8-HxCDF	60851345	2	2	2 pg/g	J	U	B, result changed from 0.237 and EDI from 0.0918	
2,3,4,7,8-PeCDF	57117314	2	2	2 pg/g	ЈК	UJ	*III, result changed from 0.293 and EDL from 0.134	
2,3,7,8-TCDD	1746016	0.104	0.4	0.104 pg/g	U	U		
2,3,7,8-TCDF	51207319	0.491	0.4	0.16 pg/g	K	R	D	
2,3,7,8-TCDF	51207319	0.4	0.4	0.4 pg/g	JK	UJ	*III, result changed from 0.387 and EDL from 0.272	
OCDD	3268879	54.6	4	0.448 pg/g				
OCDF	39001020	2.79	4	0.373 pg/g	J	J		
TEQ WHO2005 ND=0 with EMPCs		0.301		pg/g				
TEQ WHO2005 ND=0.5 wit EMPCs	h	0.425		pg/g				
Fotal HpCDD	37871004	12.4	2	0.286 pg/g		J	В	
Total HpCDF	38998753	2.28	2	0.125 pg/g		J	В	
Total HxCDD	34465468	1.58	2	0.128 pg/g	J	J	В, *Ш	
Fotal HxCDF	55684941	2.48	2	0.0908 pg/g		J	В, *Ш	
Fotal PeCDD	36088229	0.112	2	0.112 pg/g	U	U		
Fotal PeCDF	30402154	8.31	2	0.134 pg/g		1	B, *III	
Fotal TCDD	41903575	0.104	0.4	0.104 pg/g	U	U		
Fotal TCDFs	30402143	3.11	0.4	0.272 pg/g	В	J	B, *III	
Analysis Method 6020

Sample Name	A2ET02008001	Matrix '	Soll	Result Type , Primary Result
Sample Name	A2E102005001	Wati ix	Type. Soll	Result Type. Trinkay Result
Lab Sample Name:	241179001	Sample Date: 1	1/16/2009 10:50:00	AM Validation Level: V
Analyte	CAS No	Result RL Value	MDL Result Units	Lab Validation Validation Notes Qualifier Qualifier
Lead	7439921	6.3 0.435	0.109 mg/kg	
Sample Name	A2ET0201S001	Matrix	Type: SOIL	Result Type: Primary Result
Lab Sample Name:	241179002	Sample Date: 1	1/16/2009 10:44:00	AM Validation Level: V
Analyte	CAS No	Result RL Value	MDL Result Units	Lab Validation Validation Notes Qualifier Qualifier
Lead	7439921	6.66 0.425	0.106 mg/kg	
Sample Name	A2ET0202S001	Matrix	Type: SOIL	Result Type: Primary Result
Lab Sample Name:	241179003	Sample Date: 1	1/16/2009 10:38:00	AM Validation Level: V
Analyte	CAS No	Result RL Value	MDL Result Units	Lab Validation Validation Notes Qualifier Qualifier
Lead	7439921	6.93 0.432	0.108 mg/kg	
Sample Name	A2ET0203S001	Matrix	Type: SOIL	Result Type: Primary Result
Lab Sample Name:	241179004	Sample Date: 1	1/16/2009 10:30:00	AM Validation Level: V
Analyte	CAS No	Result RL Value	MDL Result Units	Lab Validation Validation Notes Qualifier Qualifier
Lead	7439921	17.3 0.417	0.104 mg/kg	

