District I State of District II Energy Minerals						f New Mexico and Natural Resources Revised October				Form C-14	1.	
1301 W. Grand Avenue, Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410				ation Div	vision			Submit 2 Co	pies to appropriat	te		
District IV 1220 South				South	St. Franc	is Dr.			with	Rule 116 on bac side of for	ж m	
					nta Fe	, NM 875	05					
			Kele	ease Notific	ation	and Co	orrective A	ction	1		_	
Name of Co		Burmedy	Dil & Ga	of NM Inc		OPERAT	<u>FOR</u>	Taulor	Initia	l Report	Final Rep	orl
Address	401 W. T	exas, Suite	1003, Mi	dland, TX 7970	$\overline{)1}$	Celephone N	$\overline{No.}$ (432)	684-4	033			
Facility Nar	ne Eunic	e Monumen	t Unit #2	9	I	acility Typ	e Well	l / Flov	v Line			
Surface Ow	ner:	State		Mineral C	)wner:	Stat	e		Lease N	o. 015823		
				LOCA	TION	OF REI	LEASE API #	30.0	25.061°	11.00.00		
Unit Letter	Section 19	Township 20S	Range 37E	Feet from the 660	North/S	South Line outh	Feet from the 1980	East/	West Line Vest	County Lea		
L	1	L <u></u>	I	.atitude_N 32.5	55215°	_ Longitud	le_W 103.2941	<u>5°</u>				
				NAT	URE	OF REL	EASE					
Type of Rele	ase (	Dil and Water			<u>-</u>	Volume of Date and h	Release 3 bbl		Volume R	lecovered Hour of Disc	None Wery 9/21/00	_
						Unknown		~ 				
Was Immedi	ate Notice C	Given?	Yes 🛛	No 🗌 Not R	equired	If YES, To   Leak disco	Whom? wered by J.R. Har	rison –	OCD at 3:4	9 pm		
By Whom?	By Whom?					Date and Hour						
Was a Water	course Read	ched?	Yes 🛛	No		If YES, Vo	olume Impacting t	the Wat	ercourse	iceiv	ED	
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*		4			M	AY 13 ZU	10	
									H	BBSO	D	
Describe Car	use of Probl	em and Reme	dial Actio	n Taken.*					946			
Oil and wate Facility. The	r were relea e excavation	sed from a flo was backfille	w line. E ed with cle	excavation of imparation and imparation of imparation of the second second second second second second second s	acted soil	l was conduc	ted. Impacted soi	il was h	auled to an	NMOCD app	roved disposal	
Describe Are	a Affected	and Cleanup	Action Tal	ken.*	. <u> </u>			·				-
Soil was exc chloride con clean soil. A report of wat	Soil was excavated in an approximate 320' x 75' x 9' (deep) area until laboratory results of samples reported TPH concentrations below 100 mg/kg and chloride concentrations below 250 mg/kg. Impacted soil was hauled to an NMOCD approved disposal facility, and the excavation was backfilled with clean soil. A site drawing with sample locations is attached, along with laboratory documentation, a table summarizing the sample results and a chloride report of water similar to that which was released.											
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal state or local laws and/or regulations												
OIL CONSERVATION DIVISION												
Signature: DA layta ENV ENGINEER:												
Printed Name: Ben Taylor						Approved by	District Supervis	50r:	froffre	y Seller	17	
Title: Produ	ction Mana	ger	<b>_</b>			Approval Da	ute: 05/14/1	0	Expiration	Date:		
E-mail Add	ress: bogi(	@t3wireless.c	om			Conditions of	of Approval:	1: Attached				
Date: 5/	08/10	Phor	ie: (432)	684-4033					. <u> </u>	IRP-9	-11-2.320	>
' Attach Add	itional She	ets If Neces	sary							ы		

#### Table 1: Summary of Laboratory Analysis of Soil Samples Burgundy Oil & Gas, Inc., EMU #29 Unit Letter N, Section 19, Township 20 South, Range 37 East Lea County, New Mexico

Sould bandle         Sould bandle														Page 1 of 1
Date         Number         (freet BGS)         C6-C12         C13-C28         C28-C40         /TP1/1         (freet BGS)	'Sample'	Soil Sample	Sample Depth	TPH	TPH	TPH 5	Total	Chloride	Benzeñe	Toluene	Ethylbenzene	Xylenes	- Total	Soil Status
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Date	· Number	(feet BGS),	C6-C12	C12-C28	C28-C40	TPH.	(ing/kg)	(mg/kg)	(mg/kg)	(mg/kg) -	(mg/kg)	BTEX	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	<u> </u>	Standard (W	OCC)	(mg/kg)	-(mg/kg)	« (mg/xg)	(mg/kg)	3 250	بري <sup>مر</sup> ي <sup>مري</sup>	2 - 29 (29) 5° (20)	All for the second s	and the second	(ing/kg)	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	10/12/09	Standard (++	3	617	547	60.4	669	3240	<0.0013	<0.0025	<0.0013	<0.0013	<0.0064	Excavated
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	10/12/09	SS-7		4 260	21 200	2 300	27.850	1880	0 7887	2 531	4 084	17 622	25.026	Excavated
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	10/13/09	SS-3	7	70.1	607	75.8	753	515	<0.0011	<0.0022	0.0030	0.0136	0.0166	Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	10,13,05	55-5	·····	701	007			515		~0 0022	0 0000	0 0150	0 0100	Excuvated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	11/9/09	SS-1	0-6"	90.8	1 380	178	1 649	177	<0.0010	<0.0020	<0.0010	0.0052	0.0052	Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	11/23/09		7	364	1.070	83.9	1 190							Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	12/16/09		8	32.5	229	23.9	285							Excavated
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1/19/10		9	<18 4	<18.4	<18.4	<55 2			•			***	In Place
$\begin{array}{c c c c c c c c c c c c c c c c c c c $														
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/9/09	SS-2	0-6"	40 1	1,030	114	1,184	474	<0 0010	<0 0021	<0 0010	<0 0010	<0 0051	Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	11/23/09		7	<15.4	763	152	228	781						Excavated
1/19/10       9          995          In Pl         11/9/09       SS-3       0.6"       156       1,730       158       2,044       857       0.003       0.023       0.0137       0.0209       Excav         11/2/09       SS-3       0.6"       156       1,730       158       2,044       857       0.003       0.023       0.0137       0.0209       Excav         11/2/09       SS-4       0.6"       118       144       214       165             Excav         11/9/09       SS-4       0.6"       <169	12/16/09		8	<17 1	26 4	<171	26 4	656				***		Excavated
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1/19/10		9					9 95						In Place
11/9/09       SS-3       0-6"       156       1,730       158       2,044       857       0 0030       0 0023       0 0137       0 0237       0 0290       Excav         11/23/09       7       <154														
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	11/9/09	SS-3	0-6"	156	1,730	158	2,044	857	0 0030	0 0023	0 0137	0 0237	0 0290	Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	11/23/09		7	<15 4	339	26 5	366	196						Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	12/16/09		8	<181	144	214	165							Excavated
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1/19/10		9	<18 2	<18.2	<18 2	<54 6							In Place
$\begin{array}{c c c c c c c c c c c c c c c c c c c $														
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/9/09	SS-4	0-6"	<16 9	<169	<169	<50 7	1,320	<0 0011	<0 0023	<0 0011	<0 0011	<0 0056	Excavated
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/23/09		7					2,100						Excavated
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	12/16/09		8					271						Excavated
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1/19/10		9					39 2						In Place
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						·								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/9/09	SS-5	0-6"	276	4,000	431	4,707	567	<0 0010	<0 0020	<0 0010	0 0015	0 0015	Excavated
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/23/09		7	<15.5	20 3	<15.5	20.3	1,790						Excavated
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12/16/09		8					270	<u> </u>			***		Excavated
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1/19/10		9					55.6	• ••••					In Place
11/9/09       SS-6       0-5"       <15.6	11/0/00		0.61											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	11/9/09	SS-6	0-6"	<15.6	<15.6	<15.6	<46.8	1,100	<0 0010	<0 0021	<0.0010	<0.0010	<0.0051	Excavated
12/16/09         8           510           Image: Product of the state	11/23/09		7					688						Excavated
11/19/09         SS-7         0-6"         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161         <161	12/16/09		8					510						Excavated
11/9/09         SS-7         0-6"         <161         <161         <48.3         2,130         <0011         <00021         <00011         <00011         <00054         Excav           11/23/09         7            1/9            Excav           11/23/09         7            1/9            Excav           12/16/09         8            24.5            Excav           11/9/09         SS-8         Comp         <15.3	1/19/10		9					8/8						In Place
11/23/09     7        1/23/09     2,150     C00011     C	11/0/00	66.7	0.6"	<16.1	<16.1	<16.1	<19.2	2 120	<0.0011	<0.0021	<0.0011	<0.0011	<0.0054	Evenuetad
11/2/00         3           12/1          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          11/160         12/160          11/160         12/160          12/160         12/160         12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160          12/160 <t< td=""><td>11/23/00</td><td></td><td>7</td><td>~10 1</td><td>~10 1</td><td><u> </u></td><td>~~~</td><td>1.980</td><td>00011</td><td>~0 0021</td><td></td><td>&lt;0.0011</td><td>~00004</td><td>Excavated</td></t<>	11/23/00		7	~10 1	~10 1	<u> </u>	~~~	1.980	00011	~0 0021		<0.0011	~00004	Excavated
12/10/09         SS-8         Comp         <15.3         538         81.3         619         1,700         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010	12/16/09		8					24.5						In Place
11/9/09         SS-8         Comp         <15.3         538         81.3         619         1,700         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0010         <0.0050         Excav           11/23/09         Comp         <15.2	12/10/07		v					24.5						_ III I lace
11/23/09 Comp <15.2 305 25.1 330 417 Excav	11/9/09	SS-8	Comp	<153	538	813	619	1.700	<0.0010	<0.0020	<0.0010	<0.0010	<0.0050	Excavated
	11/23/09	00-0	Comp	<15.2	305	25.1	330	417	-0 0010	-0 0020		-0 0010		Excavated
1/19/10 Comp <15.0 42.1 <15.0 42.1 25.1 In Pl	1/19/10		Comp	<15.0	42.1	<15.0	42.1	25 1						In Place
					·~ ·	-15 5								
11/9/09 SS-9 Comp <15.0 <15.0 <15.0 <45.0 71.5 <0.0010 <0.0020 <0.0010 <0.0010 <0.0050 In PI	11/9/09	SS-9	Comp	<15 0	<150	<150	<45 0	71 5	<0 0010	<0 0020	<0 0010	<0 0010	<0 0050	In Place
11/9/09 SS-10 Comp <16.2 <16.2 <16.2 <48.6 9,200 <0.0011 <0.0022 <0.0011 <0.0011 <0.0055 Excav	11/9/09	SS-10	Comp	<16 2	<16 2	<162	<48 6	9,200	<0 0011	<0 0022	<0 0011	<0 0011	<0 0055	Excavated
11/23/09 Comp 15,700 Excav	11/23/09		Comp					15,700						Excavated
12/16/09 Comp 10,000 Excav	12/16/09		Comp					10,000						Excavated
1/19/10 Comp 3,290 Excav	1/19/10		Comp					3,290						Excavated
4/6/10 Comp 63.1 In PI	4/6/10		Comp					63 1						In Place

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Samples Analyzed by Xenco Laboratories, Odessa, Texas Depth in feet below ground surface Milityrams per kilogran No data available Below method detection limit

Notes 1 BGS 2 mg/kg 3 ---4 <





District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artasia, NM 88210 District III 1000 Rio Brazos Road, Aznec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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### State of Nev/ Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 875(5

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Form C-141 Revised October 10, 2003

Release Notification and Corrective Action												
OPERATOR INITIAL Report Final Report												
Name of Company Burgundy Dits las of NM, INC. Contact: Bast TAylor												
Address	401w	1.TK. 5.1.1	(1003	midland TK. 7	45701 ]	Celephone N	In. (432) 62	84-403-	3			
Facility Nan	nc Equi	ce manum	int the	+ + 29	I	Facility Typ	e Well FLO	IN LINE				1
Surface Own	ner 57	PTE		Mineral C	)wner	STATE			Lease A	No. 015	823	
				LOCA	TION	OF REI	EASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Fect from the	East/We	est Line	County		
N	19	205	37E	660'	50	uth	1980	Wes	+	Lea	-	
Latitude Lonsitude												
				NAT	URE	OF RELI	EASE					
Type of Relea	ISC (	OIL & Wall	R	······································		Volume of	Release 366	e T	Volume 1	Recovered	0 56	<del>B</del>
Source of Re	case	FLOWLINE				Date and H	on of Occurrenc	O UNK 1	Daic and	Hour of Dis	COVERY	9/21/09
Was Immedia	te Notice (	Given?	v 🕅			LIYES, TO	V/hom?					
	****	<u>L</u>	163	NO LI NOLK	cquired	Leak c	discovered by	J.K.	Harr	rison-c	CD	3:49 pm
By Whom?	By Whom? Date and Ho at											
Was a Watercourse Reached? If YES, Volume Impacting the Watercourse.												
If a Watercourse was Imported Describe Fully *												
		<b>·</b> ····	····								• •	
				;	•				• •			
												·
Dereriho Cou	re of Dashi		dial Actio	n Taken *								
Describe Cal	. / ·		(-		Car	· · · · ·	L ic.	.11 10	0	alabel	1 - 1	1. est
Small	oil + wa	als fel Rase	them .	FLOW LINE.	.com	promised	a sour a	me	exce	a vo tech	ong	hanked to
approve	X dispo	sal facili	yby l	Ocotillo.								
Describe Are	Affected	and Cleamin	Action Tal	icen *	,							·
Describe Ale	. (	U		··// .·+ /		he a	duited 1	Posult	E Den	ted ac	Laco	
lest	rg 01 5.	or arou	ла, 5р	Il sit I	~ / //		the second of	Cen n l h	s paps	rug as	e com	~L
ava	lable.							~				
Y homby onti	fir that the	information of	ven abou	a is true and com	plete to th	a heat of me	la opulation and a	Indonetono	t that man	mont to NR		ples and
regulations a	ly use the	are required i	o report a	nd/or file certain	release m	otifications a	nd perform correct	cuve actio	ins for rel	eases which	may en	danger
public health	or the carvi	ronmont. The	acceptan	ce of a C-141 rep	ort by the	NMOCD m	arleed as "Final R	(cport" do	es not rel	ieve the ope	rator of	liability
should their a	perations h	ave failed to	adequately	investigate and	remediat	e contaminati	on that pose a thi	reat to gro	und wate	r, surface w	ater, hur	nan health
or the environ	or logal la	addition, NMC	CD acce	ptance of a C-141	report d	oct not niliev	e the operator of	responsib	ility for c	ompliance \	with any	other
	R-	60								11 1 15I	211	
Signature:	on	junk-	<u> </u>								ť,	
Printed Name: BEN TAylor Approvol by D strict Supervisor:												
Title:	Prop. 1	Marager	-			Approval Dat	e: .	E	xpiration	Date:	_	
E-mail Addr	.95:	· · · · ·			'	Conditions of	Approval:			Attached		
Date 10/0	2/09		Phone	<u>:(432)684-</u>	4033							
Attach Addi	tional She	ets If Neces	ary									





### WATER ANALYSIS REPORT

Sample Information

Company	Burgundy
Lease	EMU
Well Number	34
Sample Location	Well head
Sample Date	08/01/07

Dissolved Gasses	PPM
Hydrogen Sulfide	0
Carbon Dioxide	ND
Dissolved Oxygen	ND

Cations	mg/L	meg/L
Sodium	11,056	480.7
Calcium	1,163	58.1
Magnesium	146	12.0
Barium	1	0.0
Iron	0.4	0.0
Manganese	0.004	
Strontium	11.5	

City/ County	
State	
Formation	
BB Chem. Rep.:	Ray Pierson
Analysis Date:	08/03/07

Fluid ConditionsFluid Temp.72PResistivity (RW)0.240Ohm-mpH6.71SpGr.1.012

Anions	mg/L	meq/L
Bicarbonate	1,415	23.2
Chloride	15,517	437.1
Sulfate	1,125	23.4

Total Dissolved Solids	30,435
Total Ionic Strength	0.57
Total Hardness as CaCO3	3,502

	Calcium Carbonate Scaling Tendency	
	Stability Index:	
₽F		
50		0.12
68		0.24
77		0.34
86		0.44
104		0.72
122		0.94
140		1.24
158		1.62
176		1.89
194		2.27
212		2.65

<u>Calcium Carbonate Index Legend</u> SI of less than 0 = No Potential SI of 0 to 0.5 = Marginal Potential SI of 0.5 to 1.0 = Moderate Potential SI of above 1.0 = Severe Potential





#### WATER ANALYSIS REPORT

Page 2

Sample Information				
Company	Burgundy			
Lease	EMU			
Well Number	34			
Sample Location	Well head			
Sample Date	8/1/2007			

City/ State	
County	
Formation	
BB Chem. Rep.:	Ray Pierson
Analysis Date:	08/03/07

### **Calcium Sulfate Scaling Tendency**

Maximum Amount of CaSO4 which can be held in solution at these temperatures.

٩£	mg/L	
50	3794.62	
70	3822.58	
90	3850.39	
110	3867.01	
130	3839.29	
150	3752.40	
170	3638.12	
Actual CaSO4 Conc. =		2017.97
If the actual value exceeds any of the mg/L values abov Calcium sulfate scale is likel	e. V	



#### **Barium Sulfate Scaling Tendency**

Maximum Amount of BaSO4 which can be held in solution at these temperatures.

₽F	mg/L
77	17.0
122	23.0
149	27.5
176	31.0
203	35.0

1.41

Actual BaSO4 Conc. =

If the actual value exceeds any of the mg/L values above.

barium sulfate scale is likely



# Analytical Report 348344

for

# **Ocotillo Environmental, LLC**

**Project Manager: Cindy Crain** 

**Burgundy EMU Lease** 

## 21-OCT-09





### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



21-OCT-09



Project Manager: **Cindy Crain Ocotillo Environmental, LLC** P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: 348344 Burgundy EMU Lease Project Address: Lea County, NM

#### **Cindy Crain**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 348344. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 348344 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 348344

# Ocotillo Environmental, LLC, Hobbs, NM

Burgundy EMU Lease

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1	S	Oct-12-09 13:25	3 - 3 ft	348344-001
SS-2	S	Oct-12-09 13:30	4 - 4 ft	348344-002
SS-3	S	Oct-13-09 10:50	7 <b>-</b> 7 ft	348344-003

## CASE NARRATIVE



Client Name: Ocotillo Environmental, LLC Project Name: Burgundy EMU Lease

Project ID: Work Order Number: 348344 Report Date: 21-OCT-09 Date Received: 10/14/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-777207 Percent Moisture None

Batch: LBA-777348 Inorganic Anions by EPA 300 None

Batch: LBA-777492 BTEX-MTBE EPA 8021B SW8021BM

Batch 777492, Ethylbenzene recovered below QC limits in the Matrix Spike Duplicate. Samples affected are: 348344-001. The Laboratory Control Sample for Ethylbenzene is within laboratory Control Limits

## CASE NARRATIVE



Client Name: Ocotillo Environmental, LLC **Project Name: Burgundy EMU Lease** 

Project ID: Work Order Number: 348344

Report Date: 21-OCT-09 Date Received: 10/14/2009

Batch: LBA-777544 BTEX-MTBE EPA 8021B SW8021BM

Batch 777544, Benzene, Ethylbenzene, Toluene, m.p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 348344-002, -003. The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

### SW8021BM

Batch 777544, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected: data not confirmed by re-analysis Samples affected are: 348221-001 S,348221-001 SD,348344-002.

