

## گزارش کنترل کیفی آزمایشگاههای خاک و آب کشور - 1397

طبق چند سال گذشته، گزارش کنترل کیفی سالیانه مربوط به سال 97 ارائه می گردد. نمونه ها (دو نمونه خاک و دو نمونه گیاه) در زمستان 96 برای آزمایشگاههای دولتی و خصوصی خاک و آب کشور ارسال شدند. جواب آنالیزها در سال 97 دریافت شد و در این گزارش تحت عنوان نتایج کنترل کیفی سال 97 ارائه می گردد. نمونه های دریافت شده توسط هر آزمایشگاه دارای کدهای محرمانه ای می باشند. برای رمز گشایی از کدهای نمونه های دریافت شده و تطابق آن با نتایج نشان داده شده در این گزارش از جداول زیر استفاده نمایید. این جداول نشان می دهند که هر آزمایشگاه چه خاک و گیاهی را تحویل گرفته است. برای پی گیری نتایج مربوط به آزمایشگاه خود ابتدا کد مربوط به دو نمونه خاک و گیاهی که دریافت کرده اید را از جدول زیر بیابید و سپس در صفحات بعدی نتایج مربوط به هر یک از پارامترهای تجزیه شده توسط آزمایشگاه خود را در مقایسه با سایر نتایج مشاهده نمایید. در قسمت نتایج، sat. مخفف کلمه satisfy به معنای رضایتبخش، Unsatisfy به معنای غیر رضایتبخش و critical به معنای بحرانی می باشد. داده های با درجه غیر رضایتبخش و بحرانی به ترتیب داده های پرت و بسیار پرت هستند. در انتهای بخش های مربوط به خاک و گیاه نیز رتبه بندی آزمایشگاههای شرکت کننده در کنترل کیفی نشان داده شده است.

### کد آزمایشگاهها

	4	29	50	75	106	147	179
	5	30	53	76	108	152	182
	13	34	57	82	122	159	186
	17	39	60	87	123	163	189
<u>Soil/plant 1</u>	21	42	66	88	124	167	190
	22	46	69	95	130	171	191
	24	48	70	97	136	175	193
	28	49	74	103	142	176	197

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	4	43	68	94	126	142	166
	5	44	71	99	129	143	169
	6	52	73	103	131	144	171
	7	54	75	104	132	150	177
<u>Soil/plant 2</u>	8	55	78	106	135	151	180
	14	56	80	112	137	157	183
	19	61	81	113	138	157	185
	39	62	87	118	139	158	
	40	64	91	121	141	164	

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	1	33	54	86	115	159	181
	8	37	58	89	116	162	182
	14	41	63	93	119	164	184
	17	44	64	94	120	168	187
<u>Soil/plant 3</u>	20	45	67	99	125	170	188
	23	46	69	104	128	172	197
	24	48	72	107	143	173	
	27	49	76	110	146	174	
	29	52	84	113	156	178	

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	12	47	65	101	132	157	179
	23	50	66	109	134	158	183
	26	53	71	115	135	160	185
	31	55	74	118	136	162	189
	33	56	82	119	139	165	190
<u>Soil/plant 4</u>	34	57	85	120	144	167	191
	38	58	90	122	147	169	192
	42	59	91	125	148	170	196
	43	60	92	127	150	174	
	45	62	96	130	151	178	

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	1	41	80	97	131	160	180
	6	51	84	101	134	161	188
	12	59	85	105	140	165	192
	22	63	88	117	141	168	193
<u>Soil/plant 5</u>	26	67	89	121	144	172	194
	28	68	90	123	149	175	195
	35	72	92	124	152	177	196
	37	77	96	127	156		

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	7	35	73	107	126	146	176
	13	38	77	108	128	149	181
	19	40	78	109	129	157	184
	20	47	81	110	137	161	186
<u>Soil/plant 6</u>	21	51	86	112	138	163	187
	27	61	93	116	140	166	194
	30	65	95	117	141	173	195
	31	70	105	124			

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# Soils

# Soil 1

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	pH		mean=	7.89	کد آزمایشگاهها	EC (dS/m)		mean=	0.93
3	7.83	Sat.			3	0.86	Sat.		
4	7.85	Sat.			4	0.8	Sat.		
29	8.4	Critical			29	1.27	Unsat.		
30	7.87	Sat.			30	0.65	Unsat.		
34	7.78	Sat.			34	1.19	Unsat.		
39	7.64	Unsat.			39	0.96	Sat.		
42	8	Sat.			42	0.86	Sat.		
46	7.88	Sat.			46	0.845	Sat.		
48	8	Sat.			48	1.2	Unsat.		
50	7.98	Sat.			50	0.7	Sat.		
53	7.9	Sat.			53	0.988	Sat.		
57	7.85	Sat.			57	1.047	Sat.		
66	7.3	Critical			66	1	Sat.		
69	7.8	Sat.			69	0.934	Sat.		
74	8.28	Critical			74	0.98	Sat.		
82	8	Sat.			82	12	Critical		
87	7.72	Sat.			87	1.96	Critical		
88	7.44	Critical			88	0.98	Sat.		
95	8	Sat.			95	0.82	Sat.		
106	7.5	Critical			106	0.93	Sat.		
108	8.26	Unsat.			108	1.0091	Sat.		
130	8.11	Sat.			130	0.85	Sat.		
142	7.14	Critical			142	0.89	Sat.		
147	8.43	Critical			147	1.019	Sat.		
171	7.9	Sat.			171	2.3	Critical		
175	7.78	Sat.			175	0.7165	Sat.		
176	7.42	Critical			176	0.97	Sat.		
179	7.43	Critical			179	0.81	Sat.		
186	7.8	Sat.			186	0.89	Sat.		
189	7.94	Sat.			189	0.93	Sat.		
197	8.15	Unsat.			197	1.033	Sat.		

کد آزمایشگاهها	Sp (%)		mean=	33.75	کد آزمایشگاهها	TNV (%)		mean=	10.87
3	24.5	Critical			3	10.25	Sat.		
4	24.5	Critical			4	10.5	Sat.		
29	35	Sat.			29	3	Critical		
30	33.2	Sat.			30	12.5	Sat.		
34	32.22	Sat.			39	11.5	Sat.		
39	30.62	Sat.			42	11.2	Sat.		
42	33	Sat.			46	9.5	Sat.		
46	33	Sat.			48	11.9	Sat.		
48	35.7	Sat.			50	11	Sat.		
53	30.7	Sat.			53	10	Sat.		
57	35.6	Sat.			57	11.2	Sat.		
66	33.4	Sat.			66	12	Sat.		
69	33	Sat.			69	11	Sat.		
74	34	Sat.			74	10.2	Sat.		
87	28.17	Critical			82	16	Critical		
88	35.8	Sat.			87	22.18	Critical		
95	35.82	Sat.			88	10	Sat.		
106	32	Sat.			95	11.75	Sat.		
108	33.45	Sat.			106	10.5	Sat.		
130	50.3	Critical			108	11.313	Sat.		
142	38.59	Unsat.			130	9	Unsat.		
147	34.11	Sat.			142	10.575	Sat.		
171	34.4	Sat.			147	10.1	Sat.		
175	35	Sat.			171	17.5	Critical		
176	35.87	Sat.			175	10.82	Sat.		
179	33.41	Sat.			176	12.5	Sat.		
186	33.4	Sat.			179	10.38	Sat.		
189	31.02	Sat.			186	11	Sat.		
197	36.22	Sat.			189	11.1	Sat.		
					197	4.35	Critical		



کد آزمایشگاهها	OC(%)		mean=	0.496	کد آزمایشگاهها	Pava (mg/Kg)		mean=	6.41
3	0.69	Critical			3	6.13	Sat.		
4	0.43	Sat.			4	6.43	Sat.		
29	0.505	Sat.			29	7.8	Sat.		
30	0.562	Sat.			30	5.4	Sat.		
39	0.46	Sat.			34	12.3	Critical		
42	0.481	Sat.			39	7.2	Sat.		
46	0.51	Sat.			42	6.1	Sat.		
48	0.52	Sat.			46	3.8	Unsat.		
50	0.523	Sat.			48	7.6	Sat.		
53	0.49	Sat.			53	8.42	Unsat.		
57	0.591	Unsat.			57	7.9	Sat.		
66	0.85	Critical			66	5.36	Sat.		
69	0.42	Unsat.			69	7.2	Sat.		
74	0.53	Sat.			74	8.1	Sat.		
82	0.51	Sat.			82	4	Unsat.		
87	0.45	Sat.			87	43	Critical		
88	0.49	Sat.			88	4.9	Sat.		
95	0.62	Critical			95	12	Critical		
106	0.4	Unsat.			106	6.5	Sat.		
108	0.49	Sat.			108	7.2	Sat.		
130	0.47	Sat.			130	13.32	Critical		
142	0.481	Sat.			142	64	Critical		
147	0.53	Sat.			147	5.41	Sat.		
171	0.85	Critical			171	10.75	Critical		
176	0.54	Sat.			175	12	Critical		
179	0.46	Sat.			176	5.4	Sat.		
186	0.51	Sat.			179	6.4	Sat.		
189	0.52	Sat.			186	5.6	Sat.		
197	0.52	Sat.			189	7.1	Sat.		
					197	4.8	Sat.		

کد آزمایشگاهها	Kava (mg/ kg)		کد آزمایشگاهها	Cu (mg/kg)	
3	292	Sat.	3	1.54	Unsat.
4	292	Sat.	4	1.57	Unsat.
29	251	Sat.	29	1.4	Sat.
30	300	Sat.	30	1.46	Sat.
34	275	Sat.	34	1.02	Critical
39	340	Unsat.	39	0.72	Critical
42	290	Sat.	42	1.62	Critical
46	145	Critical	46	1.51	Sat.
48	265	Sat.	48	1	Critical
50	320	Sat.	66	1.46	Sat.
53	256	Sat.	69	2.06	Critical
57	260	Sat.	74	1.28	Critical
66	297	Sat.	82	1.92	Critical
69	275	Sat.	88	1.92	Critical
74	317	Sat.	95	1.32	Critical
82	284	Sat.	106	1.6	Critical
87	390	Critical	108	0.6	Critical
88	319	Sat.	130	2.94	Critical
95	284	Sat.	142	1.42	Sat.
106	220	Unsat.	147	1.87	Critical
108	240	Unsat.	175	1.39	Sat.
130	245.5	Sat.	179	1.718	Critical
142	228.6	Unsat.	186	0.84	Critical
147	280	Sat.	189	0.82	Critical
171	380	Critical	197	1.47	Sat.
175	310.96	Sat.			
176	464	Critical			
179	245	Sat.			
186	256	Sat.			
189	332	Unsat.			
197	300	Sat.			

mean= 282.77

mean= 1.46

کد آزمایشگاهها	Zn (mg/Kg)		mean=	1.26	کد آزمایشگاهها	Fe (mg/Kg)		mean=	5.68
3	1.55	Critical			3	18.2	Critical		
4	1.34	Sat.			4	18.04	Critical		
29	1.26	Sat.			29	2.16	Sat.		
30	1.48	Unsat.			30	2.24	Sat.		
34	0.73	Critical			34	2.04	Sat.		
39	0.54	Critical			39	6.05	Sat.		
42	1	Unsat.			42	10.78	Unsat.		
46	0.62	Critical			46	4.16	Sat.		
48	1.38	Sat.			48	4	Sat.		
66	0.92	Critical			66	8.85	Sat.		
69	1.52	Critical			69	14.73	Critical		
74	0.92	Critical			74	9.72	Sat.		
82	1.2	Sat.			82	18.4	Critical		
88	0.27	Critical			88	13.43	Critical		
95	0.78	Critical			95	1.9	Sat.		
106	1.1	Unsat.			106	14.3	Critical		
108	0.4	Critical			108	4.5	Sat.		
130	2.72	Critical			130	29.54	Critical		
142	1.22	Sat.			142	6.62	Sat.		
147	1.339	Sat.			147	15.74	Critical		
175	20.07	Critical			175	11.82	Unsat.		
179	1.182	Sat.			179	15.914	Critical		
186	1.12	Sat.			186	0.73	Unsat.		
189	0.6	Critical			189	4.18	Sat.		
197	1.44	Unsat.			197	6.21	Sat.		

کد آزمایشگاهها	Mn (mg/Kg)		mean=	11.31	کد آزمایشگاهها	Ca (mg/Kg)		mean=	110.79
3	20.4	Critical			3	110	Sat.		
4	18.77	Critical			4	80	Sat.		
29	12.23	Sat.			29	261	Critical		
30	11.8	Sat.			30	56	Unsat.		
34	12.77	Sat.			34	140.28	Sat.		
39	9.35	Sat.			39	94.18	Sat.		
42	11.43	Sat.			42	131	Sat.		
46	7.47	Unsat.			46	74	Unsat.		
48	10	Sat.			48	57.12	Unsat.		
66	14.2	Unsat.			50	90	Sat.		
69	18.4	Critical			53	110	Sat.		
74	12.4	Sat.			57	80.16	Sat.		
82	17.2	Critical			66	140	Sat.		
88	11.85	Sat.			69	138	Sat.		
95	12.4	Sat.			74	140	Sat.		
106	20.1	Critical			87	164	Unsat.		
108	1.54	Critical			88	104	Sat.		
130	21.88	Critical			95	176	Critical		
142	29.02	Critical			106	6.8	Critical		
147	18.375	Critical			108	26.8	Critical		
175	18.83	Critical			130	150.3	Unsat.		
179	21.71	Critical			142	6.4	Critical		
186	8.34	Unsat.			147	197	Critical		
189	8.94	Unsat.			171	10	Critical		
197	7.47	Unsat.			175	55	Critical		
					176	128.25	Sat.		
					179	56	Unsat.		
					186	60	Unsat.		
					189	102	Sat.		
					197	197	Critical		

کد آزمایشگاهها	Mg (mg/Kg)		mean=	23.20	کد آزمایشگاهها	Na (mg/Kg)		mean=	49.22
3	29.2	Unsat.			3	30.2	Critical		
4	60	Critical			4	32.39	Critical		
29	29.2	Unsat.			29	102.8	Critical		
30	15.7	Unsat.			30	42.5	Sat.		
34	97.2	Critical			34	41.4	Sat.		
39	34.04	Critical			39	33.81	Unsat.		
42	29	Unsat.			42	34	Unsat.		
46	22.8	Sat.			46	37.49	Unsat.		
48	11.42	Critical			48	12.32	Critical		
50	27.6	Sat.			50	52.9	Sat.		
53	18	Sat.			53	63	Unsat.		
57	97.24	Critical			66	54.97	Sat.		
66	48	Critical			69	41.4	Sat.		
69	19.2	Sat.			74	41.4	Sat.		
74	24.3	Sat.			82	184	Critical		
87	138.19	Critical			87	343	Critical		
88	33.6	Critical			88	60.4	Unsat.		
95	63.18	Critical			95	41.4	Sat.		
106	1.8	Critical			106	1.37	Critical		
108	12	Critical			108	52.1	Sat.		
130	12.2	Critical			130	38.5	Unsat.		
142	2	Critical			142	64.86	Unsat.		
147	18	Sat.			147	58.65	Unsat.		
171	4.8	Critical			171	8.6	Critical		
175	57.24	Critical			175	55	Sat.		
176	19.45	Sat.			176	56.81	Sat.		
179	46.8	Critical			179	49.68	Sat.		
186	24	Sat.			186	110	Critical		
189	22.8	Sat.			189	52.9	Sat.		
197	18	Sat.			197	47.5	Sat.		

کد آزمایشگاهها	K (mg/Kg)		mean=	14.30	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	243.69
3	13.9	Sat.			3	341.6	Unsat.		
4	13.91	Sat.			4	347.7	Unsat.		
29	11.5	Critical			29	341.7	Unsat.		
30	14.7	Sat.			30	232	Sat.		
39	12.5	Unsat.			34	289.75	Sat.		
42	15	Sat.			39	183.03	Sat.		
46	21.06	Critical			42	29	Critical		
48	5.01	Critical			46	433.1	Critical		
53	15.8	Unsat.			48	108.89	Critical		
57	10	Critical			53	305	Sat.		
66	18.759	Critical			57	44.3	Critical		
69	13.26	Sat.			66	183	Sat.		
74	23.32	Critical			69	311.1	Sat.		
95	14	Sat.			74	488	Critical		
106	0.33	Critical			87	768.7	Critical		
108	4.2	Critical			88	244	Sat.		
130	11	Critical			95	244	Sat.		
142	15.98	Unsat.			106	5.8	Critical		
147	22.5	Critical			108	102	Critical		
171	0.1	Critical			130	228.8	Sat.		
175	15.51	Sat.			142	4.5	Critical		
176	14.46	Sat.			147	508	Critical		
179	9.321	Critical			171	7	Critical		
186	1287	Critical			175	201.3	Sat.		
189	444.6	Critical			176	54.9	Critical		
					179	155.55	Unsat.		
					186	322	Unsat.		
					189	114.07	Critical		
					197	268.4	Sat.		

کد آزمایشگاهها	CI (mg/Kg)		mean= 65.62
3	63.9	Sat.	
4	71	Sat.	
29	170.2	Critical	
30	56.8	Sat.	
34	22.33	Critical	
39	42.55	Unsat.	
42	71	Sat.	
46	142	Critical	
48	48.16	Unsat.	
53	120	Critical	
57	73	Sat.	
66	142	Critical	
69	49.7	Sat.	
74	177.25	Critical	
82	3230.5	Critical	
87	460.81	Critical	
88	106.5	Critical	
95	71	Sat.	
106	1.4	Critical	
108	89.1	Unsat.	
130	186.2	Critical	
142	2	Critical	
147	242	Critical	
171	10	Critical	
175	177.5	Critical	
176	53.19	Sat.	
179	86.975	Unsat.	
186	106	Critical	
189	55.38	Sat.	
197	63.9	Sat.	

# Soil 2

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.



کد آزمایشگاهها	pH		mean=	7.82	کد آزمایشگاهها	EC (dS/m)		mean=	1.23
2	8.25	Unsat.			2	1.7	Unsat.		
4	7.79	Sat.			4	1.15	Sat.		
7	7.99	Sat.			7	1.3	Sat.		
8	8.03	Sat.			8	1.29	Sat.		
14	7.4	Unsat.			14	1.02	Sat.		
19	7.35	Unsat.			19	1.22	Sat.		
39	7.65	Sat.			39	1.17	Sat.		
42	8	Sat.			42	1.25	Sat.		
44	8.02	Sat.			44	1.37	Sat.		
52	8.04	Sat.			52	1.51	Sat.		
55	7.92	Sat.			55	1.2	Sat.		
62	8.09	Sat.			62	2.04	Critical		
64	7.75	Sat.			64	1.25	Sat.		
68	7.96	Sat.			68	1.4	Sat.		
71	7.8	Sat.			71	2.42	Critical		
78	7.63	Sat.			78	1	Sat.		
80	7.69	Sat.			80	1.29	Sat.		
81	7.65	Sat.			81	1.07	Sat.		
87	7.51	Sat.			87	0.42	Critical		
94	7.65	Sat.			94	1.59	Sat.		
99	7.64	Sat.			99	1.07	Sat.		
104	7.95	Sat.			104	0.93	Sat.		
106	7.6	Sat.			106	1.3	Sat.		
112	7.67	Sat.			112	0.393	Critical		
113	7.7	Sat.			113	1.15	Sat.		
118	7.84	Sat.			118	1.09	Sat.		
135	7.7	Sat.			135	0.72	Unsat.		
137	8.1	Sat.			137	1.33	Sat.		
138	8.01	Sat.			138	1.48	Sat.		
139	7.93	Sat.			139	1.234	Sat.		
141	7.7	Sat.			141	1.088	Sat.		
142	7.86	Sat.			142	1.14	Sat.		
150	7.9	Sat.			150	0.89	Sat.		
164	7.94	Sat.			164	1.62	Unsat.		
177	8.01	Sat.			177	1.51	Sat.		
180	7.56	Sat.			180	1.11	Sat.		
183	7.85	Sat.			183	1.21	Sat.		

