



**PROYECTO: CUENCA DEL RIO  
SONORA; DERRAME DE LA  
MINA BUENAVISTA DEL  
COBRE, CANANEA, SONORA**

**TOMO II  
VEGETALES**

## INDICE GENERAL VEGETALES

### 1. Gramíneas y leguminosas-----

- Elote/Caña
- Hoja de elote/Trigo
- Elote
- Hoja de Elote
- Caña
- Vaina/Semilla/Sorgo

### 2. Hortalizas-----

- Ejote/Ajo
- Chile
- Chile (segundo lote)
- Pepino/Nopal/Calabaza

### 3. Vegetales frescos y secos-----

- V. frescos
- V. frescos/ V. secos

## **CONTENIDO**

### **ELOTE / CAÑA**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Elote/Caña)  
Fecha de Recepción: 2015-10-15

### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
Referencia: EPA 6010C-2007  
Resultados: Ver hoja excell .....2015/10/15(2)  
Fecha de analisis, Metales y Mercurio: 2015-11-06 2015-11-09  
Fecha de Realización del Informe: 2015-11-10

### IDENTIFICACIÓN CLIENTE

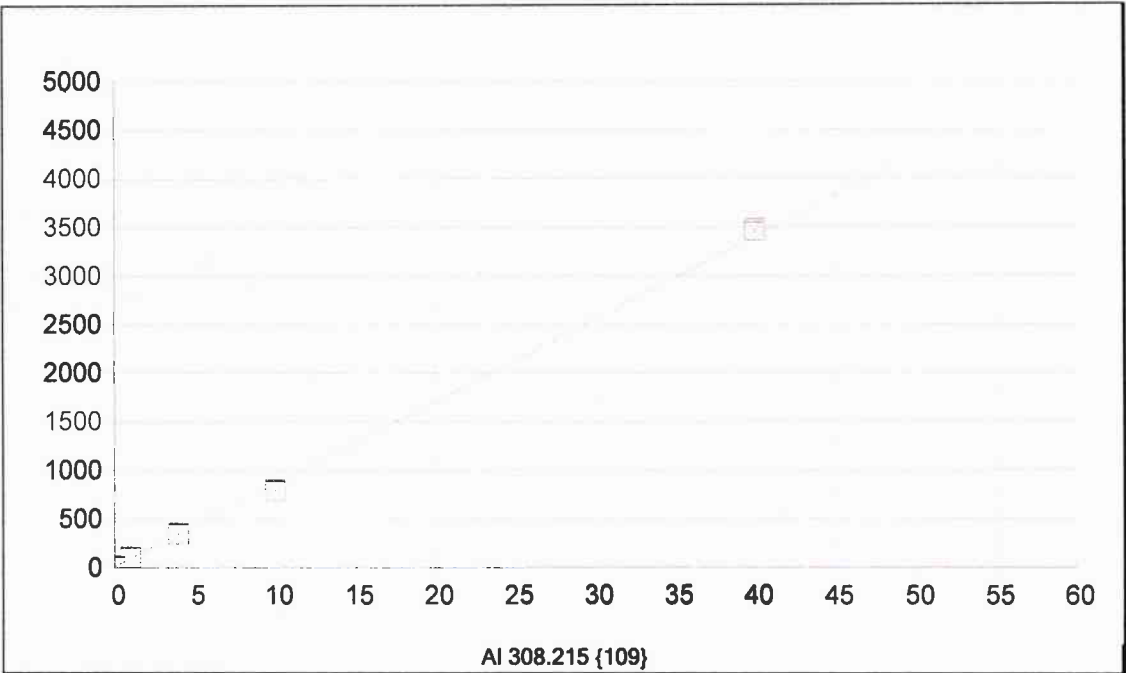
L-1003/15/0024  
L-1014/15/0139  
L-1014/15/0140  
L-1019/15/0181  
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L-1029/15/0283  
L-1030/15/0291  
L-1030/15/0292  
L-1059/15/0583  
L-1069/15/0690  
L-1017/15/0166

### CLAVE DE IDENTIFICACIÓN

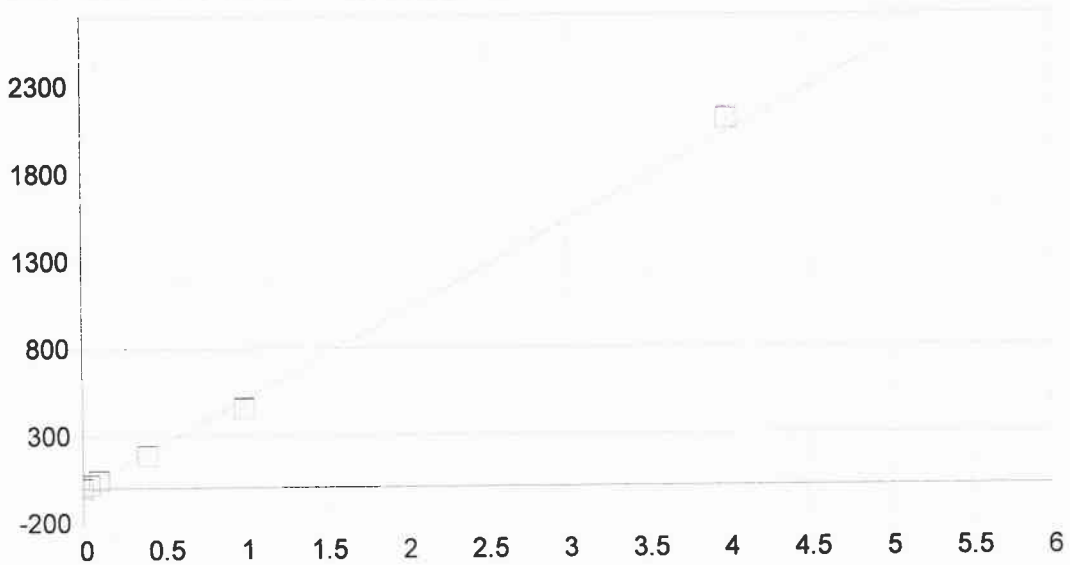
GISC15-20280  
GISC15-20300  
GISC15-20301  
GISC15-20306  
GISC15-20307  
GISC15-20328  
GISC15-20329  
GISC15-20330  
GISC15-20331  
GISC15-20386  
GISC15-20404  
GISC15-20305

REVISÓ

Q.F.B.Leticia Velázquez Méndez  
Gerente Técnico



Fecha de la	06/11/2015 15:35:48	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	10.781259	Reajustar P	1.000000				
A1 (Ganancia)	84.715218	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999139	Estatus:	OK.				
Error Estándar de Est:	1.063942						
MDL:	0.034626						
MQL:	0.115420						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00003	-.000	.000	10.778	5.31	1
STD 6	1.0000	1.1071	.107	10.7	104.57	4.00	1
STD 7	4.0000	3.9655	-.034	-.862	346.72	5.91	1
STD 8	10.000	9.1712	-.829	-8.29	787.72	8.65	1
STD 9	40.000	40.756	.756	1.89	3463.5	19.2	1

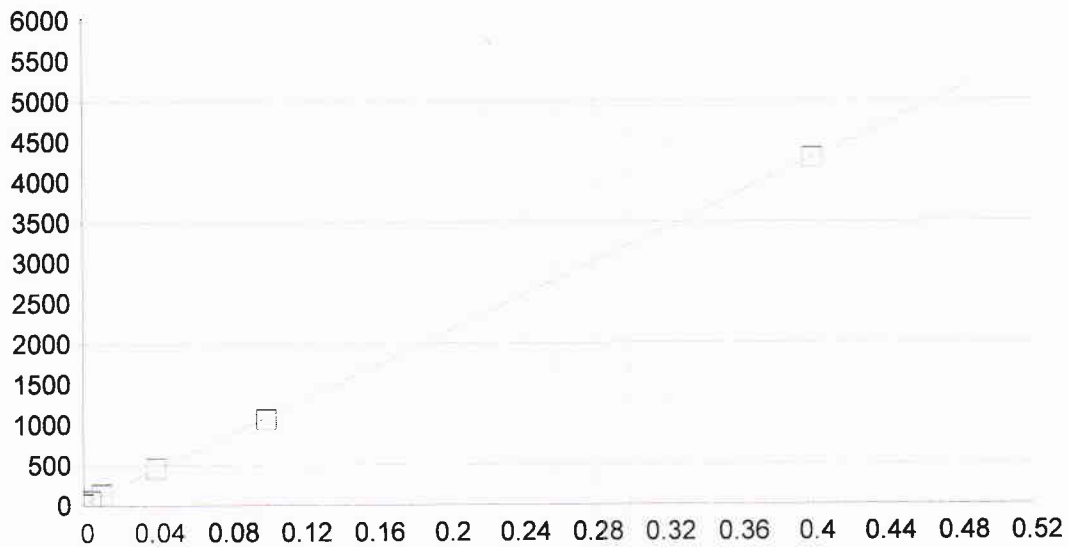


As 189.042 (478)

Fecha de la 06/11/2015 15:29:18 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.256146 Reajustar P 1.000000  
 A1 (Ganancia) 506.325013 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998147 Estatus: OK.  
 Error Estándar de Est: 0.562331  
 MDL: 0.001815  
 MQL: 0.006049

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	-.24860	1.18	1
STD 4	.10000	.08663	-.013	-13.4	43.607	.733	1
STD 5	.40000	.36692	-.033	-8.27	185.53	1.14	1
STD 6	1.0000	.89973	-.100	-10.0	455.30	1.40	1
STD 7	4.0000	4.1505	.150	3.76	2101.2	6.30	1
STD 3	.04000	.03626	-.004	-9.34	18.105	.777	1

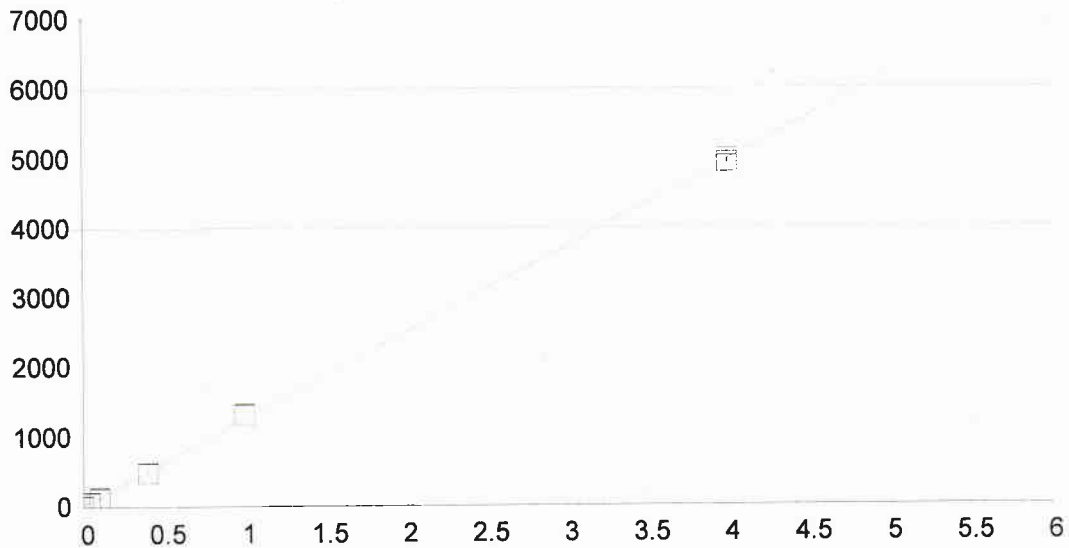


Cd 226.502 {449}

Fecha de la 06/11/2015 15:24:50 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 19.352085 Reajustar P 1.000000  
 A1 (Ganancia) 10666.40868 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999782 Estatus: OK.  
 Error Estándar de Est: 0.405646  
 MDL: 0.000113  
 MQL: 0.000376

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	19.348	3.98	1
STD 1	.00400	.00390	-.000	-2.55	60.931	10.4	1
STD 2	.01000	.01116	.001	11.6	138.42	8.67	1
STD 3	.04000	.04149	.001	3.73	461.93	2.63	1
STD 4	.10000	.09782	-.002	-2.18	1062.7	3.20	1
STD 5	.40000	.39963	-.000	-.093	4281.9	.768	1



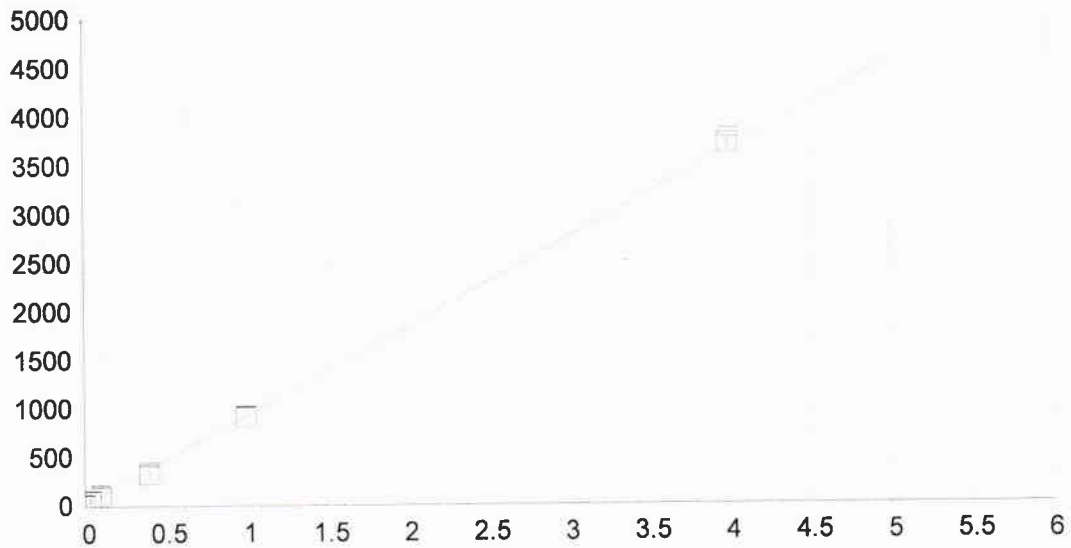
Cu 324.754 {104}

Fecha de la 06/11/2015 15:29:18 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 10.926092 Reajustar P 1.000000  
 A1 (Ganancia) 1240.546351 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999518 Estatus: OK.  
 Error Estándar de Est: 0.702123  
 MDL: 0.003159  
 MQL: 0.010529

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	10.927	2.13	1
STD 5	.40000	.37911	-.021	-5.22	481.23	4.61	1
STD 6	1.0000	1.0601	.060	6.01	1326.0	6.66	1
STD 7	4.0000	3.9650	-.035	-.875	4929.7	53.3	1
STD 3	.04000	.04127	.001	3.17	62.123	4.00	1
STD 4	.10000	.09454	-.005	-5.46	128.20	5.82	1



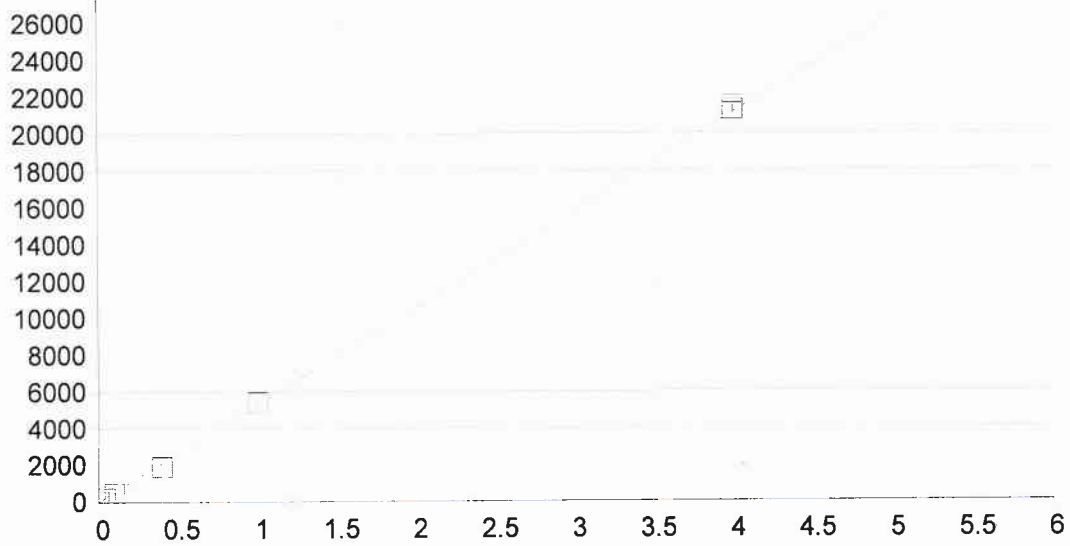


Fe 259.940 {130}

Fecha de la 06/11/2015 15:29:18 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 14.601788 Reajustar P 1.000000  
 A1 (Ganancia) 911.506255 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999237 Estatus: OK.  
 Error Estándar de Est: 0.649159  
 MDL: 0.003258  
 MQL: 0.010859

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	14.603	5.23	1
STD 5	.40000	.34693	-.053	-13.3	330.83	15.9	1
STD 6	1.0000	.98863	-.011	-1.14	915.74	3.61	1
STD 3	.04000	.04373	.004	9.33	54.463	5.16	1
STD 4	.10000	.09930	-.001	-.697	105.12	13.1	1
STD 7	4.0000	4.0614	.061	1.54	3716.6	43.5	1

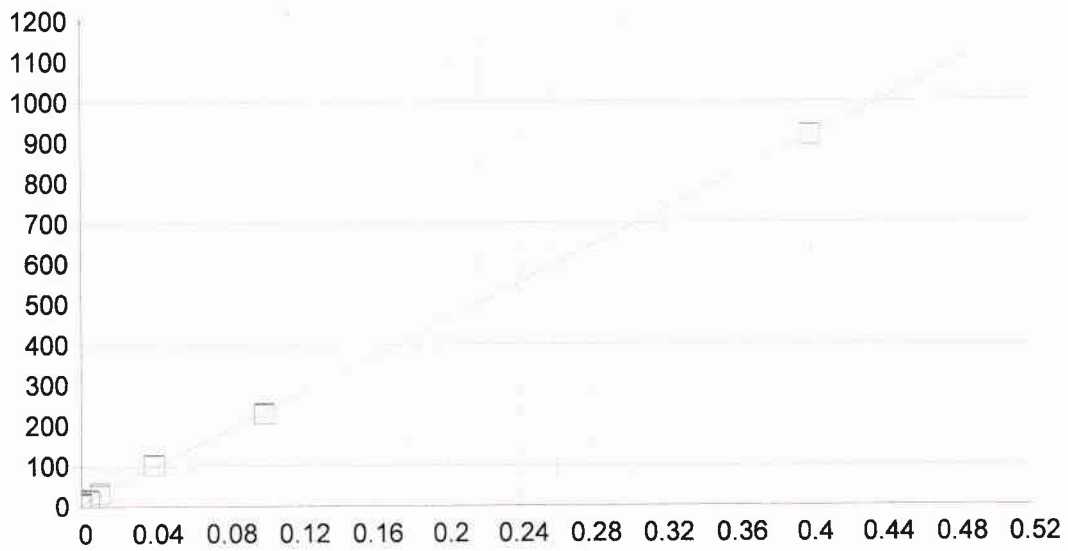


Mn 257.610 {131}

Fecha de la 06/11/2015 15:29:18 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 12.644685 Reajustar P 1.000000  
 A1 (Ganancia) 5271.797171 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999384 Estatus: OK.  
 Error Estándar de Est: 3.371077  
 MDL: 0.000471  
 MQL: 0.001570

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	12.700	1.79	1
STD 5	.40000	.35974	-.040	-10.1	1909.1	10.3	1
STD 6	1.0000	1.0279	.028	2.79	5431.8	25.2	1
STD 3	.04000	.03720	-.003	-7.00	208.75	2.18	1
STD 4	.10000	.08735	-.013	-12.7	473.12	2.34	1
STD 7	4.0000	4.0278	.028	.694	21246.	194.	1

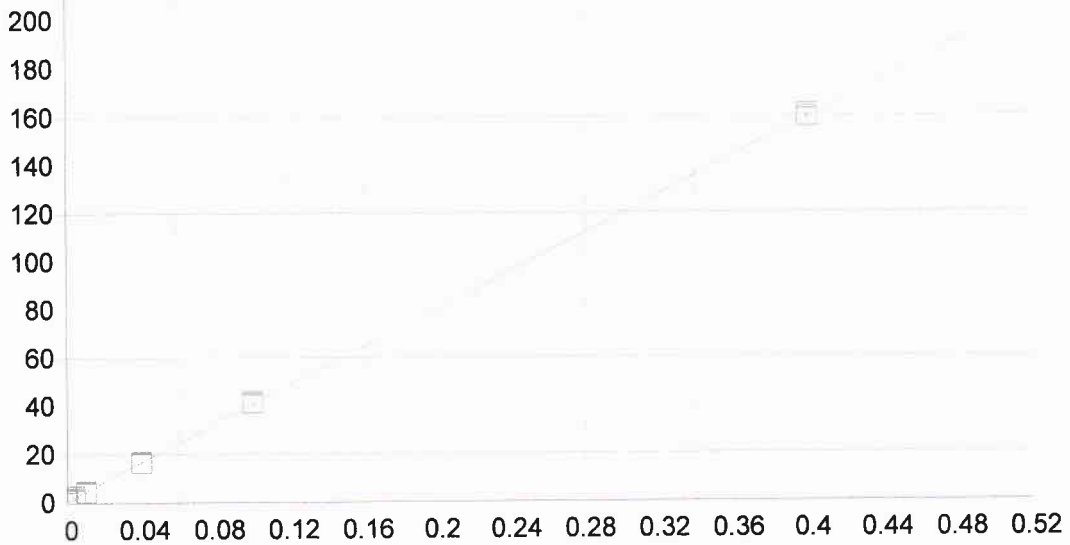


Ni 231.604 {446}

Fecha de la	06/11/2015 15:29:18	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	7.339661	Reajustar P	1.000000		
A1 (Ganancia)	2268.717252	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999803	Estatus:	OK.		
Error Estándar de Est:	0.081952				
MDL:	0.000427				
MQL:	0.001422				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	7.3396	1.08	1
STD 1	.00400	.00365	-.000	-8.73	15.623	2.12	1
STD 2	.01000	.01072	.001	7.20	31.661	3.17	1
STD 3	.04000	.04174	.002	4.36	102.04	.387	1
STD 4	.10000	.09757	-.002	-2.43	228.69	.849	1
STD 5	.40000	.40032	.000	.080	915.55	.532	1

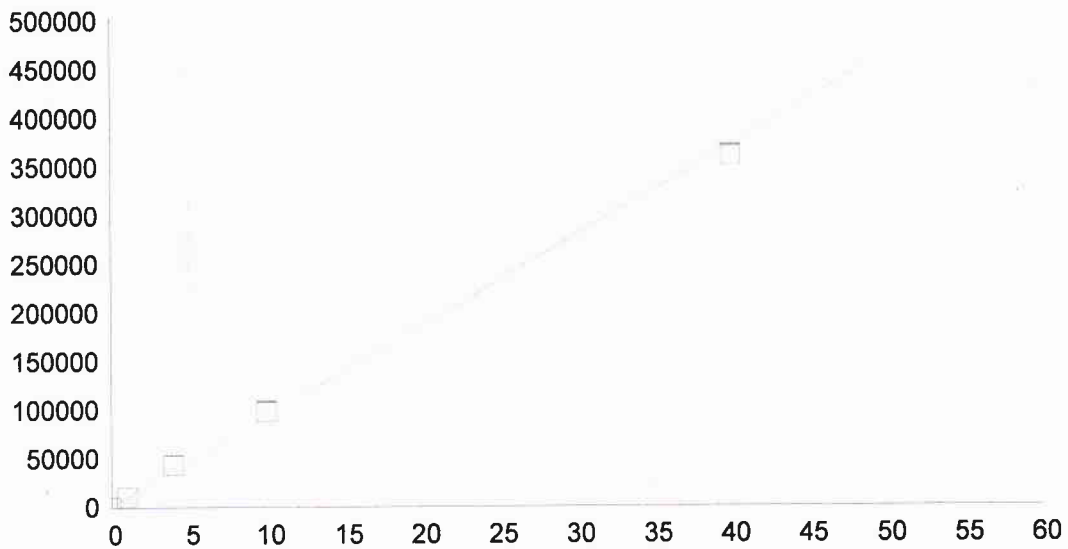


Pb 220.353 {453}

Fecha de la 06/11/2015 15:24:50 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.899583 Reajustar P 1.000000  
 A1 (Ganancia) 396.095079 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999522 Estatus: OK.  
 Error Estándar de Est: 0.022325  
 MDL: 0.001557  
 MQL: 0.005190

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	.90023	.697	1
STD 1	.00400	.00280	-.001	-30.0	2.0084	.853	1
STD 2	.01000	.00887	-.001	-11.3	4.4134	.408	1
STD 3	.04000	.03945	-.001	-1.38	16.525	.422	1
STD 4	.10000	.10176	.002	1.76	41.206	.551	1
STD 5	.40000	.40112	.001	.280	159.78	1.12	1

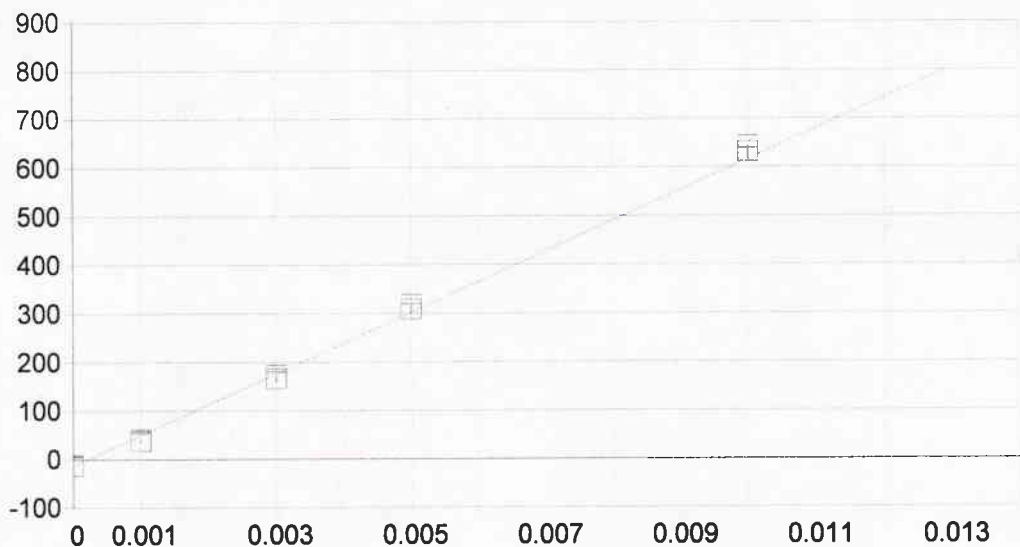


Zn 213.856 {458}

Fecha de la 06/11/2015 15:35:48 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 130.349194 Reajustar P 1.000000  
 A1 (Ganancia) 9330.506612 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998420 Estatus: OK.  
 Error Estándar de Est: 158.859086  
 MDL: 0.000120  
 MQL: 0.000400

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00029	-.000	.000	127.65	3.19	1
STD 6	1.0000	1.1147	.115	11.5	10531.	24.3	1
STD 7	4.0000	4.6127	.613	15.3	43170.	114.	1
STD 8	10.000	10.527	.527	5.27	98349.	202.	1
STD 9	40.000	38.746	-1.25	-3.14	361650.	817.	1



Hg 194.227 {474}

Fecha de la 09/11/2015 08:31:47 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -13.102709 Reajustar P 1.000000  
 A1 (Ganancia) 62982.35494 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998638 ✓ Estatus: OK.  
 Error Estándar de Est: 0.584863  
 MDL: 0.000025  
 MQL: 0.000082

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-13.090	1.93	1
STD 1	.00100	.00081	-.000	-19.1	37.868	3.57	1
STD 2	.00300	.00285	-.000	-5.04	166.33	7.33	1
STD 3	.00500	.00511	.000	2.16	308.61	9.32	1
STD 4	.01000	.01023	.000	2.34	631.45	12.6	1



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-CAÑA/ELOTE-151106**  
 Fecha de Análisis: **06/11/2015**  
 Fecha de Reporte: **06/11/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100		0.0100
NIVEL 5		0.400	0.400	0.400	0.400	0.400	0.400	0.400		
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000								10.000	
NIVEL 9	40.000								40.000	
Correlación	0.9991	0.9981	0.9998	0.9995	0.9999	0.9994	0.9998	0.9995	0.9984	0.9986

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/Kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
2	QC:QC-3	Cadmio	0.0400	0.0401	100	8	Recuperación	Mercurio	0.5	0.443	89
		Plomo	0.0400	0.0409	102	20	Recuperación	Aluminio	40.0000	35.9800	90
3	QC:QC5	Arsénico	0.4000	0.3983	100			Arsenico	40.0000	44.2900	111
		Cobre	0.4000	0.3955	99			Cadmio	40.0000	40.2800	101
		Fierro	0.4000	0.3927	98			Cobre	40.0000	36.0000	90
		Manganeso	0.4000	0.3968	99			Fierro	40.0000	41.2100	103
		Niquel	0.4000	0.3988	100			Manganeso	40.0000	40.3300	101
4	QC: QC7	Aluminio	4.0000	4.0340	101			Niquel	40.0000	39.7100	99
		Zinc	4.0000	4.0510	101			Plomo	40.0000	42.3700	106
20	Estandar de chequeo	Mercurio	0.5	0.5173	103			Zinc	40.0000	42.4700	106

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

*I.B.I. Gaudencio Vargas Espejel*

**I.B.I. Gaudencio Vargas Espejel**  
ELABORÓ

*Q.F.B. Leticia Velázquez Méndez*

**Q.F.B. Leticia Velázquez Méndez**  
REVISÓ

**PACE/GIS/I02-F01**



## Residuos Tóxicos

### Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-20280	Vegetales	Elote	15/10/2015	0.5055	0.5080
GISC15-20300	Vegetales	Caña	15/10/2015	0.5070	0.5066
GISC15-20301	Vegetales	Caña	15/10/2015	0.5083	0.5061
GISC15-20306	Vegetales	Elote	15/10/2015	0.5092	0.5052
GISC15-20307	Vegetales	Elote	15/10/2015	0.5017	0.5027
GISC15-20328	Vegetales	Caña	15/10/2015	0.5023	0.5039
GISC15-20329	Vegetales	Caña	15/10/2015	0.5025	0.5016
GISC15-20330	Vegetales	Elote	15/10/2015	0.5029	0.5001
GISC15-20331	Vegetales	Elote	15/10/2015	0.5033	0.5012
GISC15-20386	Vegetales	Elote	15/10/2015	0.5037	0.5011
GISC15-20404	Vegetales	Elote	15/10/2015	0.5039	0.5005

P.A. Reynalberto M.E.  
CS

I.B.T. Reyna Ivette Delgado

Q.F.B. Leticia Velazquez Méndez



1	Blanco: BLANCO 06/11/2015 15:20:23 CONC									
	D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-.1433	-.0007	-.0018	.0083	-.0104	-.0019	-.0010	-.0015	-.0093	
Desv. Est.	.0479	.0009	.0001	.0026	.0014	.0005	.0005	.0019	.0001	
% RSD	33.43	135.3	5.438	30.74	13.14	26.11	44.63	126.9	.9380	
Rep #1	-.0984	.0002	-.0017	.0111	-.0112	-.0017	-.0015	-.0008	-.0093	
Rep #2	-.1378	-.0016	-.0017	.0077	-.0088	-.0025	-.0008	-.0036	-.0093	
Rep #3	-.1937	-.0007	-.0019	.0061	-.0111	-.0016	-.0007	-.0000	-.0094	
2	QC: QC-3 06/11/2015 15:24:59 CONC									
	D MP 151106: VEGETALES:									
	Cd2265	Pb2203								
Línea	226.502 {44	220.353 {45								
Unidades	mg/Kg	mg/Kg								
Media	.0401	.0409								
Desv. Est.	.0002	.0013								
% RSD	.3983	3.266								
Rep #1	.0399	.0412								
Rep #2	.0402	.0395								
Rep #3	.0401	.0421								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
3	QC: QC-5 06/11/2015 15:29:23 CONC									
	D MP 151106: VEGETALES:									
	As1890	Cu3247	Fe2599	Mn2576	Ni2316					
Línea	189.042 {47	324.754 {10	259.940 {13	257.610 {13	231.604 {44					
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
Media	.3983	.3955	.3927	.3968	.3988					
Desv. Est.	.0018	.0028	.0033	.0015	.0011					
% RSD	.4565	.7000	.8530	.3719	.2803					
Rep #1	.3974	.3928	.3889	.3958	.3981					
Rep #2	.3971	.3983	.3953	.3961	.4001					
Rep #3	.4004	.3956	.3940	.3985	.3982					
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno					
Valor										
Intervalo										
4	QC: QC-7 06/11/2015 15:35:52 CONC									
	D MP 151106: VEGETALES:									
	Al3082	Zn2138								
Línea	308.215 {10	213.856 {45								
Unidades	mg/Kg	mg/Kg								
Media	4.034	4.051								
Desv. Est.	.027	.013								
% RSD	.6791	.3078								
Rep #1	4.017	4.038								
Rep #2	4.065	4.052								
Rep #3	4.019	4.063								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
5	Blanco: REACTIVO 06/11/2015 15:38:05 CONC									
	D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	

Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-0.0551	-0.0027	.0035	.0122	.0355	.0106	.0059	.0035	-0.0028	
Desv. Est.	.0136	.0007	.0006	.0099	.0134	.0111	.0005	.0017	.0005	
% RSD	24.67	25.84	16.30	80.79	37.83	104.4	7.954	47.60	18.11	
Rep #1	-.0497	-.0019	.0042	.0236	.0506	.0234	.0064	.0050	-.0023	
Rep #2	-.0706	-.0029	.0031	.0070	.0306	.0035	.0055	.0039	-.0033	
Rep #3	-.0450	-.0032	.0033	.0061	.0252	.0049	.0057	.0017	-.0030	
6	Blanco: MUESTRA 06/11/2015 15:40:18 CONC x100 D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-0.4879	-0.5679	.1973	.3409	4.113	.3923	.5654	.2445	.2609	
Desv. Est.	3.438	.0901	.0396	.4201	.197	.1370	.0384	.1477	.0393	
% RSD	704.7	15.86	20.09	123.2	4.785	34.92	6.797	60.42	15.07	
Rep #1	-1.090	-.4685	.1649	-.1249	4.116	.2350	.5287	.0942	.2207	
Rep #2	3.211	-.6440	.1856	.4568	3.914	.4851	.5622	.3895	.2628	
Rep #3	-3.585	-.5913	.2415	.6909	4.308	.4568	.6053	.2498	.2993	
7	Unk: GISC15-20280 06/11/2015 15:42:48 CONC x100 D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.509	.0203	.0763	.4154	5.253	1.842	.0503	-.0260	7.231	
Desv. Est.	2.210	.1351	.0845	.1510	.518	.069	.1084	.1707	.074	
% RSD	88.10	667.0	110.7	36.35	9.860	3.736	215.5	657.4	1.017	
Rep #1	-3.637	-.0649	.1152	.5092	5.786	1.919	.1029	.0353	7.235	
Rep #2	.0380	-.0504	-.0206	.4958	5.220	1.821	-.0743	-.2188	7.156	
Rep #3	-3.928	.1760	.1344	.2412	4.752	1.787	.1223	.1056	7.303	
8	Unk: GISC15-20300 06/11/2015 15:47:29 CONC x100 D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-6.197	.0673	-.3705	.0931	-.0781	-.2155	-.4938	-.3887	1.125	
Desv. Est.	2.397	.1327	.0075	.1231	.0507	.0479	.0265	.1027	.013	
% RSD	38.69	197.3	2.032	132.2	64.95	22.21	5.363	26.42	1.136	
Rep #1	-7.938	.0863	-.3622	-.0466	-.0488	-.2038	-.4677	-.3582	1.140	
Rep #2	-3.462	.1895	-.3723	.1404	-.0488	-.2682	-.5206	-.3047	1.118	
Rep #3	-7.191	-.0739	-.3769	.1855	-.1366	-.1746	-.4933	-.5032	1.118	
9	Unk: GISC15-20301 06/11/2015 15:49:44 CONC x100 D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.871	.0322	-.3584	.0977	-.5041	-.0538	-.4616	-.3986	.9756	
Desv. Est.	2.803	.2401	.0041	.2265	.2282	.0191	.0192	.1349	.0117	
% RSD	97.63	745.5	1.156	231.9	45.26	35.61	4.151	33.85	1.200	
Rep #1	-5.794	.0043	-.3617	-.1384	-.3383	-.0624	-.4419	-.3685	.9690	
Rep #2	-.2066	-.1928	-.3597	.1182	-.4098	-.0318	-.4802	-.5460	.9686	
Rep #3	-2.612	.2851	-.3537	.3133	-.7643	-.0671	-.4627	-.2812	.9891	
10	Unk: GISC15-20306 06/11/2015 15:51:58 CONC x100 D MP 151106: VEGETALES:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.223	.1115	-.3552	.6883	5.014	1.957	-.3882	-.3373	12.55	

Desv. Est.	.875	.0536	.0041	.1573	.308	.062	.0250	.0350	.09
% RSD	39.36	48.02	1.166	22.86	6.135	3.176	6.434	10.37	.7316
Rep #1	-2.183	.1734	-.3567	.6063	5.357	2.011	-.4113	-.3672	12.65
Rep #2	-3.117	.0795	-.3505	.8696	4.924	1.889	-.3617	-.2988	12.52
Rep #3	-1.369	.0817	-.3583	.5888	4.762	1.971	-.3917	-.3458	12.47
11	Unk: GISC15-20307 06/11/2015 15:54:06 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.023	.0285	-.2802	.7957	8.773	4.723	-.2943	-.3040	20.39
Desv. Est.	3.532	.2147	.0215	.2345	.159	.036	.0232	.0773	.03
% RSD	87.79	753.1	7.662	29.47	1.809	.7578	7.872	25.42	.1663
Rep #1	-.5784	-.2054	-.2618	.5640	8.658	4.743	-.3069	-.2589	20.43
Rep #2	-3.854	.2166	-.2749	1.033	8.707	4.745	-.2676	-.2599	20.39
Rep #3	-7.636	.0743	-.3038	.7900	8.954	4.682	-.3085	-.3932	20.36
12	Unk: GISC15-20328 06/11/2015 15:56:22 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.887	.1280	-.3165	.4430	10.63	.1588	-.4263	-.3206	2.206
Desv. Est.	.744	.1294	.0167	.0490	.23	.0304	.0059	.0476	.087
% RSD	15.22	101.2	5.279	11.05	2.134	19.13	1.395	14.85	3.949
Rep #1	-5.442	-.0109	-.3125	.4900	10.37	.1892	-.4312	-.3078	2.304
Rep #2	-4.042	.2454	-.3021	.4468	10.79	.1284	-.4197	-.2806	2.177
Rep #3	-5.177	.1494	-.3348	.3923	10.73	.1588	-.4280	-.3733	2.138
13	Unk: GISC15-20329 06/11/2015 15:58:36 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.779	.0565	-.3054	.0087	-.5236	.1071	-.4130	-.3455	1.286
Desv. Est.	.651	.1426	.0201	.1380	.2932	.0110	.0088	.0593	.016
% RSD	13.63	252.5	6.594	1595.	55.99	10.26	2.132	17.17	1.220
Rep #1	-5.248	-.1016	-.3239	-.0780	-.2797	.1029	-.4231	-.3117	1.268
Rep #2	-4.035	.1754	-.2839	.1678	-.8489	.1195	-.4074	-.4140	1.293
Rep #3	-5.054	.0956	-.3083	-.0638	-.4423	.0987	-.4084	-.3108	1.297
14	Unk: GISC15-20330 06/11/2015 16:00:45 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-6.217	.1877	-.2972	.0440	3.283	1.383	-.3960	-.2446	9.275
Desv. Est.	.828	.0477	.0383	.2150	.301	.076	.0245	.1345	.119
% RSD	13.32	25.42	12.90	488.3	9.165	5.524	6.181	54.99	1.287
Rep #1	-7.090	.2424	-.2598	.2923	3.584	1.426	-.4022	-.2131	9.400
Rep #2	-5.442	.1663	-.3364	-.0810	3.282	1.428	-.4168	-.3920	9.262
Rep #3	-6.119	.1545	-.2952	-.0792	2.982	1.295	-.3690	-.1286	9.162
15	Unk: GISC15-20331 06/11/2015 16:02:59 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.445	-.2806	-.3087	.5795	10.36	3.902	-.2918	-.4503	19.32
Desv. Est.	3.507	.1762	.0313	.3239	.32	.123	.0569	.1074	.05
% RSD	101.8	62.78	10.14	55.90	3.076	3.141	19.49	23.84	.2781

Rep #1	-7.090	-.2631	-.3001	.5885	10.03	3.916	-.2856	-.3280	19.34
Rep #2	-3.148	-.1139	-.3434	.8988	10.66	4.017	-.3515	-.4938	19.26
Rep #3	-.0960	-.4649	-.2827	.2512	10.40	3.773	-.2382	-.5291	19.36
16	Unk: GISC15-20386 06/11/2015 16:05:28 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.726	-.1017	-.3358	.4426	1.466	4.157	-.3857	-.2967	5.693
Desv. Est.	4.519	.1088	.0200	.2398	.126	.125	.0175	.2061	.031
% RSD	121.3	107.1	5.970	54.17	8.606	2.994	4.524	69.49	.5515
Rep #1	-8.165	-.2179	-.3267	.3080	1.376	4.014	-.3755	-.4652	5.727
Rep #2	.8687	-.0022	-.3220	.7195	1.412	4.220	-.3758	-.0668	5.666
Rep #3	-3.881	-.0849	-.3588	.3004	1.610	4.238	-.4059	-.3579	5.686
17	Unk: GISC15-20404 06/11/2015 16:07:57 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.264	-.1288	-.3600	1.182	7.139	3.443	-.3207	-.3705	12.74
Desv. Est.	1.095	.1405	.0214	.394	.187	.043	.0099	.1486	.15
% RSD	33.54	109.1	5.954	33.35	2.625	1.237	3.084	40.11	1.152
Rep #1	-2.039	.0257	-.3649	1.567	6.934	3.396	-.3296	-.2063	12.60
Rep #2	-4.146	-.2491	-.3786	.7786	7.302	3.458	-.3226	-.4095	12.72
Rep #3	-3.606	-.1630	-.3366	1.202	7.181	3.477	-.3101	-.4957	12.89
18	Unk: GISC15-20305-(10-02) 06/11/2015 16:11:18 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	929.6	.6900	-.2246	8.487	1468.	37.49	.4334	1.222	11.94
Desv. Est.	14.2	.1636	.0278	.117	7.	.27	.0443	.183	.11
% RSD	1.531	23.71	12.40	1.385	.4819	.7258	10.23	14.98	.9155
Rep #1	925.7	.5025	-.2264	8.357	1470.	37.59	.4074	1.174	11.91
Rep #2	917.7	.8036	-.2515	8.587	1461.	37.19	.4082	1.424	11.85
Rep #3	945.4	.7638	-.1959	8.517	1475.	37.71	.4846	1.068	12.07
19	Unk: GISC15-20280-R 06/11/2015 16:45:06 CONC x100 D MP 151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.125	.0666	-.1231	.3810	5.085	1.840	-.1917	-.1493	7.016
Desv. Est.	2.580	.1576	.1113	.2319	.387	.079	.0840	.0337	.102
% RSD	62.54	236.9	90.42	60.88	7.616	4.287	43.84	22.54	1.454
Rep #1	-4.082	.1127	-.0109	.4664	5.464	1.913	-.1156	-.1515	7.108
Rep #2	-6.725	.1960	-.2335	.1185	5.100	1.851	-.2819	-.1819	6.907
Rep #3	-1.567	-.1090	-.1248	.5582	4.690	1.756	-.1777	-.1146	7.033



1	Cal: Blanco 09/11/2015 08:22:41 IR D Hg-151109: VEGETALES:
	Hg1942
Unidades	Cts/s
Media	-13.09
Desv. Est.	1.93
% RSD	14.71
Rep #1	-15.28
Rep #2	-11.65
Rep #3	-12.34
2	Cal: STD 1 09/11/2015 08:26:12 IR D Hg-151109: VEGETALES:
	Hg1942
Unidades	Cts/s
Media	37.87
Desv. Est.	3.57
% RSD	9.427
Rep #1	33.86
Rep #2	39.05
Rep #3	40.70
3	Cal: STD 2 09/11/2015 08:27:29 IR D Hg-151109: VEGETALES:
	Hg1942
Unidades	Cts/s
Media	166.3
Desv. Est.	7.3
% RSD	4.404
Rep #1	158.5
Rep #2	167.4
Rep #3	173.1
4	Cal: STD 3 09/11/2015 08:29:07 IR D Hg-151109: VEGETALES:
	Hg1942
Unidades	Cts/s
Media	308.6
Desv. Est.	9.3
% RSD	3.019
Rep #1	298.0
Rep #2	312.6
Rep #3	315.3
5	Cal: STD 4 09/11/2015 08:30:34 IR D Hg-151109: VEGETALES:
	Hg1942
Unidades	Cts/s
Media	631.5
Desv. Est.	12.6
% RSD	1.992
Rep #1	616.9
Rep #2	638.2
Rep #3	639.2
6	Blanco: REACTIVO 09/11/2015 08:33:30 CONC D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0003
Desv. Est.	.0000

% RSD	10.56
Rep #1	.0003
Rep #2	.0003
Rep #3	.0002
7	Blanco: MUESTRA 09/11/2015 08:36:21 CONC x100 D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0080
Desv. Est.	.0017
% RSD	21.55
Rep #1	.0065
Rep #2	.0075
Rep #3	.0099
8	Unk: RECUPERACION 09/11/2015 08:36:48 CONC x100 D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4430
Desv. Est.	.0377
% RSD	8.505
Rep #1	.4040
Rep #2	.4458
Rep #3	.4792
9	Unk: GISC15-20280/09/11/2015 08:38:13 CONC x100 D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0227
Desv. Est.	.0029
% RSD	12.57
Rep #1	-.0203
Rep #2	-.0220
Rep #3	-.0259
10	Unk: GISC15-20300/09/11/2015 08:41:54 CONC x100 D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0325
Desv. Est.	.0021
% RSD	6.590
Rep #1	-.0346
Rep #2	-.0324
Rep #3	-.0303
11	Unk: GISC15-20301/09/11/2015 09:44:46 CONC x100 D Hg-151109: VEGETALES:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0423
Desv. Est.	.0017
% RSD	4.049
Rep #1	-.0412

Rep #2	-0443
Rep #3	-0415
12	Unk: GISC15-20306 09/11/2015 09:46:22 CONC x100 C.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0397
Desv. Est.	.0091
% RSD	22.91
Rep #1	-0293
Rep #2	-0435
Rep #3	-0461
13	Unk: GISC15-20307 09/11/2015 09:47:38 CONC x100 C.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0810
Desv. Est.	.0043
% RSD	5.362
Rep #1	-0760
Rep #2	-0836
Rep #3	-0833
14	Unk: GISC15-20328 09/11/2015 09:49:04 CONC x100 C.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0619
Desv. Est.	.0012
% RSD	1.929
Rep #1	-0632
Rep #2	-0618
Rep #3	-0608
15	Unk: GISC15-20329 09/11/2015 09:50:42 CONC x100 C.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0384
Desv. Est.	.0021
% RSD	5.355
Rep #1	-0364
Rep #2	-0382
Rep #3	-0405
16	Unk: GISC15-20330 09/11/2015 09:52:11 CONC x100 C.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0673
Desv. Est.	.0007
% RSD	1.023
Rep #1	-0667
Rep #2	-0680
Rep #3	-0673



17	Unk: GISC15-20331/09/11/2015 09:53:46 CONC x100 D.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0528
Desv. Est.	.0010
% RSD	1.837
Rep #1	-.0533
Rep #2	-.0533
Rep #3	-.0516
18	Unk: GISC15-20386/09/11/2015 09:55:08 CONC x100 D.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1346
Desv. Est.	.0013
% RSD	.9370
Rep #1	-.1332
Rep #2	-.1347
Rep #3	-.1357
19	Unk: GISC15-20404/09/11/2015 09:56:36 CONC x100 D.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0877
Desv. Est.	.0017
% RSD	1.987
Rep #1	-.0890
Rep #2	-.0883
Rep #3	-.0857
20	Unk: ESTANDAR DE CHEQUEO 09/11/2015 09:59:30 CONC x100 D.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.5173
Desv. Est.	.0153
% RSD	2.952
Rep #1	.5002
Rep #2	.5219
Rep #3	.5297
21	Unk: GISC15-20307-R/09/11/2015 10:01:21 CONC x100 D.H. 151100: VEGETALES Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0851
Desv. Est.	.0004
% RSD	.5180
Rep #1	-.0851
Rep #2	-.0856
Rep #3	-.0847
22	Unk: GISC15-20305-(10/02) 09/11/2015 10:03:23 CONC x100 D.H. 151100: VEGETALES

	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.1201
Desv. Est.	.0012
% RSD	.9630
Rep #1	-.1189
Rep #2	-.1212
Rep #3	-.1201

## **CONTENIDO**

### **HOJA DE ELOTE / TRIGO**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
EMILIANO ZAPATA No. 10, SAN LUIS HUEXOTLA, TEXCOCO EDO. DE MEXICO  
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TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Hoja de Elote/Trigo)  
Fecha de Recepción: 2015-10-15

### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
Referencia: EPA 6010C-2007  
Resultados: Ver hoja excell .....2015/10/15 (2)  
Fecha de Analisis, Metales y Mercurio 2015-11-03 2015-11-03  
Fecha de Realización del Informe: 2015-11-04

### IDENTIFICACIÓN CLIENTE

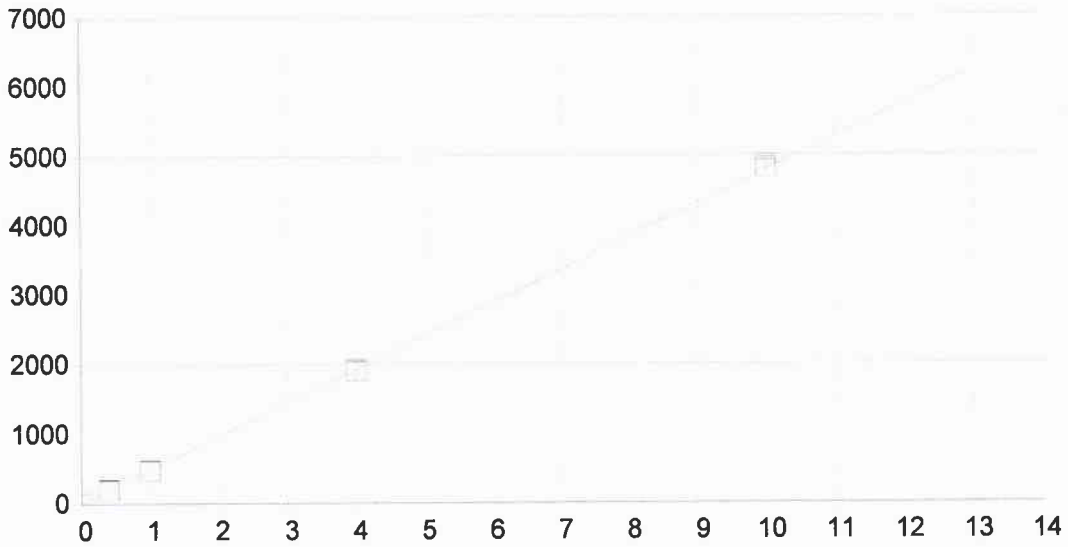
L-1034/15/0335  
L-1034/15/0336  
L-1046/15/0453  
L-1054/15/0534  
L-1057/15/0564  
L-1057/15/0567  
L-1058/15/0575  
L-1070/15/0693

### CLAVE DE IDENTIFICACIÓN

GISC15-20339  
GISC15-20340  
GISC15-20368  
GISC15-20378  
GISC15-20383  
GISC15-20384  
GISC15-20385  
GISC15-20405

REVISÓ

Q.F.B. Leticia Velázquez Méndez  
Gerente Técnico

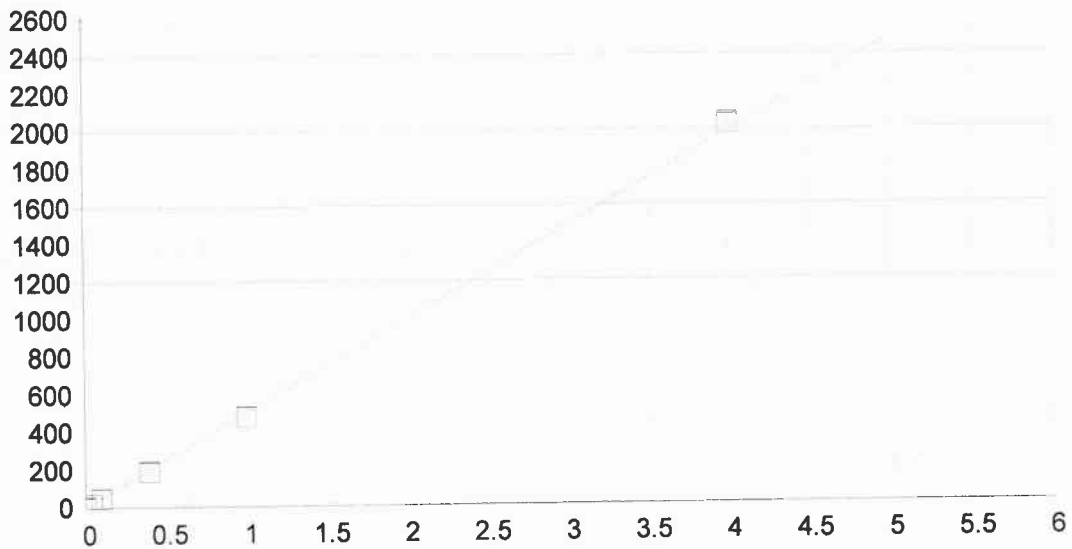


AI 396.152 { 85}

Fecha de la 03/11/2015 18:55:13 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 5.168834 Reajustar P 1.000000  
 A1 (Ganancia) 478.834705 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999974 Estatus: OK.  
 Error Estándar de Est: 0.346231  
 MDL: 0.018968  
 MQL: 0.063225

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	5.1750	.775	1
STD 5	.40000	.39537	-.005	-1.16	194.48	4.20	1
STD 6	1.0000	.98033	-.020	-1.97	474.58	3.18	1
STD 7	4.0000	3.9776	-.022	-5.61	1909.8	14.3	1
STD 8	10.000	10.047	.047	.467	4815.9	36.4	1

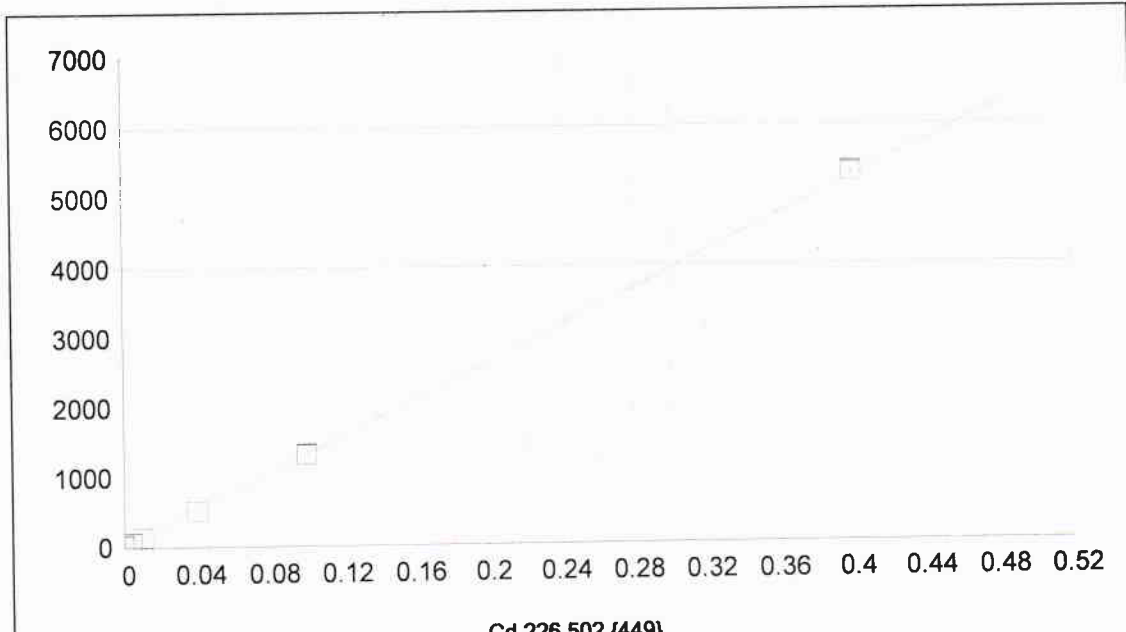


As 189.042 (478)

Fecha de la 03/11/2015 18:55:19 Tipo de unió Lineal Ponderación: 1/Conc

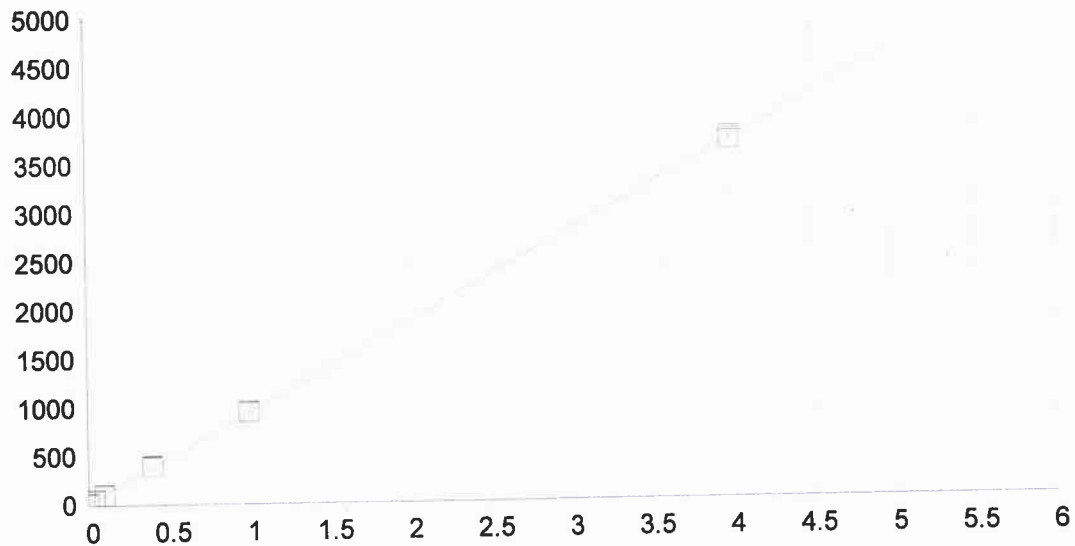
A0 (Compensación): 1.992465 Reajustar P 1.000000  
 A1 (Ganancia) 497.026050 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999435 Estatus: OK.  
 Error Estándar de Est: 0.304550  
 MDL: 0.002375  
 MQL: 0.007916

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	1.9983	1.66	1
STD 4	.10000	.09198	-.008	-8.02	47.710	.721	1
STD 5	.40000	.37622	-.024	-5.94	188.98	1.50	1
STD 6	1.0000	.95649	-.044	-4.35	477.39	1.33	1
STD 7	4.0000	4.0806	.081	2.01	2030.1	5.13	1
STD 3	.04000	.03474	-.005	-13.1	19.260	.609	1



**Cd 226.502 {449}**

Fecha de la	03/11/2015 18:55:26	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	19.508696	Reajustar P	1.000000				
A1 (Ganancia)	13076.49208	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000	Estatus:	OK.				
Correlación:	0.999466						
Error Estándar de Est:	0.778852						
MDL:	0.000150						
MQL:	0.000501						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	19.531	1.93	1
STD 1	.00400	.00298	-.001	-25.6	58.417	1.67	1
STD 2	.01000	.00879	-.001	-12.1	134.41	1.32	1
STD 3	.04000	.03781	-.002	-5.48	513.89	.076	1
STD 4	.10000	.09955	-.000	-.452	1321.2	4.38	1
STD 5	.40000	.40488	.005	1.22	5314.0	14.7	1



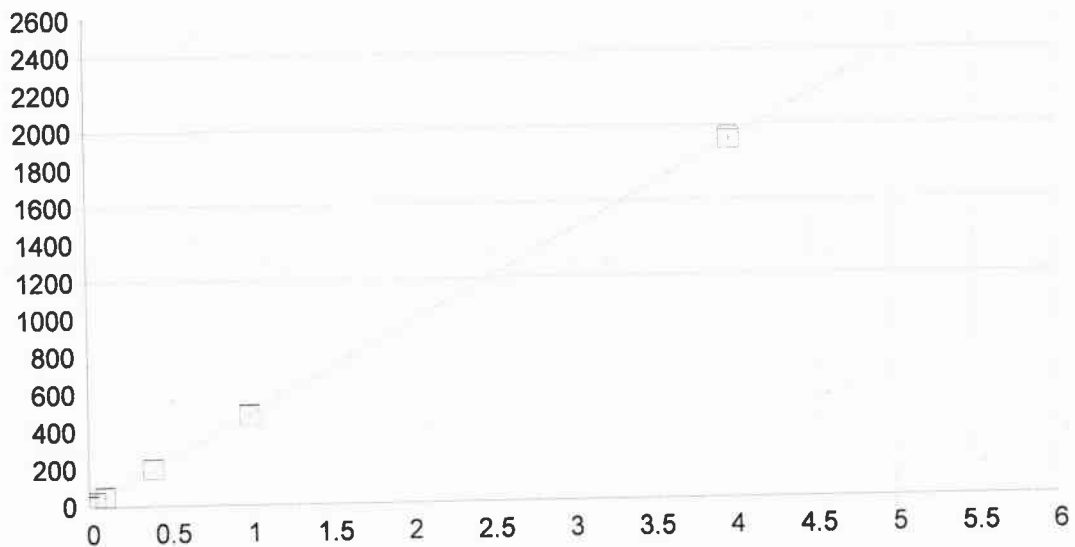
Cu 324.754 {104}

Fecha de la 03/11/2015 18:55:34 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 15.901937 Reajustar P 1.000000  
 A1 (Ganancia) 927.376264 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999926 Estatus: OK.  
 Error Estándar de Est: 0.205311  
 MDL: 0.005260  
 MQL: 0.017535

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	15.905	1.52	1
STD 5	.40000	.41139	.011	2.85	397.42	2.68	1
STD 6	1.0000	1.0105	.011	1.05	953.05	6.06	1
STD 7	4.0000	3.9844	-.016	-.390	3710.9	27.9	1
STD 3	.04000	.03720	-.003	-7.00	50.400	1.41	1
STD 4	.10000	.09646	-.004	-3.54	105.35	1.21	1



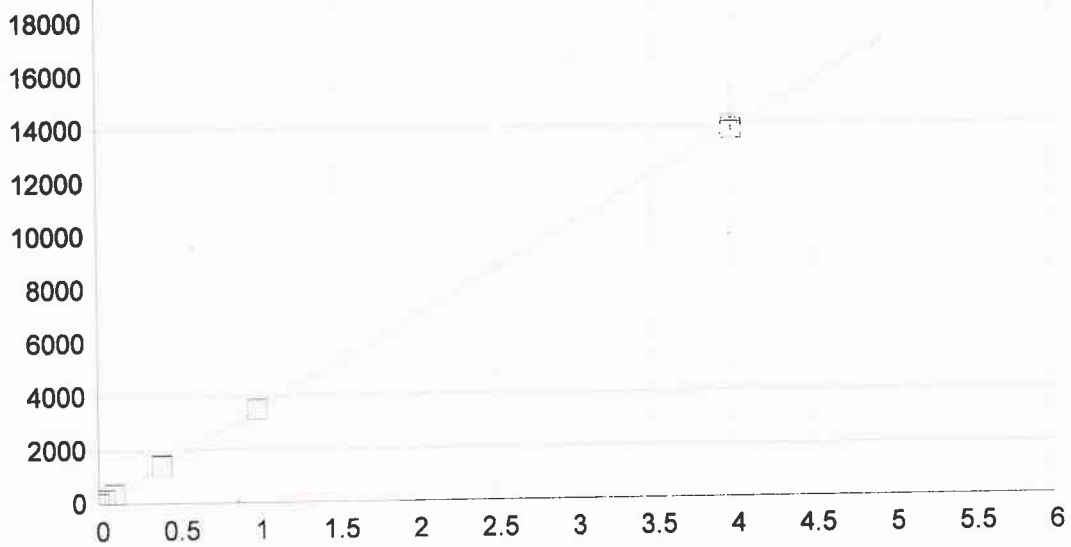


Fe 259.940 (130)

Fecha de la	03/11/2015 18:55:41	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	3.531229	Reajustar P	1.000000		
A1 (Ganancia)	479.798317	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000	Estatus:	OK.		
Correlación:	0.999954				
Error Estándar de Est:	0.084263				
MDL:	0.004794				
MQL:	0.015980				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	3.5333	2.03	1
STD 5	.40000	.40288	.003	.720	196.83	.400	1
STD 6	1.0000	.99858	-.001	-.142	482.65	2.11	1
STD 3	.04000	.03766	-.002	-5.85	21.600	.479	1
STD 4	.10000	.09414	-.006	-5.86	48.700	2.58	1
STD 7	4.0000	4.0067	.007	.168	1926.0	12.5	1

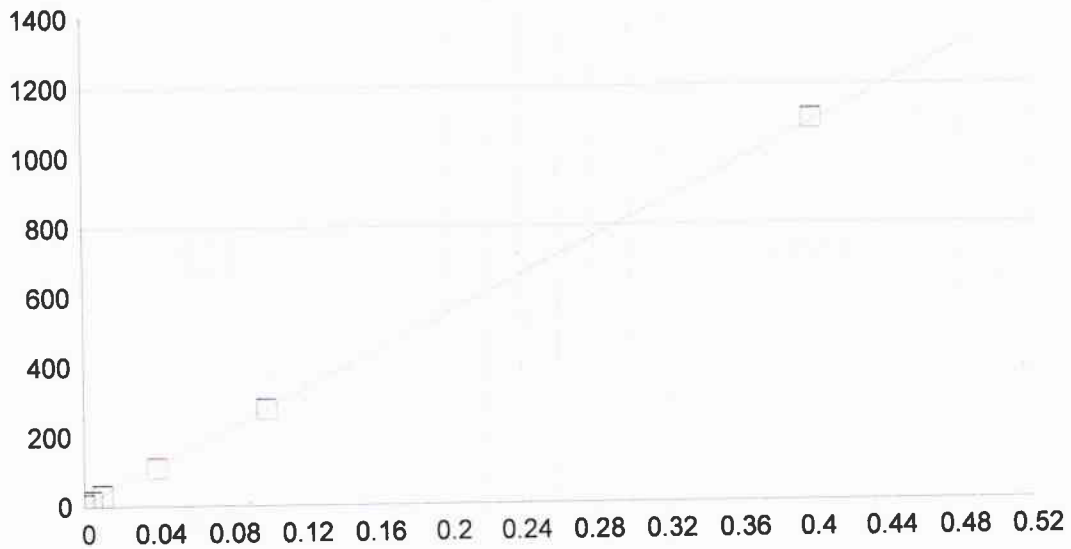


Mn 257.610 (131)

Fecha de la 03/11/2015 18:55:47 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 5.297960 Reajustar P 1.000000  
 A1 (Ganancia) 3463.594394 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999984 Estatus: OK.  
 Error Estándar de Est: 0.351451  
 MDL: 0.000740  
 MQL: 0.002467

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	5.3000	2.01	1
STD 5	.40000	.40605	.006	1.51	1411.7	10.9	1
STD 6	1.0000	1.0041	.004	.409	3483.1	9.04	1
STD 3	.04000	.03868	-.001	-3.30	139.27	2.55	1
STD 4	.10000	.10013	.000	.131	352.11	5.71	1
STD 7	4.0000	3.9911	-.009	-.224	13829.	117.	1

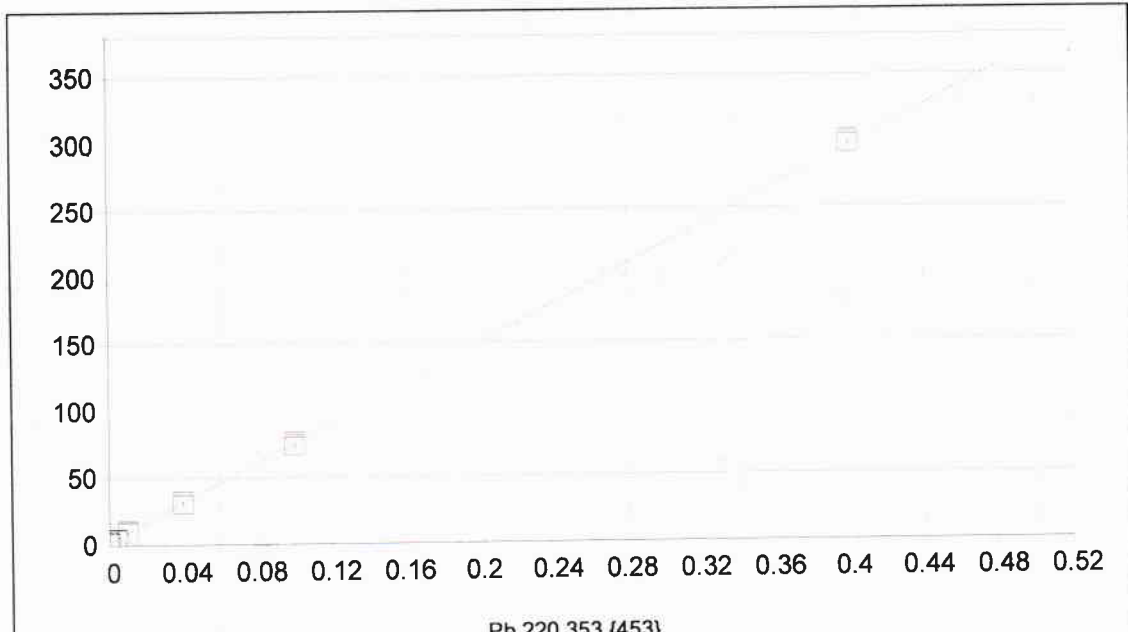


Ni 231.604 {446}

Fecha de la 03/11/2015 18:55:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 6.268067 Reajustar P 1.000000  
 A1 (Ganancia) 2716.028738 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999823 Estatus: OK.  
 Error Estándar de Est: 0.093210  
 MDL: 0.000646  
 MQL: 0.002154

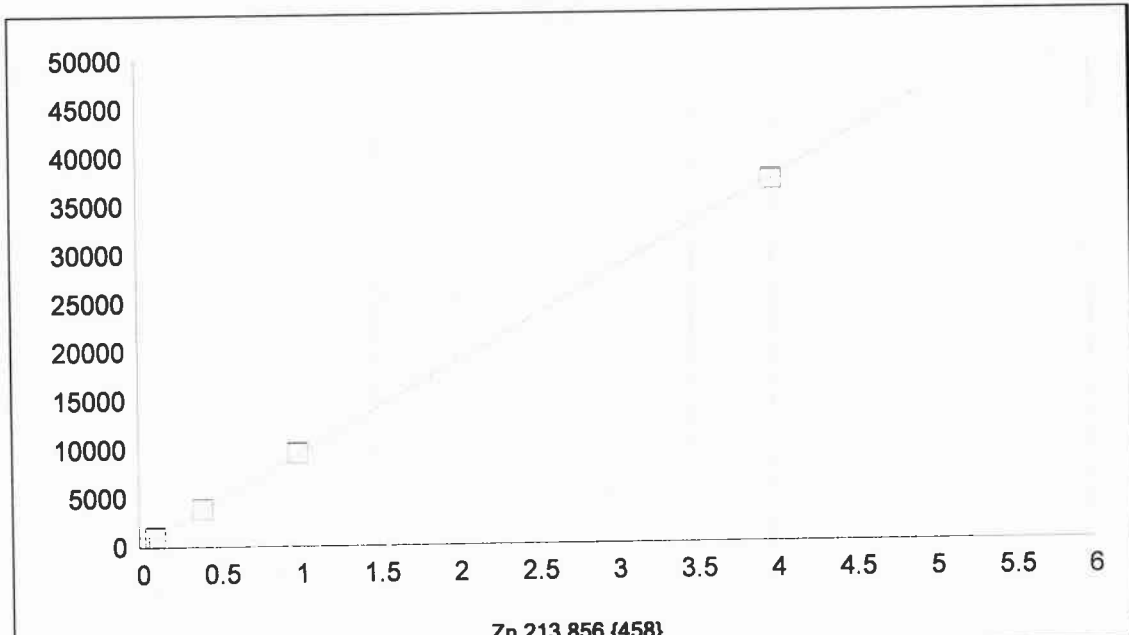
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Díf.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	6.2704	1.81	1
STD 1	.00400	.00347	-.001	-13.3	15.692	.661	1
STD 2	.01000	.00956	-.000	-4.43	32.226	1.04	1
STD 3	.04000	.03817	-.002	-4.57	109.94	1.79	1
STD 4	.10000	.09980	-.000	-.203	277.32	1.72	1
STD 5	.40000	.40300	.003	.751	1100.8	2.72	1



Fecha de la 03/11/2015 18:56:04      Tipo de unió Lineal      Ponderación: 1/Conc

A0 (Compensación): 1.990420      Reajustar P 1.000000  
 A1 (Ganancia) 736.992226      Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999693      Estatus: OK.  
 Error Estándar de Est: 0.033279  
 MDL: 0.002258  
 MQL: 0.007527

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	1.9909	.747	1
STD 1	.00400	.00312	-.001	-22.0	4.2885	.406	1
STD 2	.01000	.01085	.001	8.51	9.9879	.888	1
STD 3	.04000	.03927	-.001	-1.83	30.932	1.52	1
STD 4	.10000	.09798	-.002	-2.02	74.203	1.98	1
STD 5	.40000	.40278	.003	.694	298.83	1.67	1

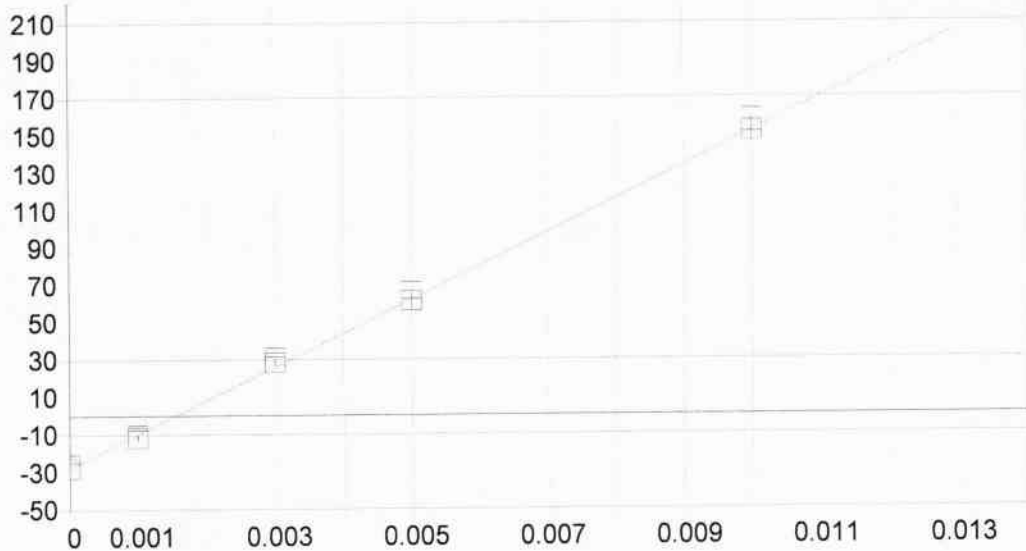


**Zn 213.856 (458)**

Fecha de la 26/02/2016 20:36:15      Tipo de unió Lineal      Ponderación: 1/Conc

A0 (Compensación): 27.248970      Reajustar P 1.000000  
 A1 (Ganancia) 9391.532007      Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999918      Estatus: OK.  
 Error Estándar de Est: 3.647769  
 MDL: 0.000170  
 MQL: 0.000565

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	27.197	1.31	1
STD 4	.10000	.10174	.002	1.74	982.73	4.58	1
STD 5	.40000	.41072	.011	2.68	3884.5	18.7	1
STD 6	1.0000	1.0186	.019	1.86	9593.8	40.2	1
STD 7	4.0000	3.9689	-.031	-.777	37301.	115.	1



Hg 194.227 {474}

Fecha de la 03/11/2015 13:54:07 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -27.894878 Reajustar P 1.000000  
 A1 (Ganancia) 17986.48229 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999586 Estatus: OK.  
 Error Estándar de Est: 0.091993  
 MDL: 0.000153  
 MQL: 0.000512

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-27.894	2.01	1
STD 1	.00100	.00091	-.000	-9.43	-11.605	1.23	1
STD 2	.00300	.00314	.000	4.68	28.588	2.28	1
STD 3	.00500	.00496	-.000	-.702	61.406	4.56	1
STD 4	.01000	.00999	-.000	-.109	151.77	6.20	1



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-HOJA DE ELOTE/TRIGO-151103**  
 Fecha de Análisis: **03/11/2015**  
 Fecha de Reporte: **03/11/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9994	0.9995	0.9999	0.9999	0.9999	0.9998	0.9997	0.9999	0.9996

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>		
			Teórica	Práctica					Teórica	Práctica			
2	QC:QC-3	Cadmio	0.0400	0.0401	100	1	Recuperacion	Aluminio	0.4000	0.4120	103		
		Plomo	0.0400	0.0409	102			Arsenico	0.4000	0.4366	109		
3	QC:QC-5	Arsénico	0.4000	0.3983	100			Cadmio	0.4000	0.4106	103		
		Cobre	0.4000	0.3955	99			Cobre	0.4000	0.3717	93		
		Fierro	0.4000	0.3927	98			Fierro	0.4000	0.4107	103		
		Manganeso	0.4000	0.3968	99			Manganeso	0.4000	0.4069	102		
		Niquel	0.4000	0.3988	100			Niquel	0.4000	0.4069	102		
		Aluminio	4.0000	4.0340	101			Plomo	0.4000	0.4191	105		
4	QC: QC-7	Zinc	4.0000	4.0510	101			Zinc	0.4000	0.4197	105		
		27	QC: QC-7	Aluminio	4.0000			4.0310	101	8	Recuperación	Mercurio	0.5
Zinc	4.0000			3.9980	100								

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

*I.B.I. Gaudencio Vargas Espejel*

ELABORÓ

**PACE/GIS/I02-F01**

*Q.F.B. Leticia Velázquez Méndez*

REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-20339	Vegetales		15/10/2015	0.5011	0.5072
GISC15-20340	Vegetales		15/10/2015	0.5019	0.5070
GISC15-20368	Vegetales	Hoja de Elote	15/10/2015	0.5033	0.5052
GISC15-20378	Vegetales	Trigo	15/10/2015	0.5075	0.5079
GISC15-20383	Vegetales		15/10/2015	0.5027	0.5054
GISC15-20384	Vegetales		15/10/2015	0.5026	0.5037
GISC15-20385	Vegetales		15/10/2015	0.5043	0.5035
GISC15-20405	Vegetales	Hoja de Elote	15/10/2015	0.5015	0.5017

*P.A. Reyna Ivette Delgado*

I.B.T. Reyna Ivette Delgado

Q.F.B. Leticia Velazquez Méndez



1	Blanco: BLANCO 06/11/2015 15:20:23 CONC DMP-151106:: VEGETALES::									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-.1433	-.0007	-.0018	.0083	-.0104	-.0019	-.0010	-.0019	-.0093	
Desv. Est.	.0479	.0009	.0001	.0026	.0014	.0005	.0005	.0009	.0001	
% RSD	33.43	135.3	6.162	30.74	13.14	26.11	44.63	50.45	.9380	
Rep #1	-.0984	.0002	-.0017	.0111	-.0112	-.0017	-.0015	-.0015	-.0093	
Rep #2	-.1378	-.0016	-.0017	.0077	-.0088	-.0025	-.0008	-.0029	-.0093	
Rep #3	-.1937	-.0007	-.0019	.0061	-.0111	-.0016	-.0007	-.0011	-.0094	
2	QC: QC-3 06/11/2015 15:24:59 CONC DMP-151106:: VEGETALES::									
	Cd2265	Pb2203								
Línea	226.502 {44	220.353 {45								
Unidades	mg/Kg	mg/Kg								
Media	.0401	.0409								
Desv. Est.	.0002	.0013								
% RSD	.3983	3.266								
Rep #1	.0399	.0412								
Rep #2	.0402	.0395								
Rep #3	.0401	.0421								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
3	QC: QC-5 06/11/2015 15:29:23 CONC DMP-151106:: VEGETALES::									
	As1890	Cu3247	Fe2599	Mn2576	Ni2316					
Línea	189.042 {47	324.754 {10	259.940 {13	257.610 {13	231.604 {44					
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
Media	.3983	.3955	.3927	.3968	.3988					
Desv. Est.	.0018	.0028	.0033	.0015	.0011					
% RSD	.4565	.7000	.8530	.3719	.2803					
Rep #1	.3974	.3928	.3889	.3958	.3981					
Rep #2	.3971	.3983	.3953	.3961	.4001					
Rep #3	.4004	.3956	.3940	.3985	.3982					
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno					
Valor										
Intervalo										
4	QC: QC-7 06/11/2015 15:35:52 CONC DMP-151106:: VEGETALES::									
	Al3082	Zn2138								
Línea	308.215 {10	213.856 {45								
Unidades	mg/Kg	mg/Kg								
Media	4.034	4.051								
Desv. Est.	.027	.013								
% RSD	.6791	.3078								
Rep #1	4.017	4.038								
Rep #2	4.065	4.052								
Rep #3	4.019	4.063								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
5	Blanco: REACTIVO 06/11/2015 15:38:05 CONC DMP-151106:: VEGETALES::									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	

Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.0551	-.0027	.0035	.0122	.0355	.0106	.0059	.0035	-.0028
Desv. Est.	.0136	.0007	.0006	.0099	.0134	.0111	.0005	.0017	.0005
% RSD	24.67	25.84	16.30	80.79	37.83	104.4	7.954	47.60	18.11
Rep #1	-.0497	-.0019	.0042	.0236	.0506	.0234	.0064	.0050	-.0023
Rep #2	-.0706	-.0029	.0031	.0070	.0306	.0035	.0055	.0039	-.0033
Rep #3	-.0450	-.0032	.0033	.0061	.0252	.0049	.0057	.0017	-.0030
6	Blanco: MUESTRA 06/11/2015 15:40:18 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.4879	-.5679	.1973	.3409	4.113	.3923	.5654	.2445	.2609
Desv. Est.	3.438	.0901	.0396	.4201	.197	.1370	.0384	.1477	.0393
% RSD	704.7	15.86	20.09	123.2	4.785	34.92	6.797	60.42	15.07
Rep #1	-1.090	-.4685	.1649	-.1249	4.116	.2350	.5287	.0942	.2207
Rep #2	3.211	-.6440	.1856	.4568	3.914	.4851	.5622	.3895	.2628
Rep #3	-3.585	-.5913	.2415	.6909	4.308	.4568	.6053	.2498	.2993
7	Unk: GISC15-20280/ 06/11/2015 15:42:48 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.509	.0203	.0763	.4154	5.253	1.842	.0503	-.0260	7.231
Desv. Est.	2.210	.1351	.0845	.1510	.518	.069	.1084	.1707	.074
% RSD	88.10	667.0	110.7	36.35	9.860	3.736	215.5	657.4	1.017
Rep #1	-3.637	-.0649	.1152	.5092	5.786	1.919	.1029	-.2188	7.156
Rep #2	.0380	-.0504	-.0206	.4958	5.220	1.821	-.0743	-.2188	7.156
Rep #3	-3.928	.1760	.1344	.2412	4.752	1.787	.1223	.1056	7.303
8	Unk: GISC15-20300/ 06/11/2015 15:47:29 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-6.197	.0673	-.3705	.0931	-.0781	-.2155	-.4938	-.3887	1.125
Desv. Est.	2.397	.1327	.0075	.1231	.0507	.0479	.0265	.1027	.013
% RSD	38.69	197.3	2.032	132.2	64.95	22.21	5.363	26.42	1.136
Rep #1	-7.938	.0863	-.3622	-.0466	-.0488	-.2038	-.4677	-.3582	1.140
Rep #2	-3.462	.1895	-.3723	.1404	-.0488	-.2682	-.5206	-.3047	1.118
Rep #3	-7.191	-.0739	-.3769	.1855	-.1366	-.1746	-.4933	-.5032	1.118
9	Unk: GISC15-20301/ 06/11/2015 15:49:44 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.871	.0322	-.3584	.0977	-.5041	-.0538	-.4616	-.3986	.9756
Desv. Est.	2.803	.2401	.0041	.2265	.2282	.0191	.0192	.1349	.0117
% RSD	97.63	745.5	1.156	231.9	45.26	35.61	4.151	33.85	1.200
Rep #1	-5.794	.0043	-.3617	-.1384	-.3383	-.0624	-.4419	-.3685	.9690
Rep #2	-.2066	-.1928	-.3597	.1182	-.4098	-.0318	-.4802	-.5460	.9686
Rep #3	-2.612	.2851	-.3537	.3133	-.7643	-.0671	-.4627	-.2812	.9891
10	Unk: GISC15-20306/ 06/11/2015 15:51:58 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-2.223	.1115	-.3552	.6883	5.014	1.957	-.3882	-.3373	12.55