SW8021BM

Batch 777544, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene RPD was outside QC limits. Samples affected are: 348344-002, -003

Batch: LBA-777890 TX1005 SW8015M

Batch 777890, 1-Chlorooctane recovered above QC limits; Data confirmed by re-analysis. Samples affected are: 348344-002, 348653-001 S o-Terphenyl recovered below QC limits; Data confirmed by re-analysis. Samples affected are: 340344-002

Matrix interference is suspected in sample surrogate failures.



**Project Id:** 

Percent Moisture

Total TPH

TPH By SW8015 Mod

C6-C12 Gasoline Range Hydrocarbons

C12-C28 Diesel Range Hydrocarbons

C28-C40 Oil Range Hydrocarbons

Contact: Cindy Crain

# Certificate of Analysis Summary 348344

Ocotillo Environmental, LLC, Hobbs, NM

**Project Name: Burgundy EMU Lease** 



Date Received in Lab: Wed Oct-14-09 11:26 am

Report Date: 21-OCT-09

niect Location: Lea County, NM					Report Date:	21-001-09
					Project Manager:	Brent Barron, II
	Lab Id:	348344-001	348344-002	348344-003		
Analysis Requested	Field Id:	SS-1	SS-2	<b>SS-3</b>		
Anulysis Requesteu	Depth:	3-3 ft	<b>4-4</b> ft	7-7 ft		
	Matrix:	SOIL	SOIL	SOIL		
	Sampled:	Oct-12-09 13:25	Oct-12-09 13:30	Oct-13-09 10:50		
Anions by E300	Extracted:			~		
	Analyzed:	Oct-15-09 11:25	Oct-15-09 11:45	Oct-15-09 12:05		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		3240 53.2	1880 23.9	515 9.37		
BTEX by EPA 8021B	Extracted:	Oct-16-09 10:00	Oct-15-09 17:45	Oct-15-09 17:45		
	Analyzed:	Oct-16-09 16:11	Oct-16-09 09:03	Oct-16-09 08:21		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		ND 0.0013	0.7887 0.1130	ND 00011		
Toluene		ND 0 0025	2.531 0.2260	ND 0.0022		
Ethylbenzene		ND 0.0013	4.084 0.1130	0.0030 0.0011		
m,p-Xylenes		ND 0.0025	9.061 0.2260	0.0074 0.0022		
o-Xylene		ND 0.0013	8.561 0.1130	0.0062 0.0011		
Total Xylenes		ND 0.0013	17.622 0.1130	0.0136 0.0011		
Total BTEX		ND 0.0013	25.026 0.1130	0.0166 0.0011		
Percent Moisture	Fytracted			· · · · · · · · · · · · · · · · · · ·		

The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Since 1990 Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America - Atlanta - Corpus Christi

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use

Extracted: Analyzed:

Units/RL:

Extracted: Analyzed:

Units/RL:

Oct-14-09 13:00

21.1

Oct-16-09 10:40

Oct-19-09 19:18

61.7

547

60.4

669

RL

RL

19.0

19.0

19.0

19.0

1.00

%

mg/kg

Brent Barron, II Odessa Laboratory Manager

Oct-14-09 13:00

12.2

Oct-16-09 10:40

Oct-19-09 19:45

4260

21200

2390

27850

RL

RL

341

341

341

341

1.00

%

mg/kg

Oct-14-09 13:00

10.3

Oct-16-09 10.40

Oct-19-09 20:14

70.1

607

75.8

753

RL

1.00

RL

16.4

16.4

16.4

16.4

%

mg/kg





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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(305) 823-8500	(305) 823-8555
(432) 563-1800	(432) 563-1713
(361) 884-0371	(361) 884-9116
	(281) 240-4200 (214) 902 0300 (210) 509-3334 (813) 620-2000 (305) 823-8500 (432) 563-1800 (361) 884-0371



Project Name: Burgundy EMU Lease

Work Orders : 348344	,		Project II	D:					
Lab Batch #: 777492	Sample: 540732-1-BKS / B	SUDDOCATE DECOVEDV STUDY							
Units: mg/kg	Date Analyzed: 10/16/09 10:48	50	RRUGATE RI	LUVERY					
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0292	0.0300	97	80-120				
4-Bromofluorobenzene		0.0311	0.0300	104	80-120				
Lab Batch #: 777492	Sample: 540732-1-BLK / B	BLK Bate	h: <sup>1</sup> Matrix:	:Solid					
Units: mg/kg	Date Analyzed: 10/16/09 11:31	SU	RROGATE RI	ECOVERY	STUDY	***			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0259	0.0300	86	80-120	·			
4-Bromofluorobenzene		0.0293	0.0300	98	80-120				
Lab Batch #: 777492	Sample: 348344-001 / SMP	Batc	h: <sup>1</sup> Matrix:	:Soil	<u></u>	L			
Units: mg/kg	Date Analyzed: 10/16/09 16:11	SU	RROGATE RI	ECOVERY	STUDY				
BTE	BTEX by EPA 8021B			Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0257	0.0300	86	80-120				
4-Bromofluorobenzene		0.0294	0.0300	98	80-120				
Lab Batch #: 777492	Sample: 348344-001 S / M	S Bate	h: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 10/16/09 21:12	SU	<b>RROGATE RI</b>	ECOVERY	STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Difluorobenzene		0.0281	0.0300	94	80-120				
4-Bromofluorobenzene		0.0287	0.0300	96	80-120				
Lab Batch #: 777492	Sample: 348344-001 SD / N	MSD Bate	h: 1 Matrix	Soil					
Units: mg/kg	Date Analyzed: 10/16/09 21:33	SU	<b>RROGATE RI</b>	ECOVERY	STUDY				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1,4-Dıfluorobenzene		0.0279	0.0300	93	80-120				
4-Bromofluorobenzene		0.0359	0.0300	120	80-120				

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.



# Project Name: Burgundy EMU Lease

Vork Orders : 348344	, Samula, 540708-1-BKS / P	DVC Bata	Project II	): - Solid		
Lab Daten #: 1113	Data Analyzad. 10/16/00 00-38	S Dates	RROGATE RI	ECOVERY	STUDY	
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]	!	I
1,4-Difluorobenzene		0.0304	0.0300	101	80-120	1
4-Bromofluorobenzene	······································	0.0299	0.0300	100	80-120	1
Lab Batch #: 777544	Sample: 540708-1-BSD / B	SD Batel	h: 1 Matrix	:Solid		
Units: mg/kg	Date Analyzed: 10/16/09 00:59	SU	RROGATE RF	COVERY S	STUDY	
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0302	0.0300	101	80-120	<u> </u>
4-Bromofluorobenzene		0.0304	0.0300	101	80-120	
Lab Batch #: 777544	Sample: 540708-1-BLK / B	JLK Batc	h: 1 Matrix	:Solid	h	·····
Units: mg/kg	Date Analyzed: 10/16/09 01:41	SU	RROGATE RF	<b>COVERY</b> ?	STUDY	
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.4-Difluorobenzene		0.0262	0.0300	87	80-120	<u> </u>
4-Bromofluorobenzene		0.0289	0.0300	96	80-120	
Lah Batch #: 777544	Sample: 348344-003 / SMF	P Batc <sup>1</sup>	h. 1 Matrix	·Soil	<u> </u>	
Unite mg/kg	Date Analyzed: 10/16/09 08:21	SU	RROGATE RJ	ECOVERY	STUDY	<u>,</u>
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 4-Difluorobenzene		0.0242	0.0300	81	80-120	ł
4-Bromofluorobenzene		0.0310	0.0300	103	80-120	
L Lah Ratch #: 777544	Sample: 348344-002 / SMF	Batc'	h: 1 Matrix	: Soil	<u>L</u>	<u></u>
Units: mg/kg	Date Analyzed: 10/16/09 09:03	SU	RROGATE RI	ECOVERY	STUDY	
BTEX	<pre>\$ by EPA 8021B Analytes</pre>	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0271	0.0300	90	80-120	
4-Bromofluorobenzene		0.0558	0.0300	186	80-120	*

\* Surrogate outside of Laboratory QC limits
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



# Project Name: Burgundy EMU Lease

Work Orders: 348344	,		Project II	D:					
Lab Batch #: 777544	Sample: 348221-001 S / MS	S Batch: 1 Matrix:Soil							
Units: mg/kg	Date Analyzed: 10/16/09 09:45	SURROGATE RECOVERY STUDY							
BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[U]					
1,4-Difluorobenzene		0.0254	0.0300	85	80-120				
4-Bromofluorobenzene		0.0379	0.0300	126	80-120	*			
Lab Batch #: 777544	Sample: 348221-001 SD / N	ASD Batel	h: <sup>1</sup> Matrix	:Soil					
Units: mg/kg	Date Analyzed: 10/16/09 10:06	SU	RROGATE RI	ECOVERY	STUDY				
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]					
1,4-Difluorobenzene		0.0242	0.0300	81	80-120				
4-Bromofluorobenzene		0.0389	0.0300	130	80-120	*			
Lab Batch #: 777890	Sample: 541004-1-BKS / B	KS Batel	h: <sup>1</sup> Matrix	:Solid					
Units: mg/kg	Date Analyzed: 10/19/09 17:57	SU	RROGATE RI	ECOVERY	STUDY				
TPH	By SW8015 Mod	Amount Found	True Amount (B)	Recovery %P	Control Limits	Flags			
	Analytes	പ്ര	[0]	[D]	/010				
1-Chlorooctane		115	99.5	116	70-135				
o-Terphenyl		36.6	49.8	73	70-135				
Lab Batch #: 777890	Sample: 541004-1-BSD / B	SD Bate	h: <sup>1</sup> Matrix	Solid	•••••••••••				
Units: mg/kg	Date Analyzed: 10/19/09 18:24	SU	RROGATE R	ECOVERY	STUDY				
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		113	99.6	113	70-135				
o-Terphenyl		36.1	49.8	72	70-135				
Lab Batch #: 777890	Sample: 541004-1-BLK / B	LK Bate	h: <sup>1</sup> Matrix	:Solid					
Units: mg/kg	Date Analyzed: 10/19/09 18:51	SU	RROGATE R	ECOVERY	STUDY	<u> </u>			
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1.011	Analytes								
1-Chlorooctane		76.1	99.7	76	70-135				

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

o-Terphenyl

Surrogate Recovery [D] = 100 \* A / B All results are based on MDL and validated for QC purposes.

37.4

49.9

75

70-135



# Project Name: Burgundy EMU Lease

Nork Orders: 348344	,		Project II	):					
Lab Batch #: 777890	Sample: 348344-001 / SMP	Batch: 1 Matrix: Soil							
Units: mg/kg	Date Analyzed: 10/19/09 19:18	SUF	RROGATE RE	COVERY S	STUDY				
ТРН Н	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags			
	Analytes			[D]		I			
1-Chlorooctane		73.9	99.9	74	70-135				
o-Terphenyl		36.3	50.0	73	70-135				
Lab Batch #: 777890	Sample: 348344-002 / SMP	Batch	1: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 10/19/09 19:45	SUI	RROGATE RF	COVERY	STUDY				
Трн і	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R (D)	Control Limits %R	Flags			
1.0	Analytes		00.0	101					
I-Chlorooctane		191	99.9	191	70-135	**			
0-1 erphenyi		5.59	50.0		/0-135	ቸጥ [			
Lab Batch #: 777890	Sample: 348344-003 / SMP	Batch	1: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 10/19/09 20:14	SUF	RROGATE RE	COVERY 8	STUDY				
ТРН І	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1 Oblamatana	Allalytes	72.6	08.0	75	70.125				
0-Ternhenvl		26.1	49.0	75	70 135	i			
777000				۲۹ ۱۰-۱۱	10-155				
Lab Batch #: ///890	Sample: 348033-001 57 MIS		1: 1 Matrix:		erinv				
Units: mg/kg	Date Analyzed: 10/20/09 04:09		KUGAIE KE			1			
TPH I	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		143	99.9	143	70-135	**			
o-Terphenyl		53.5	50.0	107	70-135				
Lab Batch #: 777890	Sample: 348653-001 SD / M	ISD Batch	1: 1 Matrix:	Soil					
Units: mg/kg	Date Analyzed: 10/20/09 04:37	SUI	RROGATE RE	COVERY	STUDY				
ТРН І	3y SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1-Chlorooctane		131	99.9	131	70-135	1			

\* Surrogate outside of Laboratory QC limits

o-Terphenyl

All results are based on MDL and validated for QC purposes.

52.8

50.0

106

70-135

<sup>\*\*</sup> Surrogates outside limits; data and surrogates confirmed by reanalysis

<sup>\*\*\*</sup> Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B



С



## Project Name: Burgundy EMU Lease

Work Order #: 348344	Project ID:						
Lab Batch #: 777492	Sample: 540732-1-BKS			Matrix:	Solid		
Date Analyzed: 10/16/2009	Date Pre	pared: 10/16/20	)09	Analyst	ASA		
Reporting Units: mg/kg	Ba	Batch #: 1 BLANK /BLANK SPIKE RECOVER			COVERY S	STUDY	
BTEX by EPA 8021B		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes				[C]	[D]		
Benzene	<u> </u>	ND	0.1000	0 0891	89	70-130	
Toluene		ND	0.1000	0.0892	89	70-130	
Ethylbenzene		ND	0.1000	0.0914	91	71-129	
m,p-Xylenes		ND	0.2000	0.2021	101	70-135	
o-Xylene		ND	0.1000	0.0969	97	71-133	
Lab Batch #: 777348	Sa	ample: 777348-	1-BKS	Matrix:	Solid		
Date Analyzed: 10/15/2009	Date Pre	pared: 10/15/20	)09	Analyst:	LATCOR	ર	
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY	STUDY
Anions by E300		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes	1			[C]	[0]		
Chloride		ND	10.0	9.84	98	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



## **BS / BSD Recoveries**



### Project Name: Burgundy EMU Lease

Work Order #: 348344							Pro	ject ID:	0.11.6.00.00		
Analyst: ASA	Da	<b>Date Prepared:</b> 10/15/2009				Date Analyzed: 10/16/2009					
Lab Batch ID: 777544 Sample: 540708-1-E	SKS	Bate	<b>h #:</b> 1					Matrix: S	0110		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / E	BLANK S	PIKE DUPI	LICATE	RECOVE	RY STUD	•Y	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Besult (Fl	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes							[0]				
Benzene	ND	0.1000	0.0982	98	0.1	0 0987	99	1	70-130	35	
Toluene	ND	0.1000	0 0959	96	0.1	0.0964	96	1	70-130	35	
Ethylbenzene	ND	0.1000	0.0977	98	0.1	0.0984	98	1	71-129	35	
m,p-Xylenes	ND	0 2000	0.2163	108	0 2	0.2177	109	1	70-135	35	
o-Xylene	ND	0.1000	0.1031	103	0.1	0.1042	104	1	71-133	35	
Analyst: BEV	Da	ate Prepar	ed: 10/16/200	)9			Date A	nalyzed: 1	0/19/2009		
Lab Batch ID: 777890 Sample: 541004-1-E	BKS	Bate	h #: 1					Matrix: S	lolid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / F	BLANK S	PIKE DUPI	ICATE	RECOVE	ERY STUD	Ŷ	
TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	995	915	92	996	905	91	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	995	738	74	996	728	73	1	70-135	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



# Form 3 - MS Recoveries

Date Prepared: 10/15/2009

## Project Name: Burgundy EMU Lease



Work Order #: 348344 Lab Batch #: 777348 Date Analyzed: 10/15/2009 QC- Sample ID: 348352-001 S Reporting Units: mg/kg

### Project ID: Analyst: LATCOR

QC- Sample ID: 348352-001 S	Batch #: 1		Г	Matrix: So	oil	
Reporting Units: mg/kg	RIX / MATRIX SPIKE RECOVERY STUDY					
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[23]	[B]				
Chloride	73.4	402	458	96	75-125	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



### Project Name: Burgundy EMU Lease



Work Order # : 348344						Project II	):					
Lab Batch ID:         777492         Q           Date Analyzed:         10/16/2009         1	C- Sample ID: Date Prepared:	348344- 10/16/20	001 S	Ba An	tch #: alyst:	1 Matrix ASA	c: Soil					
Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Benzene	ND	0.1268	0.0959	76	0.1268	0.0966	76	1	70-130	35		
Toluene	ND	0.1268	0 0937	74	0.1268	0.0944	74	1	70-130	35		
Ethylbenzene	ND	0.1268	0.0919	72	0.1268	0.0877	69	5	71-129	35	Х	
m,p-Xylenes	ND	0.2535	0.2012	79	0.2535	0.2011	79	0	70-135	35		
o-Xvlene	ND	0.1268	0.0970	76	0.1268	0.0963	76	1	71-133	35		
										-		
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009	C- Sample ID: Date Prepared:	348221- 10/15/2	-001 S 009	Ba An	tch #: alyst:	1 Matrix ASA	r: Soil					
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg	C- Sample ID: Date Prepared:	348221- 10/15/20 M	001 S 009 ATRIX SPIKI	Ba An E / MAT	tch #: alyst: RIX SPI	1 Matrix ASA KE DUPLICA	r: Soil TE REC	OVERY	STUDY			
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg BTEX by EPA 8021B Analytes	C- Sample ID: Date Prepared: Parent Sample Result [A]	348221- 10/15/20 M Spike Added [B]	001 S 009 ATRIX SPIKI Spiked Sample Result [C]	Ba An E / MAT Spiked Sample %R [D]	tch #: alyst: RIX SPI Spike Added [E]	1 Matrix ASA KE DUPLICA Duplicate Spiked Sample Result [F]	x: Soil TE RECO Spiked Dup. %R [G]	OVERY S RPD %	Control Limits %R	Control Limits %RPD	Flag	
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg BTEX by EPA 8021B Analytes Benzene	C- Sample ID: Date Prepared: Parent Sample Result [A] 0.0043	348221- 10/15/20 M Spike Added [B] 0.1164	001 S 009 ATRIX SPIKI Spiked Sample Result [C] 0.0546	Ba An E / MAT Spiked Sample %R [D] 43	tch #: alyst: RIX SPI Spike Added [E] 0.1164	1 Matrix ASA KE DUPLICA Duplicate Spiked Sample Result [F] 0.0029	x: Soil TE RECC Spiked Dup. %R [G] 0	OVERY 5 RPD % 180	Control Limits %R	Control Limits %RPD 35	Flag XF	
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg BTEX by EPA 8021B Analytes Benzene Toluene	C- Sample ID: Date Prepared: Parent Sample Result [A] 0.0043 0.0136	348221- 10/15/20 M Spike Added [B] 0.1164 0.1164	001 S 009 ATRIX SPIKI Spiked Sample Result [C] 0.0546 0.0575	Ba An E / MAT Spiked Sample %R [D] 43 38	tch #: alyst: RIX SPI Spike Added [E] 0.1164 0.1164	1 Matrix ASA KE DUPLICA Duplicate Spiked Sample Result [F] 0.0029 0.0046	k: Soil TE RECO Spiked Dup. %R [G] 0 0	OVERY 5 RPD % 180 170	Control Limits %R 70-130 70-130	Control Limits %RPD 35 35	Flag XF XF	
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg BTEX by EPA 8021B Analytes Benzene Toluene Ethylbenzene	C- Sample ID: Date Prepared: Parent Sample Result [A] 0.0043 0.0136 0.0373	348221- 10/15/20 M Spike Added [B] 0.1164 0.1164 0.1164	001 S 009 ATRIX SPIKI Spiked Sample Result [C] 0.0546 0.0575 0.0610	Ba An Spiked Sample %R [D] 43 38 20	tch #: alyst: RIX SPI Spike Added [E] 0.1164 0.1164	1 Matrix ASA <b>KE DUPLICA</b> <b>Duplicate</b> <b>Spiked Sample</b> <b>Result [F]</b> 0.0029 0.0046 0.0219	x: Soil TE REC Spiked Dup. %R [G] 0 0 0 0	<b>OVERY</b> 5 <b>RPD</b> % 180 170 94	Control Limits %R 70-130 70-130 71-129	Control Limits %RPD 35 35 35	Flag XF XF XF	
Lab Batch ID: 777544 Q Date Analyzed: 10/16/2009 I Reporting Units: mg/kg BTEX by EPA 8021B Analytes Benzene Toluene Ethylbenzene m,p-Xylenes	C- Sample ID: Date Prepared: Parent Sample Result [A] 0.0043 0.0136 0.0373 0.1173	348221- 10/15/20 M Spike Added [B] 0.1164 0.1164 0.2327	001 S 009 ATRIX SPIKI Spiked Sample Result [C] 0.0546 0.0575 0.0610 0.1379	Ba An Spiked Sample %R [D] 43 38 20 9	tch #: alyst: RIX SPI Spike Added [E] 0.1164 0.1164 0.2327	1 Matrix ASA KE DUPLICA Duplicate Spiked Sample Result [F] 0.0029 0.0046 0.0219 0.0624	<pre>x: Soil TE RECC Spiked Dup. %R [G] 0 0 0 0 0 0</pre>	<b>DVERY S</b> <b>RPD</b> % 180 170 94 75	Control Limits %R 70-130 70-130 71-129 70-135	Control Limits %RPD 35 35 35 35 35	Flag XF XF XF XF XF	