کد آزمایشگاهها	Sp (%)		mean=	47.81	کد آزمایشگاهها	TNV (%)		mean=	16.01
2	48.2	Sat.			2	17	Sat.		
4	32.96	Critical			4	15	Sat.		
7	50	Sat.			7	16.5	Sat.		
8	50	Sat.			8	15.3	Sat.		
14	46	Sat.			14	18.5	Sat.		
19	49	Sat.			19	15.9	Sat.		
39	45	Sat.			39	13.37	Sat.		
42	48	Sat.			42	15.9	Sat.		
44	47.49	Sat.			44	16.87	Sat.		
52	26.61	Critical			52	11.78	Unsat.		
55	47.34	Sat.			55	18.55	Sat.		
62	44	Unsat.			62	16.9	Sat.		
64	48.1	Sat.			64	15.5	Sat.		
68	47	Sat.			68	15.1	Sat.		
71	47	Sat.			71	14	Sat.		
78	44	Unsat.			78	13.5	Sat.		
80	47.9	Sat.			80	16.9	Sat.		
81	42	Critical			81	17.5	Sat.		
94	46.9	Sat.			87	31	Critical		
99	51	UnSat.			94	11.3	Critical		
104	49	Sat.			99	19.5	Unsat.		
106	45.8	Sat.			104	15	Sat.		
112	45.6	Sat.			106	16	Sat.		
113	48	Sat.			112	12.5	Unsat.		
118	46.53	Sat.			113	16.51	Sat.		
137	48.83	Sat.			118	14.79	Sat.		
139	47.14	Sat.			135	16.7	Sat.		
141	52.6	Critical			137	11.5	Critical		
142	56.779	Critical			138	15.2	Sat.		
150	48.4	Sat.			139	15.72	Sat.		
164	49	Sat.			141	18.76	Sat.		
177	49.07	Sat.			142	15.275	Sat.		
180	46.8	Sat.			150	17.5	Sat.		
183	30.83	Critical			164	14.18	Sat.		
					177	16.84	Sat.		
					180	15.25	Sat.		
					183	17.75	Sat.		

کد آزمایشگاهها	OC (%)		mean=	1.55	کد آزمایشگاهها	Pava (mg/Kg)		mean=	42.59
2	1.64	Sat.			2	30	Unsat.		
4	1.62	Sat.			4	15.92	Critical		
7	1.56	Sat.			7	27.3	Critical		
8	1.5	Sat.			8	41.75	Sat.		
14	1.25	Critical			14	46.5	Sat.		
19	1.54	Sat.			19	42	Sat.		
39	1.57	Sat.			39	38.6	Sat.		
42	1.6	Sat.			42	37	Sat.		
44	1.8	Critical			44	49.5	Sat.		
52	1.43	Sat.			52	3.8	Critical		
55	1.62	Sat.			55	8.6	Critical		
62	1.52	Sat.			62	50.2	Sat.		
64	1.56	Sat.			64	33	Unsat.		
68	1.61	Sat.			68	43.6	Sat.		
71	1.5	Sat.			71	26	Critical		
78	1.53	Sat.			78	20	Critical		
80	1.5	Sat.			80	36.2	Sat.		
81	1.95	Critical			81	46	Sat.		
87	0.35	Critical			87	17.86	Critical		
94	1.6	Sat.			94	38.89	Sat.		
99	1.59	Sat.			99	44	Sat.		
104	1.482	Sat.			104	46	Sat.		
106	1.54	Sat.			106	47.5	Sat.		
112	1.25	Critical			112	28.99	Critical		
113	1.48	Sat.			113	42.3	Sat.		
118	1.54	Sat.			118	41.34	Sat.		
135	1.46	Sat.			135	32.7	Unsat.		
137	1.54	Sat.			137	43.8	Sat.		
138	1.56	Sat.			138	49.93	Sat.		
139	1.558	Sat.			139	44.72	Sat.		
141	1.43	Sat.			141	49	Sat.		
142	1.46	Sat.			142	220	Critical		
150	1.67	UnSat.			150	38.3	Sat.		
164	1.74	Critical			164	42.4	Sat.		
177	1.61	Sat.			177	39.5	Sat.		
180	1.8	Critical			180	7.4	Critical		
183	1.5	Sat.			183	5.8	Critical		

کد آزمایشگاهها	Kava (mg/Kg)		mean=	550.27	کد آزمایشگاهها	Cu (mg/Kg)		mean=	2.06
2	600	Sat.			4	2.14	Sat.		
4	558	Sat.			7	2.12	Sat.		
7	574	Sat.			8	1.63	Critical		
8	621	Sat.			19	1.67	Critical		
14	447	sat.			39	1.03	Critical		
19	619	Sat.			42	2.06	Sat.		
39	575	Sat.			55	1.78	Critical		
42	560	Sat.			62	1.9	Unsat.		
44	510	Sat.			64	2.06	Sat.		
52	310	Critical			68	2.416	Critical		
55	508	Sat.			80	1.84	Critical		
62	655	Unsat.			81	2.48	Critical		
64	526	Sat.			94	1.61	Critical		
68	600	Sat.			104	1.6	Critical		
71	460	Sat.			106	2	Sat.		
78	536	Sat.			112	2.04	Sat.		
80	540	Sat.			113	2.17	Unsat.		
81	640	Sat.			137	2.7067	Critical		
87	720	Critical			138	1.77	Critical		
94	621.37	Sat.			139	2.0614	Sat.		
99	440	Unsat.			141	2	Sat.		
104	560	Sat.			142	1.64	Critical		
106	414	Unsat.			150	1.32	Critical		
112	507.94	Sat.			164	1.512	Critical		
113	243	Sat.			177	2.144	Sat.		
118	197	Critical			183	0.5669	Critical		
135	440	Unsat.							
137	542.91	Sat.							
138	601.86	Sat.							
139	565.5	Sat.							
141	524	Sat.							
142	482.4	Sat.							
150	1150	Critical							
164	667.8	Unsat.							
177	490	Sat.							
180	404.5	Unsat.							
183	213	Critical							

کد آزمایشگاهها	Zn (mg/Kg)		کد آزمایشگاهها	Fe (mg/Kg)	
4	1.49	Critical	4	15.17	Critical
7	1.3	Unsat.	7	11.82	Unsat.
8	0.95	Sat.	8	8.59	Sat.
19	0.95	Sat.	19	10.83	Unsat.
39	0.48	Critical	39	7.8	Sat.
42	0.97	Sat.	42	10.83	Unsat.
55	0.97	Sat.	55	9.15	Sat.
62	0.84	Unsat.	62	9.28	Sat.
64	0.98	Sat.	64	9.26	Sat.
68	1.668	Critical	68	11.799	Unsat.
80	1.06	Sat.	80	10.5	Sat.
81	2.3	Critical	81	22.4	Critical
94	1.2	Sat.	94	8.13	Sat.
104	1.16	Sat.	104	9.9	Sat.
106	1.1	Sat.	106	14.1	Critical
112	0.38	Critical	112	2.24	Critical
113	1.1	Sat.	113	13.08	Critical
137	1.3331	Critical	137	8.711	Sat.
138	1.24	Unsat.	138	10.97	Unsat.
139	1.1346	Sat.	139	13.3325	Critical
141	1	Sat.	141	7.6	Unsat.
142	1.26	Unsat.	142	7.8	Sat.
150	1.32	Unsat.	150	1.48	Critical
164	1.04	Sat.	164	6.38	Critical
177	1.208	Sat.	177	13.294	Critical
183	0.487	Critical	183	6.98	Unsat.

mean= 1.08

mean= 9.24

کد آزمایشگاهها	Mn (mg/Kg)		mean=	20.13	کد آزمایشگاهها	Ca (mg/Kg)		mean=	121.69
4	23.67	Unsat.			2	116	Sat.		
7	24.65	Unsat.			4	40	Critical		
8	19.57	Sat.			7	133.27	Sat.		
19	17.84	Sat.			8	180	Critical		
39	13.29	Critical			14	6.4	Critical		
42	13.97	Critical			19	104	Sat.		
55	14.4	Critical			39	96.19	Unsat.		
62	20.4	Sat.			42	140	Sat.		
64	15	Critical			44	142.4	Sat.		
68	35.53	Critical			52	104	Sat.		
80	20	Sat.			55	160	Unsat.		
81	205	Critical			62	156	Unsat.		
94	21.12	Sat.			64	120	Sat.		
104	20	Sat.			68	176	Critical		
106	25.2	Critical			71	60	Critical		
112	0.97	Critical			78	7	Critical		
113	22.51	Sat.			80	125	Sat.		
137	13.59	Critical			81	220	Critical		
138	28.06	Critical			87	32	Critical		
139	24.60	Unsat.			94	240	Critical		
141	20.1	Sat.			99	198	Critical		
142	32.9	Critical			104	100	Sat.		
150	16.3	Unsat.			106	7.8	Critical		
164	19.89	Sat.			112	56	Critical		
177	29.36	Critical			113	100.2	Sat.		
183	118.5	Critical			118	360	Critical		
					137	166	Critical		
					138	175	Critical		
					139	148	Unsat.		
					141	128	Sat.		
					142	7.6	Critical		
					150	67	Critical		
					164	112.22	Sat.		
					177	201.9931	Critical		
					180	48	Critical		
					183	40.07	Critical		

کد آزمایشگاهها	Mg (mg/Kg)		کد آزمایشگاهها	Na (mg/Kg)	
2	66	Critical	2	138	Critical
4	90	Critical	4	49.2	Sat.
7	68.7	Critical	7	63.02	Unsat.
8	36.45	Sat.	8	66.7	Unsat.
14	7.68	Critical	14	83.72	Critical
19	96	Critical	19	59.8	Sat.
39	44.99	Sat.	39	50.6	Sat.
42	46.17	Sat.	42	40	Unsat.
52	36	Sat.	44	54	Sat.
55	19.2	Critical	52	214	Critical
62	112	Critical	55	80.5	Critical
64	50.4	Unsat.	62	166	Critical
68	64.8	Critical	68	49.91	Sat.
71	144	Critical	71	184	Critical
78	5	Critical	78	2.46	Critical
80	63	Critical	80	75	Critical
81	108	Critical	81	87.5	Critical
94	36.5	Sat.	94	107.2	Critical
99	34.8	Sat.	99	44.62	Unsat.
104	55	Unsat.	104	57	Sat.
106	4.2	Critical	106	2.03	Critical
112	14.4	Critical	112	59.13	Sat.
113	46.208	Sat.	113	52.67	Sat.
118	48	Sat.	118	53.13	Sat.
137	63.6	Critical	137	2.5	Critical
138	41.28	Sat.	138	79.58	Critical
139	45.6	Sat.	139	56.12	Sat.
141	33.6	Unsat.	141	32.43	Critical
142	3.6	Critical	142	55.61	Sat.
150	36.5	Sat.	150	52.9	Sat.
164	243.1	Critical	164	56.33	Sat.
177	63.193	Critical	177	43.75	Unsat.
180	43.2	Sat.	180	2.53	Critical
183	36.99	Sat.	183	21.98	Critical

mean= 41.98

mean= 53.58

کد آزمایشگاهها	K (mg/Kg)		mean=	39.42	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	473.39
2	48	Critical			2	360	Sat.		
4	38.9	Sat.			4	591.7	Unsat.		
7	38.71	Sat.			7	610.1	Unsat.		
8	90.37	Critical			8	793	Critical		
14	791.7	Critical			14	24.4	Critical		
19	42.3	Unsat.			19	585.6	Sat.		
39	26.12	Critical			39	189.13	Critical		
42	36.1	Unsat.			42	567	Sat.		
44	33.3	Critical			44	8	Critical		
52	26	Critical			52	73	Critical		
62	53	Critical			62	580	Sat.		
68	39.2	Sat.			64	457.5	Sat.		
78	1.12	Critical			68	646.6	Unsat.		
80	39	Sat.			71	732	Critical		
81	32.5	Critical			78	7	Critical		
94	31.6	Critical			80	536.8	Sat.		
99	37.83	Sat.			81	366	Sat.		
104	45	Critical			87	61	Critical		
106	1	Critical			94	549	Sat.		
112	28.05	Critical			99	686.25	Critical		
113	34.41	Unsat.			104	503	Sat.		
118	40.95	Sat.			106	9.8	Critical		
137	40.13	Sat.			112	366	Sat.		
138	41.34	Sat.			113	427.07	Sat.		
139	42.79	Unsat.			118	640.5	Unsat.		
141	25.41	Critical			137	396.5	Sat.		
142	43.66	Unsat.			138	95.16	Critical		
150	35.8	Unsat.			139	524.6	Sat.		
177	49.25	Critical			141	366	Sat.		
180	24.96	Critical			142	8.5	Critical		
183	8.78	Critical			150	387	Sat.		
					164	451.4	Sat.		
					177	369.15	Sat.		
					180	15.2	Critical		
					183	47.01	Critical		



کد آزمایشگاه‌ها	CI (mg/Kg)		mean= 74.19
2	177.5	Critical	
4	99.4	Unsat.	
7	101.7	Unsat.	
8	283.6	Critical	
14	17.04	Critical	
19	127.8	Critical	
39	63.82	Sat.	
42	53	Sat.	
44	2.4	Critical	
52	368	Critical	
62	302	Critical	
64	88.75	Sat.	
68	79.87	Sat.	
71	355	Critical	
78	3	Critical	
80	70.9	Sat.	
81	280	Critical	
87	134.5	Critical	
94	221.5	Critical	
99	88.75	Sat.	
104	66	Sat.	
106	1.6	Critical	
113	56.736	Sat.	
118	355	Critical	
137	111.115	Unsat.	
138	199.51	Critical	
139	99.4	Unsat.	
141	70.92	Sat.	
142	2	Critical	
150	62.9	Sat.	
164	405.4	Critical	
177	15.9537	Critical	
180	56.8	Sat.	
183	53.95	Sat.	

# Soil 3

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	pH		mean=	7.67	کد آزمایشگاهها	EC (dS/m)		mean=	2.85
1	7.65	Sat.			1	3.78	Critical		
8	7.77	Sat.			8	2.89	Sat.		
14	7.29	Unsat.			14	2.4	Sat.		
23	7.78	Sat.			23	2.78	Sat.		
27	7.65	Sat.			27	2.3	Sat.		
29	8	Unsat.			29	3.44	Unsat.		
37	7.3	Unsat.			37	2.35	Sat.		
41	7.49	Sat.			41	2.59	Sat.		
42	7.7	Sat.			42	3.03	Sat.		
44	7.86	Sat.			44	2.4	Sat.		
45	7.63	Sat.			45	3.27	Sat.		
46	1.6	Critical			46	2.92	Sat.		
48	7.8	Sat.			48	3.23	Sat.		
52	8.15	Unsat.			52	2.98	Sat.		
58	7.8	Sat.			58	3.2	Sat.		
64	7.55	Sat.			64	2.85	Sat.		
67	7.23	Unsat.			67	3	Sat.		
69	7.57	Sat.			69	3.99	Critical		
72	7.61	Sat.			72	2.78	Sat.		
84	7.76	Sat.			84	2.872	Sat.		
86	7.62	Sat.			86	3.06	Sat.		
89	8.03	Unsat.			89	2.87	Sat.		
93	7.8	Sat.			93	2.7	Sat.		
94	7.45	Sat.			94	3.95	Critical		
99	7.5	Sat.			99	2.33	Sat.		
104	7.65	Sat.			104	2.62	Sat.		
107	7.63	Sat.			107	3.2	Sat.		
113	7.7	Sat.			113	2.84	Sat.		
115	7.22	Unsat.			115	3.02	Sat.		
119	7.5	Sat.			119	3.16	Sat.		
125	7.76	Sat.			125	2.95	Sat.		
164	7.72	Sat.			164	2.6	Sat.		
170	7.89	Sat.			170	2.8	Sat.		
171	8	Unsat.			171	1.5	Critical		
172	7.6	Sat.			172	2.8	Sat.		
174	7.61	Sat.			174	2.85	Sat.		
178	7.73	Sat.			178	3.17	Sat.		
188	7.63	Sat.			188	2.49	Sat.		
197	8.09	Unsat.			197	1.87	Critical		

کد آزمایشگاهها	SP (%)		mean=	28.80	کد آزمایشگاهها	TNV (%)		mean=	16.97
1	28.7	Sat.			1	17.25	Sat.		
8	29	Sat.			8	16	Sat.		
14	27	Sat.			14	17.5	Sat.		
23	30	Sat.			23	17.45	Sat.		
27	32	Unsat.			27	16	Sat.		
29	31	Sat.			29	16	Sat.		
37	28.9	Sat.			37	19.7	Unsat.		
41	19.86	Critical			41	18.38	Sat.		
42	29	Sat.			42	16.7	Sat.		
44	26.13	Sat.			44	16.63	Sat.		
45	24.95	Unsat.			45	22.5	Critical		
46	28	Sat.			46	15.3	Sat.		
48	29.2	Sat.			48	18.1	Sat.		
52	36.52	Critical			52	15.46	Sat.		
58	27.3	Sat.			58	16.5	Sat.		
64	29.8	Sat.			64	15	Sat.		
67	32.6	Unsat.			67	16.5	Sat.		
69	28	Sat.			69	17.1	Sat.		
72	23.62	Critical			72	33.17	Critical		
84	30.16	Sat.			84	18.25	Sat.		
86	11.32	Critical			86	17.125	Sat.		
89	31.88	Unsat.			89	13.56	Unsat.		
93	29.27	Sat.			93	18.25	Sat.		
94	27.8	Sat.			94	18.1	Sat.		
104	29	Sat.			99	20.5	Unsat.		
107	27.39	Sat.			104	15.5	Sat.		
113	29	Sat.			107	16	Sat.		
115	30.01	Sat.			113	16.51	Sat.		
119	28.8	Sat.			115	17	Sat.		
125	25	Unsat.			119	15.63	Sat.		
164	28	Sat.			125	18	Sat.		
170	27.4	Sat.			164	15.5	Sat.		
171	50.5	Critical			170	17.9	Sat.		
172	27.3	Sat.			171	20	Unsat.		
174	28.26	Sat.			172	18	Sat.		
178	28.508	Sat.			174	15.51	Sat.		
188	33.1	Critical			178	17.125	Sat.		
197	28.39	Sat.			188	35.2	Critical		
					197	10.1	Critical		

کد آزمایشگاهها	OC (%)		mean=	0.28	کد آزمایشگاهها	Pava (mg/Kg)		mean=	6.71
1	0.28	Sat.			1	6.1	Sat.		
8	0.25	Sat.			8	6.75	Sat.		
14	0.06	Critical			14	15	Critical		
23	0.253	Sat.			23	2.083	Critical		
27	0.27	Sat.			27	8	Sat.		
29	0.55	Critical			29	8.4	Sat.		
37	0.41	Critical			37	2.8	Critical		
41	0.27	Sat.			41	6.59	Sat.		
42	0.33	Unsat.			42	5.2	Sat.		
44	0.47	Critical			44	12.4	Critical		
45	0.72	Critical			45	37.2	Critical		
46	0.283	Sat.			46	3	Critical		
48	0.27	Sat.			48	6	Sat.		
52	0.15	Critical			52	31.6	Critical		
58	0.31	Sat.			58	6.4	Sat.		
64	0.33	Unsat.			64	8.5	Sat.		
67	0.3	Sat.			67	9	Unsat.		
69	0.35	Unsat.			69	5.8	Sat.		
72	0.25	Sat.			72	6.6	Sat.		
84	0.262	Sat.			84	5.15	Sat.		
86	0.28	Sat.			86	5.25	Sat.		
89	0.155	Critical			89	7.6	Sat.		
93	0.16	Critical			93	2.9	Critical		
94	0.26	Sat.			94	6.8	Sat.		
99	0.27	Sat.			99	7.8	Sat.		
104	0.215	Unsat.			104	9.6	Unsat.		
107	0.72	Critical			107	8.35	Sat.		
113	0.19	Critical			113	9	Unsat.		
115	0.3	Sat.			115	6.6	Sat.		
119	0.38	Critical			119	9.88	Unsat.		
125	0.27	Sat.			125	4.8	Sat.		
164	0.26	Sat.			164	6.84	Sat.		
170	0.29	Sat.			170	6.85	Sat.		
171	1.8	Critical			171	43.05	Critical		
172	0.3	Sat.			172	6.8	Sat.		
174	0.27	Sat.			174	3.55	Unsat.		
178	0.245	Sat.			178	6	Sat.		
188	0.29	Sat.			188	5.6	Sat.		
					197	4.41	Unsat.		