Desv. Est.	.875	.0536	.0041	.1573	.308	.062	.0250	.0350	.09
% RSD	39.36	48.02	1.166	22.86	6.135	3.176	6.434	10.37	.7316
Rep #1	-2.183	.1734	-.3567	.6063	5.357	2.011	-.4113	-.3672	12.65
Rep #2	-3.117	.0795	-.3505	.8696	4.924	1.889	-.3617	-.2988	12.52
Rep #3	-1.369	.0817	-.3583	.5888	4.762	1.971	-.3917	-.3458	12.47
11	Unk: GISC15-20307 06/11/2015 15:54:06 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.023	.0285	-.2802	.7957	8.773	4.723	-.2943	-.3040	20.39
Desv. Est.	3.532	.2147	.0215	.2345	.159	.036	.0232	.0773	.03
% RSD	87.79	753.1	7.662	29.47	1.809	.7578	7.872	25.42	.1663
Rep #1	-.5784	-.2054	-.2618	.5640	8.658	4.743	-.3069	-.2589	20.43
Rep #2	-3.854	.2166	-.2749	1.033	8.707	4.745	-.2676	-.2599	20.39
Rep #3	-7.636	.0743	-.3038	.7900	8.954	4.682	-.3085	-.3932	20.36
12	Unk: GISC15-20328 06/11/2015 15:56:22 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.887	.1280	-.3165	.4430	10.63	.1588	-.4263	-.3206	2.206
Desv. Est.	.744	.1294	.0167	.0490	.23	.0304	.0059	.0476	.087
% RSD	15.22	101.2	5.279	11.05	2.134	19.13	1.395	14.85	3.949
Rep #1	-5.442	-.0109	-.3125	.4900	10.37	.1892	-.4312	-.3078	2.304
Rep #2	-4.042	.2454	-.3021	.4468	10.79	.1284	-.4197	-.2806	2.177
Rep #3	-5.177	.1494	-.3348	.3923	10.73	.1588	-.4280	-.3733	2.138
13	Unk: GISC15-20329 06/11/2015 15:58:36 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.779	.0565	-.3054	.0087	-.5236	.1071	-.4130	-.3455	1.286
Desv. Est.	.651	.1426	.0201	.1380	.2932	.0110	.0088	.0593	.016
% RSD	13.63	252.5	6.594	1595.	55.99	10.26	2.132	17.17	1.220
Rep #1	-5.248	-.1016	-.3239	-.0780	-.2797	.1029	-.4231	-.3117	1.258
Rep #2	-4.035	.1754	-.2839	.1678	-.8489	.1195	-.4074	-.4140	1.293
Rep #3	-5.054	.0956	-.3083	-.0638	-.4423	.0987	-.4084	-.3108	1.297
14	Unk: GISC15-20330 06/11/2015 16:00:45 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-6.217	.1877	-.2972	.0440	3.283	1.383	-.3960	-.2446	9.275
Desv. Est.	.828	.0477	.0383	.2150	.301	.076	.0245	.1345	.119
% RSD	13.32	25.42	12.90	488.3	9.165	5.524	6.181	54.99	1.287
Rep #1	-7.090	.2424	-.2598	.2923	3.584	1.426	-.4022	-.2131	9.400
Rep #2	-5.442	.1663	-.3364	-.0810	3.282	1.428	-.4168	-.3920	9.262
Rep #3	-6.119	.1545	-.2952	-.0792	2.982	1.295	-.3690	-.1286	9.162
15	Unk: GISC15-20331 06/11/2015 16:02:59 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.445	-.2806	-.3087	.5795	10.36	3.902	-.2918	-.4503	19.32
Desv. Est.	3.507	.1762	.0313	.3239	.32	.123	.0569	.1074	.05
% RSD	101.8	62.78	10.14	55.90	3.076	3.141	19.49	23.84	.2781

Rep #1	-7.090	-2631	-3001	.5885	10.03	3.916	-.2856	-.3280	19.34
Rep #2	-3.148	-.1139	-.3434	.8988	10.66	4.017	-.3515	-.4938	19.26
Rep #3	-.0960	-4649	-.2827	.2512	10.40	3.773	-.2382	-.5291	19.36
16	Unk: GISC15-20286 06/11/2015 16:05:28 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.726	-.1017	-.3358	.4426	1.466	4.157	-.3857	-.2967	5.693
Desv. Est.	4.519	.1088	.0200	.2398	.126	.125	.0175	.2061	.031
% RSD	121.3	107.1	5.970	54.17	8.606	2.994	4.524	69.49	.5515
Rep #1	-8.165	-.2179	-.3267	.3080	1.376	4.014	-.3755	-.4652	5.727
Rep #2	.8687	-.0022	-.3220	.7195	1.412	4.220	-.3758	-.0668	5.666
Rep #3	-3.881	-.0849	-.3588	.3004	1.610	4.238	-.4059	-.3579	5.686
17	Unk: GISC15-20404/06/11/2015 16:07:57 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-3.264	-.1288	-.3600	1.182	7.139	3.443	-.3207	-.3705	12.74
Desv. Est.	1.095	.1405	.0214	.394	.187	.043	.0099	.1486	.15
% RSD	33.54	109.1	5.954	33.35	2.625	1.237	3.084	40.11	1.152
Rep #1	-2.039	.0257	-.3649	1.567	6.934	3.396	-.3296	-.2063	12.60
Rep #2	-4.146	-.2491	-.3786	.7786	7.302	3.458	-.3226	-.4095	12.72
Rep #3	-3.606	-.1630	-.3366	1.202	7.181	3.477	-.3101	-.4957	12.89
18	Unk: GISC15-20305-(10-02) 06/11/2015 16:11:18 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	929.6	.6900	-.2246	8.487	1468.	37.49	.4334	1.222	11.94
Desv. Est.	14.2	.1636	.0278	.117	7.	.27	.0443	.183	.11
% RSD	1.531	23.71	12.40	1.385	.4819	.7258	10.23	14.98	.9155
Rep #1	925.7	.5025	-.2264	8.357	1470.	37.59	.4074	1.174	11.91
Rep #2	917.7	.8036	-.2515	8.587	1461.	37.19	.4082	1.424	11.85
Rep #3	945.4	.7638	-.1959	8.517	1475.	37.71	.4846	1.068	12.07
19	Unk: GISC15-20305-(10-02) 06/11/2015 16:13:35 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	1188.	.5841	-.2110	8.364	1529.	37.86	.5414	1.177	12.11
Desv. Est.	449.	.1348	.0117	.130	83.	.37	.0498	.056	.08
% RSD	37.76	23.08	5.564	1.554	5.420	.9891	9.202	4.793	.6775
Rep #1	1706.	.7376	-.2025	8.214	1624.	38.29	.5969	1.155	12.12
Rep #2	936.0	.4854	-.2244	8.432	1487.	37.68	.5006	1.241	12.02
Rep #3	922.6	.5292	-.2062	8.445	1475.	37.60	.5267	1.135	12.19
20	Unk: GISC15-2028-R 06/11/2015 16:45:06 CONC x100 DMP-151106: VEGETALES:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-4.125	.0666	-.1231	.3810	5.085	1.840	-.1917	-.1493	7.016
Desv. Est.	2.580	.1576	.1113	.2319	.387	.079	.0840	.0337	.102
% RSD	62.54	236.9	90.42	60.88	7.616	4.287	43.84	22.54	1.454
Rep #1	-4.082	.1127	-.0109	.4664	5.464	1.913	-.1156	-.1515	7.108
Rep #2	-6.725	.1960	-.2335	.1185	5.100	1.851	-.2819	-.1819	6.907

Rep #3	-1.567	-.1090	-.1248	.5582	4.690	1.756	-.1777	-.1146	7.033
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Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	30.26	-1.453	.0351	5.163	32.80	10.93	.0079	.0050	11.64	
Desv. Est.	1.96	.244	.0216	.383	.99	.36	.0362	.0425	.17	
% RSD	6.475	16.79	61.43	7.426	3.030	3.284	457.0	843.5	1.486	
Rep #1	32.37	-1.234	.0542	4.872	33.51	11.25	.0385	.0461	11.82	
Rep #2	29.89	-1.409	.0117	5.597	33.23	11.01	-.0321	-.0387	11.62	
Rep #3	28.51	-1.715	.0394	5.019	31.66	10.54	.0174	.0077	11.48	
12	Unk: GISC15-20299 02/11/2015 12:18:00 CONC x100 D MP 151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	25.02	-1.142	.0277	3.471	31.54	7.467	-.0602	-.0095	8.338	
Desv. Est.	2.41	.109	.0289	.151	.17	.042	.0159	.0598	.102	
% RSD	9.641	9.546	104.3	4.351	.5337	.5647	26.42	628.6	1.224	
Rep #1	22.36	-1.257	.0121	3.322	31.66	7.511	-.0435	-.0405	8.445	
Rep #2	27.07	-1.130	.0100	3.624	31.35	7.427	-.0619	-.0474	8.330	
Rep #3	25.61	-1.040	.0610	3.467	31.62	7.463	-.0752	.0594	8.241	
13	Unk: GISC15-20299 02/11/2015 12:18:00 CONC x100 D MP 151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	25.02	-1.142	.0277	3.471	31.54	7.467	-.0602	-.0095	8.338	
Desv. Est.	2.41	.109	.0289	.151	.17	.042	.0159	.0598	.102	
% RSD	9.641	9.546	104.3	4.351	.5337	.5647	26.42	628.6	1.224	
Rep #1	22.36	-1.257	.0121	3.322	31.66	7.511	-.0435	-.0405	8.445	
Rep #2	27.07	-1.130	.0100	3.624	31.35	7.427	-.0619	-.0474	8.330	
Rep #3	25.61	-1.040	.0610	3.467	31.62	7.463	-.0752	.0594	8.241	
14	Unk: GISC15-20302 02/11/2015 12:20:14 CONC x100 D MP 151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	5.292	-1.061	.0420	3.755	32.33	17.80	-.0891	.0059	12.78	
Desv. Est.	5.428	.162	.0072	.155	.25	.11	.0135	.0623	.06	
% RSD	102.6	15.26	17.12	4.119	.7753	.6106	15.17	1052.	.4607	
Rep #1	10.74	-1.246	.0360	3.805	32.25	17.85	-.0880	.0108	12.85	
Rep #2	-.1195	-.9850	.0400	3.878	32.12	17.68	-.1031	-.0587	12.74	
Rep #3	5.258	-.9502	.0499	3.582	32.61	17.88	-.0761	.0656	12.76	
15	Unk: GISC15-20302 02/11/2015 12:20:14 CONC x100 D MP 151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	5.292	-1.061	.0420	3.755	32.33	17.80	-.0891	.0059	12.78	
Desv. Est.	5.428	.162	.0072	.155	.25	.11	.0135	.0623	.06	
% RSD	102.6	15.26	17.12	4.119	.7753	.6106	15.17	1052.	.4607	
Rep #1	10.74	-1.246	.0360	3.805	32.25	17.85	-.0880	.0108	12.85	
Rep #2	-.1195	-.9850	.0400	3.878	32.12	17.68	-.1031	-.0587	12.74	
Rep #3	5.258	-.9502	.0499	3.582	32.61	17.88	-.0761	.0656	12.76	
16	Unk: GISC15-20303 02/11/2015 12:21:24 CONC x100 D MP 151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.295	-1.881	.1029	1.459	25.64	15.84	-.1298	.0659	28.90	

Desv. Est.	3.047	.143	.0106	.197	.33	.06	.0060	.1284	.21
% RSD	32.78	7.629	10.33	13.52	1.292	.3814	4.605	194.8	.7350
Rep #1	12.32	-1.960	.1120	1.238	25.92	15.77	-.1238	.0388	28.74
Rep #2	6.231	-1.715	.0912	1.521	25.72	15.86	-.1298	.2057	28.82
Rep #3	9.329	-1.967	.1055	1.617	25.27	15.89	-.1358	-.0468	29.14
17	Unk: GISC15-20303 02/11/2015 12:21:24 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.295	-1.881	.1029	1.459	25.64	15.84	-.1298	.0659	28.90
Desv. Est.	3.047	.143	.0106	.197	.33	.06	.0060	.1284	.21
% RSD	32.78	7.629	10.33	13.52	1.292	.3814	4.605	194.8	.7350
Rep #1	12.32	-1.960	.1120	1.238	25.92	15.77	-.1238	.0388	28.74
Rep #2	6.231	-1.715	.0912	1.521	25.72	15.86	-.1298	.2057	28.82
Rep #3	9.329	-1.967	.1055	1.617	25.27	15.89	-.1358	-.0468	29.14
18	Unk: GISC15-20337 02/11/2015 12:26:33 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	31.93	-1.421	.0218	5.874	42.38	10.34	-.0000	C -.0273	16.01
Desv. Est.	6.98	.266	.0081	.201	2.03	.37	.0217	.0518	.12
% RSD	21.87	18.68	37.28	3.427	4.794	3.547	109800.	189.6	.7661
Rep #1	26.56	-1.115	.0310	5.890	44.08	10.70	.0209	-.0558	15.88
Rep #2	39.83	-1.576	.0187	6.067	42.93	10.35	-.0225	.0325	16.13
Rep #3	29.40	-1.573	.0157	5.666	40.13	9.969	.0015	C -.0587	16.01
19	Unk: GISC15-20338 02/11/2015 12:28:57 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	42.06	-1.290	.0224	5.374	47.87	10.41	-.0454	-.0028	11.15
Desv. Est.	6.91	.067	.0064	.301	.88	.16	.0588	.0480	.06
% RSD	16.43	5.228	28.56	5.596	1.840	1.578	129.6	1710.	.5195
Rep #1	49.20	-1.361	.0233	5.123	48.32	10.23	-.0245	-.0217	11.22
Rep #2	35.40	-1.227	.0156	5.708	48.44	10.56	-.1118	.0518	11.14
Rep #3	41.59	-1.282	.0284	5.292	46.86	10.43	.0002	-.0385	11.10
20	Unk: GISC15-20341 02/11/2015 12:31:21 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	462.1	-.4577	.1356	9.592	712.1	41.17	.4912	.1804	12.01
Desv. Est.	2.1	.2447	.0137	.308	8.9	.54	.0305	.1652	.06
% RSD	.4486	53.47	10.13	3.206	1.246	1.305	6.212	91.55	.4652
Rep #1	464.3	-.7335	.1309	9.390	721.6	41.65	.4818	.1998	12.07
Rep #2	461.6	-.3733	.1249	9.441	704.0	40.59	.5253	.0064	11.96
Rep #3	460.3	-.2664	.1511	9.946	710.6	41.26	.4665	.3351	11.99
21	Unk: GISC15-20341-R 02/11/2015 12:33:39 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	467.8	-.4538	.1582	9.458	727.7	41.27	.5136	.2093	12.57
Desv. Est.	40.5	.2541	.0065	.598	48.2	2.35	.0636	.2355	.50
% RSD	8.667	55.99	4.117	6.321	6.626	5.692	12.38	112.5	3.968



% RSD	.2432	1.298	.6668	.0771					
Rep #1	.4037	.4066	.3990	.4058					
Rep #2	.4039	.4049	.3955	.4053					
Rep #3	.4021	.3968	.4007	.4053					
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno					
Valor									
Intervalo									
27	QC: QC-7 02/11/2015 13:06:20 CONC D MP 151102: VARIOS:								
	Al3082	Zn2138							
L3nea	308.215 {10	213.856 {45							
Unidades	mg/Kg	mg/Kg							
Media	4.031	3.998							
Desv. Est.	.043	.025							
% RSD	1.073	.6362							
Rep #1	3.999	3.996							
Rep #2	4.014	3.974							
Rep #3	4.080	4.025							
Comprobaci3n	Pasa Comp	Pasa Comp							
Valor									
Intervalo									
28	Unk: GISC15-20303-R 02/11/2015 13:07:50 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	8.945	-1.022	.0646	3.555	31.91	17.63	-.1182	.0079	12.55
Desv. Est.	1.828	.032	.0147	.234	.54	.33	.0441	.0508	.12
% RSD	20.44	3.094	22.83	6.573	1.681	1.866	37.28	644.4	.9453
Rep #1	9.278	-1.042	.0811	3.688	32.27	17.89	-0.0971	-.0404	12.43
Rep #2	10.58	-1.037	.0599	3.691	32.16	17.73	-.1688	.0608	12.55
Rep #3	6.973	-.9851	.0527	3.285	31.29	17.26	-.0886	.0033	12.66
29	Unk: GISC15-20345 02/11/2015 13:10:57 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.6928	-1.706	.0238	1.814	19.88	13.24	.2023	C .0971	28.76
Desv. Est.	.8672	.089	.0077	.285	.43	.03	.0231	.0937	.02
% RSD	125.2	5.249	32.38	15.71	2.146	.2398	11.41	96.57	.0811
Rep #1	.2575	-1.808	.0268	1.581	19.57	13.20	.2111	.1835	28.79
Rep #2	1.691	-1.641	.0295	1.729	19.70	13.24	.1761	.1103	28.76
Rep #3	.1295	-1.668	.0150	2.132	20.37	13.27	.2196	C -.0026	28.74
30	Unk: GISC15-20346 02/11/2015 13:13:24 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	13.39	-1.317	.0205	5.096	51.88	16.09	.2880	C .0240	11.74
Desv. Est.	1.05	.242	.0111	.206	.72	.16	.0312	.0274	.08
% RSD	7.825	18.34	54.31	4.039	1.391	.9664	10.83	114.4	.6456
Rep #1	12.24	-1.306	.0274	4.859	52.67	16.27	.2668	.0223	11.67
Rep #2	13.65	-1.565	.0076	5.218	51.26	16.02	.3238	C -.0026	11.82
Rep #3	14.29	-1.082	.0263	5.213	51.69	15.98	.2733	.0522	11.72
31	Unk: GISC15-20347 02/11/2015 13:15:47 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138

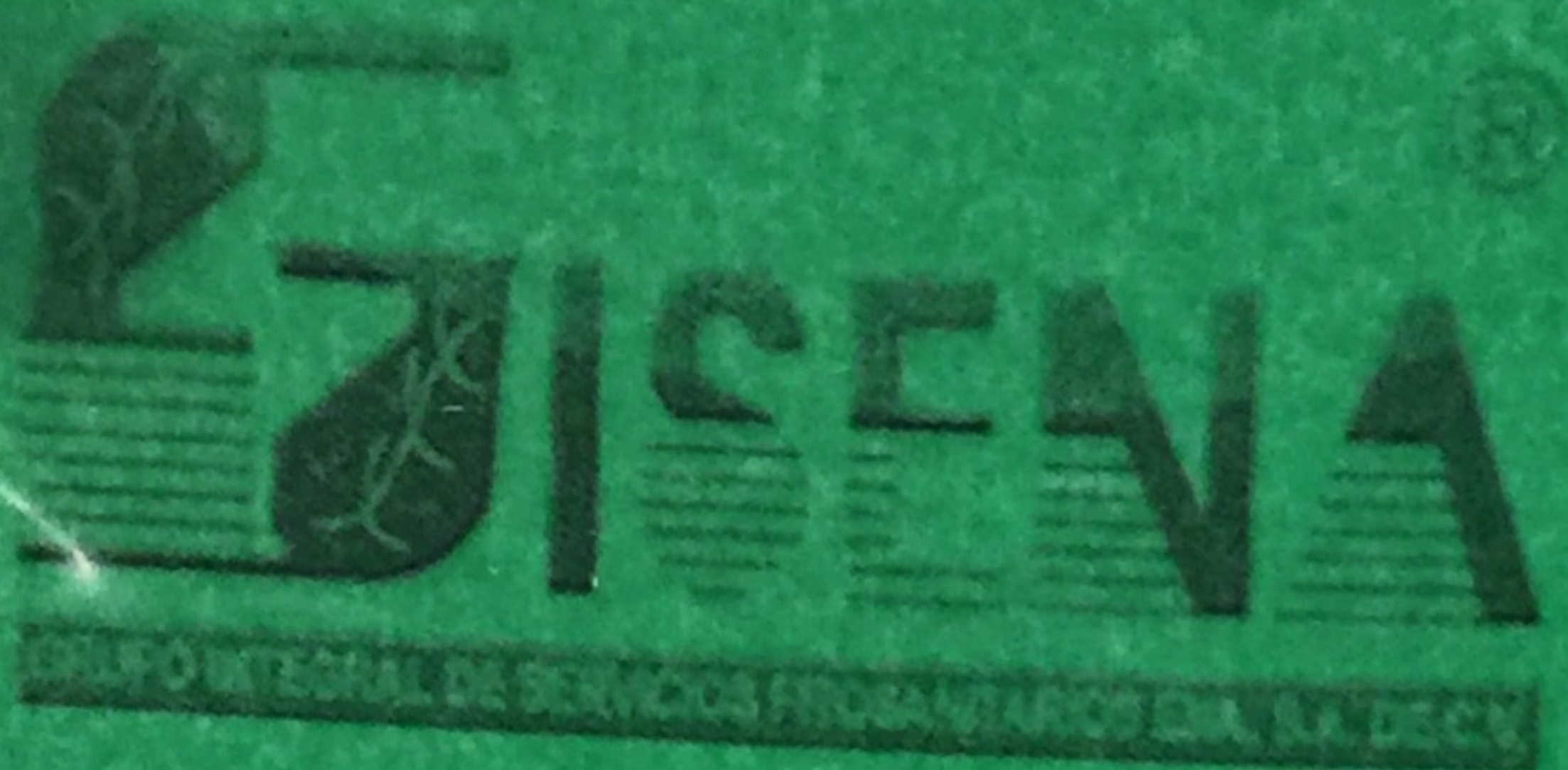
Media	13.36	-1.602	-.0204	1.480	23.18	9.589	.2768	C .0820	6.211
Desv. Est.	2.45	.070	.0033	.146	.22	.074	.0715	.0734	.024
% RSD	18.35	4.390	16.09	9.876	.9607	.7765	25.82	89.53	.3892
Rep #1	12.32	-1.654	-.0241	1.340	23.39	9.674	.3531	C -.0026	6.236
Rep #2	11.60	-1.522	-.0190	1.632	23.21	9.534	.2661	.1291	6.208
Rep #3	16.16	-1.629	-.0180	1.469	22.95	9.558	.2114	.1193	6.188
37	Unk: GISC15-20409 02/11/2015 13:29:54 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	12.33	-1.534	-.0239	2.147	23.42	7.361	.2688	C .0352	12.46
Desv. Est.	1.78	.048	.0065	.159	.21	.091	.0562	.0654	.11
% RSD	14.46	3.110	27.02	7.380	.8998	1.238	20.91	185.9	.8745
Rep #1	12.22	-1.588	-.0197	2.234	23.41	7.419	.3336	C -.0026	12.51
Rep #2	14.16	-1.499	-.0207	1.964	23.22	7.256	.2350	.1106	12.54
Rep #3	10.60	-1.515	-.0313	2.244	23.64	7.409	.2377	C -.0026	12.34
38	Unk: GISC15-20414 02/11/2015 13:32:31 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	18.33	-1.389	.0372	1.895	23.45	5.362	.2858	C .0258	8.032
Desv. Est.	6.39	.043	.0082	.283	.19	.027	.0186	.0433	.020
% RSD	34.86	3.069	21.94	14.95	.8248	.5108	6.495	168.1	.2454
Rep #1	16.59	-1.439	.0454	1.900	23.30	5.390	.2644	.0757	8.046
Rep #2	25.40	-1.367	.0291	2.176	23.67	5.362	.2969	.0043	8.040
Rep #3	12.98	-1.363	.0371	1.609	23.38	5.335	.2962	C -.0026	8.009
39	Unk: GISC15-20415 02/11/2015 13:37:07 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	18.05	-1.226	.0006	1.962	22.33	5.269	.3080	C .1022	8.191
Desv. Est.	1.62	.061	.0037	.208	.22	.033	.0546	.1482	.052
% RSD	8.969	4.959	609.6	10.60	.9849	.6182	17.72	145.0	.6379
Rep #1	19.03	-1.182	-.0032	2.202	22.57	5.231	.2608	C -.0026	8.140
Rep #2	16.18	-1.296	.0008	1.855	22.13	5.285	.2953	.2718	8.244
Rep #3	18.95	-1.201	.0042	1.830	22.30	5.290	.3678	.0374	8.190
40	Unk: GISC15-20416 02/11/2015 13:39:19 CONC x100 D MP 151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	18.04	-1.071	-.0073	2.029	22.02	5.405	.2613	C .0057	9.476
Desv. Est.	3.41	.126	.0138	.086	.21	.030	.0197	.0144	.052
% RSD	18.88	11.81	187.6	4.218	.9609	.5570	7.555	251.3	.5457
Rep #1	20.82	-1.202	-.0044	2.127	22.12	5.420	.2636	C -.0026	9.483
Rep #2	14.24	-9.501	.0047	1.968	21.78	5.371	.2799	C -.0026	9.523
Rep #3	19.05	-1.059	-.0223	1.992	22.16	5.425	.2406	.0223	9.421

1	Cal: Blanco 03/11/2015 13:43:57 IR D Hg151103: VARIOS:
	Hg1942
Unidades	Cts/s
Media	-27.89
Desv. Est.	2.01
% RSD	7.216
Rep #1	-29.19
Rep #2	-28.91
Rep #3	-25.58
2	Cal: STD 1 03/11/2015 13:47:08 IR D Hg151103: VARIOS:
	Hg1942
Unidades	Cts/s
Media	-11.60
Desv. Est.	1.23
% RSD	10.57
Rep #1	-12.92
Rep #2	-10.48
Rep #3	-11.41
3	Cal: STD 2 03/11/2015 13:50:09 IR D Hg151103: VARIOS:
	Hg1942
Unidades	Cts/s
Media	28.59
Desv. Est.	2.28
% RSD	7.963
Rep #1	27.73
Rep #2	26.86
Rep #3	31.17
4	Cal: STD 3 03/11/2015 13:51:31 IR D Hg151103: VARIOS:
	Hg1942
Unidades	Cts/s
Media	61.41
Desv. Est.	4.57
% RSD	7.434
Rep #1	56.14
Rep #2	63.79
Rep #3	64.28
5	Cal: STD 4 03/11/2015 13:52:56 IR D Hg151103: VARIOS:
	Hg1942
Unidades	Cts/s
Media	151.8
Desv. Est.	6.2
% RSD	4.086
Rep #1	144.6
Rep #2	155.0
Rep #3	155.7
6	Blanco: REACTIVO 03/11/2015 13:54:49 CONC D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0004
Desv. Est.	.0003

% RSD	63.42
Rep #1	.0007
Rep #2	.0005
Rep #3	.0001
7	Blanco: MUESTRA 03/11/2015 13:56:48 CONC x100 D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0074
Desv. Est.	.0077
% RSD	103.1
Rep #1	-.0023
Rep #2	-.0163
Rep #3	-.0038
8	Unk: RECUPERACION 03/11/2015 13:58:22 CONC x100 D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4899
Desv. Est.	.0234
% RSD	4.772
Rep #1	.4629
Rep #2	.5037
Rep #3	.5031
9	Unk: GISC15-20339 03/11/2015 14:01:57 CONC x100 D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0699
Desv. Est.	.0511
% RSD	73.07
Rep #1	-.0111
Rep #2	-.0951
Rep #3	-.1035
10	Unk: GISC15-20340 03/11/2015 14:03:13 CONC x100 D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0903
Desv. Est.	.0078
% RSD	8.623
Rep #1	-.0838
Rep #2	-.0989
Rep #3	-.0881
11	Unk: GISC15-20368 03/11/2015 14:04:35 CONC x100 D Hg151103: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1051
Desv. Est.	.0159
% RSD	15.15
Rep #1	-.1195

Rep #2	-0880
Rep #3	-1079
12	Unk: GISC15-20378/ 03/11/2015 14:05:57 CONC x100 DU-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0788
Desv. Est.	.0077
% RSD	9.814
Rep #1	-0726
Rep #2	-0764
Rep #3	-0875
13	Unk: GISC15-20383/ 03/11/2015 14:07:22 CONC x100 DU-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1092
Desv. Est.	.0116
% RSD	10.64
Rep #1	-0965
Rep #2	-1120
Rep #3	-1192
14	Unk: GISC15-20384/ 03/11/2015 14:08:48 CONC x100 DU-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1353
Desv. Est.	.0068
% RSD	5.054
Rep #1	-1290
Rep #2	-1344
Rep #3	-1426
15	Unk: GISC15-20385/ 03/11/2015 14:10:01 CONC x100 DU-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0696
Desv. Est.	.0067
% RSD	9.646
Rep #1	-0727
Rep #2	-0741
Rep #3	-0619
16	Unk: GISC15-20405/ 03/11/2015 14:11:25 CONC x100 DU-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0769
Desv. Est.	.0155
% RSD	20.10
Rep #1	-0852
Rep #2	-0591
Rep #3	-0864

17	Unk: GISC15-20368-R 03/11/2015 14:12:51 CONC x100
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.1199
Desv. Est.	.0268
% RSD	22.38
Rep #1	-.1440
Rep #2	-.1247
Rep #3	-.0910



## **CONTENIDO**

### **ELOTE**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
EMILIANO ZAPATA No. 10, SAN LUIS HUEXOTLA, TEXCOCO EDO. DE MEXICO,  
C.P. 56250 TEL: 01(595) 928 41 78, 01(595) 931 39 60 y 01(595) 931 39 61  
TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

### INFORME DE RESULTADOS DE PRUEBA

#### DATOS DE LA MUESTRA

Matriz: VEGETALES (Elote)  
Fecha de Recepción: 2015-11-05

#### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

#### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
Referencia: EPA 6010C-2007  
Resultados: Ver hoja excell .....2015/11/05 (2)  
Fecha de Analisis de Metales y Mercurio: 2015-12-21 2015-12-22  
Fecha de Realización del Informe: 2015-12-23

#### IDENTIFICACIÓN CLIENTE

- L-I003/15/0022
- L-I003/15/0026
- L-I019/15/0183
- L-I029/15/0290
- L-I030/15/0293
- L-I033/15/0324
- L-I033/15/0325
- L-I033/15/0326
- L-I033/15/0327
- L-I059/15/0581
- L-I059/15/0582
- L-I070/15/0691
- L-I070/15/0692
- L-I072/15/0711
- L-I072/15/0712
- L-I072/15/0713

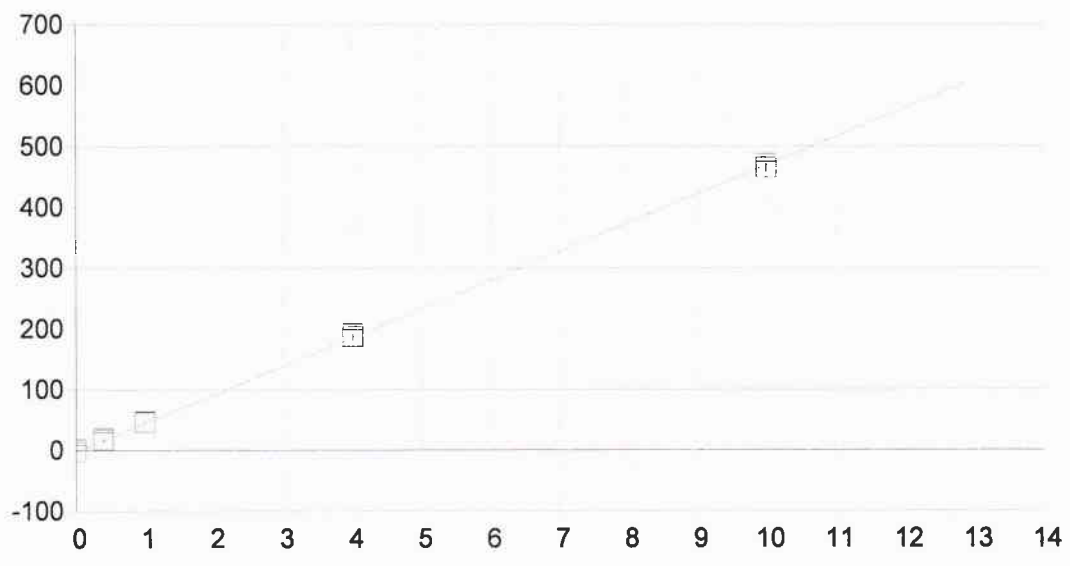
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- GISC15-21679
- GISC15-21682
- GISC15-21805
- GISC15-21896
- GISC15-21897
- GISC15-21923
- GISC15-21924
- GISC15-21925
- GISC15-21926
- GISC15-22136
- GISC15-22137
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- GISC15-22228
- GISC15-22241
- GISC15-22242
- GISC15-22243

REVISÓ

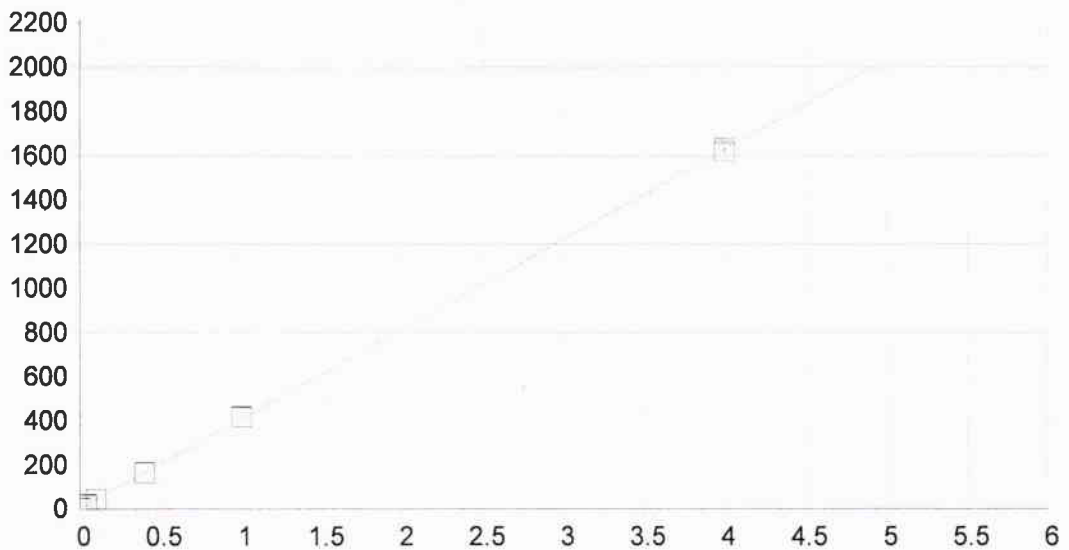
Q.F.B. Leticia Velázquez Méndez  
Gerente Técnico





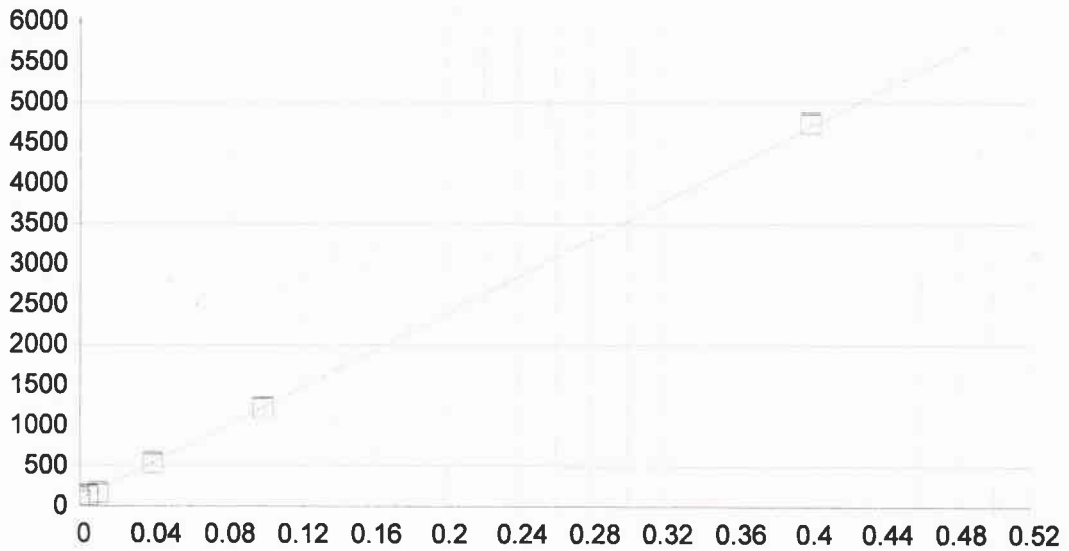
AI 396.152 { 85}

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A0 (Compensación):	-2.552531	Reajustar P	1.000000				
A1 (Ganancia)	47.114294	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999876	Estatus:	OK.				
Error Estándar de Est:	0.075208						
MDL:	0.098211						
MQL:	0.327370						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00003	-.000	.000	-2.5542	4.63	1
STD 5	.40000	.41701	.017	4.25	17.094	3.44	1
STD 6	1.0000	1.0476	.048	4.76	46.804	.842	1
STD 7	4.0000	4.0208	.021	.519	186.88	4.91	1
STD 8	10.000	9.9146	-.085	-.854	464.57	6.85	1



As 189.042 {478}

Fecha de la	21/12/2015 07:52:24	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	3.050736	Reajustar P	1.000000				
A1 (Ganancia)	406.413895	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999943	Estatus:	OK.				
Error Estándar de Est:	0.079178						
MDL:	0.002260						
MQL:	0.007533						
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	3.0515	.817	1
STD 4	.10000	.09698	-.003	-3.02	42.465	.468	1
STD 5	.40000	.39831	-.002	-.423	164.93	1.01	1
STD 6	1.0000	1.0209	.021	2.09	417.96	.991	1
STD 7	4.0000	3.9851	-.015	-.372	1622.7	11.5	1
STD 3	.04000	.03869	-.001	-3.27	18.776	1.34	1

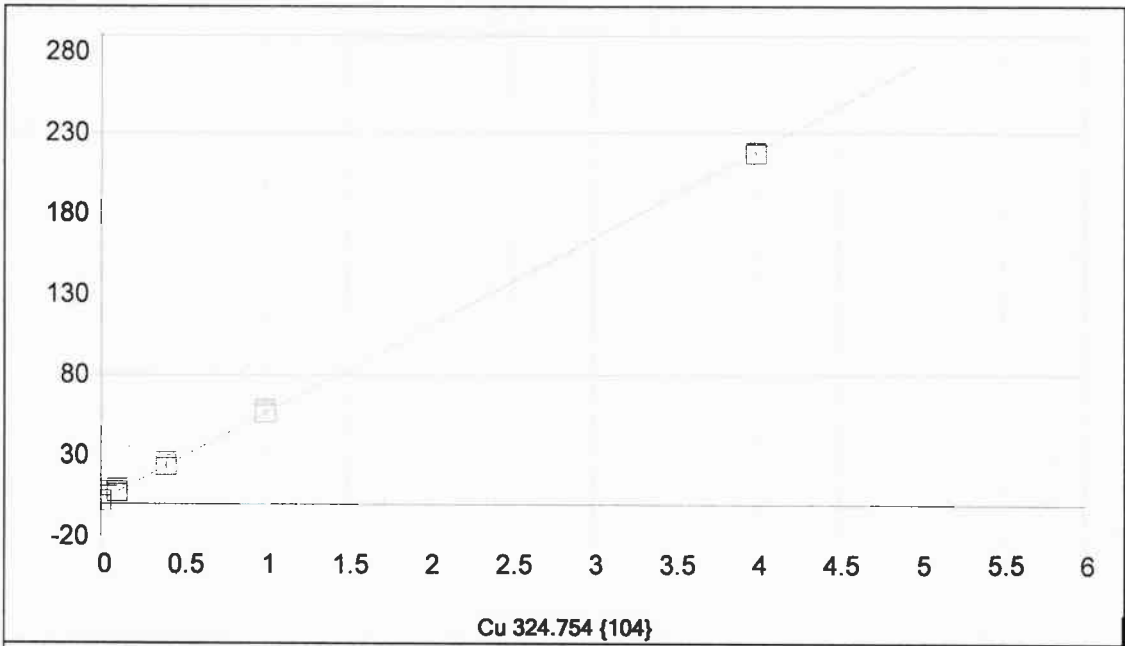


Cd 226.502 {449}

Fecha de la 21/12/2015 07:37:34 Tipo de unió Lineal Ponderación: 1/Conc.

A0 (Compensación): 77.090393 Reajustar P 1.000000  
 A1 (Ganancia) 11549.13727 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999049 Estatus: OK.  
 Error Estándar de Est: 0.918141  
 MDL: 0.000128  
 MQL: 0.000428

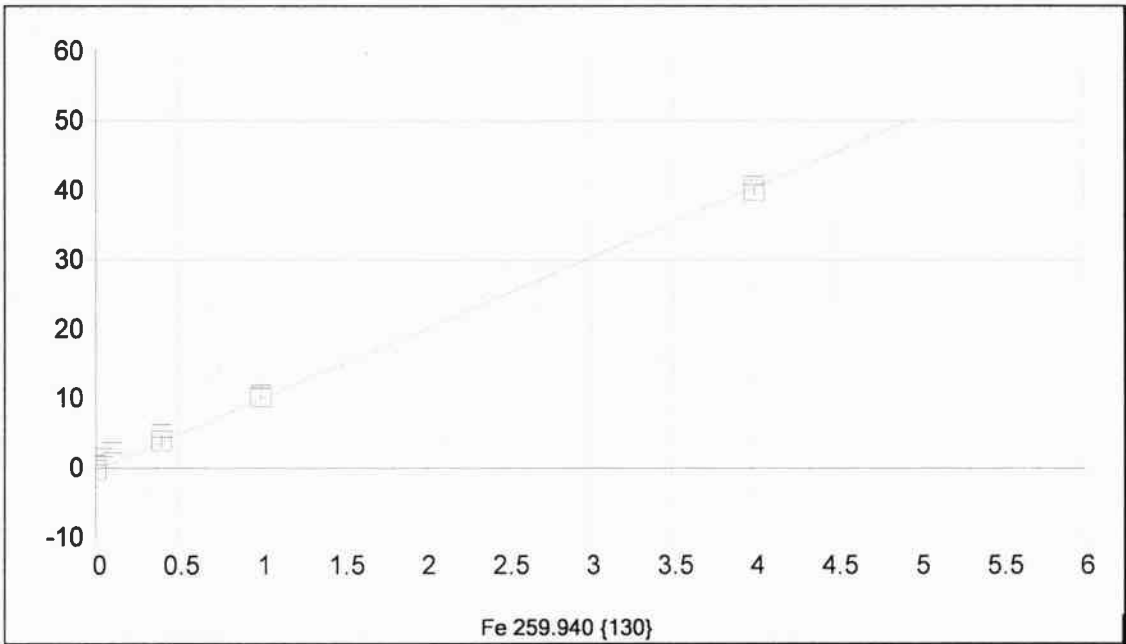
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	77.098	26.3	1
STD 1	.00400	.00463	.001	15.8	130.58	12.3	1
STD 2	.01000	.00702	-.003	-29.8	158.17	16.7	1
STD 3	.04000	.03933	-.001	-1.68	531.31	15.9	1
STD 4	.10000	.09886	-.001	-1.14	1218.9	9.07	1
STD 5	.40000	.40416	.004	1.04	4744.7	13.9	1



Fecha de la	21/12/2015 09:06:03	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	1.962281	Reajustar P	1.000000		
A1 (Ganancia)	54.168204	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999936	Estatus:	OK.		
Error Estándar de Est:	0.011719				
MDL:	0.035292				
MQL:	0.117639				

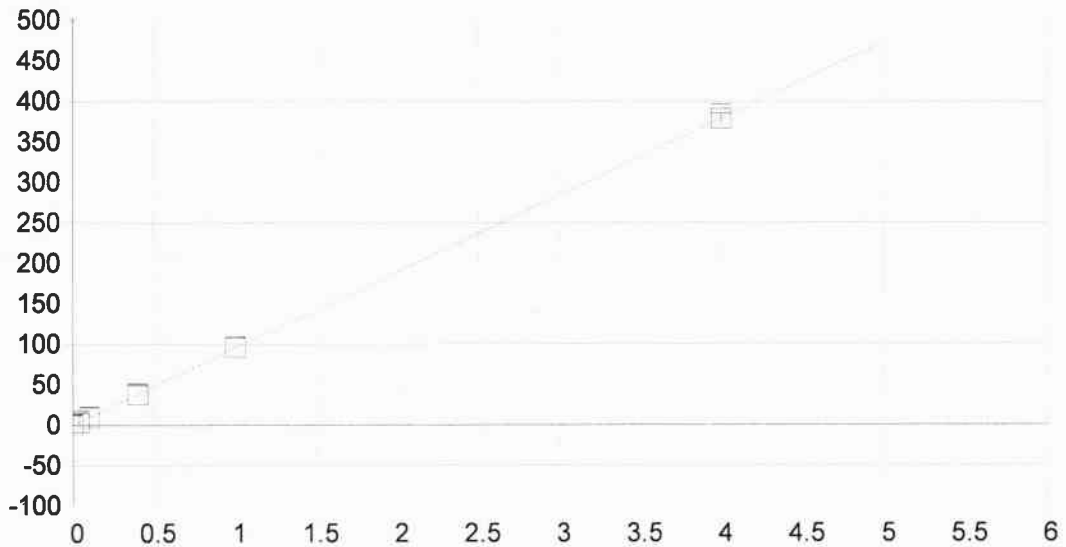
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	1.9621	2.92	1
STD 5	.40000	.40678	.007	1.70	23.997	1.75	1
STD 6	1.0000	1.0135	.014	1.35	56.864	1.59	1
STD 7	4.0000	3.9747	-.025	-.632	217.27	.605	1
STD 3	.04000	.08223	.042	106.	6.4167	1.44	0
STD 4	.10000	.10495	.005	4.95	7.6470	1.55	1



Fecha de la 21/12/2015 09:06:20 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.266644 Reajustar P 1.000000  
 A1 (Ganancia) 10.192889 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999788 Estatus: OK.  
 Error Estándar de Est: 0.004365  
 MDL: 0.097992  
 MQL: 0.326639

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-.26667	.681	1
STD 5	.40000	.41287	.013	3.22	3.9417	.884	1
STD 6	1.0000	1.0359	.036	3.59	10.292	.255	1
STD 3	.04000	.11037	.070	176.	.85833	.576	0
STD 4	.10000	.17904	.079	79.0	1.5583	.784	0
STD 7	4.0000	3.9513	-.049	-1.22	40.008	.586	1

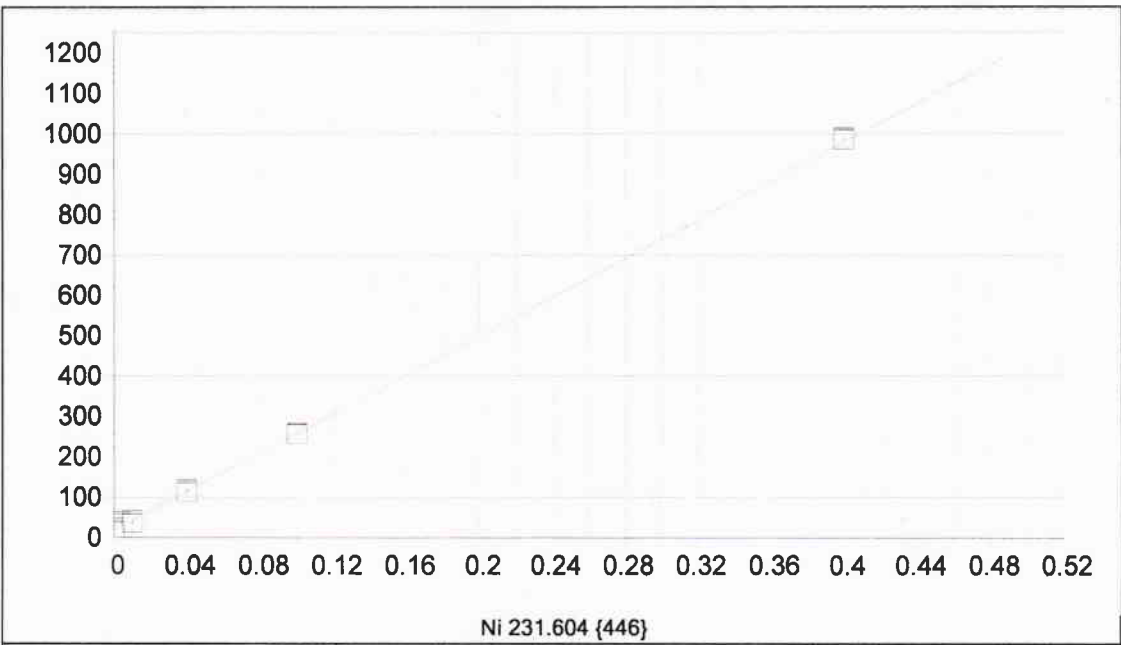


Mn 257.610 {131}

Fecha de la 21/12/2015 07:52:24 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.374604 Reajustar P 1.000000  
 A1 (Ganancia) 94.699515 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999946 Estatus: OK.  
 Error Estándar de Est: 0.017974  
 MDL: 0.011002  
 MQL: 0.036674

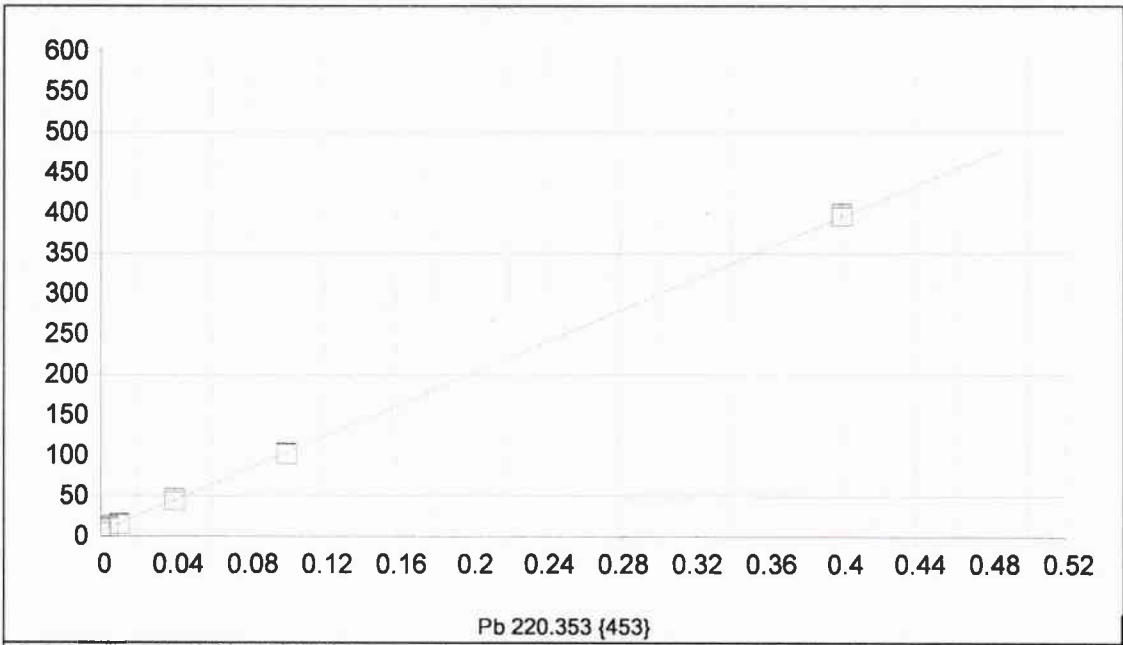
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	.37500	.456	1
STD 5	.40000	.39740	-.003	-.650	38.008	1.34	1
STD 6	1.0000	1.0103	.010	1.03	96.050	.900	1
STD 3	.04000	.03564	-.004	-10.9	3.7500	1.26	1
STD 4	.10000	.10015	.000	.145	9.8583	.123	1
STD 7	4.0000	3.9965	-.003	-.087	378.84	5.60	1



Fecha de la	21/12/2015 09:06:37	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	18.759208	Reajustar P	1.000000		
A1 (Ganancia)	2399.485820	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999477	Estatus:	OK.		
Error Estándar de Est:	0.148573				
MDL:	0.000554				
MQL:	0.001847				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	18.761	5.09	1
STD 1	.00400	.00714	.003	78.4	35.883	2.26	0
STD 2	.01000	.00769	-.002	-23.1	37.207	4.05	1
STD 3	.04000	.03996	-.000	-.102	114.64	4.04	1
STD 4	.10000	.09893	-.001	-1.07	256.14	1.33	1
STD 5	.40000	.40342	.003	.855	986.76	2.80	1

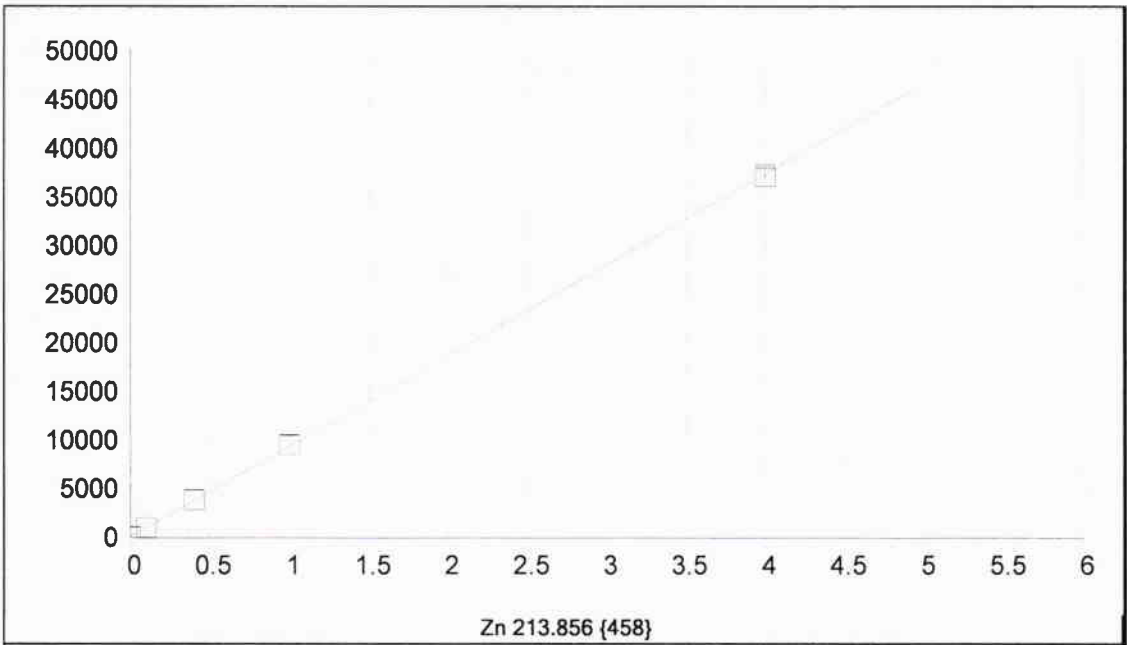


Fecha de la 21/12/2015 07:37:34 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 6.430387 Reajustar P 1.000000  
 A1 (Ganancia) 971.876499 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999512 Estatus: OK.  
 Error Estándar de Est: 0.055324  
 MDL: 0.001447  
 MQL: 0.004822

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	6.4298	2.36	1
STD 1	.00400	.00517	.001	29.2	11.452	1.34	1
STD 2	.01000	.00874	-.001	-12.6	14.925	.825	1
STD 3	.04000	.03945	-.001	-1.37	44.771	2.20	1
STD 4	.10000	.09850	-.002	-1.50	102.16	.670	1
STD 5	.40000	.40214	.002	.536	397.26	2.32	1

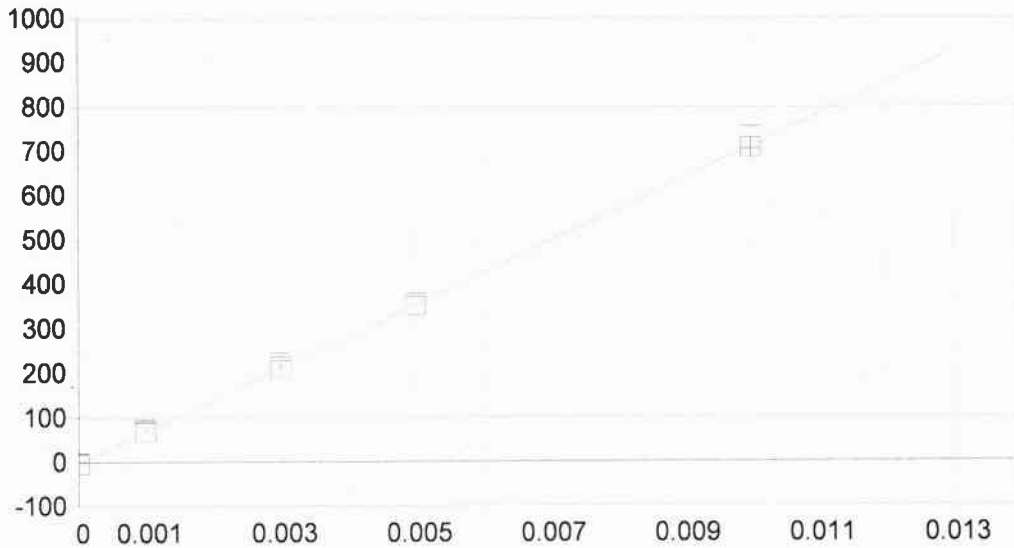




Fecha de la 21/12/2015 07:52:24 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 78.802833 Reajustar P 1.000000  
 A1 (Ganancia) 9340.980606 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999940 Estatus: OK.  
 Error Estándar de Est: 3.096888  
 MDL: 0.000129  
 MQL: 0.000432

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	78.746	21.2	1
STD 4	.10000	.10331	.003	3.31	1043.8	2.85	1
STD 5	.40000	.40780	.008	1.95	3888.0	11.4	1
STD 6	1.0000	1.0151	.015	1.51	9560.6	55.8	1
STD 7	4.0000	3.9738	-.026	-.655	37198.	207.	1



Hg 194.227 {474}

Fecha de la 22/12/2015 09:28:03 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -4.399509 Reajustar P 1.000000  
 A1 (Ganancia) 71594.72071 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999943 Estatus: OK.  
 Error Estándar de Est: 0.136280  
 MDL: 0.000021  
 MQL: 0.000071

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-4.4020	.293	1
STD 1	.00100	.00103	.000	2.59	69.050	3.14	1
STD 2	.00300	.00306	.000	1.87	214.39	8.06	1
STD 3	.00500	.00498	-.000	-.410	352.11	3.70	1
STD 4	.01000	.00994	-.000	-.614	707.15	25.1	1



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-ELOTE-151221**  
 Fecha de Análisis: **21/12/2015**  
 Fecha de Reporte: **21/12/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9999	0.9990	0.9999	0.9998	0.9999	0.9995	0.9995	0.9999	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.1	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No.1	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
10	QC:QC	Aluminio	0.4000	0.4620	116	6	QC:QC	Mercurio	0.0050	0.0050	100
		Arsénico	0.4000	0.4020	101	21	QC:QC	Mercurio	0.0050	0.0048	96
		Cadmio	0.4000	0.3924	98						
		Cobre	0.4000	0.4079	102						
		Fierro	0.4000	0.4083	102						
		Manganeso	0.4000	0.3985	100						
		Níquel	0.4000	0.3858	96						
		Plomo	0.4000	0.3997	100						
		Zinc	0.4000	0.4242	106						
25	QC:QC	Aluminio	0.4000	0.4465	112						
		Arsénico	0.4000	0.3759	94						
		Cadmio	0.4000	0.3678	92						
		Cobre	0.4000	0.3576	89						
		Fierro	0.4000	0.4051	101						
		Manganeso	0.4000	0.3608	90						
		Níquel	0.4000	0.3624	91						
		Plomo	0.4000	0.3747	94						
Zinc	0.4000	0.3983	100								
32	QC:QC	Aluminio	0.4000	0.4406	110						
		Arsénico	0.4000	0.3632	91						
		Cadmio	0.4000	0.3567	89						
		Cobre	0.4000	0.3693	92						
		Fierro	0.4000	0.3829	96						
		Manganeso	0.4000	0.3399	85						
		Níquel	0.4000	0.3508	88						
		Plomo	0.4000	0.3640	91						
Zinc	0.4000	0.3844	96								



Análisis:  
Lote analítico:

**METALES PESADOS POR ICP-OES**  
DMP-ELOTE-151221

Fecha de Análisis:

21/12/2015

Fecha de Reporte:

21/12/2015

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/kg		% Recobro²	No.¹	Identificación	Analito	Concentración mg/kg		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
12	Recuperación	Aluminio	40.0000	45.5000	114						
		Arsénico	40.0000	39.4000	99						
		Cadmio	40.0000	38.4000	96						
		Cobre	40.0000	36.5000	91						
		Fierro	40.0000	34.0000	85						
		Manganeso	40.0000	36.3400	91						
		Níquel	40.0000	37.6200	94						
		Plomo	40.0000	39.1500	98						
		Zinc	40.0000	41.0000	103						
8	Recuperación	Mercurio	0.5000	0.4867	97						

NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

² REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

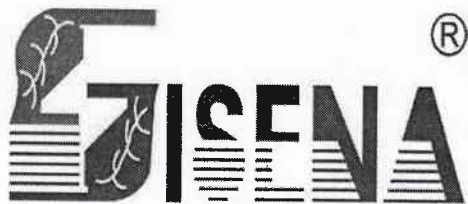
**I.B.I. Gaudencio Vargas Espejel**

ELABORÓ

**PACE/GIS/I02-F01**

**Q.F.B. Leticia Velázquez Méndez**

REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21679	Elote		05/11/2015	0.5026	0.5069
GISC15-21682	Elote		05/11/2015	0.5071	0.5040
GISC15-21805	Elote		05/11/2015	0.5099	0.5062
GISC15-21896	Elote		05/11/2015	0.5085	0.5065
GISC15-21897	Elote		05/11/2015	0.5021	0.5018
GISC15-21923	Elote		05/11/2015	0.5013	0.5066
GISC15-21924	Elote		05/11/2015	0.5015	0.5067
GISC15-21925	Elote		05/11/2015	0.5071	0.5083
GISC15-21926	Elote		05/11/2015	0.5029	0.5046
GISC15-22136	Elote		05/11/2015	0.5094	0.5017
GISC15-22137	Elote		05/11/2015	0.5016	0.5020
GISC15-22227	Elote		05/11/2015	0.5054	0.5025
GISC15-22228	Elote		05/11/2015	0.5018	0.5033
GISC15-22241	Elote		05/11/2015	0.5023	0.5017
GISC15-22242	Elote		05/11/2015	0.5027	0.5041
GISC15-22243	Elote		05/11/2015	0.5032	0.5074

*I.B.T. Reyna Ivette Delgado*

I.B.T. Reyna Ivette Delgado

*Q.F.B. Leticia Velazquez Méndez*

Q.F.B. Leticia Velazquez Méndez

1	Cal: Blanco 21/12/2015 07:33:26 IR D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	-2.554	3.052	77.10	1.962	-2.667	.3750	18.76	6.430	78.75	
Desv. Est.	4.631	.817	26.27	2.924	.6807	.4562	5.09	2.356	21.24	
% RSD	181.3	26.78	34.07	149.0	255.3	121.7	27.15	36.65	26.97	
Rep #1	-4.504	3.293	77.54	4.841	-.5000	.6750	18.20	7.002	77.47	
Rep #2	2.733	3.721	103.1	2.050	-.8000	.6000	24.11	8.447	100.6	
Rep #3	-5.892	2.141	50.61	-1.005	.5000	-.1500	13.97	3.840	58.17	
2	Cal: STD 1 21/12/2015 07:35:59 IR D MP-151221: ELOTE::									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	130.6	35.88	11.45							
Desv. Est.	12.3	2.26	1.34							
% RSD	9.420	6.291	11.67							
Rep #1	136.4	37.38	10.71							
Rep #2	138.9	36.98	12.99							
Rep #3	116.4	33.29	10.65							
3	Cal: STD 2 21/12/2015 07:38:17 IR D MP-151221: ELOTE::									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	158.2	37.21	14.92							
Desv. Est.	16.8	4.05	.82							
% RSD	10.59	10.88	5.527							
Rep #1	172.5	41.12	15.22							
Rep #2	162.2	37.46	15.56							
Rep #3	139.8	33.04	13.99							
4	Cal: STD 3 21/12/2015 07:40:46 IR D MP-151221: ELOTE::									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	18.78	531.3	6.417	.8583	3.750	114.6	44.77			
Desv. Est.	1.34	15.9	1.439	.5757	1.257	4.0	2.20			
% RSD	7.132	2.997	22.42	67.07	33.51	3.528	4.916			
Rep #1	19.95	546.1	7.727	1.000	4.525	119.2	46.64			
Rep #2	19.06	533.4	6.645	1.350	2.300	113.3	45.33			
Rep #3	17.32	514.4	4.877	.2250	4.425	111.4	42.34			
5	Cal: STD 4 21/12/2015 07:43:07 IR D MP-151221: ELOTE::									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	42.47	1219.	7.647	1.558	9.858	256.1	102.2	1044.		
Desv. Est.	.47	9.	1.550	.784	.123	1.3	.7	3.		
% RSD	1.103	.7441	20.27	50.28	1.251	.5184	.6561	.2732		
Rep #1	42.46	1221.	9.150	2.400	9.775	257.4	101.5	1045.		
Rep #2	42.00	1227.	6.055	1.425	9.800	256.2	102.8	1046.		
Rep #3	42.94	1209.	7.736	.8500	10.00	254.8	102.2	1041.		
6	Cal: STD 5 21/12/2015 07:45:28 IR D MP-151221: ELOTE::									



11	Unk: BLANCO 21/12/2015 08:02:17 CONC D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.0158	<.0000	<.0000	.0274	.0668	<.0000	<.0000	<.0000	<.0000	
Desv. Est.	.0270	.0014	.0003	.0273	.1200	.0048	.0009	.0001	.0002	
% RSD	170.7	39.03	7.179	99.72	179.7	50.04	21.92	2.095	6.107	
Rep #1	-.0152	-.0026	-.0038	-.0023	-.0152	-.0111	-.0030	-.0029	-.0036	
Rep #2	.0293	-.0052	-.0042	.0329	.2045	-.0135	-.0044	-.0028	-.0039	
Rep #3	.0333	-.0031	-.0044	.0515	.0111	-.0042	-.0046	-.0029	-.0041	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
12	Unk: RECUPERACION 21/12/2015 08:04:55 CONC x100 D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	45.45	39.44	38.44	36.50	34.00	36.34	37.62	39.15	41.00	
Desv. Est.	10.11	.13	.24	1.86	2.22	.85	.23	.49	.27	
% RSD	22.24	.3311	.6351	5.101	6.528	2.349	.6213	1.248	.6503	
Rep #1	57.09	39.44	38.72	34.61	34.63	37.12	37.88	39.72	41.28	
Rep #2	38.84	39.32	38.32	38.34	35.83	35.43	37.53	38.91	40.97	
Rep #3	40.43	39.58	38.27	36.54	31.53	36.48	37.44	38.83	40.75	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Blanco: REACTIVO 21/12/2015 08:07:32 CONC x100 D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	5.158	-.6390	-.5916	-.1126	11.06	-.6420	-.4120	-.5582	-.2960	
Desv. Est.	3.228	.1549	.0178	1.996	4.01	.5792	.0545	.0380	.0108	
% RSD	62.59	24.24	3.014	1772.	36.30	90.22	13.22	6.813	3.639	
Rep #1	3.056	-.6347	-.6122	1.056	10.18	-.9764	-.4374	-.5852	-.3011	
Rep #2	8.876	-.7960	-.5825	1.023	15.44	-.9764	-.3494	-.5746	-.2836	
Rep #3	3.543	-.4863	-.5802	-2.417	7.554	.0268	-.4491	-.5147	-.3033	
Comprobació										
Valor										
Intervalo										
14	Unk: GISC15-21679 21/12/2015 08:10:50 CONC x100 D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	1.412	.4625	<.0000	4.072	3.583	1.646	<.0000	<.0000	12.09	
Desv. Est.	3.874	.1526	.0208	3.032	4.475	.529	.0457	.1066	.07	
% RSD	274.3	32.99	34.26	74.46	124.9	32.14	51.31	155.8	.5742	
Rep #1	1.377	.3143	-.0459	2.634	-1.433	1.241	-.0371	.0443	12.17	
Rep #2	5.303	.6191	-.0519	2.027	5.016	1.452	-.1072	-.1675	12.07	
Rep #3	-2.444	.4542	-.0846	7.556	7.165	2.244	-.1231	-.0820	12.03	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
15	Unk: GISC15-21679-R 21/12/2015 08:12:26 CONC x100 D MP-151221: ELOTE::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	





Media	<.0000	.3081	<.0000	.3470	8.344	.1267	<.0000	<.0000	7.911
Desv. Est.	8.817	.1297	.0169	.6344	9.042	.8450	.0464	.0890	.011
% RSD	163.3	42.09	10.44	182.8	108.4	666.8	54.13	62.27	.1396
Rep #1	-3.134	.4452	-.1433	.4442	-1.242	1.067	-.1042	-.2427	7.920
Rep #2	2.066	.1874	-.1643	-.3304	16.72	-.1162	-.1203	-.0714	7.915
Rep #3	-15.13	.2916	-.1766	.9272	9.554	-.5702	-.0330	-.1148	7.899
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
20	Unk: GISC15-21923 21/12/2015 08:24:57 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1751	<.0000	1.291	4.968	.9574	.0615	<.0000	12.01
Desv. Est.	6.430	.2336	.0108	2.284	10.03	.8391	.0558	.0429	.05
% RSD	145.1	133.4	7.294	176.9	202.0	87.64	90.81	69.91	.4047
Rep #1	-11.44	.2725	-.1446	-1.338	5.159	1.478	.1245	-.0711	12.03
Rep #2	1.200	.3444	-.1604	2.784	14.90	1.404	.0417	-.0144	11.95
Rep #3	-3.054	-.0914	-.1397	2.426	-5.159	-.0106	.0182	-.0985	12.04
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
21	Unk: GISC15-21924 21/12/2015 08:27:23 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1943	<.0000	.5025	6.783	<.0000	.0532	<.0000	9.233
Desv. Est.	1.254	.0932	.0081	1.770	3.630	.8996	.0259	.1004	.021
% RSD	21.02	47.96	5.325	352.4	53.52	1022.	48.77	203.7	.2241
Rep #1	-5.707	.1456	-.1437	1.902	5.828	-.5808	.0808	-.1041	9.210
Rep #2	-4.858	.3017	-.1538	1.094	10.80	-.6336	.0494	.0666	9.250
Rep #3	-7.326	.1355	-.1597	-1.488	3.726	.9504	.0293	-.1104	9.238
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
22	Unk: GISC15-21925 21/12/2015 08:29:58 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1422	<.0000	.0583	10.57	.4787	.0114	.0049	11.65
Desv. Est.	3.715	.2071	.0028	.9933	12.59	.6554	.0524	.0535	.02
% RSD	74.26	145.7	1.656	1704.	119.0	136.9	459.2	1092.	.1825
Rep #1	-1.321	.3657	-.1655	.7940	24.17	.7920	-.0157	-.0407	11.63
Rep #2	-4.938	-.0433	-.1705	-1.072	8.216	.9187	-.0220	-.0084	11.63
Rep #3	-8.749	.1041	-.1659	.4525	-.6688	-.2746	.0719	.0638	11.67
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
23	Unk: GISC15-21926 21/12/2015 08:32:20 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1620	<.0000	<.0000	8.185	1.323	<.0000	<.0000	10.86

Desv. Est.	3.291	.2349	.0026	3.233	8.938	.894	.0403	.0929	.21
% RSD	102.9	145.0	1.636	792.1	109.2	67.53	30.30	109.0	1.979
Rep #1	-3.726	.3889	-.1618	3.176	1.529	1.383	-.1287	-.1909	10.61
Rep #2	.3243	.1773	-.1588	-3.104	18.34	2.186	-.1751	-.0486	11.00
Rep #3	-6.194	-.0802	-.1566	-1.296	4.681	.4013	-.0949	-.0162	10.96
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-22136 21/12/2015 08:34:50 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2181	<.0000	1.444	6.529	1.499	<.0000	<.0000	6.178
Desv. Est.	6.276	.0467	.0032	2.180	5.523	.514	.0202	.0257	.021
% RSD	149.1	21.39	1.964	151.0	84.60	34.29	27.39	35.04	.3328
Rep #1	-6.768	.2708	-.1596	2.426	3.057	1.014	-.0959	-.0467	6.194
Rep #2	2.942	.1820	-.1652	2.959	12.90	1.447	-.0686	-.0980	6.184
Rep #3	-8.802	.2017	-.1598	-1.055	3.630	2.038	-.0565	-.0753	6.155
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	QC: QC 21/12/2015 08:42:59 CONC D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4465	.3759	.3678	.3576	.4051	.3608	.3624	.3747	.3983
Desv. Est.	.0330	.0040	.0006	.0237	.0384	.0112	.0013	.0005	.0002
% RSD	7.381	1.067	.1707	6.615	9.488	3.112	.3645	.1459	.0417
Rep #1	.4454	.3766	.3676	.3849	.4099	.3736	.3613	.3752	.3981
Rep #2	.4800	.3795	.3684	.3439	.4410	.3524	.3620	.3748	.3985
Rep #3	.4141	.3716	.3672	.3439	.3645	.3564	.3639	.3741	.3983
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
26	Unk: GISC15-22137 21/12/2015 08:44:55 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.0169	<.0000	.6635	10.64	1.851	<.0000	<.0000	6.552
Desv. Est.	6.265	.1673	.0103	3.611	9.09	.333	.0740	.0807	.013
% RSD	111.7	992.7	6.369	544.3	85.48	18.00	86.55	99.95	.2014
Rep #1	1.580	.1948	-.1677	-2.462	8.407	1.732	-.0773	-.0028	6.549
Rep #2	-8.511	-.1373	-.1673	-.1638	20.64	1.595	-.0159	-.0755	6.566
Rep #3	-9.899	-.0069	-.1497	4.617	2.866	2.228	-.1632	-.1640	6.540
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
27	Unk: GISC15-22227 21/12/2015 08:47:20 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.3105	<.0000	<.0000	5.127	1.531	<.0000	.0127	7.018
Desv. Est.	4.091	.1192	.0019	.5871	7.610	.143	.0218	.1751	.024

% RSD	112.2	38.38	1.089	50.71	148.4	9.329	32.47	1374.	.3457
Rep #1	1.058	.1820	-.1764	-.5136	-1.433	1.383	-.0555	.2144	6.997
Rep #2	-5.628	.4173	-.1741	-1.296	3.344	1.668	-.0538	-.0764	7.012
Rep #3	-6.370	.3320	-.1779	-1.663	13.47	1.542	-.0924	-.0998	7.045
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-22228 21/12/2015 08:49:58 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1350	<.0000	3.886	11.66	2.591	<.0000	<.0000	10.38
Desv. Est.	2.683	.1267	.0109	3.690	6.87	1.155	.0008	.0751	.03
% RSD	128.7	93.88	6.330	94.94	58.95	44.58	1.425	112.0	.2895
Rep #1	-3.638	.2790	-.1612	-.3387	12.52	2.218	-.0541	.0163	10.36
Rep #2	1.014	.0409	-.1720	5.524	4.395	3.886	-.0553	-.0882	10.36
Rep #3	-3.629	.0849	-.1829	6.474	18.06	1.668	-.0557	-.1295	10.41
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-22241 21/12/2015 08:52:27 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.0226	<.0000	3.073	<.0000	1.211	<.0000	<.0000	6.955
Desv. Est.	8.642	.2833	.0111	1.228	4.472	.473	.0077	.0766	.030
% RSD	172.2	1254.	6.721	39.95	137.7	39.10	6.703	129.2	.4360
Rep #1	-7.060	-.0933	-.1576	2.793	-7.165	1.742	-.1185	-.0472	6.920
Rep #2	-12.45	-.1843	-.1780	2.010	-4.204	1.056	-.1060	.0106	6.966
Rep #3	4.463	.3454	-.1601	4.417	1.624	.8342	-.1201	-.1411	6.978
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-22242 21/12/2015 08:54:49 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1064	<.0000	<.0000	4.044	1.531	<.0000	<.0000	12.04
Desv. Est.	1.793	.0899	.0049	2.525	12.31	.170	.0633	.1161	.11
% RSD	53.87	84.51	3.143	967.7	304.4	11.10	110.3	223.6	.9224
Rep #1	-2.541	.0387	-.1500	-3.162	-6.688	1.352	.0113	-.1665	11.99
Rep #2	-5.380	.0721	-.1593	1.444	1.338	1.552	-.1135	.0657	11.96
Rep #3	-2.064	.2085	-.1574	.9355	17.48	1.690	-.0700	-.0550	12.17
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-22243 21/12/2015 08:57:18 CONC x100 D MP-151221: ELOTE::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1593	<.0000	<.0000	11.27	1.218	<.0000	<.0000	10.27
Desv. Est.	9.350	.1211	.0011	.8924	1.91	.905	.0547	.0871	.03
% RSD	236.6	76.03	.6819	78.02	16.93	74.29	193.7	39.00	.2616



1	Cal: Blanco 22/12/2015 09:20:46 IR D Hg-151222: ELOTE:
	Hg1942
Unidades	Cts/s
Media	-4.402
Desv. Est.	.292
% RSD	6.646
Rep #1	-4.720
Rep #2	-4.143
Rep #3	-4.343
2	Cal: STD 1 22/12/2015 09:22:35 IR D Hg-151222: ELOTE:
	Hg1942
Unidades	Cts/s
Media	69.05
Desv. Est.	3.14
% RSD	4.547
Rep #1	65.43
Rep #2	70.65
Rep #3	71.07
3	Cal: STD 2 22/12/2015 09:23:54 IR D Hg-151222: ELOTE:
	Hg1942
Unidades	Cts/s
Media	214.4
Desv. Est.	8.1
% RSD	3.757
Rep #1	205.1
Rep #2	218.6
Rep #3	219.5
4	Cal: STD 3 22/12/2015 09:25:31 IR D Hg-151222: ELOTE:
	Hg1942
Unidades	Cts/s
Media	352.1
Desv. Est.	3.7
% RSD	1.050
Rep #1	348.0
Rep #2	355.2
Rep #3	353.1
5	Cal: STD 4 22/12/2015 09:26:53 IR D Hg-151222: ELOTE:
	Hg1942
Unidades	Cts/s
Media	707.2
Desv. Est.	25.1
% RSD	3.543
Rep #1	678.4
Rep #2	718.9
Rep #3	724.2
6	QC: QC 22/12/2015 09:29:22 CONC D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000

% RSD	.7198
Rep #1	.0050
Rep #2	.0050
Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: BLANCO 22/12/2015 09:30:51 CONC D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0000
Desv. Est.	.0000
% RSD	79.64
Rep #1	.0001
Rep #2	.0000
Rep #3	.0000
8	Unk: RECUPERACION 22/12/2015 09:32:14 CONC x100 D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4867
Desv. Est.	.0076
% RSD	1.563
Rep #1	.4785
Rep #2	.4882
Rep #3	.4935
9	Blanco: REACTIVO 22/12/2015 09:33:47 CONC x100 D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0011
Desv. Est.	.0024
% RSD	212.0
Rep #1	.0038
Rep #2	-.0001
Rep #3	-.0004
10	Unk: GISC15-21679 22/12/2015 09:35:21 CONC x100 D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0228
Desv. Est.	.0015
% RSD	6.721
Rep #1	-.0245
Rep #2	-.0215
Rep #3	-.0224
11	Unk: GISC15-21679-R 22/12/2015 09:36:44 CONC x100 D Hg-151222: ELOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0272

Desv. Est.	.0009
% RSD	3.290
Rep #1	-.0268
Rep #2	-.0265
Rep #3	-.0282
12	Unk: GISC15-21682 22/12/2015 09:38:21 CONC x100 D.Hg 151222: FLOT5: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0275
Desv. Est.	.0020
% RSD	7.369
Rep #1	-.0279
Rep #2	-.0253
Rep #3	-.0293
13	Unk: GISC15-21805 22/12/2015 09:39:45 CONC x100 D.Hg 151222: FLOT5: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0241
Desv. Est.	.0015
% RSD	6.173
Rep #1	-.0229
Rep #2	-.0235
Rep #3	-.0258
14	Unk: GISC15-21896 22/12/2015 09:41:08 CONC x100 D.Hg 151222: FLOT5: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0259
Desv. Est.	.0017
% RSD	6.624
Rep #1	-.0245
Rep #2	-.0253
Rep #3	-.0278
15	Unk: GISC15-21897 22/12/2015 09:42:27 CONC x100 D.Hg 151222: FLOT5: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0211
Desv. Est.	.0015
% RSD	7.340
Rep #1	-.0223
Rep #2	-.0193
Rep #3	-.0216
16	Unk: GISC15-21923 22/12/2015 09:43:45 CONC x100 D.Hg 151222: FLOT5: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0283
Desv. Est.	.0006
% RSD	2.211



Rep #1	-0279
Rep #2	-0290
Rep #3	-0280
17	Unk: GISC15-21924 22/12/2015 09:45:23 CONC x100 D Hg-151222: ELOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0274
Desv. Est.	.0017
% RSD	6.327
Rep #1	-0278
Rep #2	-0288
Rep #3	-0254
18	Unk: GISC15-21925 22/12/2015 09:46:39 CONC x100 D Hg-151222: ELOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0244
Desv. Est.	.0008
% RSD	3.313
Rep #1	-0251
Rep #2	-0246
Rep #3	-0235
19	Unk: GISC15-21926 22/12/2015 09:47:55 CONC x100 D Hg-151222: ELOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0254
Desv. Est.	.0019
% RSD	7.395
Rep #1	-0269
Rep #2	-0233
Rep #3	-0262
20	Unk: GISC15-22136 22/12/2015 09:49:20 CONC x100 D Hg-151222: ELOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0234
Desv. Est.	.0019
% RSD	8.076
Rep #1	-0224
Rep #2	-0256
Rep #3	-0222
21	QC: QC 22/12/2015 09:50:44 CONC D Hg-151222: ELOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0048
Desv. Est.	.0002
% RSD	3.553
Rep #1	.0047
Rep #2	.0049

Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
22	Unk: GISC15-22137 22/12/2015 09:52:15 CONC x100 DATE: 151222 FLOTE: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0119
Desv. Est.	.0054
% RSD	45.59
Rep #1	-.0057
Rep #2	-.0144
Rep #3	-.0156
23	Unk: GISC15-22227 22/12/2015 09:53:40 CONC x100 DATE: 151222 FLOTE: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0235
Desv. Est.	.0013
% RSD	5.508
Rep #1	-.0235
Rep #2	-.0249
Rep #3	-.0223
24	Unk: GISC15-22228 22/12/2015 09:55:13 CONC x100 DATE: 151222 FLOTE: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0272
Desv. Est.	.0015
% RSD	5.523
Rep #1	-.0263
Rep #2	-.0290
Rep #3	-.0264
25	Unk: GISC15-22241 22/12/2015 09:56:37 CONC x100 DATE: 151222 FLOTE: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0223
Desv. Est.	.0022
% RSD	9.814
Rep #1	-.0230
Rep #2	-.0240
Rep #3	-.0198
26	Unk: GISC15-22242 22/12/2015 09:57:57 CONC x100 DATE: 151222 FLOTE: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0206
Desv. Est.	.0026
% RSD	12.56
Rep #1	-.0182

Rep #2	-0234
Rep #3	-0203
27	Unk: GISC15-22243 22/12/2015 09:59:29 CONC x100
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-0268
Desv. Est.	.0005
% RSD	1.958
Rep #1	-0271
Rep #2	-0270
Rep #3	-0262

## **CONTENIDO**

### **HOJA DE ELOTE**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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C.P. 56250 TEL: 01(595) 928 41 78, 01(595) 931 39 60 y 01(595) 931 39 61  
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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

**Matriz:** VEGETALES (Hoja de Elote)  
**Fecha de Recepción:** 2015-11-05

### INTERESADO

**Nombre :** Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
**Dirección:** Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

**Método:** Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
**Referencia:** EPA 6010C-2007  
**Resultados:** Ver hoja excell .....2015/11/05 (2)  
**Fecha de Analisis Metales y Mercurio:** 2015-12-03 2015-12-06  
**Fecha de Realización del Informe:** 2015-12-07

### IDENTIFICACIÓN CLIENTE

L-I003/15/0023  
L-I003/15/0025  
L-I003/15/0027  
L-I022/15/0219  
L-I022/15/0220  
L-I023/15/0221  
L-I029/15/0286  
L-I029/15/0287  
L-I029/15/0288  
L-I029/15/0289  
L-I033/15/0328  
L-I033/15/0329  
L-I033/15/0330  
L-I034/15/0331  
L-I059/15/0584

### CLAVE DE IDENTIFICACIÓN

GISC15-21680  
GISC15-21681  
GISC15-21683  
GISC15-21829  
GISC15-21830  
GISC15-21831  
GISC15-21892  
GISC15-21893  
GISC15-21894  
GISC15-21895  
GISC15-21927  
GISC15-21928  
GISC15-21929  
GISC15-21930  
GISC15-22138



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C.P. 56250 TEL: 01(595) 928 41 78, 01(595) 931 39 60 y 01(595) 931 39 61  
TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx

Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

**IDENTIFICACIÓN CLIENTE**

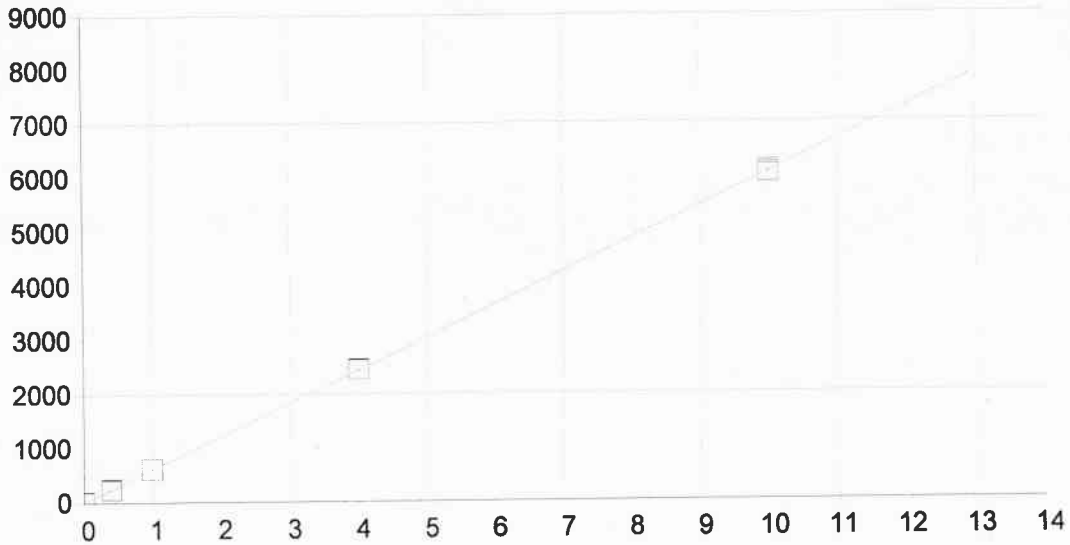
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- L-I072/15/0714
- L-I072/15/0715
- L-I072/15/0716

