



Halo Pilot Challenge Results Compilation

March 24th, 2003

Overview

This document contains the official SME grades for the Halo challenge. Vulcan appreciates the many hours of effort the SMEs have dedicated to this effort and we hope that the teams will also derive much benefit from the detailed inline comments the graders provided in the hard copies that were mailed out to the teams on Friday.

Here are a few notes:

- The answer grading was far more uniform for the multiple-choice section than the subsequent DA and FF sections. Having had an opportunity to discuss this with our SME, this is not an unusual occurrence. AP provides considerable amount of training to its graders specifically for this reason. Part of Vulcan's lessons learned will be to involve all the SMEs in dry run activity as early as possible.
- The justification scores were even more variable. Despite this variability, all graders were in agreement that all teams require considerable progress to attain what would be considered adequate answer explanations. Most of the justification-oriented complaints revolved around the verbose and repetitive nature of the explanations and their lack of "logical" structure (i.e. readability). Cycorp was the most egregious offender with some explanations running in excess of 16 pages! In some cases comments reflected that the complexity of the justifications may not be appropriate for high school students.
- Graders could point out a number of systemic gaps in coverage. The Ontoprise Q/A system appeared to lack understanding of net ionic equations. They also appear to not be able to present the correct form for the species. SRI appears to have issues with buffer solutions and Lewis acids and bases. Cycorp also had issues with net ionic equations as well as solubility rules and the electrolytic nature of species when answering questions about balanced chemical equations.
- All programs had issues with rounding and presenting numeric results.
- All programs handled qualitative questions using quantitative methods, i.e. general issues were address through specific examples.

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Multiple Choice Section (1-50)																		
Q	Cycorp						Ontoprise						SRI					
	SME1		SME2		SME3		SME1		SME2		SME3		SME1		SME2		SME3	
	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J
1							1	0	1	0	1	0	1	.5	1	1	1	0
2	1	0	1	0	1	1	1	0	1		1		1	.5	1	1	1	1
3	0	0	0	0	0	0	1	0	1	0	1		1	1	1	0	1	1
4	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	1	1	1
5																		
6							0	.5	0	0	0	0	1	0	1	1	1	1
7	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
8	1	0	1	0	1	1	1	1	1	0	1	1	1	.5	1	0	1	0
9	1	0	1	0	1	1	0		0		0		1	1	1	1	1	1
10	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1
11							.5	1	0	0	0	1	1	1	1	1	1	1
12	1	0	1	0	1	1	1	.5	1	0	1	1	1	1	1	1	1	1
13	1	0	1	0	1	1	0	0	0	0	0	0	1	.5	1	1	1	1
14	1	0	1	0	1	1							1	0	1	1	1	1
15													1	1	1	1	1	1
16													1	.5	1	1	1	1
17													0	0	0	0	0	1
18	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	0	1	0	1	0	1	0	1		1	0	1	1	1	1
20	1	.5	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	.5	1	0	1	1	1	.5	1	0	1	0						
22	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	1	1	1
23	1	0	1	1	1	1	0	0	0	0	0		1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
28	1	0	1	0	1	0	1	.5	1	1	1	1	1	0	1	0	1	0
29	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0
30	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
31							0	0	0	0	0	0						
32							1	1	1	1	1	1	0	.5	0	0	0	0
33							0	0	0	0	0	0	1	1	1	1	1	1
34	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0
35													1	0	1	0	1	1
36	0	0	0	0	0	0	1	0	1	0	1	0						
37							1	0	1	0	1	0	0	0	0	0	0	0
38							1	1	1	0	1	1	1	1	1	1	1	1
39	0	0	0	0	0	0	1	0	1	0	1		1	.5	1	1	1	0
40													0	0	0	0	0	0
41													0	0	0	0	0	0

42	1	0	1	0	1	0	1	.5	1	0	1	0						
43	1	0	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1
44	0	0	0	0	0	0	1	1	1	1	1	1						
45	1	0	1	0	1	1	1	1	1	1	1	1	1	.5	1	0	1	0
46	1	.5	1	1	1	1	1	.5	1	0	1	1	1	.5	1	0	1	0
47																		
48							1	.5	1	0	1	1						
49							1	.5	1	0	1	1						
50	1	.5	1	0	1	1	1	1	1	1	1	1						
T	26	10	26	9	26	21	34.5	21.5	34	13	34	22	35	23.5	35	26	35	27
%	52	20	52	18	52	42	69	43	68	26	68	44	70	47	70	52	70	54