Chain of Custody and Supporting Documentation

Shit: Shit. Shit. <th< th=""><th>Custom</th><th>er Information</th><th></th><th>Project Inform</th><th>lation</th><th></th><th></th><th>Proje</th><th>ect Info</th><th>rmation</th><th>-</th><th></th><th></th><th></th><th></th></th<>	Custom	er Information		Project Inform	lation			Proje	ect Info	rmation	-				
Compare Minit Sampling Examt ERA Sampling, Juno 2000 Content R, ENA Not Reserved Fail Restormant Intructions/	Site:	SSFL		Client Name:	Boeing			Colle	ctor:	M. Milma	in-Barris		Boeing PA	ä	
Report to: Stant Von Trauendod Project Munuber: 1931 (4, 1054) Anstructure Represented Analyses Instructure Address: 2/21 NL cultificatio Blvd Project Manager: Austructure 1931 (4, 1054) Austructure	Company	HWH		Sampling Event	: ISRA S	ampling,	June 2009	Conta	act #:						
Modenes: Part Priora Project Intransperi Address: Part Priora Address: Part Priora Address Part Priora Part Prior Part Prior <td>Report to</td> <td>Sarah Von Raesfeld</td> <td></td> <td>Project Number</td> <td>: 189161</td> <td>14.054521</td> <td></td> <td></td> <td></td> <td></td> <td>Reque</td> <td>sted Analys</td> <td>ses</td> <td></td> <td>nstructions/TA</td>	Report to	Sarah Von Raesfeld		Project Number	: 189161	14.054521					Reque	sted Analys	ses		nstructions/TA
Salue 600 PM Phone #: (925) 627-467 Minul Clefe Minul	Address:	2121 N. California Blvd		Project Manage	r: Alex Fi	schl									
Windly Closek Field Contact: Sheiby Valencoole Sheiby Sheiby Sheip		Suite 600		PM Phone #:	(925) 6	27-4627		_			-			JZ	egend: lumerical values fo
CA Field Contract #: (5:6) 255-56:03 H:+Hold Email: semi-windle@mm/global: Lab Manes: GELLaboratoris, LLC H:+Hold Semi-windle@mm/global: Lab Manes: GELLaboratoris, LLC H:+Hold H:+Hold Semi-windle@mm/global: Lab Manes: 2405 Swige Road M: M: M: Semi-windle@mm/global: Lab Manes: 2405 Swige Road M: M: M: M: Semi-windle@mm/global: Lab Manes: 2405 Swige Road M: M: M: M: M: Semi-windle@mm/global: Lab Phones: 2431 792-388 M: M: M: M: M: Semi-windle@mm/global: Mantx Date Time Comments M: M: M: M: Semi-windle@mm/global: M:		Walnut Creek		Field Contact:	Shelby	Valenzue	a	-				-		00	nalyses equate to round time in days
Besole Lab Name: GEL Laboration, LLC Addition Leb Name: GEL Laboration, LL Model EH-Entertectore serrativorreseñol@minglobal.com Lab Name: Addition Addit		CA		Field Contact #	(626) 2	55-0503					_			I	- Hold
Enail: serify.tomasefiel@mwhglobalc lab Centact: Jackia Trudaii Mode: Values in Pool serify.the serify.tomasefiel@mwhglobalcom Lab Othons: 2040 Savage Raad Mode: Values in Pool Sample Name Lub Phone: Contracts: 2040 Savage Raad Mode: Values in Pool Sample Name Matrix Date Time No. of No. of No. of Sample Name Matrix Date Time Ontificiers 2040 Savage Read No. of Sample Name Matrix Date Time Ontificiers 0.0 No. of		94596		Lab Name:	GEL La	aboratories	, LLC	1						ш т	H - Extract/Extrud
Bearly left Bearly left Lab Address: 2040 Savage Road Contribution Lab Address: 2040 Savage Road Rest Res Res<	Email:	sarah.vonraesfeld@mwhglol	bal.c	Lab Contact:	Jackie	Trudell			-						
Sample Interfactor, SC 23407 Contracted on, SC 23407 Dealer Contracted on, SC 23407 Dealer		sean.leffler@mwhglobal.con	-	Lab Address:	2040 S	avage Ros	pe	D22	Metal	_				Z	ote. Values in the
Image: Matrix Lab Phone: (R43) 769-7388 Month Commands Command					Charles	ston, SC 2	9407	216 M	ls 60 n by		-				ellow are Turn Arc
Sample Name Matrix Date Time No. of ENESCORESCIO Ref PC				Lab Phone:	(843) 7	69-7388		Moist	20 S					-	imes.
ENESCORESCOT Soli 77/42009 72:1 1 10 </td <td>Sample N</td> <td>lame</td> <td></td> <td>Matrix</td> <td>Date</td> <td>Time</td> <td>No. of Containers</td> <td>ure Soil</td> <td>oil Lead 3B - Soil</td> <td></td> <td></td> <td>-</td> <td></td> <td>0</td> <td>omments</td>	Sample N	lame		Matrix	Date	Time	No. of Containers	ure Soil	oil Lead 3B - Soil			-		0	omments
ENBS0006001 Soli Tr/42006 7:22 1 10 <td>ENBS0089</td> <td>S001</td> <td>Soil</td> <td>7</td> <td>/14/2009</td> <td>12:17</td> <td>-</td> <td>10</td> <td>0</td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td>	ENBS0089	S001	Soil	7	/14/2009	12:17	-	10	0		-				
ENESCO15001 Soli 71/42009 12:14 1 10 11 10 11 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 </td <td>ENBS0090</td> <td>S001</td> <td>Soil</td> <td>2</td> <td>/14/2009</td> <td>12:22</td> <td>+</td> <td>10</td> <td>0</td> <td></td> <td>E</td> <td></td> <td></td> <td></td> <td></td>	ENBS0090	S001	Soil	2	/14/2009	12:22	+	10	0		E				
ENBS0045001 Soli 714/12009 71:23 1 10<	ENBS0091	S001	Soil	2	/14/2009	12:14	t	10	0					W	S/MSD
ENBS0035001 Soli 714/2009 11:30 1 10 </td <td>ENBS0094</td> <td>S001</td> <td>Soil</td> <td>7</td> <td>/14/2009</td> <td>11:23</td> <td>+</td> <td>10</td> <td>10</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td>	ENBS0094	S001	Soil	7	/14/2009	11:23	+	10	10				-		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	ENBS0095	S001	Soil	2	/14/2009	11:30	-	10	10						
HZBS01295001 Soli 71/4/2009 8:17 1 5 5 0	ENBS0096	S001	Soll	2	/14/2009	11:38	1	10	10						
H2BS01315001 Soil 7/14/2009 8:35 1 5 5 6 1 1 1 H2BS01355001 Soil 7/14/2009 8:47 1 5 5 5 6 1 1 1 H2BS01355001 Soil 7/14/2009 8:47 1 5 5 5 1 1 1 1 H2BS01355001 Soil 7/14/2009 9:00 1 5 5 5 1 <td>HZBS0129</td> <td>S001</td> <td>Soil</td> <td>2</td> <td>/14/2009</td> <td>8:17</td> <td>-</td> <td>5</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	HZBS0129	S001	Soil	2	/14/2009	8:17	-	5	5						
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	HZBS0131	S001	Soil	7	/14/2009	8:35	1	2	5						
HZBS01355001Soli7/14/20099:001555MMS/MSD1. Relinquiphed byDate:2. Received by:Date:3. Relinquished by:Date:4. Received by:Date:1. Relinquiphed byDate:115/093. Relinquished by:Date:3. Relinquished by:Date:1. Received by:Date:1. Relinquiphed byDate:115/093. Relinquished by:Date:1. Received by:Date:1. Rule:MVH7115/09Company:Time:Company:Time:Company:MVHMVHMVH09000000Company:Time:Company:Time:MVHMVHRotacker EDFDate:A. Receiver EDFDate:A. Receiver EDF	HZBS0133	S001	Soil	7	/14/2009	8:47	1	2	2	/					
1. Relinquished by Date: 2. Received by: Date: 3. Relinquished by: Date: 4. Received by: Date: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 1 Numbers 1 1 1 1 1	HZBS0135	S001	Soil	2	/14/2009	9:00	۲	5	2			/		W	CS/WSD
Company: Time: Company: Time: Company: MMH IVFS Company: Time: Company: MMH IVFS Company: Time: Company: Comments: Comments: Geotracker EDF D	1. Relinq	Jisted by Date:	4	2. Received b	×.		Date:	3. Reli	nquishe	d by:		Date:	4. Received by:		Date:
Company: Time: Cômpaty: Time: Company: Time: Company: MWH MWH 0900 0900 0900 Company: Time: Company: Time: Comments: Geotracker EDF D Company: Company: Company: Company:)		401	X X	SA	j	109311								
Comments:	Company MWH	Time.	S.	cómpably:	E.		Time: 0900	Compo	:Sun			Time:	Company:		Time:
	Comment	:8										Get	otracker EDF		