کد آزمایشگاهها	Kava (mg/Kg)		mean=	274.85	کد آزمایشگاهها	Cu (mg/Kg)		mean=	0.58
1	290	Sat.			1	0.64	Unsat.		
8	296	Sat.			8	0.45	Critical		
14	262	Sat.			23	1.62	Critical		
23	200	Critical			27	0.67	Critical		
27	246	Sat.			29	0.6	Sat.		
29	238	Sat.			41	0.402	Critical		
37	320	Unsat.			42	0.71	Critical		
41	297.01	Sat.			45	0.55	Sat.		
42	255	Sat.			46	0.74	Critical		
44	260	Sat.			48	0.36	Critical		
45	260	Sat.			58	0.48	Critical		
46	141	Critical			64	0.58	Sat.		
48	242	Sat.			67	0.52	Unsat.		
52	150	Critical			69	0.7	Critical		
58	234	Sat.			72	0.59	Sat.		
64	241	Sat.			89	0.56	Sat.		
67	241	Sat.			93	0.65	Unsat.		
69	255	Sat.			94	0.46	Critical		
72	271	Sat.			104	0.52	Unsat.		
84	293.71	Sat.			107	0.62	Sat.		
86	306.496	Sat.			113	0.52	Unsat.		
89	323.2	Unsat.			115	0.23	Critical		
93	265.73	Sat.			119	0.14	Critical		
94	374.9	Critical			125	0.6	Sat.		
99	200	Critical			164	0.392	Critical		
104	260	Sat.			172	0.3	Critical		
107	240	Sat.			174	0.11	Critical		
113	243	Sat.			178	0.492	Unsat.		
115	310	Sat.			197	0.605	Sat.		
119	300	Sat.							
125	189	Critical							
164	355.1	Critical							
170	285.3	Sat.							
171	612	Critical							
172	318	Sat.							
174	302	Sat.							
178	290	Sat.							
188	270	Sat.							
197	305	Sat.							

کد آزمایشگاهها	Zn (mg/Kg)		mean=	0.26	کد آزمایشگاهها	Fe (mg/Kg)		mean=	4.94
1	0.49	Critical			1	5.48	Sat.		
8	0.22	Sat.			8	4.52	Sat.		
23	2.03	Critical			23	5.74	Sat.		
27	0.58	Critical			27	6.3	Unsat.		
29	0.66	Critical			29	4.87	Sat.		
41	0.125	Unsat.			41	2.503	Critical		
42	0.26	Sat.			42	6.19	Unsat.		
45	0.52	Critical			45	4.81	Sat.		
46	0.22	Sat.			46	2.36	Critical		
48	0.52	Critical			48	2.62	Critical		
58	0.5	Critical			58	2.78	Critical		
64	0.2	Sat.			64	4.58	Sat.		
67	0.3	Sat.			67	4.1	Unsat.		
69	0.48	Critical			69	6.96	Critical		
72	0.32	Sat.			72	5.65	Sat.		
89	0.155	Unsat.			89	5.66	Sat.		
93	0.72	Critical			93	7.08	Critical		
94	0.41	Unsat.			94	3.55	Unsat.		
104	0.48	Critical			104	7	Critical		
107	13	Critical			107	7.38	Critical		
113	0.3	Sat.			113	6.92	Critical		
115	0.08	Critical			115	3.36	Critical		
119	0.22	Sat.			119	2.65	Critical		
125	0.6	Critical			125	13.9	Critical		
164	0.07	Critical			164	4.85	Sat.		
170	0.1	Critical			170	3.74	Unsat.		
172	0.3	Sat.			172	5.55	Sat.		
174	0.2	Sat.			174	2.73	Critical		
178	0.296	Sat.			178	4.606	Sat.		
197	0.94	Critical			197	2.14	Critical		

کد آزمایشگاهها	Mn (mg/Kg)		mean=	3.92	کد آزمایشگاهها	Ca (mg/Kg)		mean=	608.30
1	7.12	Critical			1	620	Sat.		
8	5.65	Critical			8	680	Sat.		
23	3.94	Sat.			14	12.8	Critical		
27	6.5	Critical			23	300	Critical		
29	5.2	Critical			27	688	Sat.		
41	3.703	Sat.			29	14.9	Critical		
42	6.53	Critical			37	404	Critical		
45	6.45	Critical			41	1034.7	Critical		
46	2.51	Critical			42	625	Sat.		
48	4	Sat.			44	199.7	Critical		
58	4.9	Critical			45	548.7	Sat.		
64	4.06	Sat.			46	510	Unsat.		
67	3.9	Sat.			48	175.2	Critical		
69	7.02	Critical			52	207	Critical		
72	6.5	Critical			58	131.3	Critical		
89	3.715	Sat.			64	320	Critical		
93	10.45	Critical			67	540	Sat.		
94	4.31	Sat.			69	702	Sat.		
104	7.5	Critical			72	350	Critical		
107	12	Critical			84	109.01	Critical		
113	3.72	Sat.			89	675.845	Sat.		
115	3.31	Unsat.			93	500	Unsat.		
119	1.77	Critical			94	700	Sat.		
125	5.9	Critical			99	578	Sat.		
164	3.63	Sat.			104	535	Sat.		
170	6.42	Critical			107	720	Unsat.		
172	7	Critical			113	621.24	Sat.		
174	2.03	Critical			115	571.14	Sat.		
178	3.848	Sat.			119	500	Unsat.		
197	2.59	Critical			125	701.4	Sat.		
					164	989.93	Critical		
					170	175.4	Critical		
					171	7	Critical		
					172	580	Sat.		
					174	681.36	Sat.		
					178	780	Critical		
					188	260	Critical		
					197	320	Critical		



کد آزمایشگاهها	Mg (mg/Kg)		mean=	53.10	کد آزمایشگاهها	Na (mg/Kg)		mean=	38.92
1	126	Critical			1	202.86	Critical		
8	54.68	Sat.			8	36.8	Sat.		
14	6.72	Critical			14	94.53	Critical		
23	108	Critical			23	68.84	Critical		
27	38.4	Sat.			27	33.6	Sat.		
29	97.2	Critical			29	102.8	Critical		
37	153.6	Critical			37	46	Unsat.		
41	144.8	Critical			41	70.1	Critical		
42	95	Critical			42	33.88	Sat.		
45	40.1	Sat.			44	36.3	Sat.		
46	63.6	Sat.			45	60	Critical		
48	23.36	Unsat.			46	41.4	Sat.		
52	60	Sat.			48	12.09	Critical		
58	23.2	Unsat.			52	414	Critical		
64	168	Critical			58	12.5	Critical		
67	156	Critical			69	39.1	Sat.		
69	30	Unsat.			72	48.3	Unsat.		
72	126	Critical			84	7.08	Critical		
84	22.04	Unsat.			86	33.35	Sat.		
89	27.425	Unsat.			89	34.995	Sat.		
93	60	Sat.			93	58.42	Critical		
94	60.8	Sat.			94	216.6	Critical		
99	61.2	Sat.			99	35.19	Sat.		
104	82	Unsat.			104	40	Sat.		
107	66	Sat.			107	80.04	Critical		
113	48.64	Sat.			113	32.89	Sat.		
115	97.28	Critical			115	46	Unsat.		
119	204	Critical			119	86.25	Critical		
125	625.6	Critical			125	56.2	Critical		
164	328.12	Critical			164	14.48	Critical		
170	13.15	Critical			170	11.6	Critical		
171	2.5	Critical			171	6.5	Critical		
172	48	Sat.			172	45.08	Sat.		
174	60.8	Sat.			174	39.79	Sat.		
178	48	Sat.			178	90	Critical		
188	102	Critical			188	3	Critical		
197	24	Unsat.			197	52.5	Critical		

کد آزمایشگاهها	K (mg/Kg)		mean=	39.81	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	191.25
1	54.21	Critical			1	219.6	Sat.		
8	53.44	Critical			8	366	Critical		
14	999.18	Critical			14	9.76	Critical		
23	31	Critical			23	274.5	Critical		
27	39.9	Sat.			27	171	Sat.		
29	33	Critical			29	341.7	Critical		
37	46.8	Critical			37	91.5	Critical		
41	71.8	Critical			41	488.3	Critical		
42	43	Unsat.			42	195	Sat.		
44	3.7	Critical			44	10.4	Critical		
45	40	Sat.			45	81.2	Critical		
46	55.77	Critical			46	329.4	Critical		
48	10.59	Critical			48	67.68	Critical		
52	23	Critical			52	213	Sat.		
58	9.6	Critical			58	63.3	Critical		
69	37.05	Sat.			64	183	Sat.		
72	5.46	Critical			67	292.8	Critical		
84	82.133	Critical			69	195.2	Sat.		
86	55.24	Critical			72	146.4	Sat.		
89	37.24	Sat.			84	55.976	Critical		
93	32.37	Critical			89	16.8	Critical		
94	37.1	Sat.			93	146.4	Sat.		
99	42.51	Sat.			94	183	Sat.		
104	46.5	Critical			99	381.25	Critical		
107	42.9	Sat.			104	228	Sat.		
113	34.408	Unsat.			107	305	Critical		
115	40	Sat.			113	192.032	Sat.		
119	40.5	Sat.			115	152.525	Sat.		
125	28.6	Critical			119	244	Unsat.		
170	10.1	Critical			125	305.1	Critical		
171	0.25	Critical			164	253.15	Unsat.		
172	36	Unsat.			170	50.1	Critical		
174	49.57	Critical			171	5.6	Critical		
178	41.5	Sat.			172	91.5	Critical		
188	0.12	Critical			174	488.08	Critical		
					178	762.5	Critical		
					188	4	Critical		
					197	146.4	Sat.		

کد آزمایشگاه‌ها	Cl (mg/Kg)		mean= 76.94
1	355	Critical	
8	159.53	Critical	
14	11.36	Critical	
23	71	Sat.	
27	49.7	Unsat.	
29	170.2	Critical	
37	88.75	Sat.	
41	337.9	Critical	
42	28	Critical	
44	1.6	Critical	
45	94.4	Sat.	
46	202.35	Critical	
48	51.83	Sat.	
52	770	Critical	
58	24.2	Critical	
64	133.125	Critical	
67	88.75	Sat.	
69	39.05	Unsat.	
72	88.75	Sat.	
84	55.97	Sat.	
86	80.85	Sat.	
89	31.2	Unsat.	
93	99.4	Sat.	
94	443.1	Critical	
99	88.75	Sat.	
104	44	Unsat.	
107	230.75	Critical	
113	56.736	Sat.	
115	124.11	Critical	
119	177.5	Critical	
125	177.3	Critical	
164	394.05	Critical	
170	38.9	Unsat.	
171	5	Critical	
172	88.75	Sat.	
174	443.25	Critical	
178	310.62	Critical	
188	3.5	Critical	
197	106.5	Unsat.	

# Soil 4

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	pH		mean=	7.56	کد آزمایشگاهها	EC (dS/m)		mean=	11.03
2	7.7	Sat.			2	12.96	Sat.		
12	37	Critical			12	15.58	Critical		
23	7.72	Sat.			23	11.29	Sat.		
26	7.3	Sat.			26	11	Sat.		
31	7.35	Sat.			31	5.82	Critical		
34	7.51	Sat.			34	11.94	Sat.		
38	7.48	Sat.			38	9.65	Sat.		
42	7.7	Sat.			42	12	Sat.		
45	7.59	Sat.			45	4.82	Critical		
47	7.6	Sat.			47	10	Sat.		
50	7.5	Sat.			50	9.15	Sat.		
53	7.6	Sat.			53	14.684	Unsat.		
55	7.77	Sat.			55	8.55	Sat.		
57	7.53	Sat.			57	11.98	Sat.		
58	7.8	Sat.			58	13.7	Sat.		
62	7.65	Sat.			62	15	Unsat.		
65	7.1	Unsat.			65	11.43	Sat.		
66	7.4	Sat.			66	12	Sat.		
71	7.52	Sat.			71	14.02	Unsat.		
74	7.78	Sat.			74	11.37	Sat.		
82	7.8	Sat.			82	1.1	Critical		
90	7.4	Sat.			90	12.04	Sat.		
92	7.61	Sat.			92	11.6	Sat.		
101	7.4	Sat.			101	8.75	Sat.		
109	7.5	Sat.			109	10.1	Sat.		
115	7.19	Unsat.			115	10.86	Sat.		
118	7.35	Sat.			118	8.58	Sat.		
119	7.4	Sat.			119	14.24	Unsat.		
125	7.66	Sat.			125	13.21	Sat.		
127	7.56	Sat.			127	6.51	Critical		
130	7.61	Sat.			130	12.03	Sat.		
135	7.5	Sat.			135	5.27	Critical		
139	7.46	Sat.			139	11.44	Sat.		
144	7.47	Sat.			144	11.1	Sat.		
147	7.88	Sat.			147	10.7	Sat.		
150	7.4	Sat.			150	9.02	Sat.		
165	7.25	Sat.			165	9.98	Sat.		
170	7.77	Sat.			170	10.86	Sat.		
174	7.7	Sat.			174	10.62	Sat.		
178	7.62	Sat.			178	11.68	Sat.		
179	7.36	Sat.			179	10.19	Sat.		

کد آزمایشگاهها	pH		کد آزمایشگاهها	EC (dS/m)	
183	7.65	Sat.	183	10.61	Sat.
189	7.81	Sat.	189	10.78	Sat.
192	7.66	Sat.	192	10.14	Sat.
196	7.09	Unsat.	196	8.4	Sat.

کد آزمایشگاهها	SP (%)		mean=	37.97	کد آزمایشگاهها	TNV (%)		mean=	17.96
2	38.5	Sat.			2	18	Sat.		
12	37	Sat.			12	34.5	Critical		
23	43	Sat.			23	18.7	Sat.		
26	38.1	Sat.			26	18.5	Sat.		
31	39	Sat.			31	19.5	Sat.		
34	37.71	Sat.			38	16.5	Sat.		
38	40	Sat.			42	17.8	Sat.		
42	37	Sat.			45	21.5	Sat.		
45	35.17	Sat.			47	16.85	Sat.		
47	43.13	Sat.			50	18	Sat.		
53	34	Sat.			53	17.5	Sat.		
55	38.28	Sat.			55	21.8	Unsat.		
57	43.26	Sat.			57	18.1	Sat.		
58	36.7	Sat.			58	17.7	Sat.		
62	29.5	Unsat.			62	19	Sat.		
65	25	Critical			65	17	Sat.		
66	33.9	Sat.			66	19	Sat.		
71	35	Sat.			71	15	Sat.		
74	40	Sat.			74	16.6	Sat.		
90	32	Sat.			82	25	Critical		
92	39.9	Sat.			90	18	Sat.		
101	41	Sat.			92	18.75	Sat.		
109	31.1	Unsat.			101	21	Sat.		
115	38.04	Sat.			109	15	Sat.		
118	37.5	Sat.			115	18	Sat.		
119	38.8	Sat.			118	15.81	Sat.		
125	32	Sat.			119	16.12	Sat.		
127	44.85	Unsat.			125	20	Sat.		
130	51.9	Critical			127	19.36	Sat.		
139	39.77	Sat.			130	17	Sat.		
144	36.4	Sat.			135	18.4	Sat.		
147	40.98	Sat.			139	16.47	Sat.		
150	37.6	Sat.			144	16.7	Sat.		
165	43.3	Sat.			147	15.2	Sat.		
170	35.9	Sat.			150	19.5	Sat.		
174	37.23	Sat.			165	18.4	Sat.		
178	39.277	Sat.			170	19.3	Sat.		
179	36.47	Sat.			174	16.68	Sat.		
183	38.46	Sat.			178	18	Sat.		
189	34.36	Sat.			179	16.75	Sat.		
192	36	Sat.			183	25.75	Critical		
196	29	Unsat.			189	16.4	Sat.		

کد آزمایشگاهها	TNV (%)	
192	22	Unsat.
196	14.79	Sat.