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference RPD = 200\*[(C-F)/(C+F)]

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



### Project Name: Burgundy EMU Lease



Work Order #: 348344		Project ID:												
Lab Batch ID: 777890	QC- Sample ID:	348653	-001 S	Ba	tch #:	1 Matrix	r: Soil							
Date Analyzed: 10/20/2009	Date Prepared:	10/16/2	009	An	alyst:	BEV								
Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag			
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD				
C6-C12 Gasoline Range Hydrocarbons	ND	1100	1050	95	1100	1060	96	1	70-135	35				
C12-C28 Diesel Range Hydrocarbons	99.7	1100	888	72	1100	928	75	4	70-135	35				

Matrix Spike Percent Recovery  $[D] = 100^{(C-A)/B}$ Relative Percent Difference RPD =  $200^{*}|(C-F)/(C+F)|$ 

Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



## **Project Name: Burgundy EMU Lease**

Work Order #: 348344

Lab Batch #: 777348			<b>Project I</b>	D:							
Date Analyzed: 10/15/2009 Date Prep	oared: 10/15/2009	9 Ana	lyst:LATC	COR							
QC- Sample ID: 348352-001 D Ba	tch #: 1	h #: 1 Matrix: Soil									
Reporting Units: mg/kg	SAMPLE	SAMPLE / SAMPLE DUPLICATE RECOVE									
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag						
Analyte		[B]									
Chloride	73.4	72.3	2	20							
Lab Batch #: 777207											
Date Analyzed: 10/14/2009 Date Prep	ared: 10/14/2009	9 Anai	lyst: WRU								
QC- Sample ID: 348344-001 D Ba	tch #: 1	h#: l Matrix: Soil									
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY						
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag						
Analyte		[B]									

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

En	/ironmenf	tal Lab	o of Te	exa	as							(	сни	N C	DF C	ะบร	тор	Y R	ECC	RD	A٨	ID A	NAI	LYS	IS R	EQL	JES	ST.				
										126 Ode	00 V ISS3	Vest I, Te:	1-2 xas	0 Eas 7976	st 55								Ph F	ione ax:	. 43: 43:	2-583 2-583	3-18 3-17	i00 '13				
	Project Manager	Cindy Crain																Pro	ojoct	Nan	no.			В	urgi	undy	EM		eas	e		
	Company Name	Ocotillo Envi	ronmental, LL	.c															Pre	ojaci	.#_											
	Company Address	PO Box 1818	5															F	rojo	ct Li	ж.				Lf	aa Öc	ount	y, NM	vi			
	City/State/Zip	Hobbs, NM	88241																	РО	#:											
	Telephone No.	(575) 441-72	44				Fax No.		(43)	2) 27	2-03	304					R	oport	t For	mat		٦⁄s	and	lard			TRF	ŧ₽	[	] NI	PDE	3
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(lab use	only)	,	7															Ster	F			TCL	/ P.	Analy	ze F	or T	-	_		-	Ţ	
ORDEF	:#: 348	334.4							1	P	eser	vauon	80	of Cor	ita nar	5	Ма	LU Txrif	1		7	TOTA	L .	-	-						4¥ 721	
	55-1 55-2 55-3	LD CODE		2 + C Beginning Depth	2 + C Ending Dopth	Date Sampled <i>J. J. J</i>	1325 1320 1350	parallel their	I cutat # of Containers		+INO <sub>3</sub>	HCI	1,200	Ndbu Ndbu	Kime	Uther ( Specify)	O (V) D CALLERING WART SL-5 LIGHT	KIP=hon Policies Spacely Cities	1817 Hd1 × × ×	TPH IX 1005 TX 1005	Caucurs (Car May, Na, K)	X X Automatica (C) SOA AUtomatica	Menals As An Barch CF PH Ha	Volades	Seravodalders	$\times \times \times \times$ BIEX 8021815039 $\sigma$ BIEX 820	RCI	NORM	tindering X X X I have an		RUSH TAT (Pre-Schedule) 24,	C C Standard TAT
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Special Relinguist Relinguist	instructions dd by Herdby Herdby Herdby		Date 10/14/10 Date Date	Ті // ; Ті Ті	me 216 me	Received by Received by Received by ELC	TE A	1/1/							10	Dat Dat Dat	10 10 10		Time Time		Lab San VOC San Lusi San L	prate orate is Free social ody s ple h py Sa py Co peral	ry C conte cont ieals ieals iand urier urier urier urier	omn Inen Hea on c Delh r/Cla	ients inta dispa sole verec nt Rec S Rec	1: 1: 1: 1: 1: 1: 1: 1: 1: 1:	JHL JHL		) = = = = = = = = = = = = = = = = = = =	S Lor		ドー 高ツ ar

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

Client	acotillo Env
Date/ Time	10 14-09 11 26
Lab ID #	348344
Initials	<u> </u>

#### Sample Receipt Checklist

Client Initials

\_\_\_\_

hipping container in good condition? ustody Seals intact on shipping container/ cooler? ustody Seals intact on sample bottles/ container?	(Yes) Yes	No No	No: Drongel
ustody Seals intact on shipping container/ cooler? ustody Seals intact on sample bottles/ container?	Yes	No	Afre Dragget
ustody Seals intact on sample bottles/ container?			I V NOCCIESER V
	Yes	No	<not present<="" td=""></not>
hain of Custody present?	(Yes)	No	
ample instructions complete of Chain of Custody?	Yes	No	1
hain of Custody signed when relinquished/ received?	(Nes)	No	
hain of Custody agrees with sample label(s)?	Yes	No	FID written on Cont / Lid
ontainer label(s) legible and intact?	Yes	No	Not Applicable
Sample matrix/ properties agree with Chain of Custody?	Yes)	No	1
Containers supplied by ELOT?	Nes	No	
Samples in proper container/ bottle?	(Yes)	No	See Below
Samples properly preserved?	(Yes)	No	See Below
Sample bottles intact?	(Yes)	No	1
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	1
Sufficient sample amount for indicated test(s)?	Yes	No	See Below
All samples received within sufficient hold time?	Yes	No	See Below
Subcontract of sample(s)?	Yes	No	Not Applicable
/OC samples have zero headspace?	Yes	> No	Not Applicable
Variance Docun	nentation		Delo/Tere
Contacted by			Uate/ Time
ding			
	ani of Custody agrees with sample label(s)? ontainer label(s) legible and intact? ample matrix/ properties agree with Chain of Custody? ontainers supplied by ELOT? amples in proper container/ bottle? amples properly preserved? ample bottles intact? reservations documented on Chain of Custody? containers documented on Chain of Custody? ufficient sample amount for indicated test(s)? Il samples received within sufficient hold time? ubcontract of sample(s)? OC samples have zero headspace? Variance Docur et Contacted by	And to control agrees with sample label(s)?     Yes     ontainer label(s) legible and intact?     Yes     ample matrix/ properties agree with Chain of Custody?     Yes     amples in proper container/ bottle?     Yes     amples in proper container/ bottle?     Yes     amples properly preserved?     amples intact?     Yes     reservations documented on Chain of Custody?     Yes     iontainers     intainer         Contacted by     ing	ani of Costody agrees with sample label(s)?       Yes       No         ontainer label(s) legible and intact?       Yes       No         ample matnx/ properties agree with Chain of Custody?       Yes       No         amples in proper container/ bottle?       Yes       No         amples in proper container/ bottle?       Yes       No         amples in proper container/ bottle?       Yes       No         amples properly preserved?       Yes       No         ample bottles intact?       Yes       No         reservations documented on Chain of Custody?       Yes       No         containers documented on Chain of Custody?       Yes       No         containers documented on Chain of Custody?       Yes       No         utificient sample amount for indicated test(s)?       Yes       No         ubcontract of sample(s)?       Yes       No         OC samples have zero headspace?       Yes       No         Variance Documentation       Mathematicated by

Check all that Apply

1

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See attached e-mail/ fax Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event



22-OCT-09



Project Manager: **Cindy Crain Ocotillo Environmental, LLC** P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: **348344 Burgundy EMU Lease** Project Address: Lea County, NM

### **Cindy Crain:**

On October 14, 2009, Xenco laboratories received three samples. The requested analysis for these samples was BTEX by method SW8021, Chlorides by method EPA 300, and TPH by method 8015M. Additionally, a fingerprint/product Identification analysis was requested on these samples.

For the fingerprint/product identification analysis, Xenco laboratories used the extract from the TPH 8015 analysis. These extracts were analyzed on a Gas Chromatograph (GC) with a Flame Ionization Detector (FID). The resulting chromatography was reviewed and compared to daily standards, as well as reference chromatography for product identification.

The following determinations and opinions were made of the contamination present in the samples.

The contamination in Samples SS-1, SS-2 and SS-3 appears to be from crude oil Contamination and is fairly consistent between the three samples with the following exception. Sample SS-2 also appears to have some lighter hydrocarbons present prior to the Crude oil area in this sample. This area of chromatography is not present in samples SS-1 and SS-3 and could be the result of condesate or other light hydrocarbons such as gasoline.

The chromatography for the samples listed above is attached to this report as well as reference chromatography.

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

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Brent Barron, II Odessa Laboratory Manager

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#### And a set of the set o

File : C:\HPCHEM\1\DATA\101909\TPH010.D Operator : BR/AS Acquired : 19 Oct 2009 19:45 using AcqMethod 1005BB.M Instrument : A108 Sample Name: 348344-002\*20 Misc Info : Vial Number. 9



File: C:\HPCHEM\1\DATA\101909\TPH011.DOperator: BR/ASAcquired: 19 Oct 2009 20:14Instrument :A108Sample Name:348344-003Misc Info :Vial Number:10



File : C:\HPCHEM\1\DATA\101909\TPH004.D Operator : BR/AS Acquired : 19 Oct 2009 17:02 using AcqMethod 1005BB.M Instrument : A108 Sample Name: CCV Misc Info : Vial Number: 3



# Analytical Report 351729

for

# **Ocotillo Environmental, LLC**

**Project Manager: Cindy Crain** 

**Burgundy EMU Lease** 

1009-019C

## 17-NOV-09





### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



17-NOV-09



Project Manager: **Cindy Crain Ocotillo Environmental, LLC** P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: **351729 Burgundy EMU Lease** Project Address: Lea County, NM

#### Cindy Crain:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 351729. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 351729 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 351729



# Ocotillo Environmental, LLC, Hobbs, NM

Burgundy EMU Lease

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1	S	Nov-09-09 12:30	0 - 6 In	351729-001
SS-2	S	Nov-09-09 12:33	0 - 6 In	351729-002
SS-3	S	Nov-09-09 12:36	0 - 6 In	351729-003
SS-4	S	Nov-09-09 12:39	0 - 6 In	351729-004
SS-5	S	Nov-09-09 12:42	0 - 6 In	351729-005
SS-6	S	Nov-09-09 12:45	0 - 6 In	351729-006
SS-7	S	Nov-09-09 12:48	0 - 6 In	351729-007
SS-8	S	Nov-09-09 12:51	0 - 6 In	351729-008
SS-9	S	Nov-09-09 12:54	0 - 6 In	351729-009
SS-10	S	Nov-09-09 13:00	0 - 6 In	351729-010



Client Name: Ocotillo Environmental, LLC Project Name: Burgundy EMU Lease

Project ID:1009-019CWork Order Number:351729

Report Date: 17-NOV-09 Date Received: 11/10/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

### Analytical Non Conformances and Comments:

Batch: LBA-781290 Inorganic Anions by EPA 300 None

Batch: LBA-781403 Percent Moisture None

Batch: LBA-781515 TPH By SW8015 Mod None

Batch: LBA-781674 TPH By SW8015 Mod None

Batch: LBA-781905 BTEX by EPA 8021B SW8021BM

Batch 781905, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Samples affected are: 351729-005, -007, -008, -006, -010, -004, -009. The Laboratory Control Sample for Toluene, m,p-Xylenes, Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits

SW8021BM

Batch 781905, Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene RPD was outside QC limits. Samples affected are: 351729-005, -007, -008, -006, -010, -004, -009

Batch: LBA-781910 BTEX by EPA 8021B None



Project Id: 1009-019C Contact: Cindy Crain Project Location: Lea County, NM

## Certificate of Analysis Summary 351729

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease



Date Received in Lab: Tue Nov-10-09 04:23 pm

Report Date: 17-NOV-09

								Project Ma	nager:	Brent Barron	, II		
	Lab Id:	351729-0	001	351729-0	02	351729-0	003	351729-0	004	351729-	005	351729-	006
Analysis Deguasted	Field Id:	SS-1		SS-2		SS-3		SS-4		SS-5	;	SS-6	i
Anaiysis Kequesieu	Depth:	0-6 Ir	1 I	0-6 In		0-6 Ir	1	0-6 In	ı İ	0-6 II	n	0-6 Ir	a
	Matrix:	SOIL		SOIL	SOIL		. د	SOIL	, I	SOIL	_	SOIL	۔
	Sampled:	Nov-09-09	12.30	Nov-09-09	12:33	Nov-09-09 12 36		Nov-09-09	12:39	Nov-09-09	12:42	Nov-09-09	12:45
Anions by E300	Extracted:												
	Analyzed:	Nov-11-09	Nov-11-09 13.33		13:33	Nov-11-09	13 33	Nov-11-09	13:33	Nov-11-09	13:33	Nov-11-09	13:33
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		177	4.24	474	8.68	857	8.50	1320	19.0	567	8.59	1100	17.5
BTEX by EPA 8021B	Extracted:	Nov-13-09	16:00	Nov-13-09	16:00	Nov-13-09	16:00	Nov-13-09	14:30	Nov-13-09	14.30	Nov-13-09	14:30
	Analyzed:	Nov-15-09	18:32	Nov-15-09	18:53	Nov-15-09 19:14		Nov-14-09	20.08	Nov-14-09	20:29	Nov-14-09	20:50
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0011	ND	0.0010	ND	0.0010
Toluene		ND	0.0020	ND	0.0021	0.0030	0.0020	ND	0 0023	ND	0.0020	ND	0.0021
Ethylbenzene		ND	0.0010	ND	0.0010	0 0023	0 0010	ND	0.0011	ND	0 0010	ND	0.0010
m,p-Xylenes		0.0029	0.0020	ND	0.0021	0.0137	0.0020	ND	0.0023	ND	0.0020	ND	0 0021
o-Xylene		0.0023	0.0010	ND	0.0010	0.0100	0.0010	ND	0.0011	0.0015	0.0010	ND	0 0010
Total Xylenes		0.0052	0.0010	ND	0.0010	0.0237	0.0010	ND	0.0011	0 0015	0.0010	ND	0.0010
Total BTEX		0.0052	0.0010	ND	0 0010	0.0290	0.0010	ND	0.0011	0.0015	0.0010	ND	0.0010
Percent Moisture	Extracted:					ļ			1		ļ		
	Analyzed:	Nov-12-09	14:41	Nov-12-09	14:41	Nov-12-09	14:41	Nov-12-09	14.41	Nov-12-09	14.41	Nov-12-09	14:41
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL_
Percent Moisture		1.01	1.00	3.23	1.00	1.14	1.00	11 5	1.00	2 20	1.00	4.20	1.00
TPH By SW8015 Mod	Extracted:	Nov-11-09	12:45	Nov-11-09	12.45	Nov-11-09	12:45	Nov-11-09	12:45	Nov-11-09	12:45	Nov-11-09	12:45
	Analyzed:	Nov-12-09	14:10	Nov-12-09	14:35	Nov-12-09	15 00	Nov-12-09	15:25	Nov-12-09	15 50	Nov-12-09	16:16
,	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		90.8	75.5	40.1	15 4	156	152	ND	16.9	276	153	ND	15.6
C12-C28 Diesel Range Hydrocarbons		1380	75.5	1030	15.4	1730	152	ND	16.9	4000	153	ND	15.6
C28-C35 Oil Range Hydrocarbons		178	75.5	114	15.4	158	152	ND	16.9	431	153	ND	15.6
Total TPH		1649	75.5	1184	15.4	2044	152	ND	16.9	4707	153	ND	15.6

