
































ID		Task	Task Name	Duration	Start	Finish	Predecessors	Mon Nov 7	Tue Nov 8
1			Preparation of solutions	first day	Tue 11/8/11	Wed 11/9/11			
2			pH adjustment Hz	0.06 days	Tue 11/8/11	Tue 11/8/11			
3			Calibrate pH meter and adjust Hz pH	30 mins	Tue 11/8/11	Tue 11/8/11			
4			Sterilize flasks for culture	1 hr	Tue 11/8/11	Tue 11/8/11	3		
5			Prepare 1 M magnesium Sulfate	0.08 days?	Tue 11/8/11	Tue 11/8/11	3		
6			Add water to Prep Tank	1 hr?	Tue 11/8/11	Tue 11/8/11			
7			Add magnesium sulfate to water and mix	1 hr?	Tue 11/8/11	Tue 11/8/11	6		
8			Prepare Trace Metals Stock solution	0.08 days?	Tue 11/8/11	Tue 11/8/11	7		
9			Add water to Prep Tank	1 hr?	Tue 11/8/11	Tue 11/8/11			
10			Add trace metals to water and mix	1 hr?	Tue 11/8/11	Tue 11/8/11	9		
11			Prepare the Antifoam Solution	0.08 days?	Tue 11/8/11	Tue 11/8/11	8		