243643H

Page 4 of 118

0	DNIJA			CH	AIN OF	CUSTO	DY RE(COR	0		COC #	2444	MWHMM20090714
Custome	r Information	Proj	ect Informa	tion			Project	t Infor	mation		1	1110	
Site:	SSFL	Clien	t Name:	Boeing			Collecte	or: M	. Milman-B	arris		Boeing PM:	
Company	: HWM	Sam	pling Event:	ISRA S	ampling, Ju	une 2009	Contact	t#:				•	
Report to:	: Sarah Von Raesfeld	Proje	ect Number:	189161	4.054521					Requested Ana	lyses		Instructions/TAT
Address:	2121 N. California Blvd	Proje	ect Manager:	Alex Fis	schl		_						
	Suite 600	PMP	hone #:	(925) 62	27-4627		_			_			Legend: Numerical values for
	Walnut Creek	Field	Contact:	Shelby	Valenzuels				-		_		analyses equate to tu around time in days
	CA	Field	Contact #:	(626) 25	55-0503								H - Hold
	94596	Lab	Name:	GEL La	boratories,	TLC	-				_		EH - Extract/Extrude
Email:	sarah.vonraesfeld@mwhglobs	al.c Lab	Contact:	Jackie 7	Trudell						_		
	sean.leffler@mwhglobal.com	Lab	Address:	2040 S	avage Roa	P	Dioxi D2	Meta	_		_		Note: Values in the co
				Charles	ton, SC 29	1407	in by 216 I	ls 60					bellow are Turn Arour
		Lab	Phone:	(843) 76	69-7388		1613 Noist	20 Se			-		littles.
Sample N	ame	Matr	ix	Date	Time	No. of Containers	B - Soil ure Soil	oil Lead					Comments
HZBS01375	3001	Soil	117	4/2009	9:20	1	5	5					
HZBS01395	5001	Soil	117	4/2009	9:37	1	5	2					
HZBS01415	3001	Soil	117	4/2009	9:50	+	5	5					
HZBS01435	3001	Soil	7/1-	4/2009	10:18	+	5	2					
										-		A DOWN IN THE REAL OF THE R	and the second se

1. Relingetshed by	Date:	2. Received by:	Date:	3. Relinquished by:	Date:	4. Received by:	Date:
rea	topull	Citater:	60K-11/2				
Company: MWH	Time: 1450	company: EL	Time: 0400	Company:	Time:	Company:	Time:
Comments:					Gec	stracker EDF	