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Brent Barron, II

Odessa Laboratory Manager


Project Id: 1009-019C Contact: Cindy Crain Project Location: Lea County, NM

#### Certificate of Analysis Summary 351729

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease



Date Received in Lab: Tue Nov-10-09 04:23 pm

Report Date: 17-NOV-09 Project Manager: Brent Barron, II

	Lab Id:	351729-0	07	351729-0	008	351729-0	09	351729-	010			
Anglucia Deguasted	Field Id:	<b>SS-7</b>		SS-8		SS-9		SS-10	)			
Anulysis Kequesteu	Depth:	0-6 In		0-6 In		0-6 In		0-6 Ir	1			
	Matrix:	SOIL		SOIL		SOIL		SOIL				
	Sampled:	Nov-09-09	12:48	Nov-09-09	12.51	Nov-09-09	12:54	Nov-09-09	13:00			
Anions by E300	Extracted:									 	······································	
	Analyzed:	Nov-11-09	13:33	Nov-11-09	13:33	Nov-11-09	13:33	Nov-11-09	13.33			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		2130	45.2	1700	21.6	71 5	4.21	9200	182			
BTEX by EPA 8021B	Extracted:	Nov-13-09	14:30	Nov-13-09	14:30	Nov-13-09	14.30	Nov-13-09	14.30			
	Analyzed:	Nov-14-09	21.11	Nov-14-09 2	22:15	Nov-14-09 2	22:36	Nov-14-09	22:57			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0011			
Toluene		ND	0.0021	ND	0.0020	ND	0.0020	ND	0.0022			
Ethylbenzene		ND	0.0011	ND	0 0010	ND	0.0010	ND	0.0011	 		
m,p-Xylenes		ND	0.0021	ND	0.0020	ND	0.0020	ND	0.0022	 		
o-Xylene		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0011			
Total Xylenes		ND	0 0011	ND	0.0010	ND	0.0010	ND	0.0011			
Total BTEX		ND	0.0011	ND	0.0010	ND	0.0010	ND	0.0011			
Percent Moisture	Extracted:											
	Analyzed:	Nov-12-09	14:41	Nov-12-09	14:41	Nov-12-09	14 41	Nov-12-09	14.41			
	Units/RL:	%	RL	%	RL	%	RL	%	RL			
Percent Moisture		7.10	1.00	2.65	1.00	ND	1.00	7.67	1.00	 		
TPH By SW8015 Mod	Extracted:	Nov-11-09	12:45	Nov-11-09	12:45	Nov-11-09	12:45	Nov-11-09	12 45			
	Analyzed:	Nov-12-09	16:42	Nov-13-09	11:38	Nov-13-09	09:52	Nov-13-09	10:18			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	16 1	ND	15.3	ND	150	ND	162			
C12-C28 Diesel Range Hydrocarbons		ND	16.1	538	15.3	ND	150	ND	16.2			
C28-C35 Oil Range Hydrocarbons		ND	16.1	81.3	15.3	ND	150	ND	16.2			
Total TPH		ND	16.1	619	15.3	ND	15.0	ND	16.2			

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Brent Barron, II

Odessa Laboratory Manager





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- **BRL** Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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Project Name: Burgundy EMU Lease

Vork Orders : 351729	9,	-	Project II	D: 1009-0190	C	
Lab Batch #: 781905	Sample: 543289-1-BK5/BK5	S Batel	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R 1D1	Control Limits %R	Flags
	Analytes	0.0202	0.0200		00.120	
1,4-Uniuorobenzene		0.0303	0.0300	101	80-120	
4-Bromolluorobenzene		0.0295	0.0300	98	80-120	
Lab Batch #: 781905	Sample: 543289-1-BSD / BSI	) Batcl	h: 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 11/14/09 16:58	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B Analytes	B Amount True Control Found Amount Recovery Limits [A] [B] %R %R [D]		Flags		
1,4-Difluorobenzene	~	0 0305	0.0300	102	80-120	
4-Bromofluorobenzene		0.0296	0 0300	99	80-120	
Lah Batch #• 781905	Sample: 543289-1-BLK / BL	< Batel	h·   Matrix:	: Solid		
Units: mg/kg	Date Analyzed: 11/14/09 17:40	SU	RROGATE RI	ECOVERY	STUDY	
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene		0.0269	0.0300	90	80-120	
4-Bromofluorobenzene		0 0299	0.0300	100	80-120	
Lab Batch #: 781905	Sample: 351729-004 / SMP	Batcl	h: <sup>1</sup> Matrix	Soil		
Units: mg/kg	Date Analyzed: 11/14/09 20:08	SU	RROGATE RI	ECOVERY	STUDY	
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R (D)	Control Limits %R	Flags
1.4. Duffuench announce	Analytes	0.0278	0.0200	02	80.120	
4-Bromofluorobenzene		0.0278	0.0300	93	80-120	
		0.0274	0.0300	- 70 - 7	00120	
Lab Batch #: 781905	Sample: 351/29-005/ SMP	Batel		COVEDV	TUNY	
Units: mg/kg	Date Analyzed: 11/14/09 20:29		KRUGATE KI			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4	Analytes	1		-	1 1	
1,4-Dıfluorobenzene		0.0274	0 0300	91	80-120	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100  $^{\pi}$  A  $\cdot$  B All results are based on MDL and validated for QC purposes.



## Project Name: Burgundy EMU Lease

Vork Orders : 351729	, Samalar 351720-006 / SMP	Poto	Project II	D: 1009-0190	2			
Lab Batch #: 781905	Date Analyzed: 11/14/09 20:50	SURROGATE RECOVERY STUDY						
BTE	29, Sample:       Project ID:       1009-0190         Bate Analyzed:       1/14/09 20:50       SURROGATE RECOVERY:         EX by EPA 8021B       Amount Found [A]       True Amount [A]       Recovery %R [D]         Analytes       0.0276       0.0300       92         0.0276       0.0300       105         Sample:       351729-007 / SMP       Batch:       1       Matrix: Soil         Date Analyzed:       1/14/09 21:11       SURROGATE RECOVERY:       %R (D)       %R (D)         EX by EPA 8021B       Amount Found [A]       True Found [A]       Matrix: Soil       Recovery %R (D)         Analytes       0.0276       0.0300       92         0.0276       0.0300       92         0.0304       0.0300       101         Sample:       351729-008 / SMP       Batch:       1         Date Analyzed:       1/14/09 22:15       SURROGATE RECOVERY 1         Sample:       351729-008 / SMP       Batch:       1       Matrix: Soil         Date Analyzed:       1/14/09 22:15       SURROGATE RECOVERY 1       %R (D)         Sample:       351729-009 / SMP       Batch:       1       Matrix: Soil         Date Analyzed:       1/14/09 22:36       SURROGATE RECOVERY 1	Control Limits %R	Flags					
	Analytes			[D]				
1,4-Difluorobenzene		0.0276	0.0300	92	80-120			
4-Bromofluorobenzene		0 0316	0.0300	105	80-120			
Lab Batch #: 781905	Sample: 351729-007 / SMP	Batc	h: 1 Matrix	;Soil				
Units: mg/kg	Date Analyzed: 11/14/09 21:11	SU	RROGATE RI	ECOVERY	STUDY			
BTE	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1.4-Difluorobenzene	Analytts	0.0276	0.0300	92	80-120			
4-Bromofluorobenzene		0.0304	0.0300	101	80-120			
Lab Batch #: 781905	Sample: 351729-008 / SMP	Bate	h: <sup>1</sup> Matrix	:Soil	· · · · · · · · · · · · · · · · · · ·			
Units: mg/kg	Date Analyzed: 11/14/09 22:15	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B		Amount Found [A]	Truc Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes		· <u>······</u> ···	ען				
1,4-Difluorobenzene		0.0275	0.0300	92	80-120			
4-Bromofluorobenzene		0.0277	0.0300	92	80-120			
Lab Batch #: 781905	Sample: 351729-009 / SMP	Batc	h: <sup>1</sup> Matrix	Soil				
Units: mg/kg	Date Analyzed: 11/14/09 22:36	SU	RROGATE RI	ECOVERY S	STUDY			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0273	0.0300	91	80-120			
4-Bromofluorobenzene		0.0302	0.0300	101	80-120			
Lab Batch #: 781905	Sample: 351729-010 / SMP	Bate	h: l Matrix	:Soil				
Units: mg/kg	Date Analyzed: 11/14/09 22:57	SU	RROGATE RI	ECOVERYS	STUDY			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Rccovery %R [D]	Control Limits %R	Flags		
1,4-Dıfluorobenzene		0 0276	0.0300	92	80-120			
4-Bromofluorobenzene		0.0308	0 0300	103	80-120			

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits: data and surrogates confirmed by reanalysis

\*\*\* Poer recoveries due to dilution.

Surregate Recovery  $[D] = 100 \approx A / B$ All results are based on MDE and validated for QC purposes.



## Project Name: Burgundy EMU Lease

Work Orders : 351729	, Sample: 351729-004 S / MS	Project ID: 1009-019C IS Batch: l Matrix:Soil					
Units: mg/kg	Date Analyzed: 11/15/09 01:45	SUI	RROGATE RI	ECOVERY	STUDY		
BTEX	K by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene		0 0277	0.0300	92	80-120		
4-Bromofluorobenzene		0.0295	0.0300	98	80-120		
Lab Batch #: 781905	Sample: 351729-004 SD / M	ISD Batch	: 1 Matrix	:Soil			
Units: mg/kg	Date Analyzed: 11/15/09 02:07	SUI	RROGATE RI	ECOVERY	STUDY		
BTEX	BTEX by EPA 8021B Analytes			Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene		0.0281	0.0300	94	80-120		
4-Bromofluorobenzene		0.0280	0.0300	93	80-120		
Lab Batch #: 781910	Sample: 543291-1-BKS / Bl	KS Batch	: 1 Matrix	Solid	<u> </u>		
Units: mg/kg	Date Analyzed: 11/15/09 02:49	SUI	RROGATE RI	ECOVERY	STUDY		
BTE	BTEX by EPA 8021B		True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1.4-Difluorobenzene		0.0294	0.0300	98	80-120		
4-Bromofluorobenzene		0 0300	0 0300	100	80-120		
Lah Batch #: 781910	Samola: 543291-1-BSD / BS	SD Batch	•   Matrix	· Solid			
Units: mg/kg	Date Analyzed: 11/15/09 03:10	SUI	RROGATE RI	ECOVERY	STUDY		
BTE	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes			[U]			
1,4-Difluorobenzene		0.0301	0.0300	100	80-120		
4-Bromonuorobenzene		0.0299	0 0300	100	80-120		
Lab Batch #: 781910	Sample: 543291-1-BLK / B	LK Batch	: I Matrix	Solid	CONTRACTORY	· ····.	
Units: mg/kg	Date Analyzed: 11/15/09 03:52		CRUGATE R				
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1,4-Difluorobenzene		0 0270	0.0300	90	80-120		
4-Bromofluorobenzene		n 0293	9.0300	98	80-120		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poer recoveries due to dilution

Surrogate Receivery  $[D] = 100 \pm A / B$ All results are based on MDT and validated for QC purposes



## Project Name: Burgundy EMU Lease

Vork Orders : 351729	),	<b>Project ID:</b> 1009-019C						
Lab Batch #: 781910	Sample: 351729-001 / SMP	Batch: 1 Matrix: Soil						
Units: mg/kg	Date Analyzed: 11/15/09 18:32	SU	RROGATE R	ECOVERY	STUDY			
BTE	X by EPA 8021B Analytes	Amount Found [A]	True Amount  B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0274	0.0300	91	80-120			
4-Bromofluorobenzene		0.0304	0 0300	101	80-120			
Lab Batch #: 781910	Sample: 351729-002 / SMP	Batc	h: 1 Matrix	:Soil				
Units: mg/kg	Date Analyzed: 11/15/09 18:53	SU	RROGATE R	ECOVERY	STUDY			
BTE	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags			
1.4.Difluorobenzene	Analytts	0.0260	0.0300	87	80-120			
4-Bromofluorobenzene		0.0289	0.0300	96	80-120			
1 -1 D-1 -1 4 791010	Sec. 251720.002 / SM/D			Soil				
Lad Baten #: 701910	Bate Aucharde 11/15/00 10:14	SURROGATE RECOVERY STUDY						
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
·	Analytes			[D]				
1,4-Difluorobenzene		0.0254	0.0300	85	80-120			
4-Bromofluorobenzene		0.0318	0.0300	106	80-120			
Lab Batch #: 781910	Sample: 351716-001 D / MD	) Bate	h: l Matrix	:Soil				
Units: mg/kg	Date Analyzed: 11/15/09 19:57	SU	RROGATE R	ECOVERY	STUDY			
BTE:	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1,4-Difluorobenzene		0.0277	0.0300	92	80-120			
4-Bromofluorobenzene		0 0288	0.0300	96	80-120			
Lab Batch #: 781515	Sample: 543098-1-BKS / BK	IS Bate	h: l Matrix	:Solid	ئى <sub>ت</sub> مەرىپەتىرىكى بەتى <sup>رى</sup>			
Units: mg/kg	Date Analyzed: 11/12/09 07:12	SU	RROGATE R	ECOVERY	STUDY			
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[D]				
1-Chlorooctane		126	99.9	126	70-135			
o-Terphenyl		52.6	50.0	105	70-135			

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 100 \* 4 / B All results are based on MDL and validated for QC purposes.



## Project Name: Burgundy EMU Lease

Vork Orders : 351729	, Sompley 543098-1-BSD / BS	Project ID: 1009-019C SD Batch: 1 Matrix: Solid						
Lab Daten #. 101515	Date Analyzed: 11/12/09 07:39	SURROGATE RECOVERY STUDY						
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
I-Chlorooctane		129	99.5	130	70-135			
o-Terphenyl		58.1	49.8	117	70-135			
Lab Batch #: 781515	Sample: 543098-1-BLK / Bl	LK Bate	h: l Matrix	:Solid	-			
Units: mg/kg	Date Analyzed: 11/12/09 08:04	SU	RROGATE R	ECOVERY	STUDY			
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		91.8	99.8	92	70-135			
o-Terphenyl		58.2	49.9	117	70-135			
Lah Batch #: 781515	Sample: 351729-001 / SMP	Bate	h: 1 Matrix	:Soil	<u> </u>			
Units: mg/kg	Date Analyzed: 11/12/09 14:10	SU	RROGATE R	ECOVERY	STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		89.6	99.7	90	70-135			
o-Terphenyl		56.5	49.9	113	70-135			
Lab Batch #: 781515	Sample: 351729-002 / SMP	Batc	h: 1 Matrix	:Soil				
Units: mg/kg	Date Analyzed: 11/12/09 14:35	SU	RROGATE R	ECOVERY	STUDY			
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes							
1-Chiorooctane		95.3	99.5	96	70-135			
		55.2	49.8	0.1	/0-135			
Lab Batch #: /81515	Sample: 351729-0037 SMP	Bate	h: Matrix	ECOVERY	STUDY			
Units: mg/kg	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		96.6	99.9	97	70-135			
o-Terphenyl		58.4	50.0	117	70-135			

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 160 \* A / B All results are based on MDL and validated for QC purposes.



### Project Name: Burgundy EMU Lease

Vork Orders : 351729	), Samula 251720 004 / SMP	D-4-1	Project II	<b>):</b> 1009-0190	2		
Lab Batch #: 781515	Date Analyzed: 11/12/09 15:25	SURROGATE RECOVERY STUDY					
TPH	Sample:         351729-004 / SMP         Batch:         1         Matrix: Soil           Date Analyzed:         11/12/09 15:25         SURROGATE RECOVERY STUDY           y SW8015 Mod         Amount Found [A]         True Analytes         Recovery [B]         Control Limits %R         Control Limits %R         F           Analytes         96.4         100         96         70-135         F           Sample:         351729-005 / SMP         Batch:         1         Matrix: Soil         F           Date Analyzed:         11/12/09 15:50         SURROGATE RECOVERY STUDY         Y         SURROGATE RECOVERY STUDY           y SW8015 Mod         Amount Found [A]         True Amount [B]         Recovery %R         Control Limits %R         F           Analytes         104         99.6         104         70-135         F           Sample:         351729-006 / SMP         Batch:         1         Matrix:Soil           Date Analyzed:         11/12/09 16:16         SURROGATE RECOVERY STUDY           y SW8015 Mod         Amount [A]         True Amount [B]         Recovery %R         Control Limits %R         I           Analytes         93.5         99.5         94         70-135         I           Bate Analyzed:         11/2	Flags					
	Analytes		100	[ <sup>1</sup> ]			
1-Chlorooctane		96.4	100	96	70-135		
o-Terphenyl		61.3	50.0	- 123	70-135		
Lab Batch #: 781515	Sample: 351729-005 / SMP	Batcl	h: 1 Matrix:	Soil			
Units: mg/kg	Date Analyzed: 11/12/09 15:50	SU	RROGATE RE	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		104	99.6	104	70-135		
o-Terphenyl		59.0	49.8	118	70-135		
Lab Batch #: 781515	Sample: 351729-006 / SMP	Bate	h: 1 Matrix:	Soil	·	·	
Units: mg/kg	Date Analyzed: 11/12/09 16:16	SU	RROGATE RI	COVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		93.5	99.5	94	70-135		
o-Terphenyl		56.5	49.8	113	70-135		
Lab Batch #: 781515	Sample: 351729-007 / SMP	Bate	h: 1 Matrix:	Soil	<u>,</u>	,	
Units: mg/kg	Date Analyzed: 11/12/09 16:42	SU	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
L-Chlorooctane		93.6	100	94	70-135		
o-Terphenyl	1	57.2	50.0	114	70-135		
Lab Batch #: 781515	Sample: 351716-009 S / MS	Bate	h: 1 Matrix:	Soil	1	<u> </u>	
Units: mg/kg	Date Analyzed: 11/12/09 17:33	SU	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane	·	130	99 5	131	70-135		
o-Terphenyl		55.1	49.8	111	70-135		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution Surrogate Recovery [D] = 100 \* 4 / B All results are based on MDL and validated for QC purposes.



Project Name: Burgundy EMU Lease

Work Orders : 351729	),	<b>Project ID:</b> 1009-019C					
Lab Batch #: 781515	Sample: 351716-009 SD / M	/ MSD Batch: 1 Matrix: Soil					
Units: mg/kg	Date Analyzed: 11/12/09 17:59	SUI	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		114	99.8	114	70-135		
o-Terphenyl		58.8	49.9	118	70-135		
Lab Batch #: 781515	Sample: 351729-008 / SMP	Batch	n: 1 Matrix	Soil			
Units: mg/kg	Date Analyzed: 11/13/09 11:38	SU	RROGATE RI	ECOVERY	STUDY		
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		88.5	99.6	89	70-135		
o-Terphenyi	·····	53.3	49.8	107	70-135		
Lab Batch #: 781674	Sample: 543182-1-BLK / B1	K Batch	ı: 1 Matrix	Solid	·		
Units: mg/kg	Date Analyzed: 11/13/09 08:09	SUI	RROGATE RI	COVERY	STUDY		
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags	
	Analytes		· · · · · · · · · · · · · · · · · · ·	ן ען			
1-Chlorooctane		91.8	100	92	70-135		
o-Terphenyl		57.9	50 0	116	70-135	te in the second se	
Lab Batch #: 781674	Sample: 543182-1-BKS / BK	LS Batch	n: 1 Matrix	Solid			
Units: mg/kg	Date Analyzed: 11/13/09 08:33	SUI	RROGATE RI	ECOVERY	STUDY		
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		112	99.5	113	70-135		
o-Terphenyl		58.5	49.8	117	70-135		
Lab Batch #: 781674	Sample: 543182-1-BSD / BS	D Batcl	n: 1 Matrix	Solid			
Units: mg/kg	Date Analyzed: 11/13/09 09:00	SUI	RROGATE RI	ECOVERY	STUDY		
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags	
1-Chlorooctane		124	100	124	70-135	J	
o-Terphenyl		55.0	50.0	110	70-135		

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = i(0 + A / B)All results are based on MDL and validated for QC purposes.



