NDSF Operator’s Report
NDSF Vehicle Operations Summary
Sentry Operations Summary

- 142 operating days in 2021
- Cruises Completed
  - Fornari - EPR
  - Young - GoM
  - Michel - Sea of Cortez
  - Resing - SEPR
- 41 dives
- Total survey time: **574 hrs**
- Total Distance: **1,364 km**
- Vessels: R/V Roger Revelle/R/V Thompson

2021 Fornari cruise - March 2021

Sensors installed for Michel cruise - Guaymas Basin
Sentry Operation Highlights

- **9 Dives** on EPR extending high resolution survey.

- Survey and vent hunting at **southern EPR**

- Integration of developmental sensors for Michel cruise

- Integration of new Edgetech 2205 Sidescan Sonar (used on two cruises now)

- New survey methods for plume hunting

- Real time data feed from vehicle sensors to shore

*Image from integrated Fornari Camera at EPR*

*Survey patterns from Anna Michel cruise*
JASON Operations Summary

- Four cruises completed in 2021
- Fornari/Arellano/Mullineaux
  - Revelle EPR-950 Hydrothermal/Larnae-Biofilms/Functional diversity
  - 19 dives, 312+ hrs in water; Max depth 2570m
- **Young et al. (2021) not reviewed**
  - Thompson, Single body, 24 hour ops
  - 15 dives, 120 hrs in water; Max depth 3303 m
- **Kelley et al. (2021) – OOI, PNW Coast**
  - Thompson, Single body, 24 hour ops, 2 legs
  - 44 dives, 252 hrs in water; Max depth 2904 m
- **Michel et al. (2021)**
  - Revelle, Single body, 24 hour ops
  - 13 dives, 168 hrs in water; Max depth 1855 m
• Telemetry replacement complete and fully successful
• Propulsion upgrade proceeding
  • Motor design complete, controller design proceeding
• Hydraulic control upgrade complete
  • New board eliminates pc 104 stack
• PHINs IMU integration underway
  • enables closed loop off bottom
• Sulis 4 k camera interface improved
• Sentry Kongsberg EM 2040 tested successfully on Jason
• Sea-log being used extensively, mostly positive feedback
  • Recognize concerns and developing transition from VV to Sealog pcar 2020
• New North Quissett Storage Facility
Alvin 2022 Team Update

New Alvin Team members 2021
• Randy Holt – Expedition Leader
• John Dymek – Mechanical Engineer
• Kaityln Beadshear – Electrical Technician
• Nick Ellis – Mechanical Engineer

Personnel Promotions
• Nick Osadcia – Engineer II
• Rose Wall – Engineer II
• Danik Forsman – Training Coordinator
• Rick Sanger – Pilot (August 2022)

Pilot Qualifications
• Rick Sanger – September 2022
• Nick Osadcia – End of 2022
Alvin 2022 Team Update

Personnel Recruiting

• Alvin Certification Coordinator
  - completing offer to final candidate
  - new ACC joins as soon as possible

• Ops Electrical Engineer – 2 positions
  - completing offer to 1st candidate
  - continuing selection of 2nd candidate

• Ops Mechanical Engineer - 2 positions
  - completing initial interviews

New Ops team members aboard for Sea Trials