

WELL SITE THIEF HATCH METHANE DETECTORS

G-055-110-C
- AMENDMENT REQUEST



PARTICIPANTS

- VAREBERG ENGINEERING / BLUE ROCK SOLUTIONS
- CONTINENTAL RESOURCES
- NORTH DAKOTA STATE UNIVERSITY
- SIGNUM



PROJECT BACKGROUND

- Fugitive Emissions (Methane Leaks) on Well Production Sites
- Monitoring for Leaks
 - Federal Regulation 40 CFR Part 60, Subpart 0000a, - Standard for Performance of Crude Oil and Natural Gas
 - Currently allows for
 - Manual handheld methane detectors
 - FLIR cameras



FOCUS PRODUCT

- Concentrate on Largest Contributor of Fugitive Emissions
 - Storage Tank Thief Hatches
 - Open Hatches
 - Unlatched Hatches
 - Faulty Seals / Pressure Valves
 - Thief Hatches Contribute to Approximately 80% of all Leaks

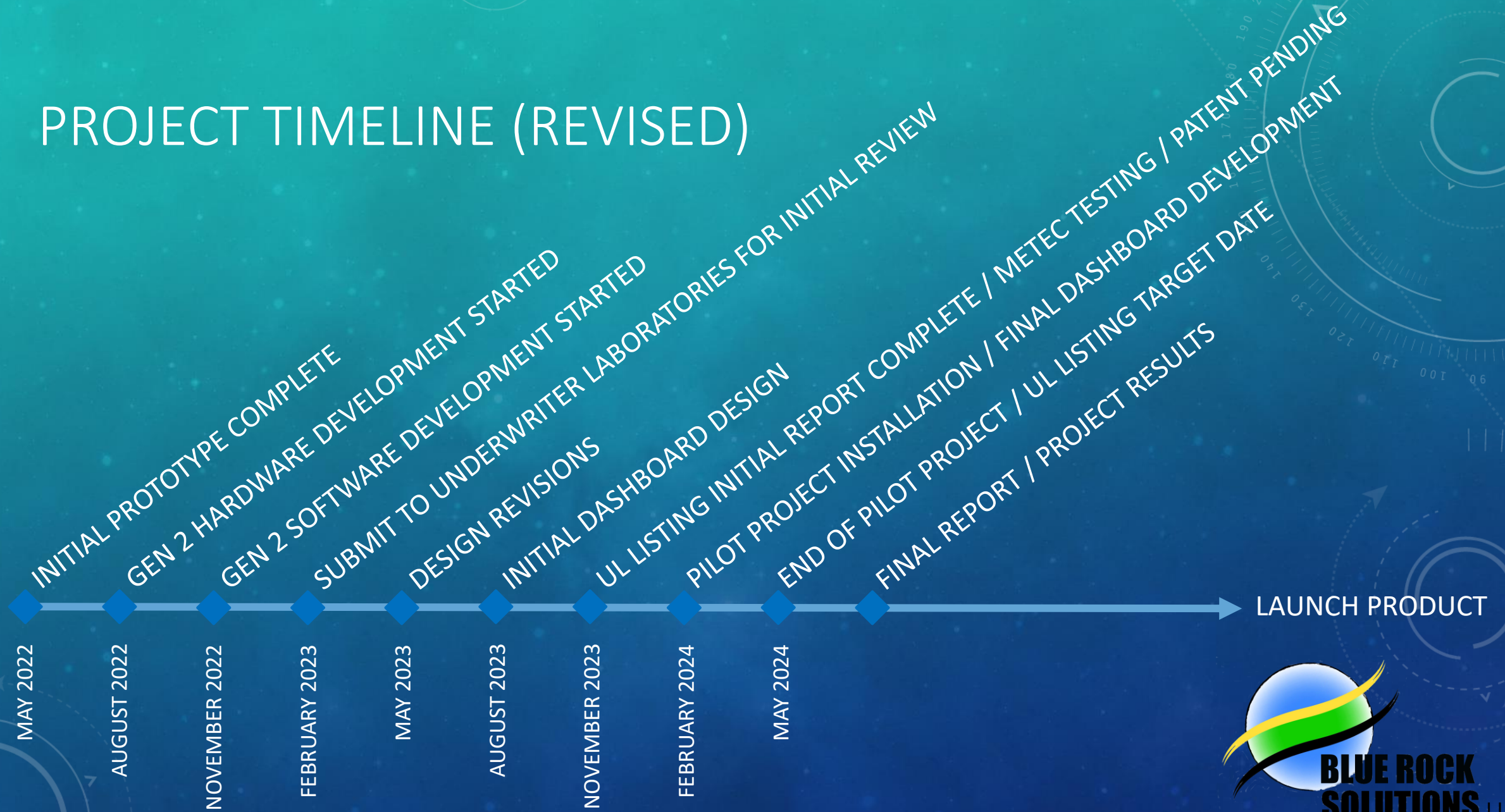


TECHNICAL DETAILS

- Utilize Current Technology
- Communication Protocol – Cellular / IoT / HART
- Wireless, Battery Operated
- Overall Housing / Packaging – Attached Directly to Thief Hatch Cover



PROJECT TIMELINE (REVISED)



OVERALL BUDGET

• Engineering / Fabrication / Software Development	\$335,400 + \$88,000
• Pilot Project / Travel	\$69,600
• Web Portal (Dashboard)	\$0 + \$155,000
• METEC Testing	\$0 + \$51,000
• Reporting / Documentation	\$27,000
• UL Listing / Legal	\$150,000
Total Cost	\$582,000 + \$294,000 = \$876,000
Grant Request	\$266,000 + \$170,000 = \$436,000

THANK YOU!