کد آزمایشگاهها	OC (%)		mean=	1.03	کد آزمایشگاهها	Pava (mg/Kg)		mean=	7.71
2	0.99	Sat.			2	7.8	Sat.		
12	0.93	Sat.			12	12.2	Critical		
23	1.004	Sat.			23	4.189	Critical		
26	1.1	Sat.			26	11.5	Critical		
31	0.98	Sat.			31	10.2	Unsat.		
34	1.01	Sat.			34	8	Sat.		
38	0.9165	Sat.			38	8	Sat.		
42	1.17	Sat.			42	7.1	Sat.		
45	1.95	Critical			45	11.64	Critical		
47	1.062	Sat.			47	11	Critical		
50	1.084	Sat.			50	4.2	Critical		
53	3.95	Critical			53	8.03	Sat.		
55	1.1	Sat.			55	0.2	Critical		
57	1.122	Sat.			57	7.8	Sat.		
58	1	Sat.			58	8.4	Sat.		
62	0.98	Sat.			62	9.7	Sat.		
65	0.74	Critical			65	6.16	Sat.		
66	1	Sat.			66	8.45	Sat.		
71	1.1	Sat.			71	4	Critical		
74	0.87	Unsat.			74	7.9	Sat.		
82	1.2	Unsat.			82	5	Unsat.		
90	0.7	Critical			90	6.74	Sat.		
92	0.93	Sat.			92	14.74	Critical		
101	1.01	Sat.			101	7.9	Sat.		
109	1	Sat.			115	9.2	Sat.		
115	0.97	Sat.			118	5.7	Sat.		
118	1.02	Sat.			119	9.74	Unsat.		
119	1.34	Critical			125	7	Sat.		
125	1.05	Sat.			127	6.86	Sat.		
127	0.99	Sat.			130	13.54	Critical		
130	0.95	Sat.			135	8.4	Sat.		
135	1.2	Unsat.			139	8.36	Sat.		
139	1.103	Sat.			144	9.5	Sat.		
144	1	Sat.			147	5.68	Unsat.		
147	1.18	Unsat.			150	7.6	Sat.		
150	1.04	Sat.			165	8.1	Sat.		
165	0.98	Sat.			170	8.4	Sat.		
170	0.97	Sat.			174	5.77	Sat.		
174	1.13	Sat.			178	7.4	Sat.		
178	1.194	Unsat.			179	6.1	Sat.		
179	1.086	Sat.			183	1.2	Critical		
183	1.05	Sat.			189	8.8	Sat.		

کد آزمایشگاهها	OC (%)		کد آزمایشگاهها	Pava (mg/Kg)	
189	1.12	Sat.	192	6	Sat.
192	1.05	Sat.	196	0.01	Critical
196	1.02	Sat.			

کد آزمایشگاهها	Kava (mg/Kg)		mean=	223.49	کد آزمایشگاهها	Cu (mg/Kg)		mean=	0.71
2	245	Sat.			12	0.95	Critical		
12	222.4	Sat.			23	1.9	Critical		
23	181	Unsat.			34	0.28	Critical		
26	190	Sat.			38	1.35	Critical		
31	270	Unsat.			42	0.8	Unsat.		
34	200	Sat.			45	0.69	Sat.		
38	225	Sat.			47	0.802	Unsat.		
42	215	Sat.			55	0.63	Sat.		
45	200	Sat.			58	0.44	Critical		
47	210	Sat.			62	0.64	Sat.		
50	252	Sat.			66	0.62	Unsat.		
53	199	Sat.			74	0.52	Critical		
55	252.8	Sat.			82	0.76	Sat.		
57	186	Sat.			90	0.48	Critical		
58	197	Sat.			92	1.1	Critical		
62	221	Sat.			101	0.66	Sat.		
65	275	Unsat.			109	0.9	Critical		
66	223	Sat.			115	0.26	Critical		
71	200	Sat.			119	0.13	Critical		
74	261	Sat.			125	0.7	Sat.		
82	200	Sat.			127	0.52	Critical		
90	286.8371	Unsat.			130	1.44	Critical		
92	249.19	Sat.			139	0.7204	Sat.		
101	186	Sat.			144	0.73	Sat.		
109	168	Unsat.			147	0.692	Sat.		
115	250	Sat.			150	0.46	Critical		
118	512	Critical			165	6.65	Critical		
119	224	Sat.			174	0.21	Critical		
125	142	Critical			178	0.666	Sat.		
127	510	Critical			179	0.754	Sat.		
130	186	Sat.			183	3.13	Critical		
135	160	Unsat.			189	0.31	Critical		
139	223.2	Sat.			196	0.81	Unsat.		
144	245	Sat.							
147	224	Sat.							
150	230	Sat.							
165	244	Sat.							
170	247.2	Sat.							
174	262	Sat.							
178	230	Sat.							
179	190	Sat.							

کد آزمایشگاهها	Kava (mg/Kg)	
183	474	Critical
189	249	Sat.
192	200	Sat.
196	228	Sat.

کد آزمایشگاهها	Zn (mg/Kg)		mean=	0.48	کد آزمایشگاهها	Fe (mg/Kg)		mean=	5.67
12	0.84	Critical			12	0.79	Critical		
23	2.84	Critical			23	5.66	Sat.		
34	0.02	Critical			34	1.24	Unsat.		
38	1.34	Critical			38	4.36	Sat.		
42	0.38	Sat.			42	9.05	Unsat.		
45	0.64	Unsat.			45	5.52	Sat.		
47	0.708	Critical			47	7.876	Sat.		
55	0.49	Sat.			55	2.9	Unsat.		
58	0.62	Unsat.			58	1.8	Unsat.		
62	0.35	Unsat.			62	4.37	Sat.		
66	0.35	Unsat.			66	5.2	Sat.		
74	0.3	Unsat.			74	3.72	Sat.		
82	0.44	Sat.			82	8.3	Sat.		
90	0.7	Unsat.			90	4.8	Sat.		
92	0.58	Sat.			92	9.55	Unsat.		
101	0.62	Unsat.			101	7.73	Sat.		
109	0.44	Sat.			109	9.64	Unsat.		
115	0.03	Critical			115	2.81	Unsat.		
119	0.36	Sat.			119	3.5	Sat.		
125	0.9	Critical			125	13.1	Critical		
127	1.38	Critical			127	13.56	Critical		
130	1.6	Critical			130	23.2	Critical		
139	0.4965	Sat.			139	6.6469	Sat.		
144	0.44	Sat.			144	8	Sat.		
147	0.576	Sat.			147	6.6	Sat.		
150	0.68	Unsat.			150	0.96	Unsat.		
165	4.54	Critical			165	13.2	Critical		
170	0.1	Critical			170	3.68	Sat.		
174	0.38	Sat.			174	3.57	Sat.		
178	0.526	Sat.			178	6.912	Sat.		
179	0.418	Sat.			179	7.482	Sat.		
183	28.53	Critical			183	13.655	Critical		
189	0.25	Critical			189	2.9	Unsat.		
196	0.55	Sat.			196	8.9	Unsat.		

کد آزمایشگاهها	Mn (mg/Kg)		mean=	کد آزمایشگاهها	Ca (mg/Kg)		mean=
12	5.99	Critical	12.78	2	1140	Sat.	1107.92
23	6.96	Critical		12	1120	Sat.	
34	10.32	Critical		23	800	Critical	
38	21.6	Critical		26	381	Critical	
42	12.7	Sat.		31	800	Critical	
45	13.87	Unsat.		34	1202.4	Unsat.	
47	15.37	Critical		38	68	Critical	
55	10.6	Critical		42	1022	Unsat.	
58	10.46	Critical		45	450.6	Critical	
62	11.25	Unsat.		47	801.6	Critical	
66	11.8	Sat.		50	792	Critical	
74	9.63	Critical		53	1150	Sat.	
82	18.4	Critical		55	1160	Sat.	
90	7.01	Critical		57	176.3	Critical	
92	13.5	Sat.		58	397.1	Critical	
101	13	Sat.		62	1320	Critical	
109	22.4	Critical		65	1212.5	Critical	
115	8.66	Critical		66	1120	Sat.	
119	6.72	Critical		71	200	Critical	
125	12.3	Sat.		74	1020	Unsat.	
127	13.1	Sat.		90	1131	Sat.	
130	11	Unsat.		92	1071.15	Sat.	
139	13.4214	Sat.		101	1072	Sat.	
144	15.55	Critical		109	79	Critical	
147	13.3	Sat.		115	1094.184	Sat.	
150	11.6	Unsat.		118	592	Critical	
165	15.1	Critical		119	640	Critical	
170	13.06	Sat.		125	1623.2	Critical	
174	7.16	Critical		127	940	Critical	
178	13.26	Sat.		130	851.7	Critical	
179	15.57	Critical		135	1164	Sat.	
183	47.27	Critical		139	1108.1	Sat.	
189	9.01	Critical		144	1452	Critical	
196	18	Critical		147	640	Critical	
				150	910	Critical	
				165	390.6	Critical	
				170	1122.24	Sat.	
				174	1060	Sat.	
				178	665	Critical	
				179	399.98	Critical	
				183	1160	Sat.	
				189	1120	Sat.	

کد آزمایشگاهها	Mg (mg/Kg)		mean=	350.65	کد آزمایشگاهها	Na (mg/Kg)		mean=	1191.88
2	444	Unsat.			2	1408	Unsat.		
12	364.8	Sat.			12	1370.8	Unsat.		
23	300	Sat.			23	1072.3	Sat.		
26	116.2	Critical			26	455.67	Critical		
31	240	Unsat.			31	920	Critical		
34	437.4	Unsat.			34	1288	Sat.		
38	22	Critical			38	50	Critical		
42	434	Unsat.			42	1137	Sat.		
45	145	Critical			45	630	Critical		
47	255.36	Unsat.			47	1035	Unsat.		
50	283.2	Sat.			50	818.8	Critical		
53	436	Unsat.			53	1250	Sat.		
55	158.4	Critical			55	460	Critical		
57	486.2	Critical			58	442.1	Critical		
58	151.7	Critical			62	1955	Critical		
62	535	Critical			65	1276.5	Sat.		
65	348	Sat.			66	1150	Sat.		
66	168	Critical			71	1610	Critical		
71	780	Critical			74	1308.7	Sat.		
74	358.43	Sat.			90	1247	Sat.		
90	351.6	Sat.			92	1165.3	Sat.		
92	331.35	Sat.			101	938.4	Critical		
101	435.6	Unsat.			109	56	Critical		
109	40	Critical			115	1290.3	Sat.		
115	284.544	Sat.			118	59.93	Critical		
118	1075.2	Critical			119	126.5	Critical		
119	648	Critical			125	825.1	Critical		
125	430.1	Unsat.			130	1512.5	Critical		
127	54	Critical			139	1159.2	Sat.		
130	352.6	Sat.			144	1474.1	Critical		
139	357.6	Sat.			147	1150	Sat.		
144	309.6	Sat.			150	879	Critical		
147	284.18	Sat.			165	1338	Unsat.		
150	237	Unsat.			170	421.8	Critical		
165	432	Unsat.			174	1185.42	Sat.		
170	108.6	Critical			178	1500	Critical		
174	279.68	Sat.			179	1017.29	Unsat.		
178	372	Sat.			183	405.14	Critical		
179	382.8	Sat.			189	1500.98	Critical		
183	286.14	Sat.			192	1350	Unsat.		
189	300	Sat.			196	276	Critical		
196	264	Unsat.							

کد آزمایشگاهها	K (mg/Kg)		mean=	48.81	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	244.32
2	65.5	Critical			2	244	Sat.		
12	40.95	Unsat.			12	390.4	Critical		
23	20	Critical			23	244	Sat.		
26	9.68	Critical			26	104.58	Critical		
38	34.5	Critical			31	152.5	Critical		
42	51	Sat.			34	183	Critical		
45	30	Critical			38	5	Critical		
47	50.83	Sat.			42	335	Critical		
53	52	Sat.			45	195.2	Critical		
57	38.2	Critical			47	366	Critical		
58	15.8	Critical			53	427	Critical		
62	94	Critical			57	76.25	Critical		
65	71.92	Critical			58	141.1	Critical		
66	47.463	Sat.			62	256	Sat.		
74	57.33	Unsat.			65	152.5	Critical		
90	61.92	Critical			66	183	Critical		
92	48.5	Sat.			71	305	Critical		
101	39	Critical			74	366	Critical		
115	42.5	Unsat.			90	234.85	Sat.		
118	43.68	Sat.			92	228.75	Sat.		
119	54.5	Unsat.			101	274.5	Unsat.		
125	34.1	Critical			109	16	Critical		
130	5.3	Critical			115	274.545	Unsat.		
139	54.58	Unsat.			118	259.25	Sat.		
144	51.06	Sat.			119	366	Critical		
147	62.5	Critical			125	366.1	Critical		
150	75	Critical			127	152.5	Critical		
165	46.7	Sat.			130	305.1	Critical		
170	15.4	Critical			139	268.4	Sat.		
174	51.52	Sat.			144	228.8	Sat.		
178	48	Sat.			147	441.25	Critical		
179	29.172	Critical			150	224	Sat.		
183	30	Critical			165	295	Critical		
189	1454.7	Critical			170	219	Sat.		
192	38.75	Critical			174	457.57	Critical		
					178	838.75	Critical		
					179	186.05	Critical		
					183	82.11	Critical		
					189	67.1	Critical		
					192	280.9	Unsat.		
					196	220	Sat.		



کد آزمایشگاهها	CI (mg/Kg)		mean= 2986.93
2	3798	Critical	
12	3616.03	Critical	
23	2946.5	Sat.	
26	1126.2	Critical	
31	2218.75	Critical	
34	3412.16	Unsat.	
38	89	Critical	
42	2969	Sat.	
45	1063	Critical	
47	2304	Critical	
53	3400	Unsat.	
57	1131	Critical	
58	1187.9	Critical	
62	4374	Critical	
65	3465	Unsat.	
66	2769	Sat.	
71	4082.5	Critical	
74	2995.53	Sat.	
82	0.7	Critical	
90	3179.061	Sat.	
92	2863.43	Sat.	
101	2662.5	Unsat.	
109	120	Critical	
115	2748.15	Sat.	
118	1349	Critical	
119	2414	Critical	
125	3687.8	Critical	
127	1189.25	Critical	
130	3590.3	Critical	
139	3205.65	Sat.	
144	3065.5	Sat.	
147	3069	Sat.	
150	2455	Unsat.	
165	2540	Unsat.	
170	1006.8	Critical	
174	2881.12	Sat.	
178	3283.7	Sat.	
179	2177.925	Critical	
183	1211.49	Critical	
189	3212.75	Sat.	
192	99.3	Critical	
196	1829	Critical	

# Soil 5

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	pH		mean=	7.86	کد آزمایشگاهها	EC (dS/m)		mean=	0.489
1	8.23	Sat.			1	1.05	Critical		
12	7.81	Sat.			12	1.15	Critical		
26	7.9	Sat.			26	0.5	Sat.		
37	7.1	Critical			37	0.50	Sat.		
41	7.13	Critical			41	0.46	Sat.		
42	8.1	Sat.			42	0.51	Sat.		
51	8	Sat.			51	1	Critical		
67	7.68	Sat.			67	0.57	Sat.		
68	7.94	Sat.			68	0.54	Sat.		
72	7.81	Sat.			72	0.52	Sat.		
77	8.21	Sat.			77	0.42	Sat.		
80	7.73	Sat.			80	0.73	Critical		
84	7.87	Sat.			84	1.87	Critical		
88	7.43	Sat.			88	1	Critical		
89	8.22	Sat.			89	0.446	Sat.		
90	7.7	Sat.			90	0.48	Sat.		
92	7.85	Sat.			92	0.4	Sat.		
101	7.86	Sat.			101	0.48	Sat.		
117	8.01	Sat.			117	0.56	Sat.		
124	8.09	Sat.			124	0.42	Sat.		
127	7.63	Sat.			127	0.34	Sat.		
140	7.23	Unsat.			140	0.564	Sat.		
141	7.2	Unsat.			141	0.559	Sat.		
144	7.7	Sat.			144	1.5	Critical		
149	7.8	Sat.			149	0.309	Unsat.		
165	7.73	Sat.			165	0.631	Unsat.		
172	7.7	Sat.			172	0.52	Sat.		
175	7.84	Sat.			175	0.44	Sat.		
177	8.2	Sat.			177	0.47	Sat.		
180	8.09	Sat.			180	0.47	Sat.		
188	7.65	Sat.			188	0.52	Sat.		
192	8.2	Sat.			192	0.41	Sat.		
196	7.4	Sat.			196	0.95	Critical		
196	7.4	Sat.							

کد آزمایشگاهها	SP (%)		mean=	30.64	کد آزمایشگاهها	TNV (%)		mean=	5.069
1	30.7	Sat.			1	5	Sat.		
12	29	Sat.			12	4.4	Sat.		
26	22.4	Critical			26	7.5	Sat.		
37	29.8	Sat.			37	11.5	Critical		
41	19.26	Critical			41	3.06	Sat.		
42	31	Sat.			42	4.6	Sat.		
51	29.5	Sat.			51	5.25	Sat.		
67	33.9	Sat.			67	3.75	Sat.		
68	25	Critical			68	4.2	Sat.		
72	26.38	Unsat.			72	25.07	Critical		
77	34	Sat.			77	4	Sat.		
80	29.5	Sat.			80	7.8	Sat.		
84	32.25	Sat.			84	5.25	Sat.		
88	31.7	Sat.			88	6.3	Sat.		
89	31.61	Sat.			89	1.655	Unsat.		
90	28	Sat.			90	6.09	Sat.		
92	30.6	Sat.			92	5.25	Sat.		
101	31	Sat.			101	7.86	Sat.		
124	29.47615	Sat.			124	6.494845	Sat.		
127	38.54	Critical			127	3.96	Sat.		
140	27.54	Sat.			140	3.99	Sat.		
141	32.66	Sat.			141	6.87	Sat.		
144	29.3	Sat.			144	4.2	Sat.		
149	36	Critical			149	5.75	Sat.		
165	31.6	Sat.			165	4.1	Sat.		
172	28.5	Sat.			172	6.1	Sat.		
175	30.6	Sat.			175	5	Sat.		
177	30.57	Sat.			177	5.68	Sat.		
180	31.8	Sat.			180	3.25	Sat.		
188	23.06	Critical			188	27.1	Critical		
192	35	Unsat.			192	6.25	Sat.		
196	37.77	Critical			196	3.4	Sat.		