243643H

Custome	r Information	Project Inform	ation			Proj	ect In	forma	tion						-		
Site:	SSFL	Client Name:	Boeing			Colle	ector:	S. Va	llenzue	a	1			Boe	ing PM:		
Company:	HWH	Sampling Event	: ISRA Sa	mpling, Jur	le 2009	Cont	act #:										
Report to:	Sarah Von Raesfeld	Project Number	: 1891614	.054521		-				Reque	ested /	Inalyse	5			=	structions/TAT
Address:	2121 N. California Blvd	Project Manage	r: Alex Fisc	IN			-	_			-		⊢	-			
	Suite 600	PM Phone #:	(925) 627	7-4627			-			-	_		-	_	-	Σ Le	gend: imerical values for
	Walnut Creek	Field Contact:	Shelby V	alenzuela		_	-	_		-	_	_				an	alyses equate to tur ound time in days
	CA	Field Contact #:	(626) 255	5-0503			-			-	.,	1		_	_	I	Hold
	94596	Lab Name:	GEL Lab	oratories, L	TC	_			1	-	_		-			: Ш З	1 - Extract/Extrude 8
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie Tr	'udell		_		Me	Meta	Me	_	Meta	M	TP	TPH	2	
	sean.leffler@mwhglobal.com	Lab Address:	2040 Sav	/age Road		D221	Metals	etals 60	als 6020	etals 60	Metal	als 602	letals 6	H by S	by SW	Ž.	te: Values in the ce
			Charlesto	on, SC 294	10	6 M	602	602	0 So	020	s 60	0 W	020	W80	8015	a T	llow are Turn Aroun nes.
		Lab Phone:	(843) 765	9-7388		loist	20 Cd	Soil	oil Ca	Soil	20 5	ater	20 Z	015B	5BM		
Sample Na	ame	Matrix	Date	Time	No. of Containers	ure Soil	d Water	Arsenic	admium	Coppe	Soil Zind	Arsenio	n Wate	M - Soi	- Wate	- S	omments
B1BS0081A	S001 Soil	12	14/2009	12:29	-	10	-				-	;		1 9	r		
EBQW2220	Wat	ar 7,	/14/2009	13:16	3		10 1	0		-		10	0 10		10		
ENBS0097S	001 Soil	12	14/2009	11:28	+	10	-	L		10 10			-		+		
ENBS0098S	001 Soil	12	14/2009	11:37	+	10	-			10 10			-		+	-	
FBQW2235	Wat	ar 7/	14/2009	13:20	в		10 11			\vdash		10	0 10		10	BLJ	TO: 06/24/09LAPD
HZBS0130S	001 Soil	14	14/2009	8:22	F	5	-		F	2						19	46
HZBS0132S	001 Soil	12	14/2009	8:31	-	5	-			5		T	+		+		
HZBS0134S	001 Soil	11	14/2009	8:39	۰	s	-			5			\vdash		-		
HZBS0136S	001 Soil	12	14/2009	8:55	-	5				2		t	┢		+		
HZBS0138S	001 Soil	12	14/2009	9:02	+	5	-			5			+		+		
1. Relinqu	istreactory: Date:	2. Received by		Da V	te: L/	3. Reli	nquisl	hed by			Date	1	4	eceive	d by:		Date:
5	11 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	202	Sar		Lok11												
Company: MWH	Time:	stompthy:	s	<u>≓ 0</u>	ne: 99.00	Compe	:Aue				Time		Col	npany			Time:
Comments												Geot	racke	EDF			

243643H

Page 6 of 118

0	-ONIAL		CH	AIN OF	CUSTO	DY RE	COF	ð					COC #				MWHSV20090714_0
	-																Page: 2 of 2
Custome	r Information	Project Inform	ation			Projet	ct Info	rmati	n			i					
Site:	SSFL	Client Name:	Boeing			Collec	tor	S. Vale	anzue				-	Bo	eing PM:	_	
Company	HWH	Sampling Event:	: ISRA Se	ampling, Ju	une 2009	Conta	ct #:									-	
Report to:	Sarah Von Raesfeld	Project Number:	189161	4.054521			1			Reque	sted	Analys	es	-			Instructions/TAT
Address:	2121 N. California Blvd	Project Manager	r: Alex Fis	chl		-			-	-			-	-			
	Suite 600	PM Phone #:	(925) 62	27-4627		1	-		-	-			-	-	_		Legend: Numerical values for
	Walnut Creek	Field Contact:	Shelby	Valenzuels		-	_		_	-	_		-	-	_		analyses equate to turn around time in days
	CA	Field Contact #:	(626) 25	55-0503		T	_		-	-			2	-			H - Hold
	94596	Lab Name:	GEL Lat	boratories,	TLC	-				-	_		-	_			EH - Extract/Extrude &
Email:	sarah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie T	rudell			_	M	Meta	M		Meta	M	TP	TPH	-	nou
	sean.leffler@mwhglobal.com	Lab Address:	2040 Sa	wage Roa	q	D2	Meta	etals	als 60	Meta	Met	als 60	letals	H by Met	by SI		Notor Victore is the second
			Charlest	ton, SC 29	407	216 1	ls 60	6020	020 S	als 60	als 6	020 V	602	SW8	W80*	_	bellow are Turn Around
		Lab Phone:	(843) 76	39-7388		Moist	20 C	Soil	ioil C)20 S	020 \$	Vater	0 Wa	015E	15BM		limes.
Sample N	ame	Matrix	Date	Time	No. of Containers	ure Soil	u Water	Arsenic	admium	Copper	Soil Zinc	Arsenic	ter Lead	M - Soil	- Water		Comments
HZBS0140S	001 Soil	12	14/2009	9:17	+	5	-		+	5				-			
HZBS0142S	:001 Soil	12	14/2009	9:32	-	2			1	5			+	-			
HZBS0144S	001 Soil	12	14/2009	9:37	-	2		5	5	2			$^{+}$	-	t		
							-	-									

