

**TORO**  
**ANALISIS SEDIMENTOLOGICO**  
**RAYOS X**  
**MINERALES PESADOS**



**Ibergesa**

Ibérica de Especialidades Geotécnicas, S.A.

ANALISIS SEDIMENTOLOGICO

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Muestra	>0.5 (%)	0.5-0.05	limo + arcilla	Carbonatos	
JM-93	0.15	1.64	83.90	14.31	
JM-94	0.1	1.14	97.45	1.31	Corte 4
JM-95	0	9	89.18	1.82	Cuesta Genilla
JM-96	0	1.74	96.63	1.63	
JM-100	0.67	4.56	93.41	1.36	Corte 2
JM-101	0.14	4.35	94.71	0.80	Villavedimio
JM-102	0	28.54	70.93	0.53	
JM-104	0	6.28	93.58	1.14	
JM-105	0	23.45	71.70	0.85	Corte 5
JM-106	0.04	5.1	93.93	0.93	Fuenteseca
JM-107	0	7.66	90.64	1.70	
JM-109	0.04	9.70	98.79	1.47	
JM-103	0.07	15.54	83.22	1.17	Corte 6
JM-110	-	33.56	66.07	0.38	Abezames
JM-111	-	7.88	90.60	1.52	
JM-112	-	10.24	88.76	1.00	
JM-114	4.95	16.25	45.22	33.58	
JM-118	-	20.63	78.01	1.36	Corte 3
JM-119	-	1.51	97.47	1.02	Villardondiego
JM-121	1.58	7.52	54.46	38.44	Traslostesos
JM-126	-	3.75	95.12	1.13	
JM-127	-	4.10	96.37	2.53	Cuesta de Tiedra

RAYOS X

ARCILLAS (MAGNA) HOJA 14-15 TORO

Minerales de la fracción fina en % (sobre el total de dicha fracción)

Muestra	Montmorillonita	Interestratificados	Illita	Caolinita	Goethita
JM-79	2.20		83.63	13.20	0.97
JM-80			85.54	13.61	0.85
JM-81	18.93		49.51	30.58	0.96
JM-82	15.25		65.09	18.30	1.34
JM-83	11.42		55.33	32.46	0.79
JM-84	17.29		52.88	28.16	1.34
JM-85	11.54		57.70	28.85	1.91
JM-86			78.42	20.46	1.13
JM-87			68.05	30.73	1.22
JM-88			49.19	49.19	1.62
JM-89	13.04		49.69	37.27	
JM-90	1.61		54.74	41.86	1.79
JM-91	10.03		48.16	41.14	0.66
JM-92	27.22		42.77	29.16	0.85
JM-93			84.21	15.79	
JM-95			93.75	6.25	
JM-96			89.65	10.35	
JM-100			76.92	23.08	
JM-101	3.95		73.68	22.37	
JM-102	2.89		77.01	19.25	0.85
JM-104	3.70		74.07	22.22	
JM-105	1.39		72.34	25.04	1.22
JM-106	2.63		77.27	19.32	0.77
JM-107			75.05		24.95
JM-109			86.49	13.51	

ARCILLAS (MAGNA) HOJA 14-15 TORO

Minerales de la fracción fina en % (sobre el total de dicha fracción)

Muestra	Montmori- llonita	Interestra- tificados	Illita	Caolini ta	Gibsita	Goethita
JM-110	3.71		66.81	25.98	1.86	1.63
JM-111			73.47	26.53		
JM-112		31.26	63.38	5.14	0.21	
JM-114			100			
JM-115		38.82	61.18			
JM-116	13.58		77.21	8.58		0.63
JM-118			72.27	26.28		1.45
JM-119	2.52		70.44	26.41	0.63	
JM-120	2.00		71.84	23.95		2.21
JM-121	20	17.78	60.00	2.22		
JM-126	2.59		72.49	24.16		0.76
JM-127	9.09	13.64	67.27	10.00		

MINERALES PESADOS

MINERALES PESADOS (MAGNA) IBERGESA

Muestra	Circón %	Turmalina %	Andalucita %	Monacita %	Rutilo %	Estaurolita %	Granate %	Topacio %	Distena %	Epido-ta %	Broquita %	Opacos %	Alteritas %	Piroxenos %
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Hoja 14-15 (Toro)