کد آزمایشگاهها	OC (%)		mean=	0.22	کد آزمایشگاهها	Pava (mg/Kg)		mean=	5.06
1	0.25	Sat.			1	5.2	Sat.		
12	0.22	Sat.			12	6.8	Sat.		
26	0.42	Critical			26	10.5	Critical		
37	0.25	Sat.			37	1.5	Critical		
41	0.23	Sat.			41	5.61	Sat.		
42	0.27	Sat.			42	3.9	Sat.		
51	0.281	Sat.			51	7.1	Sat.		
67	0.26	Sat.			67	6.7	Sat.		
68	0.32	Unsat.			68	2.8	Unsat.		
72	0.32	Unsat.			72	5.8	Sat.		
77	0.23	Sat.			77	3.6	Sat.		
80	0.225	Sat.			80	3.91	Sat.		
84	0.242	Sat.			84	6.11	Sat.		
88	0.18	Sat.			88	2.9	Unsat.		
89	0.145	Unsat.			89	5.7	Sat.		
90	0.158	Sat.			90	4.04	Sat.		
92	0.25	Sat.			92	6.48	Sat.		
101	0.2	Sat.			101	5.2	Sat.		
124	0.226087	Sat.			124	4	Sat.		
127	0.22	Sat.			127	8.36	Unsat.		
140	0.217	Sat.			140	2.3	Unsat.		
141	0.17	Sat.			141	10.4	Critical		
144	0.201	Sat.			144	6.9	Sat.		
149	0.24	Sat.			149	10.13	Critical		
165	0.18	Sat.			165	5.2	Sat.		
172	0.22	Sat.			172	4.8	Sat.		
175	0.2	Sat.			175	10.8	Critical		
177	0.22	Sat.			177	4	Sat.		
180	0.4	Critical			180	2.2	Unsat.		
188	0.39	Critical			188	5.6	Sat.		
192	0.3	Unsat.			192	4	Sat.		
196	0.2	Sat.			196	0.01	Critical		

کد آزمایشگاهها	Kava (mg/Kg)		کد آزمایشگاهها	Cu (mg/Kg)	
1	85	Sat.	1	0.35	Sat.
12	68	Sat.	12	0.76	Critical
26	95	Unsat.	41	0.263	Sat.
37	80	Sat.	42	0.38	Unsat.
41	80.7	Sat.	67	0.26	Unsat.
42	65	Sat.	68	0.386	Unsat.
51	55	Sat.	72	0.35	Sat.
67	60	Sat.	77	0.26	Unsat.
68	80	Sat.	80	0.3	Sat.
72	47	Unsat.	88	0.44	Critical
77	72	Sat.	89	0.345	Sat.
80	71	Sat.	90	0.21	Critical
84	61.97	Sat.	92	0.89	Critical
88	80	Sat.	101	0.29	Sat.
89	77.97	Sat.	117	0.23	Unsat.
90	96.69217	Unsat.	124	0.44	Critical
92	80.1	Sat.	127	0.22	Critical
101	60	Sat.	140	0.235	Unsat.
117	60	Sat.	141	0.3	Sat.
124	60.2427	Sat.	144	0.34	Sat.
127	319	Critical	165	2.15	Critical
140	63.6	Sat.	172	0.2	Critical
141	170	Critical	175	0.22	Critical
144	88	Unsat.	177	0.32	Sat.
149	86	Sat.	196	0.41	Critical
165	93	Unsat.			
172	56	Sat.			
175	81.32	Sat.			
177	62.5	Sat.			
180	70	Sat.			
188	61	Sat.			
192	70	Sat.			
196	103	Critical			

mean= 70.59

mean= 0.31

کد آزمایشگاهها	Zn (mg/Kg)		mean=	0.38	کد آزمایشگاهها	Fe (mg/Kg)		mean=	10.52
1	0.44	Sat.			1	11.5	Sat.		
12	0.56	Unsat.			12	2.39	Critical		
41	0.507	Unsat.			41	7.676	Unsat.		
42	0.28	Sat.			42	10.05	Sat.		
67	0.28	Sat.			67	7.1	Unsat.		
68	0.57	Unsat.			68	10.633	Sat.		
72	0.4	Sat.			72	13	Unsat.		
77	0.42	Sat.			77	3.92	Critical		
80	0.31	Sat.			80	8.33	Sat.		
88	0.28	Sat.			88	8.02	Unsat.		
89	0.24	Unsat.			89	10.565	Sat.		
90	0.5	Unsat.			90	8.2	Unsat.		
92	0.56	Unsat.			92	13.01	Unsat.		
101	0.56	Unsat.			101	10.15	Sat.		
117	0.13	Critical			117	12.54	Sat.		
124	3.42	Critical			124	13.8	Unsat.		
127	1.3	Critical			127	17.6	Critical		
140	0.27	Sat.			140	2.226	Critical		
141	0.3	Sat.			141	6.5	Unsat.		
144	0.41	Sat.			144	11.45	Sat.		
165	0.37	Sat.			165	5.3	Critical		
172	0.3	Sat.			172	11.6	Sat.		
175	0.5	Unsat.			175	6.99	Unsat.		
177	0.326	Sat.			177	11.002	Sat.		
196	0.52	Unsat.			196	17.4	Critical		

کد آزمایشگاهها	Mn (mg/Kg)		mean=	6.58	کد آزمایشگاهها	Ca (mg/Kg)		mean=	65.29
1	9.33	Critical			1	70	Sat.		
12	2.77	Critical			12	80	Unsat.		
41	4.744	Unsat.			26	22.93	Critical		
42	6.25	Sat.			37	106	Critical		
67	4.3	Unsat.			41	154.38	Critical		
68	10.159	Critical			42	80	Unsat.		
72	8.7	Unsat.			51	60	Sat.		
77	7.22	Sat.			67	90	Critical		
80	6.7	Sat.			68	84	Unsat.		
88	4.4	Unsat.			72	54	Sat.		
89	4.89	Unsat.			77	32	Critical		
90	4.04	Unsat.			80	57	Sat.		
92	6.75	Sat.			84	98.04	Critical		
101	7	Sat.			88	128	Critical		
117	7.63	Sat.			89	71.255	Sat.		
124	8	Sat.			90	66.7	Sat.		
127	6.62	Sat.			92	47.13	Unsat.		
140	4.85	Unsat.			101	73.6	Sat.		
141	4.6	Unsat.			124	52.1	Unsat.		
144	9.6	Critical			127	0	Critical		
165	4.5	Unsat.			140	92	Critical		
172	8	Sat.			141	64	Sat.		
175	5.88	Sat.			144	52.7	Unsat.		
177	7.606	Sat.			165	78	Unsat.		
196	8.9	Unsat.			172	60	Sat.		
					175	10.6	Critical		
					177	85.7769	Unsat.		
					180	40	Critical		
					188	60	Sat.		
					196	180	Critical		



کد آزمایشگاهها	Mg (mg/Kg)		mean=	11.73	کد آزمایشگاهها	Na (mg/Kg)		mean=	104.58
1	30	Critical			1	135.24	Sat.		
12	85.1	Critical			12	32.9	Unsat.		
26	2.15	Unsat.			26	2.7	Unsat.		
37	10.8	Sat.			37	20.7	Unsat.		
41	46.81	Critical			41	23.57	Unsat.		
42	18	Sat.			42	13	Unsat.		
51	33.6	Critical			51	85.1	Sat.		
67	12	Sat.			68	25.99	Unsat.		
68	50.4	Critical			72	20.7	Unsat.		
72	20.4	Unsat.			77	20.24	Unsat.		
77	14.59	Sat.			80	52.9	Sat.		
80	25.8	Critical			84	10.52	Unsat.		
84	6.579	Sat.			88	34.5	Unsat.		
88	24	Unsat.			89	12.94	Unsat.		
89	3.825	Unsat.			90	14.1	Unsat.		
90	4.9	Sat.			92	30.46	Unsat.		
92	9.98	Sat.			101	20.47	Unsat.		
101	18.24	Sat.			124	15.87	Unsat.		
124	14.58	Sat.			140	16.79	Unsat.		
127	0	Unsat.			141	15.41	Unsat.		
140	16.8	Sat.			144	41.3	Sat.		
141	19.2	Unsat.			149	3.47	Unsat.		
144	86.3	Critical			165	53.2	Sat.		
165	8.9	Sat.			172	19.78	Unsat.		
172	12	Sat.			175	35	Unsat.		
175	10.44	Sat.			177	10	Unsat.		
177	5.8332	Sat.			180	0.92	Unsat.		
180	62.4	Critical			188	0.7	Unsat.		
188	25.2	Critical			192	24.3	Unsat.		
196	4	Unsat.			196	34.5	Unsat.		

کد آزمایشگاهها	K (mg/Kg)		mean=	2.29	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	124.86
1	16.77	Critical			1	170.8	Sat.		
12	2.34	Sat.			12	244	Critical		
26	1.15	Unsat.			26	35.87	Unsat.		
37	3.9	Unsat.			37	79.3	Sat.		
41	7.03	Critical			41	260.89	Critical		
42	3	Sat.			42	159	Sat.		
68	4.4	Critical			51	207.4	Unsat.		
72	1.17	Unsat.			67	231.8	Unsat.		
77	13.65	Critical			68	207.4	Unsat.		
80	2.73	Sat.			72	122	Sat.		
84	55.446	Critical			77	170.8	Sat.		
89	2.47	Sat.			80	225	Unsat.		
90	8.784	Critical			84	37.41	Unsat.		
92	8.96	Critical			88	97.6	Sat.		
101	1.95	Sat.			89	134.2	Sat.		
124	2.33	Sat.			90	128.1	Sat.		
140	5.72	Critical			92	115.9	Sat.		
141	3.52	Unsat.			101	152.5	Sat.		
144	3.44	Unsat.			124	305	Critical		
165	8.1	Critical			127	91.5	Sat.		
172	2.5	Sat.			140	134.2	Sat.		
175	12.11	Critical			141	152.5	Sat.		
177	1.25	Unsat.			144	30.5	Unsat.		
180	1.95	Sat.			149	305	Critical		
188	0.03	Critical			165	109	Sat.		
192	5	Critical			172	61	Unsat.		
					175	122.02	Sat.		
					177	97.9274	Sat.		
					180	97.6	Sat.		
					188	4	Critical		
					192	195.4	Unsat.		
					196	146.4	Sat.		

کد آزمایشگاه‌ها	CI (mg/Kg)		mean= 41.13
1	195.25	Critical	
12	202.71	Critical	
26	4.16	Critical	
37	134.9	Critical	
41	327.75	Critical	
42	28	Critical	
51	106.5	Critical	
67	42.6	Sat.	
68	62.12	Critical	
72	42.6	Sat.	
77	35.5	Sat.	
80	53.17	Unsat.	
84	169.312	Critical	
88	35.5	Sat.	
89	12.48	Critical	
90	17.3595	Critical	
92	77.39	Critical	
101	35.5	Sat.	
124	56.72	Critical	
127	17.75	Critical	
140	35.5	Sat.	
141	62.05	Critical	
144	44	Sat.	
149	44.325	Sat.	
165	168	Critical	
172	42.6	Sat.	
175	63.9	Critical	
177	62.0422	Critical	
180	56.8	Critical	
188	0.8	Critical	
192	14.18	Critical	
196	125	Critical	

# Soil 6

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	pH		mean=	7.87	کد آزمایشگاهها	EC (dS/m)		mean=	0.91
3	7.8	Sat.			3	0.83	Sat.		
7	7.97	Sat.			7	0.99	Sat.		
19	7.58	Sat.			19	0.81	Sat.		
27	7.9	Sat.			27	0.55	Unsat.		
30	7.73	Sat.			30	0.65	Sat.		
31	7.68	Sat.			31	0.82	Sat.		
38	7.76	Sat.			38	1.076	Sat.		
42	8	Sat.			42	0.87	Sat.		
47	7.82	Sat.			47	0.76	Sat.		
51	7.75	Sat.			51	1.12	Sat.		
65	7.8	Sat.			65	1.25	Unsat.		
77	8.09	Sat.			77	0.79	Sat.		
78	8.16	Sat.			78	0.68	Sat.		
81	8.11	Sat.			81	0.91	Sat.		
86	7.99	Sat.			86	1.006	Sat.		
93	7.9	Sat.			93	0.9	Sat.		
95	7.9	Sat.			95	0.8	Sat.		
107	7.93	Sat.			107	1	Sat.		
108	8.26	Unsat.			108	1.004	Sat.		
109	7.9	Sat.			109	1	Sat.		
112	7.74	Sat.			112	0.302	Critical		
117	7.96	Sat.			117	0.95	Sat.		
124	8	Sat.			124	0.8	Sat.		
137	8.05	Sat.			137	1.05	Sat.		
138	8	Sat.			138	1.23	Unsat.		
140	7.63	Sat.			140	0.876	Sat.		
149	7.59	Sat.			149	0.494	Critical		
176	7.37	Critical			176	0.96	Sat.		
186	7.8	Sat.			186	0.89	Sat.		

کد آزمایشگاهها	SP (%)		mean=	34.06	کد آزمایشگاهها	TNV (%)		mean=	11.00
3	26.2	Critical			3	10.5	Sat.		
7	34	Sat.			7	11	Sat.		
19	36	Sat.			19	11.3	Sat.		
27	36	Sat.			27	9	Critical		
30	33.4	Sat.			30	11.3	Sat.		
31	36	Sat.			31	11	Sat.		
38	34	Sat.			38	11	Sat.		
42	33	Sat.			42	11.3	Sat.		
47	34.04	Sat.			47	10.9	Sat.		
51	35.68	Sat.			51	10.25	Sat.		
65	24	Critical			65	11.8	Sat.		
77	35	Sat.			77	9.5	Unsat.		
78	31	Sat.			78	10.5	Sat.		
81	36	Sat.			81	15	Critical		
86	50.46	Critical			86	11.375	Sat.		
93	31.93	Sat.			93	11	Sat.		
95	34.77	Sat.			95	9.75	Unsat.		
107	32.37	Sat.			107	11	Sat.		
108	32.72	Sat.			108	11.375	Sat.		
109	27.7	Critical			109	10.5	Sat.		
112	30.12	Sat.			112	8	Critical		
124	30.75862	Sat.			124	11.90722	Sat.		
137	35.42	Sat.			137	7.25	Critical		
140	33.14	Sat.			138	10.41	Sat.		
149	39	Unsat.			140	9.54	Unsat.		
176	35.59	Sat.			149	11.75	Sat.		
186	33.4	Sat.			176	11	Sat.		
					186	11	Sat.		

کد آزمایشگاهها	OC (%)		mean=	0.51	کد آزمایشگاهها	Pava (mg/Kg)		mean=
3	0.51	Sat.			3	6.28	Sat.	
7	0.55	Sat.			7	6.1	Sat.	
19	0.53	Sat.			19	7.9	Sat.	
27	0.49	Sat.			27	7.3	Sat.	
30	0.51	Sat.			30	5.8	Sat.	
31	0.51	Sat.			31	10	Unsat.	
38	0.5265	Sat.			38	7.8	Sat.	
42	0.53	Sat.			42	6.1	Sat.	
47	0.294	Critical			47	9.2	Unsat.	
51	0.601	Critical			51	10	Unsat.	
65	0.42	Critical			65	4.96	Sat.	
77	0.47	Sat.			77	5.2	Sat.	
78	0.53	Sat.			78	3.2	Unsat.	
81	1.17	Critical			81	32	Critical	
86	0.5	Sat.			86	6.3	Sat.	
93	0.45	Unsat.			93	3.9	Unsat.	
95	0.65	Critical			95	10	Unsat.	
107	0.48	Sat.			107	7.25	Sat.	
108	0.536	Sat.			108	6.8	Sat.	
109	0.5	Sat.			112	1.38	Critical	
112	0.23	Critical			124	7.5	Sat.	
124	0.433333	Unsat.			137	13.4	Critical	
137	0.4	Critical			138	28.8	Critical	
138	0.54	Sat.			140	4.1	Sat.	
140	0.51	Sat.			149	11.29	Critical	
149	0.47	Sat.			176	5.2	Sat.	
176	0.44	Unsat.			186	12	Critical	
186	0.51	Sat.						

کد آزمایشگاهها	Kava (mg/Kg)		mean=	281.30	کد آزمایشگاهها	Cu (mg/Kg)		mean=	1.74
3	292	Sat.			3	1.64	Sat.		
7	291	Sat.			7	1.66	Sat.		
19	300	Sat.			19	1.29	Critical		
27	271	Sat.			27	1.8	Sat.		
30	294	Sat.			30	1.5	Unsat.		
31	330	Critical			38	2.86	Critical		
38	280	Sat.			42	1.95	Sat.		
42	290	Sat.			47	1.754	Sat.		
47	285	Sat.			77	1.13	Critical		
51	276	Sat.			81	1.94	Sat.		
65	390	Critical			93	1.73	Sat.		
77	264	Sat.			95	1.44	Unsat.		
78	296	Sat.			107	1.76	Sat.		
81	400	Critical			108	0.4	Critical		
86	335.82	Critical			109	2.14	Unsat.		
93	291.8	Sat.			112	0.76	Critical		
95	280	Sat.			117	0.1	Critical		
107	260	Sat.			124	2.02	Unsat.		
108	245	Unsat.			137	2.1279	Unsat.		
109	228	Critical			138	1.34	Unsat.		
112	276.87	Sat.			140	0.89	Critical		
117	215	Critical			186	0.87	Critical		
124	245.0595	Unsat.							
137	319.67	Unsat.							
138	302.45	Sat.							
140	257.2	Unsat.							
149	335	Critical							
176	456	Critical							
186	256	Unsat.							



کد آزمایشگاهها	Zn (mg/Kg)		mean=	1.27	کد آزمایشگاهها	Fe (mg/Kg)		mean=	14.49
3	1.38	Sat.			3	17.9	Unsat.		
7	1.28	Sat.			7	10.52	Unsat.		
19	0.91	Critical			19	10.91	Unsat.		
27	1.5	Unsat.			27	16.4	Sat.		
30	1.64	Critical			30	2.28	Critical		
38	2.51	Critical			38	11.4	Sat.		
42	0.96	Unsat.			42	13.65	Sat.		
47	1.208	Sat.			47	15.768	Sat.		
77	1.11	Sat.			77	2.64	Critical		
81	0.94	Critical			81	15.38	Sat.		
93	1.31	Sat.			93	18.85	Unsat.		
95	0.11	Critical			95	2.02	Critical		
107	15	Critical			107	12.62	Sat.		
108	0.56	Critical			108	4.84	Critical		
109	22.4	Critical			109	21.2	Critical		
112	0.38	Critical			112	1.96	Critical		
117	0.53	Critical			117	18	Unsat.		
124	4.1	Critical			124	17.2	Sat.		
137	1.3262	Sat.			137	12.3423	Sat.		
138	1.3	Sat.			138	12.36	Sat.		
140	0.814	Critical			140	1.45	Critical		
186	1.02	Unsat.			186	0.72	Critical		

کد آزمایشگاهها	Mn (mg/Kg)		mean=	15.47	کد آزمایشگاهها	Ca (mg/Kg)		mean=	98.05
3	18.9	Sat.			3	90	Sat.		
7	16.55	Sat.			7	133.27	Sat.		
19	11.1	Sat.			19	80	Sat.		
27	20.5	Unsat.			27	112	Sat.		
30	11.74	Sat.			30	54	Unsat.		
38	26.7	Critical			31	72	Sat.		
42	15.5	Sat.			38	8	Critical		
47	21.23	Unsat.			42	130	Sat.		
77	15.07	Sat.			47	60.12	Sat.		
81	55	Critical			51	132	Sat.		
93	25.04	Critical			65	154	Unsat.		
95	13.7	Sat.			77	60	Sat.		
107	27	Critical			78	5	Critical		
108	2.02	Critical			81	240	Critical		
109	37.4	Critical			93	140	Unsat.		
112	0.61	Critical			95	160	Unsat.		
117	14	Sat.			107	130	Sat.		
124	19.4	Sat.			108	29.5	Unsat.		
137	10.5782	Sat.			109	8	Critical		
138	18.83	Sat.			112	40	Unsat.		
140	9.42	Unsat.			124	89.76	Sat.		
186	8.4	Unsat.			137	170	Critical		
					138	97.6	Sat.		
					140	128	Sat.		
					176	144.28	Unsat.		
					186	60	Sat.		