**CLAVE DE IDENTIFICACIÓN**

- GISC15-22139
- GISC15-22140
- GISC15-22229
- GISC15-22230
- GISC15-22244
- GISC15-22245
- GISC15-22246

REVISÓ

\_\_\_\_\_  
Q.F.B. Leticia Velazquez Méndez  
Gerente Técnico

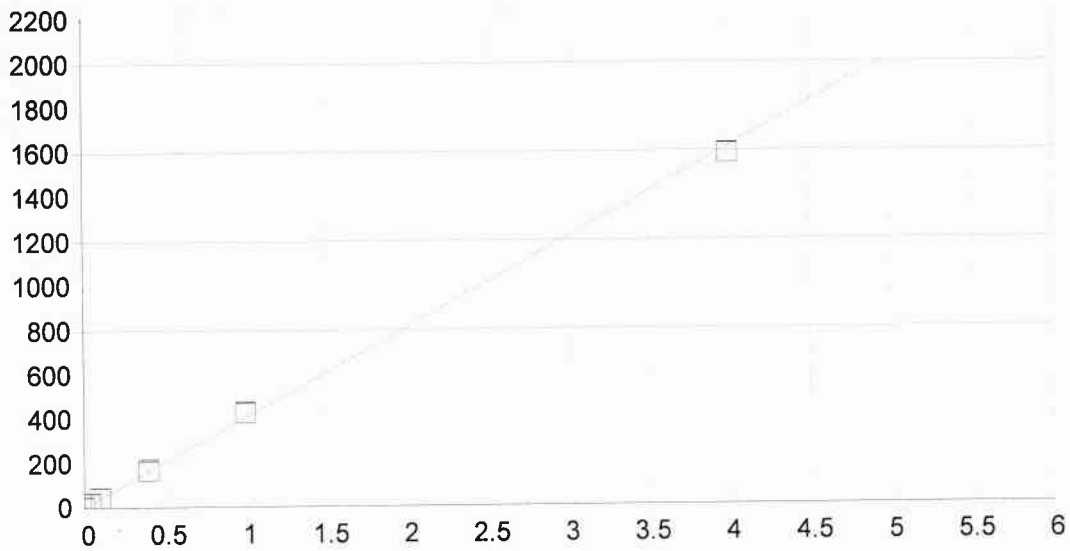


AI 396.152 { 85}

Fecha de la 03/12/2015 15:37:04 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 6.686359 Reajustar P 1.000000  
 A1 (Ganancia) 605.882003 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999982 Estatus: OK.  
 Error Estándar de Est: 0.364506  
 MDL: 0.014176  
 MQL: 0.047255

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	6.6917	3.54	1
STD 5	.40000	.38899	-.011	-2.75	242.37	10.0	1
STD 6	1.0000	1.0002	.000	.023	612.71	2.19	1
STD 7	4.0000	4.0288	.029	.721	2447.7	4.50	1
STD 8	10.000	9.9820	-.018	-.180	6054.6	39.4	1



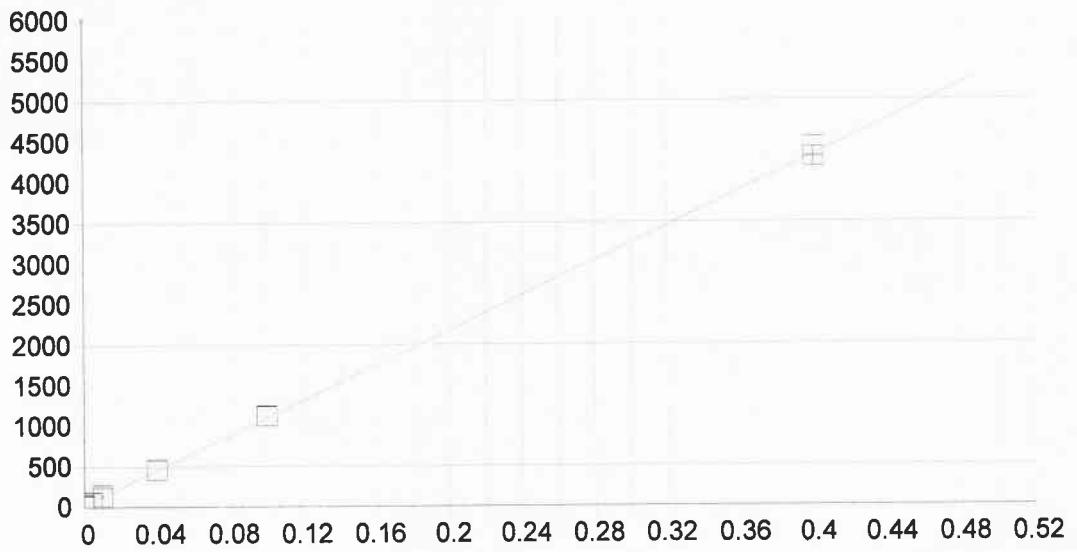
As 189.042 {478}

Fecha de la 03/12/2015 15:34:41 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.722788 Reajustar P 1.000000  
 A1 (Ganancia) 404.640425 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999507 Estatus: OK.  
 Error Estándar de Est: 0.231432  
 MDL: 0.002282  
 MQL: 0.007607

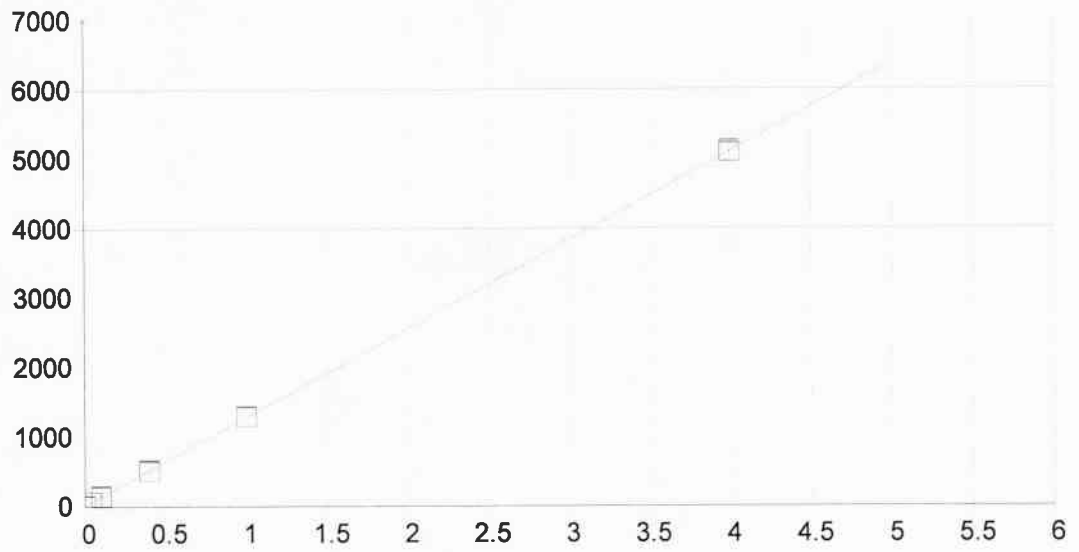
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	.71956	.501	1
STD 4	.10000	.10582	.006	5.82	43.540	.488	1
STD 5	.40000	.41121	.011	2.80	167.12	6.43	1
STD 6	1.0000	1.0559	.056	5.59	427.99	1.72	1
STD 7	4.0000	3.9240	-.076	-1.90	1588.5	1.47	1
STD 3	.04000	.04306	.003	7.65	18.146	.365	1





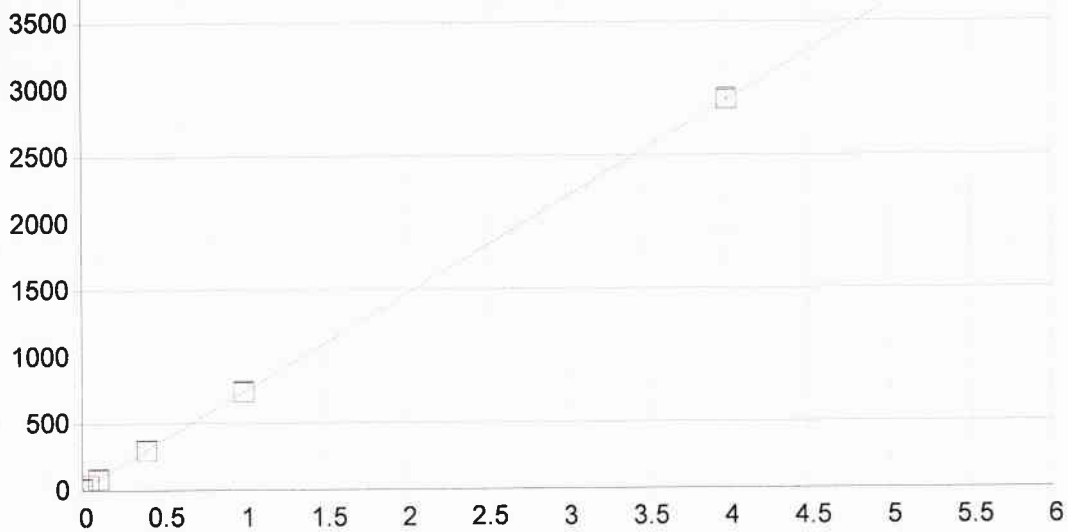
Cd 226.502 {449}

Fecha de la	03/12/2015 15:29:56	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	21.693342	Reajustar P	1.000000				
A1 (Ganancia)	10760.26497	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999852	Estatus:	OK.				
Error Estándar de Est:	0.337645						
MDL:	0.000139						
MQL:	0.000464						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	21.695	5.09	1
STD 1	.00400	.00349	-.001	-12.8	59.207	2.51	1
STD 2	.01000	.01050	.001	5.05	134.73	20.7	1
STD 3	.04000	.04057	.001	1.42	458.23	3.69	1
STD 4	.10000	.10215	.002	2.15	1120.9	3.21	1
STD 5	.40000	.39729	-.003	-.679	4296.6	122.	1



Cu 324.754 {104}

Fecha de la	03/12/2015 15:34:41	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	12.838195	Reajustar P	1.000000				
A1 (Ganancia)	1272.355264	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999960	Estatus:	OK.				
Error Estándar de Est:	0.206049						
MDL:	0.003729						
MQL:	0.012431						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	12.835	1.89	1
STD 5	.40000	.39170	-.008	-2.08	511.22	10.8	1
STD 6	1.0000	1.0079	.008	.788	1295.2	4.21	1
STD 7	4.0000	3.9952	-.005	-.119	5096.2	21.5	1
STD 3	.04000	.04186	.002	4.65	66.098	1.19	1
STD 4	.10000	.10333	.003	3.33	144.32	3.72	1

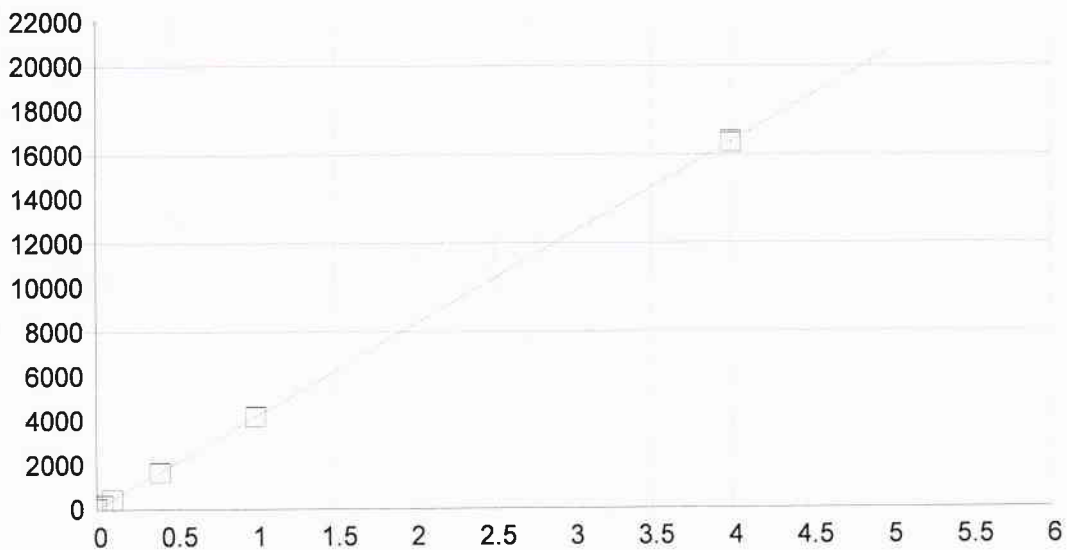


Fe 259.940 {130}

Fecha de la 03/12/2015 15:34:41 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 10.523831 Reajustar P 1.000000  
 A1 (Ganancia) 725.894270 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999969 Estatus: OK.  
 Error Estándar de Est: 0.104169  
 MDL: 0.003192  
 MQL: 0.010639

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	10.527	2.94	1
STD 5	.40000	.39476	-.005	-1.31	297.08	1.39	1
STD 6	1.0000	1.0016	.002	.161	737.58	3.47	1
STD 3	.04000	.03685	-.003	-7.89	37.270	.140	1
STD 4	.10000	.09908	-.001	-.923	82.443	2.16	1
STD 7	4.0000	4.0077	.008	.193	2919.7	9.47	1

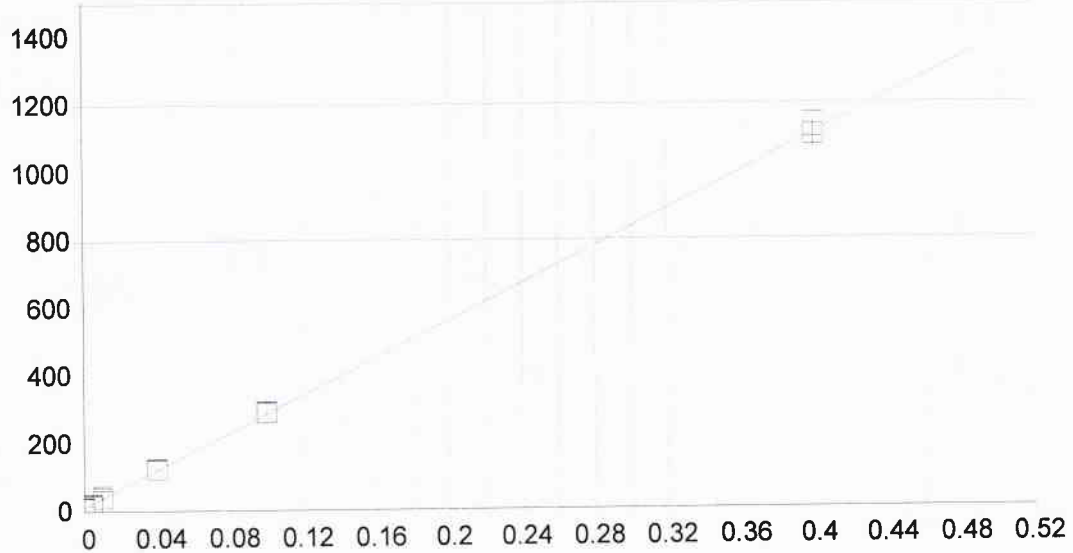


Mn 257.610 {131}

Fecha de la 03/12/2015 15:34:41 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 15.265834 Reajustar P 1.000000  
 A1 (Ganancia) 4141.699081 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999984 Estatus: OK.  
 Error Estándar de Est: 0.420155  
 MDL: 0.000620  
 MQL: 0.002068

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	15.258	7.40	1
STD 5	.40000	.39575	-.004	-1.06	1654.4	9.41	1
STD 6	1.0000	1.0045	.004	.445	4175.4	7.34	1
STD 3	.04000	.04097	.001	2.43	184.96	4.70	1
STD 4	.10000	.10281	.003	2.81	441.09	1.14	1
STD 7	4.0000	3.9960	-.004	-.100	16566.	55.8	1

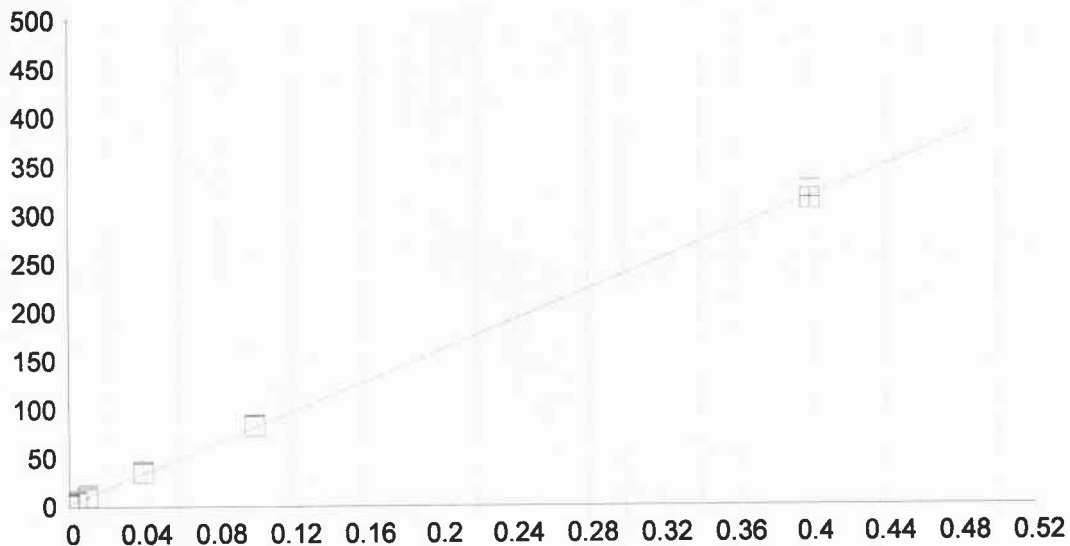


Ni 231.604 {446}

Fecha de la 03/12/2015 15:29:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 10.393407 Reajustar P 1.000000  
 A1 (Ganancia) 2754.552996 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999725 Estatus: OK.  
 Error Estándar de Est: 0.117635  
 MDL: 0.000487  
 MQL: 0.001625

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	10.395	.922	1
STD 1	.00400	.00307	-.001	-23.3	18.841	1.55	1
STD 2	.01000	.01044	.000	4.43	39.160	6.11	1
STD 3	.04000	.04090	.001	2.24	123.04	.914	1
STD 4	.10000	.10185	.002	1.85	290.94	2.00	1
STD 5	.40000	.39775	-.002	-.564	1106.0	36.2	1

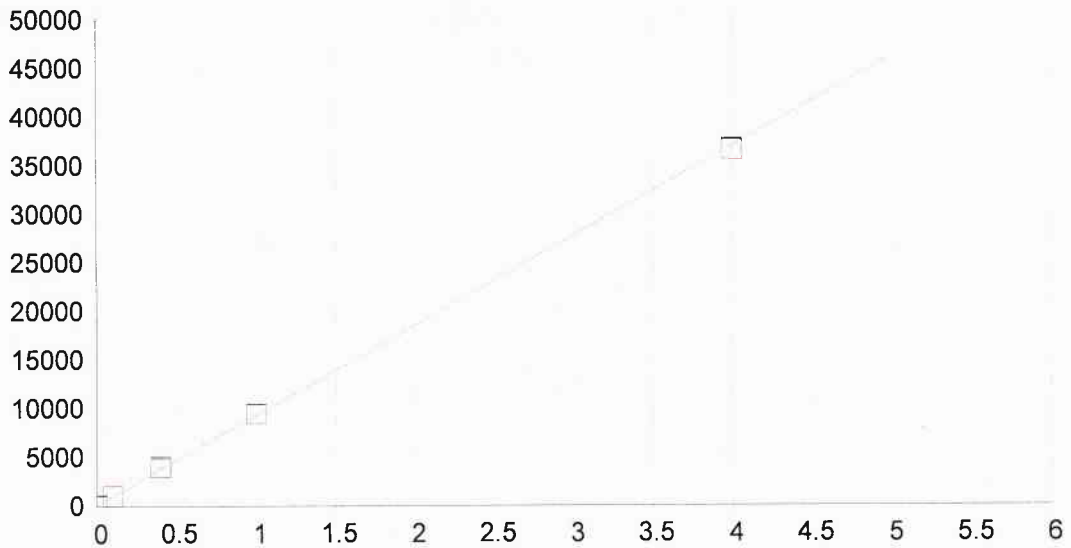


Pb 220.353 {453}

Fecha de la 03/12/2015 15:29:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 2.651995 Reajustar P 1.000000  
 A1 (Ganancia) 787.512159 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999801 Estatus: OK.  
 Error Estándar de Est: 0.028601  
 MDL: 0.001604  
 MQL: 0.005345

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	2.6521	.838	1
STD 1	.00400	.00355	-.000	-11.4	5.4442	.889	1
STD 2	.01000	.01019	.000	1.93	10.679	1.94	1
STD 3	.04000	.04164	.002	4.10	35.445	.732	1
STD 4	.10000	.10246	.002	2.46	83.342	.598	1
STD 5	.40000	.39616	-.004	-.960	314.63	9.00	1

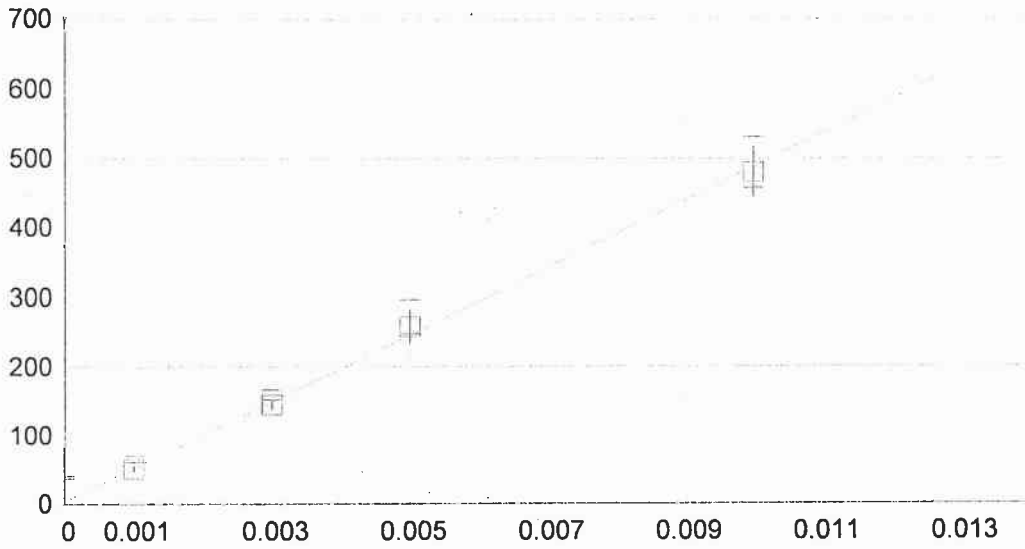


**Zn 213.856 {458}**

Fecha de la 03/12/2015 15:34:41 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 85.746731 Reajustar P 1.000000  
 A1 (Ganancia) 9251.963478 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999798 Estatus: OK.  
 Error Estándar de Est: 5.620158  
 MDL: 0.000132  
 MQL: 0.000441

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	85.644	32.0	1
STD 4	.10000	.10505	.005	5.05	1057.6	4.83	1
STD 5	.40000	.42340	.023	5.85	4003.0	119.	1
STD 6	1.0000	1.0129	.013	1.29	9456.8	8.71	1
STD 7	4.0000	3.9587	-.041	-1.03	36711.	61.6	1



Hg 194.227 {474}

Fecha de la 06/12/2015 18:39:04 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 3.172515 Reajustar P 1.000000  
 A1 (Ganancia) 48496.60574 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999015 Estatus: OK.  
 Error Estándar de Est: 7.229951  
 MDL: 0.000033  
 MQL: 0.000109

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00044	.000	.000	24.337	2.08	0
STD 1	.00100	.00099	-.000	-.729	51.316	4.57	1
STD 2	.00300	.00292	-.000	-2.72	144.71	7.20	1
STD 3	.00500	.00526	.000	5.12	258.06	24.8	1
STD 4	.01000	.00983	-.000	-1.67	480.04	36.2	1





Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-HOJA DE ELOTE-151203**  
 Fecha de Análisis: **03/12/2015**  
 Fecha de Reporte: **03/12/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9995	0.9998	0.9999	0.9999	0.9999	0.9997	0.9998	0.9998	0.9990

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/L		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/L		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
1	QC:QC	Aluminio	0.4000	0.3958	99	6	QC:QC	Mercurio	0.005	0.0058	116
		Arsénico	0.4000	0.3910	98	21	QC:QC	Mercurio	0.005	0.0050	100
		Cadmio	0.4000	0.3901	98	33	QC:QC	Mercurio	0.005	0.0049	98
		Cobre	0.4000	0.4023	101						
		Fierro	0.4000	0.4118	103						
		Manganeso	0.4000	0.3975	99						
		Níquel	0.4000	0.3907	98						
		Plomo	0.4000	0.3902	98						
		Zinc	0.4000	0.3961	99						
14	QC:QC	Aluminio	0.4000	0.3806	95						
		Arsénico	0.4000	0.3762	94						
		Cadmio	0.4000	0.3708	93						
		Cobre	0.4000	0.3636	91						
		Fierro	0.4000	0.4059	101						
		Manganeso	0.4000	0.3736	93						
		Níquel	0.4000	0.3692	92						
		Plomo	0.4000	0.3698	92						
Zinc	0.4000	0.3697	92								
24	QC:QC	Aluminio	0.4000	0.3867	97						
		Arsénico	0.4000	0.3708	93						
		Cadmio	0.4000	0.3691	92						
		Cobre	0.4000	0.3590	90						
		Fierro	0.4000	0.3953	99						
		Manganeso	0.4000	0.3613	90						
		Níquel	0.4000	0.3660	92						
		Plomo	0.4000	0.3705	93						
Zinc	0.4000	0.3673	92								



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-HOJA DE ELOTE-151203**  
 Fecha de Análisis: **03/12/2015**  
 Fecha de Reporte: **03/12/2015**

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/kg		% Recobro²	No.¹	Identificación	Analito	Concentración mg/kg		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
2	Recuperación	Aluminio	40.0000	39.2500	98						
		Arsénico	40.0000	38.6800	97						
		Cadmio	40.0000	38.7100	97						
		Cobre	40.0000	39.1400	98						
		Fierro	40.0000	41.0000	103						
		Manganeso	40.0000	39.1800	98						
		Niquel	40.0000	38.8600	97						
		Plomo	40.0000	38.6200	97						
		Zinc	40.0000	39.1500	98						
8	Recuperación	Mercurio	0.5	0.4607	92						

¹ NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

*I.B.I. Gaudencio Vargas Espejel*

**I.B.I. Gaudencio Vargas Espejel**

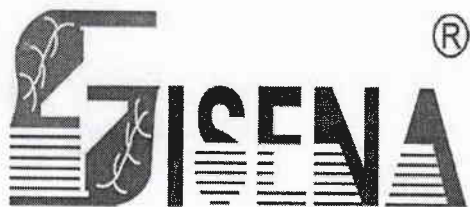
ELABORÓ

**PACE/GIS/I02-F01**

*Q.F.B. Leticia Velázquez Méndez*

**Q.F.B. Leticia Velázquez Méndez**

REVISÓ



Residuos Tóxicos

**Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)**

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21680	Hoja de Elote		05/11/2015	0.5075	0.5087
GISC15-21681	Hoja de Elote		05/11/2015	0.5024	0.5062
GISC15-21683	Hoja de Elote		05/11/2015	0.5006	0.5025
GISC15-21829	Hoja de Elote		05/11/2015	0.5085	0.5087
GISC15-21830	Hoja de Elote		05/11/2015	0.5036	0.5054
GISC15-21831	Hoja de Elote		05/11/2015	0.5069	0.5075
GISC15-21892	Hoja de Elote		05/11/2015	0.5041	0.5035
GISC15-21893	Hoja de Elote		05/11/2015	0.5008	0.5021
GISC15-21894	Hoja de Elote		05/11/2015	0.5024	0.5020
GISC15-21895	Hoja de Elote		05/11/2015	0.5068	0.5041
GISC15-21927	Hoja de Elote		05/11/2015	0.5062	0.5068
GISC15-21928	Hoja de Elote		05/11/2015	0.5061	0.5019
GISC15-21929	Hoja de Elote		05/11/2015	0.5040	0.5073
GISC15-21930	Hoja de Elote		05/11/2015	0.5045	0.5001
GISC15-22138	Hoja de Elote		05/11/2015	0.5028	0.5011
GISC15-22139	Hoja de Elote		05/11/2015	0.5083	0.5070
GISC15-22140	Hoja de Elote		05/11/2015	0.5024	0.5030
GISC15-22229	Hoja de Elote		05/11/2015	0.5042	0.5028
GISC15-22230	Hoja de Elote		05/11/2015	0.5053	0.5006
GISC15-22244	Hoja de Elote		05/11/2015	0.5021	0.5043
GISC15-22245	Hoja de Elote		05/11/2015	0.5010	0.5016
GISC15-22246	Hoja de Elote		05/11/2015	0.5086	0.5012

*I.B.T. Reyna Ivette Delgado*

I.B.T. Reyna Ivette Delgado

*Q.F.B. Leticia Velazquez Mendez*

Q.F.B. Leticia Velazquez Mendez

1	Cal: Blanco 30/11/2015 14:55:32 IR D MP-151130: ELOTE ::									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	9.517	.5748	5.070	14.42	15.66	2.983	7.690	1.764	60.27	
Desv. Est.	12.46	.4039	1.683	4.13	1.29	2.056	1.069	.888	.96	
% RSD	130.9	70.27	33.20	28.61	8.257	68.91	13.90	50.34	1.599	
Rep #1	19.08	.5722	3.670	18.27	17.14	5.325	6.921	1.205	59.36	
Rep #2	-4.575	.9799	6.938	14.92	14.77	1.475	8.911	2.787	60.17	
Rep #3	14.05	.1722	4.604	10.06	15.06	2.150	7.238	1.299	61.28	
2	Cal: STD 1 30/11/2015 14:57:59 IR D MP-151130: ELOTE ::									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	29.27	12.29	4.109							
Desv. Est.	1.09	1.68	.317							
% RSD	3.717	13.64	7.710							
Rep #1	28.34	10.83	3.839							
Rep #2	30.47	14.12	4.458							
Rep #3	29.00	11.92	4.031							
3	Cal: STD 2 30/11/2015 15:00:25 IR D MP-151130: ELOTE ::									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	64.64	21.19	4.697							
Desv. Est.	.14	.91	.941							
% RSD	.2187	4.293	20.03							
Rep #1	64.57	20.42	5.457							
Rep #2	64.54	22.19	4.991							
Rep #3	64.80	20.95	3.644							
4	Cal: STD 3 30/11/2015 15:05:18 IR D MP-151130: ELOTE ::									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	7.830	241.2	39.78	29.31	98.79	59.36	16.25			
Desv. Est.	.553	1.8	2.62	2.20	.40	1.76	.31			
% RSD	7.066	.7542	6.595	7.506	.4091	2.961	1.916			
Rep #1	8.368	242.3	38.42	31.80	99.23	60.90	16.39			
Rep #2	7.859	242.3	42.80	28.48	98.73	59.74	15.89			
Rep #3	7.263	239.1	38.12	27.64	98.43	57.44	16.46			
5	Cal: STD 4 30/11/2015 15:07:48 IR D MP-151130: ELOTE ::									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	18.97	597.9	77.07	48.80	238.1	136.8	38.88	518.5		
Desv. Est.	.75	1.2	4.50	2.04	1.7	1.4	1.17	4.5		
% RSD	3.936	.1927	5.835	4.171	.7171	1.046	2.999	.8708		
Rep #1	18.12	596.6	76.44	47.93	240.0	135.3	39.83	523.3		
Rep #2	19.27	598.4	81.85	51.13	237.7	137.0	39.23	518.1		
Rep #3	19.52	598.8	72.93	47.35	236.6	138.1	37.58	514.3		
6	Cal: STD 5 30/11/2015 15:10:27 IR D MP-151130: ELOTE ::									

	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Linea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s
Media	123.2	77.81	2399.	259.7	146.7	937.6	519.2	152.8	1878.
Desv. Est.	6.1	1.03	8.	4.4	2.8	4.7	.2	1.0	1.
% RSD	4.972	1.318	.3307	1.710	1.899	.4993	.0361	.6679	.0288
Rep #1	128.6	78.64	2397.	254.6	149.9	932.2	519.4	152.2	1878.
Rep #2	116.5	76.66	2392.	262.7	144.9	940.0	519.0	154.0	1878.
Rep #3	124.6	78.12	2408.	261.8	145.2	940.6	519.3	152.3	1877.
7	Cal: STD 6 30/11/2015 15:13:42 IR D MP-151130: ELOTE ::								
	Al3961	As1890	Cu3247	Fe2599	Mn2576	Zn2138			
Linea	396.152 { 85	189.042 {47	324.754 {10	259.940 {13	257.610 {13	213.856 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	423.2	275.1	726.9	491.1	2843.	6961.			
Desv. Est.	6.3	.7	3.0	3.6	21.	43.			
% RSD	1.483	.2419	.4169	.7239	.7444	.6199			
Rep #1	424.9	274.6	729.7	490.8	2862.	6913.			
Rep #2	428.5	275.8	727.3	494.8	2846.	6996.			
Rep #3	416.3	274.8	723.7	487.7	2820.	6975.			
8	Cal: STD 7 30/11/2015 15:17:23 IR D MP-151130: ELOTE ::								
	Al3961	As1890	Cu3247	Fe2599	Mn2576	Zn2138			
Linea	396.152 { 85	189.042 {47	324.754 {10	259.940 {13	257.610 {13	213.856 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	1636.	993.1	2783.	1864.	11090.	24160.			
Desv. Est.	2.	.7	19.	7.	61.	55.			
% RSD	.1164	.0662	.6995	.3942	.5508	.2269			
Rep #1	1634.	993.8	2803.	1867.	11150.	24220.			
Rep #2	1638.	992.7	2784.	1870.	11080.	24160.			
Rep #3	1636.	992.7	2764.	1856.	11030.	24110.			
9	Cal: STD 8 30/11/2015 15:20:07 IR D MP-151130: ELOTE ::								
	Al3961								
Linea	396.152 { 85								
Unidades	Cts/s								
Media	4072.								
Desv. Est.	12.								
% RSD	.2833								
Rep #1	4065.								
Rep #2	4086.								
Rep #3	4066.								

1	Blanco: REACTIVO 30/11/2015 15:35:36 CONC D MP-151130: ELOTE ::								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.0232	-.0004	-.0000	.0026	-.0004	.0007	-.0012	-.0019	-.0021
Desv. Est.	.0167	.0015	.0002	.0115	.0028	.0014	.0005	.0019	.0001
% RSD	72.27	403.3	505.4	439.6	762.1	195.0	41.73	97.51	3.090
Rep #1	.0053	.0006	-.0001	.0012	.0008	.0021	-.0007	-.0014	-.0020
Rep #2	.0385	-.0021	.0001	.0148	.0016	.0006	-.0018	-.0040	-.0021
Rep #3	.0257	.0004	-.0002	-.0081	-.0035	-.0006	-.0012	-.0004	-.0020

















1	Cal: Blanco 06/12/2015 18:32:11 IR D Hg-151206: ELOTE (UNAM):
	Hg1942
Unidades	Cts/s
Media	24.34
Desv. Est.	2.08
% RSD	8.564
Rep #1	26.65
Rep #2	22.60
Rep #3	23.77
2	Cal: STD 1 06/12/2015 18:33:27 IR D Hg-151206: ELOTE (UNAM):
	Hg1942
Unidades	Cts/s
Media	51.32
Desv. Est.	4.57
% RSD	8.909
Rep #1	46.87
Rep #2	51.08
Rep #3	56.00
3	Cal: STD 2 06/12/2015 18:35:06 IR D Hg-151206: ELOTE (UNAM):
	Hg1942
Unidades	Cts/s
Media	144.7
Desv. Est.	7.2
% RSD	4.975
Rep #1	136.6
Rep #2	150.4
Rep #3	147.1
4	Cal: STD 3 06/12/2015 18:36:24 IR D Hg-151206: ELOTE (UNAM):
	Hg1942
Unidades	Cts/s
Media	258.1
Desv. Est.	24.8
% RSD	9.619
Rep #1	234.7
Rep #2	255.3
Rep #3	284.2
5	Cal: STD 4 06/12/2015 18:37:42 IR D Hg-151206: ELOTE (UNAM):
	Hg1942
Unidades	Cts/s
Media	480.0
Desv. Est.	36.2
% RSD	7.537
Rep #1	439.0
Rep #2	494.0
Rep #3	507.2
6	QC: QC 06/12/2015 18:39:41 CONC D Hg-151206: ELOTE (UNAM):
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0058
Desv. Est.	.0001

% RSD	2.150
Rep #1	.0059
Rep #2	.0057
Rep #3	.0058
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: REACTIVO 06/12/2015 18:40:49 CONC D Hg-151206: ELOTE (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0007
Desv. Est.	.0001
% RSD	13.64
Rep #1	.0008
Rep #2	.0007
Rep #3	.0006
8	Unk: RECUPERACION 06/12/2015 18:42:12 CONC x100 D Hg-151206: ELOTE (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4607
Desv. Est.	.0592
% RSD	12.86
Rep #1	.3947
Rep #2	.4782
Rep #3	.5092
9	Blanco: REACTIVO 06/12/2015 18:43:37 CONC x100 D Hg-151206: ELOTE (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0813
Desv. Est.	.0053
% RSD	6.466
Rep #1	.0853
Rep #2	.0833
Rep #3	.0754
10	Unk: GISC15-21680 06/12/2015 18:45:29 CONC x100 D Hg-151206: ELOTE (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0639
Desv. Est.	.0086
% RSD	13.41
Rep #1	-.0686
Rep #2	-.0691
Rep #3	-.0540
11	Unk: GISC15-21680-R 06/12/2015 18:46:48 CONC x100 D Hg-151206: ELOTE (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0623

Desv. Est.	.0146
% RSD	23.44
Rep #1	-.0748
Rep #2	-.0462
Rep #3	-.0660
12	Unk: GISC15-21681 06/12/2015 18:48:04 CONC x100 DATE: 151200: FLOTE (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0740
Desv. Est.	.0184
% RSD	24.86
Rep #1	-.0931
Rep #2	-.0564
Rep #3	-.0724
13	Unk: GISC15-21683 06/12/2015 18:49:35 CONC x100 DATE: 151200: FLOTE (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1059
Desv. Est.	.0021
% RSD	1.967
Rep #1	-.1061
Rep #2	-.1037
Rep #3	-.1079
14	Unk: GISC15-21829 06/12/2015 18:51:13 CONC x100 DATE: 151200: FLOTE (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1082
Desv. Est.	.0036
% RSD	3.360
Rep #1	-.1049
Rep #2	-.1075
Rep #3	-.1121
15	Unk: GISC15-21830 06/12/2015 18:52:29 CONC x100 DATE: 151200: FLOTE (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1119
Desv. Est.	.0012
% RSD	1.105
Rep #1	-.1130
Rep #2	-.1106
Rep #3	-.1120
16	Unk: GISC15-21831 06/12/2015 18:53:54 CONC x100 DATE: 151200: FLOTE (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1064
Desv. Est.	.0029
% RSD	2.729

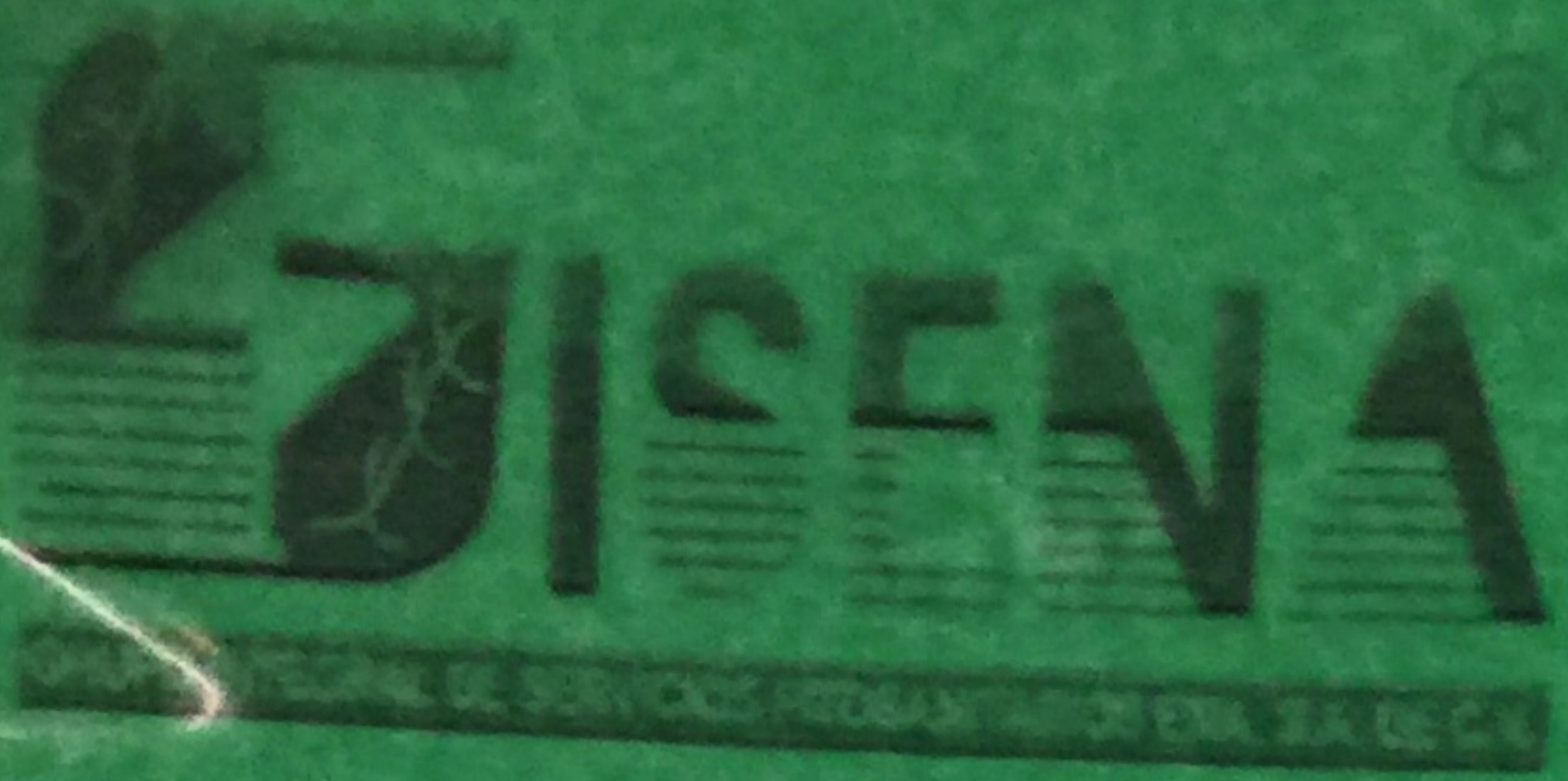


Rep #1	- .1098
Rep #2	- .1045
Rep #3	- .1050
17	Unk: GISC15-21892 06/12/2015 18:55:12 CONC x100 D Hg-151206: ELOTE (UNAM); Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	- .1105
Desv. Est.	.0029
% RSD	2.598
Rep #1	- .1138
Rep #2	- .1091
Rep #3	- .1086
18	Unk: GISC15-21893 06/12/2015 18:56:28 CONC x100 D Hg-151206: ELOTE (UNAM); Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	- .0934
Desv. Est.	.0166
% RSD	17.77
Rep #1	- .1094
Rep #2	- .0946
Rep #3	- .0763
19	Unk: GISC15-21894 06/12/2015 18:57:44 CONC x100 D Hg-151206: ELOTE (UNAM); Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	- .1106
Desv. Est.	.0003
% RSD	.2414
Rep #1	- .1103
Rep #2	- .1107
Rep #3	- .1108
20	Unk: GISC15-21895 06/12/2015 18:59:07 CONC x100 D Hg-151206: ELOTE (UNAM); Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0068
Desv. Est.	.0765
% RSD	1125.
Rep #1	.0945
Rep #2	- .0464
Rep #3	- .0277
21	QC: QC 06/12/2015 19:05:09 CONC D Hg-151206: ELOTE (UNAM); Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0006
% RSD	11.45
Rep #1	.0056
Rep #2	.0044

Unidades	mg/kg
Media	.0050
Desv. Est.	.0006
% RSD	11.45
Rep #1	.0056
Rep #2	.0044
Rep #3	.0051
Comprobaci3n	Ninguno
Valor	
Intervalo	
22	Unk: GISC15-21927 06/12/2015 19:06:37 CONC x100 D.M.D. 151120: CITRICOCC (UNAM) Hg1942
L3nea	194.227 {47
Unidades	mg/kg
Media	-.0258
Desv. Est.	.0015
% RSD	5.692
Rep #1	-.0253
Rep #2	-.0274
Rep #3	-.0246
23	Unk: GISC15-21928 06/12/2015 19:07:51 CONC x100 D.M.D. 151120: CITRICOCC (UNAM) Hg1942
L3nea	194.227 {47
Unidades	mg/kg
Media	-.0321
Desv. Est.	.0007
% RSD	2.086
Rep #1	-.0317
Rep #2	-.0329
Rep #3	-.0317
24	Unk: GISC15-21929 06/12/2015 19:09:06 CONC x100 D.M.D. 151120: CITRICOCC (UNAM) Hg1942
L3nea	194.227 {47
Unidades	mg/kg
Media	-.0337
Desv. Est.	.0031
% RSD	9.288
Rep #1	-.0333
Rep #2	-.0307
Rep #3	-.0370
25	Unk: GISC15-21930 06/12/2015 19:10:22 CONC x100 D.M.D. 151120: CITRICOCC (UNAM) Hg1942
L3nea	194.227 {47
Unidades	mg/kg
Media	-.0315
Desv. Est.	.0029
% RSD	9.231
Rep #1	-.0291
Rep #2	-.0307
Rep #3	-.0348
26	Unk: GISC15-22138 06/12/2015 19:11:40 CONC x100 D.M.D. 151120: CITRICOCC (UNAM) Hg1942

Línea	194.227 {47
Unidades	mg/kg
Media	-.0293
Desv. Est.	.0014
% RSD	4.761
Rep #1	-.0278
Rep #2	-.0298
Rep #3	-.0304
27	Unk: GISC15-22139 06/12/2015 19:13:03 CONC x100 D.M.D. 151120: CITRISCO (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0280
Desv. Est.	.0031
% RSD	11.11
Rep #1	-.0245
Rep #2	-.0290
Rep #3	-.0304
28	Unk: GISC15-22140 06/12/2015 19:14:22 CONC x100 D.M.D. 151120: CITRISCO (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0269
Desv. Est.	.0031
% RSD	11.37
Rep #1	-.0281
Rep #2	-.0292
Rep #3	-.0234
29	Unk: GISC15-22229 06/12/2015 19:15:51 CONC x100 D.M.D. 151120: CITRISCO (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0147
Desv. Est.	.0052
% RSD	35.64
Rep #1	-.0125
Rep #2	-.0206
Rep #3	-.0109
30	Unk: GISC15-22230 06/12/2015 19:17:12 CONC x100 D.M.D. 151120: CITRISCO (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0256
Desv. Est.	.0026
% RSD	10.16
Rep #1	-.0235
Rep #2	-.0285
Rep #3	-.0248
31	Unk: GISC15-22244 06/12/2015 19:18:29 CONC x100 D.M.D. 151120: CITRISCO (UNAM) Hg1942
Línea	194.227 {47
Unidades	mg/kg

Media	-0281
Desv. Est.	.0002
% RSD	.6890
Rep #1	-.0279
Rep #2	-.0280
Rep #3	-.0283
32	Unk: GISC15-22244-R 06/12/2015 19:19:51 CONC x100 D MP-151130: CITRICOS (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0275
Desv. Est.	.0025
% RSD	9.058
Rep #1	-.0294
Rep #2	-.0247
Rep #3	-.0284
33	QC: QC 06/12/2015 19:20:36 CONC D MP-151130: CITRICOS (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0009
% RSD	18.33
Rep #1	.0059
Rep #2	.0041
Rep #3	.0049
Comprobación	Ninguno
Valor	
Intervalo	
34	Unk: GISC15-22245 06/12/2015 19:21:14 CONC x100 D MP-151130: CITRICOS (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0283
Desv. Est.	.0012
% RSD	4.371
Rep #1	-.0297
Rep #2	-.0280
Rep #3	-.0273
35	Unk: GISC15-22246 06/12/2015 19:22:27 CONC x100 D MP-151130: CITRICOS (UNAM): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0278
Desv. Est.	.0026
% RSD	9.195
Rep #1	-.0303
Rep #2	-.0278
Rep #3	-.0252



## **CONTENIDO**

### **CAÑA**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



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Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

**Matriz:** VEGETALES (Caña)  
**Fecha de Recepción:** 2015-11-05

### INTERESADO

**Nombre :** Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
**Dirección:** Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

**Método:** Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
**Referencia:** EPA 6010C-2007  
**Resultados:** Ver hoja excell .....2015/11/05 (2)  
**Fecha de Analisis de Metales y Mercurio:** 2015-12-14 2015-12-14  
**Fecha de Realización del Informe:** 2015-12-15

### IDENTIFICACIÓN CLIENTE

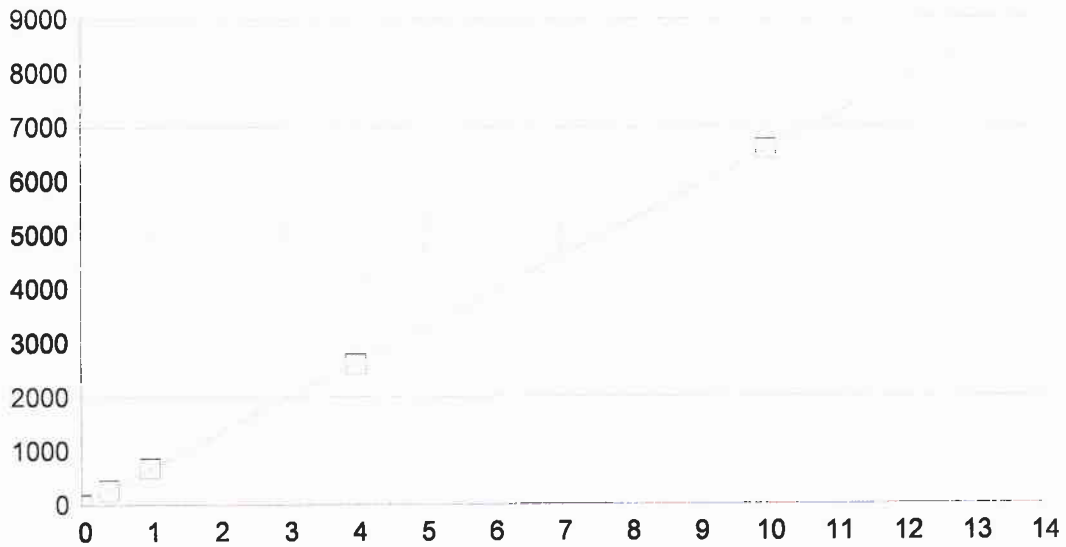
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L-I029/15/0285

### CLAVE DE IDENTIFICACIÓN

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GISC15-21891

REVISÓ

Q.F.B.Leticia Velázquez Méndez  
Gerente Técnico

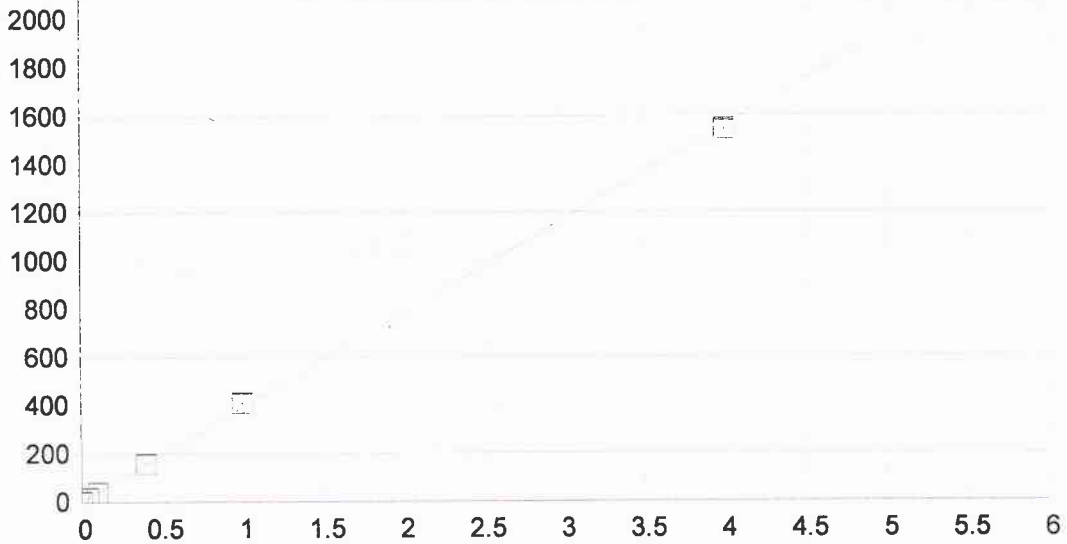


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 A1 (Ganancia) 656.285492 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999962 Estatus: OK.  
 Error Estándar de Est: 0.580513  
 MDL: 0.011789  
 MQL: 0.039298

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	6.9083	6.16	1
STD 5	.40000	.40460	.005	1.15	272.45	4.38	1
STD 6	1.0000	1.0229	.023	2.29	678.23	3.60	1
STD 7	4.0000	3.9527	-.047	-1.18	2601.0	7.47	1
STD 8	10.000	10.020	.020	.198	6582.8	5.76	1



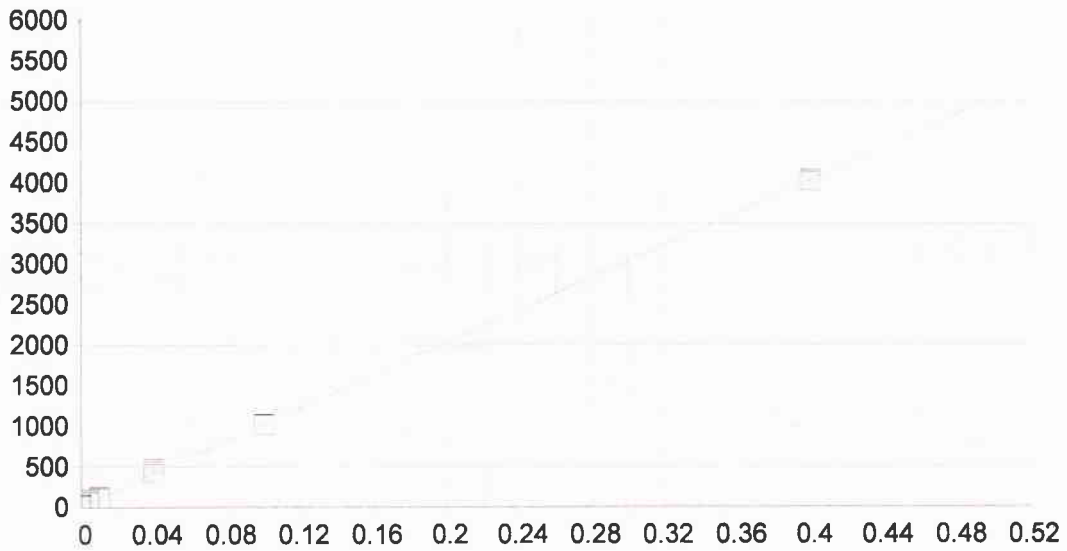
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 A1 (Ganancia) 389.514708 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
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 Error Estándar de Est: 0.154985  
 MDL: 0.002110  
 MQL: 0.007033

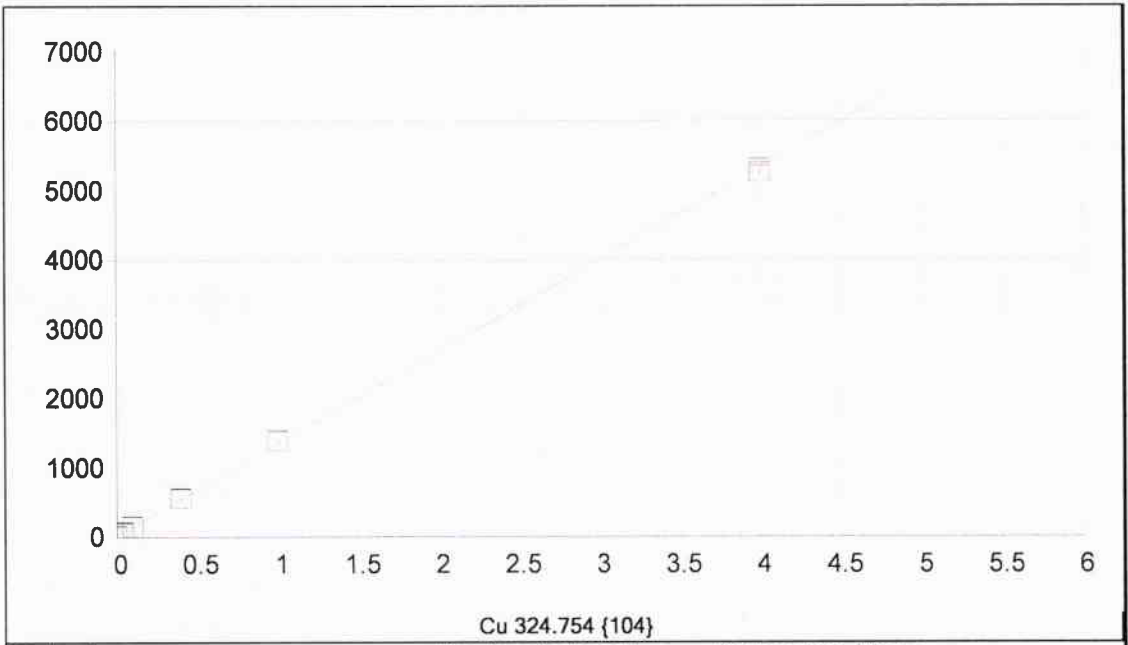
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Blanco	.00000	-.00000	-.000	.000	1.3084	.811	1
STD 4	.10000	.09961	-.000	-.385	40.111	.567	1
STD 5	.40000	.39937	-.001	-.156	156.87	1.70	1
STD 6	1.0000	1.0455	.045	4.55	408.54	1.53	1
STD 7	4.0000	3.9542	-.046	-1.15	1541.5	4.38	1
STD 3	.04000	.04137	.001	3.42	17.422	1.93	1





Cd 226.502 {449}

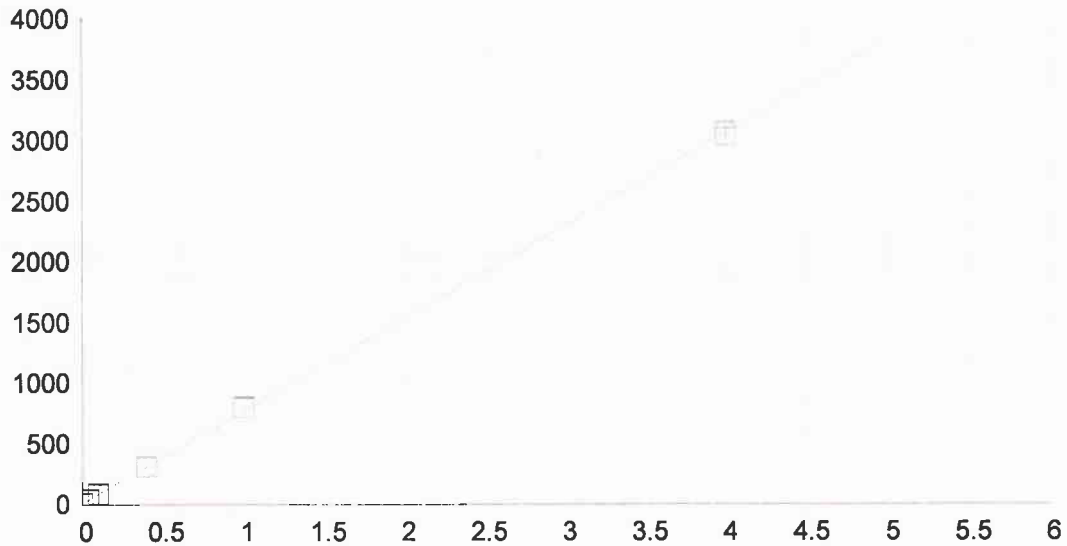
Fecha de la	14/12/2015 09:47:28	Tipo de unió	Lineal	Ponderación:	1/Conc.		
A0 (Compensación):	25.567460	Reajustar P	1.000000				
A1 (Ganancia)	10047.38517	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999293	Estatus:	OK.				
Error Estándar de Est:	0.688600						
MDL:	0.000129						
MQL:	0.000430						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	25.553	4.61	1
STD 1	.00400	.00564	.002	41.1	82.269	18.2	1
STD 2	.01000	.00925	-.001	-7.49	118.52	9.52	1
STD 3	.04000	.04127	.001	3.18	440.25	28.0	1
STD 4	.10000	.09913	-.001	-.869	1021.6	4.19	1
STD 5	.40000	.39870	-.001	-.324	4031.5	17.8	1



Fecha de la	14/12/2015 09:51:55	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	11.720050	Reajustar P	1.000000		
A1 (Ganancia)	1328.818198	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999776	Estatus:	OK.		
Error Estándar de Est:	0.512826				
MDL:	0.003191				
MQL:	0.010638				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	11.714	.762	1
STD 5	.40000	.40863	.009	2.16	554.71	6.83	1
STD 6	1.0000	1.0374	.037	3.74	1390.2	8.39	1
STD 7	4.0000	3.9483	-.052	-1.29	5258.3	45.6	1
STD 3	.04000	.04121	.001	3.02	66.479	4.55	1
STD 4	.10000	.10444	.004	4.44	150.50	3.24	1

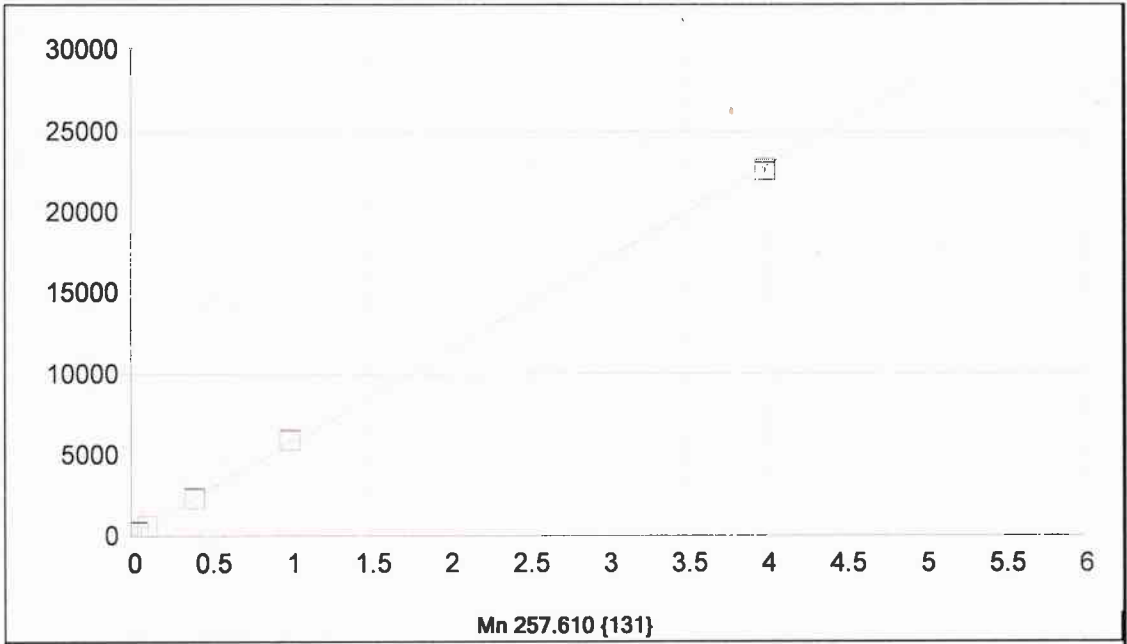


Fe 259.940 {130}

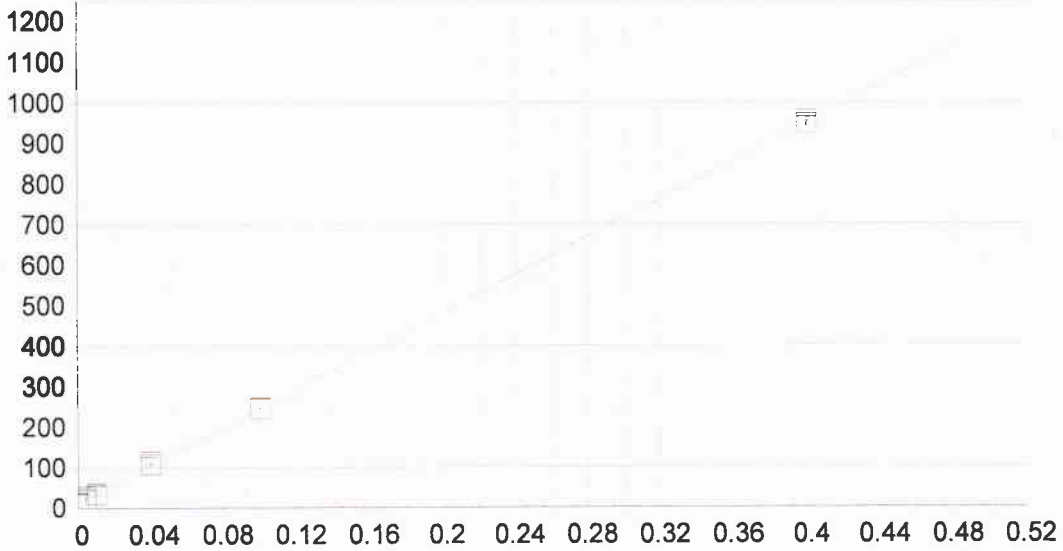
Fecha de la 14/12/2015 09:51:55 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 12.076927 Reajustar P 1.000000  
 A1 (Ganancia) 764.173663 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999876 Estatus: OK.  
 Error Estándar de Est: 0.219365  
 MDL: 0.002711  
 MQL: 0.009036

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	12.077	.824	1
STD 5	.40000	.40134	.001	.334	318.77	6.43	1
STD 6	1.0000	1.0329	.033	3.29	801.36	4.88	1
STD 3	.04000	.03928	-.001	-1.80	42.093	4.38	1
STD 4	.10000	.09987	-.000	-.132	88.393	3.06	1
STD 7	4.0000	3.9667	-.033	-.834	3043.3	25.7	1



Fecha de la	14/12/2015 09:51:55	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	16.129222	Reajustar P	1.000000				
A1 (Ganancia)	5691.415398	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999850	Estatus:	OK.				
Error Estándar de Est:	1.793859						
MDL:	0.000407						
MQL:	0.001358						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	16.125	3.34	1
STD 5	.40000	.40109	.001	.273	2298.9	17.4	1
STD 6	1.0000	1.0348	.035	3.48	5905.7	37.2	1
STD 3	.04000	.03865	-.001	-3.37	236.13	17.0	1
STD 4	.10000	.10239	.002	2.39	598.87	5.40	1
STD 7	4.0000	3.9631	-.037	-.924	22572.	145.	1

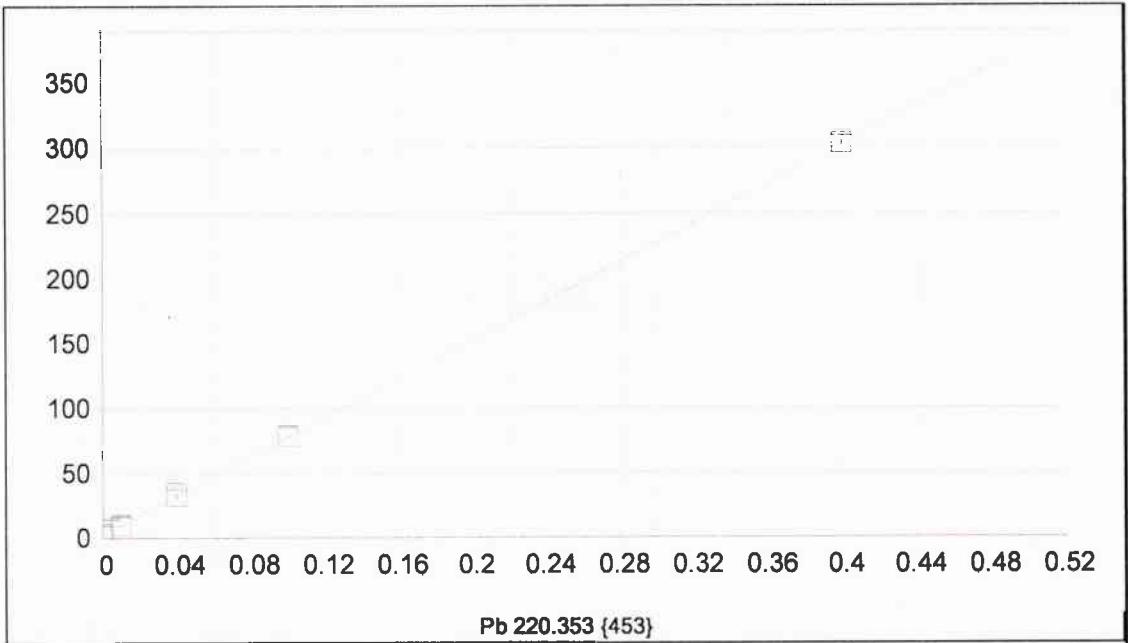


Ni 231.604 {446}

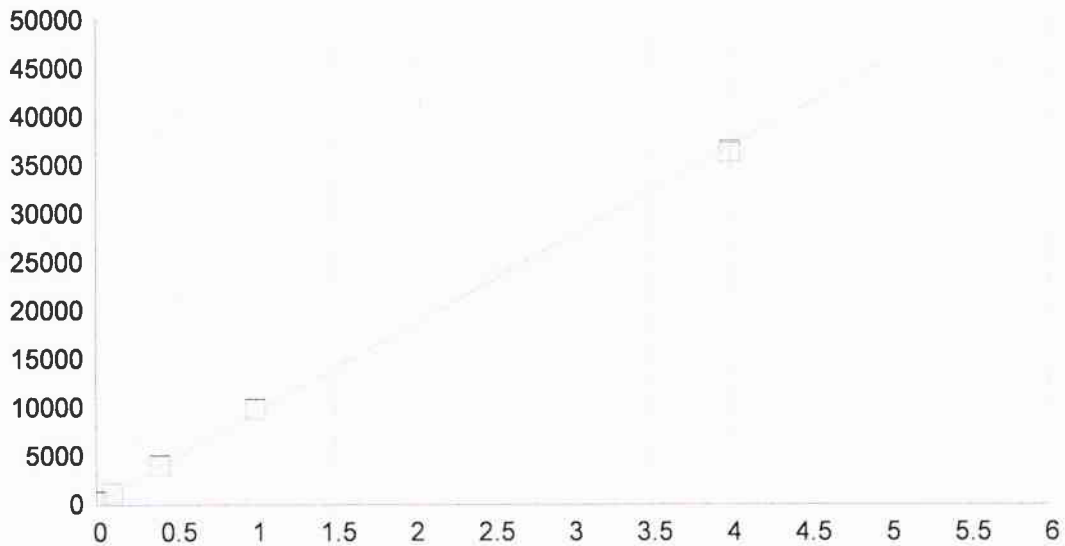
Fecha de la 14/12/2015 09:47:28 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 11.403482 Reajustar P 1.000000  
 A1 (Ganancia) 2350.879695 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999427 Estatus: OK.  
 Error Estándar de Est: 0.145001  
 MDL: 0.000494  
 MQL: 0.001645

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	11.400	1.82	1
STD 1	.00400	.00548	.001	37.0	24.284	4.61	1
STD 2	.01000	.00932	-.001	-6.85	33.303	2.54	1
STD 3	.04000	.04115	.001	2.87	108.13	6.36	1
STD 4	.10000	.09980	-.000	-.201	246.02	.994	1
STD 5	.40000	.39826	-.002	-.435	947.67	8.25	1



Fecha de la	14/12/2015 09:55:03	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	2.568390	Reajustar P	1.000000				
A1 (Ganancia)	751.627609	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999930	Estatus:	OK.				
Error Estándar de Est:	0.017060						
MDL:	0.001457						
MQL:	0.004858						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	2.5686	.705	1
STD 1	.00400	.00615	.002	53.9	7.1942	.917	0
STD 2	.01000	.00917	-.001	-8.35	9.4571	.813	1
STD 3	.04000	.03978	-.000	-.558	32.466	2.43	1
STD 4	.10000	.10078	.001	.784	78.321	.776	1
STD 5	.40000	.40027	.000	.068	303.43	2.16	1

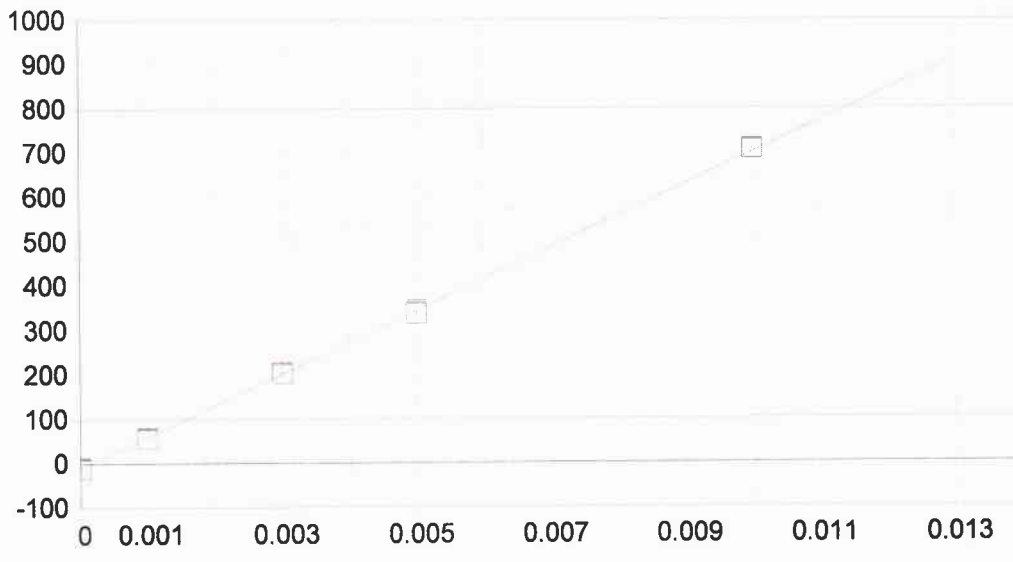


Zn 213.856 {458}

Fecha de la 14/12/2015 09:51:55 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 322.936921 Reajustar P 1.000000  
 A1 (Ganancia) 9138.168088 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999707 Estatus: OK.  
 Error Estándar de Est: 6.691387  
 MDL: 0.000116  
 MQL: 0.000387

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	322.95	27.9	1
STD 4	.10000	.09357	-.006	-6.43	1178.0	2.33	1
STD 5	.40000	.40798	.008	2.00	4051.2	66.7	1
STD 6	1.0000	1.0457	.046	4.57	9878.9	11.7	1
STD 7	4.0000	3.9527	-.047	-1.18	36444.	121.	1



Hg 194.227 {474}

Fecha de la	14/12/2015 14:51:01	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	-11.645257	Reajustar P	1.000000		
A1 (Ganancia)	71068.11447	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999887	Estatus:	OK.		
Error Estándar de Est:	0.190286				
MDL:	0.000024				
MQL:	0.000079				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-11.642	1.76	1
STD 1	.00100	.00095	-.000	-4.69	56.091	2.40	1
STD 2	.00300	.00301	.000	.448	202.51	1.72	1
STD 3	.00500	.00493	-.000	-1.40	338.72	3.34	1
STD 4	.01000	.01010	.000	1.03	706.38	2.06	1





Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-CAÑA-151214**  
 Fecha de Análisis: **14/12/2015**  
 Fecha de Reporte: **14/12/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9998	0.9993	0.9998	0.9999	0.9998	0.9994	0.9999	0.9997	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
10	QC:QC	Aluminio	0.4000	0.3951	99	6	QC:QC	Mercurio	0.005	0.005	100
		Arsénico	0.4000	0.4205	105	21	QC:QC	Mercurio	0.005	0.005	100
		Cadmio	0.4000	0.4185	105	29	QC:QC	Mercurio	0.005	0.0049	98
		Cobre	0.4000	0.4088	102						
		Fierro	0.4000	0.4126	103						
		Manganeso	0.4000	0.4122	103						
		Níquel	0.4000	0.4155	104						
		Plomo	0.4000	0.4194	105						
		Zinc	0.4000	0.4219	105						
25	QC:QC	Aluminio	0.4000	0.4019	100						
		Arsénico	0.4000	0.4110	103						
		Cadmio	0.4000	0.4112	103						
		Cobre	0.4000	0.4065	102						
		Fierro	0.4000	0.4052	101						
		Manganeso	0.4000	0.4080	102						
		Níquel	0.4000	0.4089	102						
		Plomo	0.4000	0.4117	103						
		Zinc	0.4000	0.4160	104						
33	QC:QC	Aluminio	0.4000	0.4013	100						
		Arsénico	0.4000	0.4098	102						
		Cadmio	0.4000	0.4136	103						
		Cobre	0.4000	0.4058	101						
		Fierro	0.4000	0.3973	99						
		Manganeso	0.4000	0.4063	102						
		Níquel	0.4000	0.4091	102						
		Plomo	0.4000	0.4139	103						
Zinc	0.4000	0.4131	103								



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-CAÑA-151214**  
 Fecha de Análisis: **14/12/2015**  
 Fecha de Reporte: **14/12/2015**

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
12	Recuperación	Aluminio	40.0000	40.7200	102						
		Arsénico	40.0000	41.3100	103						
		Cadmio	40.0000	41.2000	103						
		Cobre	40.0000	41.1500	103						
		Fierro	40.0000	41.0200	103						
		Manganeso	40.0000	41.4100	104						
		Níquel	40.0000	41.0500	103						
		Plomo	40.0000	41.1700	103						
		Zinc	40.0000	41.5600	104						
8	Recuperación	Mercurio	0.5	0.4767	95						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

**I.B.I. Gaudencio Vargas Espejel**  
ELABORÓ

**PACE/GIS/I02-F01**

**Q.F.B. Leticia Velázquez Méndez**  
REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21756	Caña		05/11/2015	0.5078	0.5049
GISC15-21757	Caña		05/11/2015	0.5055	0.5077
GISC15-21758	Caña		05/11/2015	0.5099	0.5022
GISC15-21762	Caña		05/11/2015	0.5076	0.5096
GISC15-21763	Caña		05/11/2015	0.5092	0.5076
GISC15-21764	Caña		05/11/2015	0.5031	0.5060
GISC15-21773	Caña		05/11/2015	0.5049	0.5010
GISC15-21774	Caña		05/11/2015	0.5023	0.5039
GISC15-21775	Caña		05/11/2015	0.5046	0.5046
GISC15-21776	Caña		05/11/2015	0.5064	0.5067
GISC15-21788	Caña		05/11/2015	0.5053	0.5062
GISC15-21789	Caña		05/11/2015	0.5070	0.5036
GISC15-21887	Caña		05/11/2015	0.5018	0.5038
GISC15-21888	Caña		05/11/2015	0.5074	0.5056
GISC15-21889	Caña		05/11/2015	0.5073	0.5051
GISC15-21890	Caña		05/11/2015	0.5059	0.5058
GISC15-21891	Caña		05/11/2015	0.5086	0.5018

P.A. *[Handwritten Signature]*

I.B.T. Reyna Ivette Delgado

*[Handwritten Signature]*

Q.F.B. Leticia Velazquez Mendez

1	Cal: Blanco 14/12/2015 09:30:39 IR D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	6.908	1.308	25.55	11.71	12.08	16.13	11.40	2.569	322.9	
Desv. Est.	6.159	.812	4.61	.76	.82	3.34	1.82	.705	27.9	
% RSD	89.15	62.02	18.03	6.504	6.820	20.72	15.94	27.44	8.648	
Rep #1	2.525	.3755	20.43	12.37	11.71	13.55	9.955	2.586	354.1	
Rep #2	4.250	1.851	26.86	11.90	11.50	14.92	10.80	3.264	314.7	
Rep #3	13.95	1.699	29.37	10.88	13.02	19.90	13.44	1.855	300.1	
2	Cal: STD 1 14/12/2015 09:33:07 IR D MP-151214: CAÑA:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	82.27	24.28	7.194							
Desv. Est.	18.20	4.61	.917							
% RSD	22.13	18.96	12.75							
Rep #1	101.8	29.30	7.704							
Rep #2	79.17	23.31	6.136							
Rep #3	65.81	20.24	7.743							
3	Cal: STD 2 14/12/2015 09:35:52 IR D MP-151214: CAÑA:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	118.5	33.30	9.457							
Desv. Est.	9.5	2.54	.813							
% RSD	8.033	7.638	8.594							
Rep #1	129.3	36.24	10.35							
Rep #2	111.2	31.89	9.263							
Rep #3	115.1	31.78	8.759							
4	Cal: STD 3 14/12/2015 09:38:15 IR D MP-151214: CAÑA:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	17.42	440.2	66.48	42.09	236.1	108.1	32.47			
Desv. Est.	1.93	28.0	4.55	4.38	17.0	6.4	2.43			
% RSD	11.05	6.359	6.839	10.40	7.205	5.885	7.478			
Rep #1	18.39	445.3	71.51	42.29	253.3	107.4	32.52			
Rep #2	18.67	465.4	62.67	37.62	219.2	114.8	34.87			
Rep #3	15.20	410.1	65.25	46.37	235.9	102.2	30.01			
5	Cal: STD 4 14/12/2015 09:43:01 IR D MP-151214: CAÑA:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	40.11	1022.	150.5	88.39	598.9	246.0	78.32	1178.		
Desv. Est.	.57	4.	3.2	3.06	5.4	1.0	.78	2.		
% RSD	1.415	.4100	2.151	3.464	.9009	.4038	.9903	.1978		
Rep #1	39.46	1017.	153.2	85.27	594.2	245.4	79.22	1177.		
Rep #2	40.46	1023.	151.4	91.39	604.8	245.5	77.90	1176.		
Rep #3	40.42	1025.	146.9	88.52	597.7	247.2	77.85	1181.		
6	Cal: STD 5 14/12/2015 09:45:19 IR D MP-151214: CAÑA:									



11	Unk: BLANCO 14/12/2015 09:57:21 CONC D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.0029	.0001	.0046	.0055	.0190	.0060	.0067	.0048	.0059	
Desv. Est.	.0100	.0026	.0035	.0035	.0015	.0004	.0044	.0045	.0062	
% RSD	350.8	2933.	76.10	64.07	8.005	5.917	65.78	92.84	104.7	
Rep #1	.0081	.0021	.0082	.0017	.0189	.0058	.0113	.0096	.0118	
Rep #2	.0092	.0011	.0045	.0063	.0206	.0064	.0066	.0041	.0066	
Rep #3	-.0087	-.0029	.0012	.0086	.0176	.0057	.0024	.0007	-.0006	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
12	Unk: RECUPERACION 14/12/2015 09:59:55 CONC x100 D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	40.72	41.31	41.20	41.15	41.02	41.41	41.05	41.17	41.56	
Desv. Est.	.17	.19	.04	.40	.53	.05	.04	.29	.07	
% RSD	.4217	.4682	.0872	.9682	1.290	.1247	.0985	.7042	.1662	
Rep #1	40.52	41.08	41.21	40.85	40.42	41.41	41.03	41.50	41.59	
Rep #2	40.82	41.39	41.16	41.61	41.42	41.46	41.02	41.00	41.48	
Rep #3	40.81	41.44	41.23	41.01	41.23	41.35	41.09	41.00	41.60	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Blanco: REACTIVO 14/12/2015 10:03:01 CONC x100 D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	7.717	-.3440	-.2750	-.1774	6.893	-.1816	-.2957	-.0208	-2.824	
Desv. Est.	.568	.1740	.0225	.2374	.241	.0402	.0141	.1480	.005	
% RSD	7.362	50.57	8.164	133.8	3.504	22.12	4.761	710.4	.1875	
Rep #1	8.298	-.4674	-.2871	-.3018	7.170	-.1666	-.2795	-.0202	-2.828	
Rep #2	7.163	-.1451	-.2889	-.3268	6.727	-.2272	-.3047	-.1691	-2.826	
Rep #3	7.689	-.4197	-.2491	.0963	6.783	-.1512	-.3029	.1268	-2.818	
Comprobació										
Valor										
Intervalo										
14	Unk: GISC15-21756 14/12/2015 10:05:39 CONC D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	<.0000	.3440	.2724	.1857	<.0000	.1876	.2954	.0203	2.817	
Desv. Est.	.0078	.0010	.0002	.0010	.0023	.0007	.0002	.0003	.000	
% RSD	.1018	.2762	.0708	.5122	.0341	.3904	.0600	1.290	.0074	
Rep #1	-7.659	.3441	.2724	.1857	-6.868	.1877	.2955	.0205	2.817	
Rep #2	-7.673	.3450	.2722	.1847	-6.869	.1868	.2952	.0200	2.817	
Rep #3	-7.671	.3431	.2726	.1866	-6.865	.1882	.2954	.0202	2.817	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
15	Unk: GISC15-21756-R 14/12/2015 10:08:13 CONC x100 D MP-151214: CAÑA:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	