Serie 1: Toro

JM-79	5.0	10.5	5.0	3.0	6.5	0.5	41.5	1.0	4.0	5.5	-	4.5	13.0	
JM-80	5.8	16.3	12.9	-	2.4	-	11.1	5.3	1.0	6.3	-	3.8	35.1	
JM-81	1.0	11.0	20.0	-	0.5	1.0	5.0	1.0	4.5	1.0	-	12.0	43.0	
JM-82	0.5	12.5	30.0	-	1.0	4.5	2.5	-	1.0	2.0	-	7.0	39.0	
JM-83	1.5	13.0	31.5	-	1.0	4.0	1.0	-	3.0	1.5	-	7.5	34.0	2.0
JM-84	15.2	15.0	27.0	-	3.0	2.0	2.0	4.0	2.0	-	-	6.0	23.5	-
JM-85	0.5	18.0	30.0	-	-	4.0	4.0	-	2.0	-	-	4.0	37.5	
JM-86	6.0	13.0	16.5	1.5	4.5	2.0	3.5	-	2.0	3.5	-	11.5	36.0	
JM-87	9.2	20.0	23.8	-	8.5	2.3	2.3	-	5.8	3.1	-	9.6	15.4	
JM-88	1.2	15.1	42.2	-	2.0	8.0	3.2	1.2	2.0	-	-	6.4	18.7	
JM-89	-	18.8	44.8	-	-	4.4	1.2	-	1.2	-	-	8.0	21.6	
JM-90	1.5	4.5	28.5	-	0.5	3.5	-	-	7.0	-	-	17.0	37.5	
JM-91	7.1	14.8	7.1	-	3.3	2.9	1.4	0.9	3.3	-	-	7.6	51.4	
JM-92	1.5	3.5	16.5	-	1.0	2.5	1.5	2.5	4.0	-	-	7.0	60.0	

Serie 2: Villavedimio

JM-100	1.0	8.0	10.0	-	3.0	0.5	0.5	5.0	2.5	1.0	-	6.0	62.5	
JM-101	Muestra no representativa													
JM-102	31.0	7.5	2.5	2.5	6.5	2.0	0.5	0.5	1.0	1.0	0.5	12.5	32.0	



MINERALES PESADOS (MAGNA) IBERGESA

Muestra	Circón %	Turmalina %	Andalucita %	Monacita %	Rutilo %	Estauro lita %	Granates %	Topacio %	Distena %	Epidoto ta %	Broquita %	Opacos %	Alteritas %	Piroxenas %
Hoja 14-15 (Toro)														
<u>Serie 3: Villardondiego</u>														
JM-118	24.5	9.5	4.5	1.5	5.0	2.0	1.5	1.5	0.5	2.0		12.0	35.5	
JM-119	14.5	13.5	5.5	1.0	2.5	-	3.5	4.0	-	2.5		4.5	48.5	
<u>Serie 4: Cuesta Genilla</u>														
JM-93	2.0	14.6	33.3	-	3.8	2.5	2.0	1.3	10.4	-		8.8	21.3	
JM-94	3.5	9.9	32.7	-	1.5	-	2.5	9.8	1.5	1.5		8.4	28.7	
JM-95	10.0	2.0	2.0	-	15.0	-	2.0	15.0	2.0	35.0	6.0	9.0	2.0	
JM-96	Muestra no representativa													
<u>Serie 5: Fuenteseca</u>														
JM-104	28.2	4.3	3.6	3.9	11.0	0.4	-	1.4	1.4	0.4	-	14.3	31.1	
JM-105	16.5	8.5	8.5	-	9.5	-	-	2.0	-	2.0	-	11.5	41.5	
JM-106	8.0	7.5	5.5	1.5	4.0	0.5	8.0	1.0	0.5	2.5	-	5.0	56.0	
JM-107	15.2	11.9	5.7	1.9	4.8	-	-	1.4	1.0	-	-	1.9	56.2	
<u>Serie 6: Abezames</u>														
JM-103	13.5	7.0	8.0	-	4.0	-	3.0	3.5	-	11.0	-	7.5	42.5	
JM-109	16.0	13.5	1.5	2.5	4.0	-	0.5	4.0	-	2.5	-	6.0	49.5	
JM-111	8.0	13.0	5.0	-	4.0	0.5	1.5	2.5	-	15.5	7.5	3.0	39.5	
JM-112	0.9	13.5	4.8	-	1.7	-	-	0.9	1.3	10.4	-	3.5	63.0	

MINERALES PESADOS (MAGNA) IBERGESA

Muestra	Circón %	Turmalina %	Andalucita %	Monacita %	Rutilo %	Estauro lita %	Grana te %	Topacio %	Distena %	Epido ta %	Opacos %	Alteri- tas %
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Hoja 14-15 (Toro)

Pinilla de Toro

JM-120      16.5   16.0      8.0      2.0      3.0      1.0      -      3.5      1.0      1.5      11.5      36.0

Cota 808 (Camino de Vazdemarbán a Tiedra)

JM-121      Muestra no representativa

Cuesta de Tiedra

JM-126      15.2   17.1      3.3      -      5.2      -      -      4.8      0.5      -      5.2      48.6  
 JM-127      4.0   21.0      10.5      -      3.0      -      5.0      4.0      1.0      1.5      2.0      48.0