## Project Name: Burgundy EMU Lease

Vork Orders : 351729	),	<b>Project ID:</b> 1009-019C						
Lab Batch #: 781674	Sample: 351729-009 / SMP	Batch: 1 Matrix: Soil						
Units: mg/kg	Date Analyzed: 11/13/09 09:52	SU	RROGATE RE	COVERY S	STUDY			
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		76.9	100	77	70-135			
o-Terphenyl		43.1	50.0	86	70-135			
Lab Batch #: 781674	Sample: 351729-010 / SMF	' Batcl	h: 1 Matrix:	:Soil	<u></u>	<u></u>		
Units: mg/kg	Date Analyzed: 11/13/09 10:18	SU	RROGATE RE	COVERY	STUDY			
TPH By SW8015 Mod		Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags		
	Analytes			[]				
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	91.3	99 8	91	70-135			
o-Terphenyl		55.6	49.9	111	70-135			
Lab Batch #: 781674	Sample: 351729-010 S / MS	S Bate	h: 1 Matrix:	Soil				
Units: mg/kg	Date Analyzed: 11/13/09 12:04	SU	RROGATE RE	<b>ECOVERY</b> S	STUDY			
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane	· · · · · · · · · · · · · · · · · · ·	123	100	123	70-135			
o-Terphenyl		58.3	50.0	117	70-135			
Lab Batch #: 781674	Sample: 351729-010 SD / N	viSD Batc	h: 1 Matrix:	:Soil				
Units: mg/kg	Date Analyzed: 11/13/09 12:30	SU	RROGATE RE	COVERY	STUDY			
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags		
1-Chlorooctane		124	99.5	125	70-135			
o-Terphenyl		54 4	49.8	109	70-135			

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery  $\overline{[13]} = 100 * A / B$ 

All results are based on MDL and validated for QC purposes.





### Project Name: Burgundy EMU Lease

Work Order #: 351729		Project ID:				
Lab Batch #: 781290	Sample: 781290	-1-BKS	Matrix			
Date Analyzed: 11/11/2009	Date Prepared: 11/11/2009		Analyst: LATCOR			
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK /BLANK SPIKE RECOVERY			STUDY
Anions by E300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes	[A]	[8]	Result [C]	%R [D]	%R	
Chloride	ND	10 0	10.6	106	75-125	†

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit



# nelao

#### Project Name: Burgundy EMU Lease

Work Order #: 351729							Proj	ject ID: 1	009-019C		
Analyst: ASA	Da	ate Prepar	ed: 11/13/200	)9			Date A	nalyzed: 1	1/14/2009		
Lab Batch ID: 781905 Sample: 54328	9-1-BKS	Batch	1#: 1					Matrix: S	solid		
Units: mg/kg		BLAN	K/BLANK S	SPIKE / P	<b>JLANK S</b>	PIKE DUPI	LICATE I	RECOVE	ERY STUD	Ŷ	
BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0.1000	0.0889	89	0.1	0.0873	87	2	70-130	35	[
Toluene	ND	0.1000	0.0885	89	0.1	0.0867	87	2	70-130	35	
Ethylbenzene	ND	0.1000	0.0869	87	0.1	0.0856	86	2	71-129	35	
m,p-Xylenes	ND	0 2000	0.1873	94	0.2	0.1845	92	2	70-135	35 ·	[
o-Xylene	ND	0.1000	0.0915	92	0.1	0.0920	92	1	71-133	35	
Analyst: ASA	D;	ate Prepar	ed: 11/13/200	)9			Date A	nalyzed: 1	1/15/2009		
Lab Batch ID: 781910 Sample: 54329	1-1-BKS	Batel	1#: 1					Matrix: S	Solid		
Units: mg/kg	······································	BLAN	K/BLANK S	SPIKE / F	<b>3LANK S</b>	PIKE DUPI	LICATE	RECOVE	CRY STUD	ŶY	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene		0.1000	0.0000		01	0.0803	80	<u> </u>	70-130	35	<b> </b>
	ND	0.1000	0.0900	80	0.1	0.0075	09	1	70-130	25	
Ethylhenzena		0 1000	0.0007	07	0.1	0.0860	00	1	71 120	25	<u> </u>
m n-Yvlenes		0.1000	0.0873	00	0.1	0.0809	07		70 125	25	
a Yulana	ND	0 2000	0.1883	94		0.1639	93	<u> </u>	70-133		<u> </u>
0-Aylene	I ND I	0.1000	0.0938	94	0.1	0.0930	93		/1-133	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes





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#### Project Name: Burgundy EMU Lease

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Work Order #: 351729 Analyst: BEV	D	ate Prenar	ed: 11/11/20	09			Proj Date Al	ject ID:	1009-019C 11/12/2009					
Lab Batch ID: 781515 Sample: 54	43098-1-BKS	Batc	h #: 1		Matrix: Solid									
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUE	)Y				
TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag			
C6-C12 Gasoline Range Hydrocarbons	ND	999	878	88	995	928	93	6	70-135	35				
C12-C28 Diesel Range Hydrocarbons	ND	999	747	75	995	828	83	10	70-135	35				
Analyst: BEV	D	ate Prepar	ed: 11/11/20	09			Date A	nalyzed:	11/13/2009					
Lab Batch ID: 781674 Sample: 54	3182-1-BKS	Batc	h#: 1					Matrix: S	Solid					
Units: mg/kg		BLAN	K/BLANK	SPIKE / I	BLANK S	SPIKE DUP	LICATE	RECOVI	ERY STUI	γ				
TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag			
C6-C12 Gasoline Range Hydrocarbons	ND	995	925	93	1000	880	88	5	70-135	35				
C12-C28 Diesel Range Hydrocarbons	ND	995	746	75	1000	793	79	6	70-135	35	1			

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



### Form 3 - MS Recoveries



Flag

#### **Project Name: Burgundy EMU Lease**

Work Order #: 351729											
Lab Batch #: 781290			Pro	ject ID:	1009-0190	, ,					
Date Analyzed: 11/11/2009	Date Prepared: 11/11/2	:009	Analyst: LATCOR								
QC- Sample ID: 351720-001 S	Batch #: 1		N	Matrix: Soil							
Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY S										
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R	Control Limits %R	F					
Analytes	[A]	[B]		[10]							
Chloride	2120	1300	3700	122	75-125						
	i		<u>.</u>			÷					

Matrix Spike Percent Recovery  $[D] = 100^{+}(C-A)/B$ Relative Percent Difference  $[E] = 200^{+}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



#### **Project Name: Burgundy EMU Lease**



WULK OLUCI # 1 301/29	<b>Project ID:</b> 1009-019C											
Lab Batch ID: 781905	C- Sample ID:	351729-	-004 S	Ba	tch #:	1 Matrix	k: Soil					
Date Analyzed: 11/15/2009	Date Prepared:	11/13/2	009	An	alyst:	ASA						
Reporting Units: mg/kg		M	ATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY			
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Bcnzene	ND	0.1130	0.0224	20	0.1130	0.0636	56	96	70-130	35	XF	
Toluene	ND	0.1130	0.0132	12	0.1130	0.0386	34	98	70-130	35	XF	
Ethylbenzene	ND	0.1130	0.0166	15	0.1130	0.0545	48	107	71-129	35	XF	
m,p-Xylenes	ND	0.2260	0.0024	1	0.2260	0.0041	2	52	70-135	35	XF	
o-Xylene	ND	0.1130	0.0129	11	0.1130	0.0435	38	109	71-133	35	XF	
Lab Batch ID: 781515 ( Date Analyzed: 11/12/2009 Reporting Units: mg/kg	C- Sample ID: Date Prepared:	351716 11/11/2	009 S 009 ATRIX SPIK	Ba An E / MAT	tch #: alyst: RIX SPI	1 Matrix BEV KE DUPLICA	x: Soil	OVERY	STUDY			
	Devent		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY									
	rarent		Sniked Sample	Sniked		Dunlicate	Spiked		Control	Control		
TPH By SW8015 Mod	Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag	
TPH By SW8015 Mod Analytes	Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
C6-C12 Gasoline Range Hydrocarbons	Sample Result [A]	Spike Added [B]	Spiked Sample Result [C] 971	Spiked Sample %R [D] 91	Spike Added [E] 1080	Duplicate Spiked Sample Result [F] 1000	Spiked Dup. %R [G] 93	<b>RPD</b> %	Control Limits %R 70-135	Control Limits %RPD 35	Flag	
C6-C12 Gasoline Range Hydrocarbons         C12-C28 Diesel Range Hydrocarbons	ND	<b>Spike</b> Added [B] 1070 1070	Spiked Sample Result [C] 971 815	Spiked Sample %R [D] 91 76	<b>Spike</b> Added [E] 1080 1080	Duplicate Spiked Sample Result [F] 1000 902	Spiked Dup. %R [G] 93 84	<b>RPD</b> %	Control Limits %R 70-135 70-135	Control Limits %RPD 35 35	Flag	
TPH By SW8015 Mod         Analytes         C6-C12 Gasoline Range Hydrocarbons         C12-C28 Diesel Range Hydrocarbons         Lab Batch ID:       781674       O         Date Analyzed:       11/13/2009	Parent Sample Result [A] ND ND C- Sample ID: Date Prepared:	Spike Added [B] 1070 1070 351729 11/11/2	Spiked Sample Result [C] 971 815 -010 S 009	Spiked Sample %R [D] 91 76 Ba An	Spike Added [E] 1080 1080 tch #: alyst:	Duplicate Spiked Sample Result [F] 1000 902 1 Matri: BEV	Spiked Dup. %R [G] 93 84 x: Soil	<b>RPD</b> %	Control Limits %R 70-135 70-135	Control Limits %RPD 35 35	Flag	
TPH By SW8015 Mod         Analytes         C6-C12 Gasoline Range Hydrocarbons         C12-C28 Diesel Range Hydrocarbons         Lab Batch ID:       781674         Date Analyzed:       11/13/2009         Reporting Units:       mg/kg	ND C- Sample ID: Date Prepared:	Spike Added [B] 1070 1070 351729 11/11/2 M	Spiked Sample Result [C] 971 815 -010 S 009 ATRIX SPIK	Spiked Sample %R [D] 91 76 Ba An E / MAT	Spike Added [E] 1080 1080 tch #: alyst: RIX SPI	Duplicate Spiked Sample Result [F] 1000 902 1 Matri: BEV KE DUPLICA	Spiked Dup. %R [G] 93 84 x: Soil TE REC	<b>RPD</b> % 3 10	Control Limits %R 70-135 70-135 STUDY	Control Limits %RPD 35 35	Flag	
TPH By SW8015 Mod         Analytes         C6-C12 Gasoline Range Hydrocarbons         C12-C28 Diesel Range Hydrocarbons         Lab Batch ID: 781674         Date Analyzed: 11/13/2009         Reporting Units: mg/kg         TPH By SW8015 Mod         Analytes	Parent Sample Result [A] ND ND QC- Sample ID: Date Prepared: Parent Sample Result [A]	Spike Added [B] 1070 1070 351729 11/11/2 M Spike Added [B]	Spiked Sample Result [C] 971 815 -010 S 009 ATRIX SPIK Spiked Sample Result [C]	Spiked Sample %R [D] 91 76 Ba An E / MAT Spiked Sample %R [D]	Spike Added [E] 1080 1080 tch #: alyst: RIX SPI Spike Added [E]	Duplicate Spiked Sample Result [F] 1000 902 1 Matri: BEV KE DUPLICA Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G] 93 84 x: Soil TE REC Spiked Dup. %R [G]	RPD % 3 10 OVERY 5 RPD %	Control Limits %R 70-135 70-135 STUDY Control Limits %R	Control Limits %RPD 35 35 35 Control Limits %RPD	Flag	
TPH By SW8015 Mod         Analytes         C6-C12 Gasoline Range Hydrocarbons         C12-C28 Diesel Range Hydrocarbons         Lab Batch ID: 781674         Date Analyzed: 11/13/2009         Reporting Units: mg/kg         TPH By SW8015 Mod         Analytes         C6-C12 Gasoline Range Hydrocarbons	Parent Sample Result [A] ND ND QC- Sample ID: Date Prepared: Parent Sample Result [A] ND	Spike Added [B] 1070 1070 351729 11/11/2 M Spike Added [B] 1080	Spiked Sample Result [C] 971 815 -010 S 009 ATRIX SPIK Spiked Sample Result [C] 950	Spiked Sample %R [D] 91 76 Ba An E / MAT Spiked Sample %R [D] 88	Spike Added [E] 1080 1080 tch #: alyst: RIX SPI Spike Added [E] 1080	Duplicate Spiked Sample Result [F] 1000 902 1 Matri: BEV KE DUPLICA Duplicate Spiked Sample Result [F] 962	Spiked Dup. %R [G] 93 84 x: Soil TE REC Spiked Dup. %R [G] 89	RPD % 3 10 OVERY RPD %	Control Limits %R 70-135 70-135 STUDY Control Limits %R 70-135	Control Limits %RPD 35 35 35 Control Limits %RPD 35	Flag	

Matrix Spike Percent Recovery  $[D] = 100^{\circ}(C-A)/B$ Relative Percent Difference RPD =  $200^{\circ}|(C-F)/(C+F)|$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN  $\approx$  See Narrative, EQL = Estimated Quantitation Limit





#### Project Name: Burgundy EMU Lease

Work	Order	<b>#•</b>	351729
<b>110 1</b>	VIUCI	π.	551125

Lab Batch #: <sup>781290</sup>			<b>Project I</b>	<b>D:</b> 1009-019	)C
Date Analyzed: 11/11/2009	Date Prepared: 11/11/2009	9 Ana	lyst:LATC	OR	
QC- Sample ID: 351720-001 D	Batch #: 1	Ma	trix: Soil		
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300 Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	2120	2110	0	20	
Lab Batch #: 781910 Date Analyzed: 11/15/2009 QC- Sample ID: 351716-001 D	Date Prepared: 11/13/200 Batch #: 1	9 Ana Ma	lyst: ASA trix: Soil		<u></u>
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
BTEX by EPA 8021B Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Benzene	ND	ND	NC	35	
Toluene	ND	ND	NC	35	
Ethylbenzene	ND	ND	NC	35	
m,p-Xylenes	ND	ND	NC	35	
o-Xylene	ND	ND	NC	35	
a,a,a-Trifluorotoluene	0.030	0.031	3	35	
Lab Batch #: 781403 Date Analyzed: 11/12/2009 QC- Sample ID: 351716-016 D	Date Prepared: 11/12/2009 Batch #: 1	9 Ana Mat	lyst:BEV trix: Soil		
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	9.47	8.39	12	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Env	/ironment	al Lab of 1	exa	15					12 Oc	:600 dess	We ia, 1	CH Ist I- Texa	1A/1 20 E 15 79	<i>I OF</i> ast 1765	= Cl	UST	rod	Y R	EC	ORI	D A	ND	AN	IAL Phi Fa	, YS; one ax:	IS F : 43 43	7EC 12-5 12-5	<i>)UE</i> 83-1 83-1	S <i>T</i> 800 713	1			
	Project Manager:	Cindy Crain																Pr	ojec	t Na	me:	·			B	urg	unc	ly E	MU	Ler	150		
	Company Name	Ocotillo Environmental,																	P	roje	:t #:						10	<u>)9-0</u>	190	2			
	Company Address:	PO Box 1816																I	Proje	ect l	.oc:					<u> </u>	.ea (	our	ıty, I	NM			
	City/State/Zip:	Hobbs, NM 88241																		P	0#:												
	Telephone No:	(575) 441-7244				Fax No:	:	(43	32) 2	272-(	0304	4					R	epor	t Fo	rma	t:	X	Sta	indi	ard			TR	RP			NPD	ES
	Sampler Signature	Cirdin (.	rain	,		e-mail	:	ci	ndy	y.çr	air	1@0	qma	ail.c	on	1																	
(lab use	only)					•												_	F			Т	CLP:		inaly	/ze F	or:					Ţ	]
ORDER	# 351	179								Drac	00/0	tion &	# M (	°ontai	0000	-	Ma	triv	Ē	7-	r	TO	TAL:	F	Ŧ	F	F					ļ	
LAB # (lab use only)	FIEI	LD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampted	Field Fittered	Total #. of Containers	8	HNO <sub>3</sub>	HCI	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub>	None	Other (Specify)	OWEDrinking Water SLaSudge	NP=Non-Potable Specify Other	TPH: 418.1 (BD15M) 8015	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (C) SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg S	Volatiles	Sernwolatiles	BIEX 8021B/5030 or BIEX 8260	RCI	N.O.R.M.			DISU TAT must stadily 21	Standard TAT
01	SS-1		0	6"	11/9/2009	1230		1	Х	Ī							Ş	3	Ň			x					X						X
02	SS-2		0	6''	11/9/2009	1233		1	X								S	3	X			X					X						X
03	SS-3		0	6''	11/9/2009	1236		1	х								Ś	3	X			x					X						x
N	SS-4		0	6"	11/9/2009	1239		1	X								S	3	x			x					X						X
05	SS-5		0	6''	11/9/2009	1242		1	X								5	<u>}_</u>	X			х					x						X
3	SS-6		0	6"	11/9/2009	1245		1	X								5	3	X			X					X						X
01	SS-7		0	6"	11/9/2009	1248		1	x								5	3	X			X					x						X
VB	SS-8		0	6"	11/9/2009	1251		1	X								S	}	X			X		L			X				$\square$	⊥	X
09	SS-9		0	6"	11/9/2009	1254		1	X								5	8	X			x					X				$ \rightarrow $	⊥	X
16	SS-10		0	6"	11/9/2009	1300		1	X								. 8	3	X			X		L			X						X
Relinquisi Relinquisi	instructions: beg by: indu Sain hed by:	Date 11/10/04 Date	14 14	ime 23 ime	Received by: Received by:											Date	)		Tim	9	Lab San VO( Lab Cus Cus San	Cs f els tod ple by S by C	tory ree on o y set y set	Co Intak of i lionski ais ( libit nd [ pler/ ier?	imm riens -leac ôn c ôn c ôn c Dellv Clier	iente Ispa dispa r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta r(s) ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta ionta i ionta i ionta i ionta i i ionta i ionta i i ionta i ionta i i i i i i ionta i i i i i i i i i i i i i i i i i i i	s: ice? iner? iner iner (s) d sp. ? S	ova (s) DHL	uct	Fedl		N N N N N N N	} Star
Relinquis	ned by:	Date	T	me	Received by ELC	DT:	$\sum_{\alpha}$	~						1	1.1/	Date	9	14	Time	• 2	ren Ten	npei	oz y atur	alز U e	155 Ipon	Rec	xeipt	:	•	2.1	l	۰c	;

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### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client:	Ocotillo Enu.
Date/ Time:	11.10.09 16.23
Lab ID #	351729
Initials	<b>A</b> 1

#### Sample Receipt Checklist

				Client In	nitials
#1	Temperature of container/ cooler?	(Tes)	No	Z.\ °C	
#2	Shipping container in good condition?	res	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	(Tês)	No		
#6	Sample instructions complete of Chain of Custody?	(e)	No		
#7	Chain of Custody signed when relinquished/ received?	(Ye)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	Dwitten en Cont. ALID	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	Ves	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(es)	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Tes	No		
#16	Containers documented on Chain of Custody?	(Tes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	(Veg	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Tes	No	Not Applicable	

#### **Variance Documentation**

Contact:	Contacted by:	 Date/ Time:
Regarding:		 
Corrective Action Taken:		

Check all that Apply:

- See attached e-mail/ fax
- Client understands and would like to proceed with analysis
- Cooling process had begun shortly after sampling event

.