Media	<.0000	.1768	<.0000	1.057	<.0000	.9492	.3866	<.0000	2.693
Desv. Est.	.4217	.1750	.0093	.328	.7127	.0402	.0199	.0806	.020
% RSD	7.383	98.98	116.7	31.02	85.28	4.235	5.142	634.1	.7276
Rep #1	-5.517	-.0166	.0020	1.318	-1.330	.9424	.3787	.0273	2.674
Rep #2	-6.195	.3242	-.0096	.6890	-1.159	.9924	.4092	-.1055	2.713
Rep #3	-5.422	.2230	-.0164	1.166	-.0188	.9129	.3718	.0401	2.692
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
20	Unk: GISC15-21764 14/12/2015 10:21:38 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1153	<.0000	.5963	<.0000	.6240	.0362	<.0000	3.404
Desv. Est.	.3736	.3025	.0098	.3172	.2379	.0284	.0160	.0242	.028
% RSD	6.813	262.3	45.70	53.19	5.737	4.549	44.28	20.03	.8126
Rep #1	-5.502	.2906	-.0220	.6521	-4.189	.5918	.0535	-.1457	3.436
Rep #2	-5.102	.2894	-.0308	.2550	-3.890	.6454	.0220	-.1191	3.395
Rep #3	-5.849	-.2340	-.0113	.8820	-4.359	.6349	.0330	-.0974	3.383
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
21	Unk: GISC15-21773 14/12/2015 10:24:00 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.5183	.0105	.2513	<.0000	.5128	.0780	<.0000	.6939
Desv. Est.	1.151	.1672	.0238	.2297	.4501	.0896	.0445	.0641	.0372
% RSD	17.42	32.26	227.1	91.41	7.388	17.47	57.02	68.12	5.364
Rep #1	-7.418	.6973	.0006	.0740	-6.364	.4341	.0366	-.1446	.6888
Rep #2	-7.109	.4914	.0376	.1691	-5.572	.6103	.1250	-.0220	.7334
Rep #3	-5.289	.3661	-.0068	.5108	-6.339	.4939	.0724	-.1156	.6595
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
22	Unk: GISC15-21774 14/12/2015 10:26:30 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1920	<.0000	.4569	<.0000	.6763	<.0000	<.0000	2.107
Desv. Est.	.4031	.0946	.0040	.1495	.1937	.0201	.0299	.1036	.004
% RSD	6.920	49.28	23.33	32.72	6.603	2.969	164.0	65.77	.2005
Rep #1	-6.290	.2520	-.0216	.2905	-3.129	.6661	.0083	-.0817	2.110
Rep #2	-5.616	.2409	-.0149	.5002	-2.742	.6634	-.0506	-.1154	2.109
Rep #3	-5.570	.0829	-.0145	.5799	-2.929	.6994	-.0124	-.2756	2.102
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
23	Unk: GISC15-21775 14/12/2015 10:28:48 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.4608	<.0000	.5234	<.0000	.5381	<.0000	<.0000	8.657



Desv. Est.	.8999	.2439	.0126	.2271	.1488	.0224	.0406	.1552	.265
% RSD	17.14	52.92	52.72	43.38	2.549	4.158	79.50	224.9	3.065
Rep #1	-4.409	.3721	-.0382	.4640	-5.685	.5224	-.0908	.0923	8.456
Rep #2	-6.199	.7366	-.0144	.7742	-5.982	.5637	-.0524	-.0819	8.958
Rep #3	-5.144	.2737	-.0191	.3319	-5.850	.5281	-.0098	-.2174	8.558
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-21776 14/12/2015 10:31:08 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1549	<.0000	.4626	<.0000	.6318	.0965	<.0000	1.448
Desv. Est.	.5621	.1026	.0065	.1075	.2166	.0250	.0483	.1202	.148
% RSD	9.946	66.22	23.28	23.23	4.227	3.951	50.07	105.9	10.23
Rep #1	-6.283	.1422	-.0356	.5861	-4.991	.6349	.1497	-.2018	1.608
Rep #2	-5.468	.2632	-.0237	.3904	-5.008	.6551	.0844	.0234	1.419
Rep #3	-5.205	.0592	-.0249	.4113	-5.375	.6054	.0553	-.1620	1.316
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	QC: QC 14/12/2015 10:36:17 CONC D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4019	.4110	.4112	.4065	.4052	.4080	.4089	.4117	.4160
Desv. Est.	.0040	.0019	.0006	.0029	.0009	.0019	.0017	.0016	.0023
% RSD	.9951	.4505	.1451	.7158	.2275	.4563	.4039	.3966	.5473
Rep #1	.4027	.4131	.4113	.4092	.4062	.4065	.4072	.4104	.4148
Rep #2	.4054	.4097	.4106	.4070	.4045	.4101	.4089	.4112	.4145
Rep #3	.3976	.4102	.4117	.4034	.4047	.4073	.4105	.4135	.4186
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
26	Unk: GISC15-21788 14/12/2015 10:38:44 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2746	<.0000	.6011	<.0000	.6027	<.0000	<.0000	.1302
Desv. Est.	.5753	.2462	.0187	.1311	.1416	.0293	.0547	.0763	.6914
% RSD	9.652	89.67	97.26	21.81	2.254	4.866	74.41	64.42	530.9
Rep #1	-5.753	.0435	-.0319	.5556	-6.271	.6226	-.0220	-.0348	.5511
Rep #2	-6.610	.5336	.0022	.4988	-6.427	.5690	-.1309	-.1364	-.6677
Rep #3	-5.517	.2466	-.0279	.7489	-6.144	.6164	-.0675	-.1843	.5073
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
27	Unk: GISC15-21789 14/12/2015 10:41:06 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2352	<.0000	.8857	<.0000	.4154	<.0000	<.0000	3.163
Desv. Est.	.3638	.0465	.0148	.2128	.1879	.0295	.0100	.0863	.036

% RSD	7.021	19.76	43.53	24.03	2.860	7.113	36.18	65.55	1.126
Rep #1	-5.186	.2518	-.0456	1.130	-6.733	.3827	-.0164	-.0323	3.194
Rep #2	-4.816	.1827	-.0393	.7899	-6.365	.4403	-.0356	-.1876	3.171
Rep #3	-5.544	.2712	-.0173	.7376	-6.617	.4232	-.0305	-.1749	3.124
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-21887 14/12/2015 10:43:30 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2507	<.0000	.7161	<.0000	.3981	.1933	<.0000	3.359
Desv. Est.	1.060	.0999	.0034	.1654	.2464	.0392	.0274	.0945	.089
% RSD	21.35	39.86	12.56	23.09	7.818	9.842	14.19	82.23	2.643
Rep #1	-3.753	.1422	-.0292	.8159	-3.433	.3537	.1635	-.1407	3.287
Rep #2	-5.730	.3390	-.0234	.8071	-2.972	.4126	.1987	-.0102	3.331
Rep #3	-5.403	.2709	-.0295	.5252	-3.051	.4280	.2176	-.1939	3.458
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-21888 14/12/2015 10:45:46 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	1.576	.3088	<.0000	.6528	.2207	.8391	.1680	<.0000	1.628
Desv. Est.	.537	.1371	.0126	.0812	.0488	.0088	.0279	.0184	.021
% RSD	34.11	44.39	160.2	12.44	22.13	1.043	16.61	19.50	1.258
Rep #1	1.553	.1605	-.0043	.7198	.2770	.8343	.1796	-.1003	1.647
Rep #2	1.050	.4309	.0026	.6760	.1893	.8339	.1883	-.1085	1.606
Rep #3	2.124	.3350	-.0218	.5625	.1959	.8492	.1362	-.0734	1.632
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-21889 14/12/2015 10:48:13 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1922	<.0000	.6424	<.0000	.4094	<.0000	<.0000	1.959
Desv. Est.	.4898	.0693	.0036	.1263	.4080	.0104	.0422	.0108	.023
% RSD	10.74	36.06	12.45	19.65	9.080	2.549	103.2	16.36	1.173
Rep #1	-3.997	.1149	-.0249	.7670	-4.613	.4025	.0058	-.0576	1.976
Rep #2	-4.824	.2133	-.0317	.6456	-4.039	.4214	-.0763	-.0784	1.968
Rep #3	-4.866	.2486	-.0304	.5146	-4.828	.4043	-.0522	-.0627	1.933
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-21890 14/12/2015 10:50:36 CONC x100 D MP-151214: CAÑA:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.3191	<.0000	.5548	<.0000	.4233	.0615	<.0000	1.101
Desv. Est.	1.215	.1773	.0051	.0852	.3934	.0077	.0407	.1174	.067
% RSD	26.69	55.55	18.65	15.35	6.509	1.828	66.16	148.3	6.104



1	Cal: Blanco 14/12/2015 14:43:06 IR D Hg-151214: CAÑA:
	Hg1942
Unidades	Cts/s
Media	-11.64
Desv. Est.	1.76
% RSD	15.13
Rep #1	-10.94
Rep #2	-13.65
Rep #3	-10.34
2	Cal: STD 1 14/12/2015 14:44:45 IR D Hg-151214: CAÑA:
	Hg1942
Unidades	Cts/s
Media	56.09
Desv. Est.	2.40
% RSD	4.271
Rep #1	54.04
Rep #2	55.50
Rep #3	58.73
3	Cal: STD 2 14/12/2015 14:46:07 IR D Hg-151214: CAÑA:
	Hg1942
Unidades	Cts/s
Media	202.5
Desv. Est.	1.7
% RSD	.8516
Rep #1	200.5
Rep #2	203.2
Rep #3	203.8
4	Cal: STD 3 14/12/2015 14:48:20 IR D Hg-151214: CAÑA:
	Hg1942
Unidades	Cts/s
Media	338.7
Desv. Est.	3.3
% RSD	.9854
Rep #1	336.4
Rep #2	342.5
Rep #3	337.3
5	Cal: STD 4 14/12/2015 14:49:50 IR D Hg-151214: CAÑA:
	Hg1942
Unidades	Cts/s
Media	706.4
Desv. Est.	2.1
% RSD	.2914
Rep #1	704.2
Rep #2	708.2
Rep #3	706.8
6	QC: QC 14/12/2015 14:51:50 CONC D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000

% RSD	.5645
Rep #1	.0050
Rep #2	.0050
Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: BLANCO 14/12/2015 14:52:17 CONC D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0001
Desv. Est.	.0000
% RSD	44.90
Rep #1	-.0001
Rep #2	-.0000
Rep #3	-.0001
8	Unk: RECUPERACION 14/12/2015 14:53:48 CONC x100 D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4767
Desv. Est.	.0210
% RSD	4.408
Rep #1	.4537
Rep #2	.4818
Rep #3	.4948
9	Blanco: REACTIVO 14/12/2015 14:55:17 CONC x100 D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0010
Desv. Est.	.0018
% RSD	176.8
Rep #1	-.0027
Rep #2	-.0012
Rep #3	.0009
10	Unk: GISC15-21756 14/12/2015 14:56:57 CONC x100 D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0147
Desv. Est.	.0007
% RSD	4.701
Rep #1	-.0141
Rep #2	-.0144
Rep #3	-.0154
11	Unk: GISC15-21756-R 14/12/2015 14:58:14 CONC x100 D Hg-151214: CAÑA:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0134

Desv. Est.	.0016
% RSD	12.14
Rep #1	-.0121
Rep #2	-.0129
Rep #3	-.0152
12	Unk: GISC15-21757 14/12/2015 14:59:57 CONC x100 D.H. 151214 CAÑIA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0124
Desv. Est.	.0016
% RSD	12.58
Rep #1	-.0115
Rep #2	-.0142
Rep #3	-.0116
13	Unk: GISC15-21758 14/12/2015 15:01:14 CONC x100 D.H. 151214 CAÑIA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0130
Desv. Est.	.0075
% RSD	57.66
Rep #1	-.0170
Rep #2	-.0175
Rep #3	-.0043
14	Unk: GISC15-21762 14/12/2015 15:02:29 CONC x100 D.H. 151214 CAÑIA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0183
Desv. Est.	.0024
% RSD	12.92
Rep #1	-.0155
Rep #2	-.0197
Rep #3	-.0196
15	Unk: GISC15-21763 14/12/2015 15:03:51 CONC x100 D.H. 151214 CAÑIA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0179
Desv. Est.	.0011
% RSD	6.223
Rep #1	-.0173
Rep #2	-.0191
Rep #3	-.0171
16	Unk: GISC15-21764 14/12/2015 15:05:06 CONC x100 D.H. 151214 CAÑIA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0163
Desv. Est.	.0009
% RSD	5.587

Rep #1	-0173
Rep #2	-0161
Rep #3	-0155
17	Unk: GISC15-21773 14/12/2015 15:06:28 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0176
Desv. Est.	.0026
% RSD	14.64
Rep #1	-0174
Rep #2	-0151
Rep #3	-0203
18	Unk: GISC15-21774 14/12/2015 15:07:42 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0195
Desv. Est.	.0008
% RSD	3.945
Rep #1	-0194
Rep #2	-0188
Rep #3	-0203
19	Unk: GISC15-21775 14/12/2015 15:08:20 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0200
Desv. Est.	.0020
% RSD	9.861
Rep #1	-0208
Rep #2	-0177
Rep #3	-0214
20	Unk: GISC15-21776 14/12/2015 15:09:32 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0176
Desv. Est.	.0017
% RSD	9.920
Rep #1	-0175
Rep #2	-0159
Rep #3	-0194
21	QC: QC 14/12/2015 15:10:12 CONC D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000
% RSD	.6317
Rep #1	.0050
Rep #2	.0050

Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
22	Unk: GISC15-21788 14/12/2015 15:11:26 CONC x100 DUE 151214: CAÑAS Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0172
Desv. Est.	.0014
% RSD	7.875
Rep #1	-.0188
Rep #2	-.0163
Rep #3	-.0166
23	Unk: GISC15-21789 14/12/2015 15:12:42 CONC x100 DUE 151214: CAÑAS Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0155
Desv. Est.	.0028
% RSD	17.80
Rep #1	-.0125
Rep #2	-.0162
Rep #3	-.0179
24	Unk: GISC15-21887 14/12/2015 15:14:16 CONC x100 DUE 151214: CAÑAS Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0172
Desv. Est.	.0013
% RSD	7.299
Rep #1	-.0184
Rep #2	-.0173
Rep #3	-.0159
25	Unk: GISC15-21888 14/12/2015 15:15:39 CONC x100 DUE 151214: CAÑAS Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0164
Desv. Est.	.0043
% RSD	26.27
Rep #1	-.0117
Rep #2	-.0201
Rep #3	-.0175
26	Unk: GISC15-21889 14/12/2015 15:16:56 CONC x100 DUE 151214: CAÑAS Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0195
Desv. Est.	.0015
% RSD	7.892
Rep #1	-.0184



Rep #2	-0.0212
Rep #3	-0.0188
27	Unk: GISC15-21890 14/12/2015 15:18:10 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0.0159
Desv. Est.	.0011
% RSD	7.059
Rep #1	-0.0166
Rep #2	-0.0164
Rep #3	-0.0146
28	Unk: GISC15-21891 14/12/2015 15:19:23 CONC x100 D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0.0163
Desv. Est.	.0017
% RSD	10.66
Rep #1	-0.0172
Rep #2	-0.0173
Rep #3	-0.0143
29	QC: QC 14/12/2015 15:20:33 CONC D Hg-151214: CAÑA: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0000
% RSD	.5478
Rep #1	.0049
Rep #2	.0050
Rep #3	.0049
Comprobación	Pasa Comp
Valor	
Intervalo	

## **CONTENIDO**

### **VAINA / SEMILLA/ SORGO**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**

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TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

**Matriz:** VEGETALES (Vaina/Semillas/Sorgo)  
**Fecha de Recepción:** 2015-11-05

### INTERESADO

**Nombre :** Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
**Dirección:** Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

**Método:** Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
**Referencia:** EPA 6010C-2007  
**Resultados:** Ver hoja excell .....2015/11/05 (2)  
**Fecha de Analisis de Metales y Mercurio:** 2015-12-14 2015-12-14  
**Fecha de Realización del Informe:** 2015-12-15

### IDENTIFICACIÓN CLIENTE

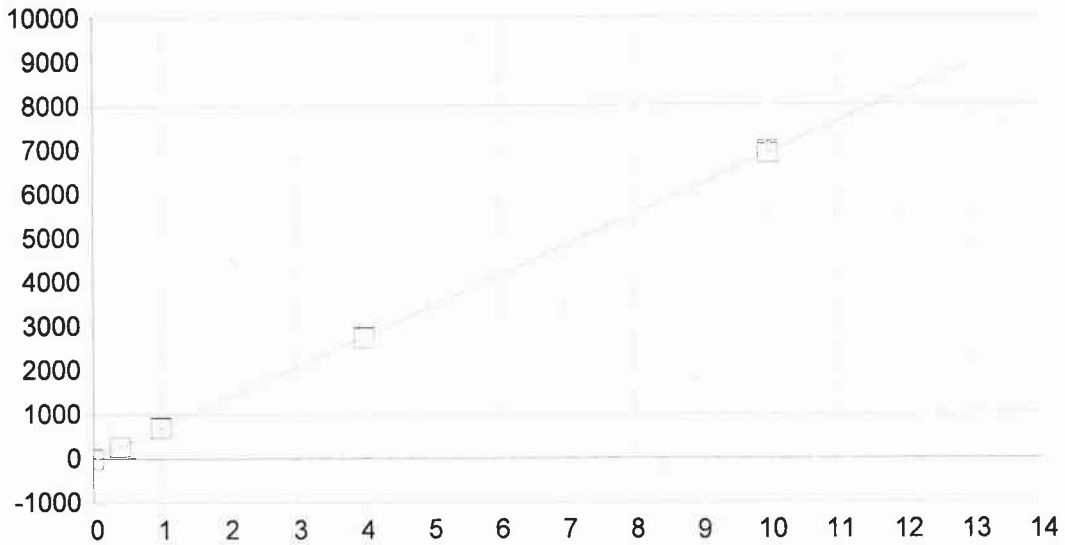
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L-I046/15/0451  
L-I046/15/0452  
L-I065/15/0643  
L-I065/15/0644  
L-I054/15/0535  
L-I054/15/0536  
L-I058/15/0573  
L-I058/15/0574

### CLAVE DE IDENTIFICACIÓN

GISC15-21853  
GISC15-21854  
GISC15-21931  
GISC15-21991  
GISC15-22024  
GISC15-22025  
GISC15-22193  
GISC15-22194  
GISC15-22097  
GISC15-22098  
GISC15-22129  
GISC15-22130

REVISÓ

Q.F.B. Leticia Velázquez Méndez  
Gerente Técnico

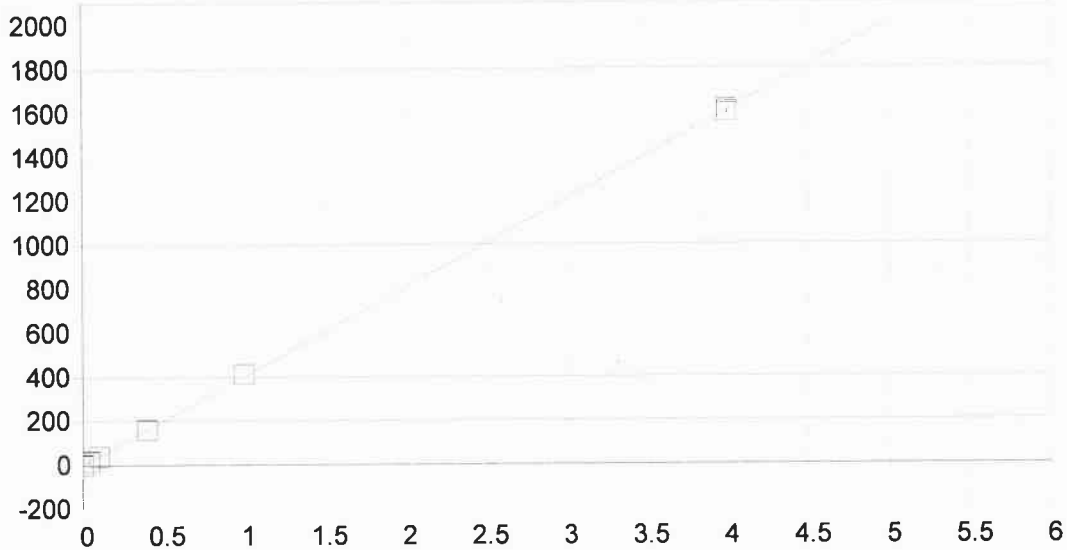


AI 396.152 { 85}

Fecha de la 14/12/2015 12:20:51 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -8.153135 Reajustar P 1.000000  
 A1 (Ganancia) 690.410429 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999953 Estatus: OK.  
 Error Estándar de Est: 0.679674  
 MDL: 0.011537  
 MQL: 0.038455

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-8.1533	3.11	1
STD 5	.40000	.39086	-.009	-2.28	261.70	.200	1
STD 6	1.0000	1.0308	.031	3.08	703.51	6.70	1
STD 7	4.0000	3.9663	-.034	-.844	2730.2	10.7	1
STD 8	10.000	10.012	.012	.121	6904.3	38.8	1

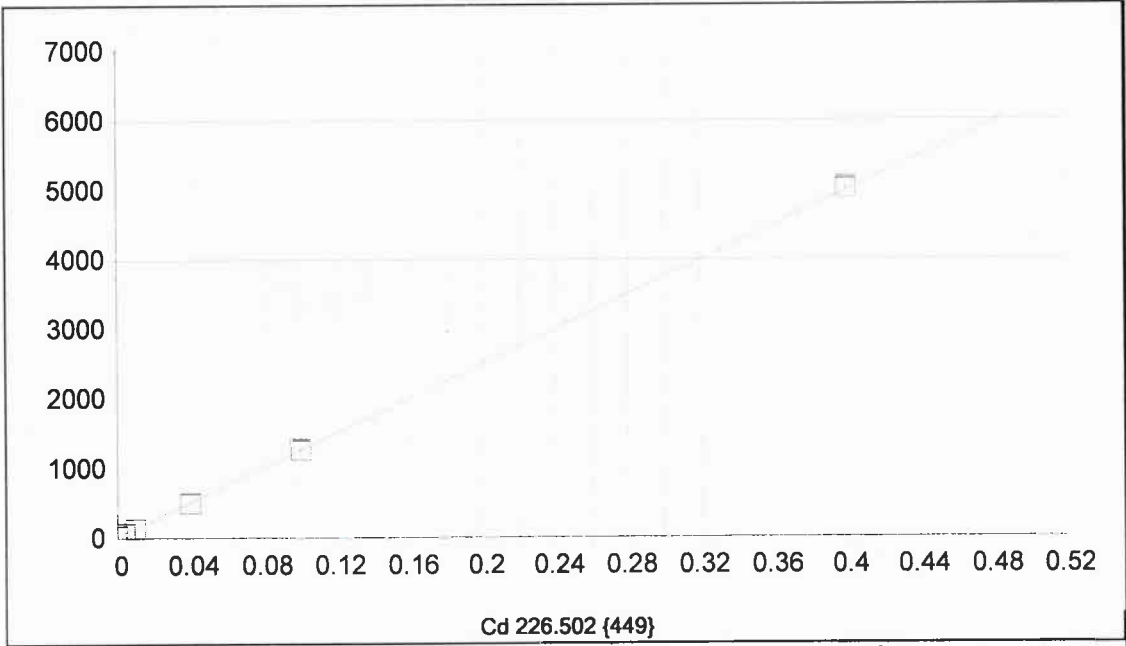


As 189.042 {478}

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.649382 Reajustar P 1.000000  
 A1 (Ganancia) 401.353428 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999892 Estatus: OK.  
 Error Estándar de Est: 0.107238  
 MDL: 0.002132  
 MQL: 0.007105

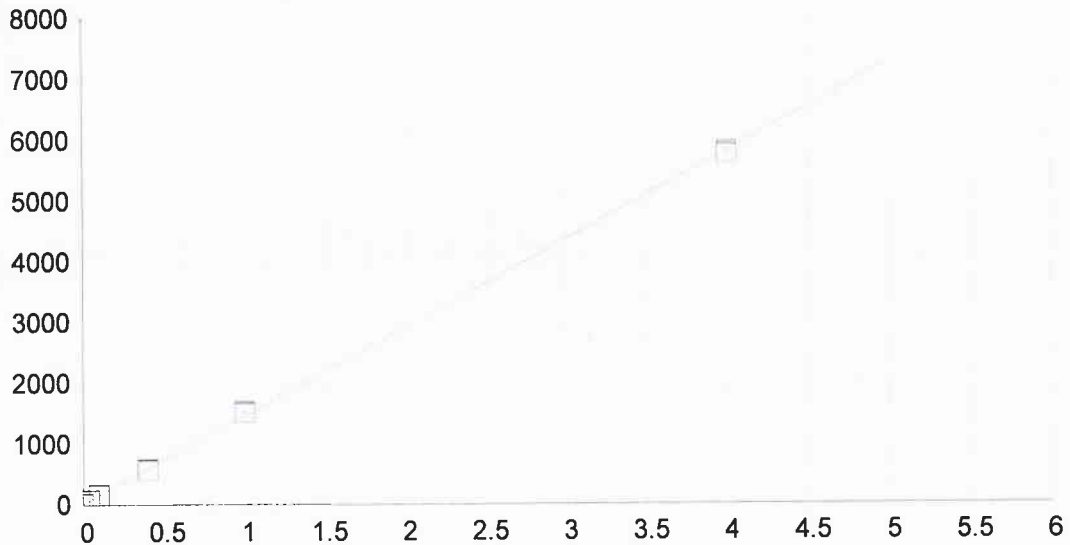
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	.65105	1.20	1
STD 4	.10000	.09532	-.005	-4.68	38.906	.306	1
STD 5	.40000	.39390	-.006	-1.53	158.74	1.22	1
STD 6	1.0000	1.0260	.026	2.60	412.42	.084	1
STD 7	4.0000	3.9874	-.013	-.315	1601.0	9.04	1
STD 3	.04000	.03742	-.003	-6.44	15.670	.393	1



Fecha de la	14/12/2015 12:12:00	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	24.214244	Reajustar P	1.000000		
A1 (Ganancia)	12399.63372	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999559	Estatus:	OK.		
Error Estándar de Est:	0.671380				
MDL:	0.000109				
MQL:	0.000364				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	24.233	1.66	1
STD 1	.00400	.00316	-.001	-21.1	63.363	.838	1
STD 2	.01000	.00848	-.002	-15.2	129.37	1.76	1
STD 3	.04000	.03857	-.001	-3.59	502.41	2.55	1
STD 4	.10000	.10066	.001	.663	1272.4	13.7	1
STD 5	.40000	.40313	.003	.783	5022.9	20.4	1

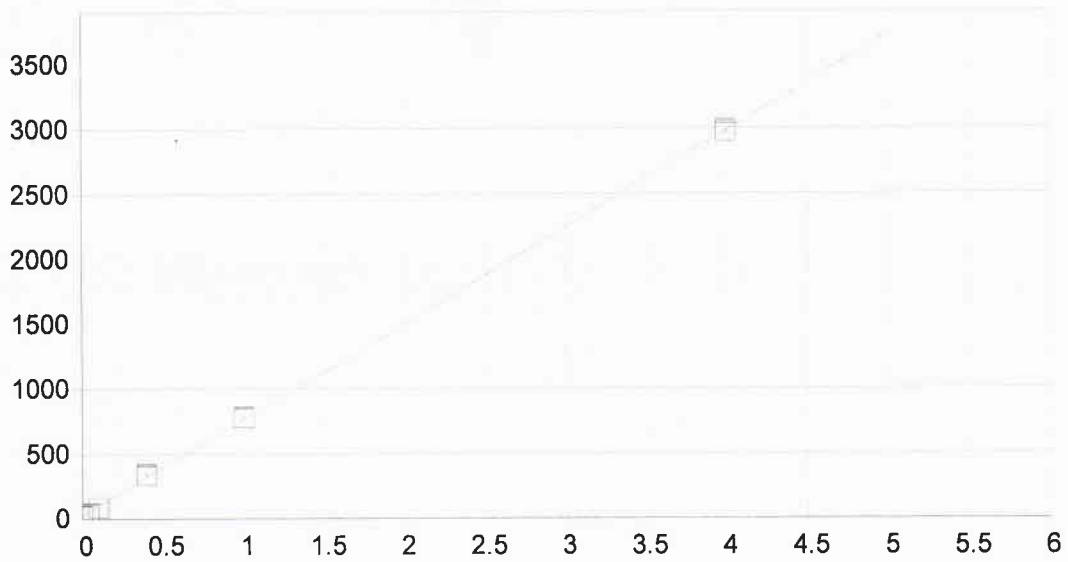


Cu 324.754 {104}

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 16.872271 Reajustar P 1.000000  
 A1 (Ganancia) 1450.602990 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999779 Estatus: OK.  
 Error Estándar de Est: 0.555685  
 MDL: 0.003020  
 MQL: 0.010068

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	16.874	1.89	1
STD 5	.40000	.39102	-.009	-2.25	584.08	5.79	1
STD 6	1.0000	1.0437	.044	4.37	1530.9	14.5	1
STD 7	4.0000	3.9675	-.033	-.813	5772.1	27.8	1
STD 3	.04000	.03835	-.002	-4.14	72.497	2.98	1
STD 4	.10000	.09942	-.001	-.576	161.10	4.59	1



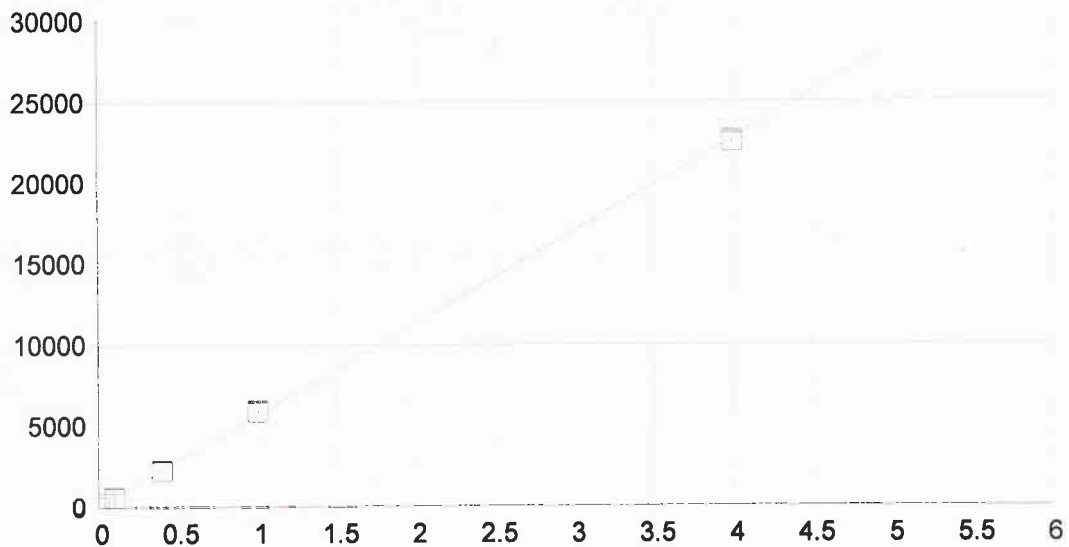
**Fe 259.940 (130)**

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 23.522624 Reajustar P 1.000000  
 A1 (Ganancia) 739.256822 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998656 Estatus: OK.  
 Error Estándar de Est: 0.698935  
 MDL: 0.002919  
 MQL: 0.009729

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00002	.000	.000	23.540	1.08	1
STD 5	.40000	.42523	.025	6.31	337.88	8.17	1
STD 6	1.0000	1.0209	.021	2.09	778.20	7.67	1
STD 3	.04000	.02003	-.020	-49.9	38.330	1.01	1
STD 4	.10000	.08300	-.017	-17.0	84.880	.646	1
STD 7	4.0000	3.9909	-.009	-.228	2973.8	14.5	1



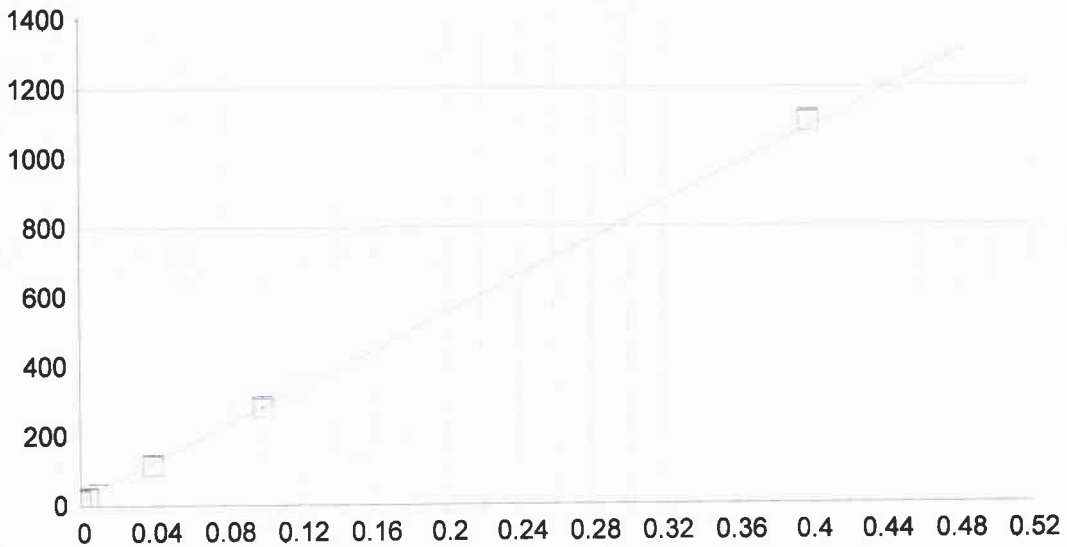


Mn 257.610 {131}

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 18.435845 Reajustar P 1.000000  
 A1 (Ganancia) 5662.049906 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999814 Estatus: OK.  
 Error Estándar de Est: 1.989363  
 MDL: 0.000422  
 MQL: 0.001406

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	18.450	3.28	1
STD 5	.40000	.39316	-.007	-1.71	2244.5	42.0	1
STD 6	1.0000	1.0396	.040	3.96	5904.7	60.2	1
STD 3	.04000	.03772	-.002	-5.71	231.98	1.97	1
STD 4	.10000	.09792	-.002	-2.08	572.87	8.34	1
STD 7	4.0000	3.9716	-.028	-.710	22506.	100.	1

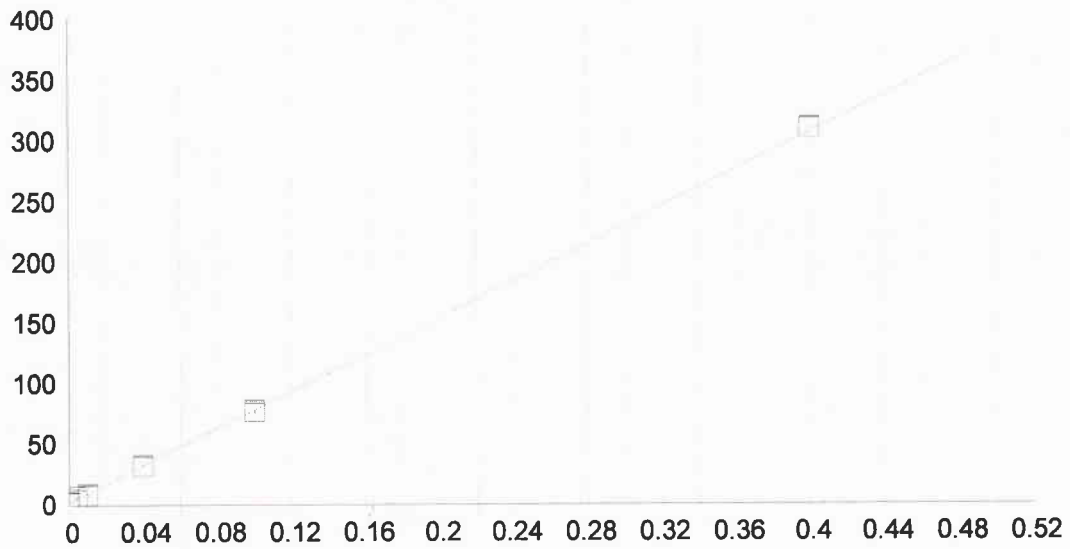


Ni 231.604 {446}

Fecha de la 14/12/2015 12:22:48 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 16.359145 Reajustar P 1.000000  
 A1 (Ganancia) 2670.087802 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998806 Estatus: OK.  
 Error Estándar de Est: 0.248517  
 MDL: 0.000454  
 MQL: 0.001513

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	16.365	2.73	1
STD 1	.00400	.00199	-.002	-50.3	21.673	.640	1
STD 2	.01000	.00665	-.003	-33.5	34.122	.324	0
STD 3	.04000	.03713	-.003	-7.18	115.50	1.67	1
STD 4	.10000	.09928	-.001	-.719	281.45	3.03	1
STD 5	.40000	.40560	.006	1.40	1099.3	3.57	1

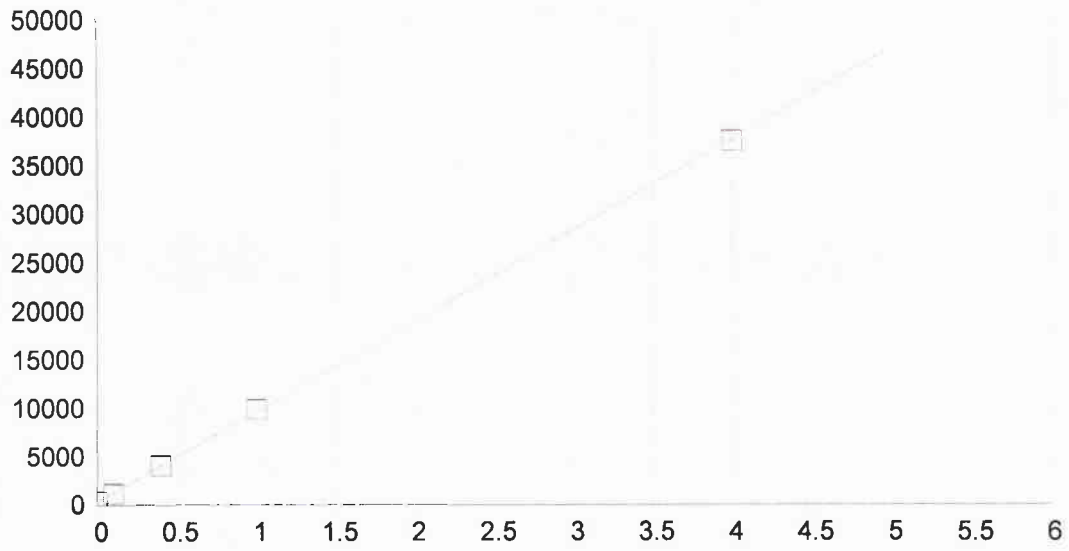


Pb 220.353 {453}

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 2.385364 Reajustar P 1.000000  
 A1 (Ganancia) 759.432832 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999556 Estatus: OK.  
 Error Estándar de Est: 0.041220  
 MDL: 0.001503  
 MQL: 0.005011

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	2.3858	.365	1
STD 1	.00400	.00432	.000	8.02	5.6667	1.42	1
STD 2	.01000	.00805	-.002	-19.5	8.4982	.761	1
STD 3	.04000	.03919	-.001	-2.02	32.150	.746	1
STD 4	.10000	.09835	-.002	-1.65	77.074	1.25	1
STD 5	.40000	.40409	.004	1.02	309.26	.769	1

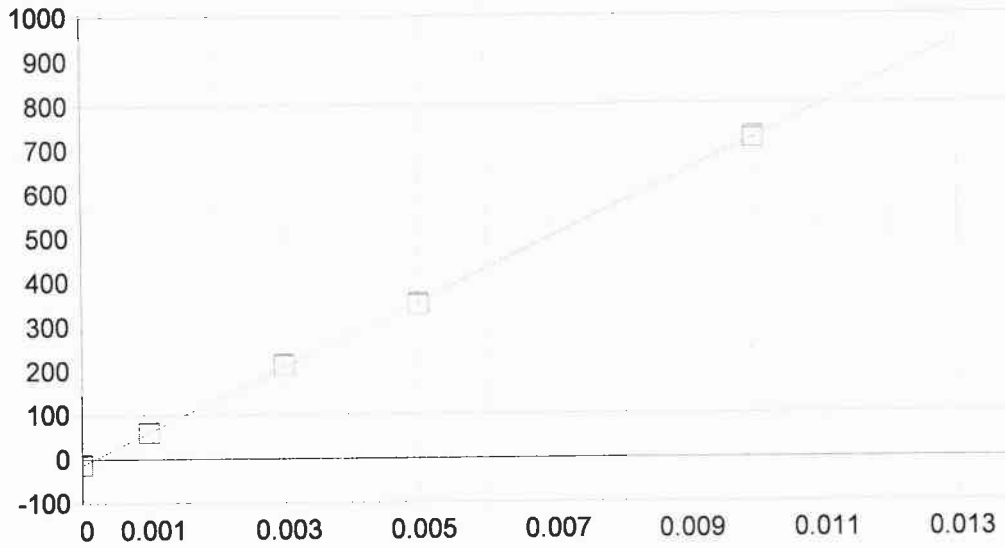


**Zn 213.856 {458}**

Fecha de la 14/12/2015 12:12:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 342.365797 Reajustar P 1.000000  
 A1 (Ganancia) 9343.040648 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999823 Estatus: OK.  
 Error Estándar de Est: 5.318144  
 MDL: 0.000118  
 MQL: 0.000395

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	342.43	21.9	1
STD 4	.10000	.09013	-.010	-9.87	1184.4	14.3	1
STD 5	.40000	.40212	.002	.530	4099.4	22.4	1
STD 6	1.0000	1.0291	.029	2.91	9957.2	16.7	1
STD 7	4.0000	3.9787	-.021	-.533	37515.	126.	1



**Hg 194.227 {474}**

Fecha de la 14/12/2015 15:31:36 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -13.303021 Reajustar P 1.000000  
 A1 (Ganancia) 73472.78895 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999922 Estatus: OK.  
 Error Estándar de Est: 0.162615  
 MDL: 0.000024  
 MQL: 0.000079

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-13.303	.946	1
STD 1	.00100	.00099	-.000	-.820	59.567	.590	1
STD 2	.00300	.00308	.000	2.56	212.76	1.70	1
STD 3	.00500	.00493	-.000	-1.35	349.11	2.44	1
STD 4	.01000	.01000	-.000	-.012	721.34	3.51	1



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-VAINA/SEMILLA/SORGO-151214**  
 Fecha de Análisis: **14/12/2015**  
 Fecha de Reporte: **14/12/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9999	0.9995	0.9998	0.9986	0.9998	0.9988	0.9995	0.9998	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/l		% Recobro²	No.¹	Identificación	Analito	Concentración mg/l		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
10	QC: QC	Aluminio	0.4000	0.3906	98	6	QC: QC	Mercurio	0.005	0.005	100
		Arsénico	0.4000	0.4013	100	21	QC: QC	Mercurio	0.005	0.0049	98
		Cadmio	0.4000	0.4023	101	24	QC: QC	Mercurio	0.005	0.005	100
		Cobre	0.4000	0.3907	98						
		Fierro	0.4000	0.4344	109						
		Manganeso	0.4000	0.3939	98						
		Níquel	0.4000	0.4032	101						
		Plomo	0.4000	0.4066	102						
		Zinc	0.4000	0.4076	102						
15	QC: QC	Aluminio	0.4000	0.3998	100						
		Arsénico	0.4000	0.4052	101						
		Cadmio	0.4000	0.4047	101						
		Cobre	0.4000	0.3899	97						
		Fierro	0.4000	0.4359	109						
		Manganeso	0.4000	0.3932	98						
		Níquel	0.4000	0.4038	101						
		Plomo	0.4000	0.4117	103						
Zinc	0.4000	0.4128	103								
18	QC: QC	Aluminio	0.4000	0.3806	95						
		Arsénico	0.4000	0.4431	111						
		Cadmio	0.4000	0.4090	102						
		Cobre	0.4000	0.3664	92						
		Fierro	0.4000	0.4067	102						
		Manganeso	0.4000	0.3794	95						
		Níquel	0.4000	0.3995	100						
Plomo	0.4000	0.4369	109								
Zinc	0.4000	0.4314	108								



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-VAINA/SEMILLA/SORGO-151214**  
 Fecha de Análisis: **14/12/2015**  
 Fecha de Reporte: **14/12/2015**


**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
2	Recuperación	Aluminio	40.0000	37.1000	92.8						
		Arsénico	40.0000	38.8400	97.1						
		Cadmio	40.0000	38.3400	95.9						
		Cobre	40.0000	37.1900	93.0						
		Fierro	40.0000	42.0400	105.1						
		Manganeso	40.0000	38.1800	95.5						
		Níquel	40.0000	38.3800	96.0						
		Plomo	40.0000	39.7400	99.4						
8	Recuperación	Zinc	40.0000	38.9500	97.4						
		Mercurio	0.5000	0.4988	99.8						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

  
**I.B.I. Gaudencio Vargas Espejel**  
 ELABORÓ

  
**Q.F.B. Leticia Velázquez Méndez**  
 REVISÓ

**PACE/GIS/I02-F01**



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21853	Vaina		05/11/2015	0.5053	0.5042
GISC15-21854	Vaina		05/11/2015	0.5015	0.5031
GISC15-21931	Semillas		05/11/2015	0.5061	0.5066
GISC15-21991	Semillas		05/11/2015	0.5011	0.5037
GISC15-22024	Semillas		05/11/2015	0.5066	0.5032
GISC15-22025	Semillas		05/11/2015	0.5007	0.5038
GISC15-22193	Semillas		05/11/2015	0.5022	0.5013
GISC15-22194	Semillas		05/11/2015	0.5036	0.5072
GISC15-22097	Sorgo		05/11/2015	0.5041	0.5068
GISC15-22098	Sorgo		05/11/2015	0.5015	0.5099
GISC15-22129	Sorgo		05/11/2015	0.5015	0.5034
GISC15-22130	Sorgo		05/11/2015	0.5057	0.5097

*I.B.T. Reyna Ivette Delgado*

I.B.T. Reyna Ivette Delgado

*Q.F.B. Leticia Velazquez Mendez*

Q.F.B. Leticia Velazquez Mendez



1	Cal: Blanco 14/12/2015 11:57:10 IR D MP-151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	-8.153	.6510	24.23	16.87	23.54	18.45	16.37	2.386	342.4	
Desv. Est.	3.107	1.196	1.66	1.89	1.08	3.29	2.73	.365	21.9	
% RSD	38.11	183.7	6.860	11.19	4.575	17.80	16.66	15.32	6.382	
Rep #1	-10.86	1.514	22.76	18.35	24.47	21.42	13.24	1.975	318.0	
Rep #2	-8.840	-.7144	26.03	14.75	22.36	14.92	17.63	2.507	349.2	
Rep #3	-4.760	1.153	23.91	17.53	23.79	19.00	18.23	2.675	360.1	
2	Cal: STD 1 14/12/2015 11:59:50 IR D MP-151214: SEMILLAS:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	63.36	21.67	5.667							
Desv. Est.	.84	.64	1.421							
% RSD	1.323	2.955	25.08							
Rep #1	62.41	21.03	4.338							
Rep #2	63.97	22.31	7.165							
Rep #3	63.71	21.67	5.498							
3	Cal: STD 2 14/12/2015 12:02:08 IR D MP-151214: SEMILLAS:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	129.4	34.12	8.498							
Desv. Est.	1.8	.32	.761							
% RSD	1.362	.9502	8.957							
Rep #1	130.1	33.79	8.523							
Rep #2	130.6	34.14	9.247							
Rep #3	127.4	34.44	7.725							
4	Cal: STD 3 14/12/2015 12:04:48 IR D MP-151214: SEMILLAS:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	15.67	502.4	72.50	38.33	232.0	115.5	32.15			
Desv. Est.	.39	2.6	2.98	1.01	2.0	1.7	.75			
% RSD	2.507	.5083	4.115	2.626	.8492	1.449	2.319			
Rep #1	15.23	505.2	72.21	38.97	234.2	117.3	31.41			
Rep #2	15.80	500.3	69.67	37.17	231.5	114.1	32.15			
Rep #3	15.98	501.7	75.61	38.85	230.3	115.1	32.90			
5	Cal: STD 4 14/12/2015 12:07:09 IR D MP-151214: SEMILLAS:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	38.91	1272.	161.1	84.88	572.9	281.4	77.07	1184.		
Desv. Est.	.31	14.	4.6	.65	8.3	3.0	1.25	14.		
% RSD	.7855	1.075	2.850	.7609	1.456	1.078	1.615	1.208		
Rep #1	38.60	1288.	156.5	85.47	564.6	284.5	78.16	1201.		
Rep #2	39.21	1269.	165.7	84.98	572.7	281.4	77.35	1176.		
Rep #3	38.91	1261.	161.2	84.19	581.3	278.4	75.71	1176.		
6	Cal: STD 5 14/12/2015 12:09:51 IR D MP-151214: SEMILLAS:									



1	Unk: BLANCO 14/12/2015 12:25:48 CONC D MP 151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.0113	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000	
Desv. Est.	.0040	.0006	.0002	.0013	.0038	.0006	.0004	.0006	.0004	
% RSD	35.67	406.2	34.18	34.08	85.26	54.01	54.85	86.35	18.10	
Rep #1	.0154	-.0002	-.0003	-.0037	-.0020	-.0010	-.0004	-.0000	-.0018	
Rep #2	.0073	-.0008	-.0005	-.0027	-.0087	-.0019	-.0005	-.0010	-.0026	
Rep #3	.0112	.0005	-.0006	-.0053	-.0025	-.0006	-.0011	-.0010	-.0024	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
2	Unk: RECUPERACION1 14/12/2015 12:30:06 CONC x100 D MP 151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	37.10	38.84	38.34	37.19	42.04	38.18	38.38	39.74	38.95	
Desv. Est.	1.17	6.00	5.71	1.32	1.62	.90	5.45	5.84	7.59	
% RSD	3.139	15.46	14.89	3.540	3.862	2.365	14.19	14.69	19.49	
Rep #1	38.40	42.54	41.78	38.06	43.68	38.90	41.63	43.14	43.45	
Rep #2	36.76	42.07	41.48	37.83	42.00	38.46	41.42	43.09	43.21	
Rep #3	36.15	31.91	31.75	35.67	40.43	37.17	32.09	33.00	30.19	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
3	Blanco: REACTIVO 14/12/2015 12:33:05 CONC x100 D MP 151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	1.172	-.0870	.0846	-.1076	-.2722	-.0402	.0440	.1425	.1383	
Desv. Est.	.963	.3016	.0341	.1263	.1282	.0733	.0456	.0969	.0400	
% RSD	82.21	346.8	40.35	117.4	47.09	182.3	103.7	68.01	28.90	
Rep #1	1.235	-.1424	.0558	-.2519	-.2533	-.0647	.0714	.2216	.1768	
Rep #2	.1786	.2385	.0757	-.0532	-.4089	-.0982	-.0087	.0344	.0970	
Rep #3	2.102	-.3570	.1223	-.0175	-.1546	.0422	.0692	.1717	.1411	
Comprobació										
Valor										
Intervalo										
4	Unk: GISC15-21853 14/12/2015 12:35:39 CONC x100 D MP 151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	27.26	.2563	<.0000	1.477	9.340	3.124	.0389	<.0000	5.753	
Desv. Est.	1.14	.2179	.0519	.631	.817	.414	.0786	.1680	.170	
% RSD	4.173	85.00	21.75	42.73	8.751	13.24	202.1	98.13	2.958	
Rep #1	28.40	.4979	-.1786	2.195	10.17	3.597	.1169	.0009	5.947	
Rep #2	27.27	.1964	-.2670	1.011	9.315	2.941	-.0403	-.1798	5.629	
Rep #3	26.12	.0746	-.2698	1.226	8.536	2.833	.0401	-.3348	5.684	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
5	Unk: GISC15-21853-R 14/12/2015 12:37:52 CONC x100 D MP 151214: SEMILLAS:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	



Media	50.32	.4582	<.0000	1.526	35.42	5.436	<.0000	.1017	4.974
Desv. Est.	1.62	.1445	.0143	.128	.52	.173	.0181	.1699	.075
% RSD	3.228	31.54	5.624	8.403	1.470	3.183	5.244	167.2	1.516
Rep #1	52.18	.3288	-.2468	1.509	36.01	5.390	-.3586	.2953	4.991
Rep #2	49.58	.6142	-.2441	1.407	35.16	5.290	-.3248	-.0223	4.891
Rep #3	49.20	.4317	-.2701	1.661	35.07	5.627	-.3531	.0319	5.039
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
10	Unk: GISC15-22025 14/12/2015 12:49:25 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	82.92	.4685	<.0000	2.140	65.56	8.212	<.0000	.4992	5.148
Desv. Est.	3.58	.1876	.0053	.266	1.56	.218	.0303	.0365	.065
% RSD	4.321	40.05	2.040	12.43	2.381	2.649	14.19	7.313	1.271
Rep #1	84.21	.5992	-.2561	2.447	66.26	8.275	-.1871	.4621	5.222
Rep #2	85.67	.2535	-.2656	1.974	66.64	8.391	-.2062	.5351	5.124
Rep #3	78.87	.5527	-.2567	1.999	63.77	7.970	-.2464	.5002	5.098
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
11	Unk: GISC15-22193 14/12/2015 12:51:58 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.211	.2851	<.0000	4.413	10.40	71.51	.0058	<.0000	19.27
Desv. Est.	.126	.1760	.0060	.144	.75	1.21	.0371	.1406	.08
% RSD	1.370	61.73	2.290	3.256	7.250	1.695	639.0	55.37	.4323
Rep #1	9.291	.4641	-.2568	4.462	11.22	72.66	-.0191	-.1571	19.25
Rep #2	9.066	.2789	-.2658	4.252	9.733	70.24	.0485	-.1894	19.20
Rep #3	9.277	.1123	-.2683	4.526	10.25	71.62	-.0120	-.4151	19.36
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
12	Unk: GISC15-22194 14/12/2015 12:54:26 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	4.966	.5403	<.0000	1.774	4.239	27.95	<.0000	<.0000	9.648
Desv. Est.	.656	.0584	.0109	.107	.142	.40	.0197	.1344	.095
% RSD	13.21	10.82	4.051	6.005	3.342	1.447	26.86	86.28	.9854
Rep #1	5.285	.5776	-.2615	1.651	4.128	28.39	-.0962	-.2981	9.737
Rep #2	5.401	.5704	-.2811	1.838	4.191	27.58	-.0622	-.1379	9.658
Rep #3	4.212	.4730	-.2631	1.832	4.399	27.89	-.0618	-.0312	9.548
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
13	Unk: GISC15-22097 14/12/2015 12:56:15 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	43.78	.4840	<.0000	6.648	56.06	18.63	<.0000	.0759	37.86

Desv. Est.	.90	.0804	.0023	.075	.50	.30	.0234	.1298	.33
% RSD	2.052	16.61	.8809	1.125	.8936	1.605	18.24	170.9	.8778
Rep #1	44.12	.4486	-.2619	6.567	56.38	18.92	-.1547	.1514	38.20
Rep #2	42.76	.4273	-.2649	6.663	55.49	18.33	-.1106	.1504	37.54
Rep #3	44.46	.5760	-.2604	6.714	56.33	18.62	-.1192	-.0739	37.82
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
14	Unk: GISC15-22098 14/12/2015 12:58:49 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>98.71</b>	<b>.7642</b>	<b>&lt;.0000</b>	<b>6.788</b>	<b>78.07</b>	<b>20.53</b>	<b>&lt;.0000</b>	<b>.0940</b>	<b>39.07</b>
Desv. Est.	10.39	.1262	.0114	.894	8.72	2.29	.0539	.0241	4.80
% RSD	10.52	16.52	4.829	13.16	11.16	11.16	1319.	25.68	12.30
Rep #1	89.13	.7736	-.2477	5.840	69.57	18.51	-.0659	.1212	33.52
Rep #2	97.25	.6335	-.2252	6.910	77.64	20.07	.0328	.0749	41.82
Rep #3	109.8	.8854	-.2335	7.615	86.99	23.02	.0209	.0861	41.86
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
15	QC: QC 14/12/2015 13:06:09 CONC D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>.3998</b>	<b>.4052</b>	<b>.4047</b>	<b>.3899</b>	<b>.4359</b>	<b>.3932</b>	<b>.4038</b>	<b>.4117</b>	<b>.4128</b>
Desv. Est.	.0105	.0034	.0035	.0036	.0044	.0025	.0034	.0049	.0041
% RSD	2.617	.8459	.8648	.9176	1.002	.6310	.8515	1.201	.9998
Rep #1	.4021	.4078	.4085	.3875	.4316	.3909	.4072	.4171	.4175
Rep #2	.4089	.4066	.4039	.3940	.4356	.3958	.4038	.4107	.4112
Rep #3	.3884	.4013	.4016	.3882	.4404	.3928	.4003	.4074	.4097
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
16	Unk: GISC15-22129 14/12/2015 13:08:19 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>10.99</b>	<b>.4211</b>	<b>&lt;.0000</b>	<b>3.005</b>	<b>11.99</b>	<b>8.591</b>	<b>&lt;.0000</b>	<b>&lt;.0000</b>	<b>14.23</b>
Desv. Est.	.33	.0861	.0075	.468	2.07	.767	.0201	.0267	.72
% RSD	3.034	20.45	2.687	15.56	17.25	8.929	14.56	14.97	5.068
Rep #1	10.61	.5104	-.2710	2.793	10.47	8.148	-.1613	-.2042	13.46
Rep #2	11.11	.3385	-.2856	2.680	11.16	8.148	-.1246	-.1509	14.34
Rep #3	11.25	.4146	-.2815	3.541	14.35	9.477	-.1286	-.1790	14.89
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
17	Unk: GISC15-22130 14/12/2015 13:11:13 CONC x100 D MP-151214: SEMILLAS:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>8.893</b>	<b>.0366</b>	<b>&lt;.0000</b>	<b>1.480</b>	<b>8.110</b>	<b>4.272</b>	<b>&lt;.0000</b>	<b>&lt;.0000</b>	<b>6.434</b>
Desv. Est.	.743	.1539	.0087	.229	.698	.426	.0302	.0971	.582



1	Cal: Blanco 14/12/2015 15:24:47 IR D Hg-151214: SEMILLAS:
	Hg1942
Unidades	Cts/s
Media	-13.30
Desv. Est.	.95
% RSD	7.110
Rep #1	-12.41
Rep #2	-14.29
Rep #3	-13.21
2	Cal: STD 1 14/12/2015 15:26:20 IR D Hg-151214: SEMILLAS:
	Hg1942
Unidades	Cts/s
Media	59.57
Desv. Est.	.59
% RSD	.9905
Rep #1	60.18
Rep #2	59.51
Rep #3	59.01
3	Cal: STD 2 14/12/2015 15:27:48 IR D Hg-151214: SEMILLAS:
	Hg1942
Unidades	Cts/s
Media	212.8
Desv. Est.	1.7
% RSD	.7997
Rep #1	211.5
Rep #2	214.7
Rep #3	212.1
4	Cal: STD 3 14/12/2015 15:29:04 IR D Hg-151214: SEMILLAS:
	Hg1942
Unidades	Cts/s
Media	349.1
Desv. Est.	2.4
% RSD	.6975
Rep #1	346.5
Rep #2	351.3
Rep #3	349.5
5	Cal: STD 4 14/12/2015 15:30:25 IR D Hg-151214: SEMILLAS:
	Hg1942
Unidades	Cts/s
Media	721.3
Desv. Est.	3.5
% RSD	.4870
Rep #1	718.0
Rep #2	721.0
Rep #3	725.0
6	QC: QC 14/12/2015 15:32:10 CONC D Hg-151214: SEMILLAS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000



% RSD	.5657
Rep #1	.0050
Rep #2	.0049
Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: BLANCO 14/12/2015 15:34:03 CONC D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0010
Desv. Est.	.0000
% RSD	1.908
Rep #1	.0010
Rep #2	.0010
Rep #3	.0010
8	Unk: RECUPERACION 14/12/2015 15:35:31 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4988
Desv. Est.	.0017
% RSD	.3315
Rep #1	.5003
Rep #2	.4970
Rep #3	.4990
9	Blanco: REACTIVO 14/12/2015 15:36:56 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0045
Desv. Est.	.0020
% RSD	43.81
Rep #1	-.0068
Rep #2	-.0035
Rep #3	-.0033
10	Unk: GISC15-21853 14/12/2015 15:38:28 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0120
Desv. Est.	.0046
% RSD	38.73
Rep #1	-.0067
Rep #2	-.0137
Rep #3	-.0155
11	Unk: GISC15-21853-R 14/12/2015 15:39:45 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0163

Desv. Est.	.0011
% RSD	6.723
Rep #1	-.0154
Rep #2	-.0159
Rep #3	-.0175
12	Unk: GISC15-21854 14/12/2015 15:41:11 CONC x100 DATE: 151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0173
Desv. Est.	.0023
% RSD	13.19
Rep #1	-.0166
Rep #2	-.0155
Rep #3	-.0199
13	Unk: GISC15-21931 14/12/2015 15:42:33 CONC x100 DATE: 151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0271
Desv. Est.	.0037
% RSD	13.82
Rep #1	-.0229
Rep #2	-.0299
Rep #3	-.0286
14	Unk: GISC15-21991 14/12/2015 15:43:58 CONC x100 DATE: 151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0172
Desv. Est.	.0021
% RSD	12.04
Rep #1	-.0149
Rep #2	-.0189
Rep #3	-.0178
15	Unk: GISC15-22024 14/12/2015 15:45:50 CONC x100 DATE: 151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0196
Desv. Est.	.0010
% RSD	5.095
Rep #1	-.0205
Rep #2	-.0197
Rep #3	-.0186
16	Unk: GISC15-22025 14/12/2015 15:47:05 CONC x100 DATE: 151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0245
Desv. Est.	.0017
% RSD	6.757

Rep #1	-0228
Rep #2	-0260
Rep #3	-0248
17	Unk: GISC15-22193 14/12/2015 15:48:32 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0262
Desv. Est.	.0007
% RSD	2.851
Rep #1	-0258
Rep #2	-0271
Rep #3	-0258
18	Unk: GISC15-22194 14/12/2015 15:49:45 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0247
Desv. Est.	.0040
% RSD	16.20
Rep #1	-0290
Rep #2	-0243
Rep #3	-0210
19	Unk: GISC15-22097 14/12/2015 15:51:20 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0130
Desv. Est.	.0014
% RSD	10.64
Rep #1	-0146
Rep #2	-0122
Rep #3	-0122
20	Unk: GISC15-22098 14/12/2015 15:52:39 CONC x100 D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0212
Desv. Est.	.0022
% RSD	10.43
Rep #1	-0233
Rep #2	-0213
Rep #3	-0189
21	QC: QC 14/12/2015 15:56:46 CONC D Hg-151214: SEMILLAS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0000
% RSD	.5018
Rep #1	.0049
Rep #2	.0049

Rep #3	.0049
Comprobación	Pasa Comp
Valor	
Intervalo	
22	Unk: GISC15-22129 14/12/2015 15:58:22 CONC x100 D Hg-151214: SEMILLAS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0262
Desv. Est.	.0008
% RSD	3.194
Rep #1	-.0258
Rep #2	-.0257
Rep #3	-.0272
23	Unk: GISC15-22130 14/12/2015 15:59:50 CONC x100 D Hg-151214: SEMILLAS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0206
Desv. Est.	.0036
% RSD	17.33
Rep #1	-.0232
Rep #2	-.0221
Rep #3	-.0165
24	QC: QC 14/12/2015 16:08:25 CONC D Hg-151214: SEMILLAS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000
% RSD	.2822
Rep #1	.0049
Rep #2	.0050
Rep #3	.0049
Comprobación	Pasa Comp
Valor	
Intervalo	

## **CONTENIDO**

### **EJOTE / AJO**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Ejote/Ajo)

Fecha de Recepción: 2015-11-05

### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM

Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)

Referencia: EPA 6010C-2007

Resultados: Ver hoja excell .....2015/11/05 (2)

Fecha de Analisis de Metales y Mercurio: 2015-12-18 2015-12-22

Fecha de Realización del Informe: 2015-12-23

### IDENTIFICACIÓN CLIENTE

L-I049/15/0484  
L-I051/15/0506  
L-I012/15/0113  
L-I012/15/0114  
L-I012/15/0115  
L-I013/15/0126  
L-I013/15/0127  
L-I013/15/0128  
L-I018/15/0172  
L-I018/15/0173  
L-I018/15/0174  
L-I037/15/0370  
L-I038/15/0371  
L-I038/15/0372  
L-I043/15/0421

### CLAVE DE IDENTIFICACIÓN

GISC15-22054  
GISC15-22075  
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GISC15-21796  
GISC15-21797  
GISC15-21798  
GISC15-21957  
GISC15-21958  
GISC15-21959  
GISC15-22001



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Requisitos generales para la competencia de laboratorios de ensayo y calibración".

**IDENTIFICACIÓN CLIENTE**

- L-I071/15/0706
- L-I071/15/0707
- L-I073/15/0724
- L-I073/15/0725
- L-I073/15/0728

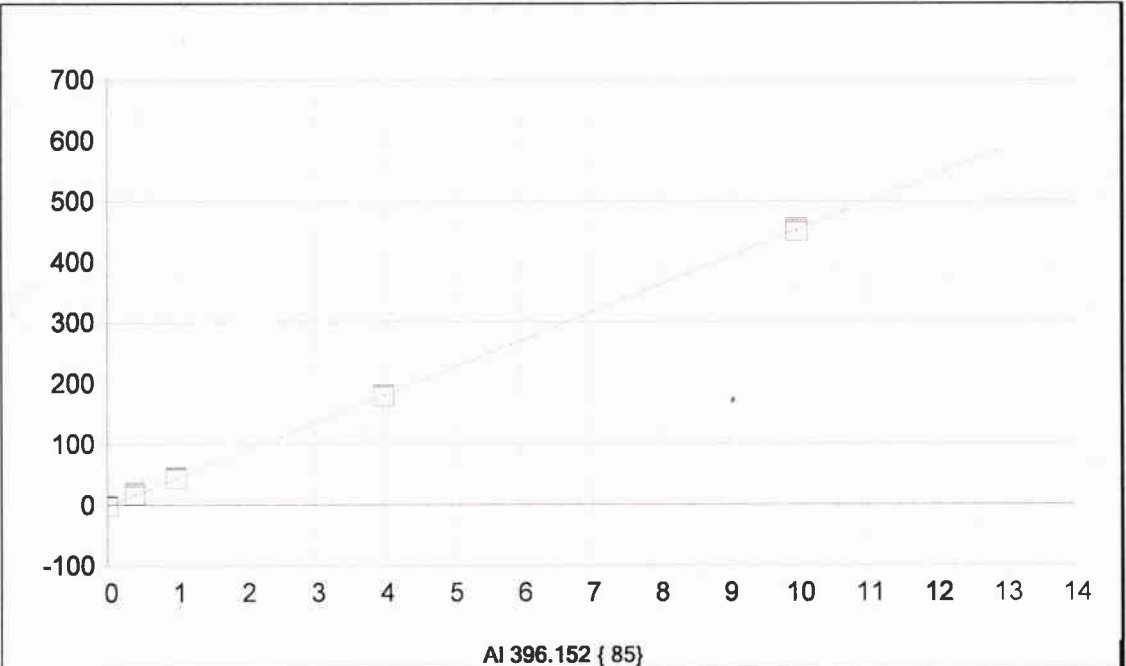
**CLAVE DE IDENTIFICACIÓN**

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- GISC15-22238
- GISC15-22250
- GISC15-22251
- GISC15-22252

REVISÓ

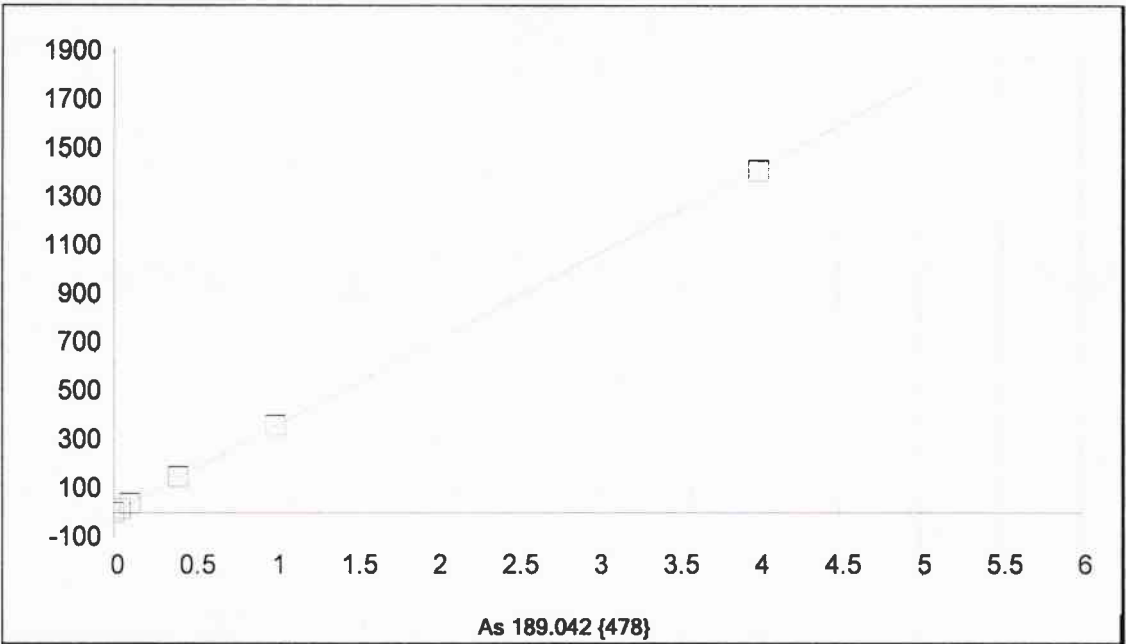
Q.F.B.Leticia Velázquez Méndez

Gerente Técnico

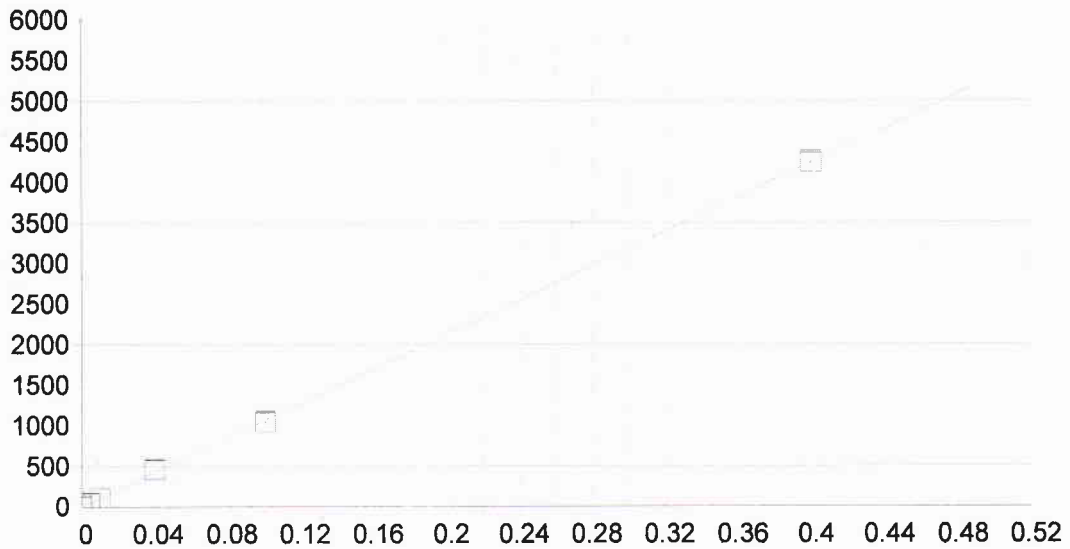


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A0 (Compensación):	-2.243887	Reajustar P	1.000000				
A1 (Ganancia)	45.463879	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999913	Estatus:	OK.				
Error Estándar de Est:	0.060839						
MDL:	0.082064						
MQL:	0.273546						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00003	-.000	.000	-2.2455	.795	1
STD 5	.40000	.42941	.029	7.35	17.279	2.50	1
STD 6	1.0000	1.0170	.017	1.70	43.994	1.52	1
STD 7	4.0000	4.0019	.002	.049	179.70	1.39	1
STD 8	10.000	9.9516	-.048	-.484	450.20	3.21	1





Fecha de la	18/12/2015 07:06:56	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	0.777261	Reajustar P	1.000000				
A1 (Ganancia)	354.576756	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999899	Estatus:	OK.				
Error Estándar de Est:	0.091633						
MDL:	0.002341						
MQL:	0.007804						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00001	-.000	.000	.77548	.869	1
STD 4	.10000	.10402	.004	4.02	37.661	1.00	1
STD 5	.40000	.41446	.014	3.62	147.74	1.01	1
STD 6	1.0000	1.0103	.010	1.03	359.02	1.34	1
STD 7	4.0000	3.9693	-.031	-.767	1408.2	1.65	1
STD 3	.04000	.04187	.002	4.67	15.622	.110	1

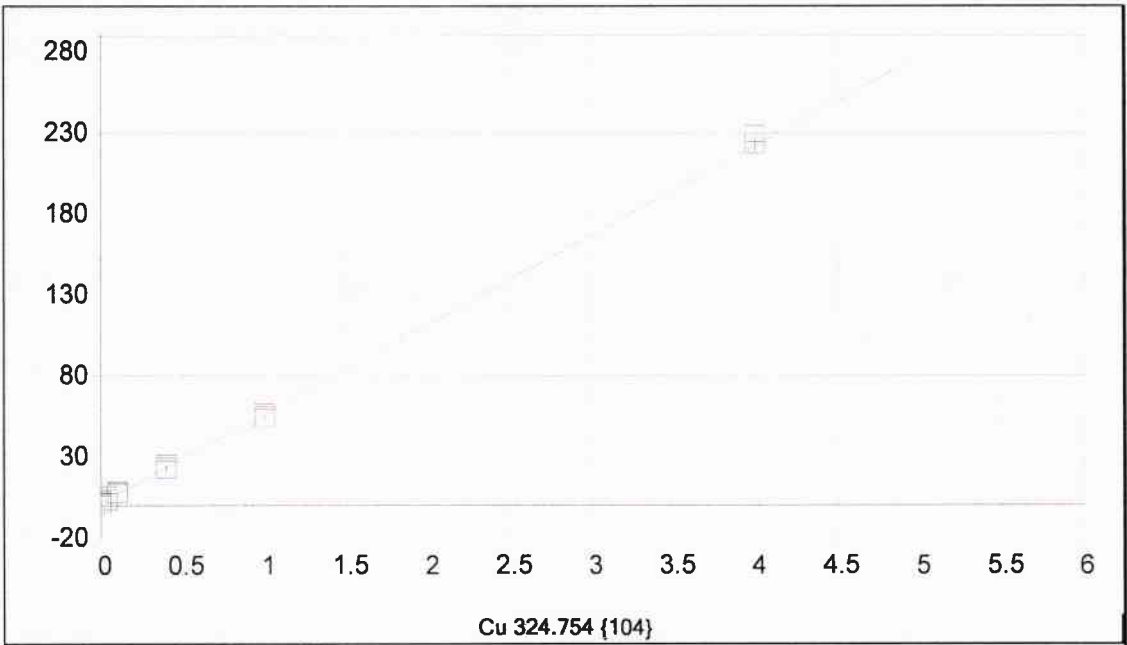


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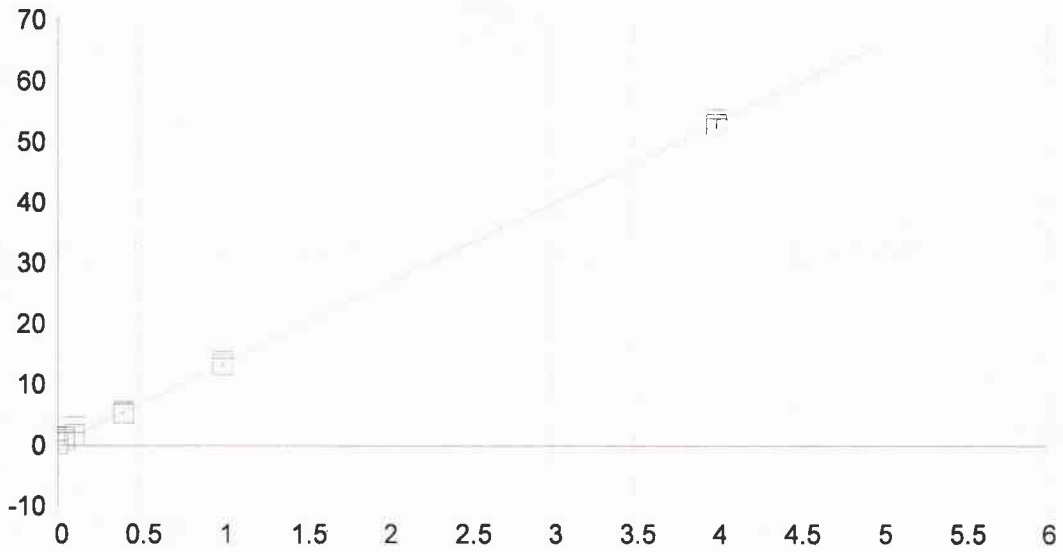
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 A1 (Ganancia) 10591.77206 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999697 Estatus: OK.  
 Error Estándar de Est: 0.474915  
 MDL: 0.000121  
 MQL: 0.000403

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	5.8504	1.31	1
STD 1	.00400	.00371	-.000	-7.37	45.092	.917	1
STD 2	.01000	.00923	-.001	-7.75	103.56	.400	1
STD 3	.04000	.04284	.003	7.09	459.55	2.67	1
STD 4	.10000	.09772	-.002	-2.28	1040.8	12.6	1
STD 5	.40000	.40052	.001	.130	4248.0	15.5	1



Fecha de la	18/12/2015 07:06:56	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	1.335219	Reajustar P	1.000000				
A1 (Ganancia)	55.195213	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999653	Estatus:	OK.				
Error Estándar de Est:	0.026486						
MDL:	0.030707						
MQL:	0.102356						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00001	-.000	.000	1.3348	1.34	1
STD 5	.40000	.39526	-.005	-1.19	23.152	1.72	1
STD 6	1.0000	.96708	-.033	-3.29	54.714	1.60	1
STD 7	4.0000	4.0199	.020	.496	223.21	5.07	1
STD 3	.04000	.04197	.002	4.91	3.6515	2.00	1
STD 4	.10000	.11584	.016	15.8	7.7288	.552	1

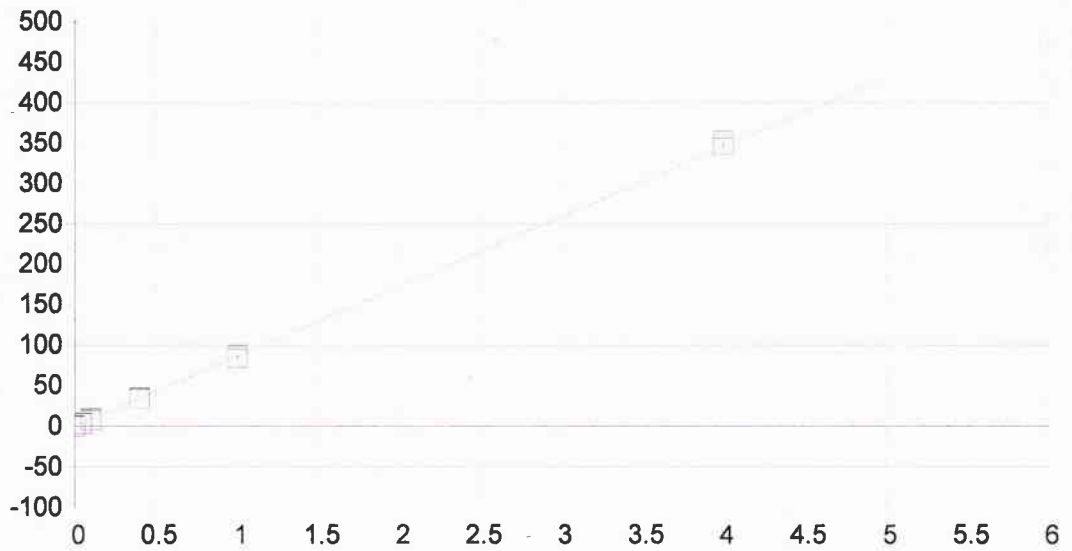


Fe 259.940 {130}

Fecha de la 18/12/2015 07:06:56 Tipo de unió Lineal Ponderación: 1/Conc

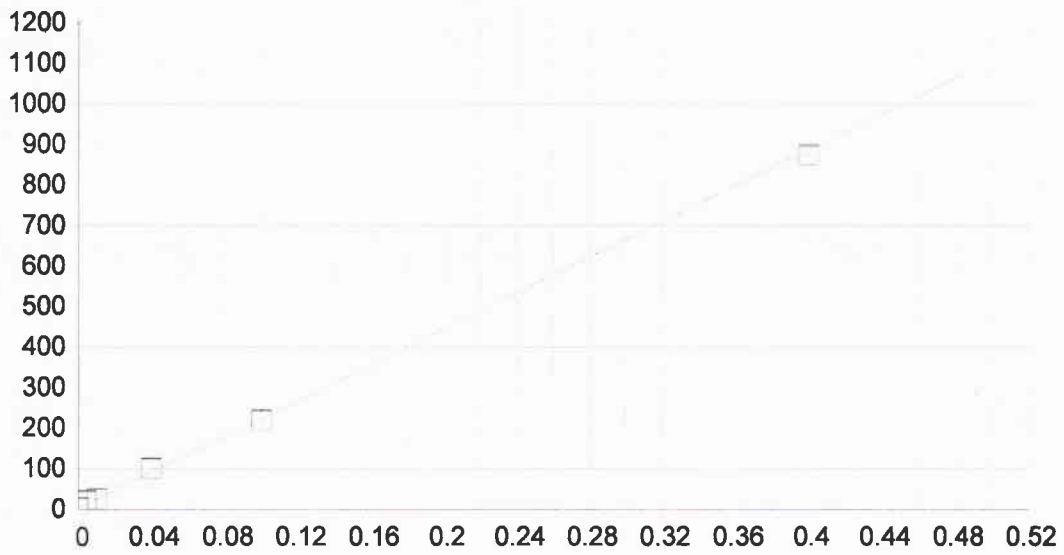
A0 (Compensación): 0.283552 Reajustar P 1.000000  
 A1 (Ganancia) 13.187228 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999411 Estatus: OK.  
 Error Estándar de Est: 0.008247  
 MDL: 0.073232  
 MQL: 0.244108

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00002	-.000	.000	.28333	1.08	1
STD 5	.40000	.38672	-.013	-3.32	5.3833	.247	1
STD 6	1.0000	.99021	-.010	-9.79	13.342	.572	1
STD 3	.04000	.05307	.013	32.7	.98333	.416	1
STD 4	.10000	.11310	.013	13.1	1.7750	1.29	1
STD 7	4.0000	3.9969	-.003	-.077	52.992	.718	1



Mn 257.610 {131}

Fecha de la	18/12/2015 07:06:56	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	0.002808	Reajustar P	1.000000				
A1 (Ganancia)	86.248970	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999872	Estatus:	OK.				
Error Estándar de Est:	0.025100						
MDL:	0.011434						
MQL:	0.038112						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00001	.000	.000	.00333	.586	1
STD 5	.40000	.39197	-.008	-2.01	33.810	.980	1
STD 6	1.0000	.98185	-.018	-1.81	84.687	2.39	1
STD 3	.04000	.03792	-.002	-5.20	3.2733	.253	1
STD 4	.10000	.09292	-.007	-7.08	8.0167	1.26	1
STD 7	4.0000	4.0353	.035	.883	348.05	4.22	1

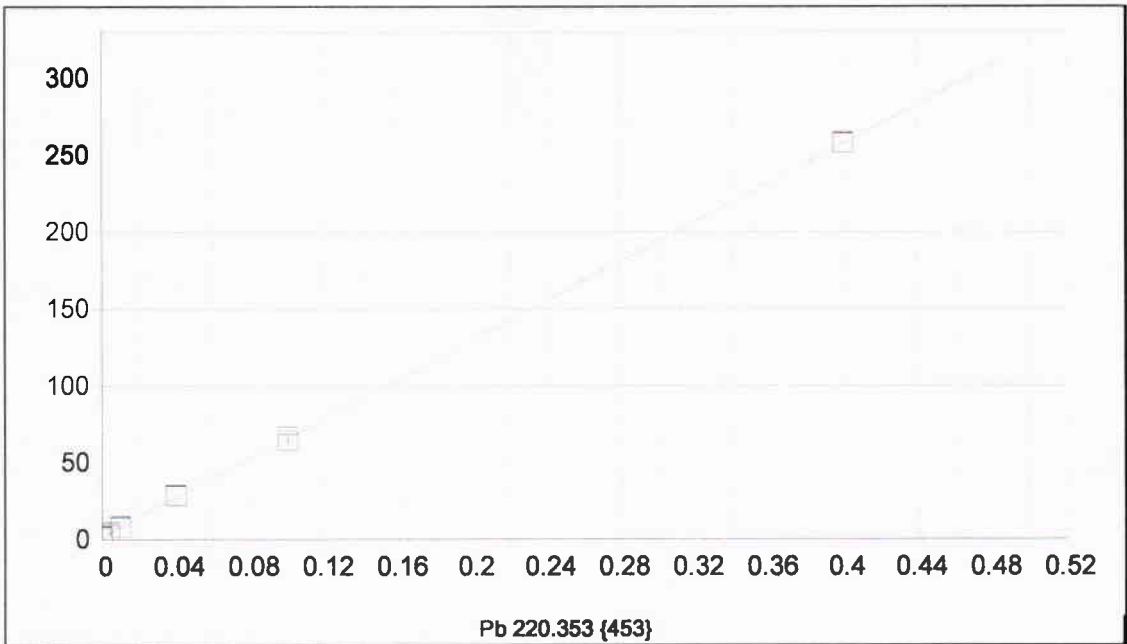


Ni 231.604 {446}

Fecha de la 18/12/2015 07:06:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 3.469861 Reajustar P 1.000000  
 A1 (Ganancia) 2210.336338 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.996400 Estatus: OK.  
 Error Estándar de Est: 0.342571  
 MDL: 0.000517  
 MQL: 0.001722

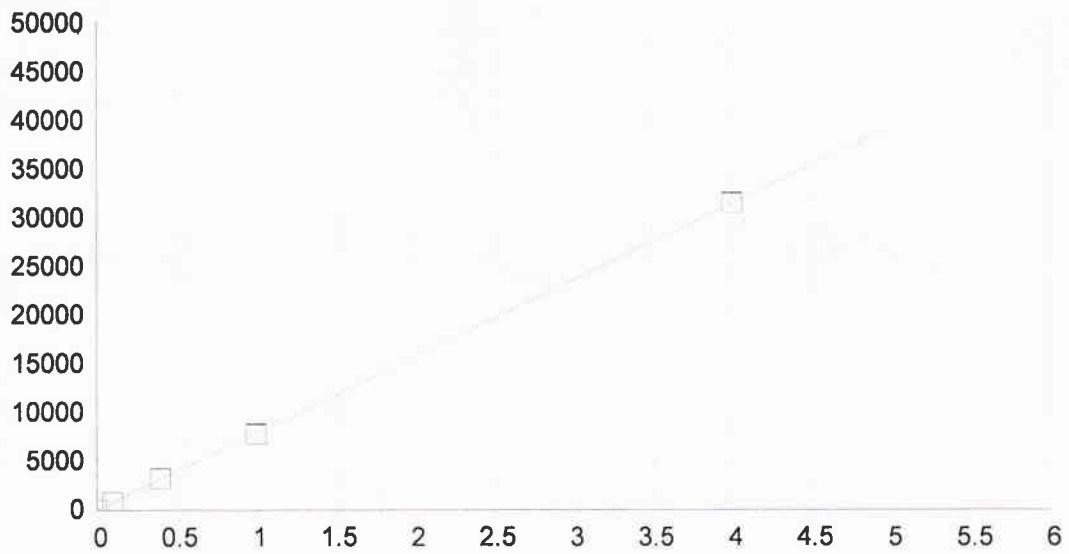
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	3.4609	1.15	1
STD 1	.00400	.00772	.004	93.1	20.543	.746	1
STD 2	.01000	.01019	.000	1.85	25.983	.452	1
STD 3	.04000	.04403	.004	10.1	100.80	.562	1
STD 4	.10000	.09801	-.002	-1.99	220.10	1.90	1
STD 5	.40000	.39405	-.006	-1.49	874.45	2.20	1



