Milestone Review Flysheet

PDR, CDR, FRR

Institution Name	The Phelps School

Milestone	PDR

Rocket Properties	
Diameter	4 in
Length	107.625
Gross Liftoff Weight	191.1 ounces
Launch lug/button size	standard
Motor Retention	Not required for PDR

Motor Properties	
Manufacturer	Aerotech
Designation	K550W
Peak, Average Thrust	655.3 N, 396.8 N
Mass (before,after burn)	1487.4 g, 889.1 g
Total Impulse	1539.1 N

Stability Analysis	
CP, CG Location (from nose)	79.77 in, 70.14 in
Stability Margin	2.41
Thrust-to-Weight Ratio	7.45
Rail size, Length	10 ft.

Ascent Analysis	
Max Velocity	817.44 ft/sec
Max Acceleration	482.89 ft/sec^2
Peak Altitude	6520.54 ft
Rail Exit Velocity	87.99 ft/sec

Recovery System Properties	
Drogue Parachute	
Size	24 inch diam, 6.3 ft^2
Configuration	
Altitude at Deployment	apogee
Velocity at Deployment	18.42 ft/sec

Recovery System Properties	
Main Parachute	
Size	57 ft^2
Configuration	
Altitude at Deployment	600 ft
Velocity at Deployment	34.48 ft/sec
Velocity upon Landing	15 ft/sec

Recovery System Properties				
Electronics/Ejection				
Altimeter(s) Make, Model	Perfectflite MiniAlt WD+ (2 computers)			
Redundancy Plan (altimeters, switches, batteries, etc.)	2 complete flight computers, 1 GPS, 2 UV sensors, 1 datalogger			
Pad Stay Time (launch configuration)	undetermined			
Rocket Locator (Make, Model)	Big Red Bee			
Frequencies of Transmitting Electronics	Not required for PDR			
Black Powder Mass	Main	undetermined	Drogue	undetermined

Payload/Science	
Succinct Overview of Payload/Science Experiment	2 UV sensors connected to a datalogger. Measures
Identify Major Components	Dataharvest UV sensor #3277, Datalogger #4001
Mass of Payload/Science	approx. 3 lbs

Test Plan Schedule/Status	
Ejection Test(s)	Jan-10
Subscale Launches	Jan-10
Full-Scale Launches	Mar-10