

HJ 1081-2019

---

**Soil and sediment—Determination of cobalt**  
**—Flame atomic absorption spectrometry**

2019-12-31

2020-06-30

---

	.....	ii
1	.....	1
2	.....	1
3	.....	1
4	.....	1
5	.....	1
6	.....	2
7	.....	2
8	.....	4
9	.....	5
10	.....	5
11	§ .....	

A

2019 12 31  
2020 6 30

1

0.5 g

50 ml

2 mg/kg

8 mg/kg

2

GB 17378.3

3

GB 17378.5

5

HJ 25.2

HJ 494

HJ 613

HJ 832

HJ/T 91

HJ/T 166

3

-

240.7 nm

4

	10 mg/L	Zn	Ni	20 mg/L	Ba	Pb	60 mg/L	Mn	400 mg/L
Mg	500 mg/L	K	900 mg/L	Ti	3000 mg/L	Al	5000 mg/L	Ca	7000 mg/L
Na									

5

5.1	$\rho$ HCl =1.19 g/ml				
5.2	$\rho$ HNO <sub>3</sub> =1.42 g/ml				
5.3	$\rho$ HF =1.49 g/ml				
5.4	$\rho$ HClO <sub>4</sub> =1.68 g/ml				
5.5					
5.6	1+1				
5.7	1+99				
5.8	$\rho$ Co =500 mg/L				
	0.1 g	0.1 mg	5.5	6 ml	5.6
	200 ml		0	4	
5.9	$\rho$ Co =50 mg/L				
	10.0 ml	5.8	100 ml		5.7
	4				
5.10	99.6%				
5.11					
6					
6.1					
6.2	240.7 nm				
6.3	600 W	1500 W		$\pm 2.5$	
6.4		$\pm 5$			
6.5		50 ml			
6.6	0.1 mg				
6.7	0.15 mm	100			
6.8					
7					
7.1					
	HJ/T 166	HJ 25.2			GB 17378.3
			HJ/T 91	HJ 494	
	HJ/T 166				
7.2					
	HJ/T 166	GB 17378.3			
				6.7	
2					

7.3

HJ 613

7.2

GB 17378.5

7.2

7.4

7.4.1

0.5 g      0.1 mg      7.2      6.5      2  
 3      2 ml      5.1      10 ml      5.2      2 ml      5.3      1 ml  
 5.4      180      1 h      210  
    1 ml      5.4  
    0.5 ml      5.2  
    50 ml

7.4.2

0.5 g      0.1 mg      2      3      1 ml  
 5.1      5 ml      5.2      2 ml      5.3      1  
    6.5      1 ml  
 5.4      180      30 min  
 180  
    1 ml      5.4  
    0.5 ml      5.2  
    50 ml

HJ 832

1

		min	min
1	150	7	3
2	150 210	5	20

7.5

7.4

8

8.1

2

2

nm	240.7
nm	0.2
mA	7.0
L/min	2.5
L/min	13.5

8.2

0 ml 0.20 ml 1.00 ml 2.00 ml 4.00 ml 6.00 ml 10.00 ml  
5.9 100 ml 5.7  
0 mg/L 0.10 mg/L 0.50 mg/L 1.00 mg/L 2.00 mg/L 3.00 mg/L 5.00 mg/L

1

A

2

6

8.3

8.2

7.4

5.7

8.4

8.3

7.5

4

9

9.1

9.1.1

$x_1$  mg/kg                      1

$$x_1 = \frac{(\rho \times \text{---} - \rho_0) \times \text{---}}{\text{---}} \quad 1$$

$\rho$  —                      mg/kg  
 $\rho$  —                      mg/L  
 —                      mg/L  
 —                      ml  
 —                      g  
 dm —                      %

9.1.2

$x_2$  mg/kg                      2

$$x_2 = \frac{(\rho \times \text{---} - \rho_0) \times \text{---}}{\text{---} \times (1 - \text{---})} \quad 2$$

$\rho$  —                      mg/kg  
 $\rho$  —                      mg/L  
 —                      mg/L  
 —                      ml  
 —                      g  
 $x_2$  —                      %

9.2

3

10

10.1

8.1 mg/kg    11.6 mg/kg    22.8 mg/kg    3

6

3.2%    9.1%    1.9%    4.1%



1.7% 4.5% 19% 9.3% 7.1% 2 mg/kg  
 2 mg/kg 3 mg/kg 5 mg/kg 4 mg/kg 5 mg/kg  
 3.2% 5.0% 2.3% 4.7% 1.5% 5.4%  
 16.9% 8.2% 9.4% 1 mg/kg 2 mg/kg 3 mg/kg 4 mg/kg  
 3 mg/kg 7 mg/kg  
 12.0 mg/kg 17.4 mg/kg 24.0 mg/kg 3  
 6 1.2% 5.7% 1.7%  
 5.5% 1.2% 4.0% 12% 9.6% 5.8%  
 2 mg/kg 2 mg/kg 2 mg/kg 5 mg/kg 5 mg/kg 5 mg/kg  
 2.6% 5.5% 1.3% 6.4% 1.6% 4.9%  
 11% 10.7% 7.3% 2 mg/kg 2 mg/kg 2 mg/kg  
 4 mg/kg 6 mg/kg 6 mg/kg  
 10.2  
 GSS-9 GSS-5 6  
 -9.3% 8.6% -11% 4.2% -1.8%± 14.8%  
 -0.1%± 12.2% -7.1% 6.4% -7.9% 6.7%  
 -0.2%± 9.2% -1.6%± 10.4%  
 GSD-7a GSD-11 6  
 -2.6% 0.7% -4.7% 4.8%  
 -1.1%± 2.6% -1.6%± 9.0% -2.6% 2.7% -4.7% 5.9%  
 0.03%± 3.6% -1.8%± 9.0%  
 8.1 mg/kg 22.8 mg/kg  
 92.5% 102% 85.0% 111%  
 97.1%± 7.6% 97.4%± 16.6% 91.0% 105% 86.7% 109%  
 97.3%± 9.0% 98.1%± 15.0%  
 12.0 mg/kg 24.0 mg/kg  
 91.0% 102% 86.5% 108%  
 95.3%± 8.2% 98.9%± 16.4% 83.0% 111% 93.5% 101%  
 96.8%± 19.0% 95.6%± 7.4%  
 11  
 11.1 2  
 11.2 0.999 20  
 20 / 10%  
 11.3 20 20 / 1  
 6

		15%			
11.4	20		1		
	± 20%		20	/	1
	80%	120%			

12

13

13.1

13.2

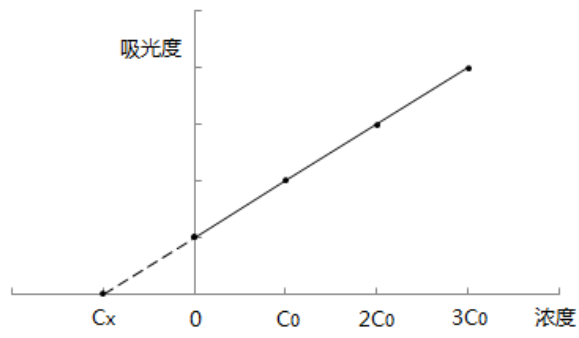
A

A.1

+2      +3

+

A.1



A.1

A.2

A.2.2

A.2.3

0.5%

A.2.4

A.3

A

s

B

A.1

$$= \left( \frac{\quad}{\quad} \right) \times$$

A.1

/ - 0.5 1.5 / -