Fecha de la 18/12/2015 07:06:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 1.567482 Reajustar P 1.000000  
 A1 (Ganancia) 639.880823 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999779 Estatus: OK.  
 Error Estándar de Est: 0.024530  
 MDL: 0.001717  
 MQL: 0.005722

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	1.5678	.387	1
STD 1	.00400	.00339	-.001	-15.2	3.7377	.936	1
STD 2	.01000	.01003	.000	.261	7.9830	.582	1
STD 3	.04000	.04209	.002	5.23	28.503	.157	1
STD 4	.10000	.09794	-.002	-2.06	64.239	2.39	1
STD 5	.40000	.40055	.001	.136	257.87	.424	1



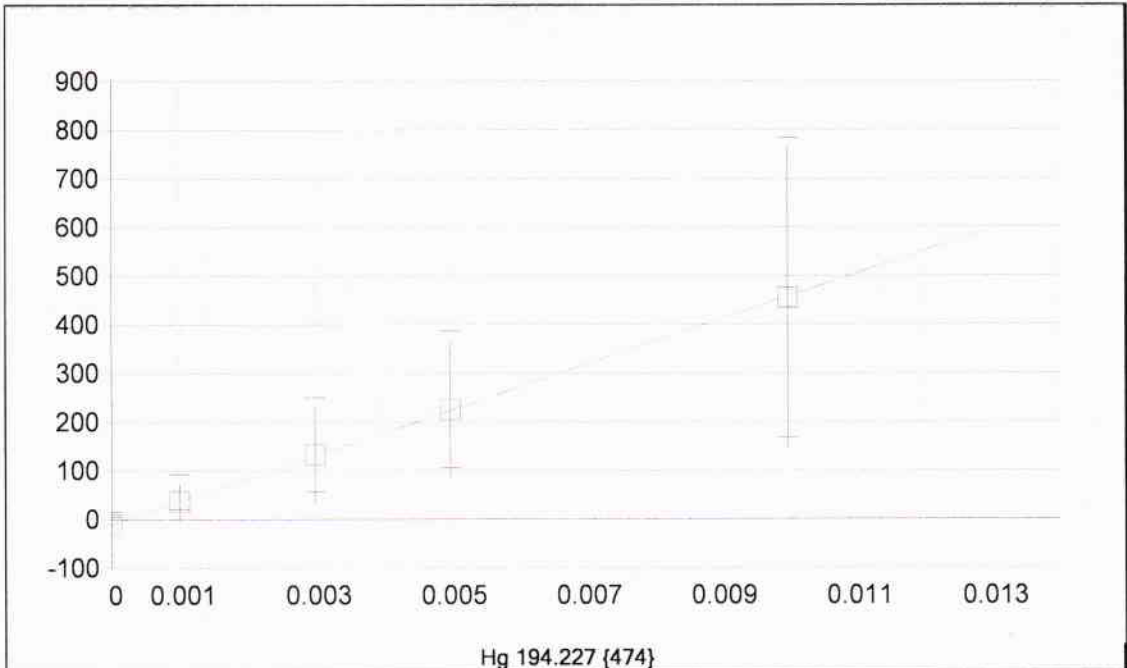
**Zn 213.856 {458}**

Fecha de la 18/12/2015 07:06:56 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 18.524328 Reajustar P 1.000000  
 A1 (Ganancia) 7875.114000 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999975 Estatus: OK.  
 Error Estándar de Est: 1.669425  
 MDL: 0.000132  
 MQL: 0.000439

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	18.518	.897	1
STD 4	.10000	.10013	.000	.129	807.05	8.39	1
STD 5	.40000	.40693	.007	1.73	3223.1	7.12	1
STD 6	1.0000	.98801	-.012	-1.20	7799.2	19.4	1
STD 7	4.0000	4.0049	.005	.123	31558.	47.8	1





Fecha de la	22/12/2015 10:16:14	Tipo de unió	Lineal	Ponderación:	1/Conc
A0 (Compensación):	-10.003820	Reajustar P	1.000000		
A1 (Ganancia)	46799.30759	Y-int:	0.000000		
A2 (Curvatura):	0.000000				
n (Exponente):	1.000000				
Correlación:	0.999962	Estatus:	OK.		
Error Estándar de Est:	0.072917				
MDL:	0.000034				
MQL:	0.000112				

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-10.004	4.56	1
STD 1	.00100	.00099	-.000	-1.12	36.271	35.5	1
STD 2	.00300	.00305	.000	1.58	132.61	97.2	1
STD 3	.00500	.00503	.000	.578	225.34	141.	1
STD 4	.01000	.00994	-.000	-.650	454.95	308.	1



Análisis:

**METALES PESADOS POR ICP-OES**

Lote analítico:

DMP-EJOTE/AJO-151218

Fecha de Análisis:

18/12/2015

Fecha de Reporte:

18/12/2015

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9999	0.9997	0.9996	0.9994	0.9999	0.9964	0.9998	0.9999	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/l		% Recobro²	No.¹	Identificación	Analito	Concentración mg/l		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
10	QC:QC-Medio	Aluminio	0.4000	0.4405	110	16	QC:QC-Medio	Mercurio	0.005	0.0044	88
		Arsénico	0.4000	0.4282	107	27	QC:QC-Medio	Mercurio	0.005	0.0044	88
		Cadmio	0.4000	0.4230	106	33	QC:QC-Medio	Mercurio	0.005	0.0045	90
		Cobre	0.4000	0.4206	105						
		Fierro	0.4000	0.4196	105						
		Manganeso	0.4000	0.4216	105						
		Níquel	0.4000	0.4088	102						
		Plomo	0.4000	0.4236	106						
		Zinc	0.4000	0.4401	110						
21	QC:QC-Medio	Aluminio	0.4000	0.4678	117						
		Arsénico	0.4000	0.4229	106						
		Cadmio	0.4000	0.4041	101						
		Cobre	0.4000	0.3957	99						
		Fierro	0.4000	0.4208	105						
		Manganeso	0.4000	0.3845	96						
		Níquel	0.4000	0.3962	99						
		Plomo	0.4000	0.4414	110						
Zinc	0.4000	0.4563	114								
32	QC:QC-Medio	Aluminio	0.4000	0.3883	97						
		Arsénico	0.4000	0.4140	104						
		Cadmio	0.4000	0.3866	97						
		Cobre	0.4000	0.3909	98						
		Fierro	0.4000	0.4095	102						
		Manganeso	0.4000	0.3558	89						
		Níquel	0.4000	0.3809	95						
		Plomo	0.4000	0.4459	111						
Zinc	0.4000	0.4547	114								



Análisis:  
Lote analítico:

**METALES PESADOS POR ICP-OES**  
DMP-EJOTE/AJO-151218

Fecha de Análisis: 18/12/2015

Fecha de Reporte: 18/12/2015

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
12	Recuperación	Aluminio	40.0000	47.9900	120.0						
		Arsénico	40.0000	44.1300	110.3						
		Cadmio	40.0000	42.8800	107.2						
		Cobre	40.0000	43.3700	108.4						
		Fierro	40.0000	48.9700	122.4						
		Manganeso	40.0000	43.5100	108.8						
		Níquel	40.0000	41.3400	103.4						
		Plomo	40.0000	43.5600	108.9						
		Zinc	40.0000	45.4600	113.7						
7	Recuperación	Mercurio	0.5	0.4495	89.9						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

I.B.I. Gaudencio Vargas Espejel

ELABORÓ

PACE/GIS/I02-F01

Q.F.B. Leticia Velázquez Méndez

REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-22054	Ejote		05/11/2015	0.5090	0.5096
GISC15-22075	Ejote		05/11/2015	0.5071	0.5021
GISC15-21753	Ajo		05/11/2015	0.5011	0.5011
GISC15-21754	Ajo		05/11/2015	0.5091	0.5070
GISC15-21755	Ajo		05/11/2015	0.5029	0.5044
GISC15-21766	Ajo		05/11/2015	0.5022	0.5088
GISC15-21767	Ajo		05/11/2015	0.5014	0.5084
GISC15-21768	Ajo		05/11/2015	0.5006	0.5086
GISC15-21796	Ajo		05/11/2015	0.5079	0.5063
GISC15-21797	Ajo		05/11/2015	0.5088	0.5011
GISC15-21798	Ajo		05/11/2015	0.5034	0.5028
GISC15-21957	Ajo		05/11/2015	0.5021	0.5085
GISC15-21958	Ajo		05/11/2015	0.5099	0.5009
GISC15-21959	Ajo		05/11/2015	0.5052	0.5065
GISC15-22001	Ajo		05/11/2015	0.5052	0.5024
GISC15-22237	Ajo		05/11/2015	0.5017	0.5062
GISC15-22238	Ajo		05/11/2015	0.5023	0.5036
GISC15-22250	Ajo		05/11/2015	0.5099	0.5020
GISC15-22251	Ajo		05/11/2015	0.5092	0.5090
GISC15-22252	Ajo		05/11/2015	0.5055	0.5055

P.A. *[Handwritten Signature]*

I.B.T. Reyna Ivette Delgado

*[Handwritten Signature]*

Q.F.B. Leticia Velazquez Méndez

1	Cal: Blanco 18/12/2015 06:35:23 IR D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s
Media	-2.245	.7755	5.850	1.335	.2833	.0033	3.461	1.568	18.52	
Desv. Est.	.795	.8690	1.309	1.335	1.077	.5859	1.146	.387	.90	
% RSD	35.40	112.1	22.38	100.0	380.2	17580.	33.12	24.66	4.844	
Rep #1	-1.536	.2933	7.339	.9727	-4.000	.2200	3.367	1.574	18.94	
Rep #2	-3.105	1.779	5.332	.2182	1.525	.4500	4.651	1.178	17.49	
Rep #3	-2.095	.2544	4.880	2.814	-2.750	-6.600	2.365	1.951	19.13	
2	Cal: STD 1 18/12/2015 06:38:00 IR D MP-151218: EJOTE Y AJO:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	45.09	20.54	3.738							
Desv. Est.	.92	.75	.936							
% RSD	2.033	3.634	25.04							
Rep #1	44.77	19.96	4.705							
Rep #2	44.38	21.38	3.671							
Rep #3	46.13	20.28	2.837							
3	Cal: STD 2 18/12/2015 06:40:44 IR D MP-151218: EJOTE Y AJO:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	103.6	25.98	7.983							
Desv. Est.	.4	.45	.582							
% RSD	.3865	1.739	7.291							
Rep #1	103.8	26.36	7.847							
Rep #2	103.1	26.11	7.481							
Rep #3	103.7	25.48	8.621							
4	Cal: STD 3 18/12/2015 06:43:09 IR D MP-151218: EJOTE Y AJO:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	15.62	459.5	3.652	.9833	3.273	100.8	28.50			
Desv. Est.	.11	2.7	2.003	.4156	.253	.6	.16			
% RSD	.7069	.5804	54.86	42.26	7.737	.5577	.5525			
Rep #1	15.54	456.6	4.214	1.425	3.320	101.4	28.56			
Rep #2	15.58	461.7	5.314	.9250	3.000	100.3	28.32			
Rep #3	15.75	460.3	1.427	.6000	3.500	100.7	28.62			
5	Cal: STD 4 18/12/2015 06:45:36 IR D MP-151218: EJOTE Y AJO:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s
Media	37.66	1041.	7.729	1.775	8.017	220.1	64.24	807.0		
Desv. Est.	1.00	13.	.551	1.293	1.262	1.9	2.40	8.4		
% RSD	2.657	1.215	7.136	72.87	15.74	.8625	3.728	1.040		
Rep #1	38.81	1053.	7.105	3.200	6.600	221.8	66.98	815.8		
Rep #2	36.97	1028.	7.932	1.450	8.430	218.1	63.21	799.0		
Rep #3	37.21	1042.	8.150	.6750	9.020	220.4	62.54	806.3		
6	Cal: STD 5 18/12/2015 06:48:01 IR D MP-151218: EJOTE Y AJO:									



11	Unk: BLANCO 18/12/2015 06:59:57 CONC D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	<.0000	<.0000	.1230	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000
Desv. Est.	.0769	.0037	.0044	.0068	.0457	.0151	.0047	.0031	.0044	
% RSD	.8805	2.086	.6303	5.543	3.972	1.827	.6136	.4173	.4709	
Rep #1	-8.645	-.1740	-.6994	.1306	-1.181	-.8165	-.7550	-.7371	-.9310	
Rep #2	-8.785	-.1810	-.7069	.1212	-1.097	-.8246	-.7632	-.7413	-.9387	
Rep #3	-8.770	-.1797	-.7071	.1173	-1.171	-.8458	-.7629	-.7431	-.9387	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
12	Unk: RECUPERACION 18/12/2015 07:02:20 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	47.99	44.13	42.88	43.37	48.97	43.51	41.34	43.56	45.46	
Desv. Est.	4.33	.53	.48	3.72	4.28	1.96	.55	.47	.44	
% RSD	9.032	1.193	1.129	8.573	8.745	4.507	1.328	1.068	.9623	
Rep #1	52.10	44.71	43.44	47.27	53.02	45.76	41.97	44.03	45.96	
Rep #2	43.46	43.69	42.61	39.87	44.49	42.57	41.09	43.54	45.14	
Rep #3	48.41	43.98	42.59	42.97	49.41	42.19	40.96	43.10	45.27	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Blanco: REACTIVO 18/12/2015 07:04:40 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	8.801	.1819	.7133	-.0830	1.199	.8431	.7695	.7492	.9472	
Desv. Est.	3.355	.2858	.3212	1.180	6.639	.5782	.3064	.3653	.3247	
% RSD	38.12	157.1	45.03	1422.	553.7	68.58	39.82	48.75	34.29	
Rep #1	12.63	.5058	1.082	1.246	-3.098	1.376	1.123	1.168	1.320	
Rep #2	7.375	-.0343	.5619	-1.011	-2.150	.2286	.6084	.5837	.7963	
Rep #3	6.395	.0741	.4958	-.4838	8.845	.9243	.5773	.4960	.7253	
Comprobación										
Valor										
Intervalo										
14	Unk: GISC15-22054 18/12/2015 07:07:04 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	4.569	.0839	<.0000	1.784	22.88	11.76	<.0000	<.0000	11.57	
Desv. Est.	5.226	.0380	.0043	1.240	1.84	.73	.0151	.0912	.00	
% RSD	114.4	45.29	.5789	69.50	8.049	6.205	3.034	13.48	.0289	
Rep #1	5.232	.1253	-.7401	2.597	24.90	12.60	-.4990	-.7318	11.57	
Rep #2	9.431	.0755	-.7436	.3569	22.43	11.33	-.5095	-.7269	11.57	
Rep #3	-.9565	.0508	-.7487	2.399	21.30	11.35	-.4798	-.5714	11.57	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
15	Unk: GISC15-22054-R 18/12/2015 07:10:09 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	





Media	24.32	.1041	<.0000	<.0000	27.49	5.036	<.0000	<.0000	12.42	
Desv. Est.	2.99	.0900	.0062	1.491	1.23	.550	.0894	.1270	.51	
% RSD	12.29	86.38	.7891	288.9	4.487	10.93	14.51	14.82	4.075	
Rep #1	25.06	.1278	-.7862	-2.237	26.22	5.217	-.6582	-.8866	11.84	
Rep #2	21.03	.1799	-.7757	.3816	27.55	5.473	-.6774	-.9658	12.74	
Rep #3	26.87	.0047	-.7866	.3074	28.69	4.417	-.5138	-.7172	12.69	
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
20	Unk: GISC15-21766 18/12/2015 07:21:29 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	27.85	<.0000	<.0000	.4804	22.37	4.135	<.0000	<.0000	8.686	
Desv. Est.	.90	.2672	.0038	1.903	5.25	.423	.0515	.1506	.018	
% RSD	3.242	249.6	.4844	396.2	23.46	10.23	7.006	20.16	.2134	
Rep #1	27.77	-.2739	-.7853	-.3843	21.68	4.441	-.7270	-.6821	8.705	
Rep #2	27.00	.2012	-.7809	2.663	27.93	3.652	-.6882	-.6397	8.686	
Rep #3	28.80	-.2485	-.7884	-.8372	17.50	4.313	-.7902	-.9192	8.668	
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
21	QC: QC-MEDIO 18/12/2015 07:23:56 CONC D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.4678	.4229	.4041	.3957	.4208	.3845	.3962	.4414	.4563	
Desv. Est.	.0436	.0058	.0051	.0206	.0851	.0073	.0058	.0067	.0051	
% RSD	9.316	1.363	1.274	5.198	20.22	1.894	1.459	1.524	1.119	
Rep #1	.5182	.4290	.4097	.3732	.5188	.3929	.4026	.4486	.4616	
Rep #2	.4432	.4222	.4030	.4006	.3785	.3798	.3946	.4402	.4560	
Rep #3	.4422	.4176	.3996	.4134	.3652	.3808	.3914	.4353	.4514	
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	
Valor										
Intervalo										
22	Unk: GISC15-21767 18/12/2015 07:26:19 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	45.73	<.0000	<.0000	2.685	40.95	4.939	<.0000	<.0000	10.62	
Desv. Est.	5.32	.0591	.0093	.909	12.61	1.306	.0406	.1035	.07	
% RSD	11.63	105.4	1.203	33.86	30.80	26.44	5.704	13.26	.6159	
Rep #1	44.59	-.1178	-.7712	2.119	31.34	6.099	-.7491	-.7730	10.63	
Rep #2	51.52	-.0504	-.7774	2.202	36.27	5.194	-.6687	-.6802	10.55	
Rep #3	41.06	-.0000	-.7592	3.733	55.23	3.525	-.7192	-.8867	10.68	
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
23	Unk: GISC15-21768 18/12/2015 07:28:43 CONC x100 D MP-151218: EJOTE Y AJO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	32.02	<.0000	<.0000	2.696	22.50	4.139	<.0000	<.0000	8.282	

Desv. Est.	5.75	.0826	.0055	2.116	1.26	2.017	.0246	.0565	.030
% RSD	17.94	109.6	.7115	78.51	5.611	48.73	3.449	8.798	.3649
Rep #1	35.02	-.0182	-.7603	5.133	21.11	5.959	-.7066	-.5882	8.316
Rep #2	35.66	-.1701	-.7698	1.329	22.81	4.487	-.6928	-.6372	8.257
Rep #3	25.40	-.0379	-.7698	1.625	23.57	1.971	-.7406	-.7009	8.274
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-21796 18/12/2015 07:31:07 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	20.54	.1273	<.0000	2.259	23.19	4.989	<.0000	<.0000	15.19
Desv. Est.	3.42	.1840	.0152	1.716	2.01	.782	.0360	.0337	.06
% RSD	16.65	144.5	1.973	75.98	8.651	15.67	5.055	5.208	.4052
Rep #1	23.72	.0495	-.7630	1.477	20.92	5.531	-.7055	-.6089	15.13
Rep #2	16.92	.3375	-.7882	4.227	23.95	5.345	-.7519	-.6683	15.25
Rep #3	20.97	-.0050	-.7609	1.073	24.71	4.093	-.6809	-.6663	15.17
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	Unk: GISC15-21797 18/12/2015 07:33:30 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	32.21	<.0000	<.0000	1.504	30.84	3.923	<.0000	<.0000	8.368
Desv. Est.	5.75	.1495	.0105	1.967	5.20	1.161	.0519	.0486	.111
% RSD	17.85	1446.	1.363	130.8	16.86	29.60	7.245	6.036	1.328
Rep #1	38.01	.1620	-.7630	1.790	27.93	3.478	-.6570	-.7971	8.496
Rep #2	26.51	-.0884	-.7820	3.313	36.84	5.241	-.7368	-.7617	8.314
Rep #3	32.11	-.1047	-.7648	-.5902	27.74	3.049	-.7543	-.8579	8.294
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
26	Unk: GISC15-21798 18/12/2015 07:35:55 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	53.85	<.0000	<.0000	2.240	44.36	5.372	<.0000	<.0000	13.01
Desv. Est.	4.99	.2282	.0049	1.636	5.59	.491	.0377	.1137	.06
% RSD	9.262	66.39	.6311	73.02	12.61	9.137	25.74	19.77	.4639
Rep #1	48.35	-.0818	-.7758	.9004	44.42	5.797	-.1842	-.6778	13.08
Rep #2	58.09	-.4499	-.7691	1.757	38.74	4.835	-.1461	-.5944	13.00
Rep #3	55.09	-.4995	-.7787	4.063	49.92	5.484	-.1089	-.4529	12.96
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
27	Unk: GISC15-21957 18/12/2015 07:38:18 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	23.54	<.0000	<.0000	2.869	37.41	2.551	<.0000	<.0000	8.303
Desv. Est.	6.22	.2277	.0067	.700	5.88	.422	.0303	.1033	.052

% RSD	26.40	142.1	.8607	24.41	15.71	16.56	7.128	15.52	.6229
Rep #1	23.41	-.2162	-.7759	2.127	35.32	3.038	-.3988	-.6159	8.330
Rep #2	29.82	.0902	-.7884	2.959	44.05	2.284	-.4187	-.5961	8.336
Rep #3	17.39	-.3547	-.7779	3.519	32.86	2.330	-.4583	-.7840	8.243
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-21958 18/12/2015 07:40:42 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	48.07	<.0000	<.0000	.6561	42.34	4.572	<.0000	<.0000	8.018
Desv. Est.	4.89	.1120	.0098	1.070	6.24	1.421	.0486	.0841	.049
% RSD	10.17	818.3	1.279	163.1	14.74	31.08	6.692	12.65	.6151
Rep #1	44.36	-.0389	-.7677	.9580	44.42	2.933	-.7006	-.7364	7.965
Rep #2	53.61	-.1109	-.7610	1.543	47.27	5.322	-.6966	-.5720	8.025
Rep #3	46.23	.1087	-.7804	-.5325	35.32	5.461	-.7827	-.6845	8.063
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-21959 18/12/2015 07:43:07 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	53.62	.0757	<.0000	4.524	52.20	4.986	<.0000	<.0000	15.36
Desv. Est.	5.87	.0782	.0084	.848	4.60	1.089	.0397	.0973	.16
% RSD	10.95	103.3	1.122	18.75	8.815	21.85	6.332	14.50	1.013
Rep #1	48.75	.0567	-.7504	5.496	57.32	5.426	-.6189	-.5705	15.48
Rep #2	60.14	.1617	-.7347	3.931	50.87	5.786	-.6695	-.6791	15.40
Rep #3	51.95	.0088	-.7476	4.145	48.41	3.745	-.5913	-.7647	15.18
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-22001 18/12/2015 07:45:31 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	37.79	<.0000	<.0000	3.448	39.31	3.896	<.0000	<.0000	12.74
Desv. Est.	1.08	.1110	.0079	2.342	2.37	1.572	.0477	.1148	.08
% RSD	2.869	128.2	1.079	67.92	6.024	40.34	6.647	16.88	.6430
Rep #1	39.03	-.0551	-.7395	3.585	38.55	5.241	-.7717	-.7876	12.84
Rep #2	37.02	.0053	-.7260	5.718	41.96	4.278	-.6997	-.5592	12.71
Rep #3	37.32	-.2099	-.7399	1.040	37.41	2.168	-.6815	-.6940	12.69
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-22237 18/12/2015 07:47:55 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	25.69	<.0000	<.0000	4.650	33.62	5.457	<.0000	<.0000	12.21
Desv. Est.	7.45	.0765	.0109	2.159	6.13	.531	.0239	.0367	.02
% RSD	29.01	137.4	1.396	46.43	18.25	9.737	3.457	5.090	.1309

Rep #1	20.82	-.1332	-.7939	4.236	40.63	5.531	-.7151	-.7287	12.22
Rep #2	34.27	-.0536	-.7770	2.729	30.96	4.893	-.6675	-.7538	12.19
Rep #3	21.98	.0197	-.7735	6.986	29.26	5.948	-.6952	-.6815	12.21
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
32	QC: QC-MEDIO 18/12/2015 07:50:20 CONC D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.3883	.4140	.3866	.3909	.4095	.3558	.3809	.4459	.4547
Desv. Est.	.0404	.0026	.0023	.0098	.0967	.0073	.0036	.0050	.0030
% RSD	10.40	.6193	.6053	2.518	23.63	2.062	.9351	1.113	.6705
Rep #1	.4284	.4168	.3893	.3810	.3349	.3617	.3850	.4512	.4581
Rep #2	.3888	.4135	.3854	.4007	.5188	.3476	.3792	.4414	.4535
Rep #3	.3476	.4117	.3851	.3911	.3747	.3580	.3786	.4451	.4524
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
33	Unk: GISC15-22238 18/12/2015 07:52:44 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	11.26	<.0000	<.0000	2.885	20.35	4.959	<.0000	<.0000	12.20
Desv. Est.	6.50	.3109	.0037	2.262	.87	.743	.0113	.0911	.10
% RSD	57.71	270.6	.4737	78.39	4.269	14.98	1.494	16.50	.7831
Rep #1	14.18	-.0880	-.7833	.4227	20.16	5.519	-.7692	-.5513	12.10
Rep #2	3.813	.1817	-.7768	3.363	21.30	5.241	-.7469	-.4613	12.22
Rep #3	15.78	-.4384	-.7831	4.870	19.59	4.116	-.7552	-.6434	12.29
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
34	Unk: GISC15-22250 18/12/2015 07:55:07 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	19.89	.1560	<.0000	1.521	22.69	2.841	<.0000	<.0000	8.757
Desv. Est.	.84	.1373	.0061	1.847	2.56	1.144	.0124	.1964	.286
% RSD	4.240	87.98	.8342	121.4	11.28	40.27	1.741	24.48	3.264
Rep #1	20.30	.1717	-.7224	.3733	22.62	3.281	-.6990	-.8143	8.522
Rep #2	20.45	.0116	-.7336	3.651	25.28	1.542	-.7135	-.6003	8.675
Rep #3	18.92	.2848	-.7322	.5380	20.16	3.699	-.7237	-.9925	9.075
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
35	Unk: GISC15-22251 18/12/2015 07:57:32 CONC x100 D MP-151218: EJOTE Y AJO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	14.13	<.0000	<.0000	2.471	23.70	3.262	<.0000	<.0000	10.05
Desv. Est.	4.94	.1494	.0103	3.113	1.70	.589	.0133	.2071	.10
% RSD	34.96	158.2	1.416	126.0	7.170	18.06	2.240	25.55	.9845
Rep #1	19.78	-.1554	-.7180	-.3267	22.62	2.933	-.6061	-.6052	10.11



1	Cal: Blanco 22/12/2015 10:09:21 IR D Hg-151222: EJOTE:
	Hg1942
Unidades	Cts/s
Media	-10.00
Desv. Est.	4.56
% RSD	45.54
Rep #1	-5.589
Rep #2	-14.69
Rep #3	-9.735
2	Cal: STD 1 22/12/2015 10:10:42 IR D Hg-151222: EJOTE:
	Hg1942
Unidades	Cts/s
Media	36.27
Desv. Est.	35.55
% RSD	98.00
Rep #1	-4.307
Rep #2	51.21
Rep #3	61.91
3	Cal: STD 2 22/12/2015 10:12:05 IR D Hg-151222: EJOTE:
	Hg1942
Unidades	Cts/s
Media	132.6
Desv. Est.	97.2
% RSD	73.26
Rep #1	21.68
Rep #2	173.5
Rep #3	202.6
4	Cal: STD 3 22/12/2015 10:13:29 IR D Hg-151222: EJOTE:
	Hg1942
Unidades	Cts/s
Media	225.3
Desv. Est.	140.7
% RSD	62.42
Rep #1	65.40
Rep #2	280.9
Rep #3	329.7
5	Cal: STD 4 22/12/2015 10:14:53 IR D Hg-151222: EJOTE:
	Hg1942
Unidades	Cts/s
Media	454.9
Desv. Est.	308.3
% RSD	67.77
Rep #1	105.0
Rep #2	573.0
Rep #3	686.8
6	Unk: BLANCO 22/12/2015 10:16:17 CONC D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0016
Desv. Est.	.0023

% RSD	140.2
Rep #1	.0042
Rep #2	.0005
Rep #3	.0001
7	Unk: RECUPERACION 22/12/2015 10:17:39 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4495
Desv. Est.	.3681
% RSD	81.89
Rep #1	.0298
Rep #2	.6012
Rep #3	.7176
8	Blanco: REACTIVO 22/12/2015 10:19:02 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0995
Desv. Est.	.1319
% RSD	132.6
Rep #1	.2514
Rep #2	.0336
Rep #3	.0135
9	Unk: GISC15-22054 22/12/2015 10:20:24 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1030
Desv. Est.	.0056
% RSD	5.468
Rep #1	-.0970
Rep #2	-.1036
Rep #3	-.1083
10	Unk: GISC15-22054-R 22/12/2015 10:21:46 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1049
Desv. Est.	.0073
% RSD	6.970
Rep #1	-.0967
Rep #2	-.1109
Rep #3	-.1070
11	Unk: GISC15-22075 22/12/2015 10:23:09 CONC D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0995
Desv. Est.	.0000
% RSD	.0119
Rep #1	-.0995

Rep #2	-0995
Rep #3	-0995
12	Unk: GISC15-21753 22/12/2015 10:24:32 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1021
Desv. Est.	.0014
% RSD	1.323
Rep #1	-1.1006
Rep #2	-1.1026
Rep #3	-1.1032
13	Unk: GISC15-21754 22/12/2015 10:25:54 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1082
Desv. Est.	.0105
% RSD	9.660
Rep #1	-0.970
Rep #2	-1.1177
Rep #3	-1.1100
14	Unk: GISC15-21755 22/12/2015 10:27:16 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1064
Desv. Est.	.0074
% RSD	6.936
Rep #1	-0.9980
Rep #2	-1.1097
Rep #3	-1.1116
15	Unk: GISC15-21766 22/12/2015 10:28:38 CONC x100 D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1098
Desv. Est.	.0080
% RSD	7.252
Rep #1	-1.1015
Rep #2	-1.1106
Rep #3	-1.1174
16	QC: QC-MEDIO 22/12/2015 10:30:01 CONC D Hg-151222: EJOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0044
Desv. Est.	.0037
% RSD	84.57
Rep #1	.0002
Rep #2	.0059
Rep #3	.0072



Comprobación	Pasa Comp
Valor	
Intervalo	
17	Unk: GISC15-21767 22/12/2015 10:31:25 CONC x100 DATE: 151222 F1075 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0337
Desv. Est.	.1167
% RSD	346.2
Rep #1	.1006
Rep #2	-.0918
Rep #3	-.1099
18	Unk: GISC15-21768 22/12/2015 10:32:47 CONC x100 DATE: 151222 F1075 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1088
Desv. Est.	.0046
% RSD	4.269
Rep #1	-.1035
Rep #2	-.1110
Rep #3	-.1120
19	Unk: GISC15-21796 22/12/2015 10:34:10 CONC x100 DATE: 151222 F1075 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1065
Desv. Est.	.0089
% RSD	8.353
Rep #1	-.0963
Rep #2	-.1126
Rep #3	-.1105
20	Unk: GISC15-21797 22/12/2015 10:35:32 CONC x100 DATE: 151222 F1075 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1104
Desv. Est.	.0078
% RSD	7.053
Rep #1	-.1019
Rep #2	-.1123
Rep #3	-.1171
21	Unk: GISC15-21798 22/12/2015 10:36:54 CONC x100 DATE: 151222 F1075 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1060
Desv. Est.	.0067
% RSD	6.330
Rep #1	-.0989
Rep #2	-.1067

Rep #3	-1123
22	Unk: GISC15-21957 22/12/2015 10:38:17 CONC x100 D.Hg 151220: F.IOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1085
Desv. Est.	.0058
% RSD	5.318
Rep #1	-1.1019
Rep #2	-1.1114
Rep #3	-1.123
23	Unk: GISC15-21958 22/12/2015 10:39:39 CONC x100 D.Hg 151220: F.IOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1094
Desv. Est.	.0058
% RSD	5.259
Rep #1	-1.1028
Rep #2	-1.1131
Rep #3	-1.1123
24	Unk: GISC15-21959 22/12/2015 10:41:02 CONC x100 D.Hg 151220: F.IOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1080
Desv. Est.	.0053
% RSD	4.871
Rep #1	-1.1021
Rep #2	-1.1122
Rep #3	-1.1096
25	Unk: GISC15-22001 22/12/2015 10:42:25 CONC x100 D.Hg 151220: F.IOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.1063
Desv. Est.	.0042
% RSD	3.982
Rep #1	-1.1016
Rep #2	-1.1073
Rep #3	-1.1099
26	Unk: GISC15-22237 22/12/2015 10:43:48 CONC x100 D.Hg 151220: F.IOTE: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.0946
Desv. Est.	.0055
% RSD	5.845
Rep #1	-1.0999
Rep #2	-1.0889
Rep #3	-1.0950

27	QC: QC-MEDIO 22/12/2015 10:45:11 CONC D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0044
Desv. Est.	.0038
% RSD	85.88
Rep #1	.0001
Rep #2	.0057
Rep #3	.0073
Comprobación	Pasa Comp
Valor	
Intervalo	
28	Unk: GISC15-22238 22/12/2015 10:46:35 CONC x100 D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0291
Desv. Est.	.1129
% RSD	388.5
Rep #1	.1011
Rep #2	-.0876
Rep #3	-.1006
29	Unk: GISC15-22250 22/12/2015 10:47:57 CONC x100 D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1090
Desv. Est.	.0080
% RSD	7.368
Rep #1	-.0999
Rep #2	-.1119
Rep #3	-.1151
30	Unk: GISC15-22251 22/12/2015 10:49:21 CONC x100 D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1085
Desv. Est.	.0057
% RSD	5.246
Rep #1	-.1023
Rep #2	-.1134
Rep #3	-.1099
31	Unk: GISC15-22252 22/12/2015 10:50:44 CONC D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0995
Desv. Est.	.0000
% RSD	.0266
Rep #1	-.0995
Rep #2	-.0995

Rep #3	-0995
32	Unk: GISC15-22252-R 22/12/2015 10:52:08 CONC x100 D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.1033
Desv. Est.	.0042
% RSD	4.055
Rep #1	-.0987
Rep #2	-.1069
Rep #3	-.1043
33	QC: QC-MEDIO 22/12/2015 10:53:32 CONC D Hg-151222: EJOTE:
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	.0045
Desv. Est.	.0038
% RSD	84.82
Rep #1	.0002
Rep #2	.0059
Rep #3	.0074
Comprobación	Pasa Comp
Valor	
Intervalo	

## **CONTENIDO**

### **CHILE**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.

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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Chile)

Fecha de Recepción: 2015-10-15

### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM

Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)

Referencia: EPA 6010C-2007

Resultados: Ver hoja excell .....2015/10/15 (2)

Fecha de Analisis de Metales y Mercurio: 2015-11-09 2015-11-09

Fecha de Realización del Informe: 2015-11-10

### IDENTIFICACIÓN CLIENTE

L-I035/15/0350  
L-I036/15/0351  
L-I036/15/0352  
L-I036/15/0353  
L-I037/15/0369  
L-I040/15/0395  
L-I063/15/0626  
L-I063/15/0627  
L-I069/15/0686  
L-I071/15/0702

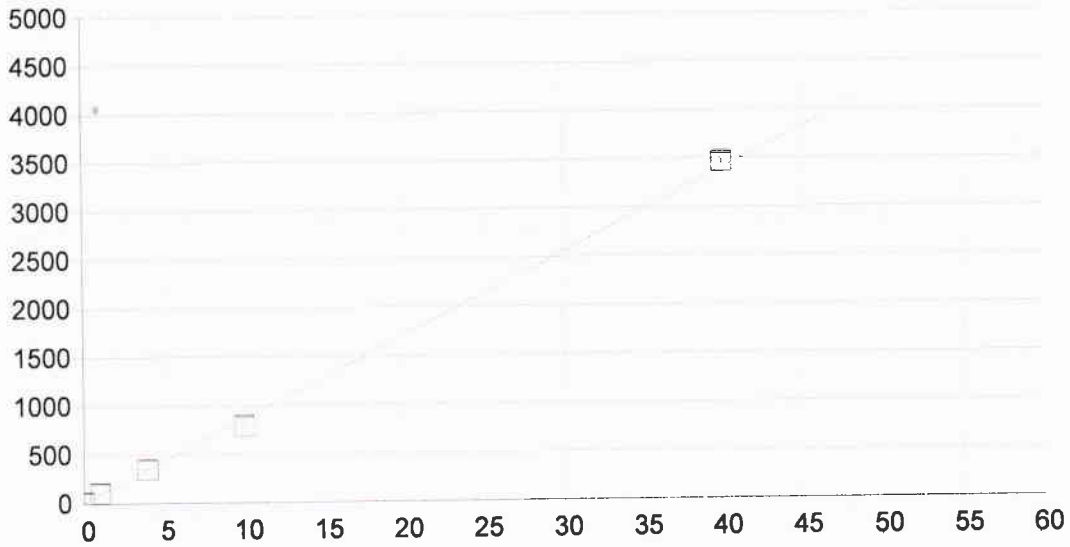
### CLAVE DE IDENTIFICACIÓN

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GISC15-20358  
GISC15-20389  
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GISC15-20403  
GISC15-20408

REVISÓ

Q.F.B.Leticia Velázquez Méndez

Gerente Técnico

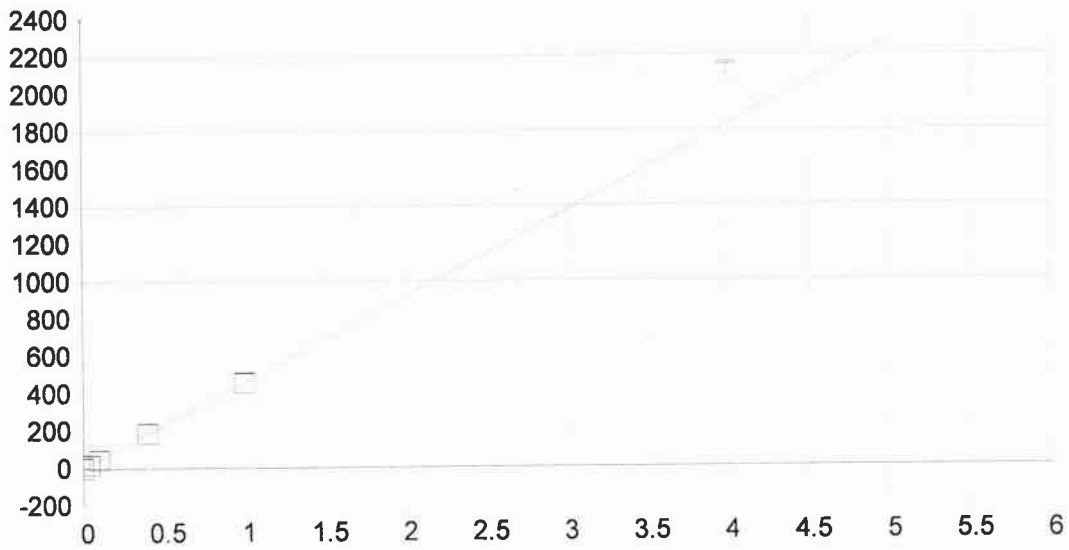


**AI 308.215 (109)**

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A0 (Compensación): 10.781259 Reajustar P 1.000000  
 A1 (Ganancia) 84.715218 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999139 Estatus: OK.  
 Error Estándar de Est: 1.063942  
 MDL: 0.051582  
 MQL: 0.171942

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00003	-.000	.000	10.778	5.31	1
STD 6	1.0000	1.1071	.107	10.7	104.57	4.00	1
STD 7	4.0000	3.9655	-.034	-.862	346.72	5.91	1
STD 8	10.000	9.1712	-.829	-8.29	787.72	8.65	1
STD 9	40.000	40.756	.756	1.89	3463.5	19.2	1



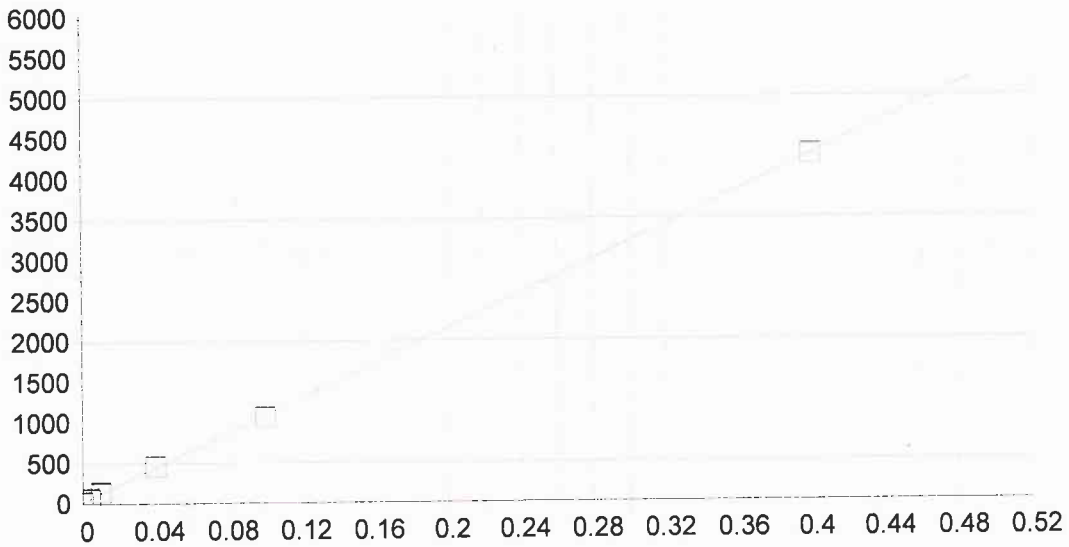
As 189.042 {478}

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A0 (Compensación): -0.249001 Reajustar P 1.000000  
 A1 (Ganancia) 456.841044 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999909 Estatus: OK.  
 Error Estándar de Est: 0.062308  
 MDL: 0.002256  
 MQL: 0.007521

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-.24860	1.18	1
STD 4	.10000	.09600	-.004	-4.00	43.607	.733	1
STD 5	.40000	.40665	.007	1.66	185.53	1.14	1
STD 6	1.0000	.99718	-.003	-.282	455.30	1.40	1
STD 7	4.0000	4.6000	.600	15.0	2101.2	6.30	0
STD 3	.04000	.04018	.000	.439	18.105	.777	1



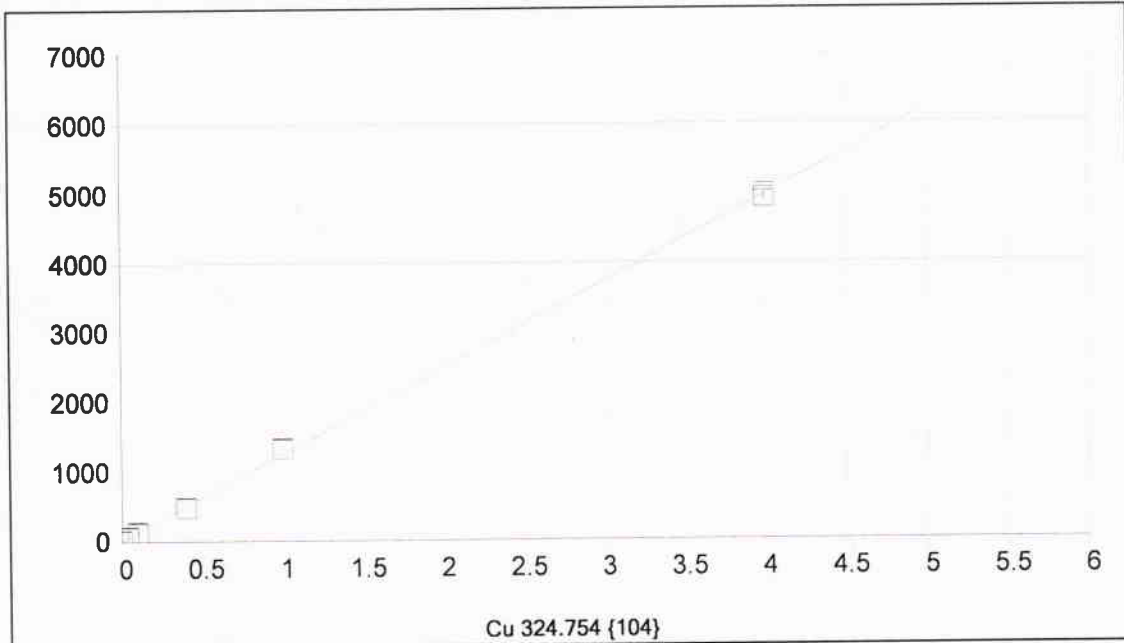


**Cd 226.502 {449}**

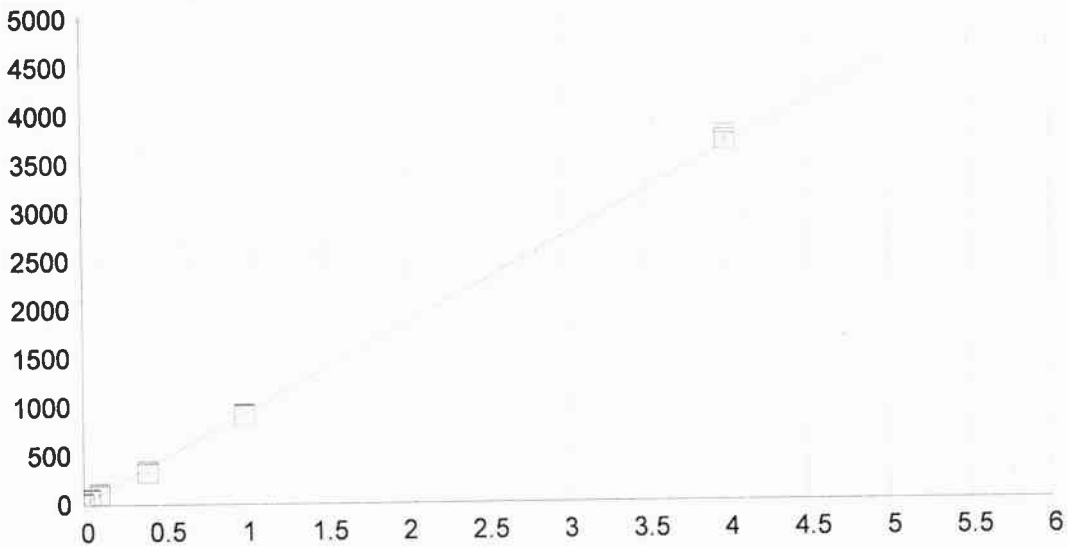
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A0 (Compensación): 19.352085 Reajustar P 1.000000  
 A1 (Ganancia) 10666.40868 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999782 Estatus: OK.  
 Error Estándar de Est: 0.405646  
 MDL: 0.000120  
 MQL: 0.000399

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	19.348	3.98	1
STD 1	.00400	.00390	-.000	-2.55	60.931	10.4	1
STD 2	.01000	.01116	.001	11.6	138.42	8.67	1
STD 3	.04000	.04149	.001	3.73	461.93	2.63	1
STD 4	.10000	.09782	-.002	-2.18	1062.7	3.20	1
STD 5	.40000	.39963	-.000	-.093	4281.9	.768	1



Fecha de la	09/11/2015 20:15:35		Tipo de unió	Lineal	Ponderación: 1/Conc		
A0 (Compensación):	10.926092		Reajustar P	1.000000			
A1 (Ganancia)	1240.546351		Y-int:	0.000000			
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999518		Estatus:	OK.			
Error Estándar de Est:	0.702123						
MDL:	0.003684						
MQL:	0.012281						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	10.927	2.13	1
STD 5	.40000	.37911	-.021	-5.22	481.23	4.61	1
STD 6	1.0000	1.0601	.060	6.01	1326.0	6.66	1
STD 7	4.0000	3.9650	-.035	-.875	4929.7	53.3	1
STD 3	.04000	.04127	.001	3.17	62.123	4.00	1
STD 4	.10000	.09454	-.005	-5.46	128.20	5.82	1

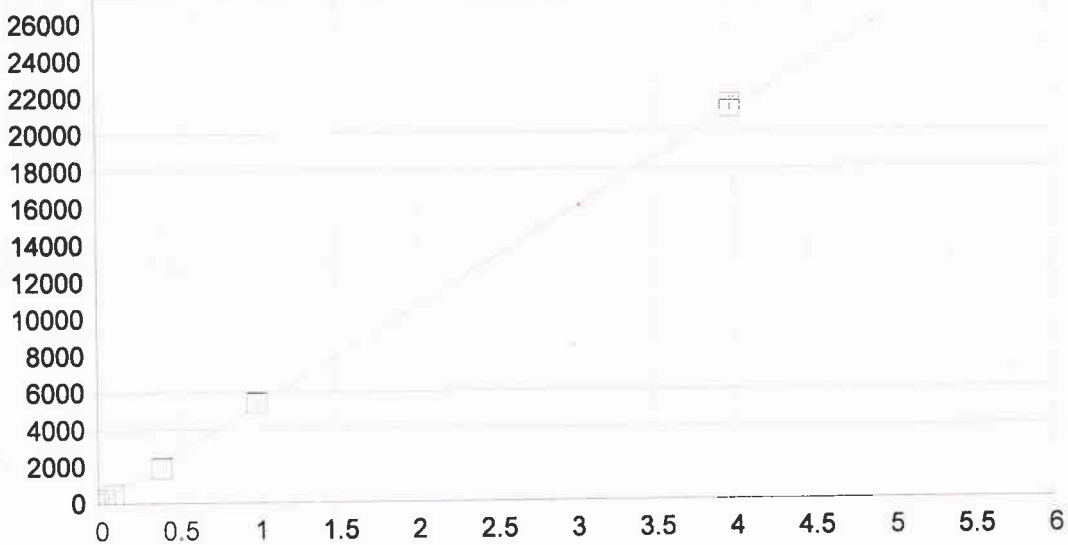


Fe 259.940 {130}

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A0 (Compensación): 14.601788 Reajustar P 1.000000  
 A1 (Ganancia) 911.506255 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999237 Estatus: OK.  
 Error Estándar de Est: 0.649159  
 MDL: 0.003062  
 MQL: 0.010207

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	14.603	5.23	1
STD 5	.40000	.34693	-.053	-13.3	330.83	15.9	1
STD 6	1.0000	.98863	-.011	-1.14	915.74	3.61	1
STD 3	.04000	.04373	.004	9.33	54.463	5.16	1
STD 4	.10000	.09930	-.001	-.697	105.12	13.1	1
STD 7	4.0000	4.0614	.061	1.54	3716.6	43.5	1

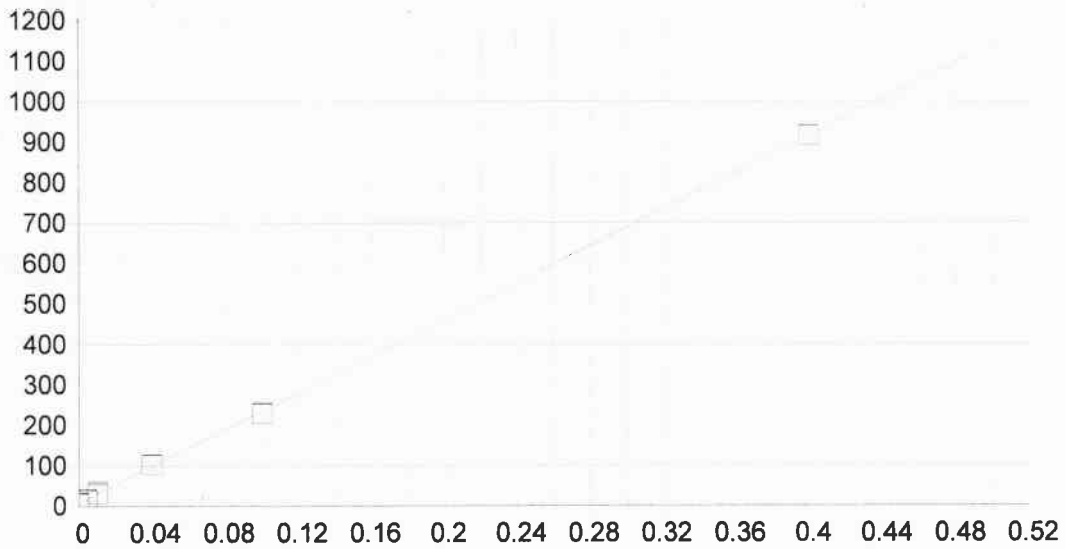


Mn 257.610 {131}

Fecha de la 09/11/2015 20:15:51 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 12.644685 Reajustar P 1.000000  
 A1 (Ganancia) 5271.797171 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999384 Estatus: OK.  
 Error Estándar de Est: 3.371077  
 MDL: 0.000489  
 MQL: 0.001630

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	12.700	1.79	1
STD 5	.40000	.35974	-.040	-10.1	1909.1	10.3	1
STD 6	1.0000	1.0279	.028	2.79	5431.8	25.2	1
STD 3	.04000	.03720	-.003	-7.00	208.75	2.18	1
STD 4	.10000	.08735	-.013	-12.7	473.12	2.34	1
STD 7	4.0000	4.0278	.028	.694	21246.	194.	1

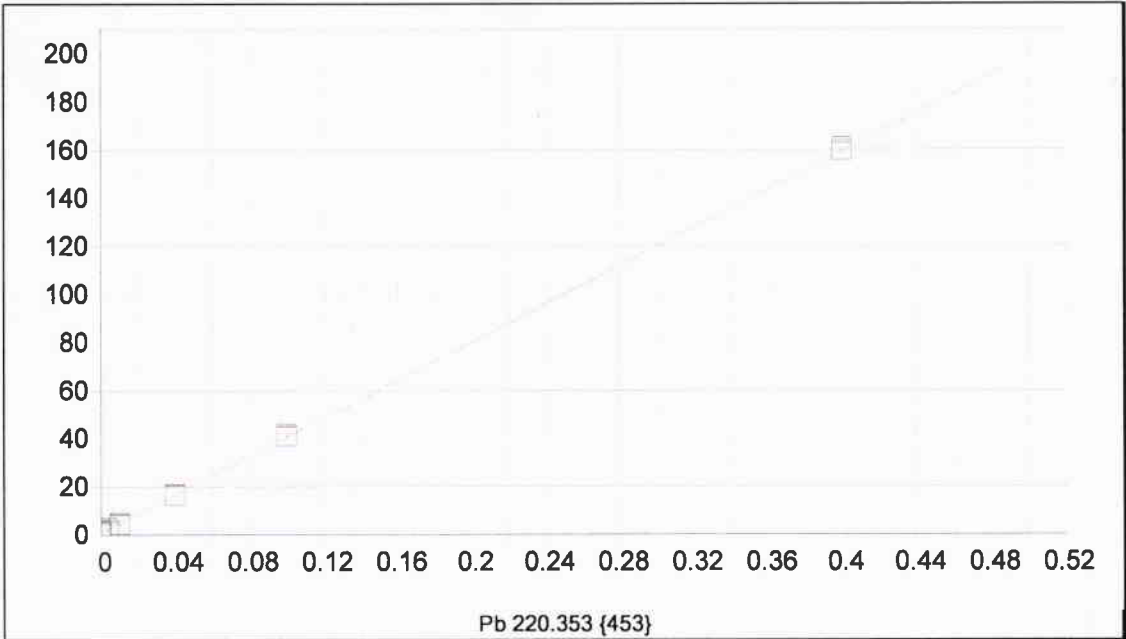


**Ni 231.604 {446}**

Fecha de la 09/11/2015 20:17:29 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 7.339661 Reajustar P 1.000000  
 A1 (Ganancia) 2268.717252 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999803 Estatus: OK.  
 Error Estándar de Est: 0.081952  
 MDL: 0.000510  
 MQL: 0.001698

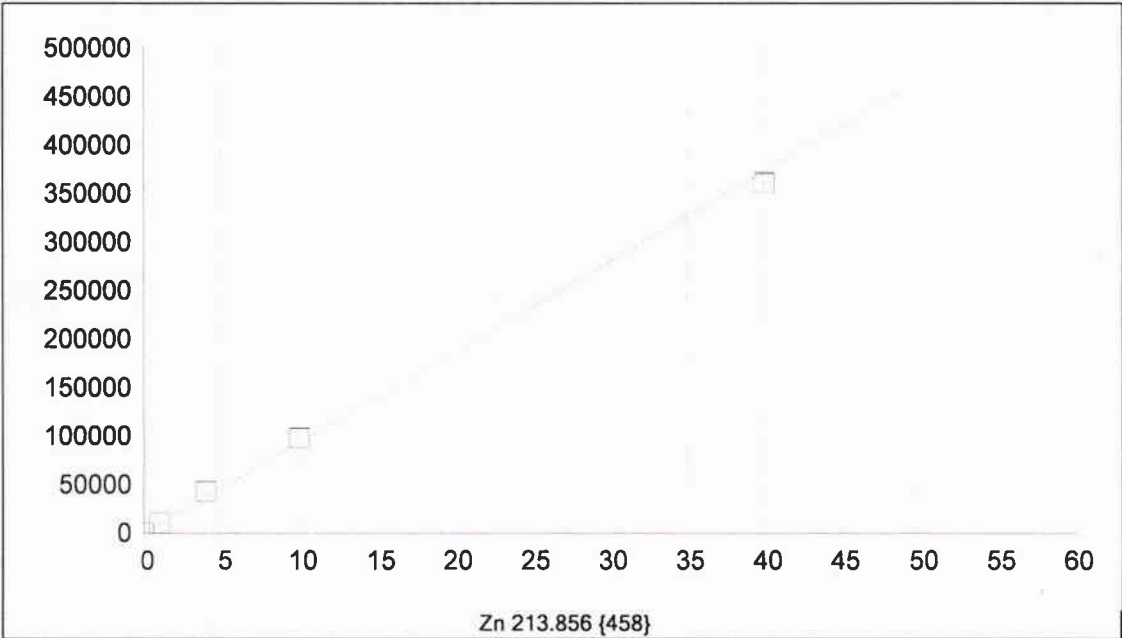
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	7.3396	1.08	1
STD 1	.00400	.00365	-.000	-8.73	15.623	2.12	1
STD 2	.01000	.01072	.001	7.20	31.661	3.17	1
STD 3	.04000	.04174	.002	4.36	102.04	.387	1
STD 4	.10000	.09757	-.002	-2.43	228.69	.849	1
STD 5	.40000	.40032	.000	.080	915.55	.532	1



Fecha de la 09/11/2015 20:16:04 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.899583 Reajustar P 1.000000  
 A1 (Ganancia) 396.095079 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999522 Estatus: OK.  
 Error Estándar de Est: 0.022325  
 MDL: 0.003067  
 MQL: 0.010223

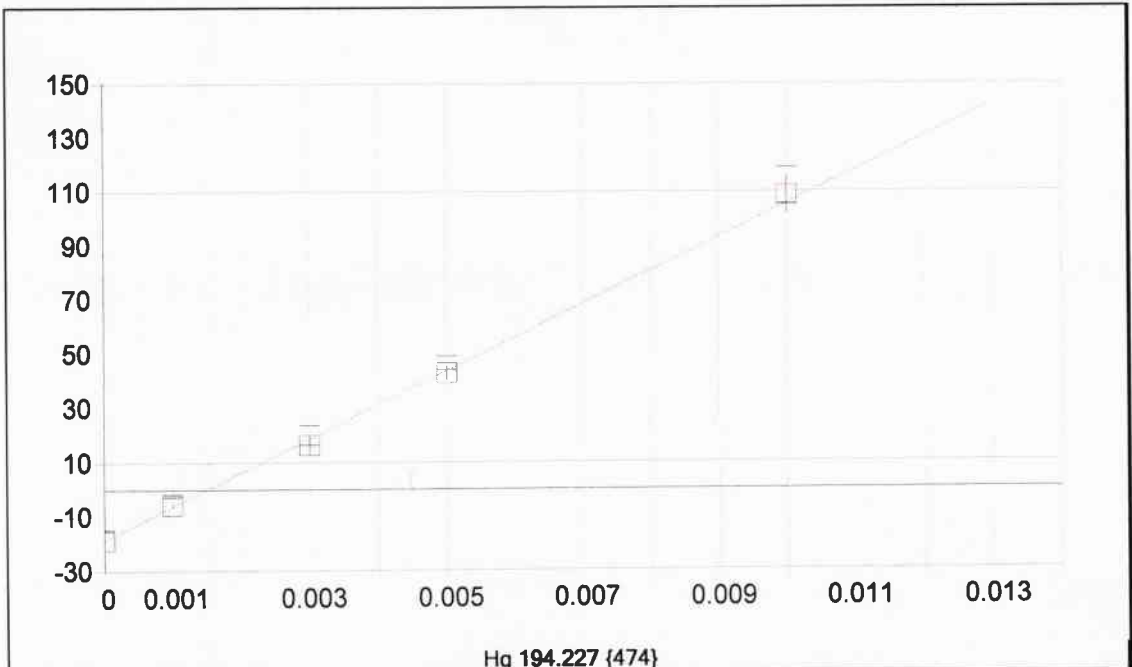
Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	.90023	.697	1
STD 1	.00400	.00280	-.001	-30.0	2.0084	.853	1
STD 2	.01000	.00887	-.001	-11.3	4.4134	.408	1
STD 3	.04000	.03945	-.001	-1.38	16.525	.422	1
STD 4	.10000	.10176	.002	1.76	41.206	.551	1
STD 5	.40000	.40112	.001	.280	159.78	1.12	1



Fecha de la 09/11/2015 20:16:11 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 130.349194 Reajustar P 1.000000  
 A1 (Ganancia) 9330.506612 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998420 Estatus: OK.  
 Error Estándar de Est: 158.859086  
 MDL: 0.000127  
 MQL: 0.000422

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00029	-.000	.000	127.65	3.19	1
STD 6	1.0000	1.1147	.115	11.5	10531.	24.3	1
STD 7	4.0000	4.6127	.613	15.3	43170.	114.	1
STD 8	10.000	10.527	.527	5.27	98349.	202.	1
STD 9	40.000	38.746	-1.25	-3.14	361650.	817.	1



Hg 194.227 {474}

Fecha de la 09/11/2015 15:42:59 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -18.567139 Reajustar P 1.000000  
 A1 (Ganancia) 12419.56423 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999503 ✓ Estatus: OK.  
 Error Estándar de Est: 0.069628  
 MDL: 0.000202  
 MQL: 0.000672

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-18.567	.342	1
STD 1	.00100 ✓	.00103	.000	2.71	-5.8108	.503	1
STD 2	.00300 ✓	.00281	-.000	-6.39	16.310	3.57	1
STD 3	.00500 ✓	.00494	-.000	-1.24	42.763	2.62	1
STD 4	.01000 ✓	.01023	.000	2.26	108.44	6.75	1





Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-CHILE-151109**  
 Fecha de Análisis: **09/11/2015**  
 Fecha de Reporte: **09/11/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**


DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100		0.0100
NIVEL 5		0.400	0.400	0.400	0.400	0.400	0.400	0.400		
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000								10.000	
NIVEL 9	40.000								40.000	
Correlación	0.9991	0.9999	0.9998	0.9995	0.9992	0.9994	0.9998	0.9995	0.9984	0.9995


**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	
			Teórica	Práctica					Teórica	Práctica		
2	QC:QC-3	Cadmio	0.0400	0.0406	101.5	1	Recuperación	Aluminio	0.0400	0.3667	916.8	
		Plomo	0.0400	0.0413	103.3			Arsenico	0.0400	0.4538	1134.5	
3	QC:QC5	Arsénico	0.4000	0.3987	99.7			Cadmio	0.4000	0.3745	93.6	
		Cobre	0.4000	0.3977	99.4			Cobre	0.4000	0.3324	83.1	
		Fierro	0.4000	0.4001	100.0			Fierro	0.4000	0.3885	97.1	
		Manganeso	0.4000	0.4020	100.5			Manganes	0.4000	0.3638	91.0	
		Níquel	0.4000	0.3972	99.3			Níquel	0.4000	0.3654	91.4	
		4	QC: QC7	Aluminio	4.0000			4.0160	100.4	Plomo	0.4000	0.4106
Zinc	4.0000			3.9970	99.9			Zinc	0.4000	0.4076	101.9	
					8			Recuperación	Mercurio	0.5	0.5749	115.0

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

  
**I.B.I. Gaudencio Vargas Espejel**  
 ELABORÓ

  
**Q.F.B. Leticia Velázquez Méndez**  
 REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-20349	Vegetales	Chile	15/10/2015	0.5039	0.5026
GISC15-20350	Vegetales	Chile	15/10/2015	0.5026	0.5019
GISC15-20351	Vegetales	Chile	15/10/2015	0.5053	0.5016
GISC15-20352	Vegetales	Chile	15/10/2015	0.5035	0.5061
GISC15-20353	Vegetales	Chile	15/10/2015	0.5062	0.5092
GISC15-20358	Vegetales	Chile	15/10/2015	0.5026	0.5096
GISC15-20389	Vegetales	Chile	15/10/2015	0.5069	0.5078
GISC15-20390	Vegetales	Chile	15/10/2015	0.5093	0.5073
GISC15-20403	Vegetales	Chile	15/10/2015	0.5042	0.5001
GISC15-20408	Vegetales	Chile	15/10/2015	0.5033	0.5011

P.A.

I.B.T. Reyna Ivette Delgado

Q.F.B. Leticia Velazquez Méndez

1	Blanco: REACTIVO 09/11/2015 12:27:13 CONC									
	D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.1211	.0167	.0010	.3335	-2.178	2.243	.7225	.0025	4.655	
Desv. Est.	.5784	.0433	.0006	.0301	.391	.371	.1037	.0011	.196	
% RSD	477.7	259.2	58.31	9.016	17.97	16.55	14.36	44.19	4.219	
Rep #1	-.6660	.0659	.0016	.2999	-2.569	2.671	.8338	.0038	4.877	
Rep #2	-.1830	.0003	.0005	.3578	-2.178	2.003	.6285	.0020	4.504	
Rep #3	.4858	-.0160	.0008	.3429	-1.787	2.057	.7050	.0017	4.583	
2	QC: QC- 3 09/11/2015 12:32:07 CONC									
	D MP-151109: CHILE:									
	Cd2265	Pb2203								
Línea	226.502 {44	220.353 {45								
Unidades	mg/Kg	mg/Kg								
Media	.0406	.0413								
Desv. Est.	.0008	.0017								
% RSD	1.904	4.135								
Rep #1	.0405	.0394								
Rep #2	.0414	.0421								
Rep #3	.0399	.0425								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
3	QC: QC- 5 09/11/2015 12:39:07 CONC									
	D MP-151109: CHILE:									
	As1890	Cu3247	Fe2599	Mn2576	Ni2316					
Línea	189.042 {47	324.754 {10	259.940 {13	257.610 {13	231.604 {44					
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
Media	.3987	.3977	.4001	.4020	.3972					
Desv. Est.	.0041	.0029	.0037	.0039	.0023					
% RSD	1.020	.7228	.9238	.9759	.5790					
Rep #1	.3946	.4010	.4039	.4064	.3950					
Rep #2	.3987	.3956	.3999	.4007	.3969					
Rep #3	.4027	.3965	.3965	.3989	.3996					
Comprobación	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp					
Valor										
Intervalo										
4	QC: QC- 7 09/11/2015 12:43:23 CONC									
	D MP-151109: CHILE:									
	Al3082	Zn2138								
Línea	308.215 {10	213.856 {45								
Unidades	mg/Kg	mg/Kg								
Media	4.016	3.997								
Desv. Est.	.071	.011								
% RSD	1.779	.2864								
Rep #1	4.098	3.984								
Rep #2	3.987	4.006								
Rep #3	3.964	4.001								
Comprobación	Pasa Comp	Pasa Comp								
Valor										
Intervalo										
5	Blanco: REACTIVO 09/11/2015 12:47:54 CONC									
	D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	

Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.0768	-.0026	-.0009	.0002	.0443	-.0001	.0023	-.0029	-.0046	
Desv. Est.	.0262	.0009	.0005	.0042	.0085	.0004	.0011	.0029	.0009	
% RSD	34.11	32.75	61.59	1945.	19.09	474.6	47.14	100.8	18.73	
Rep #1	-.0826	-.0035	-.0003	.0007	.0538	-.0003	.0028	.0005	-.0041	
Rep #2	-.0482	-.0018	-.0013	.0042	.0416	.0003	.0011	-.0046	-.0056	
Rep #3	-.0996	-.0026	-.0011	-.0042	.0375	-.0003	.0031	-.0046	-.0042	
6	Blanco: MUESTRA 09/11/2015 12:50:09 CONC x100 D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	15.07	-1.169	-.1643	.1457	6.849	.1292	.2535	-6.155	.4304	
Desv. Est.	3.12	.181	.0085	.1611	.212	.1306	.0086	.2072	.0168	
% RSD	20.69	15.51	5.174	110.6	3.098	101.1	3.396	33.66	3.908	
Rep #1	15.52	-.9596	-.1606	.0212	7.037	.2800	.2628	-.4213	.4117	
Rep #2	11.75	-1.274	-.1584	.0883	6.619	.0556	.2459	-.5917	.4443	
Rep #3	17.94	-1.273	-.1741	.3277	6.891	.0520	.2519	-.8336	.4352	
7	Unk: GISC15-20349/09/11/2015 12:52:58 CONC x100 D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-3.086	-.2376	.1698	8.706	47.53	12.22	.1282	.3436	12.80	
Desv. Est.	5.858	.1372	.0095	.196	.72	.12	.0253	.3105	.04	
% RSD	189.9	57.72	5.585	2.256	1.520	.9980	19.76	90.36	.3022	
Rep #1	-3.792	-.1438	.1788	8.757	48.14	12.36	.1444	.1882	12.80	
Rep #2	-8.558	-.1740	.1599	8.872	47.71	12.15	.1411	.7011	12.76	
Rep #3	3.094	-.3950	.1708	8.489	46.73	12.14	.0990	.1416	12.84	
8	Unk: GISC15-20350/09/11/2015 13:00:14 CONC x100 D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-1.771	-.7789	.1603	9.585	54.08	13.07	.1586	.1187	12.22	
Desv. Est.	4.305	.2260	.0093	.287	.79	.16	.0197	.0848	.03	
% RSD	243.0	29.02	5.789	2.995	1.467	1.192	12.40	71.47	.2624	
Rep #1	2.046	-.6399	.1687	9.257	54.20	13.01	.1429	.0363	12.22	
Rep #2	-.9232	-1.040	.1619	9.705	53.23	12.95	.1806	.1139	12.25	
Rep #3	-6.437	-.6570	.1504	9.792	54.80	13.24	.1521	.2058	12.18	
9	Unk: GISC15-20351/09/11/2015 13:02:26 CONC x100 D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-14.46	-.7460	.0448	7.755	37.88	15.34	.1411	.1098	9.438	
Desv. Est.	1.42	.2187	.0043	.132	.50	.21	.0393	.1237	.047	
% RSD	9.835	29.31	9.565	1.699	1.311	1.361	27.87	112.6	.4950	
Rep #1	-13.82	-.7265	.0474	7.873	37.96	15.58	.1536	-.0163	9.466	
Rep #2	-16.09	-.5378	.0472	7.781	37.35	15.19	.1726	.2308	9.384	
Rep #3	-13.47	-.9738	.0399	7.613	38.33	15.26	.0970	.1149	9.464	
10	Unk: GISC15-20352/09/11/2015 13:04:37 CONC x100 D MP-151109: CHILE:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	-5.547	-.5217	.0477	6.919	36.35	13.80	.0825	.1244	8.697	

Desv. Est.	3.976	.0601	.0027	.298	.89	.15	.0137	.1762	.371
% RSD	71.68	11.53	5.682	4.313	2.452	1.066	16.56	141.7	4.262
Rep #1	-2.445	-.5517	.0508	6.684	36.72	13.97	.0978	-.0689	8.283
Rep #2	-10.03	-.5609	.0459	7.254	35.34	13.73	.0780	.1661	8.812
Rep #3	-4.167	-.4525	.0465	6.818	37.00	13.69	.0716	.2759	8.997
11	Unk: GISC15-20353 09/11/2015 13:07:36 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-22.36	-.9181	.0304	5.122	14.18	4.778	-.0349	-.0110	6.660
Desv. Est.	.42	.0556	.0067	.295	.34	.031	.0139	.0854	.062
% RSD	1.898	6.056	22.09	5.751	2.417	.6577	39.82	774.7	.9370
Rep #1	-21.93	-.8571	.0232	4.784	14.47	4.811	-.0343	-.1088	6.638
Rep #2	-22.38	-.9311	.0316	5.325	14.27	4.775	-.0213	.0486	6.730
Rep #3	-22.78	-.9659	.0365	5.257	13.80	4.749	-.0490	.0272	6.611
12	Unk: GISC15-20358 09/11/2015 13:09:57 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-11.99	-.0828	.1413	8.284	30.45	12.15	-.1322	-.0724	14.18
Desv. Est.	1.63	.1091	.0096	.202	.37	.17	.0152	.3563	.12
% RSD	13.61	131.8	6.817	2.433	1.213	1.420	11.46	492.1	.8434
Rep #1	-11.78	-.1686	.1327	8.424	30.83	12.35	-.1209	-.4750	14.28
Rep #2	-13.72	-.1197	.1396	8.053	30.40	12.05	-.1495	.2024	14.20
Rep #3	-10.48	.0400	.1517	8.376	30.10	12.05	-.1264	.0553	14.05
13	Unk: GISC15-20389 09/11/2015 13:12:04 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	30.65	-.5578	.1814	15.20	90.87	13.51	.2519	.3450	30.49
Desv. Est.	.18	.2286	.0356	.32	.74	.07	.0673	.1020	.03
% RSD	.5889	40.98	19.65	2.086	.8176	.5076	26.70	29.57	.0875
Rep #1	30.74	-.4331	.1441	15.52	91.35	13.57	.1833	.4558	30.52
Rep #2	30.44	-.8216	.1851	15.19	91.24	13.53	.3177	.3241	30.48
Rep #3	30.76	-.4187	.2151	14.89	90.01	13.44	.2548	.2550	30.46
14	Unk: GISC15-20389-R 09/11/2015 13:14:43 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	27.89	-.7551	.1429	14.86	91.93	13.43	.2898	.4262	30.49
Desv. Est.	3.07	.2884	.0203	.21	.96	.12	.0674	.1550	.21
% RSD	11.02	38.20	14.20	1.437	1.044	.8978	23.25	36.37	.6970
Rep #1	24.60	-.4237	.1409	14.90	90.86	13.31	.2379	.3890	30.25
Rep #2	30.69	-.8923	.1237	15.05	92.72	13.55	.2657	.2932	30.63
Rep #3	28.39	-.9493	.1641	14.63	92.21	13.43	.3660	.5964	30.60
15	Unk: GISC15-20390 09/11/2015 13:18:40 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	87.64	.3840	.0915	10.07	82.43	8.915	.0790	.3092	20.22
Desv. Est.	3.58	.0390	.0207	.38	1.43	.112	.0357	.3913	.16
% RSD	4.089	10.15	22.68	3.775	1.735	1.251	45.20	126.5	.7901

Rep #1	89.55	.3899	.0937	9.817	83.05	8.789	.1201	.3499	20.40
Rep #2	89.87	.4198	.0697	10.51	83.45	9.000	.0556	.6785	20.09
Rep #3	83.51	.3425	.1110	9.888	80.79	8.956	.0612	-.1008	20.16
16	Unk: GISC15-20390-R 09/11/2015 13:21:23 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	93.08	.1773	.1019	10.17	85.36	9.100	.0661	.3208	20.61
Desv. Est.	4.09	.1855	.0076	.24	.78	.169	.0078	.1935	.09
% RSD	4.393	104.6	7.420	2.324	.9089	1.852	11.78	60.33	.4383
Rep #1	94.39	-.0367	.1039	10.44	86.25	9.291	.0750	.2987	20.71
Rep #2	96.36	.2929	.1083	9.991	84.89	8.974	.0604	.1392	20.59
Rep #3	88.50	.2756	.0936	10.08	84.93	9.034	.0629	.5244	20.53
17	Unk: GISC15-20403 09/11/2015 13:24:07 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-21.45	.4279	.0091	1.349	2.268	.8497	-.0314	.1100	1.097
Desv. Est.	4.75	.0397	.0082	.209	.145	.0322	.0602	.3790	.006
% RSD	22.12	9.279	90.35	15.51	6.384	3.788	191.7	344.6	.5752
Rep #1	-21.91	.4699	.0175	1.532	2.289	.8868	-.0184	-.2528	1.100
Rep #2	-25.95	.3910	.0086	1.395	2.402	.8283	.0212	.0795	1.090
Rep #3	-16.49	.4228	.0011	1.121	2.114	.8342	-.0970	.5033	1.101
18	Unk: GISC15-20408 09/11/2015 13:26:26 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-14.97	-.2487	.0397	2.708	9.727	2.480	.0089	.1401	2.442
Desv. Est.	3.16	.1923	.0343	.342	.775	.085	.0237	.0828	.050
% RSD	21.07	77.31	86.40	12.63	7.969	3.409	266.4	59.08	2.043
Rep #1	-18.54	-.0418	.0705	2.322	9.443	2.397	.0173	.0970	2.488
Rep #2	-13.82	-.4220	.0459	2.827	10.60	2.566	.0273	.2356	2.451
Rep #3	-12.55	-.2824	.0027	2.975	9.135	2.477	-.0179	.0878	2.389
19	Unk: GISC15-20349-R 09/11/2015 13:55:33 CONC x100 D MP-151109: CHILE:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-5.572	-.1852	.2597	8.529	45.53	11.82	.2381	.1674	12.65
Desv. Est.	2.547	.0543	.1091	.600	.23	.03	.0910	.1008	.09
% RSD	45.71	29.33	42.01	7.037	.5011	.2871	38.20	60.21	.7496
Rep #1	-8.059	-.2339	.1679	8.889	45.74	11.85	.2271	.0883	12.54
Rep #2	-2.969	-.1952	.2309	7.836	45.55	11.79	.1532	.1331	12.67
Rep #3	-5.689	-.1266	.3803	8.863	45.29	11.80	.3341	.2809	12.73



1	Cal: Blanco 09/11/2015 15:34:58 IR D Hg-151109: CHILE:
	Hg1942
Unidades	Cts/s
Media	-18.57
Desv. Est.	.34
% RSD	1.841
Rep #1	-18.32
Rep #2	-18.43
Rep #3	-18.96
2	Cal: STD 1 09/11/2015 15:37:36 IR D Hg-151109: CHILE:
	Hg1942
Unidades	Cts/s
Media	-5.811
Desv. Est.	.502
% RSD	8.648
Rep #1	-5.869
Rep #2	-5.281
Rep #3	-6.281
3	Cal: STD 2 09/11/2015 15:38:55 IR D Hg-151109: CHILE:
	Hg1942
Unidades	Cts/s
Media	16.31
Desv. Est.	3.57
% RSD	21.90
Rep #1	12.34
Rep #2	17.34
Rep #3	19.25
4	Cal: STD 3 09/11/2015 15:40:14 IR D Hg-151109: CHILE:
	Hg1942
Unidades	Cts/s
Media	42.76
Desv. Est.	2.62
% RSD	6.130
Rep #1	39.94
Rep #2	43.22
Rep #3	45.12
5	Cal: STD 4 09/11/2015 15:41:48 IR D Hg-151109: CHILE:
	Hg1942
Unidades	Cts/s
Media	108.4
Desv. Est.	6.8
% RSD	6.225
Rep #1	101.2
Rep #2	109.7
Rep #3	114.5
6	Blanco: REACTIVO 09/11/2015 15:44:12 CONC D Hg-151109: CHILE:
	Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	.0004
Desv. Est.	.0002



% RSD	39.50
Rep #1	.0006
Rep #2	.0003
Rep #3	.0003
7	Blanco: MUESTRA 09/11/2015 15:47:08 CONC x100 D Hg-151109: CHILE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0626
Desv. Est.	.1379
% RSD	220.3
Rep #1	.0942
Rep #2	-.1169
Rep #3	-.1650
8	Unk: RECUPERACION 09/11/2015 15:48:12 CONC x100 D Hg-151109: CHILE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.5749 ✓
Desv. Est.	.0641
% RSD	11.15
Rep #1	.5101
Rep #2	.5764
Rep #3	.6382
9	Unk: GISC15-20349 09/11/2015 15:49:11 CONC x100 D Hg-151109: CHILE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1288 ✓
Desv. Est.	.0115
% RSD	8.930
Rep #1	-.1401
Rep #2	-.1171
Rep #3	-.1292
10	Unk: GISC15-20350 09/11/2015 15:53:56 CONC x100 D Hg-151109: CHILE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1511 ✓
Desv. Est.	.0231
% RSD	15.30
Rep #1	-.1522
Rep #2	-.1275
Rep #3	-.1737
11	Unk: GISC15-20351 ✓ 09/11/2015 15:55:19 CONC x100 D Hg-151109: CHILE:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.2137
Desv. Est.	.0152
% RSD	7.122
Rep #1	-.1964

Rep #2	-2249
Rep #3	-2199
12	Unk: GISC15-20352 09/11/2015 15:56:38 CONC x100 D.H. 151100: G.U.F. Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1943 ✓
Desv. Est.	.0221
% RSD	11.35
Rep #1	-1865
Rep #2	-2192
Rep #3	-1772
13	Unk: GISC15-20353 09/11/2015 15:57:59 CONC x100 D.H. 151100: G.U.F. Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-3544 ✓
Desv. Est.	.0132
% RSD	3.715
Rep #1	-3392
Rep #2	-3621
Rep #3	-3619
14	Unk: GISC15-20358 09/11/2015 15:59:22 CONC x100 D.H. 151100: G.U.F. Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1594 ✓
Desv. Est.	.0290
% RSD	18.18
Rep #1	-1908
Rep #2	-1535
Rep #3	-1337
15	Unk: GISC15-20389 09/11/2015 16:00:46 CONC x100 D.H. 151100: G.U.F. Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-2225 ✓
Desv. Est.	.0283
% RSD	12.73
Rep #1	-2196
Rep #2	-2521
Rep #3	-1957
16	Unk: GISC15-20390 09/11/2015 16:02:09 CONC x100 D.H. 151100: G.U.F. Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0515 ✓
Desv. Est.	.0282
% RSD	54.75
Rep #1	-0837
Rep #2	-0400
Rep #3	-0309

17	Unk: GIS15-20403 09/11/2015 16:03:35 CONC x100 DATE: 151109: 03:35 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0.0836
Desv. Est.	.0153
% RSD	18.28
Rep #1	-0.0872
Rep #2	-0.0967
Rep #3	-0.0668
18	Unk: GIS15-20408 09/11/2015 16:04:57 CONC x100 DATE: 151109: 04:57 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0.1964
Desv. Est.	.0284
% RSD	14.46
Rep #1	-0.1829
Rep #2	-0.1772
Rep #3	-0.2290

## **CONTENIDO**

### **CHILE (segundo lote)**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Chile)

Fecha de Recepción: 2015-11-05

### INTERESADO

Nombre : Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM

Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)

Referencia: EPA 6010C-2007

Resultados: Ver hoja excell .....2015/11/05 (2)

Fecha de Analisis de Metales y Mercurio: 2015-12-18 2015-12-22

Fecha de Realización del Informe: 2015-12-23

### IDENTIFICACIÓN CLIENTE

L-I031/15/0310  
L-I032/15/0311  
L-I032/15/0312  
L-I032/15/0317  
L-I032/15/0318  
L-I032/15/0319  
L-I032/15/0320  
L-I043/15/0425  
L-I043/15/0426  
L-I049/15/0483  
L-I051/15/0507  
L-I055/15/0549  
L-I056/15/0557  
L-I056/15/0558  
L-I056/15/0559  
L-I059/15/0590  
L-I060/15/0591  
L-I060/15/0592

### CLAVE DE IDENTIFICACIÓN

GISC15-21909  
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GISC15-22109  
GISC15-22115  
GISC15-22116  
GISC15-22117  
GISC15-22144  
GISC15-22145  
GISC15-22146



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Requisitos generales para la competencia de laboratorios de ensayo y calibración".