11b	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
11c	1	1	0	0	1	1	1	1	1	0	1	0						
11d	0	0	0	0	1	1												
12a	1	.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12b							.5	0	1	0	0	0	.5	0	0	0	0	0
12c	0	0	0	0			1	1	1	1	1	1						
12d							1	0	1	0	1	0						
13a	1	.5	1	0	1	0	1	0	1	0	1	1	0	0	0	0	0	0
13b							1	0	1	0	1	1						
13c							1	0	1	0	1	1						
13d							1	0	1	0	1	1						
14a							1	.5	1	0	1	1	1	0	1	0	1	1
14b	1	1	0	1	0	1	1	0	1	0	1	1	1	.5	1	0	1	1
14c	1	0	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1
14d							1	0	1	0	1	1	0	1	0	0	0	0
15a	.5	.5	1	0	0	0	.5	0	0	0	0	1	.5	.5				
15b							0	0	0	0	0	0						
15c																		
16a	1	0	1	0	1	1	0	0	0	0	0	0						
16b	1	0	1	0	1	1	0	0	0	0	0	0						
17a							1	.5	1	1	1	1						
17b													1	1	1	0	1	1
17c							1	1	1	0	1	1	.5	.5	1	0	0	0
17d							1	0	1	0	1	1	0	0	0	0	0	0
18a			1	0									1	0	1	0	1	0
18b	1	.5	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1
19a							0	0	0	0	0	0	1	1	1	1	1	1
19b							0	.5	0	0	0	0	.5	.5	0	0	0	0
20	1	.5	0	0	0	0	1	.5	1	0	1	0	1	.5	0	0	0	0
21a	0	0	0	0	0	0												
21b							1	1	0	1	0	1	1	1	0	1	1	1
22	.5	0	1	0	0	0	0	0	0	0	0	0	.5	0	0	0	0	1
23a	1	1	1	1	1	1	0	0	0	0	0	0						
23b																		
24a							1	.5	1	1	1	1	1	0	1	0	1	0
24b	1	1	1	0	1	1	0	0	0	0	0	0						
24c	1	.5	1	0	1	1	1	.5	1	0	1	1						
24d	1	0	0	0	1	0	1	.5	0	0	1	1						
24e							1	.5	1	0	1	1						
25	0	0	0	0	1	1	.5	0	0	0	0	0	.5	0	1	0	0	0
T	40.5	25	33	15	37	40	37.5	25.5	32	18	31	31	37	24.5	33	26	30	31
%	50	30.7	40.7	18.5	45.7	49.4	46.3	31.5	39.5	22.2	38.3	38.3	45.7	30.2	40.7	32.1	37	38.3

Free Form Section (1-25)																		
Q	Cycorp						Ontoprise						SRI					
	SME1		SME2		SME3		SME1		SME2		SME3		SME1		SME2		SME3	
	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J
1							0		1		0							
2													1		0	0		
3	0	0	0	0	1	1							.5	.5	1	0		
4a	0	0	0	0	0	0												
4b	0	0	0	0	0	1												
4c	0	0	0	0	0	1												
5																		
6	0	0	0	0	0	0							.5	1	0	0		
7																		
8																		
9													1	1	1	1		
9a													0	0	0	0		
9b																		
9c													0	0	0	0		
10																		
11	1	0	1	0	1	0	1	0	1	0	1	1	0	0	0	0	0	1
12													1	1	0	0	0	0
13	1	0	1	0	0	0							.5	.5	1	0		1
14							0	0	0	0	0	0	0	0	0	0	1	0
14b							0	0	0	0	0	0						
15a	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0
15b							1	0	1	0	1	0	1	0	1	0	1	0
15c							1	0	1	0	1	0	0	0	0	0	0	0
15d							1	0	1	0	1	0	1	0	1	0	1	0
15e	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	1
16	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	1	1
17a	1	0	1	0	1	0							1	1	1	1	1	1
17b	0	0	0	0	0	0							1	.5	1	1	1	1
17c	1	0	1	0	1	0							1	1	1	1	1	1
17d	1	0	0	0	1	0							0	0	0	1	1	0
18																		
19															1	0	1	1
20							1	0	1	0	1	1	1	.5	1	0	1	1
21	.5	0	0	0	1	1							1	1	0	1	0	1
22																		
23							0	0	0	0	0	0	0	0	0	0	0	0
24													0	0	0	0	0	0
25													1	0	1	0	1	0
T	5.5	0	4	0	7	5	8	0	8	0	7	2	14.5	9	13	6	12	10
%	14.5	0	10.5	0	18.4	13.2	21.1	0	21.1	0	18.4	5.3	38.2	23.7	34.2	15.8	31.6	26.3

Totals																				
Q	Cycorp						Ontoprise						SRI							
	SME1		SME2		SME3		SME1		SME2		SME3		SME1		SME2		SME3			
	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J	A	J
MC	26	10	26	9	26	21	34.5	21.5	34	13	34	22	35	23.5	35	26	35	27		
DA	40.5	25	33	15	37	40	37.5	25.5	32	18	31	31	37	24.5	33	26	30	31		
FF	5.5	0	4	0	7	5	8	0	8	0	7	2	14.5	9	13	6	12	10		
T	72	35	63	24	70	66	80	47	74	31	72	55	86.5	53	81	62	77	68		
%	42.6	20.7	37.3	14.2	41.1	39.1	47.3	27.8	43.8	18.3	42.6	32.5	51.2	31.4	47.9	36.7	45.6	40.2		