12			Add water to Prep Tank	1 hr?	Tue 11/8/11	Tue 11/8/11			
13			Add antifoam to water and mix	1 hr?	Tue 11/8/11	Tue 11/8/11	12		
14			Start Seed growth	1 eday	Wed 11/9/11	Thu 11/10/11	1		
15			Start culture flasks	1 hr	Wed 11/9/11	Wed 11/9/11			



















Project: Fermentation schedule Date: Thu 11/10/11	Task		External Milestone		Manual Summary Rollup	
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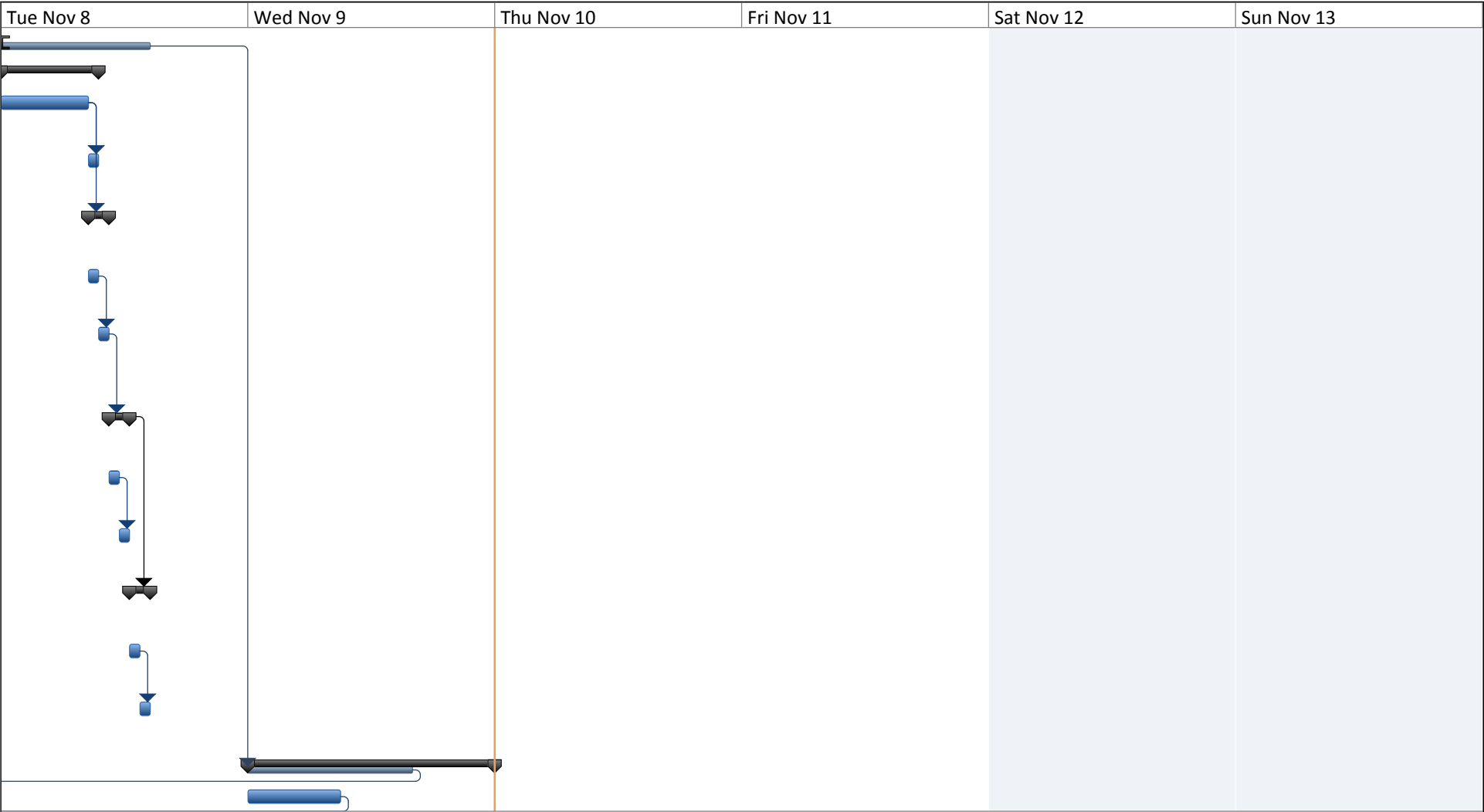
ID		Task	Task Name	Duration	Start	Finish	Predecessors	Mon Nov 7	Tue Nov 8
16			ph adjustment Hz in primary propagator (Propagator 2)	5.5 hrs	Wed 11/9/11	Wed 11/9/11	15		
17			Dispense trace metals and magnesium sulfate into smaller tanks	1.5 hrs	Wed 11/9/11	Wed 11/9/11	16		
18			Start primary propagator (Propagator 2) and prepare secondary propagator (Propagator 3)	1 eday	Thu 11/10/11	Fri 11/11/11	14		