5

5

5

S

9:47

7/14/2009

Soll

HZBS0145S001

1



Page 7 of 118

243643H

GEL Laboratories-LLC SAMPLE RECEIPT & REVIEW FORM

Clie	nt: SSFL			SDG/ARCOC/Work Order: 2.35/14-4/ JT 1/4/10
Rece	eived By: JP			Date Received: 7/15/09
Susp	ected Hazard Information	Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.
COC	Samples marked as radioactive?		/	Maximum Counts Observed*: 40 cpm
Class	sified Radioactive II or III by RSO?		/	1
COC	/Samples marked containing PCBs?		/	1
Ship	ped as a DOT Hazardous?		1.	Hazard Class Shipped: UN#:
Samp	ples identified as Foreign Soil?		/	1
	Sample Receipt Criteria	Yes	NA	2 Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $0 \le 6$ deg. C?	/		Preservation Method: tece bage blue ice dry ice none other (describe)
3	Chain of custody documents included with shipment?	/		
4	Sample containers intact and sealed?			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		~	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		1	Sample ID's and containers affected:
7	Are Encore containers present?			(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	/		Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	~		Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	V	-	Sample ID's affected:
11	Number of containers received match number indicated on COC?	~		Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	/		
Com	Fed EX 9457 315	58	0	0170
1				
				•
	· · · · · · · · · · · · · · · · · · ·			
-	DIG (DIGA) serview: Initia	ls		JT Date7/15/09

Date: 1/4/10

Requesting Firm: MWH Address: 9444 Farnham Suite 300 San Diego, CA 92123 Phone: 858-751-1217 Fax: 858-751-1201 E-mail: Sean.leffler@mwhglobal.com

To: Jackie Trudell

Laboratory GEL Laboratories, LLC

From: Sean I Requestor signate



Subject: Chain-of-Custody Form Analytical Request Change

Phone: 843-769-7388

E-mail: jacqueline.trudell@gel.com

No. of Pages: 3

Per Request:

Please make the changes listed below to the chain-of-custody analytical request form. Include this form with the final deliverables for these samples.

COC No.	Client Sample ID(s)	Date Collected	Originally Requested Analyses	Change (s) and Method (s) Now Requested
MWHMM20 090714_00	ENBS0089S001	7/14/09		Add lead by 6020 on 3 day TAT
			1	

The reason for these changes:

Incorrectly marked on COC form	
Lack of sample volume	
Change in analytical request	X
Other:	

Thank you

ChangeForm 243643H Rev1

1

Site: Site: Site: A Company: A COMPAN}										CU7	1++		Laye.	
Site: S Company: A	nformation	Project Inforr	nation			Proje	ct Infor	mation						
Company: N	SFL	Client Name:	Boeing			Collec	tor: N	1. Milman-	Barris		Boe	eing PM:		
	HM	Sampling Ever	It: ISRA 5	Sampling, Ju	ine 2009	Conta	ct #:							
Report to: S	arah Von Raesfeld	Project Numbe	r: 18916	14.054521					Reque	sted Analys	Se		Instruc	tions/TAT
Address: 2	121 N. California Blvd	Project Manag	er: Alex Fi	schl										
0	uite 600	PM Phone #:	(925) 6	27-4627			2		_				Numeric	al values for
>	/alnut Creek	Field Contact:	Shelby	Valenzuela									analyse	s equate to turr ime in days
0	A	Field Contact #	t: (626) 2	55-0503									H - Hold	
5	4596	Lab Name:	GEL La	aboratories,	TLC								EH - EX Hold	ract/Extrude &
Email: s	arah.vonraesfeld@mwhglobal.c	Lab Contact:	Jackie	Trudell									8	
0	ean.leffler@mwhglobal.com	Lab Address:	2040 S	avage Road		D2	Meta						Note: Va	lues in the cell
			Charle	ston, SC 29	407	216 1	ls 60	_					bellow a	re Turn Around
		Lab Phone:	(843) 7	69-7388		Moist	20 S						Ś	
Sample Nam		Matrix	Date	Time	No. of Containers	ure Soil	oil Lead						Comm	ents
ENBS0089S001	Soil		7/14/2009	12:17	-	10	22		-				-	
ENBS00905001	Soll		7/14/2009	12:22	÷	10	0							
ENBS0091S001	Soil		7/14/2009	12:14	۰	10							MS/MSD	
ENBS0094S001	Soil		7/14/2009	11:23	-	10	9							
ENBS0095S001	Soil		7/14/2009	11:30	-	10	10							
ENBS0096S001	Soll		7/14/2009	11:38	-	10	10		-					
HZBS0129S001	Soil		7/14/2009	8:17	-	2	2							
- HZBS0131S001	Sol		7/14/2009	8:35	1	2	2							
- HZBS0133S001	Soil		7/14/2009	8:47	-	5	5	/						
HZBS0135S001	Soil		7/14/2009	9:00	-	5	3			/			MS/MSD	
1. Relinquist	ed by Date:	2. Received I	iy:		ate:	3. Relin	quished	1 by:		Date:	4. Receiv	/ed by:		Date:
Z	copy the post	2.2	July	,)	7115/09									
Company: MWH	Time: 1450	cómpaby:	E L	-	ime: 0900	Compai	ž			Time:	Company	ä		Time:
Comments:										Geo	tracker EDF			
										Data	a Validation I	Package N	Level IV	