**IDENTIFICACIÓN CLIENTE**

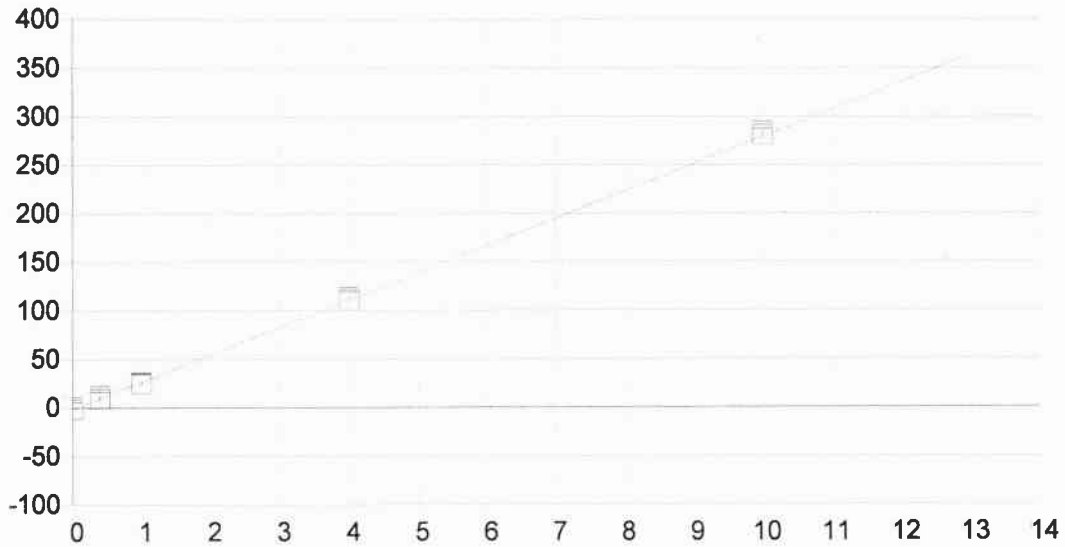
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**CLAVE DE IDENTIFICACIÓN**

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GISC15-22236  
GISC15-21978

REVISÓ

Q.F.B.Leticia Velázquez Méndez  
Gerente Técnico

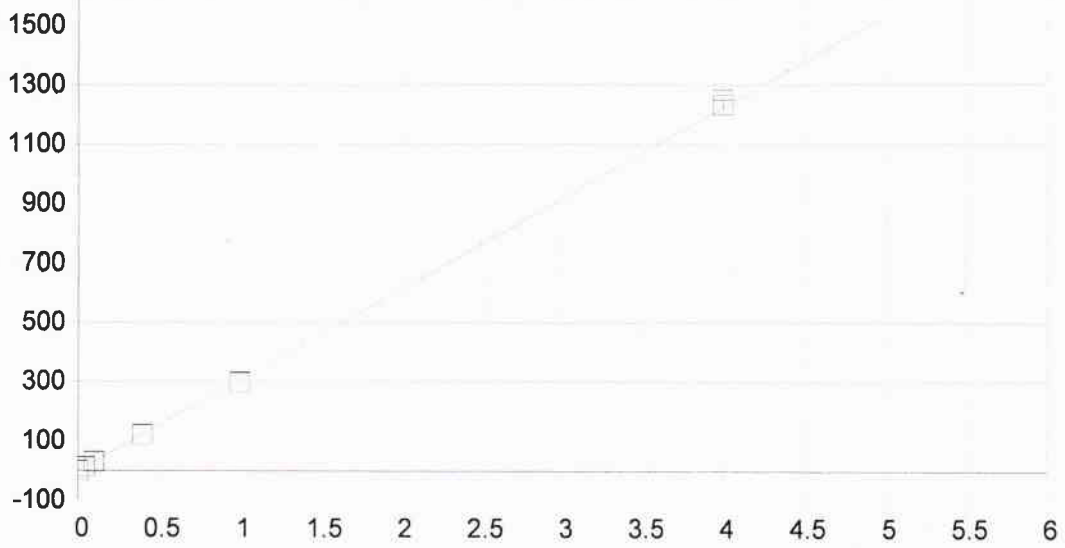


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A0 (Compensación): -1.725326 Reajustar P 1.000000  
 A1 (Ganancia) 28.100045 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999863 Estatus: OK.  
 Error Estándar de Est: 0.047075  
 MDL: 0.128941  
 MQL: 0.429805

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00004	.000	.000	-1.7242	2.70	1
STD 5	.40000	.37812	-.022	-5.47	8.9000	2.97	1
STD 6	1.0000	.94881	-.051	-5.12	24.936	.815	1
STD 7	4.0000	4.0144	.014	.359	111.08	2.12	1
STD 8	10.000	10.059	.059	.587	280.92	3.78	1



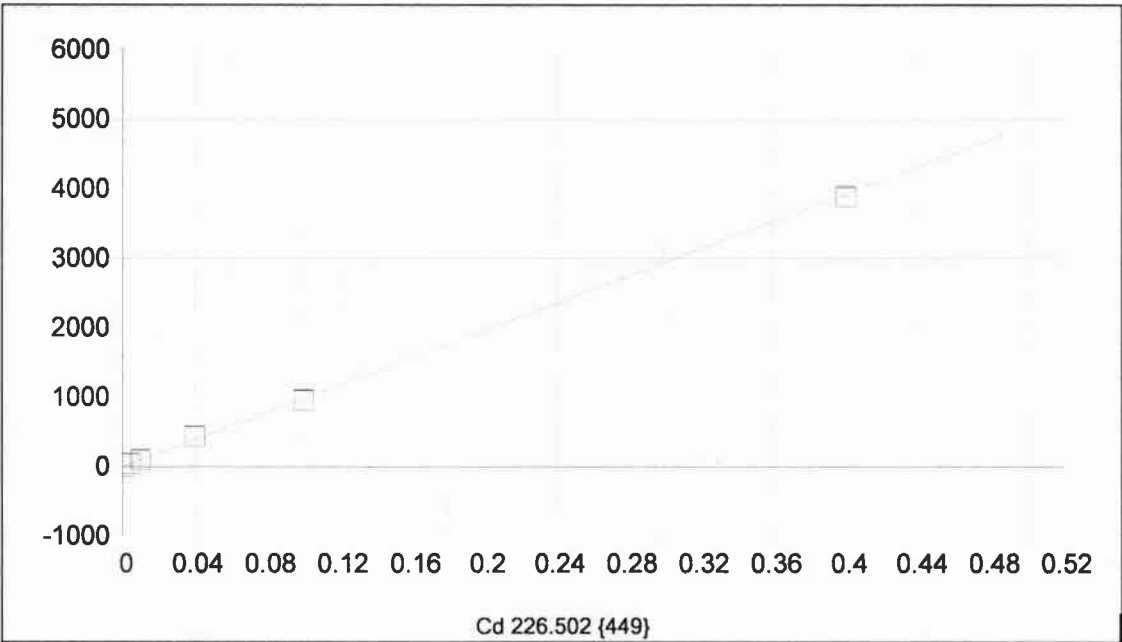
As 189.042 {478}

Fecha de la 18/12/2015 07:36:28 Tipo de unió Lineal Ponderación: 1/Conc

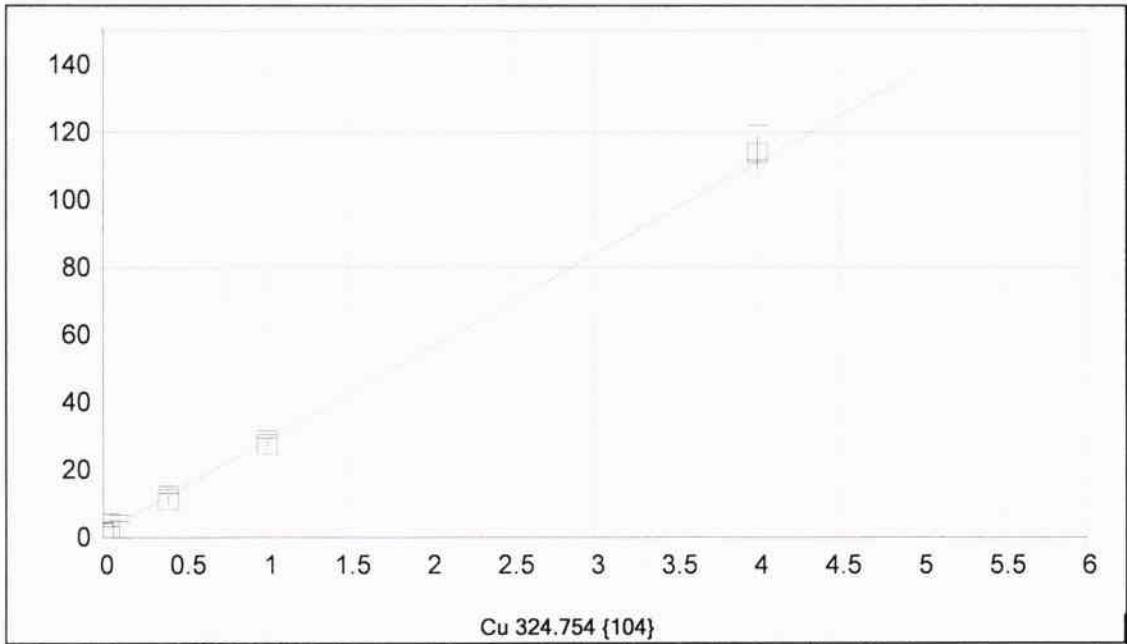
A0 (Compensación): -0.206718 Reajustar P 1.000000  
 A1 (Ganancia) 305.863981 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999902 Estatus: OK.  
 Error Estándar de Est: 0.078086  
 MDL: 0.002925  
 MQL: 0.009751

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	-20702	.558	1
STD 4	.10000	.09996	-.000	-.040	30.367	.539	1
STD 5	.40000	.39783	-.002	-.543	121.47	.480	1
STD 6	1.0000	.97215	-.028	-2.78	297.14	.677	1
STD 7	4.0000	4.0280	.028	.701	1231.8	15.8	1
STD 3	.04000	.04204	.002	5.11	12.652	.739	1

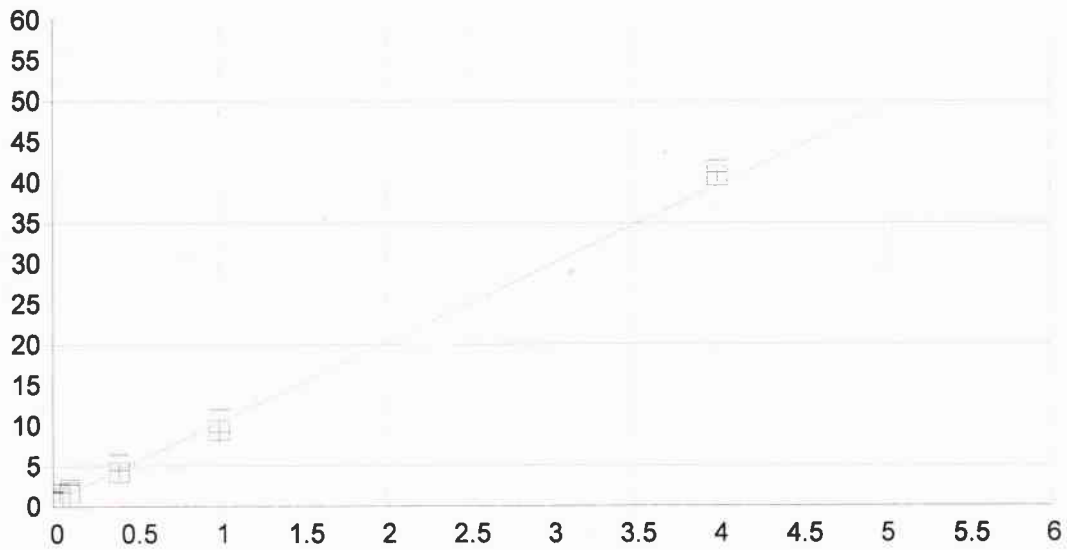




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A1 (Ganancia)	9812.843519	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999435	Estatus:	OK.				
Error Estándar de Est:	0.601199						
MDL:	0.000144						
MQL:	0.000478						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	-.82341	.080	1
STD 1	.00400	.00443	.000	10.7	42.631	.478	1
STD 2	.01000	.01024	.000	2.42	99.693	1.79	1
STD 3	.04000	.04453	.005	11.3	436.12	1.92	1
STD 4	.10000	.09813	-.002	-1.87	962.15	5.53	1
STD 5	.40000	.39667	-.003	-.832	3891.7	15.3	1



Fecha de la	18/12/2015 07:53:03	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	1.337443	Reajustar P	1.000000				
A1 (Ganancia)	27.456871	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.998876	Estatus:	OK.				
Error Estándar de Est:	0.024798						
MDL:	0.057258						
MQL:	0.190860						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00002	.000	.000	1.3379	.176	1
STD 5	.40000	.35639	-.044	-10.9	11.123	1.06	1
STD 6	1.0000	.95396	-.046	-4.60	27.530	1.06	1
STD 7	4.0000	4.1003	.100	2.51	113.92	5.15	1
STD 3	.04000	.02932	-.011	-26.7	2.1424	1.90	1
STD 4	.10000	.05156	-.048	-48.4	2.7530	.906	0

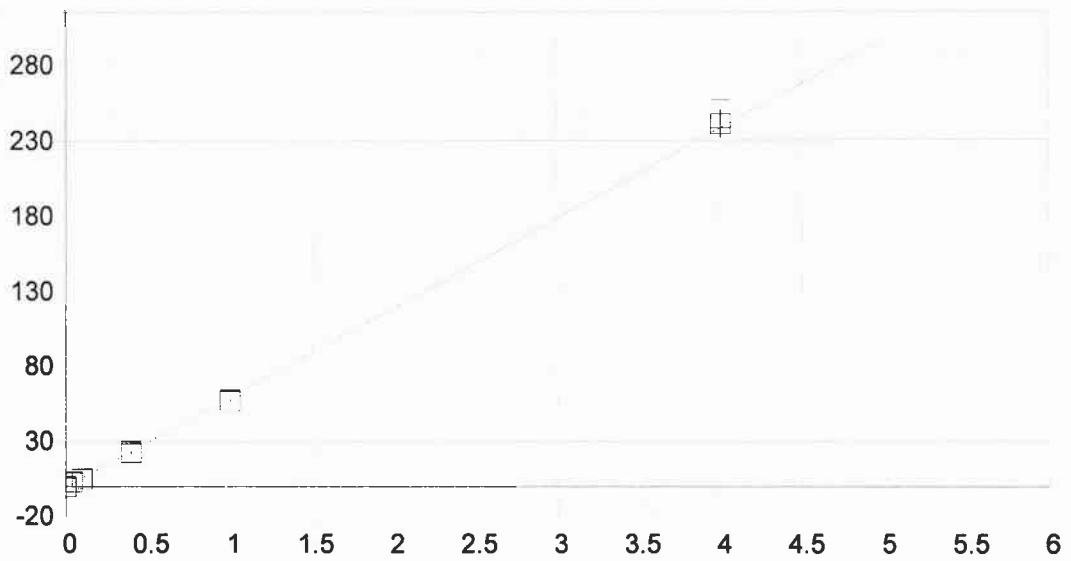


Fe 259.940 {130}

Fecha de la 18/12/2015 07:36:28 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.633398 Reajustar P 1.000000  
 A1 (Ganancia) 9.750243 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.998259 Estatus: OK.  
 Error Estándar de Est: 0.010493  
 MDL: 0.099444  
 MQL: 0.331482

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	.63333	.146	1
STD 5	.40000	.36921	-.031	-7.70	4.2333	.959	1
STD 6	1.0000	.89826	-.102	-10.2	9.3917	1.38	1
STD 3	.04000	.04615	.006	15.4	1.0833	.485	1
STD 4	.10000	.11623	.016	16.2	1.7667	.301	1
STD 7	4.0000	4.1101	.110	2.75	40.708	.780	1

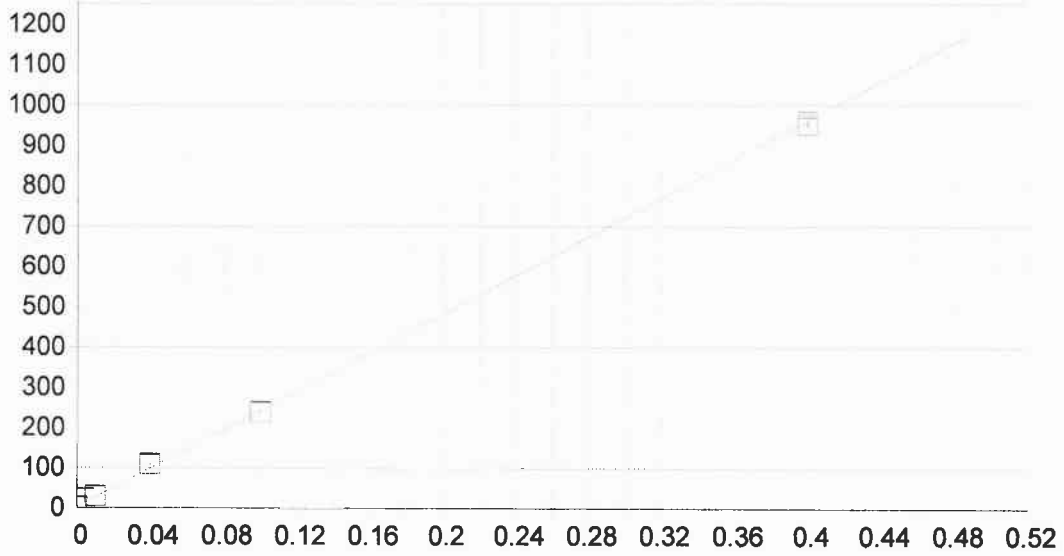


**Mn 257.610 {131}**

Fecha de la 18/12/2015 07:36:28 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.499523 Reajustar P 1.000000  
 A1 (Ganancia) 59.620508 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999199 Estatus: OK.  
 Error Estándar de Est: 0.043494  
 MDL: 0.016256  
 MQL: 0.054186

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	-.50000	.606	1
STD 5	.40000	.38660	-.013	-3.35	22.550	.964	1
STD 6	1.0000	.96526	-.035	-3.47	57.050	.487	1
STD 3	.04000	.05478	.015	37.0	2.7667	.462	1
STD 4	.10000	.08875	-.011	-11.3	4.7917	.151	1
STD 7	4.0000	4.0446	.045	1.12	240.64	9.30	1

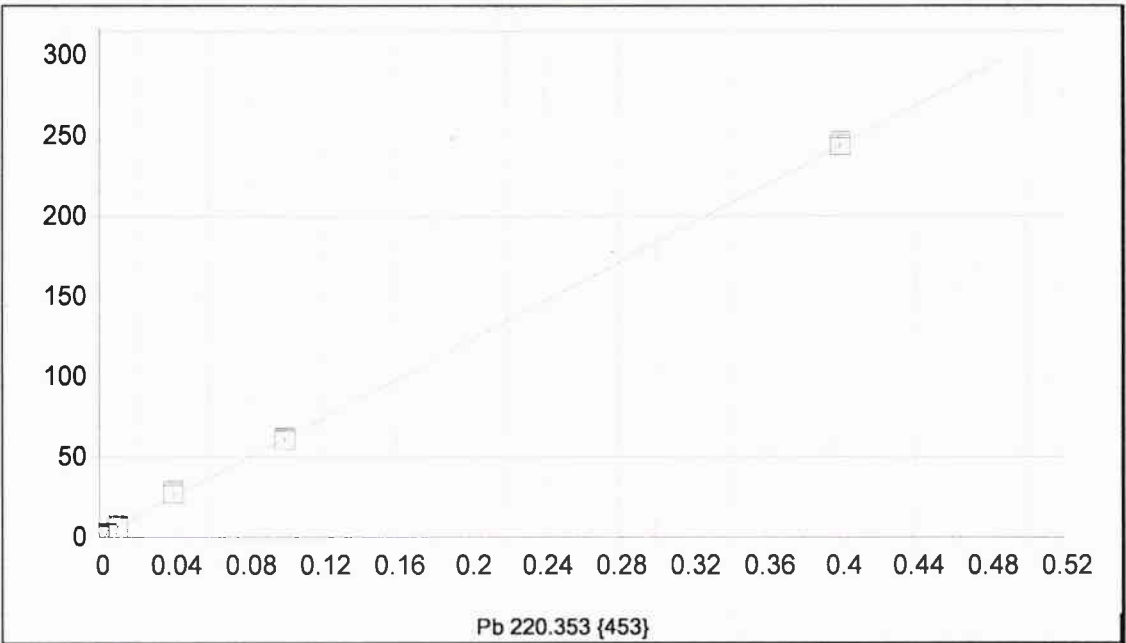


**Ni 231.604 {446}**

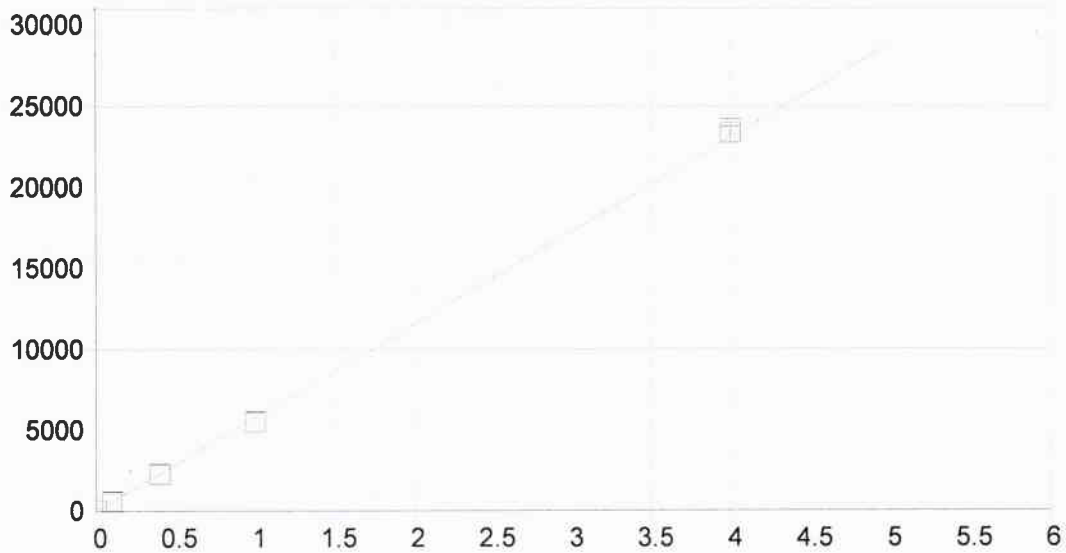
Fecha de la 18/12/2015 07:52:38 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 2.689938 Reajustar P 1.000000  
 A1 (Ganancia) 2395.660367 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999454 Estatus: OK.  
 Error Estándar de Est: 0.151596  
 MDL: 0.000544  
 MQL: 0.001813

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	2.6882	.349	1
STD 1	.00400	.00834	.004	109.	22.671	.437	0
STD 2	.01000	.01105	.001	10.5	29.165	.476	1
STD 3	.04000	.04417	.004	10.4	108.51	1.19	1
STD 4	.10000	.09866	-.001	-1.34	239.05	1.59	1
STD 5	.40000	.39612	-.004	-.971	951.65	6.84	1



Fecha de la	18/12/2015 07:31:44	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	0.643552	Reajustar P	1.000000				
A1 (Ganancia)	608.808548	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.998309	Estatus:	OK.				
Error Estándar de Est:	0.064578						
MDL:	0.001989						
MQL:	0.006631						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	.64501	.577	1
STD 1	.00400	.00169	-.002	-57.8	1.6722	.537	1
STD 2	.01000	.00887	-.001	-11.3	6.0407	.652	1
STD 3	.04000	.04400	.004	10.0	27.433	1.28	1
STD 4	.10000	.09890	-.001	-1.10	60.856	.923	1
STD 5	.40000	.40054	.001	.135	244.50	1.65	1

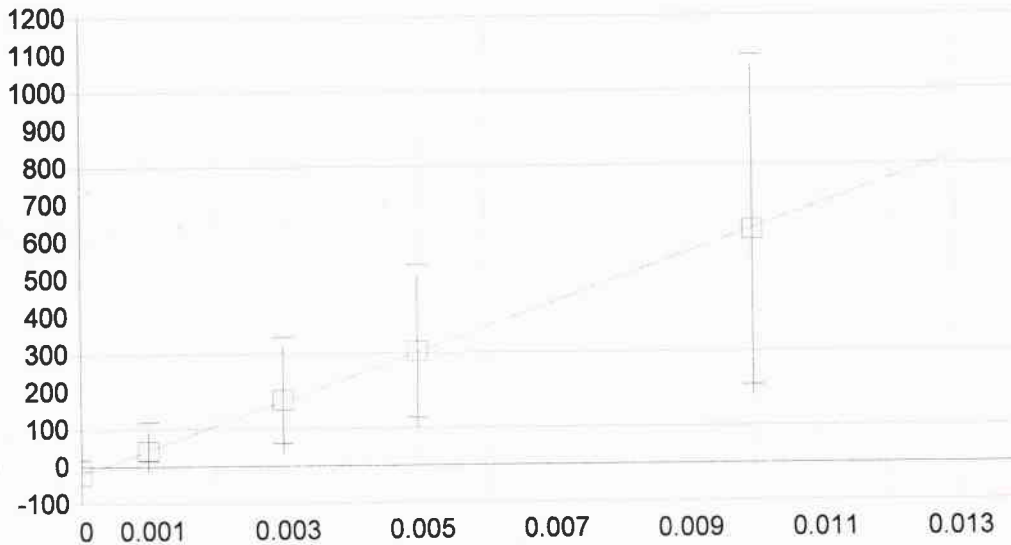


Zn 213.856 {458}

Fecha de la 18/12/2015 07:36:28 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 11.971256 Reajustar P 1.000000  
 A1 (Ganancia) 5763.197263 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999732 Estatus: OK.  
 Error Estándar de Est: 4.033539  
 MDL: 0.000196  
 MQL: 0.000654

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	12.009	.422	1
STD 4	.10000	.09762	-.002	-2.38	574.59	6.90	1
STD 5	.40000	.39692	-.003	-.769	2299.5	10.4	1
STD 6	1.0000	.95329	-.047	-4.67	5506.0	9.97	1
STD 7	4.0000	4.0522	.052	1.30	23365.	227.	1



Hg 194.227 {474}

Fecha de la 22/12/2015 11:12:25 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -22.570188 Reajustar P 1.000000  
 A1 (Ganancia) 65075.58613 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999929 Estatus: OK.  
 Error Estándar de Est: 0.137773  
 MDL: 0.000028  
 MQL: 0.000095

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-22.569	14.6	1
STD 1	.00100	.00097	-.000	-3.18	40.438	51.1	1
STD 2	.00300	.00305	.000	1.81	176.19	141.	1
STD 3	.00500	.00504	.000	.792	305.38	204.	1
STD 4	.01000	.00994	-.000	-6.22	624.14	442.	1





Análisis:

**METALES PESADOS POR ICP-OES**

Lote analítico:

DMP-CHILE-151218

Fecha de Análisis:

18/12/2015

Fecha de Reporte:

18/12/2015

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9999	0.9994	0.9989	0.9982	0.9992	0.9994	0.9983	0.9997	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/l		% Recobro²	No.¹	Identificación	Analito	Concentración mg/l		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
10	QC:QC-Medio	Aluminio	0.4000	0.4007	100	43	QC:QC-Medio	Aluminio	0.4000	0.4032	101
		Arsénico	0.4000	0.4224	106			Arsénico	0.4000	0.4677	117
		Cadmio	0.4000	0.4161	104			Cadmio	0.4000	0.4613	115
		Cobre	0.4000	0.4027	101			Cobre	0.4000	0.4465	112
		Fierro	0.4000	0.4427	111			Fierro	0.4000	0.4427	111
		Manganeso	0.4000	0.4199	105			Manganeso	0.4000	0.4600	115
		Níquel	0.4000	0.4147	104			Níquel	0.4000	0.4622	116
		Plomo	0.4000	0.4240	106			Plomo	0.4000	0.4748	119
		Zinc	0.4000	0.4171	104			Zinc	0.4000	0.4532	113
		21	QC:QC-Medio	Aluminio	0.4000			0.4352	109	16	QC:QC-Medio
Arsénico	0.4000			0.4445	111	27	QC:QC-Medio	Mercurio	0.005	0.0044	88
Cadmio	0.4000			0.4366	109	38	QC:QC-Medio	Mercurio	0.005	0.0045	90
Cobre	0.4000			0.4301	108						
Fierro	0.4000			0.4786	120						
Manganeso	0.4000			0.4312	108						
Níquel	0.4000			0.4391	110						
Plomo	0.4000			0.4458	111						
Zinc	0.4000	0.4389	110								
32	QC:QC-Medio	Aluminio	0.4000	0.4519	113						
		Arsénico	0.4000	0.4197	105						
		Cadmio	0.4000	0.4203	105						
		Cobre	0.4000	0.4018	100						
		Fierro	0.4000	0.3786	95						
		Manganeso	0.4000	0.4095	102						
		Níquel	0.4000	0.4203	105						
		Plomo	0.4000	0.4245	106						
Zinc	0.4000	0.4130	103								



Análisis:  
 Lote analítico:  
 Fecha de Análisis:  
 Fecha de Reporte:

**METALES PESADOS POR ICP-OES**  
 DMP-CHILE-151218  
 18/12/2015  
 18/12/2015

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
12	Recuperación	Aluminio	40.0000	41.3000	103.3						
		Arsénico	40.0000	40.6800	101.7						
		Cadmio	40.0000	40.9400	102.4						
		Cobre	40.0000	37.6100	94.0						
		Fierro	40.0000	39.9100	99.8						
		Manganeso	40.0000	39.3900	98.5						
		Níquel	40.0000	40.7300	101.8						
		Plomo	40.0000	41.3100	103.3						
		Zinc	40.0000	41.0600	102.7						
7	Recuperación	Mercurio	0.5	0.461	92.180						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

**I.B.I. Gaudencio Vargas Espejel**

ELABORÓ

**PACE/GIS/102-F01**

**Q.F.B. Leticia Velázquez Méndez**

REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21909	Chile		05/11/2015	0.5031	0.5044
GISC15-21910	Chile		05/11/2015	0.5047	0.5016
GISC15-21911	Chile		05/11/2015	0.5038	0.5058
GISC15-21916	Chile		05/11/2015	0.5028	0.5064
GISC15-21917	Chile		05/11/2015	0.5030	0.5097
GISC15-21918	Chile		05/11/2015	0.5055	0.5090
GISC15-21919	Chile		05/11/2015	0.5040	0.5070
GISC15-22005	Chile		05/11/2015	0.5094	0.5082
GISC15-22006	Chile		05/11/2015	0.5040	0.5073
GISC15-22053	Chile		05/11/2015	0.5056	0.5044
GISC15-22076	Chile		05/11/2015	0.5026	0.5064
GISC15-22109	Chile		05/11/2015	0.5051	0.5063
GISC15-22115	Chile		05/11/2015	0.5053	0.5048
GISC15-22116	Chile		05/11/2015	0.5038	0.5017
GISC15-22117	Chile		05/11/2015	0.5018	0.5067
GISC15-22144	Chile		05/11/2015	0.5082	0.5068
GISC15-22145	Chile		05/11/2015	0.5028	0.5032
GISC15-22146	Chile		05/11/2015	0.5020	0.5047
GISC15-22150	Chile		05/11/2015	0.5038	0.5079
GISC15-22151	Chile		05/11/2015	0.5023	0.5043
GISC15-22154	Chile		05/11/2015	0.5029	0.5081
GISC15-22171	Chile		05/11/2015	0.5089	0.5011
GISC15-22172	Chile		05/11/2015	0.5024	0.5055
GISC15-22195	Chile		05/11/2015	0.5061	0.5066
GISC15-22224	Chile		05/11/2015	0.5021	0.5081
GISC15-22225	Chile		05/11/2015	0.5026	0.5058
GISC15-22226	Chile		05/11/2015	0.5044	0.5022
GISC15-22235	Chile		05/11/2015	0.5064	0.5057
GISC15-22236	Chile		05/11/2015	0.5028	0.5092
GISC15-21978	Chile		05/11/2015	0.5069	0.5062

P.A. *[Signature]*

I.B.T. Reyna Ivette Delgado

*[Signature]*

Q.F.B. Leticia Velazquez Méndez

1	Cal: Blanco 18/12/2015 07:17:21 IR D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	-1.724	-2070	-8234	1.338	.6333	-5000	2.688	.6450	12.01	
Desv. Est.	2.699	.5583	.0803	.176	.1465	.6062	.349	.5772	.42	
% RSD	156.6	269.7	9.751	13.19	23.13	121.2	12.98	89.49	3.516	
Rep #1	-1.891	-3611	-8647	1.364	.5750	-1.150	2.288	.5266	11.92	
Rep #2	1.055	-.6722	-.7309	1.150	.5250	-.4000	2.846	.1362	12.47	
Rep #3	-4.336	.4122	-.8747	1.500	.8000	.0500	2.931	1.272	11.64	
2	Cal: STD 1 18/12/2015 07:19:44 IR D MP-151218: CHILE:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	42.63	22.67	1.672							
Desv. Est.	.48	.44	.537							
% RSD	1.122	1.926	32.12							
Rep #1	42.13	22.53	2.156							
Rep #2	42.69	23.16	1.766							
Rep #3	43.08	22.32	1.094							
3	Cal: STD 2 18/12/2015 07:22:09 IR D MP-151218: CHILE:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	99.69	29.17	6.041							
Desv. Est.	1.79	.48	.652							
% RSD	1.800	1.631	10.80							
Rep #1	101.1	29.71	6.039							
Rep #2	97.67	28.86	6.694							
Rep #3	100.3	28.93	5.389							
4	Cal: STD 3 18/12/2015 07:24:35 IR D MP-151218: CHILE:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	12.65	436.1	2.142	1.083	2.767	108.5	27.43			
Desv. Est.	.74	1.9	1.897	.485	.462	1.2	1.28			
% RSD	5.841	.4392	88.54	44.77	16.69	1.095	4.653			
Rep #1	12.93	436.8	2.886	1.400	2.500	107.4	28.05			
Rep #2	11.81	437.6	3.555	.5250	2.500	109.8	28.28			
Rep #3	13.21	433.9	-.0136	1.325	3.300	108.4	25.97			
5	Cal: STD 4 18/12/2015 07:27:01 IR D MP-151218: CHILE:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	30.37	962.1	2.753	1.767	4.792	239.1	60.86	574.6		
Desv. Est.	.54	5.5	.906	.301	.151	1.6	.92	6.9		
% RSD	1.776	.5752	32.92	17.06	3.145	.6660	1.517	1.200		
Rep #1	30.30	967.2	3.705	2.050	4.950	239.8	61.48	578.2		
Rep #2	29.86	962.9	2.655	1.450	4.775	240.2	59.80	578.9		
Rep #3	30.94	956.3	1.900	1.800	4.650	237.2	61.29	566.6		
6	Cal: STD 5 18/12/2015 07:29:25 IR D MP-151218: CHILE:									



11	Unk: BLANCO 18/12/2015 07:41:21 CONC D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	<.0000	.0008	.0002	<.0000	.0607	.0006	.0045	<.0000	.0237	
Desv. Est.	.1260	.0002	.0001	.0396	.1348	.0172	.0001	.0017	.0001	
% RSD	159.4	19.76	79.35	122.9	222.2	3121.	2.982	84.96	.6296	
Rep #1	.0608	.0006	.0003	-.0767	.1581	-.0122	.0046	-.0032	.0239	
Rep #2	-.1139	.0008	.0002	-.0005	-.0932	-.0063	.0044	-.0000	.0236	
Rep #3	-.1840	.0009	.0000	-.0196	.1171	.0201	.0044	-.0029	.0236	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
12	Unk: RECUPERACION 18/12/2015 07:43:45 CONC x100 D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	41.30	40.68	40.94	37.61	39.91	39.39	40.73	41.31	41.06	
Desv. Est.	8.32	.73	.38	2.52	4.00	1.44	.36	.49	.34	
% RSD	20.14	1.804	.9286	6.689	10.01	3.648	.8940	1.188	.8252	
Rep #1	45.40	41.46	41.31	35.04	42.22	39.83	41.12	41.80	41.37	
Rep #2	46.77	40.59	40.97	40.06	42.22	37.78	40.68	41.34	41.11	
Rep #3	31.73	40.00	40.55	37.74	35.30	40.55	40.40	40.81	40.70	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Blanco: REACTIVO 18/12/2015 07:46:05 CONC x100 D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	2.646	.0500	.0700	-4.044	-8.553	.5723	.2999	-.1748	.8814	
Desv. Est.	7.531	.2741	.1198	2.893	2.003	1.190	.1251	.3484	.1040	
% RSD	284.6	547.9	171.1	71.53	234.1	207.9	41.70	199.3	11.80	
Rep #1	10.93	-.0944	.0112	-1.772	.1703	1.635	.2038	-.3772	.8149	
Rep #2	.8019	-.1217	.2078	-7.300	-3.163	-7.136	.4413	.2275	1.001	
Rep #3	-3.792	.3662	-.0090	-3.058	.4267	.7959	.2546	-.3746	.8281	
Comprobació										
Valor										
Intervalo										
14	Unk: GISC15-21909 18/12/2015 07:48:30 CONC x100 D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	1.321	.4907	.2878	5.149	12.05	1.831	.2773	.2235	2.531	
Desv. Est.	3.074	.2206	.2453	.953	5.48	1.094	.1940	.1995	.233	
% RSD	232.7	44.96	85.25	18.50	45.48	59.73	69.96	89.26	9.212	
Rep #1	4.351	.2395	.5685	4.175	18.20	3.075	.4993	.4409	2.798	
Rep #2	-1.796	.5798	.1802	5.194	10.26	1.398	.1924	.1806	2.422	
Rep #3	1.407	.6529	.1146	6.079	7.692	1.020	.1403	.0489	2.372	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
15	Unk: GISC15-21909-R 18/12/2015 07:50:54 CONC x100 D MP-151218: CHILE:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	



Media	3.020	.6736	.1556	1.219	7.863	2.027	.1866	.0236	3.269
Desv. Est.	2.938	.1162	.1050	2.135	7.715	.413	.1052	.0635	.123
% RSD	97.29	17.26	67.49	175.1	98.12	20.38	56.40	268.8	3.770
Rep #1	-2.103	.6005	.0763	3.674	-1.026	1.565	.1042	.0966	3.179
Rep #2	5.532	.8076	.2748	.1837	12.82	2.362	.3051	-.0069	3.410
Rep #3	3.737	.6125	.1159	-2.004	11.79	2.153	.1504	-.0188	3.220
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
20	Unk: GISC15-21918 18/12/2015 08:02:56 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	3.100	.7205	<.0000	8.183	11.62	3.760	.0735	<.0000	6.601
Desv. Est.	8.711	.1672	.0123	4.455	1.32	.170	.0134	.0607	.061
% RSD	281.0	23.21	33.21	54.44	11.32	4.507	18.26	106.2	.9228
Rep #1	-5.613	.5613	-.0236	3.323	13.08	3.914	.0791	-.0232	6.669
Rep #2	11.81	.8948	-.0478	9.152	11.28	3.578	.0582	-.1272	6.585
Rep #3	3.106	.7055	-.0398	12.07	10.51	3.788	.0832	-.0210	6.551
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
21	QC: QC-MEDIO 18/12/2015 08:05:24 CONC D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4352	.4445	.4366	.4301	.4786	.4312	.4391	.4458	.4389
Desv. Est.	.0898	.0046	.0025	.0291	.0654	.0099	.0047	.0027	.0027
% RSD	20.64	1.029	.5820	6.767	13.67	2.298	1.066	.6006	.6212
Rep #1	.5261	.4495	.4391	.4404	.5273	.4235	.4438	.4479	.4414
Rep #2	.4328	.4434	.4368	.4527	.4043	.4424	.4391	.4467	.4393
Rep #3	.3466	.4405	.4340	.3973	.5043	.4277	.4345	.4428	.4360
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
22	Unk: GISC15-21919 18/12/2015 08:07:47 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	8.773	.3785	<.0000	4.704	2.308	1.789	<.0000	<.0000	1.900
Desv. Est.	8.407	.0674	.0096	3.159	5.457	.645	.0610	.0485	.074
% RSD	95.83	17.82	15.78	67.16	236.5	36.03	73.41	32.59	3.875
Rep #1	1.359	.3968	-.0527	6.914	7.179	2.530	-.0731	-.1156	1.852
Rep #2	17.91	.4349	-.0712	1.086	-3.590	1.482	-.1484	-.1261	1.864
Rep #3	7.053	.3038	-.0578	6.112	3.333	1.356	-.0277	-.2043	1.985
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
23	Unk: GISC15-22005 18/12/2015 08:10:11 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.005	.6986	<.0000	8.618	19.83	3.005	<.0000	<.0000	6.720



Desv. Est.	8.541	.1644	.0053	2.011	6.94	.722	.0406	.1132	.053
% RSD	94.85	23.53	11.13	23.33	34.99	24.02	104.8	220.5	.7885
Rep #1	2.734	.6401	-.0520	9.753	25.38	2.194	-.0018	-.0520	6.763
Rep #2	18.73	.5715	-.0416	6.296	22.05	3.243	-.0322	.0622	6.735
Rep #3	5.548	.8842	-.0481	9.803	12.05	3.578	-.0822	-.1643	6.661
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-22006 18/12/2015 08:12:36 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	10.92	.5955	<.0000	7.137	20.34	3.620	<.0000	<.0000	6.434
Desv. Est.	2.07	.2487	.0034	4.721	3.48	1.169	.0304	.0961	.032
% RSD	18.95	41.77	12.19	66.16	17.11	32.29	48.69	281.5	.5029
Rep #1	8.547	.8737	-.0292	11.36	18.46	3.285	-.0836	-.1200	6.434
Rep #2	11.86	.3946	-.0244	8.016	18.20	4.920	-.0763	-.0521	6.402
Rep #3	12.36	.5181	-.0311	2.037	24.36	2.656	-.0276	.0697	6.467
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	Unk: GISC15-22053 18/12/2015 08:15:00 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	3.435	.2678	<.0000	7.560	8.974	3.410	<.0000	<.0000	2.705
Desv. Est.	11.72	.0883	.0212	1.436	9.127	1.279	.0423	.0702	.019
% RSD	341.2	32.96	45.96	19.00	101.7	37.52	24.99	74.75	.7033
Rep #1	-9.738	.3488	-.0418	5.979	8.205	4.291	-.2085	-.1541	2.723
Rep #2	7.344	.1737	-.0691	7.916	18.46	3.998	-.1245	-.1110	2.706
Rep #3	12.70	.2809	-.0274	8.785	.2564	1.943	-.1754	-.0168	2.685
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
26	Unk: GISC15-22076 18/12/2015 08:17:25 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	15.80	.8837	<.0000	5.328	24.44	7.100	<.0000	<.0000	8.555
Desv. Est.	9.72	.1162	.0034	7.030	3.48	1.386	.0466	.0582	.043
% RSD	61.52	13.15	15.15	132.0	14.24	19.52	35.39	313.5	.4996
Rep #1	6.745	1.014	-.0262	-2.772	27.69	8.526	-.0904	.0112	8.602
Rep #2	14.59	.8454	-.0193	9.837	20.77	5.759	-.1223	-.0856	8.543
Rep #3	26.08	.7916	-.0226	8.918	24.87	7.017	-.1821	.0187	8.518
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
27	Unk: GISC15-22109 18/12/2015 08:19:50 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.4530	<.0000	4.682	1.453	1.663	.3339	.0431	2.480
Desv. Est.	3.054	.1314	.0016	2.316	5.441	1.404	.0284	.1387	.019

% RSD	75.73	29.00	2.574	49.47	374.5	84.38	8.496	322.1	.7636
Rep #1	-6.034	.5199	-.0650	3.524	3.077	.5591	.3056	.1268	2.490
Rep #2	-.5176	.5373	-.0647	3.173	5.897	1.188	.3623	.1195	2.493
Rep #3	-5.548	.3016	-.0620	7.348	-4.615	3.243	.3338	-.1171	2.459
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-22115 18/12/2015 08:22:16 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.4767	<.0000	7.421	9.914	2.991	<.0000	<.0000	3.560
Desv. Est.	8.786	.1386	.0088	2.118	3.059	.910	.0505	.0707	.013
% RSD	1895.	29.08	13.96	28.54	30.85	30.42	91.27	25.98	.3739
Rep #1	-4.578	.4044	-.0671	7.699	8.974	3.578	-.1110	-.2037	3.547
Rep #2	9.625	.3891	-.0527	9.386	13.33	3.452	-.0427	-.2674	3.574
Rep #3	-6.438	.6365	-.0686	5.177	7.436	1.943	-.0124	-.3448	3.558
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-22116 18/12/2015 08:24:41 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1866	<.0000	4.810	9.487	1.929	<.0000	<.0000	1.857
Desv. Est.	10.26	.2902	.0070	3.216	4.679	.966	.0223	.0594	.023
% RSD	1626.	155.5	10.44	66.87	49.32	50.06	18.44	51.12	1.222
Rep #1	7.570	.0419	-.0697	3.541	12.56	2.991	-.1031	-.0495	1.840
Rep #2	-12.13	-.0028	-.0725	8.467	4.102	1.104	-.1142	-.1634	1.849
Rep #3	2.669	.5206	-.0592	2.422	11.79	1.691	-.1461	-.1358	1.883
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-22117 18/12/2015 08:27:06 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.9410	<.0000	8.217	21.20	3.117	<.0000	.0495	3.275
Desv. Est.	9.297	.2919	.0138	3.581	6.12	.908	.0325	.0195	.058
% RSD	249.9	31.02	22.99	43.58	28.86	29.13	82.65	39.36	1.781
Rep #1	5.969	.6256	-.0442	4.392	23.08	2.153	-.0212	.0674	3.332
Rep #2	-12.57	.9957	-.0699	8.768	14.36	3.243	-.0769	.0523	3.276
Rep #3	-4.562	1.202	-.0657	11.49	26.15	3.956	-.0199	.0287	3.215
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-22144 18/12/2015 08:29:31 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	2.906	.5553	<.0000	6.380	7.436	2.446	<.0000	.0482	2.823
Desv. Est.	2.585	.2315	.0081	2.213	5.670	.887	.0428	.3208	.048
% RSD	88.95	41.70	10.79	34.68	76.25	36.28	61.83	666.0	1.686

Rep #1	2.604	.6078	-.0714	7.198	5.384	1.775	-.0558	.1193	2.774
Rep #2	5.629	.3020	-.0692	8.066	3.077	3.452	-.0348	.3275	2.827
Rep #3	.4853	.7560	-.0842	3.875	13.85	2.111	-.1171	-.3023	2.869
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
32	QC: QC-MEDIO 18/12/2015 08:31:58 CONC D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4519	.4197	.4203	.4018	.3786	.4095	.4203	.4245	.4130
Desv. Est.	.1947	.0002	.0018	.0241	.0873	.0051	.0036	.0035	.0020
% RSD	43.09	.0508	.4205	5.987	23.06	1.234	.8666	.8180	.4924
Rep #1	.2807	.4198	.4222	.4240	.4735	.4101	.4240	.4267	.4148
Rep #2	.4113	.4195	.4200	.4051	.3607	.4042	.4201	.4262	.4133
Rep #3	.6638	.4199	.4187	.3762	.3017	.4143	.4168	.4205	.4108
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
33	Unk: GISC15-22145 18/12/2015 08:34:21 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.4051	<.0000	5.862	16.15	1.579	.0258	<.0000	3.579
Desv. Est.	15.14	.0661	.0208	1.726	6.98	1.049	.0511	.1881	.131
% RSD	596.3	16.32	67.58	29.44	43.21	66.39	197.8	396.1	3.672
Rep #1	-11.95	.4814	-.0271	7.699	13.33	2.614	-.0285	-.2599	3.447
Rep #2	14.93	.3695	-.0121	5.611	24.10	.5172	.0331	.0190	3.581
Rep #3	-10.60	.3644	-.0532	4.275	11.03	1.607	.0729	.0983	3.710
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
34	Unk: GISC15-22146 18/12/2015 08:36:46 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.5939	<.0000	6.413	12.65	2.208	.0429	<.0000	4.409
Desv. Est.	5.278	.1669	.0250	4.544	2.63	1.216	.0500	.0886	.018
% RSD	179.9	28.10	371.3	70.85	20.80	55.07	116.7	381.9	.4137
Rep #1	-1.698	.4654	.0154	1.369	14.87	3.410	.0963	-.1207	4.391
Rep #2	-8.719	.5337	-.0018	7.682	9.743	2.236	.0351	.0525	4.408
Rep #3	1.618	.7825	-.0338	10.19	13.33	.9784	-.0028	-.0015	4.427
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
35	Unk: GISC15-22150 18/12/2015 08:39:11 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.6272	<.0000	3.006	5.641	2.250	.0504	<.0000	6.124
Desv. Est.	10.19	.1492	.0106	2.316	8.661	1.483	.0291	.1021	.060
% RSD	753.0	23.78	28.01	77.05	153.5	65.89	57.68	106.8	.9803
Rep #1	-5.904	.7455	-.0320	.8350	14.87	3.327	.0837	.0201	6.183

Rep #2	-8.476	.4596	-.0500	2.739	4.359	2.865	.0373	-.1339	6.063
Rep #3	10.32	.6765	-.0314	5.444	-2.308	.5591	.0301	-.1729	6.124
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
36	Unk: GISC15-22151 18/12/2015 08:41:36 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.5277	<.0000	1.113	6.837	1.649	.0789	.0999	11.01
Desv. Est.	13.05	.1456	.0053	.371	1.890	.183	.0171	.0976	.03
% RSD	1211.	27.59	1050.	33.28	27.64	11.08	21.65	97.66	.2806
Rep #1	-16.13	.4302	-.0065	1.420	6.154	1.524	.0717	.0380	11.04
Rep #2	5.694	.6950	.0015	1.219	5.384	1.565	.0666	.0494	11.01
Rep #3	7.198	.4578	.0035	.7014	8.974	1.859	.0984	.2124	10.98
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
37	Unk: GISC15-22151-R 18/12/2015 08:44:01 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.7219	.0979	5.984	9.487	3.998	.3965	<.0000	13.44
Desv. Est.	1.583	.4409	.0097	4.200	3.724	.577	.0195	.1323	.04
% RSD	74.70	61.08	9.858	70.18	39.26	14.42	4.927	487.0	.3318
Rep #1	-3.931	1.120	.1085	6.664	5.641	4.626	.3784	.1007	13.42
Rep #2	-1.423	.2482	.0958	1.486	13.08	3.494	.3940	-.1635	13.40
Rep #3	-1.003	.7971	.0895	9.803	9.743	3.872	.4172	-.0187	13.49
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
38	Unk: GISC15-22154 18/12/2015 08:46:25 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	4.804	.4251	.0300	4.025	12.48	2.125	.1762	.0104	16.18
Desv. Est.	1.489	.1591	.0105	4.742	5.88	1.554	.0086	.1657	.05
% RSD	30.99	37.42	34.87	117.8	47.14	73.17	4.892	1589.	.2943
Rep #1	4.270	.6038	.0338	2.822	19.23	1.104	.1814	-.0808	16.17
Rep #2	3.656	.2991	.0381	.0000	8.461	1.356	.1662	-.0897	16.23
Rep #3	6.487	.3724	.0182	9.252	9.743	3.914	.1809	.2017	16.14
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
39	Unk: GISC15-22171 18/12/2015 08:48:50 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	6.492	.4212	<.0000	4.815	2.650	<.0000	<.0000	<.0000	2.310
Desv. Est.	12.70	.1018	.0079	.646	11.64	.5473	.0260	.1089	.009
% RSD	195.6	24.17	14.77	13.42	439.3	156.6	29.64	74.02	.3863
Rep #1	1.181	.5090	-.0460	4.743	8.718	-.8666	-.1015	-.1562	2.314
Rep #2	20.98	.4451	-.0617	4.209	10.000	-.4053	-.1043	-.2513	2.300

Rep #3	-2.685	.3096	-.0528	5.495	-10.77	.2236	-.0578	-.0340	2.316
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
40	Unk: GISC15-22172 18/12/2015 08:51:15 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>3.489</b>	<b>.5970</b>	<b>&lt;.0000</b>	<b>3.218</b>	<b>.8547</b>	<b>1.831</b>	<b>&lt;.0000</b>	<b>.0492</b>	<b>3.420</b>
Desv. Est.	17.68	.2823	.0123	2.756	3.917	.960	.0702	.1736	.043
% RSD	506.9	47.28	16.96	85.64	458.3	52.44	133.3	352.7	1.272
Rep #1	-16.58	.3176	-.0586	.7014	5.128	1.524	-.1281	-.0456	3.379
Rep #2	10.26	.5915	-.0821	2.789	-2.564	2.907	.0108	.2496	3.466
Rep #3	16.79	.8821	-.0763	6.163	.0000	1.062	-.0408	-.0564	3.414
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
41	Unk: GISC15-22195 18/12/2015 08:53:40 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>3.591</b>	<b>.4174</b>	<b>&lt;.0000</b>	<b>4.376</b>	<b>8.803</b>	<b>1.524</b>	<b>&lt;.0000</b>	<b>&lt;.0000</b>	<b>2.966</b>
Desv. Est.	8.920	.0500	.0165	4.032	2.312	.777	.0354	.1481	.028
% RSD	248.4	11.97	36.81	92.14	26.27	50.97	25.51	84.18	.9569
Rep #1	12.71	.4400	-.0621	8.885	6.410	1.230	-.1761	-.2289	2.933
Rep #2	-5.112	.3601	-.0292	3.123	8.974	.9365	-.1344	-.2904	2.984
Rep #3	3.170	.4520	-.0431	1.119	11.03	2.404	-.1057	-.0087	2.980
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
42	Unk: GISC15-22224 18/12/2015 08:56:05 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>&lt;.0000</b>	<b>.3669</b>	<b>&lt;.0000</b>	<b>2.895</b>	<b>13.59</b>	<b>1.593</b>	<b>1.056</b>	<b>&lt;.0000</b>	<b>3.496</b>
Desv. Est.	3.082	.3033	.0100	2.739	4.89	1.949	.046	.0424	.030
% RSD	4397.	82.67	23.68	94.61	36.00	122.3	4.371	66.79	.8653
Rep #1	3.462	.2475	-.0374	6.046	16.15	2.740	1.092	-.1119	3.463
Rep #2	-2.216	.7117	-.0539	1.086	16.67	2.698	1.004	-.0327	3.503
Rep #3	-1.456	.1414	-.0358	1.553	7.949	-.6569	1.072	-.0459	3.522
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
43	QC: QC-MEDIO 18/12/2015 08:58:32 CONC D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>.4032</b>	<b>.4677</b>	<b>.4613</b>	<b>.4465</b>	<b>.4427</b>	<b>.4600</b>	<b>.4622</b>	<b>.4748</b>	<b>.4532</b>
Desv. Est.	.0203	.0038	.0058	.0377	.0624	.0121	.0046	.0064	.0050
% RSD	5.038	.8040	1.247	8.435	14.09	2.629	.9929	1.353	1.113
Rep #1	.4148	.4712	.4674	.4841	.5145	.4734	.4667	.4817	.4581
Rep #2	.4150	.4682	.4606	.4088	.4119	.4499	.4624	.4737	.4536
Rep #3	.3797	.4637	.4559	.4466	.4017	.4566	.4575	.4690	.4480



Valor									
Intervalo									
48	Unk: GISC15-21978 18/12/2015 09:10:38 CONC x100 D MP-151218: CHILE:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	7.279	1.471	.0895	11.65	31.02	12.43	.0451	<.0000	15.66
Desv. Est.	4.514	.256	.0052	4.34	8.59	.88	.0311	.1082	.09
% RSD	62.02	17.40	5.835	37.23	27.70	7.071	68.82	57.47	.5875
Rep #1	2.831	1.231	.0955	16.17	39.49	13.39	.0106	-.3130	15.56
Rep #2	11.86	1.443	.0870	11.27	22.31	12.22	.0709	-.1330	15.72
Rep #3	7.150	1.740	.0860	7.515	31.28	11.67	.0538	-.1189	15.71
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									

1	Cal: Blanco 22/12/2015 11:05:31 IR D Hg 151222: UNAM (CHILE):
	Hg1942
Unidades	Cts/s
Media	-22.57
Desv. Est.	14.65
% RSD	64.91
Rep #1	-8.679
Rep #2	-37.88
Rep #3	-21.15
2	Cal: STD 1 22/12/2015 11:06:53 IR D Hg 151222: UNAM (CHILE):
	Hg1942
Unidades	Cts/s
Media	40.44
Desv. Est.	51.05
% RSD	126.2
Rep #1	-17.33
Rep #2	59.17
Rep #3	79.47
3	Cal: STD 2 22/12/2015 11:08:16 IR D Hg 151222: UNAM (CHILE):
	Hg1942
Unidades	Cts/s
Media	176.2
Desv. Est.	141.4
% RSD	80.27
Rep #1	15.22
Rep #2	232.8
Rep #3	280.6
4	Cal: STD 3 22/12/2015 11:09:41 IR D Hg 151222: UNAM (CHILE):
	Hg1942
Unidades	Cts/s
Media	305.4
Desv. Est.	204.0
% RSD	66.80
Rep #1	73.76
Rep #2	384.1
Rep #3	458.3
5	Cal: STD 4 22/12/2015 11:11:05 IR D Hg 151222: UNAM (CHILE):
	Hg1942
Unidades	Cts/s
Media	624.1
Desv. Est.	441.6
% RSD	70.76
Rep #1	124.1
Rep #2	787.4
Rep #3	960.8
6	Unk: BLANCO 22/12/2015 11:12:28 CONC D Hg 151222: UNAM (CHILE):
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0016
Desv. Est.	.0023



% RSD	145.1
Rep #1	.0042
Rep #2	.0004
Rep #3	.0001
7	Unk: RECUPERACION 22/12/2015 11:13:51 CONC x100 DATE: 15122015 UNAM (QUIL) EX: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4609
Desv. Est.	.3896
% RSD	84.53
Rep #1	.0182
Rep #2	.6128
Rep #3	.7516
8	Blanco: REACTIVO 22/12/2015 11:15:12 CONC x100 DATE: 15122015 UNAM (QUIL) EX: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.1008
Desv. Est.	.1469
% RSD	145.7
Rep #1	.2700
Rep #2	.0268
Rep #3	.0057
9	Unk: GISC15-21909 22/12/2015 11:16:34 CONC x100 DATE: 15122015 UNAM (QUIL) EX: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1156
Desv. Est.	.0111
% RSD	9.636
Rep #1	-.1027
Rep #2	-.1215
Rep #3	-.1225
10	Unk: GISC15-21909-R 22/12/2015 11:17:56 CONC x100 DATE: 15122015 UNAM (QUIL) EX: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1166
Desv. Est.	.0096
% RSD	8.223
Rep #1	-.1058
Rep #2	-.1240
Rep #3	-.1200
11	Unk: GISC15-21910 22/12/2015 11:19:19 CONC x100 DATE: 15122015 UNAM (QUIL) EX: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1134
Desv. Est.	.0075
% RSD	6.601
Rep #1	-.1049

Rep #2	-1161
Rep #3	-1191
12	Unk: GISC15-21911 22/12/2015 11:20:42 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.227
Desv. Est.	.0122
% RSD	9.966
Rep #1	-1.086
Rep #2	-1.292
Rep #3	-1.304
13	Unk: GISC15-21916 22/12/2015 11:22:05 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.216
Desv. Est.	.0097
% RSD	7.935
Rep #1	-1.110
Rep #2	-1.242
Rep #3	-1.298
14	Unk: GISC15-21917 22/12/2015 11:23:27 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.237
Desv. Est.	.0140
% RSD	11.29
Rep #1	-1.076
Rep #2	-1.308
Rep #3	-1.327
15	Unk: GISC15-21918 22/12/2015 11:24:50 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.226
Desv. Est.	.0116
% RSD	9.428
Rep #1	-1.1093
Rep #2	-1.295
Rep #3	-1.291
16	QC: QC-MEDIO 22/12/2015 11:26:14 CONC D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0045
Desv. Est.	.0040
% RSD	88.45
Rep #1	.0000
Rep #2	.0058
Rep #3	.0075

Comprobación	Ninguno
Valor	
Intervalo	
17	Unk: GISC15-21919 22/12/2015 11:27:37 CONC x100 DATE: 15/12/2015 UNAM/QUIL/EX Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0500
Desv. Est.	.1287
% RSD	257.2
Rep #1	.0980
Rep #2	-.1129
Rep #3	-.1352
18	Unk: GISC15-22005 22/12/2015 11:29:00 CONC x100 DATE: 15/12/2015 UNAM/QUIL/EX Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1189
Desv. Est.	.0082
% RSD	6.915
Rep #1	-.1095
Rep #2	-.1221
Rep #3	-.1250
19	Unk: GISC15-22006 22/12/2015 11:30:22 CONC x100 DATE: 15/12/2015 UNAM/QUIL/EX Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1202
Desv. Est.	.0130
% RSD	10.84
Rep #1	-.1052
Rep #2	-.1270
Rep #3	-.1284
20	Unk: GISC15-22053 22/12/2015 11:31:45 CONC x100 DATE: 15/12/2015 UNAM/QUIL/EX Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1226
Desv. Est.	.0149
% RSD	12.14
Rep #1	-.1054
Rep #2	-.1315
Rep #3	-.1309
21	Unk: GISC15-22076 22/12/2015 11:33:07 CONC x100 DATE: 15/12/2015 UNAM/QUIL/EX Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1196
Desv. Est.	.0073
% RSD	6.122
Rep #1	-.1112
Rep #2	-.1243

Rep #3	-1233
22	Unk: GISC15-22109 22/12/2015 11:34:30 CONC x100 D.H. 151220 UNAM/QUILFY Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1234
Desv. Est.	.0121
% RSD	9.787
Rep #1	-1095
Rep #2	-1308
Rep #3	-1299
23	Unk: GISC15-22115 22/12/2015 11:35:53 CONC x100 D.H. 151220 UNAM/QUILFY Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1201
Desv. Est.	.0113
% RSD	9.413
Rep #1	-1071
Rep #2	-1274
Rep #3	-1257
24	Unk: GISC15-22116 22/12/2015 11:37:16 CONC x100 D.H. 151220 UNAM/QUILFY Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1172
Desv. Est.	.0080
% RSD	6.809
Rep #1	-1081
Rep #2	-1212
Rep #3	-1225
25	Unk: GISC15-22117 22/12/2015 11:38:38 CONC x100 D.H. 151220 UNAM/QUILFY Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1057
Desv. Est.	.0035
% RSD	3.358
Rep #1	-1071
Rep #2	-1083
Rep #3	-1016
26	Unk: GISC15-22144 22/12/2015 11:40:00 CONC x100 D.H. 151220 UNAM/QUILFY Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1120
Desv. Est.	.0107
% RSD	9.509
Rep #1	-0998
Rep #2	-1170
Rep #3	-1192

27	QC: QC-MEDIO 22/12/2015 11:41:24 CONC D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0044
Desv. Est.	.0039
% RSD	87.41
Rep #1	.0000
Rep #2	.0059
Rep #3	.0074
Comprobación	Ninguno
Valor	
Intervalo	
28	Unk: GISC15-22145 22/12/2015 11:42:48 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0510
Desv. Est.	.1289
% RSD	252.7
Rep #1	.0972
Rep #2	-.1135
Rep #3	-.1367
29	Unk: GISC15-22146 22/12/2015 11:44:12 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1196
Desv. Est.	.0098
% RSD	8.167
Rep #1	-.1083
Rep #2	-.1260
Rep #3	-.1244
30	Unk: GISC15-22150 22/12/2015 11:45:35 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1221
Desv. Est.	.0090
% RSD	7.354
Rep #1	-.1122
Rep #2	-.1242
Rep #3	-.1298
31	Unk: GISC15-22151 22/12/2015 11:46:59 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1176
Desv. Est.	.0088
% RSD	7.491
Rep #1	-.1074
Rep #2	-.1228

Rep #3	-1226
32	Unk: GISC15-22151-R 22/12/2015 11:48:21 CONC x100 FILE 151222 UNAM (QUILTY) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.100
Desv. Est.	.0041
% RSD	3.714
Rep #1	-1.054
Rep #2	-1.133
Rep #3	-1.112
33	Unk: GISC15-22154 22/12/2015 11:49:45 CONC x100 FILE 151222 UNAM (QUILTY) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.122
Desv. Est.	.0077
% RSD	6.843
Rep #1	-1.034
Rep #2	-1.160
Rep #3	-1.173
34	Unk: GISC15-22171 22/12/2015 11:51:08 CONC x100 FILE 151222 UNAM (QUILTY) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.263
Desv. Est.	.0137
% RSD	10.84
Rep #1	-1.105
Rep #2	-1.346
Rep #3	-1.338
35	Unk: GISC15-22172 22/12/2015 11:52:31 CONC x100 FILE 151222 UNAM (QUILTY) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.227
Desv. Est.	.0138
% RSD	11.29
Rep #1	-1.071
Rep #2	-1.273
Rep #3	-1.337
36	Unk: GISC15-22195 22/12/2015 11:53:54 CONC x100 FILE 151222 UNAM (QUILTY) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1.246
Desv. Est.	.0139
% RSD	11.18
Rep #1	-1.086
Rep #2	-1.320
Rep #3	-1.333

37	Unk: GISC15-22224 22/12/2015 11:55:18 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1208
Desv. Est.	.0165
% RSD	13.63
Rep #1	-.1019
Rep #2	-.1314
Rep #3	-.1292
38	QC: QC-MEDIO 22/12/2015 11:56:41 CONC D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0045
Desv. Est.	.0039
% RSD	88.05
Rep #1	.0000
Rep #2	.0058
Rep #3	.0075
Comprobación	Ninguno
Valor	
Intervalo	
39	Unk: GISC15-22225 22/12/2015 11:58:06 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0586
Desv. Est.	.1225
% RSD	209.2
Rep #1	.0827
Rep #2	-.1225
Rep #3	-.1359
40	Unk: GISC15-22226 22/12/2015 11:59:30 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1187
Desv. Est.	.0095
% RSD	7.983
Rep #1	-.1080
Rep #2	-.1262
Rep #3	-.1217
41	Unk: GISC15-22235 22/12/2015 12:00:54 CONC x100 D Hg 151222: UNAM (CHILE): Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1221
Desv. Est.	.0141
% RSD	11.53
Rep #1	-.1059
Rep #2	-.1285

Rep #3	-1318
42	Unk: GISC15-22236 22/12/2015 12:02:17 CONC x100 C.H. 151200 UNAM (QUILFI) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1189
Desv. Est.	.0126
% RSD	10.61
Rep #1	-1045
Rep #2	-1245
Rep #3	-1279
43	Unk: GISC15-21978 22/12/2015 12:08:58 CONC x100 C.H. 151200 UNAM (QUILFI) Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1274
Desv. Est.	.0013
% RSD	1.033
Rep #1	-1259
Rep #2	-1277
Rep #3	-1285



## **CONTENIDO**

### **PEPINO/ NOPAL/ CALABAZA**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

Matriz: VEGETALES (Pepino/Nopal/Calabaza)  
Fecha de Recepción: 2015-11-05

### INTERESADO

Nombre: Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
Dirección: Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

Método: Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
Referencia: EPA 6010C-2007  
Resultados: Ver hoja excell .....2015/11/05 (2)  
Fecha de Analisis de Metales y Mercurio: 2015-12-23 2015-12-28  
Fecha de Realización del Informe: 2015-12-29

#### IDENTIFICACIÓN CLIENTE

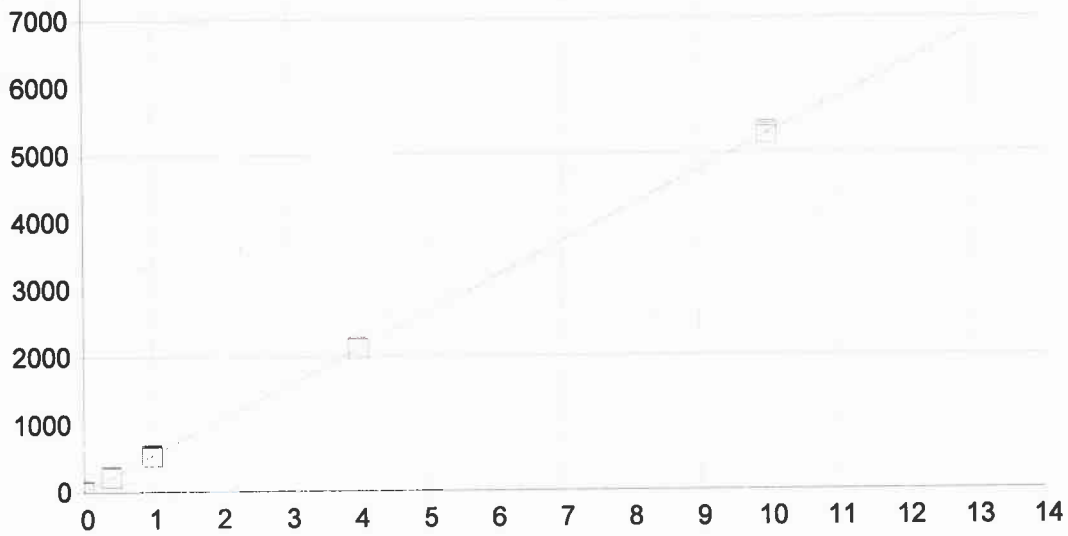
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L-I003/15/0028  
L-I003/15/0030  
L-I014/15/0133  
L-I014/15/0134  
L-I014/15/0135  
L-I019/15/0184  
L-I019/15/0185  
L-I042/15/0417  
L-I042/15/0419  
L-I046/15/0460  
L-I047/15/0461

#### CLAVE DE IDENTIFICACIÓN

GISC15-21998  
GISC15-22168  
GISC15-22169  
GISC15-22170  
GISC15-22033  
GISC15-22034  
GISC15-21684  
GISC15-21685  
GISC15-21770  
GISC15-21771  
GISC15-21772  
GISC15-21806  
GISC15-21807  
GISC15-21997  
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GISC15-22031  
GISC15-22032

REVISÓ

Q.F.B. Leticia Velázquez Méndez  
Gerente Técnico

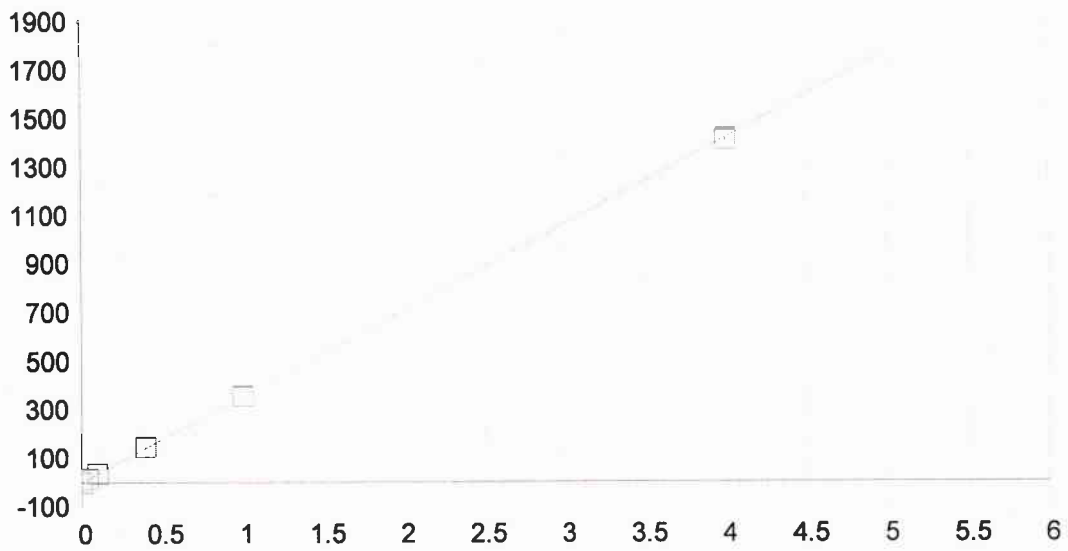


AI 396.152 { 85}

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A0 (Compensación): 10.511861 Reajustar P 1.000000  
 A1 (Ganancia) 526.286248 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999984 Estatus: OK.  
 Error Estándar de Est: 0.305405  
 MDL: 0.015542  
 MQL: 0.051806

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	10.508	6.61	1
STD 5	.40000	.41162	.012	2.90	227.14	6.07	1
STD 6	1.0000	.98713	-.013	-1.29	530.03	11.6	1
STD 7	4.0000	4.0030	.003	.076	2117.3	15.2	1
STD 8	10.000	9.9982	-.002	-.018	5272.4	39.2	1

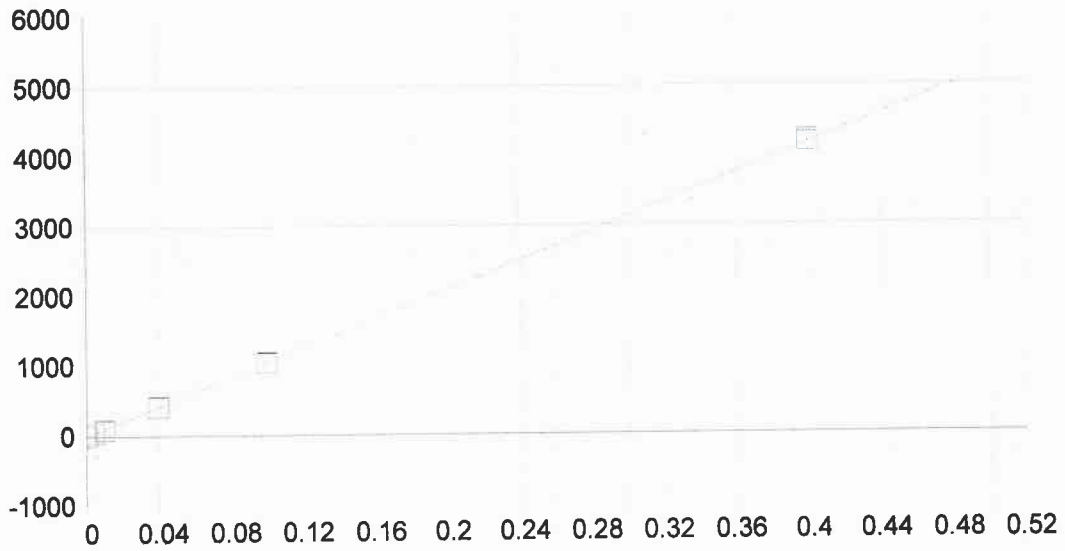


As 189.042 {478}

Fecha de la 23/12/2015 12:40:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 0.179469 Reajustar P 1.000000  
 A1 (Ganancia) 353.852596 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999941 Estatus: OK.  
 Error Estándar de Est: 0.070290  
 MDL: 0.002427  
 MQL: 0.008089

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	.17776	.243	1
STD 4	.10000	.10252	.003	2.52	36.456	.899	1
STD 5	.40000	.41058	.011	2.65	145.46	1.84	1
STD 6	1.0000	1.0042	.004	.425	355.53	.391	1
STD 7	4.0000	3.9799	-.020	-.504	1408.5	4.80	1
STD 3	.04000	.04279	.003	6.99	15.323	.631	1

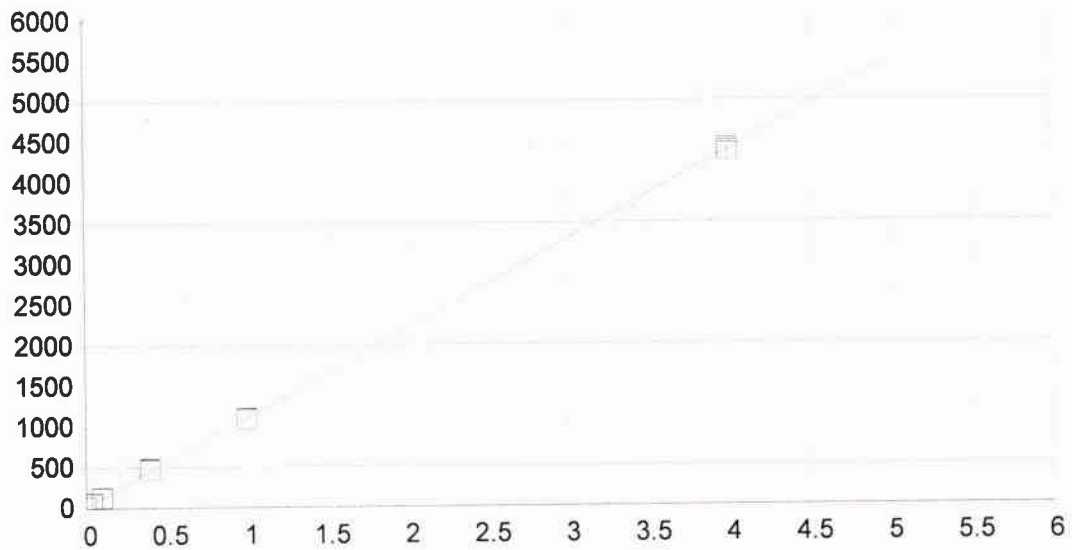


Cd 226.502 {449}

Fecha de la 23/12/2015 12:35:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.295977 Reajustar P 1.000000  
 A1 (Ganancia) 10418.42555 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999668 Estatus: OK.  
 Error Estándar de Est: 0.488813  
 MDL: 0.000131  
 MQL: 0.000437

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-.28759	.539	1
STD 1	.00400	.00394	-.000	-1.58	40.718	.609	1
STD 2	.01000	.00811	-.002	-18.9	84.215	.856	1
STD 3	.04000	.03986	-.000	-.349	414.99	2.75	1
STD 4	.10000	.10022	.000	.222	1043.9	3.13	1
STD 5	.40000	.40187	.002	.467	4186.5	21.0	1

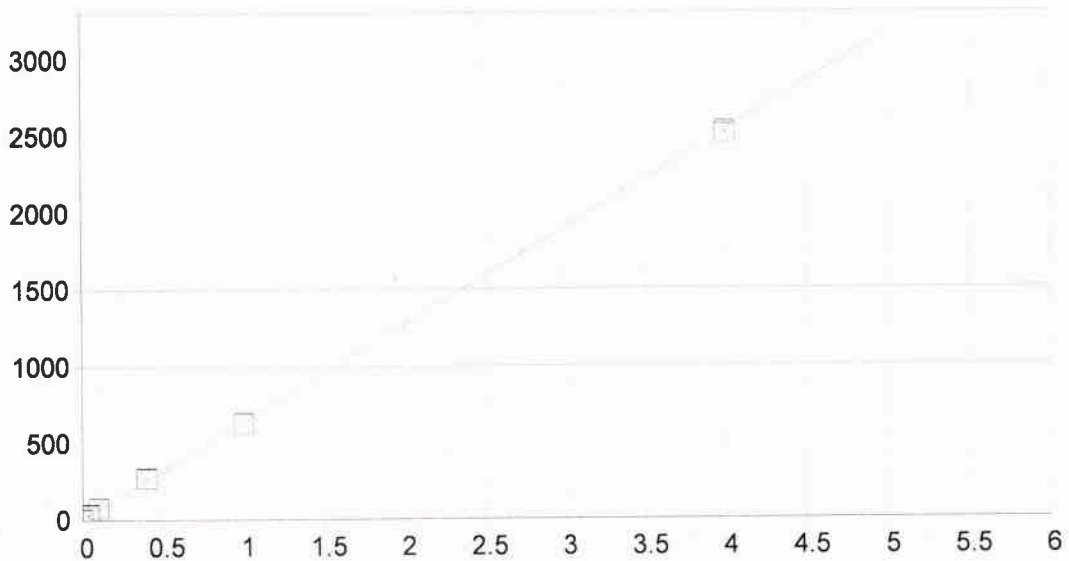


Cu 324.754 {104}

Fecha de la 23/12/2015 12:40:00 Tipo de unió Lineal Ponderación: 1/Conc

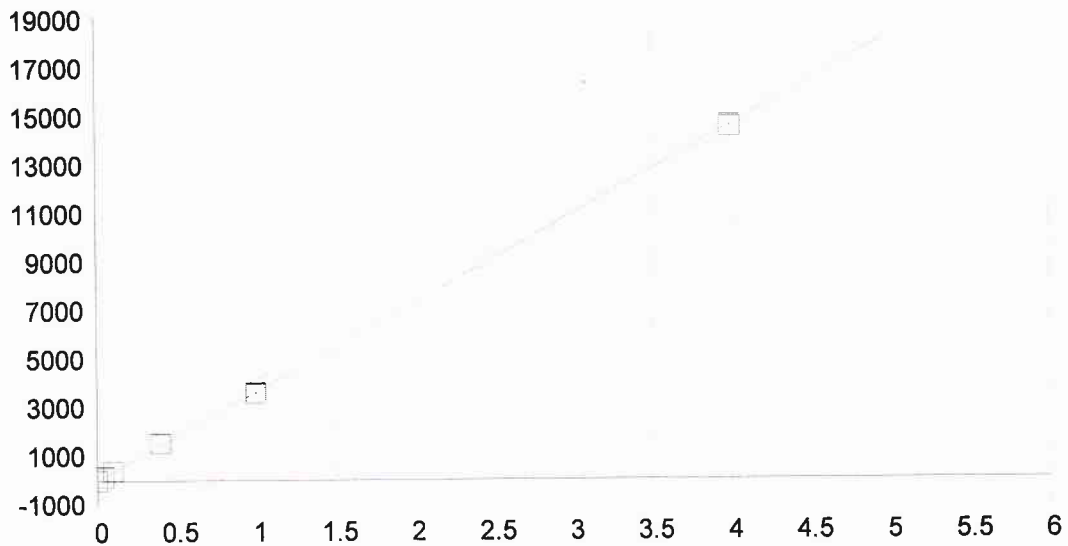
A0 (Compensación): 10.908801 Reajustar P 1.000000  
 A1 (Ganancia) 1096.280892 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999833 Estatus: OK.  
 Error Estándar de Est: 0.364808  
 MDL: 0.004144  
 MQL: 0.013813

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	10.906	.810	1
STD 5	.40000	.42392	.024	5.98	475.64	6.86	1
STD 6	1.0000	.99078	-.009	-.922	1097.1	4.71	1
STD 7	4.0000	3.9819	-.018	-.453	4376.2	32.8	1
STD 3	.04000	.03880	-.001	-2.99	53.448	2.52	1
STD 4	.10000	.10464	.005	4.64	125.62	3.00	1



Fe 259.940 {130}

Fecha de la	23/12/2015 12:40:00	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	6.712950	Reajustar P	1.000000				
A1 (Ganancia)	631.932500	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999508	Estatus:	OK.				
Error Estándar de Est:	0.361057						
MDL:	0.003575						
MQL:	0.011916						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00002	-.000	.000	6.7033	.785	1
STD 5	.40000	.42242	.022	5.60	273.65	3.34	1
STD 6	1.0000	.98576	-.014	-1.42	629.65	4.95	1
STD 3	.04000	.04799	.008	20.0	37.037	2.77	1
STD 4	.10000	.11467	.015	14.7	79.177	1.16	1
STD 7	4.0000	3.9692	-.031	-.771	2515.0	12.2	1



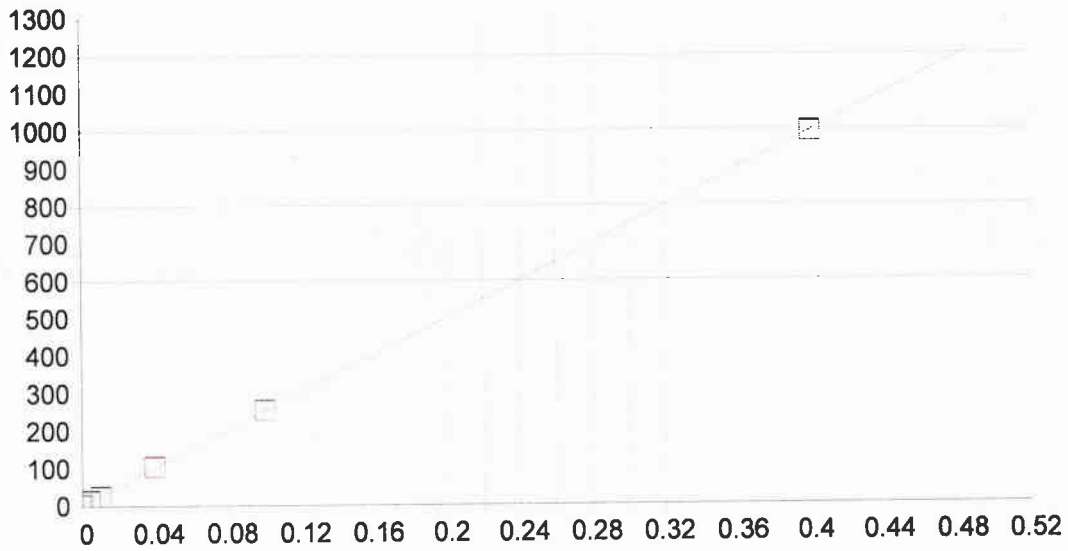
Mn 257.610 {131}

Fecha de la 23/12/2015 12:40:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.053705 Reajustar P 1.000000  
 A1 (Ganancia) 3640.614353 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999854 Estatus: OK.  
 Error Estándar de Est: 1.133981  
 MDL: 0.000660  
 MQL: 0.002200

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00001	-.000	.000	-.07500	1.12	1
STD 5	.40000	.41969	.020	4.92	1527.9	6.95	1
STD 6	1.0000	.98989	-.010	-1.01	3603.8	20.0	1
STD 3	.04000	.04205	.002	5.11	153.02	1.35	1
STD 4	.10000	.10604	.006	6.04	386.00	2.37	1
STD 7	4.0000	3.9823	-.018	-.442	14498.	45.9	1



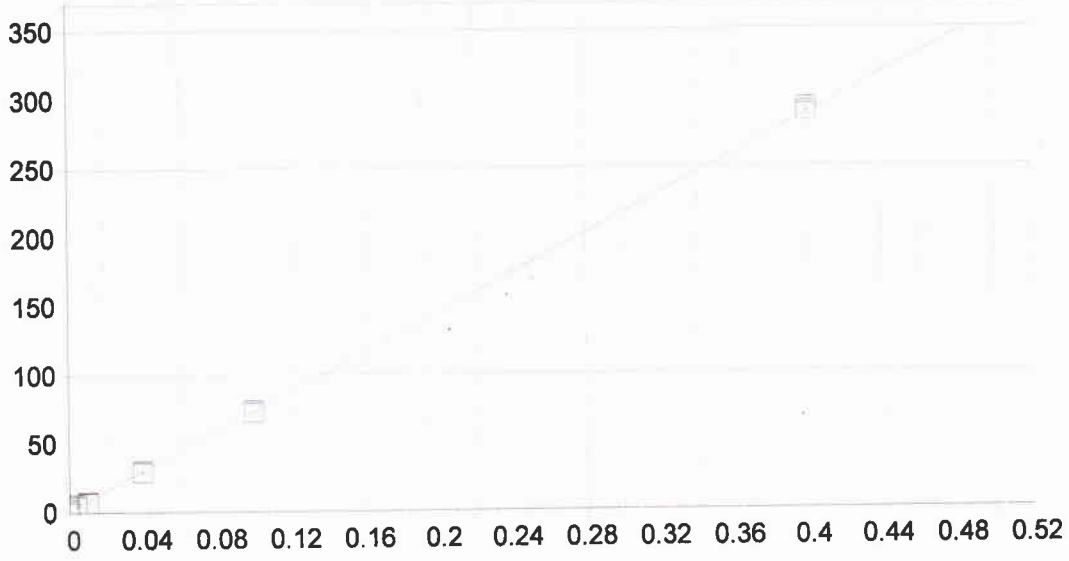


Ni 231.604 {446}

Fecha de la 23/12/2015 12:35:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 4.082367 Reajustar P 1.000000  
 A1 (Ganancia) 2478.801426 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999813 Estatus: OK.  
 Error Estándar de Est: 0.087279  
 MDL: 0.000495  
 MQL: 0.001649