19			Inoculate primary propagator	4 hrs	Thu 11/10/11	Thu 11/10/11			
20			ph adjustment Hz in secondary propagator (Propagator 3)	5.5 hrs	Thu 11/10/11	Thu 11/10/11	19		
21			Start secondary propagator (Propagator 3) and start pretreatment	1 eday	Fri 11/11/11	Sat 11/12/11	18		
22			Inoculate secondary propagator	4 hrs	Fri 11/11/11	Fri 11/11/11			
23			start pretreatment	8 hrs	Fri 11/11/11	Fri 11/11/11	22		
24			Fermentation	5 edays	Sat 11/12/11	Thu 11/17/11	21		
25			Start fermentation	1.54 days	Sat 11/12/11	Sun 11/13/11			
26			Start liquefaction	12 hrs	Sat 11/12/11	Sat 11/12/11			
27			Fill fermentor	1.04 days	Sat 11/12/11	Sun 11/13/11	26		

Project: Fermentation schedule
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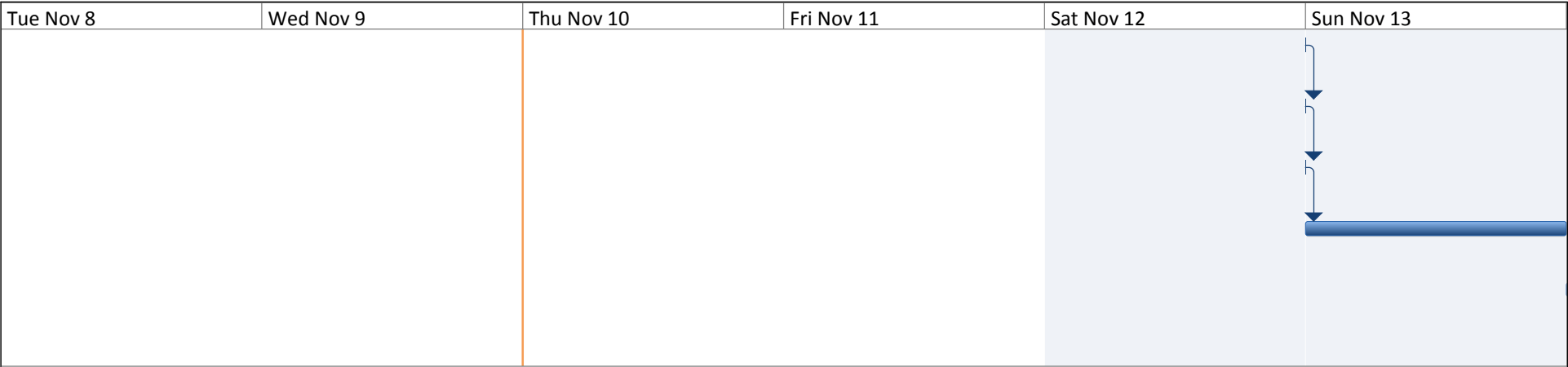