	CIND.		E	AIN OF CU:	STOD	Y RE	CORI	0		COC #		MWHMM200907	14 00
	a									17	53444	Page: 20	f2
Customer	Information	Project Inform	nation			Project	t Infor	mation			-		
Site:	SSFL	Client Name:	Boeing			Collect	or: M.	. Milman-Ba	arris		Boeing PM:		
Company:	HMM	Sampling Even	t: ISRA	Sampling, June 20	600	Contact	t#:						
Report to:	Sarah Von Raesfeld	Project Number	18916	14.054521					Requested And	lyses		Instructions/TA	F
Address:	2121 N. California Blvd	Project Manage	r: Alex F	ischl									
	Suite 600	PM Phone #:	(925) 6	327-4627								Legeno: Numerical values	o
	Walnut Creek	Field Contact:	Shelby	Valenzuela								analyses equate to around time in day	s turn
	CA	Field Contact #	: (626)2	255-0503								Hold - H	
	94596	Lab Name:	GELL	aboratories, LLC								EH - Extract/Extruit Hold	de &
Email:	sarah.vonraesfeld@mwhglobal.t	c Lab Contact	Jackie	Trudell									
	sean.leffler@mwhglobal.com	Lab Address:	2040 S	avage Road		Dioxi	Meta					Note: Values in the	cells
			Charle	ston, SC 29407		n by 216 M	ls 60					bellow are Turn Ar	puno
		Lab Phone:	(843)7	69-7388		1613 Aoista	20 Sc						
Sample Nar	Ше	Matrix	Date	Time Cont	o. of tainers	B - Soil ure Soil	ii Lead					Comments	
 HZBS0137S0 	01 So	1	/14/2009	9:20	-	5	2						
 HZBS0139S0 	101 So	1 7	/14/2009	9:37	+	5	5						
HZBS0141S0	101 So	1	/14/2009	9:50	1	5	5						
HZBS0143S0	01 So	- II	/14/2009	10:18	1	5	22						



Page 11 of 118

LABORATORY TASK ORDER (LTO) FORM

INSTRUCTIONS: To be completed by Environmental Contractor & Emailed to Laboratory Project Manager, CH2M HILL (boeingedms@ch2m.com) & the Data Validator at Least 48 hrs prior to need for sample containers. Project Analytical Laboratory will confirm receipt via E-Mail.

Event Name:	ISRA Sa	ampling, Feb 2009	Start:	2/19/2009	_ End:	2/23/2009
LTO DATE:			LTC	NUMBER:		
Consultant Name:		MWH	Contract Laboratory:		GEL	
Address:	21211	N. California Blvd. Ste. 600	Address	20	040 Savage F	Rd.
	Wa	alnut Creek, CA 94596	-	Cha	rleston, SC 2	9407
		÷				
Contact Name:		Sarah Von Raesfeld	Lab Contact Name:		Cheryl Jones	3
Phone Number:		925-627-4654	Phone Number:		843-769-738	8
Fax Number:		925-627-4501	Fax Number:		843-766-117	8
E-mail Address:	<u>Sarah</u>	.VonRaesfeld@mwhglobal.com	E-mail Address:		cj@gel.com	
		SAMPLE C	ONTAINER ORDER FORM			
Date Required:	02/19/	09	Requested Analyses:	(Si	pecifv # of Sam	oles)
			, , , , , , ,	Water	Soil	Contingent
			Dioxins - (1613B)	5	9	14
Date Sample Pickup:	NA		EPA 8015M (DRO)			
			EPA 8015M (JET FUEL)			
Ship Containers To:			EPA 8015M (CC)			
Project Site	х	(enter "X")	EPA 8260B (VOC)			
Consultant Office		(enter "X")	EPA 8270C SIM (SVOC)			
Other Location (specify in		—	EPA 8310 (PAH)			
comments)	ı.	(enter "X")	EPA 8082 (PCB)			
			Acetone (8260B)			
Container Information	1		EPA TO-15 VOCs (SIM)			
Trip Blank (VOA only)	Yes	(Yes/No)	Metals (6010B/6020/7470A/7471A)			
Temp Blank (VOA Only)	No	(Yes/No)	Cadmium (6020)	5	15	10
DI Water Required?	No	(Yes/No)	Arsenic (6020)	5	5	5
MS/MSD Extra Bottles?	No	(Yes/No)	% Moisture (D2216)	0	40	30
		—	Lead (6020)	5	40	30
Sample Matrix:			Copper (6020)	5	10	5
Soil	Х	(select all applicable)	Zinc (6020)	5	10	5
Water	Х	(select all applicable)	EPA TO-14 (VOCs)			
Vapor		(select all applicable)	_			
Est. Total # of Samples:	75	Est. Total # of EDDs	5			
		LABORATORY R	EPORTING REQUIREMENTS			
Project TAT:			Laboratory Results/Repo	rts Delivera	ables:	
Normal:	X	(10 Business days)	Draft Results Fax?:		(Yes/No)	
RUSH:		(Specify- 24 / 48 / 72HRS)	Draft Results E-mail?:	Yes	(Yes/No)	
Other :		(Specify # of Days)	Specify Fax/F-mail Contact			
Report Due Date:			Name, #, E-mail Address:	Sarah.VonRae	sfeld@mwhqlob	al.com
•			- Send Original Reports To			
Special Reporting Rec	wirema	ents:	Project Site		(enter "X")	
	No		Consultant Office		- (enter "X")	
Contingent Analysis?		(100/100)				
TIC (VOC) Required?	No	(Yes/No)	Other Location (specify			
TIC (SVOC) Required?	No	(Yes/No)	in comments)	Х	(enter "X")	
Data Validation Pckge.:	Tier III	(Boeing Tier I, II or III)	# of Copies Reports Req.:	1	_	
		SPECIAL IN	STRUCTIONS/LTO NOTES			
		CONFIRMATION	OF TRANSMITTAL & RECEIPT	٢		
LTO Sont But						
LIO Sent By:	_		LIO Received By-			
Name:	Sean Le	ttler	Name:			
Date:	02/20/09	9	Date:			