## Analytical Report 353394

for

## **Ocotillo Environmental, LLC**

**Project Manager: Cindy Crain** 

Burgundy EMU Lease 1009-019C

## 30-NOV-09





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



30-NOV-09



Project Manager: **Cindy Crain Ocotillo Environmental, LLC** P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: **353394 Burgundy EMU Lease** Project Address: Lea County, New Mexico

#### **Cindy Crain**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 353394. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 353394 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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### Sample Cross Reference 353394

### Ocotillo Environmental, LLC, Hobbs, NM

Burgundy EMU Lease

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1	S	Nov-23-09 13:30	7 - 7 ft	353394-001
SS-2	S	Nov-23-09 13:34	7 - 7 ft	353394-002
SS-3	S	Nov-23-09 13:37	7 - 7 ft	353394-003
SS-4	S	Nov-23-09 13:40	7 - 7 ft	353394-004
<b>SS-</b> 5	S	Nov-23-09 13:45	7 - 7 ft	353394-005
SS-6	S	Nov-23-09 13:48	7 - 7 ft	353394-006
SS-7	S	Nov-23-09 13:52	4 - 4 ft	353394-007
SS-8	S	Nov-23-09 13:56		353394-008
SS-10 (Comp)	S	Nov-23-09 14:00		353394-009

#### CASE NARRATIVE



Client Name: Ocotillo Environmental, LLC Project Name: Burgundy EMU Lease

Project ID:1009-019CWork Order Number:353394

Report Date: 30-NOV-09 Date Received: 11/24/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-783197 Inorganic Anions by EPA 300 None

Batch: LBA-783206 Percent Moisture None

Batch: LBA-783209 Percent Moisture None

Batch: LBA-783625 TPH By SW8015 Mod SW8015MOD\_NM

Batch 783625, 1-Chlorooctane, o-Terphenyl recovered below QC limits . Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 353394-008.



### Certificate of Analysis Summary 353394

Ocotillo Environmental, LLC, Hobbs, NM



Project Id: 1009-019C Contact: Cindy Crain Project Location: Lea County, New Mexico Project Name: Burgundy EMU Lease

Date Received in Lab: Tue Nov-24-09 02:40 pm Report Date: 30-NOV-09

ojeet Ebeation. Eeu County, New Mickleo								Project Ma	nager:	Brent Barron,	II		
	Lab Id:	353394-0	01	353394-0	02	353394-0	03	353394-0	104	353394-0	05	353394-00	06
Analysia Daguastad	Field Id:	SS-1		SS-2		SS-3		SS-4		SS-5		SS-6	
Analysis Kequesieu	Depth:	7-7 ft		7-7 ft		7 <b>-</b> 7 ft		7 <b>-</b> 7 ft		7-7 ft		7-7 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-23-09	3:30	Nov-23-09 1	3:34	Nov-23-09 I	13:37	Nov-23-09	13:40	Nov-23-09	3:45	Nov-23-09 1	13:48
Anions by E300	Extracted:												
	Analyzed:			Nov-24-09 2	20.22	Nov-24-09 2	20:22	Nov-24-09	20.22	Nov-24-09 2	20.22	Nov-24-09 2	20:22
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride				781	8.62	196	8.64	2100	25.5	1790	21.8	688	9.31
Percent Moisture	Extracted:												
	Analyzed:	Nov-24-09	17:00	Nov-24-09 1	7:00	Nov-24-09	17:00	Nov-24-09	17:00	Nov-24-09	17:00	Nov-24-09 1	17.00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		2.02	1.00	2.54	1.00	2.83	1.00	17.5	1.00	3.49	1.00	9.76	1.00
TPH By SW8015 Mod	Extracted:	Nov-24-09	15:45	Nov-24-09 1	15:45	Nov-24-09	15:45			Nov-24-09	15:45		
	Analyzed:	Nov-26-09	10.05	Nov-26-09 1	0:31	Nov-26-09	10:56			Nov-26-09	11:21		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		36.4	15.3	ND	15.4	ND	15.4			ND	15.5		
C12-C28 Diesel Range Hydrocarbons		1070	15.3	76 3	15.4	339	15.4			20 3	15.5		
C28-C35 Oil Range Hydrocarbons		83.9	15.3	152	15.4	26.5	15.4			ND	15.5		
Total TPH		1190	15.3	228	15.4	366	15.4		_	20.3	15.5		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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Brent Barron, II

Odessa Laboratory Manager



**Project Id:** 1009-019C

Contact: Cindy Crain

Project Location: Lea County, New Mexico

### Certificate of Analysis Summary 353394

#### Ocotillo Environmental, LLC, Hobbs, NM



Project Name: Burgundy EMU Lease

Date Received in Lab: Tue Nov-24-09 02:40 pm

Report Date: 30-NOV-09

Project Manager: Brent Barron, II

	Lab Id:	353394-0	07	353394-0	08	353394-0	09		
Analysis Paguastad	Field Id:	<b>SS-7</b>		SS-8		SS-10 (Co	mp)		
Analysis Requested	Depth:	4-4 ft						j	
	Matrix:	SOIL		SOIL		SOIL			
	Sampled:	Nov-23-09	13:52	Nov-23-09	13:56	Nov-23-09	14.00		
Anions by E300	Extracted:								
	Analyzed:	Nov-24-09	20:22	Nov-24-09 2	20:22	Nov-24-09 2	20.22		
	Units/RL:	mg/kg	RL	mg/kg	RL_	mg/kg	RL		
Chloride		1980	23.2	417	8.50	15700	173		
Percent Moisture	Extracted:				1				
	Analyzed:	Nov-24-09	17.00	Nov-24-09	17:00	Nov-24-09	17:00		
	Units/RL:	%	RL	%	RL	%	RL		
Percent Moisture		9.51	1.00	1.13	1.00	2.98	1.00		
TPH By SW8015 Mod	Extracted:			Nov-24-09	15:45				
	Analyzed:			Nov-26-09	11:46				
	Units/RL:			mg/kg	RL				
C6-C12 Gasoline Range Hydrocarbons				ND	15.2				
C12-C28 Diesel Range Hydrocarbons				305	15 2				
C28-C35 Oil Range Hydrocarbons				25.1	15.2				
Total TPH				330	15.2				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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Brent Barron, II

Odessa Laboratory Manager





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- RL Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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5332 Blackberry Drive. San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Project Name: Burgundy EMU Lease

Vork Orders : 353394	, Sample: 544355-1-BKS / B	KS Batel	Project II	D: 1009-019( • Solid	С	
Units: mg/kg	Date Analyzed: 11/26/09 04:10	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		125	99.8	125	70-135	
o-Terphenyl		49.8	49.9	100	70-135	
Lab Batch #: 783625	Sample: 544355-1-BSD / B	SD Bate	h: 1 Matrix	Solid		
Units: mg/kg	Date Analyzed: 11/26/09 04:35	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		119	100	119	70-135	
o-Terphenyl		48.5	50.0	97	70-135	·
Lah Batch #: 783625	Sample: 544355-1-BLK / B	LK Batcl	h: <sup>1</sup> Matrix	Solid	<u>ا ، ، ،</u>	L
Units: mg/kg	Date Analyzed: 11/26/09 05:01	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		86.5	99.8	87	70-135	
o-Terphenyl		53.0	49.9	106	70-135	
Lab Batch #: 783625	Sample: 353394-001 / SMP	Batc	h: <sup>1</sup> Matrix	: Soil	<u> </u>	
Units: mg/kg	Date Analyzed: 11/26/09 10:05	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		86.0	100	86	70-135	
o-Terphenyl		59.3	50.0	119	70-135	
Lab Batch #: 783625	Sample: 353394-002 / SMP	Batcl	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 11/26/09 10:31	SU	RROGATE RI	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		84.5	100	85	70-135	
o-Terphenyl		51.3	50.0	103	70-135	

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery  $[D] \approx 100 * A / B$ All results are based on MDL and validated for QC purposes.



Project Name: Burgundy EMU Lease

Vork Orders : 353394	., '	<b>Project ID:</b> 1009-019C									
Lab Batch #: 783625	Sample: 353394-003 / SMP	P Batch: 1 Matrix: Soil									
Units: mg/kg	Date Analyzed: 11/26/09 10:56	SURROGATE RECOVERY STUDY									
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		84.4	99.6	85	70-135						
o-Terphenyl		50.4	49.8	101	70-135						
Lab Batch #: 783625	Sample: 353394-005 / SMP	Batch	n: <sup>1</sup> Matrix	:Soil							
Units: mg/kg	Date Analyzed: 11/26/09 11:21	SUI	RROGATE RI	ECOVERY	STUDY						
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		86.5	99.9	87	70-135						
o-Terphenyl		52.8	50.0	106	70-135						
Lab Batch #: 783625	Sample: 353394-008 / SMP	Batch	n: 1 Matrix	:Soil	······						
Units: mg/kg	Date Analyzed: 11/26/09 11:46	SUI	RROGATE RI	ECOVERY	STUDY						
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		4.42	99.9	4	70-135	*					
o-Terphenyl		3.05	50.0	6	70-135	*					
Lab Batch #: 783625	Sample: 353324-002 S / MS	5 Batch	n: <sup>1</sup> Matrix	Soil	·						
Units: mg/kg	Date Analyzed: 11/26/09 12:12	SUI	RROGATE RI	ECOVERY	STUDY	<u> </u>					
ТРН	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		123	99.6	123	70-135						
o-Terphenyl		52.2	49.8	105	70-135						
Lab Batch #: 783625	Sample: 353324-002 SD / N	ASD Batch	n: 1 Matrix	:Soil	<u></u>						
Units: mg/kg	Date Analyzed: 11/26/09 12:37	SUI	RROGATE R	ECOVERY	STUDY						
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
	•			1	1						
1-Chlorooctane		118	99.6	118	70-135						

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / B

All results are based on MDL and validated for QC purposes.





#### Project Name: Burgundy EMU Lease

Work Order #: 353394		Project ID:								
Lab Batch #: 783197	Sample: 783197-	-1-BKS	Matrix	: Solid						
Date Analyzed: 11/24/2009	Date Prepared: 11/24/2	009	Analyst	ર						
Reporting Units: mg/kg	<b>Batch #:</b> 1	BLANK /	BLANK SPI	OVERY	VERY STUDY					
Anions by E300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags				
Analytes	[ <b>A</b> ]	[B]	Result [C]	%R [D]	%R					
Chloride	ND	10.0	10.5	105	75-125					

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit





## **BS / BSD Recoveries**

#### Project Name: Burgundy EMU Lease

Work Order #: 353394 Analyst: BEV		Da	te Prepar	ed: 11/24/200	9			Pro Date A	ject ID: 1 nalyzed: 1	009-019C 1/26/2009		
Lab Batch ID: 783625	Sample: 544355-1-BKS		Batch	ı#: 1					Matrix: S	Solid		
Units: mg/kg			BLAN	K/BLANK S	PIKE / E	BLANK S	PIKE DUPL	ICATE	RECOVE	ERY STUD	Y	
TPH By SW801 Analytes	L5 Mod Bi Samp	lank le Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydroca	rbons	ND	998	928	93	1000	935	94	1	70-135	35	
C12-C28 Diesel Range Hydrocar	bons	ND	998	738	74	1000	783	78	6	70-135	35	

Relative Percent Difference RPD = 200\*|(C-F)/(C+F)|Blank Spike Recovery [D] = 100\*(C)/[B]Blank Spike Duplicate Recovery [G] = 100\*(F)/[E]All results are based on MDL and Validated for QC Purposes



16700



#### **Project Name: Burgundy EMU Lease**

Work Order #: 353394 Lab Batch #: 783197 Date Analyzed: 11/24/2009 QC- Sample ID: 353317-001 S Reporting Units: mg/kg

Chloride

Analytes

**Project ID:** 1009-019C

101

75-125

Date Prepared: 11/24/2009 Analyst: LATCOR Batch #: 1 Matrix: Soil MATRIX / MATRIX SPIKE RECOVERY STUDY Parent Spiked Sample Control **Inorganic Anions by EPA 300** Sample Spike Result %R Limits Flag Result Added [C] **[D]** %R [A] [B]

13800

30700

Matrix Spike Percent Recovery [D] = 100\*(C-A)/B Relative Percent Difference [E] = 200\*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



#### Project Name: Burgundy EMU Lease



Work Order #: 353394						Project II	<b>D:</b> 1009-0	19C			
Lab Batch ID: 783625	QC- Sample ID:	353324	-002 S	Ba	tch #:	1 Matrix	k: Soil				
Date Analyzed: 11/26/2009	Date Prepared:	11/24/2	009	An	alyst:	BEV					
Reporting Units: mg/kg	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
C6-C12 Gasoline Range Hydrocarbons	ND	1420	1330	94	1420	1300	92	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1420	1300	92	1420	1240	87	5	70-135	35	

Matrix Spike Percent Recovery  $[D] = 100^{+}(C-A)/B$ Relative Percent Difference RPD =  $200^{+}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery  $[G] = 100^{*}(F-A)/E$ 

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



Sample Duplicate Recovery



#### **Project Name: Burgundy EMU Lease**

#### Work Order #: 353394

Lab Batch #: 783197				<b>Project</b> I	<b>D:</b> 1009-019	C
Date Analyzed: 11/24/2009	Date Prepared:	11/24/2009	Ana	lyst:LATC	OR	
QC- Sample ID: 353317-001 D	Batch #:	1	Ma	trix: Soil		
Reporting Units: mg/kg	S	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300 Analyte	Pa	rent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride		16700	16600	1	20	
Lab Batch #: 783206	·····					
Date Analyzed: 11/24/2009	Date Prepared:	11/24/2009	Ana	lyst: WRU		
QC- Sample ID: 353324-001 D	Batch #:	1	Ma	trix: Soil		
Reporting Units: %	S	SAMPLE /	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture	Pa	rent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		6.95	7.64	9	20	
Lab Batch #: 783209	Joto Dronowodu	11/24/2000	· · ·	Investa W/DT I		
Date Analyzed: 11/24/2009	Jale Flepareu.	11/24/2009	Ana	IVSI: WAU		
Date Analyzed: 11/24/2009 I OC- Sample ID: 353394-007 D	Batch #:	11/24/2009	Mai	trix: Soil		
Date Analyzed: 11/24/2009 I QC- Sample ID: 353394-007 D Reporting Units: %	Batch #:	1 SAMPLE /	Ana Ma SAMPLE	trix: Soil	ATE REC	OVERY
Date Analyzed: 11/24/2009 QC- Sample ID: 353394-007 D Reporting Units: % Percent Moisture Analyte	Batch #:	1 SAMPLE / rent Sample Result [A]	Ana Ma SAMPLE Sample Duplicate Result [B]	RPD	ATE REC Control Limits %RPD	<b>OVERY</b> Flag

2.20 **4**75 - 1

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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	Project Manager:	Cindy Crain	<u></u>	<u> </u>					محنيب							<u></u>	-	Pr	ojec	t Na	me:				Bu	rgu	Ind	y El	MU	Lea	se		
	Company Name	Ocotillo Environmental,	LLC														_		P	rojec	ct#:						100	9-0	190	;	_		
	Company Address	: PO Box 1816							_								-	1	Proj	ect i	-oc:				Lea	a Cc	ount	y, N	ew N	lexi	co		
	City/State/Zip:	Hobbs, NM 88241															_			P	0 #:												
	Telephone No:	(575) 441-7244				Fax No	:	(43	32)	272-	030	4					R	ерон	t Fo	rma	t:	卤	/ Stai	ndar	rd			TRI	RP			IPDE	s
	Sampler Signature	indial	rain			e-mail	:	ci	inc	iy.c	rail	n@	gm	ail.	cor	n						1											
(lab use	only)																		E			T	CLP:	An	nalyz	ze Fr	or:				T	┦▖	]
ORDE	r#: <u>353</u>	394							L	Prev	serva	stion a	£ # cf	Cont	ainen	8	Ma	atrix	<u>e</u>		1	TO	TAL:	Se	-		8					2 #	L
AB # (lab use only)	FIE		leginning Depth	inding Depth	Date Sampled	Time Sampled	iekt Fittered	otal #. of Containers	1	- NUC	HC	H <sub>s</sub> o.	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other ( Specify)	W=Drinking Water SL=Studge	3W = Groundwatter S=Solf/Solid P=Non-Potable Specify Other	PH: 418.1 (8015M) 80	PH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (CL)SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg	/olatifies	Semivolatiles	3TEX 8021B/5030 or BTEX 824	Ş	4.O.R.M.			RUSH TAT (Pre-Schedule) 24,	Nandard TAT
Ø		SS-1	7'	7'	11/23/2009	1330			$\mathbf{t}$	$\mathbf{x}^{-}$	+	+			-			<u> </u>	Īx	╞		G	Ť			Ť	Ħ	Ť	Ť	+	+	忄	ľx
02		SS-2	7'	7'	11/23/2009	1334		1	5	ĸ		T	1					S	x			x					Π			T	+	T	Ix
03		SS-3	7'	7'	11/23/2009	1337		1	5	<b>x</b>	Τ							s	x			x					$\square$			T		T	X
at		SS-4	7'	7'	11/23/2009	1340		1	Б	<b>x</b>								S		Γ		х					$\Box$					Τ	X
05		SS-5	7'	7'	11/23/2009	1345		1	$\mathbf{b}$	<b>K</b>								S	x			х										Τ	x
06		SS-6	7'	7'	11/23/2009	1348		1	Þ	< 🗌								s				Х											X
01		SS-7	4'	4'	11/23/2009	1352		1	Þ	<								s				х											X
08		SS-8			11/23/2009	1356		1	Ľ	<u>&lt;</u>						_		<u>s</u>	X			X		_						$\bot$	$\perp$	L	X
09	SS-1	0 (Comp)			11/23/2009	1400	_	1	Ł	4	+-	+						<u>s</u>	<b> </b>	-	$\square$	X					$\vdash$			4	+	┢	×
Special Relinovia	Instructions:	Date	<u>_</u>	ime	Received by:	L		<u> </u>	1_ 			<u> </u>	- <b>L</b>			Da	I		I	e	Lat Sar VO	ora pipis Cs F	tory Cor ree	Cor Main of H	nmi ensi iead	ents Inta spa	 i: i:dt? i:D	 / Notice		- Co	 }	N N	<b>I</b>
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### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client:	Ocotillo Env.
Date/ Time:	11.24.09 14:40
Lab ID # :	353394
Initials:	AL

#### Sample Receipt Checklist

				C	lient Initials
#1	Temperature of container/ cooler?	(ES)	No	4.0 °C	
#2	Shipping container in good condition?	Nes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	(Fes)	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./Lid	,
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(tes)	No		
#11	Containers supplied by ELOT?	des	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	des	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	des	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	Ves	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	(Tes)	No	Not Applicable	

#### Variance Documentation

Contact:		Contacted by:	Date/ Time:
Regarding:			
Corrective Action Taker	1:		
Check all that Apply:		See attached e-mail/ fax Client understands and would f Cooling process had begun sho	ke to proceed with analysis ortly after sampling event

....