کد آزمایشگاهها	Mg (mg/Kg)		mean=	18.54	کد آزمایشگاهها	Na (mg/Kg)		mean=	38.64
3	30.6	Critical			3	30.2	Critical		
7	17.39	Sat.			7	61.41	Critical		
19	45.6	Critical			19	39.1	Sat.		
27	19.2	Sat.			27	36.3	Sat.		
30	14.8	Sat.			30	41.5	Sat.		
31	26.4	Critical			31	69	Critical		
38	4	Critical			38	4.5	Critical		
42	30	Critical			42	34	Unsat.		
47	35.26	Critical			47	39.1	Sat.		
51	18	Sat.			51	34.5	Unsat.		
65	24	Unsat.			65	69	Critical		
77	19.46	Sat.			77	40.25	Sat.		
78	3	Critical			78	1.6	Critical		
81	96	Critical			81	62.5	Critical		
93	36	Critical			86	36.57	Sat.		
95	77.76	Critical			93	58.42	Critical		
107	33.6	Critical			95	43.7	Unsat.		
108	11.8	Unsat.			107	49.91	Critical		
109	14	Unsat.			108	54.3	Critical		
112	14.4	Sat.			109	2.1	Critical		
124	68.04	Critical			112	25.9	Critical		
137	19.2	Sat.			124	38.64	Sat.		
138	35.28	Critical			137	1.65	Critical		
140	12	Unsat.			138	92.69	Critical		
176	19.45	Sat.			140	41.4	Sat.		
186	24	Unsat.			149	5.72	Critical		
					176	51.06	Critical		
					186	110	Critical		

کد آزمایشگاهها	K (mg/Kg)		mean=	14.66	کد آزمایشگاهها	HCO <sub>3</sub> (mg/Kg)		mean=	272.94
3	15.21	Sat.			3	329.4	Sat.		
7	14.47	Sat.			7	390.5	Unsat.		
19	14.8	Sat.			19	329.4	Sat.		
27	15	Sat.			27	268	Sat.		
30	14.7	Sat.			30	232	Sat.		
38	14.5	Sat.			31	152.5	Unsat.		
42	16	Critical			38	1	Critical		
47	15.64	Unsat.			42	338	Sat.		
65	15.26	Sat.			47	335.5	Sat.		
77	23.01	Critical			51	244	Sat.		
78	0.37	Critical			65	213.5	Sat.		
81	15	Sat.			77	305	Sat.		
86	22.1	Critical			78	3	Critical		
93	13.65	Unsat.			81	366	Unsat.		
95	20	Critical			93	195.2	Unsat.		
107	14.04	Sat.			95	268.4	Sat.		
108	3.5	Critical			107	378.2	Unsat.		
112	10.55	Critical			108	99.8	Critical		
124	12.9679	Critical			109	7	Critical		
137	12.95	Critical			112	341.6	Sat.		
138	0.42	Critical			124	183	Unsat.		
140	12.73	Critical			137	198.25	Unsat.		
176	12.51	Critical			138	163.48	Unsat.		
186	1287	Critical			140	231.8	Sat.		
					149	305	Sat.		
					176	48.8	Critical		
					186	322	Sat.		

کد آزمایشگاهها	CI (mg/Kg)		mean= 64.92
3	63.9	Sat.	
7	61.35	Sat.	
19	71	Sat.	
27	49.7	Critical	
30	53.2	Unsat.	
31	195.25	Critical	
38	6	Critical	
42	71	Sat.	
47	70.92	Sat.	
51	88.75	Critical	
65	122.5	Critical	
77	56.8	Unsat.	
78	2	Critical	
81	175	Critical	
86	68.08	Sat.	
93	56.8	Unsat.	
95	65.8	Sat.	
107	106.5	Critical	
108	85.9	Critical	
109	8	Critical	
124	63.81	Sat.	
137	66.74	Sat.	
138	122.83	Critical	
140	56.8	Unsat.	
149	44.325	Critical	
176	70.92	Sat.	
186	106	Critical	

## رتبه بندی آزمایشگاهها در تجزیه نمونه های خاک

در این قسمت از گزارش، رتبه بندی آزمایشگاه ها بر اساس پارامتر R ارائه شده است. برای محاسبه این پارامتر تعداد کل تجزیه های درخواست شده، تعداد پارامترهای تجزیه شده توسط هر آزمایشگاه، تعداد پارامتر با درجه رضایتبخش (satisfy)، غیر رضایتبخش (unsatisfy) و بحرانی (critical) در نظر گرفته شده است.

رتبه بندی آزمایشگاهها در تجزیه نمونه های خاک

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
1	139	28	5	1	34	0.617647
2	42	26	6	2	34	0.470588
3	101	26	6	2	34	0.470588
4	172	27	3	4	34	0.470588
5	80	27	2	5	34	0.441176
6	113	26	5	3	34	0.441176
7	30	25	7	2	34	0.411765
8	64	23	3	5	31	0.294118
9	92	24	5	5	34	0.264706
10	178	25	2	7	34	0.264706
11	7	23	8	3	34	0.264706
12	19	24	4	6	34	0.235294
13	77	24	4	6	34	0.235294
14	144	24	4	6	34	0.235294
15	27	23	6	5	34	0.205882
16	50	14	0	4	18	0.176471
17	86	15	0	5	20	0.147059
18	53	17	6	3	26	0.147059
19	174	24	1	9	34	0.147059
20	177	23	4	7	34	0.147059
21	104	22	6	6	34	0.117647
22	66	23	3	8	34	0.117647
23	99	16	5	4	25	0.088235
24	51	16	3	5	24	0.088235
25	67	18	9	3	30	0.088235
26	8	23	1	10	34	0.058824
27	141	20	8	6	34	0
28	135	7	5	1	13	0
29	3	21	4	9	34	-0.02941
30	69	21	4	9	34	-0.02941
31	74	21	4	9	34	-0.02941

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
32	89	18	13	3	34	-0.02941
33	90	20	7	7	34	-0.02941
34	124	20	7	7	34	-0.02941
35	39	20	6	8	34	-0.05882
36	47	20	6	8	34	-0.05882
37	189	21	3	10	34	-0.05882
38	118	19	1	10	30	-0.05882
39	2	15	5	6	26	-0.05882
40	176	16	2	8	26	-0.05882
41	57	15	1	8	24	-0.05882
42	117	8	2	4	14	-0.05882
43	94	21	2	11	34	-0.08824
44	1	21	1	12	34	-0.11765
45	115	19	7	8	34	-0.11765
46	84	15	3	8	26	-0.11765
47	192	11	7	4	22	-0.11765
48	55	16	3	9	28	-0.14706
49	72	18	9	7	34	-0.14706
50	147	20	3	11	34	-0.14706
51	107	20	2	12	34	-0.17647
52	44	14	0	10	25	-0.17647
53	140	17	10	7	34	-0.20588
54	179	19	4	11	34	-0.20588
55	88	17	6	9	32	-0.20588
56	150	17	9	8	34	-0.23529
57	175	18	4	11	33	-0.23529
58	170	18	2	12	32	-0.23529
59	34	15	5	9	29	-0.23529
60	4	18	5	11	34	-0.26471
61	95	18	5	11	34	-0.26471
62	48	18	4	12	34	-0.29412
63	165	17	7	10	34	-0.29412
64	164	17	3	12	32	-0.29412
65	197	15	7	9	31	-0.29412
66	180	13	3	10	26	-0.29412
67	149	9	3	8	20	-0.29412
68	138	16	5	11	32	-0.32353
69	186	16	8	10	34	-0.35294
70	137	17	4	13	34	-0.38235
71	23	18	1	15	34	-0.38235

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
72	31	10	5	9	24	-0.38235
73	62	15	9	10	34	-0.41176
74	93	15	9	10	34	-0.41176
75	68	15	9	10	34	-0.41176
76	65	10	6	10	26	-0.47059
77	82	9	3	11	23	-0.47059
78	38	17	0	17	34	-0.5
79	78	11	2	13	26	-0.5
80	71	10	1	13	24	-0.5
81	46	15	5	14	34	-0.52941
82	37	9	6	11	26	-0.55882
83	45	15	3	16	34	-0.58824
84	26	9	5	12	26	-0.58824
85	29	14	5	15	34	-0.61765
86	125	15	2	17	34	-0.61765
87	119	11	6	13	30	-0.61765
88	188	10	1	15	26	-0.61765
89	58	14	3	17	34	-0.67647
90	142	13	6	15	34	-0.67647
91	196	10	9	12	31	-0.67647
92	14	9	2	15	26	-0.67647
93	52	9	2	15	25	-0.67647
94	41	13	5	16	34	-0.70588
95	108	12	7	15	34	-0.73529
96	127	10	4	16	30	-0.76471
97	12	12	5	17	34	-0.79412
98	106	12	4	18	34	-0.82353
99	109	9	5	16	30	-0.82353
100	112	11	2	19	32	-0.85294
101	81	12	1	21	34	-0.91176
102	130	11	4	19	34	-0.91176
103	183	12	1	21	34	-0.91176
104	87	3	1	17	21	-0.94118
105	171	2	2	22	26	-1.29412



# Plants

# Plant1

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	N (%)		mean=	1.65	کد آزمایشگاهها	P (%)		mean=	0.26
3	2.44	Critical			3	0.275	Sat.		
4	1.68	Sat.			4	0.27	Sat.		
29	1.45	Unsat.			29	0.24	Sat.		
30	1.58	Sat.			30	0.24	Sat.		
34	1.72	Sat.			34	0.32	Unsat.		
42	1.46	Unsat.			42	0.28	Sat.		
46	1.74	Sat.			46	0.34	Critical		
57	1.54	Sat.			57	0.222	Sat.		
66	1.64	Sat.			66	0.4	Critical		
69	1.76	Sat.			69	0.26	Sat.		
74	1.76	Sat.			74	0.26	Sat.		
87	1.37	Unsat.			82	0.08	Critical		
88	1.6	Sat.			87	0.48	Critical		
95	1.99	Critical			88	0.78	Critical		
106	1.63	Sat.			95	0.135	Critical		
108	1.14	Critical			106	0.27	Sat.		
130	1.76	Sat.			108	0.33	Unsat.		
142	1.1	Critical			130	0.212	Sat.		
147	1.8	Sat.			142	0.0083	Critical		
176	1.67	Sat.			147	0.294	Sat.		
179	1.183	Critical			176	0.56	Critical		
186	2.43	Critical			179	0.752	Critical		
197	0.2	Critical			186	0.22	Sat.		
					197	0.26	Sat.		

کد آزمایشگاهها	K (%)		mean=	0.43	کد آزمایشگاهها	Na (%)		mean=	0.02
3	0.5	Sat.			3	0.086	Critical		
4	0.5	Sat.			4	0.08	Critical		
29	0.38	Sat.			29	0.0009	Sat.		
30	5.13	Critical			30	0.28	Critical		
34	0.38	Sat.			34	0.04	Sat.		
42	0.46	Sat.			42	0.09	Critical		
46	3.33	Critical			46	0.02	Sat.		
57	0.37	Sat.			57	0.01	Sat.		
66	0.23	Critical			66	0.038	Sat.		
69	0.43	Sat.			69	0.04	Sat.		
74	0.7	Critical			74	0.01	Sat.		
82	1.2	Critical			87	0.09	Critical		
87	0.6	Critical			88	0.03	Sat.		
88	0.4	Sat.			95	0.075	Critical		
95	0.56	Unsat.			108	0.024	Sat.		
106	0.42	Sat.			130	0.023	Sat.		
108	0.38	Sat.			142	0.048	Unsat.		
130	0.411	Sat.			147	0.0089	Sat.		
142	0.014	Critical			179	0.326	Critical		
147	0.51	Sat.			186	0.005	Sat.		
176	0.42	Sat.			197	0.013	Sat.		
179	0.412	Sat.							
186	57	Critical							
197	0.345	Sat.							

کد آزمایشگاهها	Ca (%)		mean=	0.05	کد آزمایشگاهها	Mg (%)		mean=	0.12
3	0.03	Sat.			3	0.09	Sat.		
4	0.01	Sat.			4	0.09	Sat.		
29	0.17	Critical			29	0.19	Unsat.		
30	0.03	Sat.			30	0.09	Sat.		
34	0.33	Critical			34	0.13	Sat.		
42	0.05	Sat.			42	0.1	Sat.		
46	1.04	Critical			46	2.22	Critical		
69	0.23	Critical			69	0.16	Sat.		
74	0.08	Sat.			74	0.12	Sat.		
82	1.6	Critical			82	0.67	Critical		
87	3.57	Critical			87	0.69	Critical		
88	0.38	Critical			88	0.13	Sat.		
95	1.92	Critical			95	1.5	Critical		
106	0.05	Sat.			106	0.11	Sat.		
108	0.21	Critical			108	0.15	Sat.		
130	0.057	Sat.			130	0.091	Sat.		
142	0.035	Sat.			142	0.104	Sat.		
147	0.0241	Sat.			147	0.0926	Sat.		
179	0.0474	Sat.			179	0.1669	Sat.		
186	0.13	Critical			186	0.15	Sat.		
197	0.1	Unsat.			197	0.14	Sat.		

کد آزمایشگاهها	Fe (mg/Kg)		mean=	53.37	کد آزمایشگاهها	Mn (mg/Kg)		mean=	39.77
3	60.31	Sat.			3	45.75	Unsat.		
4	65.37	Unsat.			4	45.29	Unsat.		
29	0.44	Critical			29	40	Sat.		
30	38.5	Critical			30	35.17	Sat.		
34	55.96	Sat.			34	15.45	Critical		
42	44.7	Unsat.			42	27.2	Critical		
46	33.27	Critical			46	16.35	Critical		
66	44.5	Unsat.			66	35.5	Sat.		
69	60.6	Sat.			69	46.2	Unsat.		
74	51.96	Sat.			74	37.43	Sat.		
82	65	Unsat.			82	45	Sat.		
87	54	Sat.			87	19.69	Critical		
88	2.1	Critical			88	0.51	Critical		
95	47	Sat.			95	41	Sat.		
106	45.2	Unsat.			106	35.7	Sat.		
108	2992	Critical			108	224	Critical		
130	38.2	Critical			130	37.9	Sat.		
142	54.64	Sat.			142	72.12	Critical		
147	56.37	Sat.			147	38.518	Sat.		
179	52.45	Sat.			179	37.85	Sat.		
186	58.16	Sat.			186	50	Critical		
197	61.39	Unsat.			197	35.49	Sat.		

کد آزمایشگاهها	Zn (mg/Kg)		mean=	21.23	کد آزمایشگاهها	Cu (mg/Kg)		mean=	4.89
3	40.28	Critical			29	1.6	Critical		
4	42.77	Critical			30	1.5	Critical		
29	15.5	Unsat.			34	3.99	Sat.		
30	16.5	Sat.			42	6	Sat.		
34	13.56	Unsat.			46	11.33	Critical		
42	25.6	Sat.			66	4	Sat.		
46	19.03	Sat.			69	5	Sat.		
66	19	Sat.			74	3.85	Sat.		
69	26.8	Unsat.			82	12	Critical		
74	19.55	Sat.			87	12.42	Critical		
82	35	Critical			88	0.2	Critical		
87	25.87	Sat.			95	3.8	Sat.		
88	0.3	Critical			106	3.4	Unsat.		
95	18.8	Sat.			108	4.93	Sat.		
106	20.6	Sat.			130	5.8	Sat.		
108	69	Critical			142	5.72	Sat.		
130	35	Critical			147	5.09	Sat.		
142	18.92	Sat.			179	9.25	Critical		
147	21.94	Sat.			186	7.14	Unsat.		
179	21.55	Sat.			197	13.37	Critical		
186	27.55	Unsat.							
197	29.49	Unsat.							

# Plant2

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.



کد آزمایشگاهها	N (%)		mean=	1.30	کد آزمایشگاهها	P (%)		mean=	0.27
4	1.25	Sat.			4	0.28	Sat.		
7	1.68	Critical			7	0.26	Sat.		
8	1.38	Sat.			8	0.27	Sat.		
19	1.37	Sat.			19	0.3	Unsat.		
42	5.38	Critical			42	0.28	Sat.		
44	1.11	Unsat.			44	0.103	Critical		
55	0.31	Critical			55	0.23	Critical		
64	1.34	Sat.			64	0.26	Sat.		
81	1.12	Unsat.			80	0.247	Unsat.		
87	1.82	Critical			81	0.13	Critical		
94	1.27	Sat.			87	0.23	Critical		
104	1.28	Sat.			94	0.283	Sat.		
106	1.53	Unsat.			104	0.37	Critical		
112	1.42	Sat.			106	0.27	Sat.		
113	0.5	Critical			112	0.22	Critical		
118	0.78	Critical			113	0.27	Sat.		
137	1.4	Sat.			118	0.48	Critical		
138	1.86	Critical			137	0.12	Critical		
139	1.342	Sat.			138	0.66	Critical		
141	1.05	Critical			139	0.268	Sat.		
142	1.16	Sat.			141	0.13	Critical		
150	1.24	Sat.			142	0.0083	Critical		
164	1.03	Critical			150	0.19	Critical		
177	1.93	Critical			164	36.36	Critical		
180	1.36	Sat.			177	0.4	Critical		
183	0.7	Critical			180	0.67	Critical		
					183	0.33	Critical		

کد آزمایشگاهها	K (%)		mean=	2.17	کد آزمایشگاهها	Na (%)		mean=	0.98
4	11.7	Critical			4	1.4	Critical		
7	2.45	Sat.			7	1.07	Sat.		
8	3.18	Critical			8	1.02	Sat.		
19	2.46	Sat.			42	0.97	Sat.		
42	2.44	Sat.			44	0.71	Unsat.		
44	2.25	Sat.			55	1.73	Critical		
55	1.86	Sat.			64	0.465	Critical		
64	2.22	Sat.			80	0.88	Sat.		
80	2.24	Sat.			81	1.09	Sat.		
81	1.6	Sat.			87	0.08	Critical		
87	1.44	Unsat.			94	0.937	Sat.		
94	2.38	Sat.			104	0.6	Critical		
104	1.6	Sat.			106	0.016	Critical		
106	2.2	Sat.			112	0.15	Critical		
112	2.09	Sat.			113	0.82	Sat.		
113	1.95	Sat.			118	0.21	Critical		
118	2.96	Unsat.			137	0.21	Critical		
137	8.8	Critical			138	1.18	Unsat.		
138	3.24	Critical			139	1.082	Sat.		
139	2.37	Sat.			141	0.646	Critical		
141	0.12	Critical			142	0.99	Sat.		
142	0.107	Critical			150	0.95	Sat.		
150	3.15	Critical			177	1.03	Sat.		
164	1.175	Critical			183	0.27	Critical		
177	5.55	Critical							
180	1.63	Sat.							
183	1.28	Unsat.							