ID		Task	Task Name	Duration	Start	Finish	Predecessors	Mon Nov 7	Tue Nov 8
28			fill pH adjustment tank'	1 hr	Sat 11/12/11	Sat 11/12/11			
29			start fill fermentor	2.5 hrs	Sat 11/12/11	Sat 11/12/11	28		
30			inoculate fermentation	2 hrs	Sat 11/12/11	Sun 11/13/11	29		
31			finish filling fermentor	19.5 hrs	Sun 11/13/11	Sun 11/13/11	30		
32			Continue fermentation	3 days?	Sun 11/13/11	Wed 11/16/11	25		
33			Clean up	1 day	Thu 11/17/11	Fri 11/18/11	24		

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Project: Fermentation schedule
Date: Thu 11/10/11

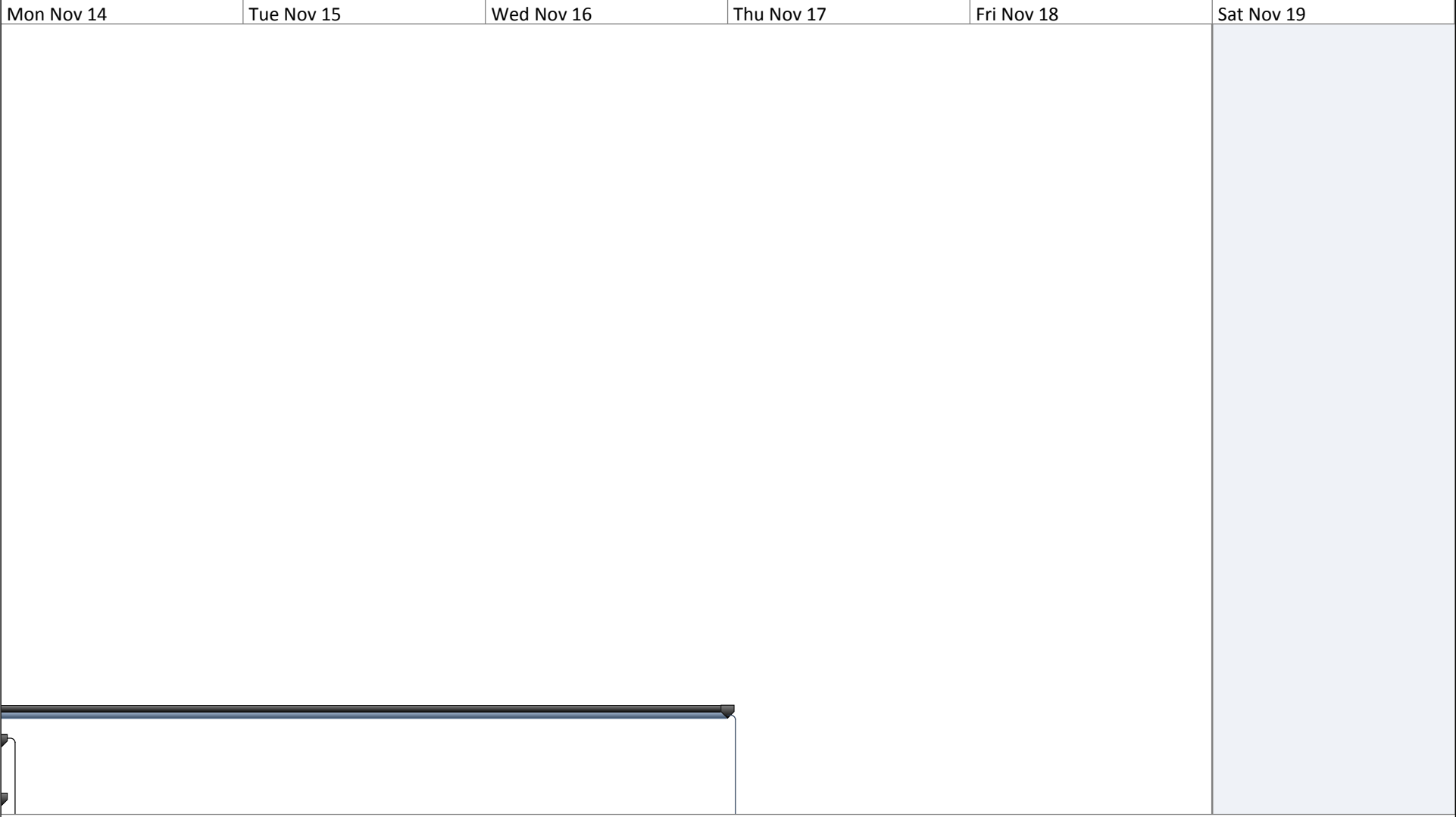
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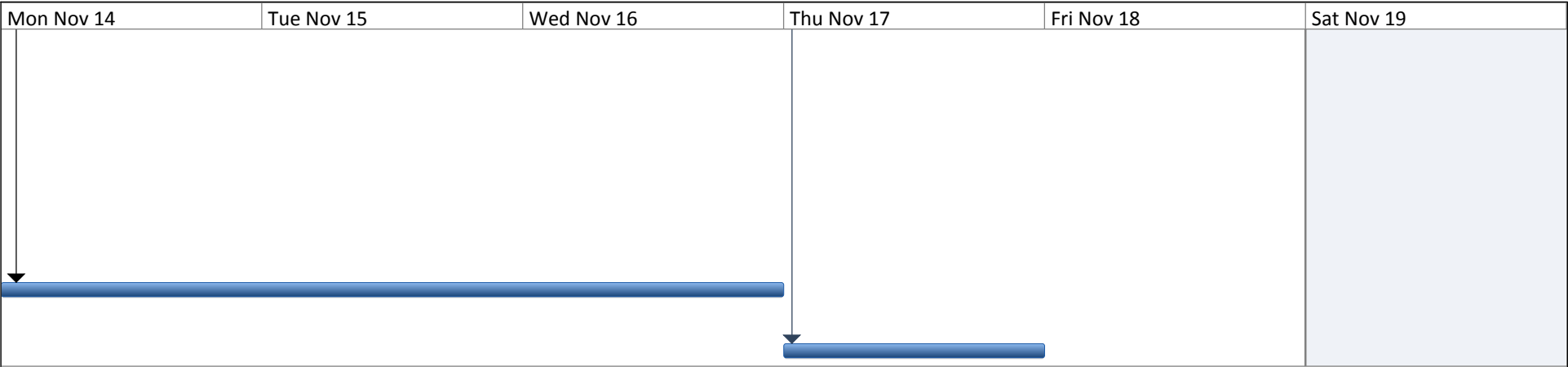
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Mon Nov 14	Tue Nov 15	Wed Nov 16	Thu Nov 17	Fri Nov 18	Sat Nov 19

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