LABORATORY TASK ORDER (LTO) FORM (PAGE 2)

ADDITIONAL REQUIRED ANALYSES

LTO DATE:				LTO NUI	MBER:	
Consultant Name:	MWH		Con	tract Laboratory:		GEL
Address.	2121 N California Blvd Ste 600				20/	10 Savage Rd
Address.	Walnut Crook C	A 94596	-	Address	Charl	eston SC 20/07
· ·		~ 34330	-	_	Griafi	531011, 30 23407
Contact Name:	Carah Van Da	aafald	-	h Contact Name		Chand Janaa
Contact Name:			- La			
Phone Number:	925-627-46	54	_	Phone Number:	8	43-769-7388
Fax Number:	925-627-45	01	-	Fax Number:	8	43-766-1178
E-mail Address:	Sarah.VonRaesfeld@m	whglobal.com	_	E-mail Address:		cj@gel.com
	SAMPLE (ORDER FORM	(CONTINUED)		
	-	Water	3011	Contingent		
	Arsenic (6020)					
	Lead (6020)					
	Cadmium (6020)					
	Lithium (6020)					
	Sodium (6020)					
	Selenium (6020)					
	Thallium (6020)					
	Zinc (6020)					
	Boron (6010B					
	Vanadium (6010B)					
	Copper (6020)					
	Zirconium (6020)					

Table of Contents

Case Narrative	1
Chain of Custody and Supporting Documentation	3
Data Qualifier Definitions	14
Laboratory Certifications	16
Percent Moisture	18
Metals Analysis Case Narrative Sample Data Summary Quality Control Summary Standards Raw Data Miscellaneous	22 23 28 30 44 47 116



Case Narrative for Boeing - SSFL (MWH) Work Order: 243643 SDG: 243643H

January 04, 2010

Laboratory Identification:

GEL Laboratories LLC 2040 Savage Road Charleston, South Carolina 29407 (843) 556-8171

Summary:

Sample Receipt

The sample arrived at GEL Laboratories LLC, Charleston, South Carolina on July 15, 2009 for analysis. The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory received the following sample:

Laboratory	Sample
Identification	Description
243643001	ENBS0089S001

Items of Note

Santa Susanna Field Laboratory Technical Representative was contacted seeking resolution to any analytical and/or receipt issues. Please see the enclosed e-mails.

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Metals and Percent Moisture.

I certify that this data package is in compliance with the terms and conditions of the subcontract and task order, both technically and for the completeness, for other than the conditions detailed in the attached case narratives.

Jacqueline a Judel

Jacqueline Trudell Project Manager



Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL</p>
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.



State	Certification			
Arizona	AZ0668			
Arkansas	88-0651			
CLIA	42D0904046			
California – NELAP	01151CA			
Colorado	GEL			
Connecticut	PH-0169			
Dept. of Navy	NFESC 413			
EPA Region 5	WG-15J			
Florida – NELAP	E87156			
Georgia	E87156 (FL/NELAP)			
Georgia DW	967			
Hawaii	N/A			
ISO 17025	2567.01			
Idaho	SC00012			
Illinois – NELAP	200029			
Indiana	C-SC-01			
Kansas – NELAP	E-10332			
Kentucky	90129			
Louisiana – NELAP	03046			
Maryland	270			
Massachusetts	M-SC012			
Nevada	SC00012			
New Jersey – NELAP	SC002			
New Mexico	FL NELAP E87156			
New York – NELAP	11501			
North Carolina	233			
North Carolina DW	45709			
Oklahoma	9904			
Pennsylvania – NELAP	68–00485			
South Carolina	10120001/10120002			
Tennessee	TN 02934			
Texas – NELAP	T104704235-07B-TX			
U.S. Dept. of Agriculture	S-52597			
Utah – NELAP	GEL			
Vermont	VT87156			
Virginia	00151			
Washington	C1641			