کد آزمایشگاهها	Ca (%)		mean=	0.32	کد آزمایشگاهها	Mg (%)		mean=	0.20
4	0.32	Sat.			4	0.16	Sat.		
7	0.32	Sat.			7	0.17	Sat.		
8	0.25	Sat.			8	0.21	Sat.		
19	0.61	Critical			19	0.54	Critical		
42	0.44	Unsat.			42	0.21	Sat.		
55	0.66	Critical			55	0.35	Critical		
64	1.58	Critical			64	2.4	Critical		
80	0.42	Sat.			80	0.188	Sat.		
81	0.68	Critical			81	0.29	Critical		
87	0.25	Sat.			87	0.23	Sat.		
94	0.556	Critical			94	0.24	Sat.		
104	0.14	Critical			104	0.132	Unsat.		
106	0.4	Sat.			106	0.2	Sat.		
112	0.32	Sat.			113	0.161772	Sat.		
113	0.296296	Sat.			138	0.21	Sat.		
138	0.39	Sat.			139	0.229	Sat.		
139	0.204	Unsat.			141	0.7	Critical		
141	0.3	Sat.			142	0.216	Sat.		
142	0.28	Sat.			150	0.16	Sat.		
150	0.34	Sat.			164	0.15	Sat.		
164	0.24	Sat.			177	0.2055	Sat.		
177	0.3771	Sat.			183	0.7	Critical		
183	0.3	Sat.							

کد آزمایشگاهها	Fe (mg/Kg)		mean=	20.84	کد آزمایشگاهها	Mn (mg/Kg)		mean=	16.45
4	53.8	Critical			4	19.15	Critical		
7	33.15	Critical			7	20.66	Critical		
8	17.98	Sat.			8	16.11	Sat.		
19	13.04	Unsat.			19	8.76	Critical		
42	20.2	Sat.			42	14.5	Unsat.		
55	43.5	Critical			55	17.7	Sat.		
64	73	Critical			64	33	Critical		
80	20.5	Sat.			80	15.5	Sat.		
81	242	Critical			81	36	Critical		
87	613	Critical			87	83.61	Critical		
94	27.8	Unsat.			94	18.6	Unsat.		
104	16	Sat.			104	16	Sat.		
106	22.7	Sat.			106	17.4	Sat.		
112	6.55	Critical			112	9.12	Critical		
113	0.69	Critical			113	0.44	Critical		
137	16.52	Sat.			137	9.7375	Critical		
138	34.49	Critical			138	17.07	Sat.		
139	26.651	Sat.			139	18.771	Critical		
141	10	Unsat.			141	10	Critical		
142	47.45	Critical			142	35.75	Critical		
150	20.6	Sat.			150	17.5	Sat.		
164	27.28	Unsat.			164	14.15	Critical		
177	61.2	Critical			177	15.8	Sat.		
183	52.05	Critical			183	14.94	Unsat.		

کد آزمایشگاهها	Zn (mg/Kg)		mean=	27.87	کد آزمایشگاهها	Cu (mg/Kg)		mean=	8.03
4	38.29	Critical			4	0.56	Critical		
7	29.78	Sat.			7	8.34	Sat.		
8	24.36	Sat.			8	7.39	Unsat.		
19	26.24	Sat.			19	5.93	Critical		
42	32	Unsat.			42	10	Critical		
55	34.5	Critical			55	7.75	Sat.		
64	49	Critical			64	11	Critical		
80	35.6	Critical			80	8	Sat.		
81	6	Critical			81	16	Critical		
87	41.26	Critical			87	13.25	Critical		
94	24.7	Sat.			94	7.63	Sat.		
104	21.97	Unsat.			104	6.05	Critical		
106	27.7	Sat.			106	8	Sat.		
112	13.45	Critical			113	0.16	Critical		
113	0.6	Critical			137	9.585	Critical		
137	11.2175	Critical			138	5.45	Critical		
138	67.33	Critical			139	9.317	Critical		
139	27.785	Sat.			141	10	Critical		
141	20	Critical			142	9.45	Critical		
142	19.3	Critical			150	8.75	Unsat.		
150	15.75	Critical			164	8.14	Sat.		
164	32.42	Unsat.			177	8.3	Sat.		
177	27.95	Sat.			183	5.205	Critical		

# Plant3

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	N (%)		کد آزمایشگاهها	P (%)	
1	1.12 Critical	mean= 1.42	1	0.17 Unsat.	mean= 0.19
8	1.49 Sat.		8	0.2 Sat.	
27	1.35 Sat.		23	0.28 Critical	
29	1.4 Sat.		27	0.44 Critical	
41	1.19 Critical		29	0.17 Unsat.	
42	1.32 Sat.		41	0.19 Sat.	
44	1.32 Sat.		42	0.21 Sat.	
45	4.48 Critical		44	0.083 Critical	
46	1.54 Sat.		45	0.027 Critical	
58	1.4 Sat.		46	0.33 Critical	
64	1.48 Sat.		58	0.2 Sat.	
67	1.42 Sat.		64	0.18 Sat.	
69	1.55 Sat.		67	0.18 Sat.	
72	1.42 Sat.		69	0.2 Sat.	
86	1.29 Sat.		72	0.35 Critical	
89	1.49 Sat.		86	0.19 Sat.	
93	0.5 Critical		89	0.2 Sat.	
94	1.51 Sat.		93	0.05 Critical	
104	1.43 Sat.		94	0.22 Unsat.	
107	1.38 Sat.		104	0.32 Critical	
113	0.57 Critical		107	0.27 Critical	
115	1.84 Critical		113	0.19 Sat.	
119	2.09 Critical		115	0.18 Sat.	
125	1.59 Unsat.		119	0.2 Sat.	
164	1.14 Critical		125	0.16 Critical	
170	0.87 Critical		164	27.1 Critical	
172	2.1 Critical		170	0.09 Critical	
174	1.39 Sat.		172	0.2 Sat.	
178	1.29 Sat.		174	0.19 Sat.	
			178	0.41 Critical	

کد آزمایشگاهها	K (%)		mean=	1.74	کد آزمایشگاهها	Na (%)		mean=	0.04
1	1.78	Sat.			1	0.04	Sat.		
8	2.48	Critical			8	0.03	Sat.		
23	1.2	Critical			27	0.0448	Sat.		
27	1.7	Sat.			29	0.0017	Critical		
29	1.47	Unsat.			41	0.04	Sat.		
41	1.63	Sat.			42	0.04	Sat.		
42	1.96	Sat.			44	0.02	Sat.		
44	1.78	Sat.			45	0.05	Sat.		
45	1.55	Sat.			46	0.1	Critical		
46	14.92	Critical			58	0.1	Critical		
58	1.58	Sat.			64	0.039	Sat.		
64	1.66	Sat.			67	0.056	Sat.		
67	1.76	Sat.			69	0.06	Unsat.		
69	1.8	Sat.			72	0.22	Critical		
72	1.7	Sat.			89	0.0345	Sat.		
86	1.95	Sat.			93	0.18	Critical		
89	1.98	Unsat.			94	0.021	Sat.		
93	2.07	Unsat.			104	0.03	Sat.		
94	1.86	Sat.			107	0.087	Critical		
104	1.6	Sat.			113	0.06	Unsat.		
107	1.74	Sat.			115	0.04	Sat.		
113	1.6	Sat.			119	0.02	Sat.		
115	1.96	Sat.			125	0.081	Critical		
119	1.91	Sat.			172	0.02	Sat.		
125	1.41	Unsat.			174	0.02	Sat.		
164	0.899	Critical			178	0.083	Critical		
170	1.02	Critical							
172	1.8	Sat.							
174	1.61	Sat.							
178	1.75	Sat.							



کد آزمایشگاهها	Ca (%)		کد آزمایشگاهها	Mg (%)	
1	0.15 Sat.	mean= 0.08	1	0.08 Sat.	mean= 0.09
8	0.06 Sat.		8	0.1 Sat.	
27	0.11 Sat.		27	0.07 Unsat.	
29	0.15 Sat.		29	0.15 Critical	
41	0.033 Sat.		41	0.087 Sat.	
42	0.05 Sat.		42	0.09 Sat.	
45	0.07 Sat.		45	0.1 Sat.	
46	0.77 Critical		46	1.68 Critical	
58	0.11 Sat.		58	0.09 Sat.	
64	0.58 Critical		64	1.3 Critical	
67	0.4 Critical		67	0.1 Sat.	
69	0.01 Sat.		69	0.08 Sat.	
72	0.17 Unsat.		72	0.12 Critical	
89	0.01 Sat.		89	0.085 Sat.	
93	0.06 Sat.		93	0.12 Critical	
94	0.015 Sat.		94	0.16 Critical	
107	0.026 Sat.		104	0.066 Unsat.	
113	0.09 Sat.		107	0.027 Critical	
115	0.22 Critical		113	0.077 Sat.	
119	0.13 Sat.		115	0.2 Critical	
125	0.05 Sat.		119	0.09 Sat.	
164	0.05 Sat.		125	0.066 Unsat.	
170	1.26 Critical		164	0.1 Sat.	
172	0.13 Sat.		170	0.17 Critical	
174	0.21 Critical		172	0.09 Sat.	
178	0.095 Sat.		174	0.1 Sat.	
			178	0.12 Critical	

کد آزمایشگاهها	Fe (mg/Kg)		کد آزمایشگاهها	Mn (mg/Kg)	
1	145	Critical	mean= 24.13	1	9.1 Critical
8	24.1	Sat.		8	6.11 Sat.
23	24.5	Sat.		23	7.5 Critical
27	24.8	Sat.		27	6.4 Sat.
29	32	Unsat.		29	8 Critical
41	18.73	Sat.		41	5.88 Sat.
42	19	Sat.		42	4.9 Unsat.
45	17.9	Sat.		45	5.56 Sat.
46	14.25	Unsat.		46	2.78 Critical
58	45	Critical		58	16 Critical
64	41	Critical		64	19 Critical
67	49	Critical		67	19 Critical
69	45.1	Critical		69	6.9 Unsat.
72	14.8	Unsat.		72	5 Sat.
89	24.48	Sat.		89	5.88 Sat.
93	35.6	Unsat.		93	9.41 Critical
94	35.2	Unsat.		94	7.6 Critical
104	18.05	Sat.		104	6.3 Sat.
107	22.73	Sat.		107	5.68 Sat.
113	0.4	Critical		113	0.15 Critical
115	19.25	Sat.		115	8.32 Critical
119	29.21	Sat.		119	5.13 Sat.
125	154.7	Critical		125	7.89 Critical
164	35.59	Unsat.		164	4.98 Sat.
170	0.1	Critical		170	101.62 Critical
172	9.5	Critical		172	5.5 Sat.
174	30.66	Sat.		174	0.01 Critical
178	32.4	Unsat.		178	9 Critical

کد آزمایشگاهها	Zn (mg/Kg)		کد آزمایشگاهها	Cu (mg/Kg)		
1	21.4	Critical	mean= 18.62	1	5.9 Sat.	mean= 6.20
8	11.35	Critical		8	5.21 Unsat.	
23	141.5	Critical		23	15.1 Critical	
27	18.9	Sat.		27	10.5 Critical	
29	20	Unsat.		29	1.5 Critical	
41	13.93	Critical		41	6.21 Sat.	
42	19	Sat.		42	7.63 Unsat.	
45	19.7	Sat.		45	5.17 Unsat.	
46	14.38	Critical		46	12.35 Critical	
58	21	Critical		58	8 Critical	
64	35	Critical		64	8 Critical	
67	32	Critical		67	7 Sat.	
69	21.3	Critical		69	5.5 Sat.	
72	8.1	Critical		72	3.5 Critical	
89	11.825	Critical		89	7.13 Unsat.	
93	17.1	Unsat.		93	13 Critical	
94	14.5	Critical		94	6.4 Sat.	
104	15	Critical		104	5 Unsat.	
107	14.77	Critical		107	4.54 Critical	
113	0.3	Critical		113	0.08 Critical	
115	7.32	Critical		115	1.35 Critical	
119	18.25	Sat.		119	2.91 Critical	
125	97.4	Critical		125	6.84 Sat.	
164	17.98	Sat.		164	5.87 Sat.	
170	0.1	Critical		172	2 Critical	
172	10.5	Critical		174	17.02 Critical	
174	19.37	Sat.		178	6.95 Sat.	
178	17.25	Unsat.				

# Plant4

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	N (%)		mean=	5.39	کد آزمایشگاهها	P (%)		mean=	0.45
12	5.69	Sat.			12	0.47	Sat.		
31	3.76	Critical			23	0.458	Sat.		
34	5.01	Unsat.			31	0.41	Sat.		
42	1.65	Critical			34	0.47	Sat.		
45	6.3	Critical			42	0.47	Sat.		
47	2.8	Critical			45	0.043	Critical		
55	3.83	Critical			47	0.705	Critical		
57	5.02	Unsat.			55	0.46	Sat.		
58	5.24	Sat.			57	0.385	Unsat.		
65	6	Critical			58	0.48	Sat.		
66	5.33	Sat.			65	0.15	Critical		
74	5.61	Sat.			66	0.37	Unsat.		
90	5.270832	Sat.			74	0.43	Sat.		
92	5.91	Unsat.			82	0.16	Critical		
101	5.5	Sat.			90	0.504	Unsat.		
109	3.19	Critical			92	0.61	Critical		
115	5.57	Sat.			101	0.57	Critical		
118	3.2	Critical			109	0.53	Critical		
119	5.81	Unsat.			115	0.42	Sat.		
125	5.446	Sat.			118	0.19	Critical		
127	7.13	Critical			119	0.47	Sat.		
130	5.336	Sat.			125	0.316	Critical		
139	5.602	Sat.			127	0.36	Critical		
144	5.34	Sat.			130	0.415	Sat.		
147	3.97	Critical			139	0.438	Sat.		
150	5.16	Sat.			144	0.42	Sat.		
165	3.12	Critical			147	0.472	Sat.		
170	3.9	Critical			150	0.36	Critical		
174	5.25	Sat.			165	0.27	Critical		
178	4.1649	Critical			170	0.2	Critical		
179	3.247	Critical			174	0.43	Sat.		
183	2.13	Critical			178	0.6262	Critical		
192	5.4	Sat.			179	0.757	Critical		
196	4.81	Unsat.			183	0.55	Critical		
					192	0.68	Critical		
					196	0.44	Sat.		

کد آزمایشگاهها	K (%)		mean=	2.94	کد آزمایشگاهها	Na (%)		mean=	3.11
12	3.69	Critical			34	2.58	Sat.		
23	2.4	Critical			42	3.25	Sat.		
31	0.99	Critical			45	2.9	Sat.		
34	2.75	Sat.			47	3	Sat.		
42	3.35	Unsat.			55	3.91	Unsat.		
45	2.33	Critical			57	2.78	Sat.		
47	2.93	Sat.			58	3.1	Sat.		
55	2.93	Sat.			65	2.24	Unsat.		
57	2.77	Sat.			66	3.7	Sat.		
58	2.96	Sat.			74	3.85	Unsat.		
65	2.53	Unsat.			90	3.22	Sat.		
66	2.93	Sat.			92	3.11	Sat.		
74	4.41	Critical			101	2.78	Sat.		
82	2.1	Critical			115	3.31	Sat.		
90	3.591	Critical			118	0.032	Critical		
92	3.38	Unsat.			119	3.44	Sat.		
101	3.6	Critical			125	2.357	Unsat.		
109	5.46	Critical			130	3.452	Sat.		
115	2.86	Sat.			139	3.136	Sat.		
118	2.16	Critical			144	0.69	Critical		
119	2.9	Sat.			147	2.465	Unsat.		
125	2.31	Critical			150	2.85	Sat.		
127	2.23	Critical			165	0.09	Critical		
130	3.114	Sat.			174	0.88	Critical		
139	3.192	Sat.			178	2.739	Sat.		
144	3.22	Sat.			179	3.338	Sat.		
147	2.72	Sat.			183	0.32	Critical		
150	2.87	Sat.			192	3.52	Sat.		
165	4.16	Critical			196	3.55	Sat.		
170	1.8	Critical							
174	2.73	Sat.							
178	3.2147	Sat.							
179	2.913	Sat.							
183	1.54	Critical							
192	2.86	Sat.							
196	3	Sat.							

کد آزمایشگاهها	Ca (%)		mean=	1.38	کد آزمایشگاهها	Mg (%)		mean=	1.14
12	0.72	Unsat.			12	0.69	Unsat.		
34	1.88	Sat.			34	1.46	Sat.		
42	1.68	Sat.			42	1.27	Sat.		
45	1.57	Sat.			45	1.5	Sat.		
47	1.533	Sat.			47	1.27	Sat.		
55	1.96	Sat.			55	1.48	Sat.		
58	1.36	Sat.			58	1.11	Sat.		
65	1.3	Sat.			65	1.03	Sat.		
74	1.45	Sat.			74	1.26	Sat.		
82	1.8	Sat.			82	0.78	Sat.		
90	1.3125	Sat.			90	1.197	Sat.		
92	0.89	Sat.			92	0.93	Sat.		
101	1.56	Sat.			101	0.94	Sat.		
115	2.48	Critical			115	1.05	Sat.		
119	1.77	Sat.			119	0.9	Sat.		
125	1.053	Sat.			125	0.75	Unsat.		
127	1.26	Sat.			127	0.25	Critical		
130	1.391	Sat.			130	0.635	Unsat.		
139	1.06	Sat.			139	1.042	Sat.		
144	1.03	Sat.			144	1.73	Unsat.		
147	1.039	Sat.			147	1.193	Sat.		
150	0.91	Sat.			150	1.05	Sat.		
165	0.21	Critical			165	0.32	Critical		
170	0.603	Unsat.			170	0.535	Unsat.		
174	2.7	Critical			174	1.3	Sat.		
178	1.5408	Sat.			178	1.385	Sat.		
179	1.5075	Sat.			179	1.3937	Sat.		
183	0.88	Sat.			183	2.3	Critical		
196	2.1	Unsat.			196	1.6	Unsat.		

کد آزمایشگاهها	Fe (mg/Kg)		mean=	483.45	کد آزمایشگاهها	Mn (mg/Kg)		mean=	73.11
12	460.7	Sat.			12	51.7	Critical		
23	688.5	Critical			23	77	Sat.		
34	571.97	Unsat.			34	78.41	Sat.		
42	522	Sat.			42	84	Critical		
45	367.4	Unsat.			45	69.25	Sat.		
47	566	Unsat.			47	81.55	Unsat.		
55	440.75	Sat.			55	82.5	Unsat.		
58	501	Sat.			58	72	Sat.		
65	375	Unsat.			65	63.55	Unsat.		
66	465	Sat.			66	69.5	Sat.		
74	516.45	Sat.			74	70.36	Sat.		
82	193	Critical			82	65	Unsat.		
90	511.9	Sat.			90	70.875	Sat.		
92	702.15	Critical			92	84.6	Critical		
101	498	Sat.			101	87.5	Critical		
109	569.9	Unsat.			109	76.3	Sat.		
115	471.5	Sat.			115	77.07	Sat.		
119	443	Sat.			119	68.2	Sat.		
125	245.8	Critical			125	53.16	Critical		
127	603	Unsat.			127	57.06	Critical		
130	331.8	Critical			130	70.8	Sat.		
139	546.061	Sat.			139	79.578	Unsat.		
144	394.1	Unsat.			144	77.8	Sat.		
147	475	Sat.			147	72.07	Sat.		
150	387.5	Unsat.			150	70.67	Sat.		
165	112.5	Critical			165	20.6	Critical		
170	136.6	Critical			170	99.13	Critical		
174	564.31	Sat.			174	92.86	Critical		
178	635.6	Critical			178	83.2	Critical		
179	459.9	Sat.			179	73.1	Sat.		
183	14.292	Critical			183	62.5	Critical		
196	528.4	Sat.			196	77.96	Sat.		



