

# Milestone Review Flysheet

CDR

<b>Institution Name</b>										Northwest Indian College					<b>Milestone</b>		CDR		
<b>Vehicle Properties</b>										<b>Motor Properties</b>									
Diameter (in)					4					Motor Manufacturer					CTI				
Length (in)					112.625					Motor Designation					L640				
Gross Liftoff Weight (lb)					23.9					Max/Average Thrust (N/lb)					1590/630.4				
Launch Lug/button Size					0.5					Total Impulse (N-sec/lb-sec)					2772.2				
Motor Retention					Aero Pack Tail Cone/Retention					Mass pre/post Burn (lb)					4.95/2.85				
<b>Stability Analysis</b>										<b>Ascent Analysis</b>									
Center of Pressure (in from nose)					76.29					Rail Exit Velocity (ft/s)					55.12				
Center of Gravity (in from nose)					63.42 w/motor					Max Velocity (ft/s)					558				
Static Stability Margin					1.91					Max Mach Number					0.50				
Thrust-to-Weight Ratio					13:1					Max Acceleration (ft/s^2)					367.51				
Rail Size (in) / Length (in)					1 in/72 in					Peak Altitude (ft)					5,566/5,280				
<b>Recovery System Properties</b>										<b>Recovery System Properties</b>									
<b>Drogue Parachute</b>										<b>Main Parachute</b>									
Manufacturer/Model					Sky Angle Cert3					Manufacturer/Model					Sky Angle Classic 52				
Size					24"					Size					89 sq ft				
Altitude at Deployment (ft)					5,280					Altitude at Deployment (ft)					700				
Velocity at Deployment (ft/s)					0.03					Velocity at Deployment (ft/s)					78.82				
Terminal Velocity (ft/s)					78.82					Landing Velocity (ft/s)					17.39				
Recovery Harness Material					Tubular Nylon					Recovery Harness Material					Tubular Nylon				
Harness Size/Thickness (in)					9/16"					Harness Size/Thickness (in)					9/16"				
Recovery Harness Length (ft)					20					Recovery Harness Length (ft)					30				
Harness/Airframe Interfaces					3/8' closed steel eyebolt					Harness/Airframe Interfaces					3/8" closed steel eyebolt				
Kinetic Energy During Descent (ft-lb)	Section 1		Section 2		Section 3		Section 4			Kinetic Energy Upon Landing (ft-lb)	Section 1		Section 2		Section 3		Section 4		
	621		218		1290						30		11		63				
<b>Recovery System Properties</b>										<b>Recovery System Properties</b>									
<b>Electronics/Ejection</b>										<b>Electronics/Ejection</b>									
Altimeter(s) Make/Model					PerfectFlite MAWD					Rocket Locators (Make, Model)					Garmin Astro 200, DC 20				
Redundancy Plan					2nd PefectFlite MAWD					Transmitting Frequencies					151.82, 151.88, 151.94, 154.57, 154.60 MHZ for GPS				
										Black Powder Mass					2.36 upped to 3				

					Drogue Parachute (gram)			
Pad Stay Time (Launch Configuration)	2 hours				Black Powder Mass	3.15 upped to 4		
					Main Parachute (gram)			

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### Payload/Science

Succinct Overview of Payload/Science Experiment	SMD atmospheric measuring and photography							
	Power Management system							
Identify Major Components	Nose cone, main parachute bay, ebay, drogue parachute bay, science/power management bay, fin can, propulsion system, recovery system							
Mass of Payload/Science	6.4 pounds							

### Test Plan Schedule/Status

Ejection Charge Test(s)	Tested for subscale - complete							
	Scheduled for competition rocket -							
Sub-scale Test Flights	Complete 11/12/11							
Full-scale Test Flights	Scheduled: 1/28, 1/29, 2/18/12, 3/12/12, 4/9/12							

### Additional Comments

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