Math Activity: Chlorine Concentration Data Readings

Instruction: Use the raw data in Table 2 to answer the following questions.

1. How many wells were screened in the 1,500-foot sand?

2. How many of the screened wells exceeded background concentration? *(background concentration is 10 mg/L)* What percent is this?

3. What was the average increase or decrease of chloride concentration in each well that was sampled more than once?

Well number	**increase/ decrease (mg/L)**
EB-413	
EB-510	
EB-657	
EB-658	
EB-726	
EB-771	
EB-917	
EB-927	
EB-938	
EB-939	
WBR-112	
WBR-113	
WBR-132	
WBR-173	

4. What conclusion can you make about the chloride concentration in the 1,500-foot sand? Support your answer with reasoning.

5. Are there any wells that you predict may have exceeded background concentration as of current time that had not reached the background concentration during the data's release? Support your answer with numbers.

Math Activity: Chlorine Concentration Data Readings

ANSWER KEY

Instruction: Use the raw data in Table 2 to answer the following questions.

1. How many wells were screened in the 1,500-foot sand?
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2. How many of the screened wells exceeded background concentration? *(background concentration is 10 mg/L)* What percent is this?
   10 exceeded background concentration; approximately 53%

3. What was the average increase or decrease of chloride concentration in each well that was sampled more than once?

Well number	**increase/ decrease (mg/L)**
EB-413	+ 1.05
EB-510	0
EB-657	+0.1
EB-658	+4.7
EB-726	-0.01
EB-771	+0.89
EB-917	+14.3
EB-927	+0.05
EB-938	+5.9
EB-939	+0.01
WBR-112	-1.12
WBR-113	-6.5
WBR-132	-4.7
WBR-173	+6.2

4. What conclusion can you make about the chloride concentration in the 1,500-foot sand? Support your answer with reasoning.
   Overall the chloride level increased. Well I added all the changes showed an increase of +20.87.

5. Are there any wells that you predict may have exceeded background concentration as of current time that had not reached the background concentration during the data's release? Support your answer with numbers.
   Yes. Well EB-771 is constantly increasing and last recorded at 9.14

Table 2. Selected data, including specific conductance values and chloride concentrations, for wells in East and West Baton Rouge Parishes, Louisiana, 2004-05. —Continued

[NAD 27, North American Datum of 1927; NGVD 29, National Geodetic Vertical Datum of 1929; --, no data]

Well number	Latitude (NAD 27)	Longitude (NAD 27)	Altitude of land surface, in feet above NGVD 29	Well depth, in feet	Depth to top of screen(s), in feet	Depth to bottom of screen(s), in feet	Date sampled	Specific conductance, field, in microsiemens per centimeter at 25° Celsius	Chloride concentration, in milligrams per liter
Wells screened in the "1,200-foot" sand—Continued									
WBR- 148	302702	911851	14	1,304	1,294	1,304	11-19-04	343	2.42
							11-22-05	334	2.47
WBR- 207	302732	911224	26	1,332	1,235	1,330[a]	12-23-04	298	2.77
							7-20-05	300	2.69
							12-20-05	292	2.90
Well screened in the "1,200-foot" and "1,500-foot" sands									
EB-1297	302521	910417	45	1,635	1,405	1,630[a]	9-03-04	327	2.65
							12-17-04	323	2.57
							4-13-05	328	2.52
							11-17-05	311	2.78
Wells screened in the "1,500-foot" sand									
EB- 413	302642	910832	49	1,745	1,511	1,745[a]	9-02-04	355	11.5
							12-17-04	353	12.3
							4-13-05	365	13.6
							11-17-05	347	14.8
EB- 510	302751	910925	57	1,605	1,525	1,605	9-02-04	312	11.2
							4-13-05	316	11.2
EB- 657	302751	910932	59	1,618	1,512	1,618[a]	9-02-04	299	2.89
							4-13-05	290	2.99
EB- 658	302745	910924	59	1,604	1,497	1,604	9-02-04	448	51.1
							4-13-05	470	55.8
EB- 726	302746	910917	55	1,601	1,495	1,601	9-02-04	294	3.50
							4-13-05	296	3.49
EB- 771	302646	910838	48	1,739	1,641	1,739[a]	9-02-04	338	6.46
							12-17-04	333	7.07
							4-13-05	344	8.06
							11-17-05	328	9.14
EB- 773	303132	911032	57	1,395	1,298	1,395[a]	9-03-04	276	3.09
EB- 917	302614	910830	47	1,736	1,731	1,736	12-15-04	455	50.5
							12-05-05	496	64.8
EB- 918	302547	910744	40	1,834	1,829	1,834	12-16-04	3,020	915
							12-06-05	3,340	1,010

Table 2. Selected data, including specific conductance values and chloride concentrations, for wells in East and West Baton Rouge Parishes, Louisiana, 2004-05.—Continued

[NAD 27, North American Datum of 1927; NGVD 29, National Geodetic Vertical Datum of 1929; --, no data]

Well number	Latitude (NAD 27)	Longitude (NAD 27)	Altitude of land surface, in feet above NGVD 29	Well depth, in feet	Depth to top of screen(s), in feet	Depth to bottom of screen(s), in feet	Date sampled	Specific conductance, field, in microsiemens per centimeter at 25° Celsius	Chloride concentration, in milligrams per liter
Wells screened in the "1,500-foot" sand—Continued									
EB-927	302717	910839	47	1,511	1,431	1,511	9-02-04	315	2.70
							12-17-04	311	2.70
							4-13-05	317	2.69
							11-17-05	300	2.84
EB-938	302749	910928	56	1,599	1,512	1,599	9-02-04	394	14.6
							12-17-04	396	17.5
							4-13-05	407	18.6
							11-17-05	433	32.4
EB-939	302750	910920	54	1,592	1,497	1,592	9-02-04	289	3.52
							4-13-05	292	3.53
EB-961	302717	910514	50	1,541	1,441	1,541	9-02-04	279	3.96
EB-977	303335	911222	71	1,340	1,250	1,340	9-30-04	252	3.58
EB-984	303326	911148	72	1,320	1,232	1,320[a]	9-30-04	249	3.15
WBR-112	302550	911241	25	2,205	2,105	2,205	10-28-04	680	88.3
							1-14-05	685	90.4
							4-15-05	670	86.6
							7-12-05	660	80.7
							10-12-05	634	81.8
							12-19-05	640	82.7
WBR-113	302547	911232	28	2,242	2,148	2,242[a]	10-28-04	1,260	247
							4-15-05	1,280	257
							7-12-05	1,230	235
							10-12-05	--	220
							12-19-05	1,170	221
WBR-132	302505	911320	20	2,082	2,012	2,082	12-02-04	467	43.6
							7-11-05	436	37.0
							12-20-05	414	34.2
WBR-173	302456	911302	25	2,194	2,124	2,194	12-02-04	461	38.1
							7-11-05	480	48.3
							12-20-05	478	50.5
Well screened in the "1,500-foot" and "1,700-foot" sands									
EB-1295C	302405	910219	40	1,840	1,655	1,837[a]	9-03-04	532	44.3
							4-13-05	552	50.3