## Analytical Report 356011

for

## **Ocotillo Environmental, LLC**

**Project Manager: Cindy Crain** 

**Burgundy EMU Lease** 

#### 1009-019C

#### 05-JAN-10



#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



05-JAN-10

Project Manager: Cindy Crain Ocotillo Environmental, LLC P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: **356011 Burgundy EMU Lease** Project Address: Lea County, New Mexico

#### **Cindy Crain**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 356011. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 356011 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America




## Sample Cross Reference 356011

## Ocotillo Environmental, LLC, Hobbs, NM

Burgundy EMU Lease

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-1	S	Dec-16-09 15:20	7 - 7 ft	356011-001
SS-2	S	Dec-16-09 15:23	7 - 7 ft	356011-002
SS-3	S	Dec-16-09 15:26	7 - 7 ft	356011-003
SS-4	S	Dec-16-09 15:30	7 - 7 ft	356011-004
SS-5	S	Dec-16-09 15:33	7 - 7 ft	356011-005
SS-6	S	Dec-16-09 15:35	7 - 7 ft	356011-006
SS-7	S	Dec-16-09 15:38	4 - 4 ft	356011-007
SS-10 (Comp)	S	Dec-16-09 15:45		356011-008

## CASE NARRATIVE



Client Name: Ocotillo Environmental, LLC Project Name: Burgundy EMU Lease

Project ID:1009-019CWork Order Number:356011

Report Date: 05-JAN-10 Date Received: 12/17/2009

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

#### Analytical Non Conformances and Comments:

Batch: LBA-786262 Percent Moisture AD2216A Batch 786262, Percent Moisture RPD is outside the QC limit. This is most likely due to sample non-homogeneity. Samples affected are: 356011-001, -002, -007, -003, -004, -006, -005, -008.

Batch: LBA-786494 TPH By SW8015 Mod None

Batch: LBA-786498 Anions by E300 None



Project Id: 1009-019C

Contact: Cindy Crain

Project Location: Lea County, New Mexico

## Certificate of Analysis Summary 356011

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease

Date Received in Lab: Thu Dec-17-09 02:45 pm

Report Date: 05-JAN-10

								Project Ma	nager:	Brent Barron,	11		
· · · · · · · · · · · · · · · · · · ·	Lab Id:	356011-0	01	356011-0	02	356011-0	003	356011-0	004	356011-0	05	356011-0	06
Analysis Paguastad	Field Id:	<b>SS-1</b>		SS-2		SS-3		SS-4		SS-5		SS-6	
Analysis Requested	Depth:	7-7 ft		7-7 ft		7-7 ft		7-7 ft		7-7 ft		7 <b>-</b> 7 ft	
	Matrix:	SOIL		SOIL		SOIL	1	SOIL		' SOIL		SOIL	
	Sampled:	Dec-16-09	15:20	Dec-16-09	15:23	Dec-16-09 1	15:26	Dec-16-09	15:30	Dec-16-09	15:33	Dec-16-09 1	5:35
Anions by E300	Extracted:												
	Analyzed:			Dec-18-09 1	13:07			Dec-18-09	13.07	Dec-18-09	13:07	Dec-18-09 1	13:07
	Units/RL:			mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride				656	9.57			271	11.4	270	4.37	510	56.1
Percent Moisture	Extracted:								ļ				
	Analyzed:	Dec-17-09	17.00	Dec-17-09	17:00	Dec-17-09 1	17:00	Dec-17-09	17:00	Dec-17-09	17:00	Dec-17-09 1	17:00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		16.3	1.00	12.3	1.00	17.3	1.00	26.5	1.00	3.87	1.00	25 1	1.00
TPH By SW8015 Mod	Extracted:	Dec-17-09	15:45	Dec-17-09	15:45	Dec-17-09 1	15:45						
	Analyzed:	Dec-19-09	09:10	Dec-19-09 (	09.36	Dec-19-09	10:04						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
C6-C12 Gasoline Range Hydrocarbons		32.5	17.9	ND	17.1	ND	18.1						
C12-C28 Diesel Range Hydrocarbons		229	17.9	26.4	17 1	144	18.1						
C28-C35 Oil Range Hydrocarbons		23.9	17.9	ND	17.1	21.4	18.1						
Total TPH		285	17.9	26.4	17.1	165	18.1						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our hability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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Brent Barron, II Odessa Laboratory Manager



Project Id: 1009-019C

Contact: Cindy Crain

Project Location: Lea County, New Mexico

## Certificate of Analysis Summary 356011

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease

Date Received in Lab: Thu Dec-17-09 02:45 pm

Report Date: 05-JAN-10

Project Manager: Brent Barron, II

	Lab Id:	356011-0	07	356011-00	08			
Analysis Paguastad	Field Id:	SS-7		SS-10 (Cor	np)			
Analysis Requested	Depth:	4-4 ft						
	Matrix:	SOIL		SOIL				
	Sampled:	Dec-16-09 1	5:38	Dec-16-09 1	5:45			
Anions by E300	Extracted:							
	Analyzed:	Dec-18-09	13:07	Dec-18-09 1	3:07			
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		32.1	5.57	10000	226			
Percent Moisture	Extracted:							
	Analyzed:	Dec-17-09	17:00	Dec-17-09 1	7:00			
	Units/RL;	%	RL	%	RL			
Percent Moisture		24.5	1.00	25.8 <sup>.</sup>	1.00		 	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our hability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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Brent Barron, II

Odessa Laboratory Manager





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- RL Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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5757 NW 158th St. Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

## Project Name: Burgundy EMU Lease

Work Orders : 356011,	lers : 356011, Project ID: 1009-019C										
Lab Batch #: 786494	Sample: 545951-1-BKS / B	KS Bate	h: <sup>1</sup> Matrix	Solid							
Units: mg/kg	Date Analyzed: 12/19/09 01:07	SU	RROGATE RI	ECOVERY	STUDY						
ТРН В	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		89.3	99.8	. 89	70-135						
o-Terphenyl		40.4	49.9	81	70-135						
Lab Batch #: 786494	Sample: 545951-1-BSD / B	SD Batel	h: 1 Matrix	Solid							
Units: mg/kg	Date Analyzed: 12/19/09 01:34	SU	RROGATE RI	ECOVERY	STUDY						
ТРН Е	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		94.4	99.8	95	70-135						
o-Terphenyl		41.8	49.9	84	70-135						
Lab Batch #: 786494	Sample: 545951-1-BLK / B	LK Batcl	h: 1 Matrix:	Solid							
Units: mg/kg	Date Analyzed: 12/19/09 02:00	SU.	RROGATE RI	ECOVERY	STUDY						
ТРН В	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		71.3	100	71	70-135						
o-Terphenyl		42.0	50.0	84	70-135						
Lab Batch #: 786494	Sample: 356011-001 / SMP	Bate	h: 1 Matrix	Soil							
Units: mg/kg	Date Analyzed: 12/19/09 09:10	SU	<b>RROGATE RI</b>	ECOVERY	STUDY						
ТРН Е	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		76.9	100	77	70-135						
o-Terphenyl		45.6	50.0	91	70-135						
Lab Batch #: 786494	Sample: 356011-002 / SMP	Batel	h: <sup>1</sup> Matrix	:Soil							
Units: mg/kg	Date Analyzed: 12/19/09 09:36	SU	RROGATE RI	ECOVERY	STUDY						
ТРН В	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags					
1-Chlorooctane		78.5	99.9	79	70-135						
o-Terphenyl		46.2	50.0	92	70-135						

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

## Project Name: Burgundy EMU Lease

Work Orders : 356011	•		Project II	<b>):</b> 1009-0190	2	
Lab Batch #: 786494	Sample: 356011-003 / SMP	Batch	h: <sup>1</sup> Matrix:	Soil		
Units: mg/kg	Date Analyzed: 12/19/09 10:04	SU	RROGATE RI	ECOVERY	STUDY	
ТРН І	3y SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes					
1-Chlorooctane		73.8	100	74	70-135	
o-Terphenyl		43.8	50.0	88	70-135	
Lab Batch #: 786494	Sample: 355920-001 S / MS	Batcl	h: 1 Matrix	Soil		
Units: mg/kg	Date Analyzed: 12/19/09 10:31	SU	RROGATE RI	ECOVERY	STUDY	
ТРН Ј	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes	ſ		[ [D]	1	
1-Chlorooctane		86.2	99.6	87	70-135	
o-Terphenyl		39.8	49.8	80	70-135	
Lab Batch #: 786494	Sample: 355920-001 SD / M	SD Batcl	h: 1 Matrix:	Soil	-	
Units: mg/kg	Date Analyzed: 12/19/09 10:58	SU	RROGATE RI	ECOVERY	STUDY	
ТРН Ј	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		90.8	99.8	91	70-135	·
o-Terphenyl		42.4	49.9	85	70-135	··

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.





### **Project Name: Burgundy EMU Lease**

Work Order #: 356011		Project ID:										
Lab Batch #: 786498	Sample: 786498-	1-BKS	Matrix:	Solid								
Date Analyzed: 12/18/2009	Date Prepared: 12/18/20	009	Analyst:	LATCOR	ł							
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY	STUDY						
Anions by E300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags						
Analytes	[A]	[B]	Result [C]	%R [D]	%R							
Chloride	ND	11.0	11.1	101	75-125							

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit





## **BS / BSD Recoveries**

#### Project Name: Burgundy EMU Lease

Work Order #: 356011 Analyst: BEV Lab Batch ID: 786494	Sample: 545951-1-B	D: KS	ate Prepar Batel	red: 12/17/200 h #: 1	9			Proj Date A	ject ID: 1 nalyzed: 1 Matrix: S	009-019C 2/19/2009 Solid		
Units: mg/kg			BLAN	K/BLANK S	PIKE / E	BLANK S	PIKE DUPL	ICATE	RECOVE	CRY STUD	Ý	
TPH By SW80 Analytes	15 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydroca	arbons	ND	998	893	89	998	961	96	7	70-135	35	
C12-C28 Diesel Range Hydrocar	bons	ND	998	841	84	998	787	79	7	70-135	35	

Relative Percent Difference RPD =  $200^{*}|(C-F)/(C+F)|$ Blank Spike Recovery [D] =  $100^{*}(C)/[B]$ Blank Spike Duplicate Recovery [G] =  $100^{*}(F)/[E]$ All results are based on MDL and Validated for QC Purposes



## Form 3 - MS Recoveries



Flag

## Project Name: Burgundy EMU Lease

Work Order #: 356011						
Lab Batch #: 786498			Pro	ject ID:	1009-0190	
Date Analyzed: 12/18/2009	Date Prepared: 12/18/20	)09	A	nalyst: L	ATCOR	
QC- Sample ID: 356011-002 S	Batch #: 1		Ν	fatrix: S	oil	
Reporting Units: mg/kg	MATRIX	/ MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike	Spiked Sample Result ICl	%R	Control Limits %R	F
Analytes	[A]	[B]		[2]	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Chloride	656	228	844	82	75-125	
					··	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



## Project Name: Burgundy EMU Lease



)

Work Order #: 356011	<b>Project ID:</b> 1009-019C												
Lab Batch ID: 786494 Date Analyzed: 12/19/2009	QC- Sample ID: Date Prepared:	355920 12/17/2	-001 S 009	Ba An	tch #: alyst:	1 <b>Matri</b> y BEV	k: Soil						
Reporting Units: mg/kg	-		IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERY	STUDY				
TPH By SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Spiked Sample	Spike	Duplicate Spiked Sample	Spiked Dup.	RPD	Control Limits	Control Limits	Flag		
Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	<sup>0</sup> /0	%R	%RPD			
C6-C12 Gasoline Range Hydrocarbons	ND	1080	940	87	1080	962	89	2	70-135	35			
C12-C28 Diesel Range Hydrocarbons	43.8	1080	910	80	1080	808	71	12	70-135	35			

Matrix Spike Percent Recovery  $[D] = 100^{+}(C-A)/B$ Relative Percent Difference RPD =  $200^{+}[(C-F)/(C+F)]$  Matrix Spike Duplicate Percent Recovery [G] = 100\*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit



## Sample Duplicate Recovery

#### **Project Name: Burgundy EMU Lease**

Work Order #: 356011

Lab Batch #: 786498			Project I	<b>D:</b> 1009-019	)C
Date Analyzed: 12/18/2009 Date Prepa	red: 12/18/2009	) Anal	yst:LATC	OR	
QC- Sample ID: 356011-002 D Bate	h#: 1	Mat	rix: Soil		
Reporting Units: mg/kg	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		<b>[B]</b>			
Chloride	656	652	1	20	
Lab Batch #: 786262					
Date Analyzed: 12/17/2009 Date Prepa	red: 12/17/2009	Anal	yst: WRU		
QC- Sample ID: 355915-007 D Bate	h #: 1	Mat	rix: Soil		
Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.43	1.99	33	20	F.

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

Env	vironment	tal Lab of	Te	exa	IS					12 04	2600 dest	We sa, 1	CH. est I-2 fexas	AIN :0 Ei : 79:	OF ast 765	CU	STC	DY R	EC	OR	DA	ND	AN. I	AL) Pho Fax	YS <i>I</i> : ne: k:	5 <i>Ri</i> 432 432	EQ( !-56 2-56	JES 3-18 3-17	17 100 113				
	Project Manager:	Cindy Crain																Pr	ojec	t Na	ime:				Bu	rgu	ndy	r EN	1U L	.eas	0		
	Company Name	Ocotillo Environmen	tal, LLC	2												_			P	roie	ct #:						100	9-01	90				
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(lab use d	only)																		E			ĭ	CLP:	Ar	alyz		or:	T	<del></del>	T	Τ	£	
ORDER	1#: 356	011									Pres	ervat	tion & #	ofC	ontair	ыеге		Matrix	B		T	тс	TAL:	8								4	
AB # (lab use only)	FIE	LD CODE		<b>Bepth</b>	Ending Depth	Date Sampled	Time Sampled	ield Fittened	otal #. of Containens	8	HNO <sub>3</sub>	ΗC	H <sub>5</sub> SO <sub>1</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None Other / Snerity)	Owner ( Operation)	3W = Groundwater S=Soit/Soiid ₽P=Non-Printise Scenddr Other	TPH: 418.1 (8015M) 80	IPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (ChSO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 82(	RCI	N.O.R.M.			RUSH TAT (Pre-Bchedule) 24,	Standard TAT
01		SS-1		<u></u>	7'	12/16/2009	1520	1		x		1	$\uparrow \uparrow$	-+	╈	+		S	X	†	†	ľ	Ť.		ŕ		Ē	_	-+	1		Γ	X
ÕŹ		SS-2		7'	7'	12/16/2009	1523		1	x	:				T			S	X			X							$\Box$			L	X
03		SS-3		7'	7'	12/16/2009	1526		1	x								S	X													L	X
04		<u>\$\$-4</u>		7'	7'	12/16/2009	1530		1	X								S				X							$\square$	$\bot$	$\perp$	$\bot$	X
05		<u>SS-5</u>		7'	7'	12/16/2009	1533		1	X	<u> </u>		$\square$	_	$\downarrow$		_	S			<u> </u>	×						$\square$		$\downarrow$	╇	┢	<u> x</u>
06		<u>SS-6</u>		7'	7'	12/16/2009	1535	ļ	1	×	:	ļ	$\downarrow$		_			S	1	$\bot$	_	<u> x</u>					$\square$	┝╍┥			+	╇	₽×
-07-		<u>SS-7</u>		4'	4'	12/16/2009	1538	<b> </b>	1	×	-	-	╄╼╂	+	-	+	┢	S	┢	<u> </u>	–	×	-			<b>  </b>	μ	-+	+	+	+	┢	Ě
05	SS-1	0 (Comp)				12/16/2009	1545		1	₽×	-	+	++	+		+-	╋	<u>s</u>	╋	┢	┼─	ľ				┝─┥	$\vdash$	-+	-+	-+-	+	╊	f
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## Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client	Ocotillo Env.
Date/ Time:	17.17.09 14:45
Lab ID # :	354011
Initials:	A1

#### Sample Receipt Checklist

				Clier	<u>ut Initials</u>
#1	Temperature of container/ cooler?	Yes	No	<u>3.1 °C</u>	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Tes	No		
#6	Sample instructions complete of Chain of Custody?	cres	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	1D written on Cont Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Pes	No	See Below	
#13	Samples property preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Nes	No		
#15	Preservations documented on Chain of Custody?	(Yes	No		
#16	Containers documented on Chain of Custody?	(Yes	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Net Applicable	
#20	VOC samples have zero headspace?	(Yes	No	Not Applicable	

#### **Variance** Documentation

Contact:		Contacted by:		Date/ Time:								
Regarding:												
<u></u>		····										
Corrective Ac	Corrective Action Taken:											

Check all that Apply:

 $\Box$ 

Π

1. . . . Martin

10071020

See attached e-mail/ fax

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

Final Ver. 1.000

.