List of current GEL Certifications as of 04 January 2010



DATA VALIDATION REPORT

Boeing SSFL RFI ISRA

SAMPLE DELIVERY GROUP: 243643H

Prepared by

MEC^X, LP 12269 East Vassar Drive Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Boeing SSFL RFI ISRA
Contract Task Order:	1261.500D.00
Sample Delivery Group:	243643H
Project Manager:	Dixie Hambrick
Matrix:	soil
QC Level:	V
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Laboratory:	GEL

Table 1. Sample Identification

Sample Name	Lab Sample Name	Sub-Lab Sample Name	Matrix	Collection	Method
ENBS0089S001	243643001	N/A	Soil	7/14/09 1217	6020

II. Sample Management

No anomalies were observed regarding sample management. The samples in this SDG were received at the laboratory within the temperature limits of $4^{\circ}C \pm 2^{\circ}C$. According to the case narrative for this SDG, the samples were received intact, on ice, and properly preserved, if applicable. The COCs were appropriately signed and dated by field and/or laboratory personnel. Custody seals were intact. If necessary, the client ID was added to the sample result summary by the reviewer.

Qualifie	- Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The associated value is an estimated quantity.
Ν	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
T-I	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a compound with a CAS number and fit greater than 80%.	Not applicable

Data Qualifier Reference Table

T-II	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents a class of compound but not of sufficient identification quality to represent a specific compound.	Νοτ αρριιςαριε		
Т- III	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. The tentative identification represents an unknown compound.	Not applicable		
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.		

Qualifier	Organics	Inorganics
Н	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
С	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
В	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
Q	MS/MSD recovery was poor or RPD high.	MS recovery was poor.
Е	Not applicable.	Duplicates showed poor agreement.
Ι	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
А	Not applicable.	ICP Serial Dilution %D were not within control limits.
Μ	Tuning (BFB or DFTPP) was noncompliant.	Not applicable.
Т	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
\$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualification Code Reference Table

Qualification Code Reference Table Cont.

D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
Ρ	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*11, *111	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. EPA METHOD 6020—Lead

Reviewed By: P. Meeks Date Reviewed: January 6, 2010

The sample listed in Table 1 for this analysis was validated based on the guidelines outlined in the MEC^{X} Data Validation Procedure for Metals (DVP-5, Rev. 0 and DVP-21, Rev. 0), EPA Method 6020, and the National Functional Guidelines for Inorganic Data Review (7/02).

- Holding Times: The analytical holding time, six months for ICP-MS metals, was met.
- Tuning: Review is not applicable at a Level V validation.
- Calibration: Review is not applicable at a Level V validation.
- Blanks: The method blank and CCBs had no detects.
- Interference Check Samples: Review is not applicable at a Level V validation.
- Blank Spikes and Laboratory Control Samples: The recovery was within laboratoryestablished QC limits.
- Laboratory Duplicates: A laboratory duplicate analysis was performed on the sample in this SDG. The RPD exceeded the control limit; therefore, lead detected in the sample was qualified as estimated, "J."
- Matrix Spike/Matrix Spike Duplicate: MS/MSD analyses were performed on the sample in this SDG. As the native lead concentration exceeded the amount spiked by more than 4x, the recoveries were not assessed. The RPD exceeded the control limit; therefore, lead detected in the sample was qualified as estimated, "J."
- Serial Dilution: Serial dilution analyses were performed on the sample in this SDG. The %D exceeded the control limit; therefore, lead detected in the sample was qualified as estimated, "J."
- Internal Standards Performance: Review is not applicable at a Level V validation.
- Sample Result Verification: Review is not applicable at a Level V validation. As the samples in this SDG were validated at Level V, the QC information necessary to make an absolute determination of bias in the samples was not reviewed; therefore, when qualifications were applied, no bias was assigned. Lead was reported from the laboratory's standard 2x dilution for soils. Any result reported between the MDL and the reporting limit was qualified as estimated, "J." Reported nondetects are valid to the MDL.

- Field QC Samples: Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:
 - Field Blanks and Equipment Rinsates: FBQW2239 (235913) was the field blank and EBQW2220 (233444) was the equipment rinsate associated with the sample in this SDG. Lead was not detected in either sample.
 - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms: 243643H

Analysis Method 6020

Sample Name	ENBS0089S001	I	Matrix '	Type: Soil	Res	ult Type: Pr	rimary Result
Lab Sample Name:	243643001	Sample I	Date: 7	7/14/2009 12:17:00 PM	1 1	alidation Le	evel: V
Analyte	CAS No	Result Value	RL	MDL Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Lead	7439921	24.2	0.405	0.101 mg/kg	*E	J	E, *III, A