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	4.0829	.673	1
STD 1	.00400	.00420	.000	5.05	14.498	1.48	1
STD 2	.01000	.00869	-.001	-13.1	25.619	.890	1
STD 3	.04000	.04054	.001	1.34	104.56	1.73	1
STD 4	.10000	.10128	.001	1.28	255.13	1.75	1
STD 5	.40000	.39930	-.001	-.176	993.86	1.80	1

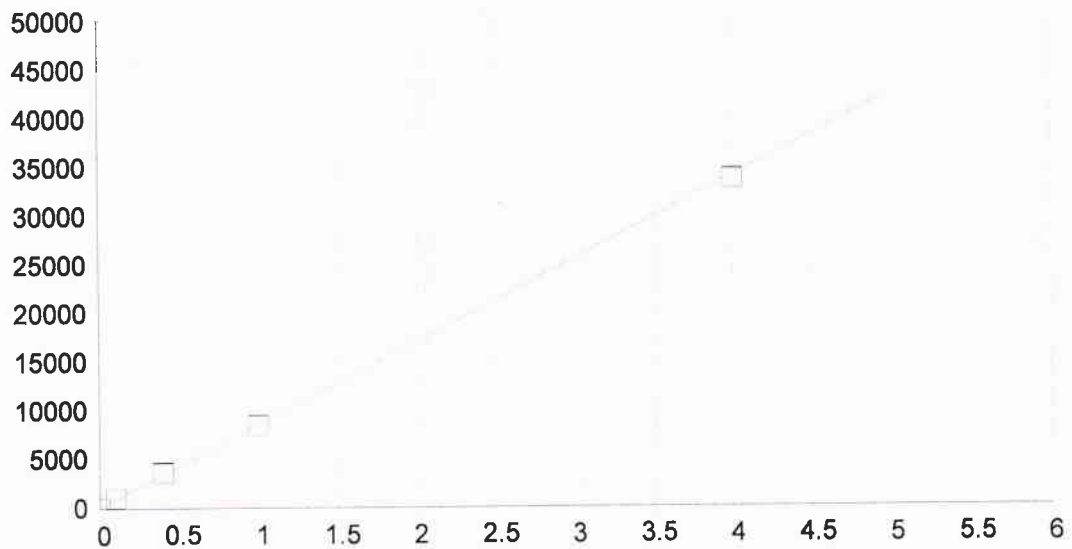


Pb 220.353 {453}

Fecha de la 23/12/2015 12:35:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 1.255949 Reajustar P 1.000000  
 A1 (Ganancia) 717.724239 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999349 Estatus: OK.  
 Error Estándar de Est: 0.047209  
 MDL: 0.001610  
 MQL: 0.005365

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	1.2557	1.25	1
STD 1	.00400	.00513	.001	28.3	4.9382	.886	1
STD 2	.01000	.00806	-.002	-19.4	7.0402	.462	1
STD 3	.04000	.03923	-.001	-1.93	29.412	.802	1
STD 4	.10000	.09962	-.000	-.385	72.752	.887	1
STD 5	.40000	.40197	.002	.491	289.76	2.38	1

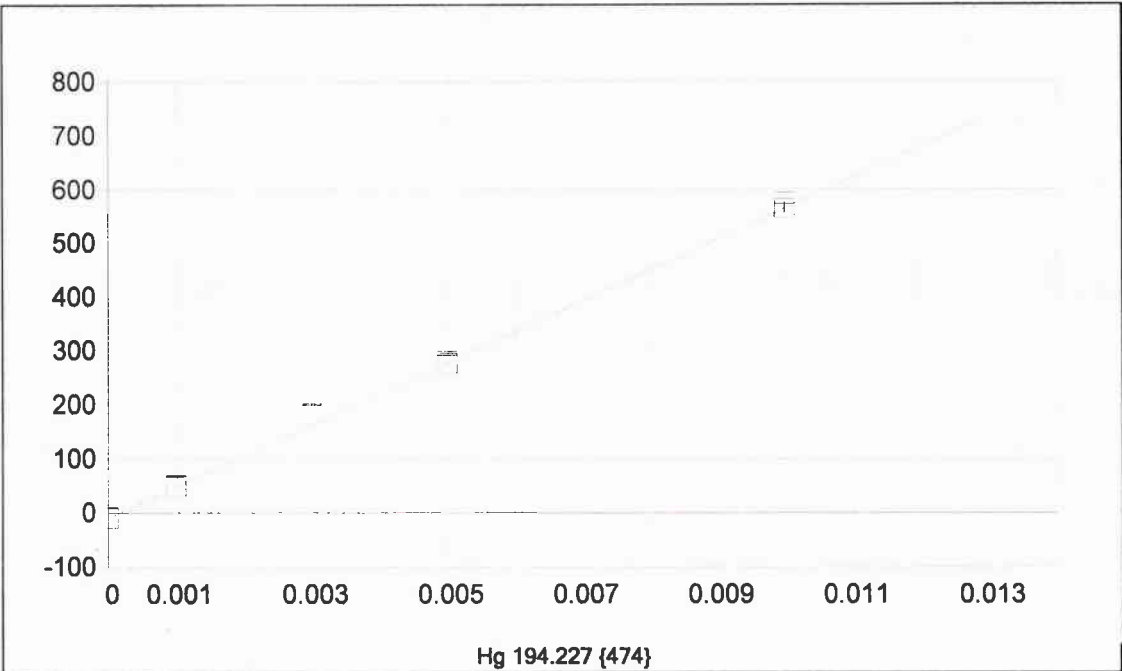


**Zn 213.856 (458)**

Fecha de la 23/12/2015 12:40:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 21.927216 Reajustar P 1.000000  
 A1 (Ganancia) 8526.137824 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999499 Estatus: OK.  
 Error Estándar de Est: 8.169076  
 MDL: 0.000131  
 MQL: 0.000436

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00002	-.000	.000	21.728	1.78	1
STD 4	.10000	.11734	.017	17.3	1022.4	.878	1
STD 5	.40000	.42793	.028	6.98	3670.5	23.0	1
STD 6	1.0000	1.0016	.002	.162	8561.9	11.9	1
STD 7	4.0000	3.9531	-.047	-1.17	33727.	65.8	1



Fecha de la	28/12/2015 09:26:31	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	-9.275944	Reajustar P	1.000000				
A1 (Ganancia)	57332.03676	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999984	Estatus:	OK.				
Error Estándar de Est:	0.058191						
MDL:	0.000024						
MQL:	0.000081						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	-9.2769	.687	1
STD 1	.00100	.00102	.000	2.01	49.211	1.61	1
STD 2	.00300	.00333	.000	10.9	181.47	1.42	0
STD 3	.00500	.00498	-.000	-.466	276.05	3.55	1
STD 4	.01000	.01000	.000	.032	564.23	10.8	1



Análisis:

**METALES PESADOS POR ICP-OES**

Lote analítico:

**DMP-PEPINO/NOPAL/CALABAZA-151223**

Fecha de Análisis:

23/12/2015

Fecha de Reporte:

23/12/2015

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9999	0.9997	0.9998	0.9995	0.9998	0.9998	0.9993	0.9995	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/l		% Recobro²	No.¹	Identificación	Analito	Concentración mg/l		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
10	QC:QC-Medio	Aluminio	0.4000	0.4443	111	34	QC:QC-Medio	Aluminio	0.4000	0.4385	110
		Arsénico	0.4000	0.4249	106			Arsénico	0.4000	0.4606	115
		Cadmio	0.4000	0.4256	106			Cadmio	0.4000	0.4346	109
		Cobre	0.4000	0.4415	110			Cobre	0.4000	0.4589	115
		Fierro	0.4000	0.4460	112			Fierro	0.4000	0.4474	112
		Manganeso	0.4000	0.4422	111			Manganeso	0.4000	0.4342	109
		Níquel	0.4000	0.4254	106			Níquel	0.4000	0.4589	115
		Plomo	0.4000	0.4228	106			Plomo	0.4000	0.4477	112
		Zinc	0.4000	0.4521	113			Zinc	0.4000	0.4743	119
21	QC:QC-Medio	Aluminio	0.4000	0.4505	113	6	QC:QC	Mercurio	0.005	0.0049	98
		Arsénico	0.4000	0.4510	113	18	QC:QC	Mercurio	0.005	0.0046	92
		Cadmio	0.4000	0.4342	109	29	QC:QC	Mercurio	0.005	0.0043	86
		Cobre	0.4000	0.4489	112						
		Fierro	0.4000	0.4452	111						
		Manganeso	0.4000	0.4421	111						
		Níquel	0.4000	0.4462	112						
		Plomo	0.4000	0.4376	109						
Zinc	0.4000	0.4654	116								
32	QC:QC-Medio	Aluminio	0.4000	0.4377	109						
		Arsénico	0.4000	0.4554	114						
		Cadmio	0.4000	0.4297	107						
		Cobre	0.4000	0.4566	114						
		Fierro	0.4000	0.4457	111						
		Manganeso	0.4000	0.4337	108						
		Níquel	0.4000	0.4526	113						
		Plomo	0.4000	0.4417	110						
Zinc	0.4000	0.4681	117								



Análisis:  
 Lote analítico:  
 Fecha de Análisis:  
 Fecha de Reporte:

**METALES PESADOS POR ICP-OES**  
 DMP-PEPINO/NOPAL/CALABAZA-151223  
 23/12/2015  
 23/12/2015

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
12	Recuperación	Aluminio	40.0000	43.3200	108						
		Arsénico	40.0000	42.7200	107						
		Cadmio	40.0000	42.2800	106						
		Cobre	40.0000	43.2900	108						
		Fierro	40.0000	43.7200	109						
		Manganeso	40.0000	43.6000	109						
		Níquel	40.0000	42.3200	106						
		Plomo	40.0000	42.0500	105						
		Zinc	40.0000	45.0500	113						
8	Recuperación	Mercurio	0.5	0.4804	96						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

**I.B.I. Gaudencio Vargas Espejel**  
 ELABORÓ

**PACE/GIS/I02-F01**

**Q.F.B. Leticia Velázquez Méndez**  
 REVISÓ



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21998	Pepino		05/11/2015	0.5071	0.5040
GISC15-22168	Pepino		05/11/2015	0.5079	0.5070
GISC15-22169	Pepino		05/11/2015	0.5024	0.5033
GISC15-22170	Pepino		05/11/2015	0.5073	0.5086
GISC15-22033	Nopal		05/11/2015	0.5058	0.5019
GISC15-22034	Nopal		05/11/2015	0.5049	0.5029
GISC15-21684	Calabaza		05/11/2015	0.5020	0.5029
GISC15-21685	Calabaza		05/11/2015	0.5094	0.5094
GISC15-21770	Calabaza		05/11/2015	0.5039	0.5089
GISC15-21771	Calabaza		05/11/2015	0.5081	0.5030
GISC15-21772	Calabaza		05/11/2015	0.5041	0.5010
GISC15-21806	Calabaza		05/11/2015	0.5041	0.5043
GISC15-21807	Calabaza		05/11/2015	0.5010	0.5031
GISC15-21997	Calabaza		05/11/2015	0.5033	0.5087
GISC15-21999	Calabaza		05/11/2015	0.5031	0.5033
GISC15-22031	Calabaza		05/11/2015	0.5088	0.5027
GISC15-22032	Calabaza		05/11/2015	0.5042	0.5036

P.A. *[Signature]* MC

I.B.T. Reyna Ivette Delgado

*[Signature]*

Q.F.B. Leticia Velazquez Méndez

1	Cal: Blanco 23/12/2015 12:19:21 IR D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	10.51	.1778	-2876	10.91	6.703	-.0750	4.083	1.256	21.73	
Desv. Est.	6.61	.2430	.5390	.81	.785	1.118	.673	1.249	1.78	
% RSD	62.89	136.7	187.4	7.430	11.71	1490.	16.48	99.43	8.188	
Rep #1	8.550	-.0889	-.2505	10.47	6.040	.9750	3.359	.2524	19.99	
Rep #2	17.88	.2355	-.8442	11.84	6.500	-1.250	4.690	2.654	23.55	
Rep #3	5.100	.3866	.2319	10.40	7.570	.0500	4.200	.8609	21.64	
2	Cal: STD 1 23/12/2015 12:23:17 IR D MP 151223: UNAM (PEPINO):									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	40.72	14.50	4.938							
Desv. Est.	.61	1.47	.886							
% RSD	1.496	10.17	17.95							
Rep #1	40.06	15.98	3.923							
Rep #2	41.26	13.03	5.330							
Rep #3	40.84	14.49	5.561							
3	Cal: STD 2 23/12/2015 12:25:42 IR D MP 151223: UNAM (PEPINO):									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	84.21	25.62	7.040							
Desv. Est.	.86	.89	.462							
% RSD	1.016	3.474	6.564							
Rep #1	83.54	24.91	6.564							
Rep #2	83.93	26.62	7.487							
Rep #3	85.18	25.33	7.070							
4	Cal: STD 3 23/12/2015 12:28:08 IR D MP 151223: UNAM (PEPINO):									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	15.32	415.0	53.45	37.04	153.0	104.6	29.41			
Desv. Est.	.63	2.7	2.52	2.77	1.4	1.7	.80			
% RSD	4.117	.6617	4.719	7.476	.8831	1.651	2.728			
Rep #1	14.60	411.8	54.12	34.04	151.7	104.1	30.32			
Rep #2	15.58	416.4	50.66	39.50	153.0	103.1	28.79			
Rep #3	15.78	416.7	55.57	37.57	154.4	106.5	29.13			
5	Cal: STD 4 23/12/2015 12:30:35 IR D MP 151223: UNAM (PEPINO):									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	36.46	1044.	125.6	79.18	386.0	255.1	72.75	1022.		
Desv. Est.	.90	3.	3.0	1.16	2.4	1.8	.89	1.		
% RSD	2.467	.3000	2.385	1.466	.6139	.6876	1.219	.0859		
Rep #1	36.54	1046.	123.1	78.04	383.3	253.1	73.43	1023.		
Rep #2	35.52	1040.	124.8	80.36	387.6	256.0	73.07	1021.		
Rep #3	37.31	1045.	128.9	79.13	387.2	256.2	71.75	1023.		
6	Cal: STD 5 23/12/2015 12:33:00 IR D MP 151223: UNAM (PEPINO):									





11	Unk: BLANCO 23/12/2015 12:44:49 CONC D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.0141	.0040	.0083	.0047	.0158	.0098	.0095	.0086	.0142	
Desv. Est.	.0035	.0025	.0024	.0045	.0040	.0006	.0024	.0023	.0027	
% RSD	24.79	61.50	28.91	95.15	25.42	6.084	24.85	27.27	19.10	
Rep #1	.0169	.0067	.0110	.0062	.0203	.0098	.0122	.0112	.0174	
Rep #2	.0151	.0018	.0066	-.0003	.0129	.0092	.0077	.0078	.0125	
Rep #3	.0102	.0036	.0072	.0083	.0141	.0104	.0088	.0067	.0129	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
12	Unk: RECUPERACION 23/12/2015 12:47:14 CONC x100 D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	43.32	42.72	42.28	43.29	43.72	43.60	42.32	42.05	45.05	
Desv. Est.	.93	.43	.08	.38	.23	.31	.07	.07	.05	
% RSD	2.139	1.005	.2005	.8837	.5246	.7198	.1627	.1580	.1194	
Rep #1	44.37	42.48	42.26	43.25	43.59	43.24	42.28	42.09	45.08	
Rep #2	42.60	42.46	42.21	43.69	43.98	43.75	42.27	42.09	44.99	
Rep #3	42.99	43.21	42.37	42.93	43.58	43.80	42.40	41.97	45.09	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Blanco: REACTIVO 23/12/2015 12:49:34 CONC x100 D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	2.640	-.0166	.7630	.9181	2.463	1.080	.9102	.8043	1.301	
Desv. Est.	.496	.0823	.1586	.2599	.188	.236	.1854	.3508	.144	
% RSD	18.78	495.9	20.78	28.31	7.614	21.85	20.37	43.61	11.04	
Rep #1	3.095	.0039	.9444	1.139	2.601	1.347	1.110	1.208	1.463	
Rep #2	2.715	.0535	.6941	.9843	2.539	.8983	.8770	.6248	1.250	
Rep #3	2.112	-.1072	.6506	.6315	2.250	.9951	.7436	.5796	1.190	
Comprobación										
Valor										
Intervalo										
14	Unk: GISC15-21998 23/12/2015 12:51:58 CONC x100 D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.7284	.3693	<.0000	1.786	9.791	1.564	<.0000	<.0000	6.341	
Desv. Est.	1.068	.1625	.0272	.607	.543	.102	.0361	.1782	.003	
% RSD	146.6	44.01	6.784	34.01	5.544	6.514	9.358	39.43	.0475	
Rep #1	1.766	.2246	-.3789	2.365	10.33	1.680	-.3862	-.3506	6.338	
Rep #2	.7870	.3383	-.3910	1.839	9.792	1.524	-.3494	-.3476	6.341	
Rep #3	-.3674	.5452	-.4308	1.154	9.248	1.488	-.4215	-.6578	6.344	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
15	Unk: GISC15-21998-R 23/12/2015 12:54:23 CONC x100 D MP 151223: UNAM (PEPINO):									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45	



Media	2.324	.0809	<.0000	<.0000	2.621	12.15	<.0000	<.0000	1.668
Desv. Est.	1.555	.1729	.0109	.2659	.296	.08	.0175	.1063	.018
% RSD	66.90	213.7	1.856	414.7	11.29	.6722	3.193	15.14	1.083
Rep #1	1.709	.2805	-.5766	.1765	2.595	12.07	-.5496	-.8025	1.667
Rep #2	4.093	-.0172	-.5961	-.3497	2.339	12.23	-.5305	-.5908	1.650
Rep #3	1.172	-.0206	-.5951	-.0192	2.929	12.13	-.5655	-.7127	1.686
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
20	Unk: GISC15-22034 23/12/2015 13:06:25 CONC D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.0172	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000	<.0000
Desv. Est.	.0126	.0015	.0002	.0029	.0017	.0006	.0004	.0003	.0001
% RSD	.4819	8.978	.0300	.3266	.0706	.0591	.0450	.0321	.0097
Rep #1	-2.611	.0190	-.7615	-.8953	-2.346	-1.057	-.9075	-.8029	-1.226
Rep #2	-2.627	.0163	-.7617	-.8895	-2.349	-1.057	-.9079	-.8033	-1.226
Rep #3	-2.602	.0163	-.7619	-.8930	-2.345	-1.058	-.9083	-.8029	-1.226
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
21	QC: QC-MEDIO 23/12/2015 13:08:52 CONC D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4505	.4510	.4342	.4489	.4452	.4421	.4462	.4376	.4654
Desv. Est.	.0011	.0018	.0045	.0030	.0070	.0010	.0049	.0029	.0051
% RSD	.2478	.3951	1.039	.6676	1.578	.2265	1.106	.6684	1.106
Rep #1	.4494	.4525	.4384	.4500	.4480	.4429	.4511	.4409	.4696
Rep #2	.4516	.4515	.4349	.4512	.4503	.4423	.4462	.4355	.4669
Rep #3	.4504	.4491	.4294	.4455	.4372	.4410	.4412	.4362	.4596
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
22	Unk: GISC15-21684 23/12/2015 13:11:14 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1746	<.0000	.1207	3.621	<.0000	<.0000	<.0000	1.425
Desv. Est.	1.807	.1682	.0192	.1686	.225	.0813	.0139	.0526	.027
% RSD	171.3	96.36	2.921	139.7	6.206	68.32	2.007	8.017	1.875
Rep #1	-2.766	.2723	-.6418	-.0723	3.625	-.0513	-.6796	-.7111	1.422
Rep #2	-1.232	-.0197	-.6791	.2395	3.844	-.2092	-.7068	-.6064	1.400
Rep #3	.8345	.2711	-.6522	.1947	3.394	-.0966	-.6986	-.6501	1.453
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
23	Unk: GISC15-21685 23/12/2015 13:13:39 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 { 47	226.502 { 44	324.754 { 10	259.940 { 13	257.610 { 13	231.604 { 44	220.353 { 45	213.856 { 45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.5764	.1304	<.0000	<.0000	1.501	<.0000	<.0000	<.0000	.9602

Desv. Est.	.7910	.1180	.0183	.2425	.262	.0471	.0505	.1910	.0163
% RSD	137.2	90.48	2.759	1450.	17.45	2056.	5.993	27.20	1.693
Rep #1	.7347	.0152	-.6414	.2345	1.326	-.0540	-.8917	-.4884	.9754
Rep #2	-.2818	.1251	-.6747	-.2493	1.375	.0092	-.7909	-.8558	.9622
Rep #3	1.276	.2510	-.6712	-.0354	1.802	.0380	-.8454	-.7623	.9431
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-21770 23/12/2015 13:16:04 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.1203	.1050	<.0000	2.249	15.20	1.370	<.0000	<.0000	8.144
Desv. Est.	.9904	.1755	.0049	.100	.44	.114	.0432	.1640	.019
% RSD	823.0	167.2	.7117	4.435	2.900	8.347	5.536	24.30	.2318
Rep #1	1.252	.2726	-.6901	2.359	15.62	1.501	-.7895	-.7026	8.133
Rep #2	-.5859	.1197	-.6998	2.164	14.74	1.309	-.8191	-.4988	8.165
Rep #3	-.3056	-.0774	-.6936	2.224	15.23	1.298	-.7340	-.8234	8.132
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	Unk: GISC15-21771 23/12/2015 13:18:29 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	1.043	.1540	<.0000	.7550	23.34	1.555	1.295	<.0000	3.608
Desv. Est.	1.571	.0912	.0278	.2220	.50	.020	.071	.0695	.022
% RSD	150.6	59.21	4.019	29.40	2.134	1.307	5.499	9.800	.6023
Rep #1	.1362	.2588	-.6623	.9672	23.72	1.565	1.363	-.7489	3.628
Rep #2	.1362	.1094	-.6966	.7736	23.52	1.532	1.221	-.6291	3.611
Rep #3	2.858	.0937	-.7174	.5244	22.77	1.569	1.300	-.7501	3.585
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
26	Unk: GISC15-21772 23/12/2015 13:20:53 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1550	<.0000	.5313	8.276	.7100	<.0000	<.0000	2.412
Desv. Est.	1.308	.3359	.0224	.1836	.172	.0113	.0176	.0432	.023
% RSD	46.09	216.7	3.139	34.56	2.072	1.596	2.211	6.695	.9445
Rep #1	-3.731	-.1170	-.7015	.5099	8.313	.7226	-.8098	-.6371	2.438
Rep #2	-1.336	.5304	-.7026	.7246	8.427	.7007	-.8008	-.6911	2.403
Rep #3	-3.446	.0516	-.7409	.3593	8.089	.7068	-.7759	-.6058	2.395
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
27	Unk: GISC15-21806 23/12/2015 13:23:18 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2279	<.0000	1.398	15.44	1.780	<.0000	<.0000	4.701
Desv. Est.	1.563	.2160	.0072	.351	.34	.055	.0132	.1093	.020

% RSD	87.21	94.78	1.008	25.15	2.223	3.111	1.732	15.31	.4231
Rep #1	-2.994	.2695	-.7099	1.776	15.12	1.843	-.7780	-.8394	4.689
Rep #2	-2.358	-.0059	-.7244	1.338	15.80	1.755	-.7534	-.6386	4.724
Rep #3	-.0253	.4202	-.7168	1.080	15.41	1.741	-.7573	-.6643	4.691
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-21807 23/12/2015 13:25:43 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1150	<.0000	.7566	6.988	.4594	<.0000	<.0000	2.917
Desv. Est.	1.333	.0590	.0038	.1719	.410	.0255	.0285	.0903	.013
% RSD	66.41	51.28	.5214	22.72	5.866	5.541	3.221	15.34	.4469
Rep #1	-3.427	.1596	-.7322	.6479	7.458	.4720	-.9034	-.6931	2.918
Rep #2	-1.816	.1373	-.7399	.9547	6.708	.4761	-.8955	-.5327	2.930
Rep #3	-.7806	.0481	-.7359	.6670	6.797	.4301	-.8507	-.5409	2.904
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-21997 23/12/2015 13:28:08 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.1296	<.0000	2.655	9.403	.6693	<.0000	<.0000	6.243
Desv. Est.	1.236	.1069	.0144	.273	.556	.0667	.0068	.0908	.018
% RSD	161.6	82.48	1.982	10.26	5.913	9.960	.8201	12.21	.2845
Rep #1	.5970	.2519	-.7123	2.755	10.04	.7295	-.8381	-.6562	6.261
Rep #2	-1.816	.0824	-.7255	2.347	9.123	.6807	-.8244	-.8374	6.243
Rep #3	-1.075	.0544	-.7410	2.864	9.044	.5977	-.8316	-.7369	6.225
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-21999 23/12/2015 13:30:33 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.2911	<.0000	1.841	12.34	1.024	<.0000	<.0000	4.884
Desv. Est.	1.772	.1966	.0115	.214	.13	.069	.0403	.1066	.040
% RSD	470.3	67.56	1.628	11.60	1.088	6.778	4.619	15.21	.8100
Rep #1	-1.735	.1147	-.6959	2.027	12.50	1.065	-.9180	-.7716	4.913
Rep #2	1.628	.5031	-.7182	1.608	12.27	1.063	-.8537	-.7529	4.839
Rep #3	-1.023	.2554	-.7023	1.888	12.26	.9438	-.8439	-.5783	4.900
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-22031 23/12/2015 13:32:58 CONC x100 D MP 151223: UNAM (PEPINO):								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<.0000	.5502	<.0000	2.099	17.46	4.464	<.0000	<.0000	10.68
Desv. Est.	.2855	.1562	.0106	.538	.16	.033	.0348	.0253	.07
% RSD	45.77	28.40	1.460	25.63	.9309	.7420	3.762	3.629	.6358



1	Cal: Blanco 28/12/2015 09:14:35 IR D Hg 151228: PEPINO:
	Hg1942
Unidades	Cts/s
Media	-9.277
Desv. Est.	.687
% RSD	7.409
Rep #1	-10.03
Rep #2	-8.694
Rep #3	-9.102
2	Cal: STD 1 28/12/2015 09:16:49 IR D Hg 151228: PEPINO:
	Hg1942
Unidades	Cts/s
Media	49.21
Desv. Est.	1.61
% RSD	3.273
Rep #1	47.88
Rep #2	48.75
Rep #3	51.00
3	Cal: STD 2 28/12/2015 09:18:14 IR D Hg 151228: PEPINO:
	Hg1942
Unidades	Cts/s
Media	181.5
Desv. Est.	1.4
% RSD	.7831
Rep #1	179.8
Rep #2	182.5
Rep #3	182.1
4	Cal: STD 3 28/12/2015 09:19:34 IR D Hg 151228: PEPINO:
	Hg1942
Unidades	Cts/s
Media	276.0
Desv. Est.	3.5
% RSD	1.286
Rep #1	272.3
Rep #2	276.5
Rep #3	279.4
5	Cal: STD 4 28/12/2015 09:21:19 IR D Hg 151228: PEPINO:
	Hg1942
Unidades	Cts/s
Media	564.2
Desv. Est.	10.8
% RSD	1.919
Rep #1	551.7
Rep #2	571.0
Rep #3	570.0
6	QC: QC 28/12/2015 09:27:45 CONC D Hg 151228: PEPINO:
	Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0000



% RSD	.0273
Rep #1	.0049
Rep #2	.0049
Rep #3	.0049
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: BLANCO 28/12/2015 09:29:23 CONC D Hg 151228: PEPINO: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0000
Desv. Est.	.0000
% RSD	70.01
Rep #1	-.0000
Rep #2	-.0000
Rep #3	-.0000
8	Unk: RECUPERACION 28/12/2015 09:30:51 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4804
Desv. Est.	.0214
% RSD	4.462
Rep #1	.4572
Rep #2	.4994
Rep #3	.4847
9	Blanco: REACTIVO 28/12/2015 09:32:24 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0015
Desv. Est.	.0028
% RSD	182.9
Rep #1	.0013
Rep #2	-.0016
Rep #3	-.0043
10	Unk: GISC15-21998 28/12/2015 09:34:15 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0068
Desv. Est.	.0019
% RSD	27.61
Rep #1	-.0057
Rep #2	-.0090
Rep #3	-.0058
11	Unk: GISC15-21998-R 28/12/2015 09:35:32 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0098

Desv. Est.	.0014
% RSD	14.22
Rep #1	-.0084
Rep #2	-.0112
Rep #3	-.0098
12	Unk: GISC15-22168 28/12/2015 09:37:00 CONC x100 D.H. 151228: REPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0065
Desv. Est.	.0013
% RSD	20.01
Rep #1	-.0050
Rep #2	-.0075
Rep #3	-.0069
13	Unk: GISC15-22169 28/12/2015 09:38:17 CONC x100 D.H. 151228: REPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0054
Desv. Est.	.0006
% RSD	11.32
Rep #1	-.0047
Rep #2	-.0058
Rep #3	-.0057
14	Unk: GISC15-22170 28/12/2015 09:39:42 CONC x100 D.H. 151228: REPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0039
Desv. Est.	.0011
% RSD	29.31
Rep #1	-.0029
Rep #2	-.0052
Rep #3	-.0037
15	Unk: GISC15-22033 28/12/2015 09:42:06 CONC x100 D.H. 151228: REPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0063
Desv. Est.	.0017
% RSD	27.65
Rep #1	-.0049
Rep #2	-.0082
Rep #3	-.0056
16	Unk: GISC15-22034 28/12/2015 09:44:00 CONC x100 D.H. 151228: REPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-.0036
Desv. Est.	.0003
% RSD	8.102

Rep #1	-0037
Rep #2	-0033
Rep #3	-0039
17	Unk: GISC15-21684 28/12/2015 09:45:28 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-0026
Desv. Est.	.0008
% RSD	29.92
Rep #1	-0021
Rep #2	-0022
Rep #3	-0035
18	QC: QC 28/12/2015 09:46:54 CONC D Hg 151228: PEPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	.0046
Desv. Est.	.0000
% RSD	.8210
Rep #1	.0046
Rep #2	.0046
Rep #3	.0046
Comprobación	Pasa Comp
Valpr	
Intervalo	
19	Unk: GISC15-21685 28/12/2015 09:49:38 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-0041
Desv. Est.	.0016
% RSD	38.70
Rep #1	-0031
Rep #2	-0059
Rep #3	-0032
20	Unk: GISC15-21770 28/12/2015 09:51:02 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	-0021
Desv. Est.	.0016
% RSD	77.86
Rep #1	-0033
Rep #2	-0027
Rep #3	-0002
21	Unk: GISC15-21771 28/12/2015 09:52:22 CONC x100 D Hg 151228: PEPINO: Hg1942
Línea	194.227 (47
Unidades	mg/kg
Media	.0185
Desv. Est.	.0024

% RSD	12.89
Rep #1	.0210
Rep #2	.0163
Rep #3	.0182
22	Unk: GISC15-21772 28/12/2015 09:53:43 CONC x100 D.H. 151222 DEFINO Hg1942
Linea	194.227 (47)
Unidades	mg/kg
Media	-.0026
Desv. Est.	.0025
% RSD	95.47
Rep #1	-.0001
Rep #2	-.0027
Rep #3	-.0051
23	Unk: GISC15-21806 28/12/2015 09:55:24 CONC x100 D.H. 151222 DEFINO Hg1942
Linea	194.227 (47)
Unidades	mg/kg
Media	-.0023
Desv. Est.	.0023
% RSD	102.5
Rep #1	.0004
Rep #2	-.0040
Rep #3	-.0032
24	Unk: GISC15-21807 28/12/2015 09:56:51 CONC x100 D.H. 151222 DEFINO Hg1942
Linea	194.227 (47)
Unidades	mg/kg
Media	-.0007
Desv. Est.	.0017
% RSD	249.0
Rep #1	-.0027
Rep #2	.0002
Rep #3	.0004
25	Unk: GISC15-21997 28/12/2015 09:58:24 CONC x100 D.H. 151222 DEFINO Hg1942
Linea	194.227 (47)
Unidades	mg/kg
Media	-.0058
Desv. Est.	.0023
% RSD	40.44
Rep #1	-.0035
Rep #2	-.0057
Rep #3	-.0082
26	Unk: GISC15-21999 28/12/2015 09:59:43 CONC x100 D.H. 151222 DEFINO Hg1942
Linea	194.227 (47)
Unidades	mg/kg
Media	-.0062
Desv. Est.	.0028
% RSD	45.60
Rep #1	-.0032

Rep #2	-0089
Rep #3	-0065
27	Unk: GISC15-22031 28/12/2015 10:01:05 CONC x100 D Hg 151228: PEPINO:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0041
Desv. Est.	.0013
% RSD	30.93
Rep #1	-0040
Rep #2	-0029
Rep #3	-0054
28	Unk: GISC15-22032 28/12/2015 10:02:24 CONC x100 D Hg 151228: PEPINO:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0037
Desv. Est.	.0012
% RSD	31.78
Rep #1	-0046
Rep #2	-0040
Rep #3	-0024
29	QC: QC 28/12/2015 10:03:54 CONC D Hg 151228: PEPINO:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0043
Desv. Est.	.0002
% RSD	3.503
Rep #1	.0042
Rep #2	.0044
Rep #3	.0044
Comprobación	Pasa Comp
Valor	
Intervalo	

## **CONTENIDO**

### **VEGETALES FRESCOS**

- 1.1 Informes de resultados de prueba**
- 1.2 Curvas de calibración**
- 1.3 Evaluación de muestras de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
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Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

**Matriz:** VEGETALES FRESCOS  
**Fecha de Recepción:** 2015-10-15

### INTERESADO

**Nombre :** Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
**Dirección:** Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

**Método:** Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
**Referencia:** EPA 6010C-2007  
**Resultados:** Ver hoja excell .....2015/10/15 (2)  
**Fecha de Analisis de Metales y Mercurio:** 2015-11-02 2015-11-02  
**Fecha de Realización del Informe:** 2015-11-03

### IDENTIFICACIÓN CLIENTE

L-I014/15/0136  
L-I014/15/0138  
L-I015/15/0145  
L-I015/15/0146  
L-I034/15/0332  
L-I034/15/0333  
L-I034/15/0338  
L-I034/15/0339  
L-I035/15/0341  
L-I035/15/0342  
L-I035/15/0344  
L-I035/15/0345  
L-I035/15/0347  
L-I035/15/0348  
L-I045/15/0450

### CLAVE DE IDENTIFICACIÓN

GISC15-20298  
GISC15-20299  
GISC15-20302  
GISC15-20303  
GISC15-20337  
GISC15-20338  
GISC15-20341  
GISC15-20342  
GISC15-20343  
GISC15-20344  
GISC15-20345  
GISC15-20346  
GISC15-20347  
GISC15-20348  
GISC15-20367



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
EMILIANO ZAPATA No. 10, SAN LUIS HUEXOTLA, TEXCOCO EDO. DE MEXICO.  
C.P. 56250 TEL: 01(595) 928 41 78, 01(595) 931 39 60 y 01(595) 931 39 61  
TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

**IDENTIFICACIÓN CLIENTE**

L-1054/15/0540  
L-1062/15/0615  
L-1071/15/0705  
L-1073/15/0723  
L-1073/15/0726  
L-1073/15/0727

**CLAVE DE IDENTIFICACIÓN**

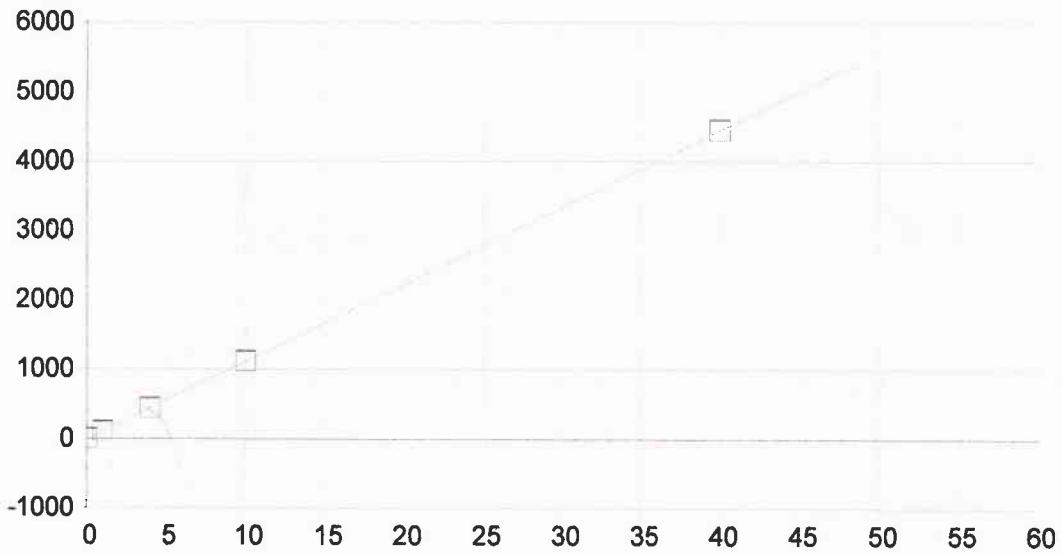
GISC15-20380  
GISC15-20388  
GISC15-20409  
GISC15-20414  
GISC15-20415  
GISC15-20416

REVISÓ

Q.F.B. Leticia Velázquez Méndez

Gerente Técnico



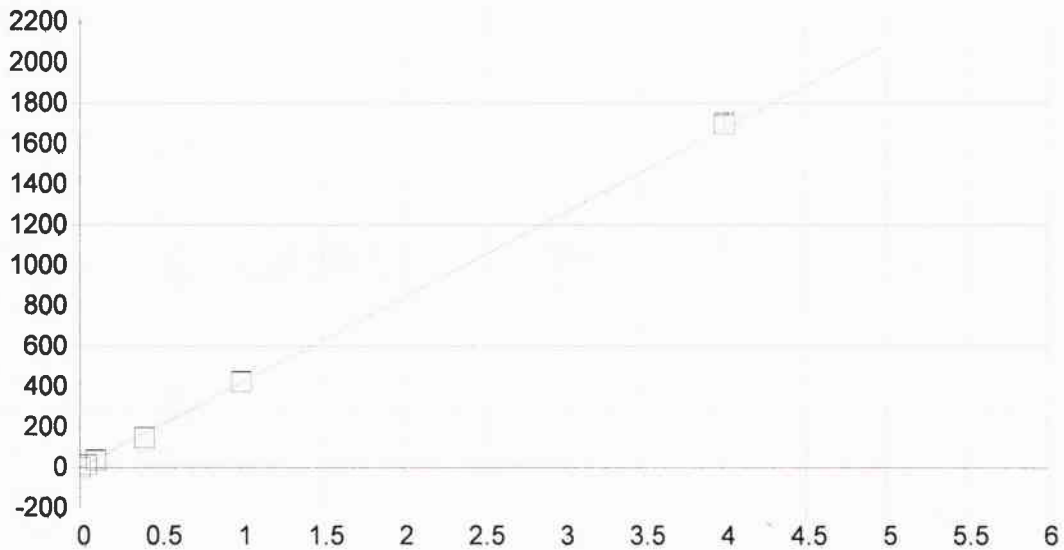


**AI 308.215 {109}**

Fecha de la 02/11/2015 12:04:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 1.818415 Reajustar P 1.000000  
 A1 (Ganancia) 111.012136 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999964 Estatus: OK.  
 Error Estándar de Est: 0.286654  
 MDL: 0.044555  
 MQL: 0.148516

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00006	.000	.000	1.8250	4.72	1
STD 6	1.0000	.94102	-.059	-5.90	106.28	2.90	1
STD 7	4.0000	3.9730	-.027	-.674	442.87	11.7	1
STD 8	10.000	10.057	.057	.567	1118.2	9.73	1
STD 9	40.000	40.029	.029	.073	4445.6	12.0	1

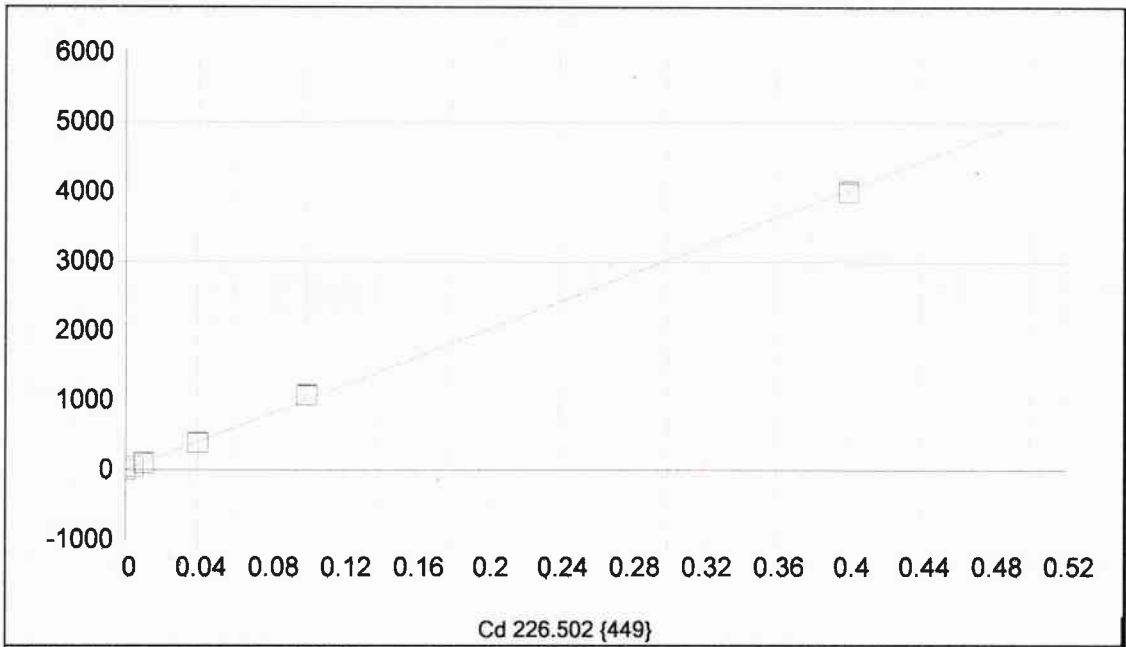


As 189.042 {478}

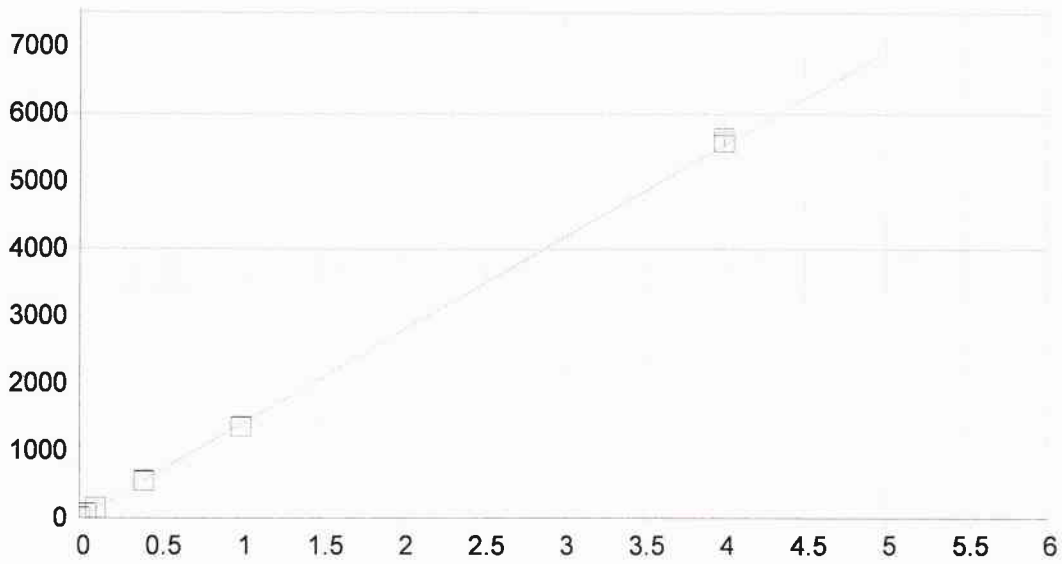
Fecha de la 02/11/2015 12:04:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.079380 Reajustar P 1.000000  
 A1 (Ganancia) 419.073967 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000 ✓  
 Correlación: 0.999152 ✓ Estatus: OK.  
 Error Estándar de Est: 0.314519  
 MDL: 0.001869  
 MQL: 0.006231

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00002	.000	.000	-.07274	.368	1
STD 4	.10000	.08823	-.012	-11.8	36.894	1.56	1
STD 5	.40000	.35206	-.048	-12.0	147.46	1.05	1
STD 6	1.0000	1.0121	.012	1.21	424.07	1.63	1
STD 7	4.0000	4.0550	.055	1.37	1699.3	5.81	1
STD 3	.04000	.03262	-.007	-18.4	13.591	.634	1



Fecha de la	02/11/2015 11:59:58	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	-0.051653	Reajustar P	1.000000				
A1 (Ganancia)	10108.62336	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999516	Estatus:	OK.				
Error Estándar de Est:	0.573013						
MDL:	0.000135						
MQL:	0.000449						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00000	.000	.000	-.04904	.817	1
STD 1	.00400	.00398	-.000	-.523	40.171	.146	1
STD 2	.01000	.00928	-.001	-7.19	93.764	.756	1
STD 3	.04000	.03841	-.002	-3.97	388.24	1.69	1
STD 4	.10000	.10620	.006	6.20	1073.5	12.1	1
STD 5	.40000	.39613	-.004	-.967	4004.3	21.0	1

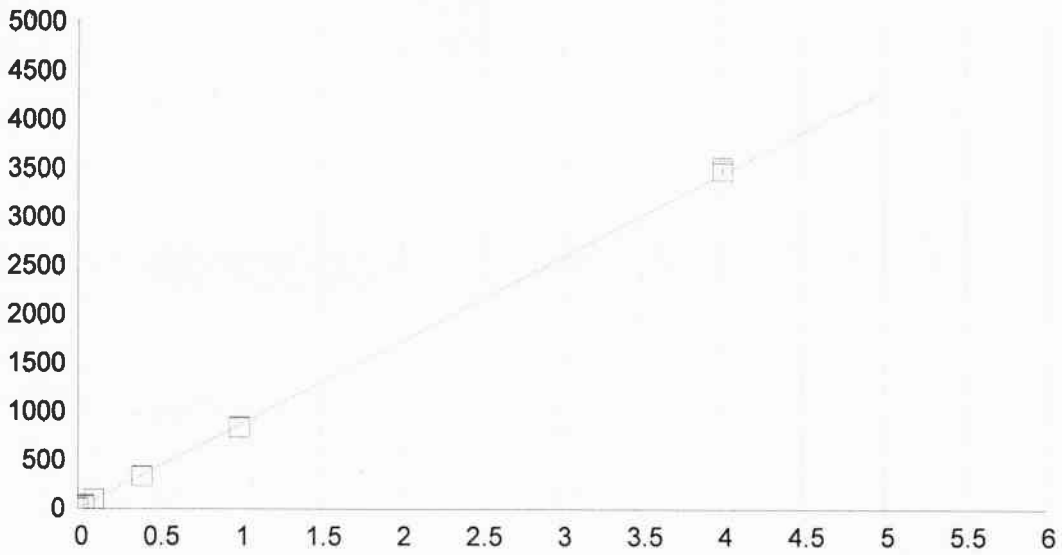


Cu 324.754 {104}

Fecha de la 02/11/2015 12:04:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 7.997716 Reajustar P 1.000000  
 A1 (Ganancia) 1384.367414 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999842 Estatus: OK.  
 Error Estándar de Est: 0.448191  
 MDL: 0.003363  
 MQL: 0.011211

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	7.9970	2.87	1
STD 5	.40000	.39129	-.009	-2.18	549.69	8.86	1
STD 6	1.0000	.96906	-.031	-3.09	1349.5	2.38	1
STD 7	4.0000	4.0340	.034	.850	5592.5	51.3	1
STD 3	.04000	.04007	.000	.167	63.465	2.53	1
STD 4	.10000	.10560	.006	5.60	154.19	.819	1

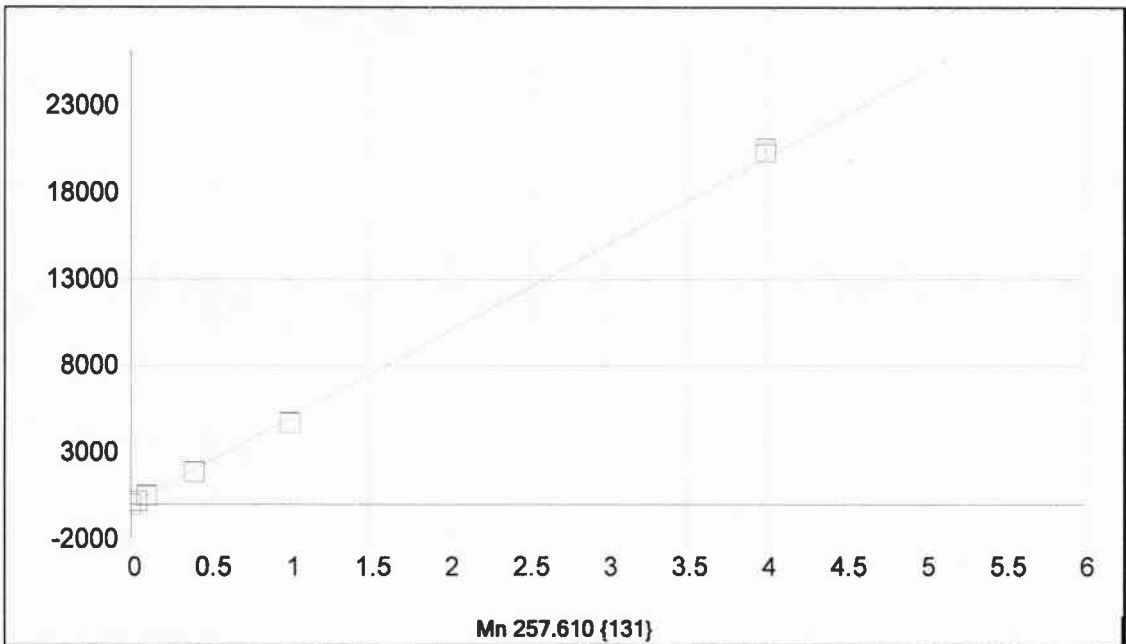


Fe 259.940 {130}

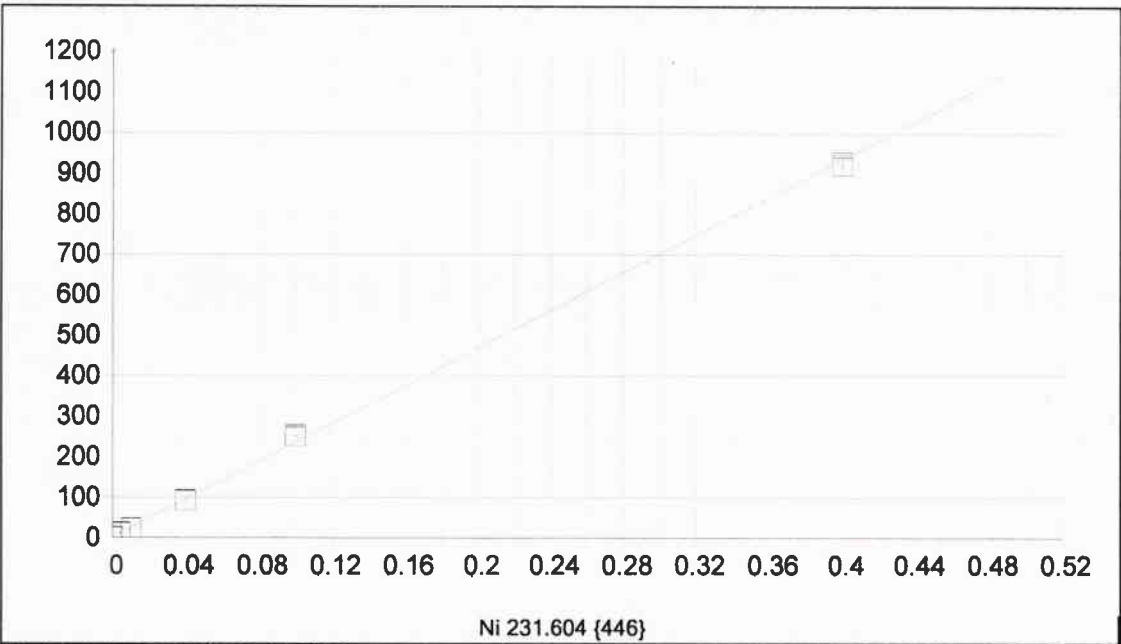
Fecha de la 02/11/2015 12:04:00 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 3.952897 Reajustar P 1.000000  
 A1 (Ganancia) 862.955694 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999709 Estatus: OK.  
 Error Estándar de Est: 0.379279  
 MDL: 0.002745  
 MQL: 0.009152

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.0000	.0000	.000	.000	3.9567	1.50	1
STD 5	.4000	.38377	-.016	-4.06	335.13	2.49	1
STD 6	1.0000	.96983	-.030	-3.02	840.87	1.51	1
STD 3	.0400	.03504	-.005	-12.4	34.187	3.06	1
STD 4	.1000	.10747	.007	7.47	96.693	.284	1
STD 7	4.0000	4.0439	.044	1.10	3493.7	29.7	1

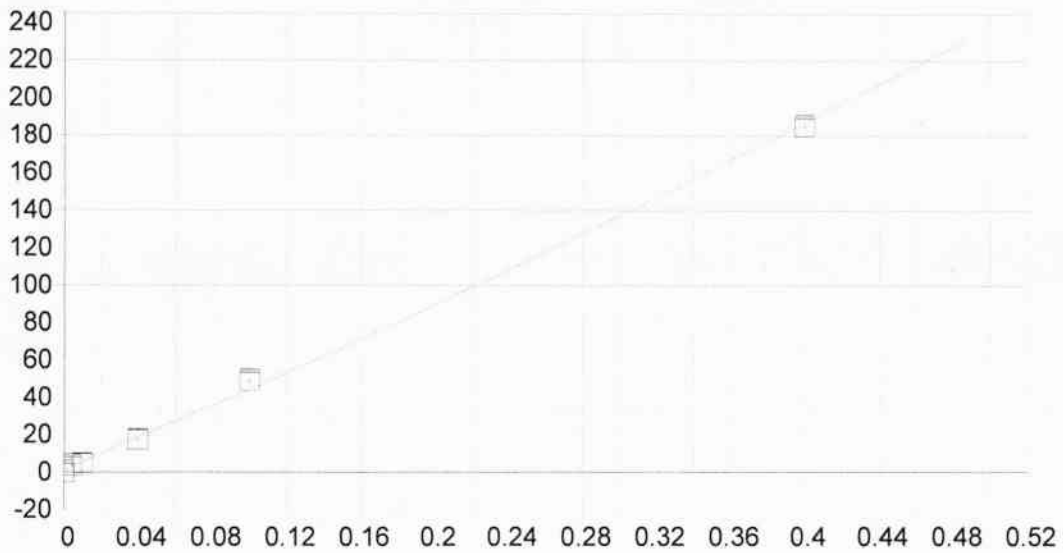


Fecha de la	02/11/2015 12:04:00	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	0.195475	Reajustar P	1.000000				
A1 (Ganancia)	4990.470458	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999423	Estatus:	OK.				
Error Estándar de Est:	3.089537						
MDL:	0.000509						
MQL:	0.001697						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	.00001	.000	.000	.22667	2.60	1
STD 5	.40000	.37658	-.023	-5.86	1879.5	11.0	1
STD 6	1.0000	.94397	-.056	-5.60	4711.1	8.06	1
STD 3	.04000	.03701	-.003	-7.46	184.91	3.03	1
STD 4	.10000	.10127	.001	1.27	505.57	5.94	1
STD 7	4.0000	4.0812	.081	2.03	20367.	168.	1



Ni 231.604 {446}

Fecha de la	02/11/2015 11:59:58	Tipo de unió	Lineal	Ponderación:	1/Conc		
A0 (Compensación):	1.748157	Reajustar P	1.000000				
A1 (Ganancia)	2335.440199	Y-int:	0.000000				
A2 (Curvatura):	0.000000						
n (Exponente):	1.000000						
Correlación:	0.999290	Estatus:	OK.				
Error Estándar de Est:	0.160452						
MDL:	0.000524						
MQL:	0.001747						
<b>Nombre Est.</b>	<b>Conc. Establecida</b>	<b>Conc. Encontrada</b>	<b>Diferencia</b>	<b>% Dif.</b>	<b>(S)IR:</b>	<b>Desv. Est.</b>	<b>Énfasis</b>
Blanco	.00000	-.00000	-.000	.000	1.7465	.479	1
STD 1	.00400	.00487	.001	21.8	13.126	.781	1
STD 2	.01000	.00936	-.001	-6.38	23.613	.597	1
STD 3	.04000	.03888	-.001	-2.81	92.543	1.36	1
STD 4	.10000	.10665	.007	6.65	250.83	3.45	1
STD 5	.40000	.39424	-.006	-1.44	922.47	6.70	1



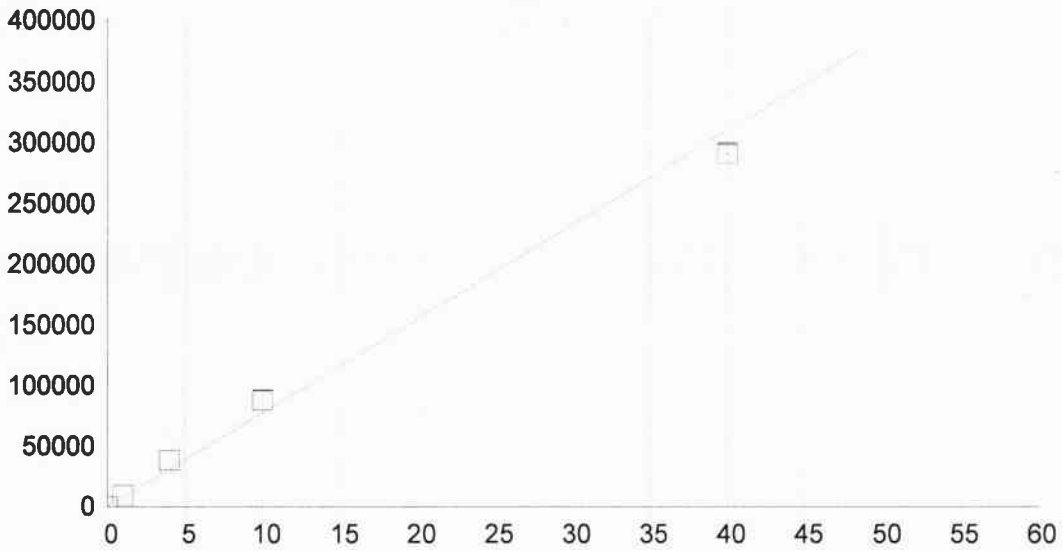
**Pb 220.353 {453}**

Fecha de la 02/11/2015 12:04:42 Tipo de unió Ajuste Compl Ponderación: 1/Conc

A0 (Compensación): -0.045997 Reajustar P 1.000000  
 A1 (Ganancia) 64.476576 Y-int: 0.000000  
 A2 (Curvatura): 449.598898  
 n (Exponente): 0.600000  
 Correlación: 0.998165 Estatus: Aviso Curvatura Positiva  
 Error Estándar de Est: 0.073237  
 MDL: 0.019949  
 MQL: 0.066497

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-.04603	.916	1
STD 1	.00400	.00493	.001	23.3	3.3825	.873	1
STD 2	.01000	.00747	-.003	-25.3	4.6306	.234	1
STD 3	.04000	.03677	-.003	-8.06	17.381	.434	1
STD 4	.10000	.10997	.010	9.97	48.897	.898	1
STD 5	.40000	.39587	-.004	-1.03	184.80	.969	1



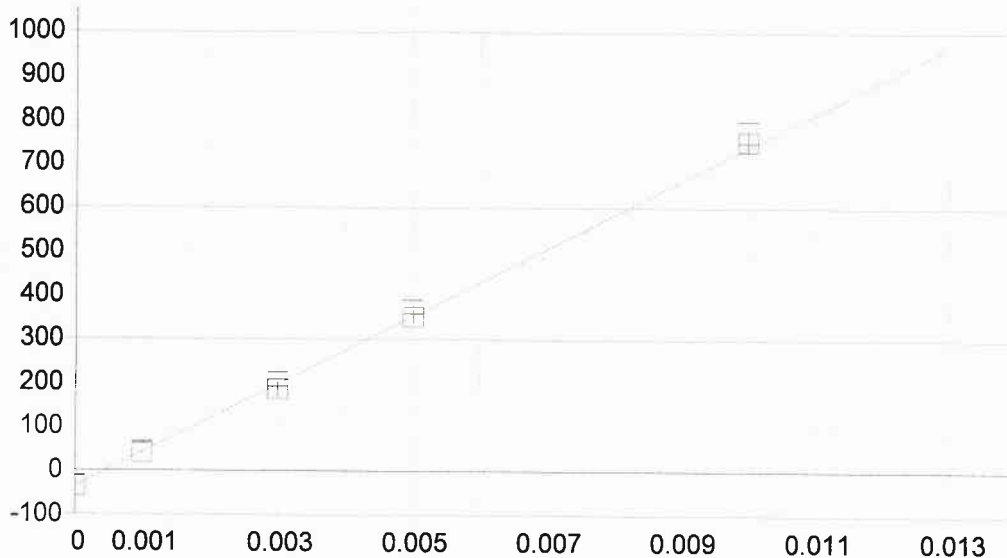


Zn 213.856 {458}

Fecha de la 02/11/2015 12:04:53 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 22.032724 Reajustar P 1.000000  
 A1 (Ganancia) 7767.065031 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.994740 Estatus: OK.  
 Error Estándar de Est: 241.941010  
 MDL: 0.000143  
 MQL: 0.000476

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00050	-.000	.000	18.183	.337	1
STD 6	1.0000	1.1896	.190	19.0	9261.6	8.31	1
STD 7	4.0000	4.9399	.940	23.5	38390.	65.5	1
STD 8	10.000	11.324	1.32	13.2	87980.	253.	1
STD 9	40.000	37.546	-2.45	-6.13	291650.	856.	1



Hg 194.227 {474}

Fecha de la 02/11/2015 17:16:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -34.942007 Reajustar P 1.000000  
 A1 (Ganancia) 77235.71531 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999695 Estatus: OK.  
 Error Estándar de Est: 0.339265  
 MDL: 0.000024  
 MQL: 0.000081

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-34.938	.928	1
STD 1	.00100	.00099	-.000	-1.35	41.249	2.22	1
STD 2	.00300	.00284	-.000	-5.22	184.67	16.2	1
STD 3	.00500	.00499	-.000	-.189	350.51	15.7	1
STD 4	.01000	.01018	.000	1.80	751.28	24.4	1



Análisis: **METALES PESADOS POR ICP-OES**  
 Lote analítico: **DMP-VEGETALES FRESCOS-151102**  
 Fecha de Análisis: **02/11/2015**  
 Fecha de Reporte: **02/11/2015**

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100		0.0100
NIVEL 5		0.400	0.400	0.400	0.400	0.400	0.400	0.400		
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000								10.000	
NIVEL 9	40.000								40.000	
Correlación	0.9999	0.9991	0.9995	0.9998	0.9997	0.9994	0.9993	0.9982	0.9947	0.9997

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/kg		% Recobro <sup>2</sup>		
			Teórica	Práctica					Teórica	Práctica			
27	QC:QC-3	Cadmio	0.0400	0.0388	97	44	Recuperación	Aluminio	40.0000	45.7400	114		
		Níquel	0.0400	0.0465	116			Arsénico	40.0000	39.3200	98		
		Plomo	0.0400	0.0376	94			Cadmio	40.0000	42.7700	107		
28	QC:QC5	Arsénico	0.4000	0.4032	101			Cobre	40.0000	40.0300	100		
		Cobre	0.4000	0.4028	101			Hierro	40.0000	38.2400	96		
		Hierro	0.4000	0.3984	100			Manganeso	40.0000	38.5500	96		
		Manganeso	0.4000	0.4055	101			Níquel	40.0000	45.4900	114		
29	QC: QC7	Aluminio	4.0000	4.0310	101			Plomo	40.0000	38.4900	96		
		Zinc	4.0000	3.9980	100			Zinc	40.0000	38.4800	96		
20	Estándar de Chequeo	Mercurio	0.5	0.5325	107			8	Recuperación	Mercurio	0.5	0.4943	99
21	Estándar de Chequeo	Mercurio	0.5	0.966	193								
29	Estándar de Chequeo	Mercurio	0.5	0.5366	107								

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

*I.B.I. Gaudencio Vargas Espejel*

**I.B.I. Gaudencio Vargas Espejel**

ELABORÓ

*Q.F.B. Leticia Velázquez Méndez*

**Q.F.B. Leticia Velázquez Méndez**

REVISÓ

**PACE/GIS/I02-F01**



Residuos Tóxicos

Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-20298	Vegetales		15/10/2015	0.5011	0.5055
GISC15-20299	Vegetales		15/10/2015	0.5066	0.5032
GISC15-20302	Vegetales		15/10/2015	0.5060	0.5034
GISC15-20303	Vegetales		15/10/2015	0.5033	0.5037
GISC15-20305	Vegetales		15/10/2015	0.5025	0.5030
GISC15-20337	Vegetales		15/10/2015	0.5021	0.5043
GISC15-20338	Vegetales		15/10/2015	0.5027	0.5022
GISC15-20341	Vegetales		15/10/2015	0.5018	0.5021
GISC15-20342	Vegetales		15/10/2015	0.5003	0.5026
GISC15-20343	Vegetales		15/10/2015	0.5012	0.5027
GISC15-20344	Vegetales		15/10/2015	0.5011	0.5015
GISC15-20345	Vegetales		15/10/2015	0.5009	0.5013
GISC15-20346	Vegetales		15/10/2015	0.5019	0.5056
GISC15-20347	Vegetales		15/10/2015	0.5018	0.5001
GISC15-20348	Vegetales		15/10/2015	0.5010	0.5002
GISC15-20367	Vegetales		15/10/2015	0.5042	0.5007
GISC15-20380	Vegetales		15/10/2015	0.5044	0.5011
GISC15-20388	Vegetales		15/10/2015	0.5037	0.5016
GISC15-20409	Vegetales		15/10/2015	0.5020	0.5018
GISC15-20414	Vegetales		15/10/2015	0.5017	0.5027
GISC15-20415	Vegetales		15/10/2015	0.5012	0.5032
GISC15-20416	Vegetales		15/10/2015	0.5015	0.5029

*P.A. A. Anderson*

I.B.T. Reyna Ivette Delgado

Q.F.B. Leticia Velazquez Méndez

1	Cal: Blanco 02/11/2015 11:45:28 IR D MP151102: VARIOS:									
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	1.825	-.0727	-.0490	7.997	3.957	.2267	1.746	-.0460	18.18	
Desv. Est.	4.721	.3683	.8171	2.869	1.498	2.602	.479	.9163	.34	
% RSD	258.7	506.3	1666.	35.88	37.86	1148.	27.41	1991.	1.853	
Rep #1	-1.350	.3135	.7671	6.614	2.740	.8500	1.266	-.6085	18.35	
Rep #2	7.250	-.1118	-.0471	11.30	5.630	2.460	2.223	1.011	18.41	
Rep #3	-.4250	-.4200	-.8671	6.082	3.500	-2.630	1.750	-.5409	17.80	
2	Cal: STD 1 02/11/2015 11:48:36 IR D MP151102: VARIOS:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	40.17	13.13	3.383							
Desv. Est.	.15	.78	.873							
% RSD	.3634	5.949	25.80							
Rep #1	40.33	13.97	4.327							
Rep #2	40.04	12.98	3.215							
Rep #3	40.15	12.43	2.606							
3	Cal: STD 2 02/11/2015 11:50:57 IR D MP151102: VARIOS:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	93.76	23.61	4.631							
Desv. Est.	.76	.60	.234							
% RSD	.8067	2.527	5.053							
Rep #1	94.62	24.30	4.682							
Rep #2	93.19	23.28	4.375							
Rep #3	93.49	23.26	4.835							
4	Cal: STD 3 02/11/2015 11:53:09 IR D MP151102: VARIOS:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	13.59	388.2	63.47	34.19	184.9	92.54	17.38			
Desv. Est.	.63	1.7	2.53	3.06	3.0	1.36	.43			
% RSD	4.668	.4344	3.984	8.961	1.638	1.472	2.497			
Rep #1	13.16	386.3	63.66	37.69	188.0	94.06	17.73			
Rep #2	13.29	389.2	60.85	32.86	182.0	92.14	16.90			
Rep #3	14.32	389.2	65.89	32.01	184.7	91.43	17.51			
5	Cal: STD 4 02/11/2015 11:55:50 IR D MP151102: VARIOS:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	36.89	1073.	154.2	96.69	505.6	250.8	48.90			
Desv. Est.	1.56	12.	.8	.28	5.9	3.5	.90			
% RSD	4.237	1.126	.5309	.2940	1.175	1.377	1.837			
Rep #1	37.76	1066.	153.6	96.46	502.3	248.4	48.52			
Rep #2	37.83	1067.	155.1	96.61	502.0	249.3	48.25			
Rep #3	35.09	1087.	153.8	97.01	512.4	254.8	49.92			
6	Cal: STD 5 02/11/2015 11:57:59 IR D MP151102: VARIOS:									

	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	147.5	4004.	549.7	335.1	1879.	922.5	184.8		
Desv. Est.	1.0	21.	8.9	2.5	11.	6.7	1.0		
% RSD	.7114	.5253	1.611	.7432	.5847	.7267	.5246		
Rep #1	148.1	4028.	540.5	332.5	1872.	929.9	183.9		
Rep #2	148.0	3999.	558.2	337.5	1892.	917.0	185.8		
Rep #3	146.3	3987.	550.4	335.4	1875.	920.5	184.7		
7	Cal: STD 6 02/11/2015 12:00:16 IR D MP151102: VARIOS:								
	Al3082	As1890	Cu3247	Fe2599	Mn2576	Zn2138			
Línea	308.215 {10	189.042 {47	324.754 {10	259.940 {13	257.610 {13	213.856 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	106.3	424.1	1350.	840.9	4711.	9262.			
Desv. Est.	2.9	1.6	2.	1.5	8.	8.			
% RSD	2.727	.3843	.1761	.1790	.1710	.0898			
Rep #1	109.6	425.0	1351.	839.4	4706.	9267.			
Rep #2	104.8	422.2	1347.	842.4	4707.	9252.			
Rep #3	104.5	425.0	1350.	840.9	4720.	9265.			
8	Cal: STD 7 02/11/2015 12:02:06 IR D MP151102: VARIOS:								
	Al3082	As1890	Cu3247	Fe2599	Mn2576	Zn2138			
Línea	308.215 {10	189.042 {47	324.754 {10	259.940 {13	257.610 {13	213.856 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	442.9	1699.	5593.	3494.	20370.	38390.			
Desv. Est.	11.7	6.	51.	30.	168.	66.			
% RSD	2.636	.3417	.9172	.8509	.8254	.1707			
Rep #1	455.0	1693.	5652.	3528.	20560.	38430.			
Rep #2	441.9	1704.	5559.	3475.	20300.	38430.			
Rep #3	431.7	1701.	5567.	3478.	20240.	38310.			
9	Cal: STD 8 02/11/2015 12:04:24 IR D MP151102: VARIOS:								
	Al3082	Zn2138							
Línea	308.215 {10	213.856 {45							
Unidades	Cts/s	Cts/s							
Media	1118.	87980.							
Desv. Est.	10.	253.							
% RSD	.8698	.2878							
Rep #1	1122.	87710.							
Rep #2	1125.	88030.							
Rep #3	1107.	88200.							
10	Cal: STD 9 02/11/2015 12:07:46 IR D MP151102: VARIOS:								
	Al3082	Zn2138							
Línea	308.215 {10	213.856 {45							
Unidades	Cts/s	Cts/s							
Media	4446.	291600.							
Desv. Est.	12.	856.							
% RSD	.2696	.2934							
Rep #1	4436.	290700.							
Rep #2	4441.	291800.							
Rep #3	4459.	292400.							
11	Blanco: REACTIVO 02/11/2015 12:10:10 CONC D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45

Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.0524	-.0004	.0041	.0039	.0052	.0042	.0050	.0026	.0052
Desv. Est.	.0114	.0002	.0008	.0024	.0029	.0019	.0005	.0015	.0013
% RSD	21.85	40.62	19.11	61.37	55.44	45.64	9.027	59.06	25.35
Rep #1	-.0617	-.0004	.0049	.0020	.0019	.0054	.0055	.0042	.0066
Rep #2	-.0558	-.0003	.0042	.0065	.0074	.0053	.0049	.0023	.0051
Rep #3	-.0396	-.0006	.0033	.0030	.0062	.0020	.0046	.0012	.0040
12	Blanco: MUESTRA 02/11/2015 12:13:37 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.9904	-.3530	-.0272	.3605	4.022	.2458	.3655	C .0587	.8883
Desv. Est.	2.571	.0323	.0071	.0797	.358	.0505	.0314	.1015	.0088
% RSD	259.6	9.161	26.15	22.10	8.908	20.53	8.590	172.9	.9935
Rep #1	.2820	-.3652	-.0353	.2993	3.766	.3038	.3501	.1758	.8833
Rep #2	3.841	-.3164	-.0223	.3316	4.432	.2112	.3448	C .0000	.8830
Rep #3	-1.152	-.3775	-.0240	.4506	3.868	.2225	.4017	.0002	.8985
13	Unk: GISC15-20298 02/11/2015 12:15:29 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	30.64	-1.433	.0212	5.154	32.81	10.89	-.0084	-.0098	11.63
Desv. Est.	1.96	.244	.0216	.383	.99	.36	.0362	.0425	.17
% RSD	6.394	17.02	101.8	7.438	3.029	3.297	432.2	432.1	1.487
Rep #1	32.76	-1.214	.0403	4.863	33.51	11.21	.0222	.0313	11.82
Rep #2	30.27	-1.389	-.0022	5.588	33.24	10.97	-.0484	-.0536	11.61
Rep #3	28.89	-1.696	.0255	5.010	31.67	10.50	.0011	-.0072	11.47
14	Unk: GISC15-20299 02/11/2015 12:18:00 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	25.40	-1.123	.0138	3.462	31.55	7.425	-.0765	-.0244	8.334
Desv. Est.	2.41	.109	.0289	.151	.17	.042	.0159	.0598	.102
% RSD	9.495	9.713	209.7	4.362	.5336	.5679	20.79	245.2	1.225
Rep #1	22.75	-1.237	-.0018	3.313	31.66	7.469	-.0598	-.0554	8.441
Rep #2	27.46	-1.110	-.0040	3.615	31.36	7.385	-.0782	-.0623	8.326
Rep #3	26.00	-1.020	.0471	3.458	31.63	7.420	-.0915	.0445	8.237
15	Unk: GISC15-20302 02/11/2015 12:20:14 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	5.676	-1.041	.0281	3.746	32.33	17.76	-.1054	-.0089	12.78
Desv. Est.	5.428	.162	.0072	.155	.25	.11	.0135	.0623	.06
% RSD	95.64	15.55	25.62	4.129	.7752	.6121	12.82	696.3	.4609
Rep #1	11.12	-1.227	.0220	3.796	32.25	17.81	-.1043	-.0041	12.85
Rep #2	.2646	-.9653	.0261	3.870	32.13	17.64	-.1194	-.0735	12.73
Rep #3	5.642	-.9306	.0360	3.573	32.61	17.84	-.0924	.0508	12.76
16	Unk: GISC15-20303 02/11/2015 12:21:24 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.679	-1.861	.0890	1.450	25.64	15.80	-.1461	.0510	28.89

Desv. Est.	3.047	.143	.0106	.197	.33	.06	.0060	.1284	.21
% RSD	31.48	7.709	11.95	13.60	1.291	.3825	4.091	251.6	.7351
Rep #1	12.71	-1.941	.0981	1.229	25.92	15.73	-.1401	.0240	28.73
Rep #2	6.615	-1.696	.0773	1.512	25.73	15.81	-.1461	.1908	28.82
Rep #3	9.713	-1.948	.0916	1.609	25.28	15.85	-.1521	-.0617	29.13
17	Unk: GISC15-20303/02/11/2015 12:22:28 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	5.795	-1.728	.0749	1.632	26.02	15.39	-.1220	-.0518	28.32
Desv. Est.	4.135	.312	.0008	.297	1.64	.54	.0383	.0179	2.67
% RSD	71.36	18.06	1.107	18.21	6.300	3.531	31.40	34.50	9.420
Rep #1	5.770	-1.741	.0756	1.919	27.58	15.79	-.0888	-.0640	31.21
Rep #2	9.944	-1.409	.0751	1.652	26.16	15.60	-.1133	-.0602	27.83
Rep #3	1.673	-2.033	.0740	1.325	24.31	14.77	-.1639	-.0313	25.94
18	Unk: GISC15-20305/02/11/2015 12:23:37 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	618.6	-2846	.1252	7.799	1144.	39.85	.7680	.2341	15.45
Desv. Est.	2.2	.1009	.0095	.299	3.	.12	.0288	.0641	.05
% RSD	.3543	35.46	7.613	3.831	.3025	.2908	3.746	27.39	.3047
Rep #1	616.8	-.3553	.1325	7.519	1140.	39.73	.7791	.2863	15.48
Rep #2	617.9	-.3296	.1144	8.113	1146.	39.95	.7896	.2533	15.47
Rep #3	621.1	-.1690	.1288	7.764	1146.	39.88	.7354	.1625	15.39
19	Unk: GISC15-20305-R 02/11/2015 12:25:48 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	593.6	-.2261	.1093	7.555	1101.	38.29	.7608	.2217	15.01
Desv. Est.	9.7	.2382	.0062	.410	21.	.80	.0422	.2769	.04
% RSD	1.637	105.3	5.684	5.426	1.866	2.078	5.545	124.9	.2562
Rep #1	604.8	-.3948	.1081	7.893	1122.	39.12	.7175	.1068	15.06
Rep #2	587.2	.0463	.1038	7.672	1101.	38.22	.7631	.0208	14.99
Rep #3	588.9	-.3299	.1160	7.099	1081.	37.53	.8018	.5376	14.99
20	Unk: GISC15-20337/02/11/2015 12:26:33 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	32.31	-1.402	.0079	5.866	42.38	10.30	-.0163	C -.0422	16.00
Desv. Est.	6.98	.266	.0081	.201	2.03	.37	.0217	.0518	.12
% RSD	21.61	18.95	103.2	3.432	4.794	3.562	133.2	122.8	.7663
Rep #1	26.95	-1.095	.0171	5.881	44.08	10.66	.0046	-.0707	15.88
Rep #2	40.21	-1.557	.0048	6.059	42.93	10.30	-.0388	.0176	16.13
Rep #3	29.79	-1.553	.0017	5.657	40.13	9.926	-.0148	C -.0735	16.01
21	Unk: GISC15-20338/02/11/2015 12:28:57 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	42.45	-1.270	.0085	5.366	47.88	10.37	-.0617	-.0177	11.15
Desv. Est.	6.91	.067	.0064	.301	.88	.16	.0588	.0480	.06
% RSD	16.29	5.309	75.31	5.605	1.839	1.584	95.38	271.5	.5197



Rep #1	49.58	-1.342	.0094	5.115	48.32	10.19	-.0409	-.0366	11.21
Rep #2	35.78	-1.207	.0017	5.699	48.44	10.51	-.1281	.0369	11.14
Rep #3	41.98	-1.262	.0144	5.283	46.86	10.39	-.0161	-.0533	11.10
22	Unk: GISC15-20341/ 02/11/2015 12:31:21 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	462.5	-4380	.1217	9.584	712.1	41.12	.4749	.1655	12.00
Desv. Est.	2.1	.2447	.0137	.308	8.9	.54	.0305	.1652	.06
% RSD	.4483	55.87	11.29	3.209	1.246	1.306	6.425	99.78	.4654
Rep #1	464.7	-.7138	.1170	9.381	721.6	41.61	.4655	.1849	12.06
Rep #2	462.0	-.3536	.1109	9.432	704.1	40.54	.5090	-.0085	11.96
Rep #3	460.7	-.2467	.1372	9.938	710.6	41.22	.4502	.3202	11.98
23	Unk: GISC15-20341-R 02/11/2015 12:33:39 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	468.2	-.4342	.1443	9.450	727.7	41.23	.4973	.1944	12.57
Desv. Est.	40.5	.2541	.0065	.598	48.2	2.35	.0636	.2355	.50
% RSD	8.660	58.53	4.514	6.327	6.626	5.697	12.78	121.1	3.969
Rep #1	422.8	-.2138	.1437	8.768	672.1	38.53	.4688	.4578	12.01
Rep #2	481.0	-.3766	.1381	9.883	752.5	42.39	.5701	.1216	12.72
Rep #3	500.7	-.7121	.1511	9.698	758.5	42.78	.4530	.0040	12.98
24	Unk: GISC15-20342/ 02/11/2015 12:35:55 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	340.1	-.7154	.1448	10.30	504.9	30.52	.3865	.1268	8.693
Desv. Est.	1.6	.1925	.0092	.07	2.9	.10	.0354	.1489	.022
% RSD	.4783	26.91	6.365	.6852	.5736	.3243	9.155	117.5	.2497
Rep #1	340.2	-.6722	.1477	10.23	503.2	30.46	.3525	.0101	8.684
Rep #2	338.5	-.5482	.1344	10.37	503.3	30.48	.4231	.2945	8.677
Rep #3	341.7	-.9259	.1522	10.30	508.3	30.64	.3838	.0757	8.717
25	Unk: GISC15-20343/ 02/11/2015 12:40:35 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	3.013	-1.959	.0246	5.426	20.39	21.96	.1858	C .0463	23.69
Desv. Est.	1.946	.158	.0044	.160	.05	.45	.0070	.1843	.34
% RSD	64.59	8.082	17.87	2.951	.2426	2.028	3.777	397.8	1.435
Rep #1	2.339	-2.055	.0289	5.255	20.34	21.47	.1875	.2585	23.32
Rep #2	5.206	-2.045	.0248	5.572	20.44	22.34	.1918	-.0460	23.76
Rep #3	1.494	-.776	.0201	5.450	20.39	22.07	.1781	C -.0735	23.99
26	Unk: GISC15-20344/ 02/11/2015 12:42:53 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.978	-1.648	.0139	4.290	20.69	21.88	.0399	C -.0019	19.80
Desv. Est.	1.643	.209	.0066	.035	.27	.14	.0222	.1118	.04
% RSD	16.47	12.69	47.28	.8203	1.291	.6569	55.70	5839.	.1889
Rep #1	8.407	-1.859	.0215	4.279	20.60	21.76	.0175	.1269	19.82
Rep #2	11.68	-1.644	.0111	4.330	20.99	22.04	.0619	-.0591	19.83

Rep #3	9.841	-1.440	.0093	4.262	20.48	21.83	.0403	C -.0735	19.76
27	QC: QC -3 02/11/2015 12:56:42 CONC D MP151102: VARIOS:								
	Cd2265	Ni2316	Pb2203						
Línea	226.502 {44	231.604 {44	220.353 {45						
Unidades	mg/Kg	mg/Kg	mg/Kg						
Media	.0388	.0465	.0376						
Desv. Est.	.0002	.0003	.0027						
% RSD	.4595	.6609	7.042						
Rep #1	.0389	.0468	.0407						
Rep #2	.0387	.0462	.0359						
Rep #3	.0386	.0465	.0363						
Comprobación	Pasa Comp	Ninguno	Pasa Comp						
Valor									
Intervalo									
28	QC: QC -5 02/11/2015 13:01:41 CONC D MP151102: VARIOS:								
	As1890	Cu3247	Fe2599	Mn2576					
Línea	189.042 {47	324.754 {10	259.940 {13	257.610 {13					
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg					
Media	.4032	.4028	.3984	.4055					
Desv. Est.	.0010	.0052	.0027	.0003					
% RSD	.2432	1.298	.6668	.0771					
Rep #1	.4037	.4066	.3990	.4058					
Rep #2	.4039	.4049	.3955	.4053					
Rep #3	.4021	.3968	.4007	.4053					
Comprobación	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp					
Valor									
Intervalo									
29	QC: QC -7 02/11/2015 13:06:20 CONC D MP151102: VARIOS:								
	Al3082	Zn2138							
Línea	308.215 {10	213.856 {45							
Unidades	mg/Kg	mg/Kg							
Media	4.031	3.998							
Desv. Est.	.043	.025							
% RSD	1.073	.6362							
Rep #1	3.999	3.996							
Rep #2	4.014	3.974							
Rep #3	4.080	4.025							
Comprobación	Pasa Comp	Pasa Comp							
Valor									
Intervalo									
30	Unk: GISC15-20303-R 02/11/2015 13:07:50 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.329	-1.002	.0506	3.546	31.91	17.59	-.1345	-.0070	12.54
Desv. Est.	1.828	.032	.0147	.234	.54	.33	.0441	.0508	.12
% RSD	19.60	3.155	29.11	6.589	1.681	1.870	32.76	726.9	.9456
Rep #1	9.662	-1.022	.0671	3.680	32.27	17.85	-.1134	-.0553	12.42
Rep #2	10.97	-1.018	.0460	3.682	32.16	17.69	-.1851	.0459	12.55
Rep #3	7.357	-.9654	.0388	3.276	31.29	17.22	-.1049	-.0116	12.66
31	Unk: GISC15-20345 02/11/2015 13:10:57 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138