# Analytical Report 359357

for

## **Ocotillo Environmental, LLC**

**Project Manager: Cindy Crain** 

**Burgundy EMU Lease** 

## 1009-019 C

#### 22-JAN-10



#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

> Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330) Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX) Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX) Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX) Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240), South Carolina(96031001), Louisiana(04154), Georgia(917)



22-JAN-10

Project Manager: **Cindy Crain Ocotillo Environmental, LLC** P.O. Box 1816 Hobbs, NM 88241

Reference: XENCO Report No: **359357 Burgundy EMU Lease** Project Address: Lea Co., NM

#### **Cindy Crain**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 359357. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 359357 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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## Sample Cross Reference 359357

## Ocotillo Environmental, LLC, Hobbs, NM

Burgundy EMU Lease

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
SS-1	S	Jan-19-10 09:05		359357-001
SS-2	S	Jan-19-10 09:08		359357-002
SS-3	S	Jan-19-10 09:12		359357-003
SS-4	S	Jan-19-10 09:15		359357-004
SS-5	S	Jan-19-10 09:18		359357-005
SS-6	S	Jan-19-10 09:23		359357-006
SS-8	S	Jan-19-10 09:28		359357-007
SS-10	S	Jan-19-10 09:32		359357-008

Page 3 of 15

## **CASE NARRATIVE**



Client Name: Ocotillo Environmental, LLC Project Name: Burgundy EMU Lease

Project ID:1009-019 CWork Order Number:359357

Report Date: 22-JAN-10 Date Received: 01/20/2010

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-790374 Percent Moisture None

Batch: LBA-790386 Inorganic Anions by EPA 300 None

Batch: LBA-790498 TPH By SW8015 Mod None



Project Id: 1009-019 C Contact: Cindy Crain Project Location: Lea Co., NM

## Certificate of Analysis Summary 359357

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease

Date Received in Lab: Wed Jan-20-10 04:50 pm

Report Date: 22-JAN-10

								<b>Project</b> Mai	nager:	Brent Barron,	II		
· · · · · · · · · · · · · · · · · · ·	Lab Id:	359357-0	01	359357-0	02	359357-0	03	359357-004		359357-005		359357-006	
Anglusis Deguested	Field Id;	SS-1		SS-2	ļ	SS-3		SS-4		SS-5		SS-6	
Anuiysis Kequesieu	Depth;												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-19-10 0	9.05	Jan-19-10 0	9:08	Jan-19-10 0	9:12	Jan-19-10 (	)9:15	Jan-19-10 (	9 18	Jan-19-10 0	)9:23
Anions by E300	Extracted:												
	Analyzed:			Jan-21-10 2	1.23			Jan-21-10 21:23		Jan-21-10 2	21.23	Jan-21-10 21:23	
	Units/RL:			mg/kg	RL			mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride				9.95	4.25			39.2	5.20	55.6	4.22	87.8	4.25
Percent Moisture	Extracted:												
	Analyzed:	Jan-21-10 I	2.25	Jan-21-10 12:25		Jan-21-10 12:25		Jan-21-10 12:25		Jan-21-10 12.25		Jan-21-10 12:25	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		18.4	1.00	1.11	1.00	17.8	1.00	19.2	1 00	ND	1.00	1.13	1.00
TPH By SW8015 Mod	Extracted:	Jan-21-10 J	1.30			Jan-21-10 1	1:30						
	Analyzed:	Jan-22-10 1	4:46			Jan-22-10 1	5:12						
	Units/RL:	mg/kg	RL			mg/kg	RL						
C6-C12 Gasoline Range Hydrocarbons		ND	18.4			ND	18.2						
C12-C28 Diesel Range Hydrocarbons		ND	184			ND	18.2						
C28-C35 Oil Range Hydrocarbons		ND	18.4			ND	18.2						
Total TPH		ND	18.4			ND	18.2						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Brent Barron, II

Odessa Laboratory Manager



Project Id: 1009-019 C Contact: Cindy Crain Project Location: Lea Co., NM

## Certificate of Analysis Summary 359357

Ocotillo Environmental, LLC, Hobbs, NM

Project Name: Burgundy EMU Lease

Date Received in Lab: Wed Jan-20-10 04:50 pm

Report Date: 22-JAN-10

Project Manager: Brent Barron, II

	Lab Id;	359357-0	07	359357-0	08			
Analysis Paguastad	Field Id:	SS-8		SS-10				
Anulysis Requested	Depth;					1		-
	Matrix:	SOIL		SOIL	1			
	Sampled:	Jan-19-10 0	9:28	Jan-19-10 0	9.32			
Anions by E300	Extracted:							,
	Analyzed:	Jan-21-10 2	Jan-21-10 21:23		21:23			
	Units/RL:	mg/kg	RL	mg/kg	RL			 
Chloride		25.1	4.21	3290	43.0			 
Percent Moisture	Extracted:							
	Analyzed:	Jan-21-10 1	2:25	Jan-21-10 1	2:25			
	Units/RL:	%	RL	%	RL		<u> </u>	
Percent Moisture		ND	1.00	2,40	1.00			
TPH By SW8015 Mod	Extracted:	Jan-21-10 1	1:30					1
	Analyzed:	Jan-22-10 1	5.39					
	Units/RL:	mg/kg	RL					
C6-C12 Gasoline Range Hydrocarbons		ND	15.0					
C12-C28 Diesel Range Hydrocarbons		42.1	15 0					
C28-C35 Oil Range Hydrocarbons		ND	15.0					
Total TPH		42.1	15.0					

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Brent Barron, II

Odessa Laboratory Manager



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St. Miami Lakes. FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane. Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



## Form 2 - Surrogate Recoveries

Project Name: Burgundy EMU Lease

Work Orders : 359357	r, Sampler 548278-1-BKS / B	KS Rotel	Project I	D: 1009-019 • Solid	С	
Units: mg/kg	Date Analyzed: 01/22/10 10:44	SU	RROGATE R	ECOVERY	STUDY	<u>.</u>
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[D]		
1-Chlorooctane		115	100	115	70-135	
o-Terphenyl		50.8	50.2	101	70-135	
Lab Batch #: 790498	<b>Sample:</b> 548278-1-BSD / B	SD Batel	h: <sup>1</sup> Matrix	:Solid		
Units: mg/kg	Date Analyzed: 01/22/10 11:11	SU	RROGATE R	ECOVERY	STUDY	
ТРН	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		105	99.8	105	70-135	
o-Terphenyl		47 4	49.9	95	70-135	
L	Sample: 548278-1-BLK / B	I.K Batel	h· 1 Matrix	•Solid	<u> </u>	
Lab Datch #. 190 190	<b>Date Analyzed:</b> $01/22/10$ 11.37	SU	RROGATE R	ECOVERY	STUDY	
TPH ]	By SW8015 Mod	Amount Found	True Amount Bl	Recovery %R	Control Limits %R	Flags
	Analytes	{r • ]	[10]	[D]		
1-Chlorooctane		91.1	99.9	91	70-135	
o-Terphenyl		50.2	50.0	100	70-135	
Lab Batch #: 790498	Sample: 359357-001 / SMP	Batel	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 01/22/10 14:46	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
	Analytes			[U]		
1-Chlorooctane		100	100	100	70-135	
o-Terphenyl		54.3	50 0	109	70-135	<u>_</u>
Lab Batch #: 790498	Sample: 359357-003 / SMP	Batel	h: 1 Matrix	:Soil		
Units: mg/kg	Date Analyzed: 01/22/10 15:12	SU	RROGATE R	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		101	99.8	101	70-135	
o-Terphenyl	,	55.3	49.9	111	70-135	

\* Surrogate outside of Laboratory QC limits
 \*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

## Project Name: Burgundy EMU Lease

Work Orders : 359357,		<b>Project ID:</b> 1009-019 C								
Lab Batch #: 790498 Sample: 359357-007 / SMP		Batch: 1 Matrix: Soil								
Units: mg/kg	Date Analyzed: 01/22/10 15:39	SURROGATE RECOVERY STUDY								
ТРН Ву	SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
A	nalytes			[D]						
1-Chlorooctane		81.2	99.6	82	70-135					
o-Terphenyl		43.9	49.8	88	70-135					

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] = 100 \* A / BAll results are based on MDL and validated for QC purposes.





## Project Name: Burgundy EMU Lease

Work Order #: 359357		Project ID:				
Lab Batch #: 790386	Sample: 790386	1-BKS	Matrix:			
Date Analyzed: 01/21/2010	Date Prepared: 01/21/2	010	Analyst: LATCOR			
Reporting Units: mg/kg	<b>Batch #:</b> 1	BLANK /BLANK SPIKE RECOVERY STU				
Anions by E300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags
Analytes	[A]	[B]	Result [C]	%R [D]	%R	
Chloride	ND	10.0	9.36	94	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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## **BS / BSD Recoveries**



#### Project Name: Burgundy EMU Lease

Work Order #:         359357           Analyst:         BEV           Lab Batch ID:         790498           Sample:         548278	Da -1-BKS	<b>Date Prepared:</b> 01/21/2010 BKS <b>Batch #:</b> 1				Project ID: 1009-019 C Date Analyzed: 01/22/2010 Matrix: Solid						
Units: mg/kg	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate Besult (F)	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Analytes		[B]	נטן	וען	[E]	Result [F]	[6]					
C6-C12 Gasoline Range Hydrocarbons	ND	1000	993	99	998	908	91	9	70-135	35		
C12-C28 Diesel Range Hydrocarbons	ND	1000	786	79	998	881	88	11	70-135	35		

.

Relative Percent Difference  $RPD = 200^{*}|(C-F)/(C+F)|$ Blank Spike Recovery  $[D] = 100^{*}(C)/[B]$ Blank Spike Duplicate Recovery  $[G] = 100^{*}(F)/[E]$ All results are based on MDL and Validated for QC Purposes 3



## Form 3 - MS Recoveries



## Project Name: Burgundy EMU Lease

Work Order #: 359357						
Lab Batch #: 790386			Pro	ject ID:	1009-019 C	2
Date Analyzed: 01/21/2010	Date Prepared: 01/21/2010 Analyst: LATCOR					
QC- Sample ID: 359288-001 S	Batch #: 1 Matrix: Soil					
Reporting Units: mg/kg	MATRIX / MATRIX SPIKE RECOVERY STU					
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]				
Chloride	4740	4900	9690	101	75-125	
			·		• • • • • • • • •	·

Matrix Spike Percent Recovery [D] = 100\*(C-A)/BRelative Percent Difference [E] = 200\*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



### **Project Name: Burgundy EMU Lease**

Work Order #: 359357

Lab Batch #: 790386	<b>Project ID:</b> 1009-019 C							
Date Analyzed: 01/21/2010 Date Prepar	Date Prepared: 01/21/2010 Analyst: LATCOR							
QC- Sample ID: 359288-001 D Batc	<b>h #:</b> 1	Mat	rix: Soil					
Reporting Units: mg/kg	SAMPLE / SAMPLE DUPLICATE REC							
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag			
Analyte		լոյ	·					
Chloride	4740	4790	1	20				
Lab Batch #: 790374								
Date Analyzed: 01/21/2010 Date Prepar	red: 01/21/2010	) Anal	yst:JLG					
QC- Sample ID: 359350-001 D Bate	h#: 1	Mat	rix: Soil					
Reporting Units: %	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY			
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag			
	1							

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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	Project Manager:	Cindy Crain													Pro	oject	Nan	19: _	B	ura	un	14	E	ML	<u>1 L</u>	eat	»e
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LAB # {lab use only}	FiEL	D CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Fittered Fotal # of Containers	8	HNO3	HCI	N-204	<sup>c</sup> O <sup>z</sup> S <sup>z</sup> en	None	Outer ( Specify) DW=Drinking Water SL=Studge	GW = Groundwater S=SolidSolid NP=Non-Potable Specify Other	TPH-> 418.1 (8015M)	TPH: TX 1005 TX 100	Cations (Ca, Mg, Na, K)	Aritoris (CL)SO4, Alkalinity)	SAR / ESP / CEC	Volatiles	Semivolatiles	BTEX 80218/5030 or BTEX (	RCI	N.O.R.M.		RUSH TAT (Pre-Bahedule)
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Page 14 of 15

## Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

cotillo Environmental 1/20/10 16:50 Date/ Time: 359357

Lab ID # :

Client:

Initials:

#### Sample Receipt Checklist

				Clien	t Initials
#1	Temperature of container/ cooler?	(Yes)	No	3.6°C	
#2	Shipping container in good condition?	(es)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(es)	No		
#7	Chain of Custody signed when relinquished/ received?	(es)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	D written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(res)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(es)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	res	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(res)	No		
#17	Sufficient sample amount for indicated test(s)?	(es)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

#### Variance Documentation

Contact:		Contacted by:	Date/ Time:	
Regarding:				
Corrective Action Taken	1:			
Check all that Apply:		See attached e-mail/ fax Client understands and would lif Cooling process had begun sho	ke to proceed with analysis rtly after sampling event	<u></u>

# Analytical Report 368406

for

## **Crain Environmental**

**Project Manager: Cindy Crain** 

Burgundy EMU Lease 0410-002

### 14-APR-10





#### 12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)
Xenco-Boca Raton (EPA Lab Code: FL00449):
Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295)



14-APR-10



Project Manager: **Cindy Crain Crain Environmental** 2925 E 17th St. Odessa, TX 79761

Reference: XENCO Report No: 368406 Burgundy EMU Lease Project Address: Lea County, New Mexico

#### **Cindy Crain**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 368406. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 368406 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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Sample Cross Reference 368406

Crain Environmental, Odessa, TX

Burgundy EMU Lease

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS-10 (Comp)	S	Apr-06-10 17:37		368406-001

\*\*\*





Client Name: Crain Environmental Project Name: Burgundy EMU Lease



Project ID:0410-002Work Order Number:368406

Report Date: 14-APR-10 Date Received: 04/07/2010

Sample receipt non conformances and Comments: None

Sample receipt Non Conformances and Comments per Sample:

None

#### Analytical Non Conformances and Comments:

Batch: LBA-801482 Inorganic Anions by EPA 300 E300MI Batch 801482, Chloride RPD is outside the QC limit. This is most likely due to sample nonhomogeneity. Samples affected are: 368406-001.

Batch: LBA-802006 Percent Moisture None

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Constraints of	

## Certificate of Analysis Summary 368406

Crain Environmental, Odessa, TX Project Name: Burgundy EMU Lease



Project Id: 0410-002 Contact: Cindy Crain Project Location: Lea County, New Mexico

Date Received in Lab: Wed Apr-07-10 02:30 pm

Report Date: 14-APR-10

Project Manager: Brent Barron, II

	Lab Id:	368406-001			
Analysis Paguastad	Field Id:	SS-10 (Comp)		•	
Analysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	Apr-06-10 17:37			
Anions by E300	Extracted:				
	Analyzed:	Apr-07-10 15.00			
	Units/RL:	mg/kg RL			
Chloride		63.1 4.22			
Percent Moisture	Extracted;				
	Analyzed:	Apr-08-10 17:00			
	Units/RL:	% RL			 
Percent Moisture		ND 1.00			

This analytical report, and the enture data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our labolity is limited to the amount invoiced for this work order unless otherwise agreed to in writing

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brent Barron, II

Odessa Laboratory Manager





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- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- BRL Below Reporting Limit.
- **RL** Reporting Limit
- \* Outside XENCO's scope of NELAC Accreditation.

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210) 509-3334	(210) 509-3335
813) 620-2000	(813) 620-2033
305) 823-8500	(305) 823-8555
432) 563-1800	(432) 563-1713
361) 884-0371	(361) 884-9116





## Project Name: Burgundy EMU Lease

Work Order #: 368406		Project ID:						
Lab Batch #: 801482	Sample: 801482-	1-BKS	Matrix:					
Date Analyzed: 04/07/2010	Date Prepared: 04/07/20	010	Analyst: LATCOR					
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK SPI	KE REC	OVERY	STUDY		
Anions by E300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags		
Analytes	[A]	[B]	Result [C]	%R   [D]	%R			
Chloride	ND	11.0	11.5	105	75-125			

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit




# Project Name: Burgundy EMU Lease

Work Order #: 368406								
Lab Batch #: 801482			Pro	ject ID:	0410-002			
Date Analyzed: 04/07/2010	Date Prepared: 04/0	7/2010	Analyst: LATCOR					
QC- Sample ID: 368091-011 S	Batch #: 1	Batch #: 1 Matrix: Soil						
Reporting Units: mg/kg	MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY		
Inorganic Anions by EPA 300	Parent Sample Result	Spike	Spiked Sample Result	%R	Control Limits	Flag		
Analytes	[A]	[B]			70K			
Chloride	285	410	711	104	75-125			
					<u>.                                    </u>			

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

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Sample Duplicate Recovery



## Project Name: Burgundy EMU Lease

Work Order #: 368406

Lab Batch #: 801482			Project I	<b>D:</b> 0410-002	2		
Date Analyzed: 04/07/2010 Date 1	Prepared: 04/07/2010	0 Anai	lyst:LATC	OR			
QC- Sample ID: 368091-011 D	Batch #: 1	Mat	rix: Soil				
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE RECOVERY			
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag		
Analyte		[B]	}				
Chloride	285	297	4	20			
Lab Batch #: 802006							
Date Analyzed: 04/08/2010 Date 1	Prepared: 04/08/2010	0 Ana	lyst:LATC	COR			
QC- Sample ID: 368406-001 D	Batch #: 1	Mat	rix: Soil				
Reporting Units: %	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY		
Percent Moisture Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag		
Percent Moisture	ND	ND	NC	20			

Spike Relative Difference RPD 200 \* |(B-A)/(B+A)|All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit •

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	Project Manager:	Cindy Crain														Pro	ojeci	t Nar	ne:			Βι	ırgı	ındy	EM	U Le	ase		
	Company Name	Crain Environmental							<u> </u>	*******							Pr	ojec	- :#:					041	0-00	12			
	Company Address:	2925 East 17th Street														F	roje	et L	- DC:			Le	a Co	ounty	, Nev	v Me	xico	, <del>,,,,,,,,,,</del> ,,,,,,,,,,,,,,,,,,,,,,,,,	
	City/State/Zip:	Odessa, TX 79761															•	PC	#:										
	Telephone No:	(432) 530-9797				Fax No:		(432	2) 272	-030	4					Report	l Foi	mat		8 s	landa	ard		י 🗋	RRF			NPD	ES
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ORDER			T		Г <u></u>		<u> </u>		Pre	serva	tion &	# of (	Conta	iners	┽	Matrix	8015E	ø			¦₿ ₽			3260					;
LAB # (lab use only)	FIEL	.D CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Fotal #. of Containers	los HND-	HCI	H <sub>z</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Umer ( specify)	DW=Dainking Water SL=Skudge GW = Groundwater S=SoulSoud NP=Non-Potable Specify Other	TPH: 418.1 8015M	TPH: TX 1005 TX 100	Cations (Ca, Mg, Na, K)	Anions (CDSO4, Alkalinity) SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb I	Volatites	Semivolatiles	BTEX 80218/5030 or BTEX	NORM	Notar		DI 1611 TAT	Standard TAT
01	SS-1	0 (Comp)			4/6/2010	1737		1						x		S				x	T				1	T	$\square$	Τ	X
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Received by

Received by:

Received by ELOT:

Turkes

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Time

H30

Time

Time

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Date

4/7/10

Date

Date

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Special Instructions:

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Laboratory Comments:

Date

Date

Date

4.7.10

Time

Time

Time

14:30

Sample Containers Intect?

VOCs Free of Headspace?

Lebels on container(s) Custody seals on container(s) Custody stats on cooler(s)

Sample Hand Delivered by Sampler/Client Rep. ? by Courier? UPS DHL 4 01.91035 Temperature Upon Receipt:

A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A CALL AND A

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

Client:	Crain Env.	
Date/ Time:	4.7.10 14:30	
Lab ID # :	348404	
Initials:	A)	

#### Sample Receipt Checklist

				Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	23.1 °C
#2	Shipping container in good condition?	(Yes)	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
#5	Chain of Custody present?	(Yes)	No	
#6	Sample instructions complete of Chain of Custody?	Yes	No	
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No	
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid
<b>#</b> 9	Container label(s) legible and intact?	Yes	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No	
#11	Containers supplied by ELOT?	Yes	No	
#12	Samples in proper container/ bottle?	Yes	No	See Below
#13	Samples properly preserved?	Yes	No	See Below
#14	Sample bottles intact?	Yes	No	
#15	Preservations documented on Chain of Custody?	Yes	No	
#16	Containers documented on Chain of Custody?	(Yes)	No	
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below
#18	All samples received within sufficient hold time?	(Yes)	No	See Below
#19	Subcontract of sample(s)?	Yes	No	<not applicable=""></not>
#20	VOC samples have zero headspace?	Yes	No	Not Applicable

#### Variance Documentation

Coni	tact:
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Contacted by:

Date/ Time:

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Regarding:

Corrective Action Taken:

Check all that Apply:

See attached e-mail/ fax

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Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

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