کد آزمایشگاهها	Zn (mg/Kg)		mean=	61.55	کد آزمایشگاهها	Cu (mg/Kg)		mean=	11.94
12	98.55	Critical			12	127.3	Critical		
23	358	Critical			23	22.05	Critical		
34	49.75	Unsat.			34	10.54	Sat.		
42	63.6	Sat.			42	13.6	Sat.		
45	93.9	Critical			45	10.68	Sat.		
47	6185	Critical			47	11.8	Sat.		
55	71	Unsat.			55	11.15	Sat.		
58	76	Critical			58	15	Unsat.		
65	55.4	Sat.			65	10.15	Unsat.		
66	56.5	Sat.			66	9	Unsat.		
74	60.29	Sat.			74	11.51	Sat.		
82	60	Sat.			82	35	Critical		
90	59.85	Sat.			90	11.13	Sat.		
92	64.7	Sat.			92	11.94	Sat.		
101	63.3	Sat.			101	12.8	Sat.		
109	51.6	Unsat.			109	10.7	Sat.		
115	59.61	Sat.			115	6.73	Critical		
119	56.7	Sat.			119	2.8	Critical		
125	54.7	Sat.			125	10.5	Sat.		
127	89.13	Critical			127	0.13	Critical		
130	83.9	Critical			130	13.9	Unsat.		
139	70.635	Unsat.			139	14.144	Unsat.		
144	69.2	Unsat.			144	15.3	Critical		
147	60.17	Sat.			147	12.24	Sat.		
150	46.67	Critical			150	10.3	Sat.		
165	31.2	Critical			165	13	Sat.		
170	45.67	Critical			174	18.31	Critical		
174	70.29	Unsat.			178	12.75	Sat.		
178	62.4	Sat.			179	13.95	Unsat.		
179	63.15	Sat.			183	2.08	Critical		
183	1.197	Critical			196	14.65	Unsat.		
196	57.92	Sat.							

# Plant5

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.

کد آزمایشگاهها	N (%)		mean=	3.69	کد آزمایشگاهها	P (%)		mean=	0.64
1	2.33	Critical			1	0.55	Sat.		
12	3.2	Sat.			12	0.66	Sat.		
41	3.11	Sat.			41	0.56	Sat.		
42	1.42	Critical			42	0.74	Sat.		
67	3.95	Sat.			67	0.58	Sat.		
72	3.73	Sat.			72	1.25	Critical		
77	2.47	Critical			77	0.62	Sat.		
88	3.5	Sat.			80	0.604	Sat.		
89	4.12	Sat.			88	1.81	Critical		
90	3.69	Sat.			89	0.55	Sat.		
92	5.05	Critical			90	0.6976	Sat.		
124	1.46	Critical			92	0.73	Sat.		
127	3.14	Sat.			124	0.66	Sat.		
140	3.9	Sat.			127	0.44	Critical		
141	2.56	Critical			140	1.13	Critical		
144	3.43	Sat.			141	0.39	Critical		
165	1.05	Critical			144	0.6	Sat.		
172	4.4	Unsat.			149	2.13	Critical		
177	1.53	Critical			165	0.1	Critical		
180	4.28	Sat.			172	0.7	Sat.		
192	3.7	Sat.			177	0.7	Sat.		
					180	0.09	Critical		
					192	0.87	Critical		

K			mean=	4.78	Na			mean=	0.60
1	4.12	Sat.			1	0.48	Critical		
12	5.46	Sat.			41	0.58	Sat.		
41	4.95	Sat.			42	0.61	Sat.		
42	5.3	Sat.			67	0.33	Critical		
67	4.72	Sat.			72	0.71	Critical		
72	4.4	Sat.			77	0.57	Sat.		
77	4.85	Sat.			80	0.525	Critical		
80	4.69	Sat.			88	0.6	Sat.		
88	4.35	Sat.			89	0.595	Sat.		
89	5.21	Sat.			90	0.64	Unsat.		
90	5.131	Sat.			92	0.51	Critical		
92	5.19	Sat.			124	198	Critical		
124	4.01	Sat.			140	0.57	Sat.		
127	5.42	Sat.			141	0.43	Critical		
140	4.7	Sat.			144	0.14	Critical		
141	4.02	Sat.			149	0.6	Sat.		
144	5.45	Sat.			165	0.052	Critical		
149	2.8	Critical			172	0.6	Sat.		
165	0.95	Critical			177	0.61	Sat.		
172	5.3	Sat.			192	1.69	Critical		
177	2.48	Critical							
180	3.46	Unsat.							
192	4.67	Sat.							

کد آزمایشگاهها	Ca (%)		mean=	1.03	کد آزمایشگاهها	Mg (%)		mean=	0.40
1	0.75	Sat.			1	0.28	Unsat.		
12	1.01	Sat.			12	0.19	Critical		
41	0.01	Critical			41	0.32	Sat.		
42	1.18	Sat.			42	0.4	Sat.		
67	1.2	Sat.			67	0.43	Sat.		
72	1.42	Unsat.			72	0.51	Unsat.		
77	0.94	Sat.			77	0.88	Critical		
80	1.05	Sat.			80	0.395	Sat.		
88	0.96	Sat.			88	0.13	Critical		
89	0.837	Sat.			89	0.365	Sat.		
90	0.85	Sat.			90	0.51	Unsat.		
92	0.58	Unsat.			92	0.64	Critical		
124	1.11	Sat.			124	0.45	Sat.		
127	1.29	Sat.			127	0.1	Critical		
140	1.05	Sat.			140	0.4	Sat.		
141	0.85	Sat.			141	1	Critical		
144	0.7	Sat.			144	0.59	Critical		
149	0.48	Unsat.			149	0.33	Sat.		
165	0.067	Critical			165	0.028	Critical		
172	1.3	Sat.			172	0.42	Sat.		
177	1.09	Sat.			177	0.37	Sat.		

کد آزمایشگاهها	Fe (mg/Kg)		mean=	98.15	کد آزمایشگاهها	Mn (mg/Kg)		mean=	29.67
1	121	Critical			1	41.8	Critical		
12	94.3	Sat.			12	38.3	Critical		
41	86	Unsat.			41	29.63	Sat.		
42	108	Sat.			42	30	Sat.		
67	140	Critical			67	53	Critical		
72	101	Sat.			72	31	Sat.		
77	136.26	Critical			77	58.24	Critical		
80	105.3	Sat.			80	33.5	Sat.		
88	5.86	Critical			88	0.6	Critical		
89	89.94	Sat.			89	28.01	Sat.		
90	110.85	Unsat.			90	38.70	Critical		
92	147.5	Critical			92	41.03	Critical		
124	78.02	Critical			124	26.37	Sat.		
127	459	Critical			127	23.36	Unsat.		
140	93.63	Sat.			140	64.94	Critical		
141	70	Critical			141	20	Critical		
144	85.3	Unsat.			144	34.7	Unsat.		
149	78.48	Critical			149	27.07	Sat.		
165	18.51	Critical			165	4.3	Critical		
172	104	Sat.			172	35	Unsat.		
177	90.85	Sat.			177	27.75	Sat.		

کد آزمایشگاهها	Zn (mg/Kg)		mean=	45.54	کد آزمایشگاهها	Cu (mg/Kg)		mean=	13.26
1	46.1	Sat.			1	11.5	Sat.		
12	77.88	Critical			12	131.3	Critical		
41	40.9	Sat.			41	11.9	Sat.		
42	60.4	Unsat.			42	16.4	Unsat.		
67	72	Critical			67	17	Critical		
72	52.2	Sat.			72	12.5	Sat.		
77	61.54	Unsat.			77	17.58	Critical		
80	57.6	Unsat.			80	14.25	Sat.		
88	27.2	Critical			88	0.46	Critical		
89	31.47	Unsat.			89	15.01	Sat.		
90	48.29	Sat.			90	16.44	Unsat.		
92	55.74	Unsat.			92	16.45	Unsat.		
124	35.16	Unsat.			124	13.74	Sat.		
127	53.8	Sat.			127	0.17	Critical		
140	45.68	Sat.			140	13.26	Sat.		
141	30	Unsat.			141	10	Critical		
144	44.1	Sat.			144	15.2	Unsat.		
149	26.36	Critical			149	12.55	Sat.		
165	10.55	Critical			165	4	Critical		
172	44	Sat.			172	11.5	Sat.		
177	36.6	Sat.			177	12.5	Sat.		

# Plant6

میانگین گزارش شده، مربوط به داده‌های باقیمانده بعد از حذف داده‌های پرت می‌باشد.



کد آزمایشگاهها	N (%)		mean=	1.76	کد آزمایشگاهها	P (%)		mean=	0.078
3	1.41	Sat.			3	0.086	Sat.		
7	1.39	Sat.			7	0.08	Sat.		
19	1.36	Sat.			19	0.14	Sat.		
27	1.3	Unsat.			27	0.35	Critical		
30	1.19	Unsat.			30	0.06	Sat.		
31	0.51	Critical			31	0.018	Sat.		
42	3.55	Critical			42	0.09	Sat.		
65	3	Critical			65	0.02	Sat.		
77	0.69	Critical			77	0.08	Sat.		
81	1.4	Sat.			81	0.07	Sat.		
86	1.1	Unsat.			86	0.14	Sat.		
93	0.5	Critical			93	0.02	Sat.		
95	1.512	Sat.			95	0.005	Sat.		
107	1.3	Unsat.			107	0.154	Sat.		
108	0.94	Critical			108	0.147	Sat.		
109	0.75	Critical			109	0.14	Sat.		
112	1.1	Unsat.			112	0.074	Sat.		
124	0.416	Critical			124	0.064019	Sat.		
137	1.2	Unsat.			137	0.08	Sat.		
138	1.54	Sat.			138	0.31	Critical		
140	1.81	Sat.			140	0.473	Critical		
176	1.39	Sat.			149	0.02	Sat.		
					176	0.33	Critical		

کد آزمایشگاهها	K (%)		mean=	0.08	کد آزمایشگاهها	Na (%)		mean=	0.026
3	0.07	Sat.			3	0.033	Sat.		
7	0.08	Sat.			7	0.04	Sat.		
19	0.1	Sat.			27	0.0336	Sat.		
27	0.08	Sat.			30	0.23	Critical		
30	0.08	Sat.			42	0.017	Sat.		
31	0.04	Unsat.			65	0.003	Sat.		
42	0.08	Sat.			77	0.01	Sat.		
65	0.06	Sat.			81	0.31	Critical		
77	0.1	Sat.			93	0.12	Critical		
81	0.06	Sat.			95	0.15	Critical		
86	0.09	Sat.			107	0.032	Sat.		
93	0.29	Critical			108	0.027	Sat.		
95	0.25	Critical			112	0.68	Critical		
107	0.068	Sat.			124	4.14	Critical		
108	0.65	Critical			138	0.05	Unsat.		
109	0.11	Unsat.			140	0.076	Critical		
112	0.69	Critical			149	0.01	Sat.		
124	0.074	Sat.							
137	0.39	Critical							
138	0.11	Unsat.							
140	0.052	Sat.							
149	0.05	Sat.							
176	0.08	Sat.							

کد آزمایشگاهها	Ca (%)		mean=	0.03	کد آزمایشگاهها	Mg (%)		mean=	0.014
3	0.002	Sat.			3	0.005	Sat.		
7	0.04	Sat.			7	0.02	Sat.		
19	0.12	Critical			19	0.08	Critical		
27	0.12	Critical			27	0.006	Sat.		
30	0.01	Sat.			30	0.01	Sat.		
42	0.008	Sat.			42	0.015	Sat.		
65	0.04	Sat.			65	0.016	Sat.		
81	0.35	Critical			77	0.008	Sat.		
93	0.05	Sat.			81	0.03	Unsat.		
95	0.38	Critical			93	0.05	Critical		
107	0.018	Sat.			95	0.29	Critical		
108	0.2	Critical			107	0.014	Sat.		
112	1.28	Critical			108	0.11	Critical		
124	0.024	Sat.			124	0.027	Unsat.		
138	0.02	Sat.			138	0.01	Sat.		
140	0.047	Sat.			140	0.024	Sat.		
					149	0.01	Sat.		

کد آزمایشگاهها	Fe (mg/Kg)		mean=	8.13	کد آزمایشگاهها	Mn (mg/Kg)		mean=	6.31
3	9.89	Sat.			3	7.14	Sat.		
7	4.95	Unsat.			7	7.24	Sat.		
19	2.58	Unsat.			19	3.66	Critical		
27	28.4	Critical			27	7	Sat.		
30	25.6	Critical			30	6.34	Sat.		
42	3	Unsat.			42	5.5	Sat.		
65	16.17	Critical			65	6.33	Sat.		
77	26.09	Critical			77	11.96	Critical		
81	276	Critical			81	30	Critical		
93	37.8	Critical			93	7.32	Sat.		
95	5.8	Sat.			95	10	Critical		
107	11.36	Unsat.			107	6.82	Sat.		
108	2336	Critical			108	261	Critical		
109	11	Sat.			109	5.5	Sat.		
112	6.5	Sat.			112	3.7	Critical		
124	5.494505	Sat.			124	4.395604	Unsat.		
137	9.4725	Sat.			137	4.5175	Unsat.		
138	31.81	Critical			138	2.94	Critical		
140	135.71	Critical			140	24.28	Critical		
149	8.74	Sat.			149	5.71	Sat.		

کد آزمایشگاهها	Zn (mg/Kg)		mean=	17.44	کد آزمایشگاهها	Cu (mg/Kg)		mean=	3.701
3	27.25	Critical			3	0	Critical		
7	17.58	Sat.			7	6.59	Critical		
19	16.19	Unsat.			19	2.06	Critical		
27	27.7	Critical			27	11.8	Critical		
30	21	Critical			30	1.75	Critical		
42	20.5	Critical			42	6	Critical		
65	14	Critical			65	4.4	Sat.		
77	18.48	Unsat.			77	4.35	Sat.		
81	8	Critical			81	14	Critical		
93	15.1	Critical			93	2.9	Sat.		
95	13.6	Critical			95	3.6	Sat.		
107	17.05	Sat.			107	2.27	Critical		
108	76	Critical			108	7.48	Critical		
109	17.6	Sat.			109	3.3	Sat.		
112	9.45	Critical			124	7.69	Critical		
124	9.89	Critical			137	5.59	Critical		
137	7.98	Critical			138	3.34	Sat.		
138	34.45	Critical			140	3.21	Sat.		
140	17.74	Sat.			149	4.51	Unsat.		
149	6.54	Critical							

## رتبه بندی آزمایشگاهها در تجزیه نمونه های گیاه

در این قسمت از گزارش، رتبه بندی آزمایشگاه ها بر اساس پارامتر R ارائه شده است. برای محاسبه این پارامتر تعداد کل تجزیه های درخواست شده، تعداد پارامترهای تجزیه شده توسط هر آزمایشگاه، تعداد پارامتر با درجه رضایتبخش (satisfy)، غیر رضایتبخش (unsatisfy) و بحرانی (critical) در نظر گرفته شده است.

رتبه بندی آزمایشگاهها در تجزیه نمونه های گیاه

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
1	147	18	1	1	20	0.75
2	74	17	1	2	20	0.6
3	89	16	3	1	20	0.55
4	106	15	3	1	19	0.5
5	41	16	1	3	20	0.45
6	42	15	4	1	20	0.45
7	119	16	1	3	20	0.45
8	80	14	2	2	18	0.4
9	8	15	2	3	20	0.35
10	7	15	1	4	20	0.3
11	139	14	4	2	20	0.3
12	34	13	5	2	20	0.2
13	57	6	2	0	8	0.2
14	66	11	3	2	16	0.2
15	86	5	1	0	6	0.2
16	90	13	5	2	20	0.2
17	130	14	2	4	20	0.2
18	172	14	2	4	20	0.2
19	69	13	4	3	20	0.15
20	140	14	0	6	20	0.1
21	177	14	0	6	20	0.1
22	101	7	0	3	10	0.05
23	150	13	2	5	20	0.05
24	3	12	2	5	19	0
25	58	13	1	6	20	0
26	94	12	4	4	20	0
27	176	4	0	2	6	0
28	179	13	1	6	20	0
29	192	5	0	3	8	-0.05

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
30	196	11	6	3	20	-0.05
31	44	4	2	2	8	-0.1
32	45	12	2	6	20	-0.1
33	107	12	2	6	20	-0.1
34	149	10	2	5	17	-0.1
35	180	3	1	2	6	-0.1
36	47	5	2	3	10	-0.15
37	174	12	1	7	20	-0.15
38	109	7	3	4	14	-0.2
39	115	12	0	8	20	-0.2
40	144	10	6	4	20	-0.2
41	27	11	2	7	20	-0.25
42	31	2	1	3	7	-0.25
43	65	10	5	5	20	-0.25
44	30	11	1	8	20	-0.3
45	186	4	2	4	10	-0.3
46	67	11	0	9	20	-0.35
47	104	9	4	6	19	-0.35
48	124	10	3	7	20	-0.35
49	1	10	2	8	20	-0.4
50	178	10	2	8	20	-0.4
51	4	9	2	8	19	-0.45
52	72	9	4	7	20	-0.45
53	77	9	2	8	19	-0.45
54	164	8	3	7	18	-0.45
55	12	8	2	8	18	-0.5
56	55	9	3	8	20	-0.5
57	113	9	1	10	20	-0.6
58	142	9	1	10	20	-0.6
59	19	6	4	8	18	-0.7
60	92	7	5	8	20	-0.7
61	23	3	0	9	12	-0.75
62	29	6	7	7	20	-0.75
63	95	8	1	11	20	-0.75
64	118	0	1	7	8	-0.75
65	88	8	0	12	20	-0.8
66	112	5	1	10	16	-0.8
67	137	4	2	9	15	-0.8
68	138	7	3	10	20	-0.8
69	197	7	3	10	20	-0.8

ردیف	کد آزمایشگاهها	Sum sat.	Sum unsat.	sum crit.	sum N	R
70	125	6	5	9	20	-0.85
71	82	4	2	10	16	-0.9
72	64	7	0	13	20	-0.95
73	127	5	2	11	18	-0.95
74	108	6	1	13	20	-1.05
75	93	5	3	12	20	-1.1
76	81	5	2	13	20	-1.15
77	87	4	2	14	20	-1.3
78	46	4	1	15	20	-1.35
79	141	3	2	15	20	-1.45
80	183	3	2	15	20	-1.45
81	170	0	2	14	16	-1.5
82	165	1	0	19	20	-1.85