Media	45.43	-1.016	.0355	3.493	56.49	13.18	-.0615	.1977	11.16
Desv. Est.	1.77	.209	.0028	.286	2.61	.30	.0279	.1564	.09
% RSD	3.894	20.57	7.766	8.199	4.625	2.246	45.44	79.09	.7681
Rep #1	47.15	-.8076	.0326	3.820	59.07	13.40	-.0930	.0745	11.25
Rep #2	43.61	-1.016	.0359	3.371	56.56	13.29	-.0516	.1450	11.15
Rep #3	45.54	-1.226	.0381	3.287	53.84	12.84	-.0398	.3737	11.08
37	Unk: GISC15-20380 02/11/2015 13:25:16 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	11.52	-.5289	.0482	7.484	70.31	17.92	-.1315	.1369	30.68
Desv. Est.	2.08	.0652	.0053	.155	1.43	.35	.0210	.1703	.32
% RSD	18.08	12.33	10.93	2.074	2.035	1.952	15.96	124.5	1.042
Rep #1	13.76	-.5197	.0540	7.535	71.76	18.21	-.1110	.0961	31.01
Rep #2	9.636	-.5983	.0438	7.608	70.27	18.01	-.1529	-.0094	30.37
Rep #3	11.17	-.4688	.0467	7.310	68.89	17.53	-.1305	.3239	30.67
38	Unk: GISC15-20388 02/11/2015 13:27:36 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	12.70	-1.229	-.0030	1.115	19.17	9.305	-.1000	C .0110	5.324
Desv. Est.	2.45	.070	.0033	.146	.22	.074	.0715	.0734	.024
% RSD	19.30	5.719	110.2	13.11	1.162	.8002	71.49	667.4	.4540
Rep #1	11.66	-1.281	-.0067	.9746	19.38	9.389	-.0237	C -.0735	5.349
Rep #2	10.94	-1.149	-.0016	1.266	19.20	9.250	-.1108	.0582	5.321
Rep #3	15.50	-1.257	-.0006	1.104	18.94	9.274	-.1655	.0483	5.301
39	Unk: GISC15-20409 02/11/2015 13:29:54 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	11.67	-1.162	-.0065	1.782	19.41	7.077	-.1081	C -.0358	11.58
Desv. Est.	1.78	.048	.0065	.159	.21	.091	.0562	.0654	.11
% RSD	15.27	4.106	99.25	8.892	1.086	1.288	52.00	182.6	.9416
Rep #1	11.56	-1.216	-.0023	1.869	19.40	7.134	-.0432	C -.0735	11.62
Rep #2	13.50	-1.127	-.0033	1.599	19.21	6.972	-.1419	.0397	11.66
Rep #3	9.944	-1.142	-.0139	1.879	19.63	7.125	-.1391	C -.0735	11.45
40	Unk: GISC15-20414 02/11/2015 13:32:31 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	17.67	-1.017	.0546	1.530	19.44	5.078	-.0910	C -.0452	7.144
Desv. Est.	6.39	.043	.0082	.283	.19	.027	.0186	.0433	.020
% RSD	36.16	4.192	14.95	18.52	.9951	.5394	20.40	95.94	.2758
Rep #1	15.94	-1.066	.0628	1.535	19.29	5.106	-.1124	.0047	7.159
Rep #2	24.74	-.9943	.0465	1.811	19.66	5.078	-.0799	-.0667	7.153
Rep #3	12.32	-.9907	.0545	1.244	19.37	5.051	-.0806	C -.0735	7.122
41	Unk: BCO REACTIVO 02/11/2015 13:34:39 CONC D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	-.6361	.3703	.0134	-.3689	-4.004	-.2868	-.3810	-.0731	-.8794
Desv. Est.	.0500	.0007	.0000	.0009	.001	.0007	.0003	.0004	.0003

% RSD	7.856	.1800	.3548	.2565	.0345	.2359	.0661	.4800	.0346
Rep #1	-.6644	.3700	.0135	-.3697	-4.002	-.2861	-.3809	-.0728	-.8791
Rep #2	-.5784	.3698	.0134	-.3692	-4.004	-.2867	-.3813	-.0730	-.8794
Rep #3	-.6654	.3710	.0134	-.3679	-4.004	-.2875	-.3808	-.0735	-.8797
42	Unk: GISC15-20415 02/11/2015 13:37:07 CONC x100 D MP151102: VARIOS:								
	Al3082	As1830	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	17.39	-.8540	.0180	1.597	18.32	4.985	-.0688	C .0312	7.304
Desv. Est.	1.62	.0608	.0037	.208	.22	.033	.0546	.1482	.052
% RSD	9.309	7.121	20.60	13.02	1.201	.6534	79.29	474.7	.7153
Rep #1	18.37	-.8097	.0142	1.837	18.56	4.947	-.1160	C -.0735	7.252
Rep #2	15.53	-.9234	.0182	1.490	18.12	5.001	-.0815	.2008	7.357
Rep #3	18.29	-.8290	.0216	1.465	18.28	5.006	-.0090	-.0336	7.303
43	Unk: GISC15-20416 02/11/2015 13:39:19 CONC x100 D MP151102: VARIOS:								
	Al3082	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	308.215 {10	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	17.38	-.6983	.0100	1.664	18.01	5.121	-.1155	C -.0652	8.589
Desv. Est.	3.41	.1264	.0138	.086	.21	.030	.0197	.0144	.052
% RSD	19.60	18.10	137.1	5.145	1.175	.5879	17.09	22.04	.6021
Rep #1	20.16	-.8299	.0130	1.761	18.10	5.136	-.1132	C -.0735	8.596
Rep #2	13.58	-.5778	.0221	1.603	17.76	5.087	-.0970	C -.0735	8.636
Rep #3	18.39	-.6871	-.0050	1.627	18.15	5.141	-.1363	-.0486	8.534

201511102	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	45.74	39.32	42.77	40.03	38.24	38.55	45.59	38.49	38.48
Desv. Est.	2.65	.40	.17	.69	.11	.38	.24	.19	.34
% RSD	5.789	1.024	.4009	1.716	.2913	.9788	.5288	.4851	.8753
Rep #1	44.48	39.39	42.83	39.24	38.12	38.12	45.65	38.71	38.38
Rep #2	48.78	38.89	42.58	40.38	38.25	38.69	45.32	38.37	38.20
Rep #3	43.96	39.69	42.90	40.47	38.34	38.83	45.79	38.40	38.85
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									

+ 44

*Analisis*

Unk: RECUPERACION 02/11/2015 13:40:32 CONC x100

D MP 151102: VARIOS:

1	Cal: Blanco 02/11/2015 17:08:23 IR D Hg151102: VARIOS:
	Hg1942
Unidades	Cts/s
Media	-34.94
Desv. Est.	.93
% RSD	2.656
Rep #1	-35.99
Rep #2	-34.24
Rep #3	-34.58
2	Cal: STD 1 02/11/2015 17:10:39 IR D Hg151102: VARIOS:
	Hg1942
Unidades	Cts/s
Media	41.25
Desv. Est.	2.22
% RSD	5.373
Rep #1	40.15
Rep #2	39.80
Rep #3	43.80
3	Cal: STD 2 02/11/2015 17:12:07 IR D Hg151102: VARIOS:
	Hg1942
Unidades	Cts/s
Media	184.7
Desv. Est.	16.2
% RSD	8.751
Rep #1	166.0
Rep #2	193.6
Rep #3	194.4
4	Cal: STD 3 02/11/2015 17:13:29 IR D Hg151102: VARIOS:
	Hg1942
Unidades	Cts/s
Media	350.5
Desv. Est.	15.7
% RSD	4.476
Rep #1	333.4
Rep #2	353.9
Rep #3	364.2
5	Cal: STD 4 02/11/2015 17:15:08 IR D Hg151102: VARIOS:
	Hg1942
Unidades	Cts/s
Media	751.3
Desv. Est.	24.4
% RSD	3.248
Rep #1	723.4
Rep #2	761.8
Rep #3	768.6
6	Blanco: REACTIVO 02/11/2015 17:17:25 CONC D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0002
Desv. Est.	.0000

% RSD	17.57
Rep #1	.0002
Rep #2	.0002
Rep #3	.0002
7	Blanco: MUESTRA 02/11/2015 17:20:03 CONC x100 D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0058
Desv. Est.	.0015
% RSD	26.54
Rep #1	.0063
Rep #2	.0071
Rep #3	.0041
8	Unk: RECUPERACION 02/11/2015 17:21:36 CONC x100 D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.4943
Desv. Est.	.0193
% RSD	3.902
Rep #1	.4730
Rep #2	.4993
Rep #3	.5106
9	Unk: GISC15-20298 02/11/2015 17:21:38 CONC x100 D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	<b>-0.146</b>
Desv. Est.	.0515
% RSD	353.5
Rep #1	.0221
Rep #2	.0077
Rep #3	-.0735
10	Unk: GISC15-20299 02/11/2015 17:23:04 CONC x100 D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	<b>-1.445</b>
Desv. Est.	.0087
% RSD	6.050
Rep #1	-.1497
Rep #2	-.1495
Rep #3	-.1344
11	Unk: GISC15-20302 02/11/2015 17:24:39 CONC x100 D Hg151102: VARIOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	<b>-0.0958</b>
Desv. Est.	.0065
% RSD	6.808
Rep #1	-.0957



Rep #2	-0893
Rep #3	-1023
12	Unk: GISC15-20303 ✓ 02/11/2015 17:26:16 CONC x100 D:\151400\VARIOS\Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	-1757
Desv. Est.	.0031
% RSD	1.762
Rep #1	-1722
Rep #2	-1772
Rep #3	-1778
13	Unk: GISC15-20305 ✓ 02/11/2015 17:27:42 CONC x100 D:\151400\VARIOS\Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	-1184
Desv. Est.	.0022
% RSD	1.826
Rep #1	-1202
Rep #2	-1160
Rep #3	-1189
14	Unk: GISC15-20337 ✓ 02/11/2015 17:29:14 CONC x100 D:\151400\VARIOS\Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	-2010
Desv. Est.	.0011
% RSD	.5302
Rep #1	-1998
Rep #2	-2017
Rep #3	-2016
15	Unk: GISC15-20338 ✓ 02/11/2015 17:34:07 CONC x100 D:\151400\VARIOS\Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	-1790
Desv. Est.	.0045
% RSD	2.529
Rep #1	-1741
Rep #2	-1797
Rep #3	-1831
16	Unk: GISC15-20341 ✓ 02/11/2015 17:35:29 CONC x100 D:\151400\VARIOS\Hg1942
Linea	194.227 {47
Unidades	mg/kg
Media	-1674
Desv. Est.	.0001
% RSD	.0602
Rep #1	-1675
Rep #2	-1674
Rep #3	-1673

17	Unk: GISC15-20342 / 02/11/2015 17:36:49 CONC x100 DU151420: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1757
Desv. Est.	.0038
% RSD	2.183
Rep #1	-.1735
Rep #2	-.1735
Rep #3	-.1801
18	Unk: GISC15-20343 / 02/11/2015 17:38:12 CONC x100 DU151420: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.2202
Desv. Est.	.0021
% RSD	.9634
Rep #1	-.2180
Rep #2	-.2203
Rep #3	-.2222
19	Unk: GISC15-20344 / 02/11/2015 17:39:39 CONC x100 DU151420: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.2188
Desv. Est.	.0009
% RSD	.3970
Rep #1	-.2185
Rep #2	-.2181
Rep #3	-.2198
20	Unk: ESTANDAR DE CHEQUEO 02/11/2015 17:40:13 CONC x100 DU151420: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.5325
Desv. Est.	.0033
% RSD	.6254
Rep #1	.5354
Rep #2	.5289
Rep #3	.5332
21	Unk: ESTANDAR DE CHEQUEO 02/11/2015 17:41:22 CONC x100 DU151420: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.9660
Desv. Est.	.0509
% RSD	5.266
Rep #1	.9147
Rep #2	.9668
Rep #3	1.016
22	Unk: GISC15-20345 / 02/11/2015 17:43:38 CONC x100 DU151420: MARIPOSA

	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1343
Desv. Est.	.0060
% RSD	4.462
Rep #1	-1275
Rep #2	-1366
Rep #3	-1388
23	Unk: GISC15-20346/02/11/2015 17:44:58 CONC x100 D:\151420: MARISSA
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1407
Desv. Est.	.0044
% RSD	3.155
Rep #1	-1362
Rep #2	-1407
Rep #3	-1451
24	Unk: GISC15-20347/02/11/2015 17:46:15 CONC x100 D:\151420: MARISSA
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1191
Desv. Est.	.0034
% RSD	2.839
Rep #1	-1220
Rep #2	-1199
Rep #3	-1154
25	Unk: GISC15-20348/02/11/2015 17:47:34 CONC x100 D:\151420: MARISSA
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1310
Desv. Est.	.0092
% RSD	7.052
Rep #1	-1262
Rep #2	-1251
Rep #3	-1416
26	Unk: GISC15-20367/02/11/2015 17:49:08 CONC x100 D:\151420: MARISSA
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-1699
Desv. Est.	.0022
% RSD	1.286
Rep #1	-1695
Rep #2	-1723
Rep #3	-1680
27	Unk: GISC15-20380 02/11/2015 17:50:27 CONC x100 D:\151420: MARISSA
	Hg1942
Línea	194.227 {47

Unidades	mg/kg
Media	-.2419
Desv. Est.	.0068
% RSD	2.792
Rep #1	-.2348
Rep #2	-.2428
Rep #3	-.2482
28	Unk: GISC15-20388 02/11/2015 17:51:49 CONC x100 DMS-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1632
Desv. Est.	.0022
% RSD	1.342
Rep #1	-.1619
Rep #2	-.1657
Rep #3	-.1619
29	Unk: ESTANDAR DE CHEQUEO 02/11/2015 17:52:50 CONC x100 DMS-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.5366
Desv. Est.	.0039
% RSD	.7245
Rep #1	.5321
Rep #2	.5385
Rep #3	.5391
30	Unk: GISC15-20409 02/11/2015 17:53:16 CONC x100 DMS-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1836
Desv. Est.	.0014
% RSD	.7592
Rep #1	-.1842
Rep #2	-.1846
Rep #3	-.1820
31	Unk: GISC15-20414 02/11/2015 17:54:40 CONC x100 DMS-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1759
Desv. Est.	.0030
% RSD	1.690
Rep #1	-.1760
Rep #2	-.1729
Rep #3	-.1788
32	Unk: GISC15-20415 02/11/2015 17:56:28 CONC x100 DMS-151100: MARIPOSA Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1553

Desv. Est.	.0032
% RSD	2.075
Rep #1	-.1522
Rep #2	-.1586
Rep #3	-.1550
33	Unk: GISC15-20416-02/11/2015 17:57:44 CONC x100
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.1173
Desv. Est.	.0014
% RSD	1.153
Rep #1	-.1187
Rep #2	-.1173
Rep #3	-.1159

## **CONTENIDO**

### **VEGETALES FRESCOS / SECOS**

- 1.1 Informes de resultados de prueba**
- 1.2 Curva de calibración**
- 1.3 Evaluación de métodos de control de calidad**
- 1.4 Datos crudos de lote analítico**



**GRUPO INTEGRAL DE SERVICIOS FITOSANITARIOS ENA S.A. DE C.V.**  
EMILIANO ZAPATA No. 10, SAN LUIS HUEXOTLA, TEXCOCO EDO. DE MEXICO  
C.P. 86250 TEL: 01(595) 928 41 78, 01(595) 931 39 60 y 01(595) 931 39 61  
TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



Número de acreditación No. SA-159-005/11  
Vigencia de acreditación a partir de 2011-05-10  
"Acreditación otorgada bajo la norma NMX-EC-17025-IMNC-2006/ISO/IEC 17025:2005  
Requisitos generales para la competencia de laboratorios de ensayo y calibración".

## INFORME DE RESULTADOS DE PRUEBA

### DATOS DE LA MUESTRA

**Matriz:** VEGETALES FRESCOS/SECOS  
**Fecha de Recepción:** 2015-11-05

### INTERESADO

**Nombre :** Laboratorio Nacional de las Ciencias de la Sostenibilidad; Instituto de Ecología-UNAM  
**Dirección:** Av. Universidad No. 3000, Col. UNAM, CU, Del. Coyoacán, Distrito Federal, CP 04510

### DATOS DEL ANÁLISIS

**Método:** Determinación de metales y metaloides en agua y alimentos por Espectrometría de Emisión de Plasma de Acoplamiento Inductivo (ICP-OES)  
**Referencia:** EPA 6010C-2007  
**Resultados:** Ver hoja excell .....2015/11/05 (2)  
**Fecha de Analisis de Metales y Mercurio:** 2015-12-16 2015-12-17  
**Fecha de Realización del Informe:** 2015-12-18

### IDENTIFICACIÓN CLIENTE

L-I017/15/0167  
L-I017/15/0168  
L-I017/15/0169  
L-I034/15/0337  
L-I035/15/0343  
L-I037/15/0366  
L-I046/15/0454  
L-I046/15/0455  
L-I047/15/0465  
L-I047/15/0466  
L-I054/15/0531  
L-I054/15/0532  
L-I057/15/0565  
L-I057/15/0566  
L-I057/15/0568

### CLAVE DE IDENTIFICACIÓN

GISC15-21791  
GISC15-21792  
GISC15-21793  
GISC15-21932  
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GISC15-22026  
GISC15-22027  
GISC15-22035  
GISC15-22036  
GISC15-22094  
GISC15-22095  
GISC15-22122  
GISC15-22123  
GISC15-22124



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TEL/FAX: 01(595) 928 40 77 E-mail: gisena@prodigy.net.mx



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Requisitos generales para la competencia de laboratorios de ensayo y calibración".

**IDENTIFICACIÓN CLIENTE**

L-I057/15/0569  
L-I068/15/0673  
L-I069/15/0684  
L-I069/15/0685  
L-I015/15/0147  
L-I032/15/0314  
L-I032/15/0315  
L-I032/15/0316  
L-I035/15/0346  
L-I054/15/0539  
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L-I058/15/0577  
L-I060/15/0593  
L-I060/15/0594

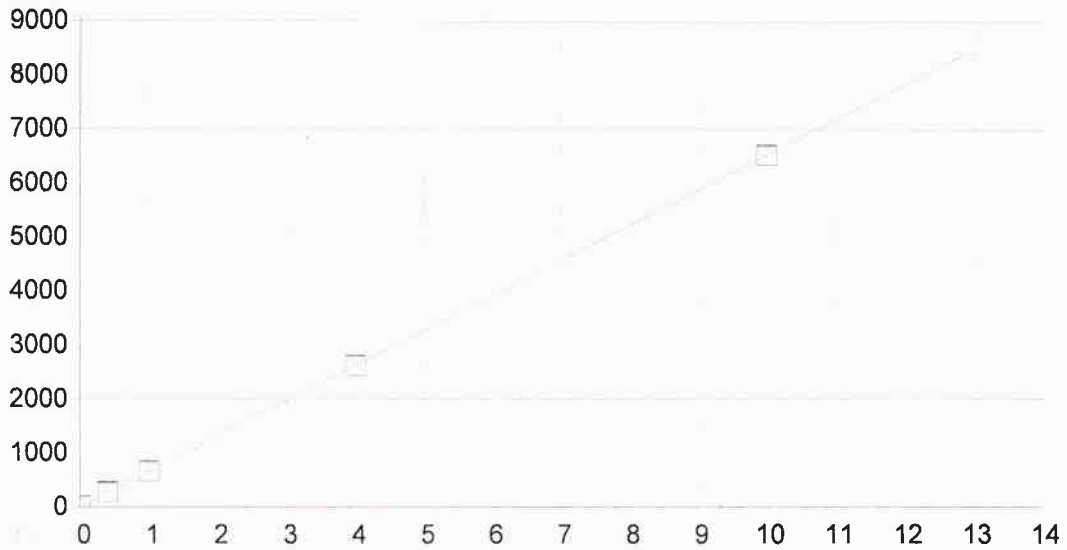
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GISC15-21935  
GISC15-22100  
GISC15-22101  
GISC15-22131  
GISC15-22132  
GISC15-22147  
GISC15-22148

REVISÓ

Q.F.B. Leticia Velázquez Méndez  
Gerente Técnico



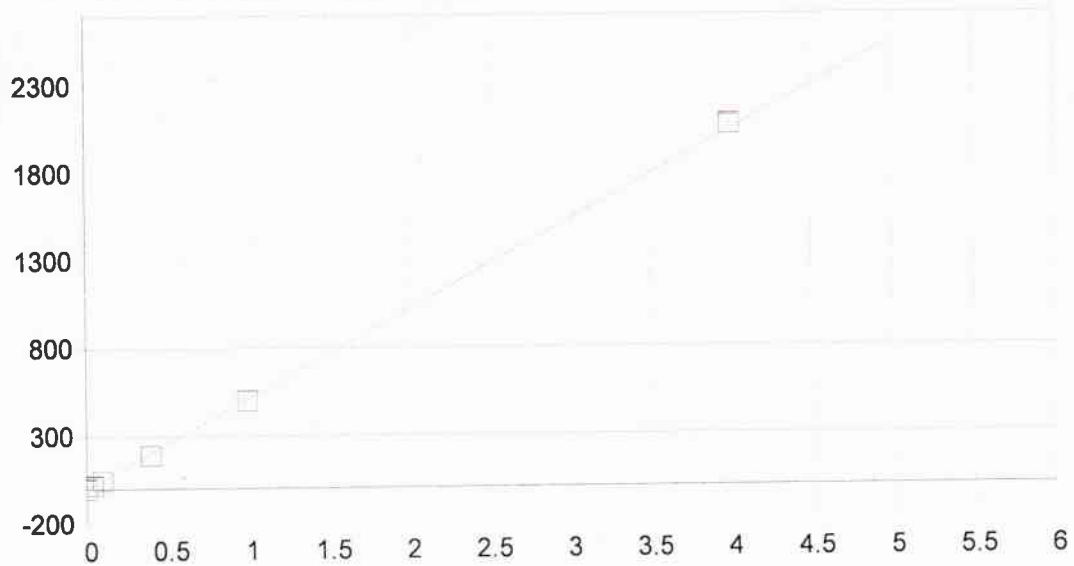


AI 396.152 { 85}

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A0 (Compensación): 10.463385 Reajustar P 1.000000  
 A1 (Ganancia) 651.359248 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999996 Estatus: OK.  
 Error Estándar de Est: 0.184344  
 MDL: 0.012911  
 MQL: 0.043036

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	10.467	2.80	1
STD 5	.40000	.39495	-.005	-1.26	267.72	7.13	1
STD 6	1.0000	.99723	-.003	-.277	660.02	10.0	1
STD 7	4.0000	4.0135	.013	.337	2624.7	8.94	1
STD 8	10.000	9.9943	-.006	-.057	6520.4	14.6	1

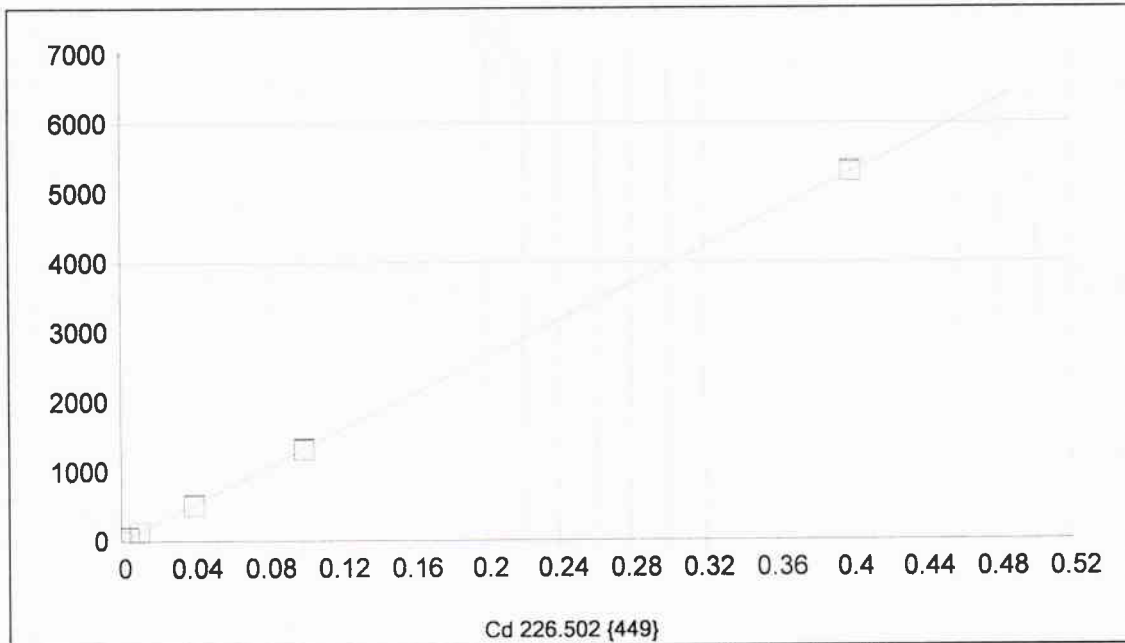


As 189.042 {478}

Fecha de la 16/12/2015 13:30:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -0.182759 Reajustar P 1.000000  
 A1 (Ganancia) 509.268448 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999639 Estatus: OK.  
 Error Estándar de Est: 0.249321  
 MDL: 0.001776  
 MQL: 0.005921

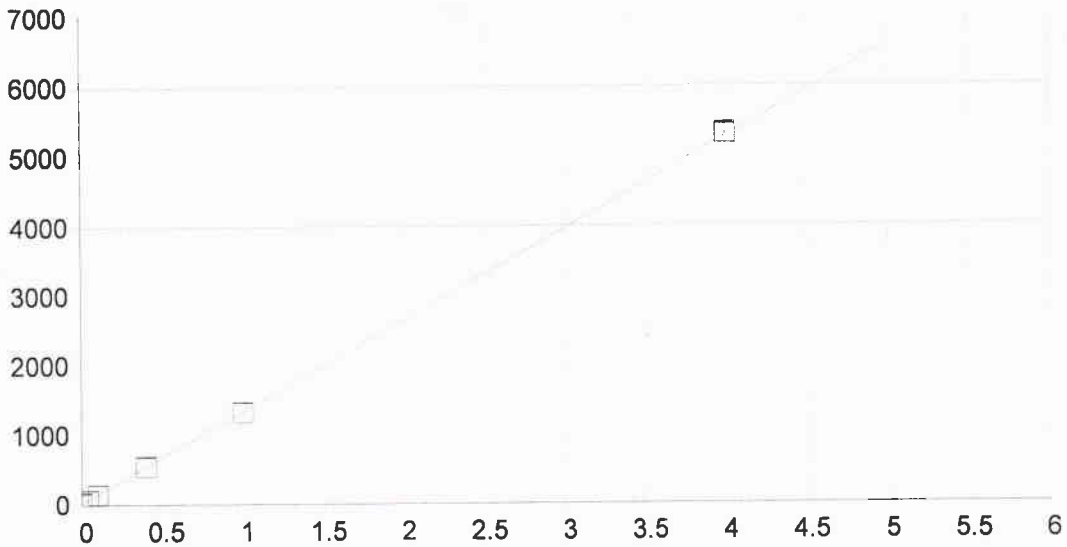
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Blanco	.00000	.00001	.000	.000	-17813	.413	1
STD 4	.10000	.09213	-.008	-7.87	46.737	.091	1
STD 5	.40000	.37234	-.028	-6.92	189.44	.315	1
STD 6	1.0000	.98013	-.020	-1.99	498.96	1.36	1
STD 7	4.0000	4.0584	.058	1.46	2066.6	6.73	1
STD 3	.04000	.03704	-.003	-7.41	18.678	.950	1



Fecha de la 16/12/2015 13:25:38 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 1.216959 Reajustar P 1.000000  
 A1 (Ganancia) 13187.83035 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999965 Estatus: OK.  
 Error Estándar de Est: 0.201840  
 MDL: 0.000109  
 MQL: 0.000363

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	1.2184	.511	1
STD 1	.00400	.00405	.000	1.20	54.602	2.14	1
STD 2	.01000	.00987	-.000	-1.34	131.32	1.37	1
STD 3	.04000	.03890	-.001	-2.74	514.27	2.22	1
STD 4	.10000	.09968	-.000	-.319	1315.8	6.42	1
STD 5	.40000	.40150	.002	.376	5296.2	14.7	1

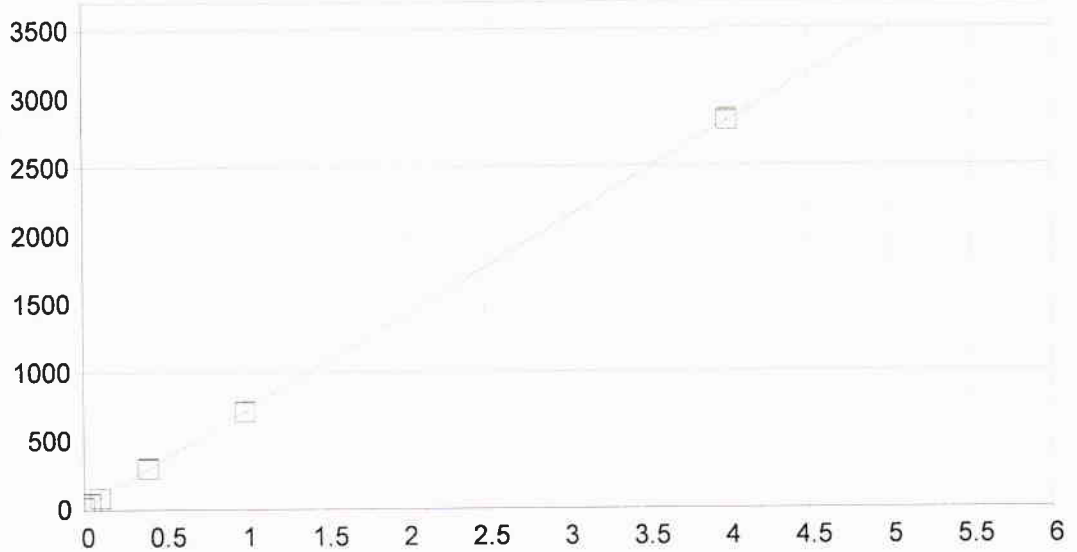


**Cu 324.754 {104}**

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A0 (Compensación): 22.876494 Reajustar P 1.000000  
 A1 (Ganancia) 1312.343671 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999746 Estatus: OK.  
 Error Estándar de Est: 0.538777  
 MDL: 0.003488  
 MQL: 0.011627

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00001	.000	.000	22.892	3.85	1
STD 5	.40000	.39808	-.002	-.481	545.29	3.96	1
STD 6	1.0000	.99036	-.010	-.964	1322.6	4.30	1
STD 7	4.0000	4.0284	.028	.711	5309.6	13.1	1
STD 3	.04000	.03150	-.009	-21.3	64.214	2.64	1
STD 4	.10000	.09164	-.008	-8.36	143.14	2.17	1

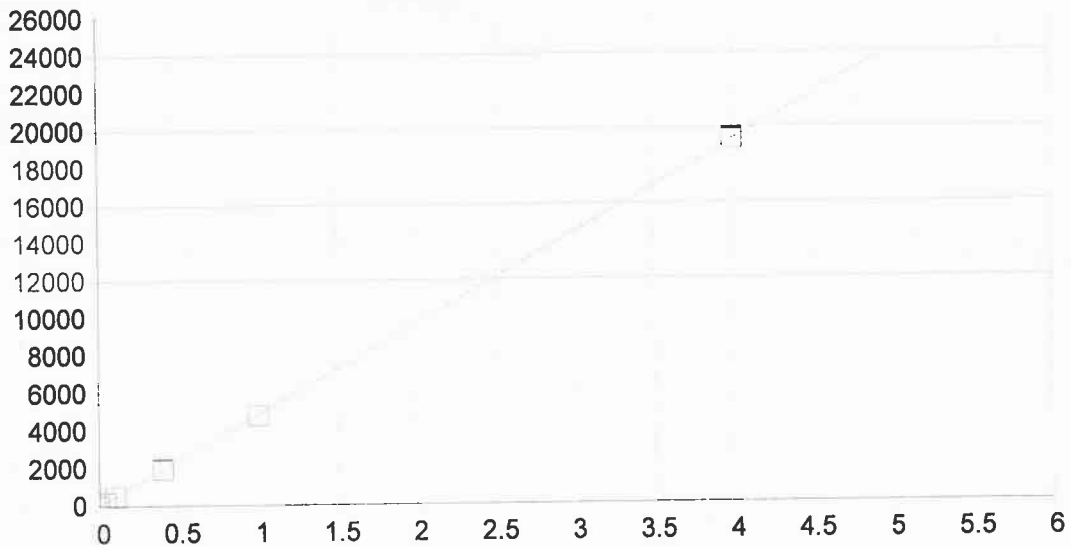


Fe 259.940 {130}

Fecha de la 16/12/2015 13:30:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 15.945032 Reajustar P 1.000000  
 A1 (Ganancia) 701.568891 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999979 Estatus: OK.  
 Error Estándar de Est: 0.082176  
 MDL: 0.003109  
 MQL: 0.010364

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	15.947	1.39	1
STD 5	.40000	.40287	.003	.718	298.59	2.84	1
STD 6	1.0000	.99070	-.009	-.930	710.99	5.13	1
STD 3	.04000	.03825	-.002	-4.38	42.780	1.12	1
STD 4	.10000	.09852	-.001	-1.48	85.063	.936	1
STD 7	4.0000	4.0097	.010	.241	2829.0	9.40	1

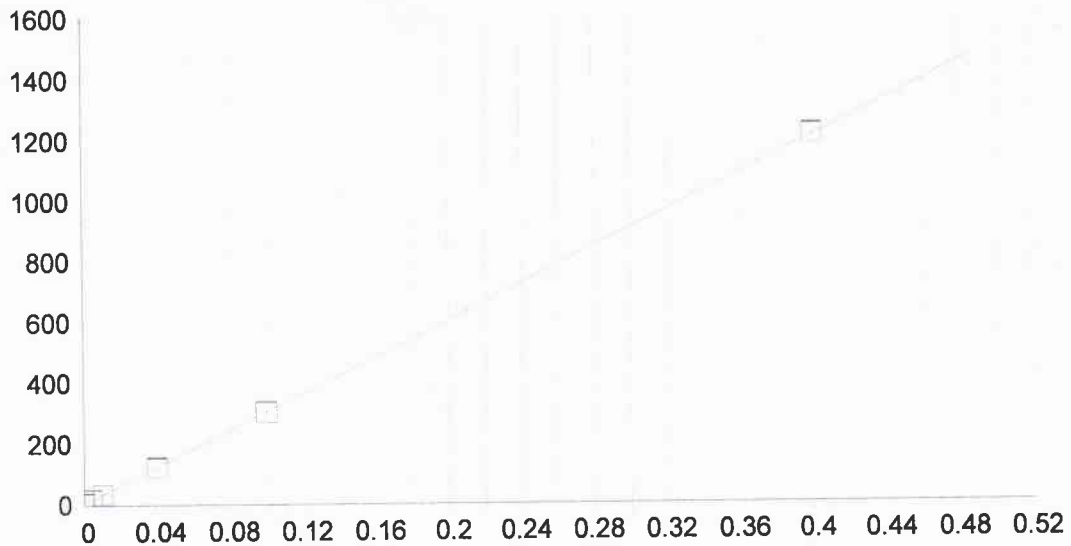


Mn 257.610 {131}

Fecha de la 16/12/2015 13:30:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 2.757819 Reajustar P 1.000000  
 A1 (Ganancia) 4834.242255 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999992 Estatus: OK.  
 Error Estándar de Est: 0.355718  
 MDL: 0.000517  
 MQL: 0.001724

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	2.7633	1.09	1
STD 5	.40000	.40111	.001	.276	1941.8	13.9	1
STD 6	1.0000	.99287	-.007	-.713	4802.5	3.51	1
STD 3	.04000	.03904	-.001	-2.41	191.47	.445	1
STD 4	.10000	.09982	-.000	-.184	485.29	5.59	1
STD 7	4.0000	4.0072	.007	.179	19374.	52.9	1

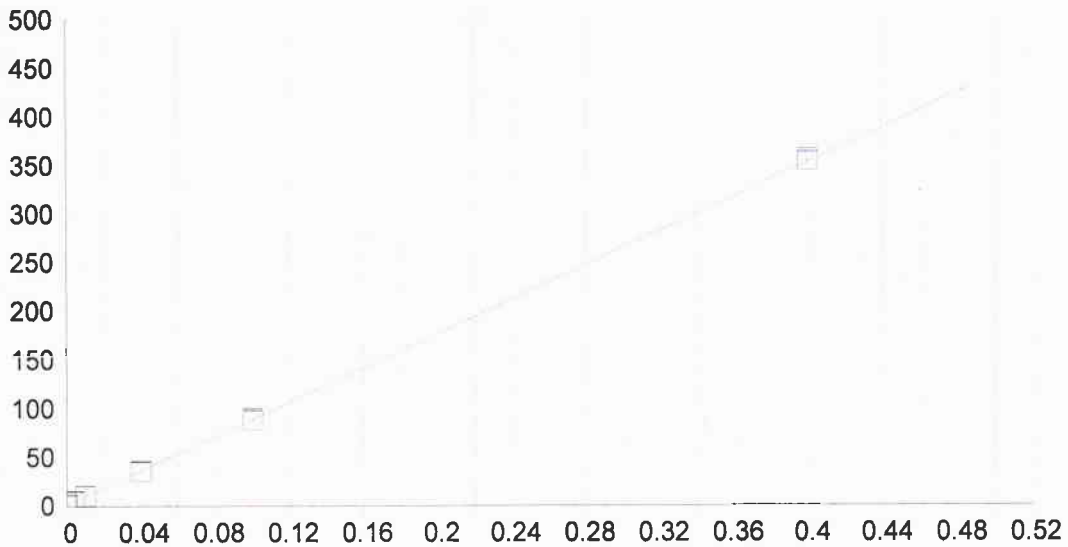


Ni 231.604 {446}

Fecha de la 16/12/2015 13:25:38 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 5.947952 Reajustar P 1.000000  
 A1 (Ganancia) 3002.267843 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999964 Estatus: OK.  
 Error Estándar de Est: 0.046677  
 MDL: 0.000428  
 MQL: 0.001425

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	5.9491	.231	1
STD 1	.00400	.00381	-.000	-4.77	17.385	.564	1
STD 2	.01000	.00976	-.000	-2.35	35.265	.349	1
STD 3	.04000	.03920	-.001	-2.00	123.63	1.32	1
STD 4	.10000	.09952	-.000	-.484	304.72	2.50	1
STD 5	.40000	.40171	.002	.428	1212.0	2.17	1



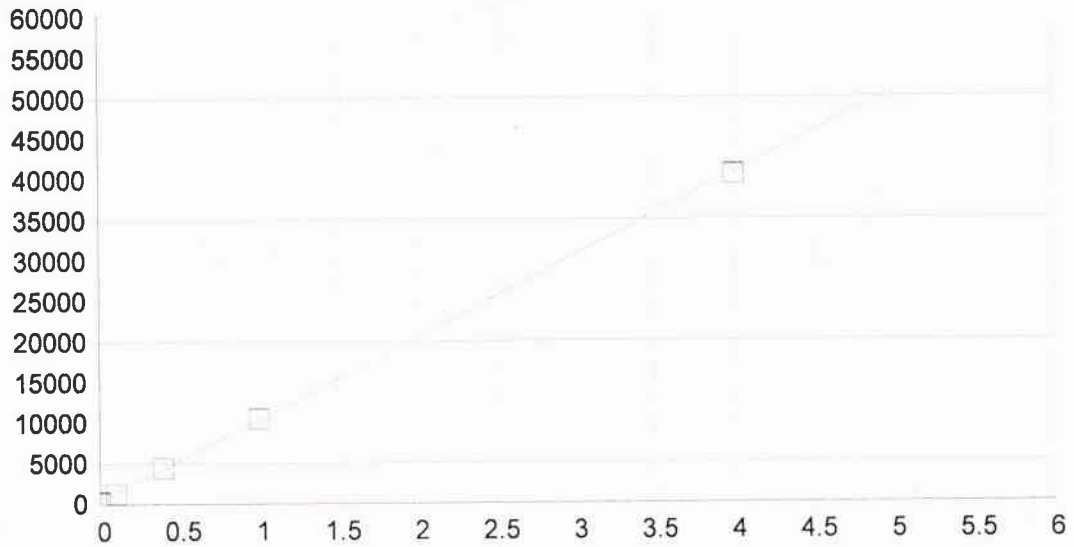
**Pb 220.353 {453}**

Fecha de la 16/12/2015 13:25:38 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 1.261897 Reajustar P 1.000000  
 A1 (Ganancia) 881.087753 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999966 Estatus: OK.  
 Error Estándar de Est: 0.013303  
 MDL: 0.001377  
 MQL: 0.004590

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	1.2618	.900	1
STD 1	.00400	.00410	.000	2.40	4.8709	.464	1
STD 2	.01000	.01034	.000	3.42	10.375	.132	1
STD 3	.04000	.03918	-.001	-2.06	35.779	.527	1
STD 4	.10000	.09935	-.001	-.655	88.794	1.14	1
STD 5	.40000	.40104	.001	.260	354.61	1.98	1



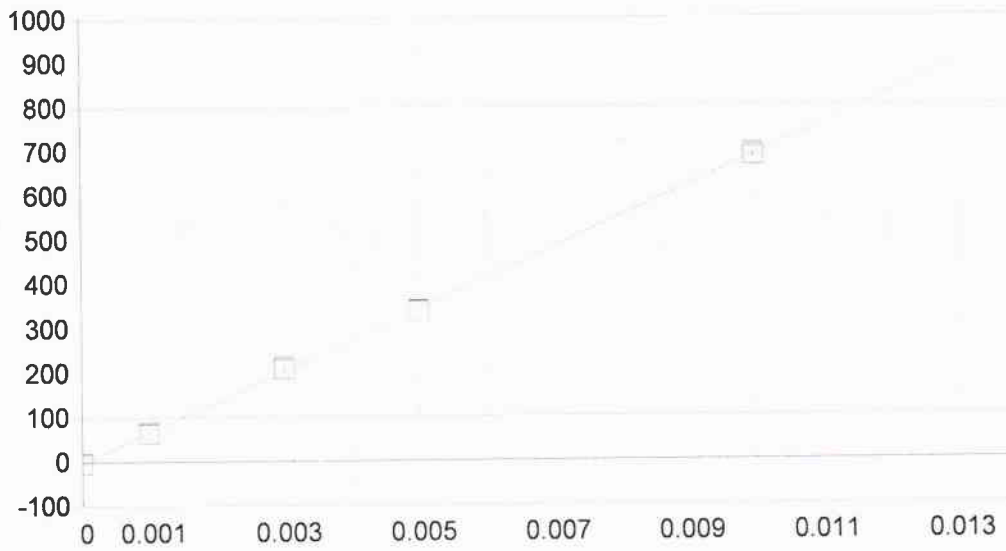


Zn 213.856 {458}

Fecha de la 16/12/2015 13:30:19 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): 234.945135 Reajustar P 1.000000  
 A1 (Ganancia) 10133.92895 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999915 Estatus: OK.  
 Error Estándar de Est: 3.995087  
 MDL: 0.000116  
 MQL: 0.000387

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	-.00000	-.000	.000	234.91	27.6	1
STD 4	.10000	.09942	-.001	-.583	1242.4	3.54	1
STD 5	.40000	.41517	.015	3.79	4442.2	.530	1
STD 6	1.0000	1.0129	.013	1.29	10500.	2.60	1
STD 7	4.0000	3.9725	-.027	-.687	40492.	81.1	1



Hg 194.227 {474}

Fecha de la 17/12/2015 07:39:51 Tipo de unió Lineal Ponderación: 1/Conc

A0 (Compensación): -3.947163 Reajustar P 1.000000  
 A1 (Ganancia) 69124.02571 Y-int: 0.000000  
 A2 (Curvatura): 0.000000  
 n (Exponente): 1.000000  
 Correlación: 0.999900 Estatus: OK.  
 Error Estándar de Est: 0.174117  
 MDL: 0.000023  
 MQL: 0.000075

Nombre Est.	Conc. Establecida	Conc. Encontrada	Diferencia	% Dif.	(S)IR:	Desv. Est.	Énfasis
Blanco	.00000	.00000	.000	.000	-3.9470	.377	1
STD 1	.00100	.00098	-.000	-1.93	63.846	2.88	1
STD 2	.00300	.00309	.000	3.01	209.67	3.13	1
STD 3	.00500	.00494	-.000	-1.19	337.57	.865	1
STD 4	.01000	.00999	-.000	-.117	686.48	4.50	1



Análisis:

**METALES PESADOS POR ICP-OES**

Lote analítico:

DMP-VEGETALES FRESCOS/SECOS-151216

Fecha de Análisis:

16/12/2015

Fecha de Reporte:

16/12/2015

**CONCENTRACIONES DE LAS CURVAS DE CALIBRACION.**

DESCRIPCIÓN	CONCENTRACION mg/L									
	Al	As	Cd	Cu	Fe	Mn	Ni	Pb	Zn	Hg
NIVEL 1			0.004				0.004	0.004		0.0010
NIVEL 2			0.010				0.010	0.010		0.0030
NIVEL 3		0.040	0.040	0.040	0.040	0.040	0.040	0.040		0.0050
NIVEL 4		0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.0100
NIVEL 5	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	
NIVEL 6	1.000	1.000		1.000	1.000	1.000			1.000	
NIVEL 7	4.000	4.000		4.000	4.000	4.000			4.000	
NIVEL 8	10.000									
NIVEL 9										
Correlación	0.9999	0.9996	0.9999	0.9997	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No.¹	Identificación	Analito	Concentración mg/l		% Recobro²	No.¹	Identificación	Analito	Concentración mg/l		% Recobro²
			Teórica	Práctica					Teórica	Práctica	
11	QC:QC	Aluminio	0.4000	0.4043	101	49	QC:QC	Aluminio	0.4000	0.4042	101
		Arsénico	0.4000	0.3848	96			Arsénico	0.4000	0.3925	98
		Cadmio	0.4000	0.4203	105			Cadmio	0.4000	0.4317	108
		Cobre	0.4000	0.4168	104			Cobre	0.4000	0.4193	105
		Fierro	0.4000	0.4269	107			Fierro	0.4000	0.4349	109
		Manganeso	0.4000	0.4189	105			Manganeso	0.4000	0.4214	105
		Níquel	0.4000	0.4217	105			Níquel	0.4000	0.4325	108
		Plomo	0.4000	0.4122	103			Plomo	0.4000	0.4186	105
		Zinc	0.4000	0.4302	108			Zinc	0.4000	0.4362	109
26	QC:QC	Aluminio	0.4000	0.4080	102	6	QC:QC	Mercurio	0.005	0.0050	100
		Arsénico	0.4000	0.3834	96	20	QC:QC	Mercurio	0.005	0.0050	100
		Cadmio	0.4000	0.4190	105	31	QC:QC	Mercurio	0.005	0.0049	98
		Cobre	0.4000	0.4118	103	42	QC:QC	Mercurio	0.005	0.0049	98
		Fierro	0.4000	0.4224	106						
		Manganeso	0.4000	0.4152	104						
		Níquel	0.4000	0.4204	105						
		Plomo	0.4000	0.4107	103						
		Zinc	0.4000	0.4266	107						
38	QC:QC	Aluminio	0.4000	0.4287	107						
		Arsénico	0.4000	0.3954	99						
		Cadmio	0.4000	0.4344	109						
		Cobre	0.4000	0.4259	106						
		Fierro	0.4000	0.4409	110						
		Manganeso	0.4000	0.4294	107						
		Níquel	0.4000	0.4385	110						
		Plomo	0.4000	0.4247	106						
Zinc	0.4000	0.4437	111								



Análisis:  
 Lote analítico:  
 Fecha de Análisis:  
 Fecha de Reporte:

**METALES PESADOS POR ICP-OES**  
 DMP-VEGETALES FRESCOS/SECOS-151216  
 16/12/2015  
 16/12/2015

**EVALUACIÓN DE LAS MUESTRAS DE CONTROL DE CALIDAD**

No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>	No. <sup>1</sup>	Identificación	Analito	Concentración mg/l		% Recobro <sup>2</sup>
			Teórica	Práctica					Teórica	Práctica	
13	Recuperación	Aluminio	40.0000	42.4400	106						
		Arsénico	40.0000	38.7000	97						
		Cadmio	40.0000	42.8800	107						
		Cobre	40.0000	41.7500	104						
		Fierro	40.0000	44.2900	111						
		Manganeso	40.0000	42.4100	106						
		Níquel	40.0000	43.0500	108						
		Plomo	40.0000	41.4700	104						
		Zinc	40.0000	43.2800	108						
8	Recuperación	Mercurio	0.5	0.5045	101						

<sup>1</sup> NÚMERO EN LA HOJA DE RESULTADOS EMITIDA POR EL EQUIPO ICP-OES

<sup>2</sup> REFERENCIA: GUIAS TÉCNICA DE TRAZABILIDAD E INCERTIDUMBRE, CENAM-ema, NOV.2012, PARA % DE RECOBRO (80-120%)

**I.B.I. Gaudencio Vargas Espejel**

ELABORÓ

PACE/GIS/102-F01

**Q.F.B. Leticia Velázquez Méndez**

REVISÓ



Hoja de Trabajo (Preparación) -Metales y Metaloides-(2)

Clave	Matriz	Tejido	Fecha de Recepción	Peso de muestra (g)	
				Metales	Hg
GISC15-21791	Vegetales fr.		05/11/2015	0.5030	0.5039
GISC15-21792	Vegetales fr.		05/11/2015	0.5050	0.5077
GISC15-21793	Vegetales fr.		05/11/2015	0.5063	0.5010
GISC15-21932	Vegetales fr.		05/11/2015	0.5061	0.5011
GISC15-21934	Vegetales fr.		05/11/2015	0.5078	0.5031
GISC15-21954	Vegetales fr.		05/11/2015	0.5024	0.5031
GISC15-22026	Vegetales fr.		05/11/2015	0.5022	0.5076
GISC15-22027	Vegetales fr.		05/11/2015	0.5084	0.5091
GISC15-22035	Vegetales fr.		05/11/2015	0.5088	0.5074
GISC15-22036	Vegetales fr.		05/11/2015	0.5077	0.5077
GISC15-22094	Vegetales fr.		05/11/2015	0.5064	0.5044
GISC15-22095	Vegetales fr.		05/11/2015	0.5030	0.5049
GISC15-22122	Vegetales fr.		05/11/2015	0.5008	0.5019
GISC15-22123	Vegetales fr.		05/11/2015	0.5011	0.5006
GISC15-22124	Vegetales fr.		05/11/2015	0.5059	0.5014
GISC15-22125	Vegetales fr.		05/11/2015	0.5056	0.5005
GISC15-22218	Vegetales fr.		05/11/2015	0.5026	0.5013
GISC15-22222	Vegetales fr.		05/11/2015	0.5090	0.5087
GISC15-22223	Vegetales fr.		05/11/2015	0.5061	0.5005
GISC15-21777	Vegetales sc.		05/11/2015	0.5052	0.5046
GISC15-21913	Vegetales sc.		05/11/2015	0.5019	0.5028
GISC15-21914	Vegetales sc.		05/11/2015	0.5019	0.5012
GISC15-21915	Vegetales sc.		05/11/2015	0.5090	0.5035
GISC15-21935	Vegetales sc.		05/11/2015	0.5089	0.4602
GISC15-22100	Vegetales sc.		05/11/2015	0.5033	0.5083
GISC15-22101	Vegetales sc.		05/11/2015	0.5050	0.5001
GISC15-22131	Vegetales sc.		05/11/2015	0.5029	0.5097
GISC15-22132	Vegetales sc.		05/11/2015	0.5031	0.5063
GISC15-22147	Vegetales sc.		05/11/2015	0.5053	0.5163
GISC15-22148	Vegetales sc.		05/11/2015	0.5002	0.5038

P.A. *Laudencia HC*

I.B.T. Reyna Ivette Delgado

Q.F.B. Leticia Velazquez Mendez

1	Cal: Blanco 16/12/2015 13:11:14 IR D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 {85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	
Media	10.47	-1.781	1.218	22.89	15.95	2.763	5.949	1.262	234.9	
Desv. Est.	2.80	.4127	.511	3.85	1.39	1.090	.231	.900	27.6	
% RSD	26.78	231.7	41.96	16.80	8.735	39.45	3.876	71.30	11.77	
Rep #1	7.275	.0755	.8271	27.22	17.54	1.680	6.138	1.371	265.5	
Rep #2	11.60	-.6544	1.031	19.88	14.96	2.750	6.017	.3123	227.3	
Rep #3	12.52	.0444	1.797	21.58	15.34	3.860	5.692	2.102	211.8	
2	Cal: STD 1 16/12/2015 13:13:37 IR D MP-151216: VEG. FRESCO:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	54.60	17.38	4.871							
Desv. Est.	2.14	.56	.464							
% RSD	3.921	3.245	9.521							
Rep #1	54.22	16.89	5.050							
Rep #2	52.68	17.26	4.344							
Rep #3	56.91	18.00	5.219							
3	Cal: STD 2 16/12/2015 13:16:02 IR D MP-151216: VEG. FRESCO:									
	Cd2265	Ni2316	Pb2203							
Línea	226.502 {44	231.604 {44	220.353 {45							
Unidades	Cts/s	Cts/s	Cts/s							
Media	131.3	35.27	10.37							
Desv. Est.	1.4	.35	.13							
% RSD	1.046	.9908	1.276							
Rep #1	132.1	34.88	10.28							
Rep #2	132.2	35.57	10.32							
Rep #3	129.7	35.34	10.53							
4	Cal: STD 3 16/12/2015 13:18:28 IR D MP-151216: VEG. FRESCO:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203			
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45			
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s			
Media	18.68	514.3	64.21	42.78	191.5	123.6	35.78			
Desv. Est.	.95	2.2	2.64	1.12	.4	1.3	.53			
% RSD	5.085	.4308	4.109	2.607	.2322	1.067	1.473			
Rep #1	17.68	514.3	67.25	42.75	191.0	124.4	35.99			
Rep #2	18.77	512.1	62.85	43.91	191.5	122.1	35.18			
Rep #3	19.58	516.5	62.53	41.68	191.9	124.4	36.17			
5	Cal: STD 4 16/12/2015 13:20:54 IR D MP-151216: VEG. FRESCO:									
	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138		
Línea	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45		
Unidades	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s	Cts/s		
Media	46.74	1316.	143.1	85.06	485.3	304.7	88.79	1242.		
Desv. Est.	.09	6.	2.2	.94	5.6	2.5	1.14	4.		
% RSD	.1936	.4881	1.516	1.100	1.153	.8198	1.286	.2847		
Rep #1	46.77	1309.	142.6	84.01	483.2	302.6	88.03	1239.		
Rep #2	46.80	1321.	141.3	85.38	481.1	304.1	88.25	1246.		
Rep #3	46.63	1318.	145.5	85.80	491.6	307.5	90.11	1242.		
6	Cal: STD 5 16/12/2015 13:23:19 IR D MP-151216: VEG. FRESCO:									



11	QC: QC- 16/12/2015 13:36:55 CONC D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.4043	.3848	.4203	.4168	.4269	.4189	.4217	.4122	.4302	
Desv. Est.	.0055	.0030	.0004	.0065	.0083	.0005	.0006	.0023	.0009	
% RSD	1.355	.7913	.0891	1.556	1.950	.1232	.1369	.5663	.2098	
Rep #1	.4014	.3818	.4204	.4094	.4202	.4186	.4223	.4130	.4305	
Rep #2	.4009	.3879	.4199	.4204	.4362	.4194	.4218	.4141	.4310	
Rep #3	.4106	.3847	.4206	.4208	.4244	.4185	.4211	.4096	.4292	
Comprobació	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	
Valor										
Intervalo										
12	Unk: BLANCO 16/12/2015 13:38:23 CONC D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.0084	.0003	.0005	<.0000	.0061	.0003	.0009	.0013	<.0000	
Desv. Est.	.0100	.0034	.0001	.0035	.0017	.0003	.0005	.0010	.0001	
% RSD	119.3	1358.	15.72	34.49	27.77	100.7	52.73	80.40	3.441	
Rep #1	.0172	-.0015	.0006	-.0062	.0080	.0001	.0004	.0013	-.0036	
Rep #2	-.0025	-.0020	.0005	-.0114	.0052	.0002	.0010	.0002	-.0037	
Rep #3	.0104	.0042	.0004	-.0130	.0051	.0007	.0014	.0023	-.0035	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
13	Unk: RECUPERACION 16/12/2015 13:40:52 CONC x100 D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	42.44	38.70	42.88	41.75	44.29	42.41	43.05	41.47	43.28	
Desv. Est.	.99	.22	.12	.31	.42	.44	.07	.01	.17	
% RSD	2.329	.5569	.2721	.7538	.9492	1.030	.1613	.0268	.4007	
Rep #1	42.19	38.53	42.79	42.09	44.44	42.87	43.01	41.47	43.22	
Rep #2	41.61	38.94	43.01	41.70	43.82	42.00	43.13	41.48	43.48	
Rep #3	43.53	38.61	42.83	41.46	44.62	42.36	43.00	41.46	43.14	
Comprobació	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	
Valor										
Intervalo										
14	Blanco: REACTIVO 16/12/2015 13:43:12 CONC x100 D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	
Media	.5583	.0001	-.0367	-.6762	1.198	-.0194	-.0050	-.1395	-1.781	
Desv. Est.	.7355	.0571	.0051	.1647	.346	.0564	.0075	.0385	.007	
% RSD	131.7	52380.	13.83	24.36	28.91	290.5	150.1	27.57	.3915	
Rep #1	1.349	.0053	-.0312	-.8312	.9757	-.0589	-.0133	-.0951	-1.774	
Rep #2	.4317	-.0594	-.0374	-.6940	1.597	.0451	.0012	-.1602	-1.788	
Rep #3	-.1057	.0544	-.0413	-.5032	1.021	-.0444	-.0028	-.1632	-1.782	
15	Unk: GISC15-21791 16/12/2015 13:45:38 CONC x100 D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	





Media	97.43	.8776	.0946	3.631	95.60	15.70	.0054	.1998	11.86
Desv. Est.	1.50	.0569	.0096	.048	.88	.10	.0099	.0426	.03
% RSD	1.538	6.487	10.11	1.324	.9246	.6655	183.5	21.33	.2574
Rep #1	97.58	.8515	.0914	3.646	94.95	15.74	.0167	.1785	11.83
Rep #2	98.85	.8384	.0870	3.578	96.61	15.77	.0013	.2489	11.89
Rep #3	95.86	.9429	.1053	3.671	95.25	15.58	-.0018	.1720	11.85
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
20	Unk: GISC15-21934 16/12/2015 13:57:54 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	11.75	.8638	.0236	3.891	20.44	16.73	.1952	.1439	15.67
Desv. Est.	.39	.1243	.0060	.078	.26	.22	.0298	.0380	.05
% RSD	3.360	14.39	25.54	1.997	1.282	1.329	15.29	26.38	.2886
Rep #1	12.20	.9791	.0254	3.981	20.71	16.99	.2276	.1583	15.70
Rep #2	11.51	.8803	.0285	3.847	20.19	16.63	.1688	.1725	15.70
Rep #3	11.53	.7321	.0169	3.845	20.42	16.57	.1891	.1008	15.62
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
21	Unk: GISC15-21954 16/12/2015 14:00:29 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.975	.5048	.0569	2.898	15.65	6.142	<.0000	.0653	8.563
Desv. Est.	1.607	.0578	.0076	.256	.01	.029	.0228	.0912	.024
% RSD	16.11	11.45	13.26	8.832	.0397	.4800	39.06	139.8	.2792
Rep #1	8.421	.5316	.0607	2.833	15.64	6.135	-.0521	-.0392	8.537
Rep #2	11.63	.4385	.0482	2.681	15.65	6.116	-.0394	.1056	8.583
Rep #3	9.876	.5443	.0619	3.180	15.65	6.174	-.0837	.1294	8.570
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
22	Unk: GISC15-22026 16/12/2015 14:02:56 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	42.14	.7470	.1065	1.937	54.62	27.18	<.0000	.4789	14.40
Desv. Est.	.62	.1508	.0057	.035	.95	.28	.0357	.0689	.11
% RSD	1.472	20.18	5.317	1.784	1.743	1.015	60.16	14.40	.7454
Rep #1	42.53	.8790	.1084	1.907	55.61	27.48	-.0277	.5366	14.53
Rep #2	41.43	.7795	.1002	1.975	54.54	27.11	-.0981	.4977	14.35
Rep #3	42.46	.5827	.1110	1.928	53.71	26.94	-.0523	.4026	14.33
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
23	Unk: GISC15-22027 16/12/2015 14:05:17 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	52.69	.7297	.1268	2.507	62.82	30.84	<.0000	.7190	21.08

Desv. Est.	1.06	.1253	.0040	.233	.53	.24	.0505	.0599	.03
% RSD	2.020	17.17	3.170	9.280	.8480	.7777	63.47	8.327	.1616
Rep #1	53.60	.8731	.1293	2.676	63.38	30.94	-.1265	.7241	21.12
Rep #2	51.52	.6414	.1288	2.241	62.32	30.57	-.0862	.6568	21.06
Rep #3	52.94	.6745	.1221	2.603	62.76	31.01	-.0261	.7762	21.06
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
24	Unk: GISC15-22035 16/12/2015 14:07:40 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	14.43	.4738	.0462	.9802	19.28	23.00	<.0000	.2025	7.047
Desv. Est.	1.44	.0530	.0024	.2259	.37	.10	.0371	.0590	.048
% RSD	9.968	11.18	5.173	23.05	1.929	.4491	34.55	29.12	.6758
Rep #1	13.05	.4128	.0475	1.233	19.01	22.89	-.0719	.2397	6.993
Rep #2	14.32	.5072	.0434	.7974	19.13	23.09	-.1044	.2334	7.062
Rep #3	15.92	.5015	.0476	.9104	19.71	23.01	-.1460	.1345	7.084
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
25	Unk: GISC15-22036 16/12/2015 14:10:03 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	9.728	.2360	.0280	.5359	12.96	12.77	<.0000	.1797	4.686
Desv. Est.	.433	.0417	.0069	.2229	.12	.17	.0461	.1193	.023
% RSD	4.447	17.65	24.48	41.58	.9126	1.345	55.04	66.36	.4979
Rep #1	9.910	.2269	.0238	.7635	12.90	12.96	-.0316	.3164	4.712
Rep #2	10.04	.1996	.0359	.5262	13.09	12.62	-.1007	.0967	4.666
Rep #3	9.235	.2814	.0243	.3181	12.88	12.72	-.1192	.1261	4.680
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
26	QC: QC- 16/12/2015 14:15:35 CONC D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4080	.3834	.4190	.4118	.4224	.4152	.4204	.4107	.4266
Desv. Est.	.0043	.0022	.0018	.0007	.0012	.0014	.0008	.0016	.0027
% RSD	1.060	.5789	.4197	.1799	.2880	.3465	.1945	.3821	.6227
Rep #1	.4129	.3859	.4206	.4121	.4210	.4163	.4214	.4124	.4293
Rep #2	.4063	.3822	.4192	.4124	.4230	.4156	.4200	.4106	.4264
Rep #3	.4048	.3820	.4171	.4110	.4232	.4135	.4199	.4092	.4240
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
27	Unk: GISC15-22094 16/12/2015 14:17:20 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	208.7	.5681	.0649	5.457	235.0	18.36	.1946	.5383	8.343
Desv. Est.	4.0	.1042	.0089	.096	4.4	.16	.0516	.0084	.047

% RSD	1.921	18.34	13.69	1.752	1.891	.8827	26.49	1.554	.5677
Rep #1	213.3	.6547	.0630	5.394	239.6	18.54	.2523	.5434	8.359
Rep #2	206.2	.5971	.0572	5.567	230.7	18.23	.1782	.5430	8.289
Rep #3	206.5	.4525	.0746	5.410	234.8	18.32	.1532	.5287	8.380
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
28	Unk: GISC15-22095 16/12/2015 14:19:50 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	138.5	.3540	.0276	4.885	163.8	15.06	.1276	.4408	7.970
Desv. Est.	2.9	.0312	.0050	.373	1.3	.11	.0344	.1032	.010
% RSD	2.085	8.822	18.13	7.631	.8104	.7196	26.97	23.40	.1252
Rep #1	137.7	.3506	.0312	4.555	165.1	15.00	.1444	.3272	7.981
Rep #2	141.7	.3246	.0219	4.810	163.9	15.19	.0880	.5287	7.968
Rep #3	136.1	.3868	.0297	5.289	162.4	15.00	.1504	.4665	7.962
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
29	Unk: GISC15-22122 16/12/2015 14:22:26 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	58.30	.8224	<.0000	3.020	51.75	15.99	.1451	.2684	8.422
Desv. Est.	2.68	.0830	.0070	.384	.97	.11	.0279	.1449	.017
% RSD	4.593	10.09	132.0	12.72	1.880	.6916	19.23	53.99	.2062
Rep #1	60.44	.7280	-.0022	3.305	52.68	15.99	.1472	.1260	8.421
Rep #2	59.17	.8840	-.0004	2.583	51.83	16.10	.1719	.4156	8.406
Rep #3	55.30	.8552	-.0133	3.172	50.74	15.88	.1162	.2635	8.440
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
30	Unk: GISC15-22123 16/12/2015 14:24:45 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	60.60	.5539	.0201	2.678	50.91	14.20	.0823	.2169	6.399
Desv. Est.	1.75	.1379	.0049	.144	.30	.05	.0303	.1757	.063
% RSD	2.885	24.90	24.20	5.362	.5908	.3565	36.83	81.00	.9831
Rep #1	61.83	.6457	.0173	2.677	51.24	14.26	.0893	.2396	6.336
Rep #2	61.38	.3953	.0173	2.534	50.85	14.16	.1085	.0310	6.461
Rep #3	58.60	.6207	.0257	2.822	50.65	14.18	.0491	.3802	6.400
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
31	Unk: GISC15-22124 16/12/2015 14:27:07 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	36.06	.5053	<.0000	3.674	40.10	23.36	<.0000	.3482	7.602
Desv. Est.	.74	.0733	.0128	.229	.51	.04	.0306	.1409	.013
% RSD	2.039	14.51	5296.	6.242	1.263	.1858	313.5	40.47	.1708

Rep #1	35.88	.4503	.0095	3.432	40.49	23.31	.0146	.2164	7.592
Rep #2	35.44	.4771	-.0148	3.701	40.29	23.38	-.0441	.4968	7.617
Rep #3	36.87	.5886	.0045	3.888	39.53	23.39	.0002	.3314	7.598
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
32	Unk: GISC15-22125 16/12/2015 14:29:30 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>8.577</b>	<b>.6530</b>	<b>.0196</b>	<b>3.724</b>	<b>25.11</b>	<b>23.67</b>	<b>&lt;.0000</b>	<b>.1795</b>	<b>7.346</b>
Desv. Est.	.905	.0457	.0030	.365	.11	.08	.0356	.0533	.019
% RSD	10.56	7.001	15.51	9.790	.4492	.3269	397.7	29.71	.2566
Rep #1	7.703	.6981	.0163	3.918	24.99	23.76	-.0500	.1678	7.353
Rep #2	9.511	.6543	.0202	3.304	25.13	23.65	.0098	.2377	7.325
Rep #3	8.517	.6067	.0223	3.951	25.22	23.60	.0134	.1330	7.361
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
33	Unk: GISC15-22218 16/12/2015 14:32:01 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>6.994</b>	<b>.3794</b>	<b>.0208</b>	<b>3.000</b>	<b>22.81</b>	<b>14.81</b>	<b>.1042</b>	<b>.0985</b>	<b>6.844</b>
Desv. Est.	.496	.2126	.0088	.174	.07	.12	.0401	.0878	.011
% RSD	7.090	56.04	42.16	5.797	.3287	.8233	38.47	89.16	.1561
Rep #1	6.567	.1516	.0107	2.974	22.90	14.89	.1113	.1786	6.831
Rep #2	6.878	.4141	.0260	3.185	22.79	14.88	.0611	.0046	6.848
Rep #3	7.538	.5727	.0257	2.840	22.75	14.67	.1403	.1123	6.851
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
34	Unk: GISC15-22222 16/12/2015 14:34:48 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>5.472</b>	<b>.7044</b>	<b>.0147</b>	<b>3.135</b>	<b>18.71</b>	<b>11.92</b>	<b>.6511</b>	<b>.1505</b>	<b>6.052</b>
Desv. Est.	1.192	.2650	.0077	.166	.73	.15	.0813	.0432	.032
% RSD	21.79	37.62	52.59	5.298	3.928	1.292	12.49	28.71	.5245
Rep #1	5.504	1.006	.0210	3.076	18.73	11.95	.6157	.1730	6.078
Rep #2	4.264	.5971	.0171	3.006	19.44	12.05	.7441	.1779	6.062
Rep #3	6.648	.5098	.0061	3.322	17.97	11.75	.5935	.1007	6.017
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
35	Unk: GISC15-22223 16/12/2015 14:37:09 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
Lnea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	<b>8.444</b>	<b>.4972</b>	<b>.0131</b>	<b>2.480</b>	<b>23.02</b>	<b>12.49</b>	<b>.1457</b>	<b>.1570</b>	<b>5.380</b>
Desv. Est.	.855	.1667	.0080	.218	.53	.07	.0283	.0702	.013
% RSD	10.12	33.54	61.23	8.776	2.299	.5621	19.45	44.70	.2496
Rep #1	7.492	.4756	.0041	2.269	22.65	12.50	.1698	.2373	5.365

Rep #2	9.146	.6737	.0157	2.467	22.79	12.41	.1529	.1072	5.385
Rep #3	8.693	.3423	.0195	2.704	23.63	12.55	.1145	.1266	5.390
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
36	Unk: GISC15-21777 16/12/2015 14:39:38 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	41.09	.9602	.0444	1.859	43.61	14.35	.1255	.2238	19.32
Desv. Est.	.47	.0775	.0124	.115	.62	.16	.0275	.0403	.03
% RSD	1.133	8.068	27.95	6.200	1.432	1.145	21.93	18.02	.1360
Rep #1	40.57	.9365	.0455	1.982	44.32	14.32	.0997	.1786	19.29
Rep #2	41.24	.8973	.0315	1.842	43.15	14.52	.1545	.2561	19.33
Rep #3	41.46	1.047	.0562	1.754	43.36	14.20	.1223	.2368	19.34
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
37	Unk: GISC15-21777-R 16/12/2015 14:41:56 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	41.87	.9682	.0482	1.968	43.88	14.45	.1194	.2870	19.61
Desv. Est.	.29	.0766	.0115	.246	.78	.12	.0165	.1367	.02
% RSD	.6885	7.908	23.87	12.48	1.779	.8174	13.84	47.61	.1229
Rep #1	41.69	.9095	.0584	1.938	44.68	14.53	.1141	.3052	19.63
Rep #2	41.72	.9403	.0503	1.739	43.12	14.31	.1062	.4137	19.58
Rep #3	42.20	1.055	.0357	2.227	43.84	14.50	.1380	.1422	19.62
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
38	QC: QC- 16/12/2015 14:43:39 CONC D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4287	.3954	.4344	.4259	.4409	.4294	.4385	.4247	.4437
Desv. Est.	.0052	.0017	.0007	.0033	.0121	.0029	.0015	.0014	.0050
% RSD	1.222	.4289	.1519	.7793	2.735	.6720	.3412	.3309	1.128
Rep #1	.4247	.3943	.4349	.4229	.4313	.4265	.4379	.4252	.4397
Rep #2	.4268	.3947	.4337	.4254	.4369	.4322	.4373	.4232	.4420
Rep #3	.4346	.3974	.4345	.4295	.4544	.4294	.4402	.4259	.4493
Comprobaci3n	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor									
Intervalo									
39	Unk: GISC15-21913 16/12/2015 14:47:50 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	137.4	1.129	.0659	7.053	150.9	26.73	.2332	.1902	19.66
Desv. Est.	1.8	.087	.0014	.032	1.9	.33	.0602	.0377	.05
% RSD	1.300	7.701	2.111	.4469	1.238	1.238	25.83	19.82	.2575
Rep #1	139.4	1.033	.0644	7.087	152.1	27.00	.1639	.2302	19.71
Rep #2	136.5	1.152	.0659	7.024	151.8	26.82	.2730	.1553	19.66

Rep #3	136.2	1.203	.0672	7.050	148.7	26.36	.2627	.1852	19.61
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
40	Unk: GISC15-21914 16/12/2015 14:50:39 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	121.2	.5388	.0467	7.413	121.6	20.80	.1108	.1853	17.89
Desv. Est.	1.6	.1143	.0086	.165	.9	.12	.0158	.0384	.08
% RSD	1.311	21.22	18.32	2.231	.7695	.5686	14.24	20.72	.4224
Rep #1	119.4	.4252	.0372	7.603	121.0	20.71	.0960	.1449	17.80
Rep #2	122.6	.5373	.0537	7.300	122.7	20.94	.1091	.2213	17.94
Rep #3	121.5	.6538	.0494	7.337	121.2	20.76	.1274	.1898	17.92
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
41	Unk: GISC15-21915 16/12/2015 14:53:09 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	63.24	.6620	.0259	8.053	78.30	30.62	.1682	.1312	20.63
Desv. Est.	.41	.0650	.0046	.264	.31	.15	.0206	.0196	.08
% RSD	.6506	9.814	17.72	3.283	.3937	.4823	12.25	14.95	.3856
Rep #1	63.58	.6111	.0300	8.188	78.65	30.79	.1917	.1345	20.72
Rep #2	62.78	.7352	.0209	8.223	78.16	30.53	.1535	.1489	20.58
Rep #3	63.36	.6399	.0267	7.749	78.08	30.53	.1593	.1101	20.58
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
42	Unk: GISC15-21935 16/12/2015 14:55:36 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	535.2	.7206	.0723	7.877	485.9	37.32	.3114	.5111	17.81
Desv. Est.	2.2	.2847	.0123	.030	1.9	.12	.0265	.1533	.08
% RSD	.4152	39.52	16.99	.3851	.3874	.3201	8.515	29.99	.4756
Rep #1	535.9	1.019	.0811	7.842	486.5	37.46	.3418	.4628	17.89
Rep #2	532.7	.4525	.0776	7.893	483.8	37.26	.2931	.6828	17.72
Rep #3	537.0	.6898	.0583	7.896	487.4	37.25	.2993	.3879	17.82
Comprobaci3n	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor									
Intervalo									
43	Unk: GISC15-22100 16/12/2015 14:58:00 CONC x100 D MP-151216: VEG. FRESCO:								
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138
L3nea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	68.02	.7002	.0583	5.488	92.29	22.74	.1176	.2648	14.22
Desv. Est.	1.61	.2622	.0091	.142	.35	.11	.0500	.0944	.05
% RSD	2.365	37.45	15.67	2.586	.3842	.4773	42.50	35.65	.3191
Rep #1	67.83	.7836	.0514	5.462	92.27	22.69	.1626	.2105	14.19
Rep #2	66.51	.4064	.0549	5.361	91.94	22.65	.0638	.3738	14.20
Rep #3	69.71	.9106	.0687	5.642	92.65	22.86	.1263	.2101	14.27





Valor										
Intervalo										
48	Unk: GISC15-22148 16/12/2015 15:10:43 CONC x100 D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	77.58	.4714	.0350	9.194	96.39	42.62	.2935	.1423	23.13	
Desv. Est.	2.03	.0866	.0025	.173	1.05	.45	.0381	.1130	.16	
% RSD	2.620	18.37	7.162	1.881	1.094	1.054	13.00	79.39	.6913	
Rep #1	79.54	.5362	.0334	9.314	97.41	43.12	.2664	.1337	23.30	
Rep #2	75.48	.5050	.0379	8.995	96.45	42.51	.2771	.2594	23.12	
Rep #3	77.73	.3730	.0337	9.271	95.31	42.24	.3371	.0339	22.98	
Comprobación	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno	Ninguno
Valor										
Intervalo										
49	QC: QC- 16/12/2015 15:15:57 CONC D MP-151216: VEG. FRESCO:									
	Al3961	As1890	Cd2265	Cu3247	Fe2599	Mn2576	Ni2316	Pb2203	Zn2138	
Línea	396.152 { 85	189.042 {47	226.502 {44	324.754 {10	259.940 {13	257.610 {13	231.604 {44	220.353 {45	213.856 {45	
Unidades	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Media	.4042	.3925	.4317	.4193	.4349	.4214	.4325	.4186	.4362	
Desv. Est.	.0065	.0020	.0009	.0022	.0030	.0018	.0011	.0007	.0024	
% RSD	1.604	.5191	.2011	.5142	.6960	.4375	.2449	.1722	.5581	
Rep #1	.4117	.3945	.4324	.4201	.4384	.4235	.4333	.4178	.4379	
Rep #2	.4009	.3926	.4321	.4168	.4336	.4208	.4328	.4192	.4371	
Rep #3	.4000	.3905	.4307	.4208	.4328	.4199	.4313	.4187	.4334	
Comprobación	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp	Pasa Comp
Valor										
Intervalo										

1	Cal: Blanco 17/12/2015 07:32:30 IR D Hg-151217: VEG. FRESCOS:
	Hg1942
Unidades	Cts/s
Media	-3.947
Desv. Est.	.377
% RSD	9.549
Rep #1	-3.859
Rep #2	-4.360
Rep #3	-3.622
2	Cal: STD 1 17/12/2015 07:34:45 IR D Hg-151217: VEG. FRESCOS:
	Hg1942
Unidades	Cts/s
Media	63.85
Desv. Est.	2.88
% RSD	4.505
Rep #1	60.69
Rep #2	64.54
Rep #3	66.31
3	Cal: STD 2 17/12/2015 07:36:06 IR D Hg-151217: VEG. FRESCOS:
	Hg1942
Unidades	Cts/s
Media	209.7
Desv. Est.	3.1
% RSD	1.494
Rep #1	206.3
Rep #2	210.3
Rep #3	212.4
4	Cal: STD 3 17/12/2015 07:37:27 IR D Hg-151217: VEG. FRESCOS:
	Hg1942
Unidades	Cts/s
Media	337.6
Desv. Est.	.9
% RSD	.2563
Rep #1	336.6
Rep #2	338.3
Rep #3	337.8
5	Cal: STD 4 17/12/2015 07:38:42 IR D Hg-151217: VEG. FRESCOS:
	Hg1942
Unidades	Cts/s
Media	686.5
Desv. Est.	4.5
% RSD	.6552
Rep #1	681.6
Rep #2	690.4
Rep #3	687.5
6	QC: QC 17/12/2015 07:40:14 CONC D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000

% RSD	.4625
Rep #1	.0049
Rep #2	.0050
Rep #3	.0050
Comprobación	Pasa Comp
Valor	
Intervalo	
7	Unk: BLANCO 17/12/2015 07:41:52 CONC D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0000
Desv. Est.	.0000
% RSD	117.9
Rep #1	.0000
Rep #2	-.0000
Rep #3	.0000
8	Unk: RECUPERACION 17/12/2015 07:43:31 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.5045
Desv. Est.	.0008
% RSD	.1606
Rep #1	.5054
Rep #2	.5042
Rep #3	.5039
9	Blanco: REACTIVO 17/12/2015 07:45:07 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0036
Desv. Est.	.0011
% RSD	29.30
Rep #1	.0033
Rep #2	.0048
Rep #3	.0027
10	Unk: GISC15-21791 17/12/2015 07:46:21 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0159
Desv. Est.	.0021
% RSD	13.04
Rep #1	-.0165
Rep #2	-.0136
Rep #3	-.0176
11	Unk: GISC15-21791-R 17/12/2015 07:48:06 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0100

Desv. Est.	.0008
% RSD	7.792
Rep #1	-.0107
Rep #2	-.0092
Rep #3	-.0101
12	Unk: GISC15-21792 17/12/2015 07:49:38 CONC x100 DMS 151217: VEG 5R50000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0135
Desv. Est.	.0003
% RSD	2.536
Rep #1	-.0138
Rep #2	-.0135
Rep #3	-.0131
13	Unk: GISC15-21793 17/12/2015 07:51:00 CONC x100 DMS 151217: VEG 5R50000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0114
Desv. Est.	.0070
% RSD	61.81
Rep #1	-.0042
Rep #2	-.0117
Rep #3	-.0182
14	Unk: GISC15-21932 17/12/2015 07:52:19 CONC x100 DMS 151217: VEG 5R50000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0195
Desv. Est.	.0023
% RSD	11.66
Rep #1	-.0169
Rep #2	-.0201
Rep #3	-.0213
15	Unk: GISC15-21934 17/12/2015 07:53:40 CONC x100 DMS 151217: VEG 5R50000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0186
Desv. Est.	.0023
% RSD	12.11
Rep #1	-.0175
Rep #2	-.0171
Rep #3	-.0212
16	Unk: GISC15-21954 17/12/2015 07:54:58 CONC x100 DMS 151217: VEG 5R50000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0209
Desv. Est.	.0013
% RSD	6.330

Rep #1	-0193
Rep #2	-0215
Rep #3	-0217
17	Unk: GISC15-22026 17/12/2015 07:56:24 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0179
Desv. Est.	.0008
% RSD	4.480
Rep #1	-0171
Rep #2	-0182
Rep #3	-0186
18	Unk: GISC15-22027 17/12/2015 07:57:44 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0162
Desv. Est.	.0013
% RSD	8.145
Rep #1	-0168
Rep #2	-0146
Rep #3	-0170
19	Unk: GISC15-22035 17/12/2015 07:59:15 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0136
Desv. Est.	.0021
% RSD	15.38
Rep #1	-0113
Rep #2	-0155
Rep #3	-0139
20	QC: QC 17/12/2015 07:59:50 CONC D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0050
Desv. Est.	.0000
% RSD	.5351
Rep #1	.0049
Rep #2	.0050
Rep #3	.0050
Comprobació	Pasa Comp
Valor	
Intervalo	
21	Unk: GISC15-22036 17/12/2015 08:00:35 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0119
Desv. Est.	.0001

% RSD	1.079
Rep #1	-.0120
Rep #2	-.0118
Rep #3	-.0120
22	Unk: GISC15-22094 17/12/2015 08:02:23 CONC x100 DMS 151217: MFC 5850000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0117
Desv. Est.	.0022
% RSD	18.38
Rep #1	-.0128
Rep #2	-.0131
Rep #3	-.0092
23	Unk: GISC15-22095 17/12/2015 08:03:48 CONC x100 DMS 151217: MFC 5850000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0092
Desv. Est.	.0014
% RSD	14.83
Rep #1	-.0086
Rep #2	-.0107
Rep #3	-.0082
24	Unk: GISC15-22122 17/12/2015 08:05:09 CONC x100 DMS 151217: MFC 5850000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0181
Desv. Est.	.0025
% RSD	13.62
Rep #1	-.0162
Rep #2	-.0209
Rep #3	-.0172
25	Unk: GISC15-22123 17/12/2015 08:06:38 CONC x100 DMS 151217: MFC 5850000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0173
Desv. Est.	.0008
% RSD	4.693
Rep #1	-.0164
Rep #2	-.0176
Rep #3	-.0180
26	Unk: GISC15-22124 17/12/2015 08:08:07 CONC x100 DMS 151217: MFC 5850000: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0163
Desv. Est.	.0021
% RSD	12.78
Rep #1	-.0139

Rep #2	-0176
Rep #3	-0174
27	Unk: GISC15-22125 17/12/2015 08:09:22 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0179
Desv. Est.	.0024
% RSD	13.68
Rep #1	-0179
Rep #2	-0203
Rep #3	-0154
28	Unk: GISC15-22218 17/12/2015 08:11:01 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0177
Desv. Est.	.0006
% RSD	3.632
Rep #1	-0184
Rep #2	-0176
Rep #3	-0171
29	Unk: GISC15-22222 17/12/2015 08:12:25 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0187
Desv. Est.	.0031
% RSD	16.71
Rep #1	-0162
Rep #2	-0178
Rep #3	-0222
30	Unk: GISC15-22223 17/12/2015 08:14:56 CONC x100 D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0193
Desv. Est.	.0012
% RSD	6.031
Rep #1	-0181
Rep #2	-0204
Rep #3	-0195
31	QC: QC 17/12/2015 08:16:13 CONC D Hg-151217: VEG. FRESCOS: Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0001
% RSD	1.069
Rep #1	.0050
Rep #2	.0050
Rep #3	.0049

Comprobación	Pasa Comp
Valor	
Intervalo	
32	Unk: GISC15-21777 17/12/2015 08:17:46 CONC x100 D:\151217\MFC_5250000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0192
Desv. Est.	.0027
% RSD	14.11
Rep #1	-.0170
Rep #2	-.0222
Rep #3	-.0182
33	Unk: GISC15-21777-R 17/12/2015 08:19:07 CONC x100 D:\151217\MFC_5250000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0165
Desv. Est.	.0007
% RSD	4.035
Rep #1	-.0164
Rep #2	-.0159
Rep #3	-.0172
34	Unk: GISC15-21913 17/12/2015 08:20:33 CONC x100 D:\151217\MFC_5250000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0245
Desv. Est.	.0014
% RSD	5.714
Rep #1	-.0246
Rep #2	-.0230
Rep #3	-.0258
35	Unk: GISC15-21914 17/12/2015 08:21:53 CONC x100 D:\151217\MFC_5250000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0203
Desv. Est.	.0015
% RSD	7.178
Rep #1	-.0205
Rep #2	-.0217
Rep #3	-.0188
36	Unk: GISC15-21915 17/12/2015 08:23:06 CONC x100 D:\151217\MFC_5250000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0204
Desv. Est.	.0013
% RSD	6.180
Rep #1	-.0217
Rep #2	-.0191



Rep #3	-0204
37	Unk: GISC15-21935 17/12/2015 08:24:25 CONC x100 SUS-151017- MFC-5R50000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0187
Desv. Est.	.0005
% RSD	2.847
Rep #1	-0193
Rep #2	-0187
Rep #3	-0182
38	Unk: GISC15-22100 17/12/2015 08:25:44 CONC x100 SUS-151017- MFC-5R50000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0313
Desv. Est.	.0027
% RSD	8.768
Rep #1	-0285
Rep #2	-0340
Rep #3	-0314
39	Unk: GISC15-22101 17/12/2015 08:27:07 CONC x100 SUS-151017- MFC-5R50000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0197
Desv. Est.	.0025
% RSD	12.50
Rep #1	-0212
Rep #2	-0169
Rep #3	-0210
40	Unk: GISC15-22131 17/12/2015 08:28:24 CONC x100 SUS-151017- MFC-5R50000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0252
Desv. Est.	.0001
% RSD	.5068
Rep #1	-0253
Rep #2	-0252
Rep #3	-0250
41	Unk: GISC15-22132 17/12/2015 08:29:40 CONC x100 SUS-151017- MFC-5R50000 Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-0196
Desv. Est.	.0020
% RSD	10.27
Rep #1	-0219
Rep #2	-0189
Rep #3	-0181

42	QC: QC 17/12/2015 08:31:35 CONC D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	.0049
Desv. Est.	.0000
% RSD	.2745
Rep #1	.0049
Rep #2	.0050
Rep #3	.0049
Comprobación	Pasa Comp
Valor	
Intervalo	
43	Unk: GISC15-22147 17/12/2015 08:33:44 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0214
Desv. Est.	.0054
% RSD	25.09
Rep #1	-.0152
Rep #2	-.0248
Rep #3	-.0241
44	Unk: GISC15-22148 17/12/2015 08:35:06 CONC x100 D Hg-151217: VEG. FRESCOS:
	Hg1942
Línea	194.227 {47
Unidades	mg/kg
Media	-.0188
Desv. Est.	.0017
% RSD	9.181
Rep #1	-.0181
Rep #2	-.0207
Rep #3	-.0175