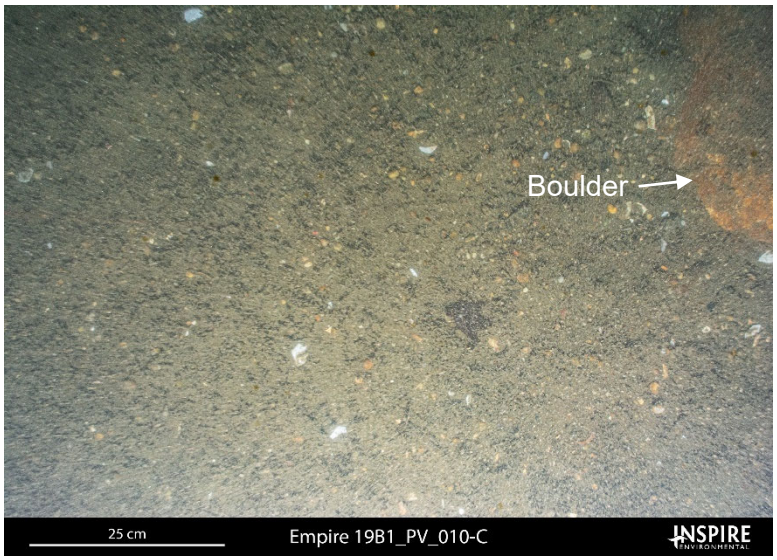
(A)



(B)

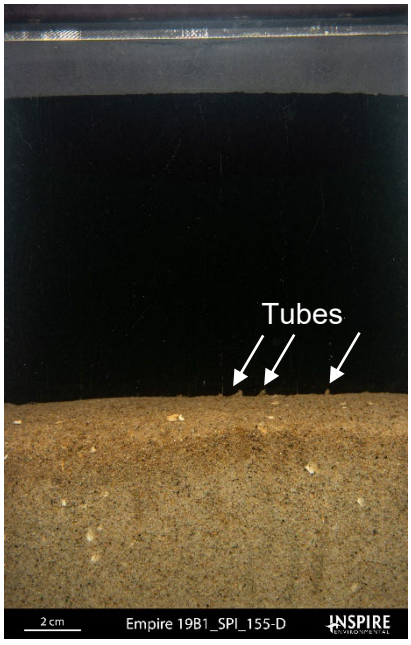


Figure 3-23. Representative SPI and PV images where the CMECS Biotic Group, Small Tube-Building Fauna, was observed at (A) Station 010 composed of fine sand over silt-clay with a boulder present; and (B) Station 155 composed of fine sand with small-tubes present at the sediment–water interface

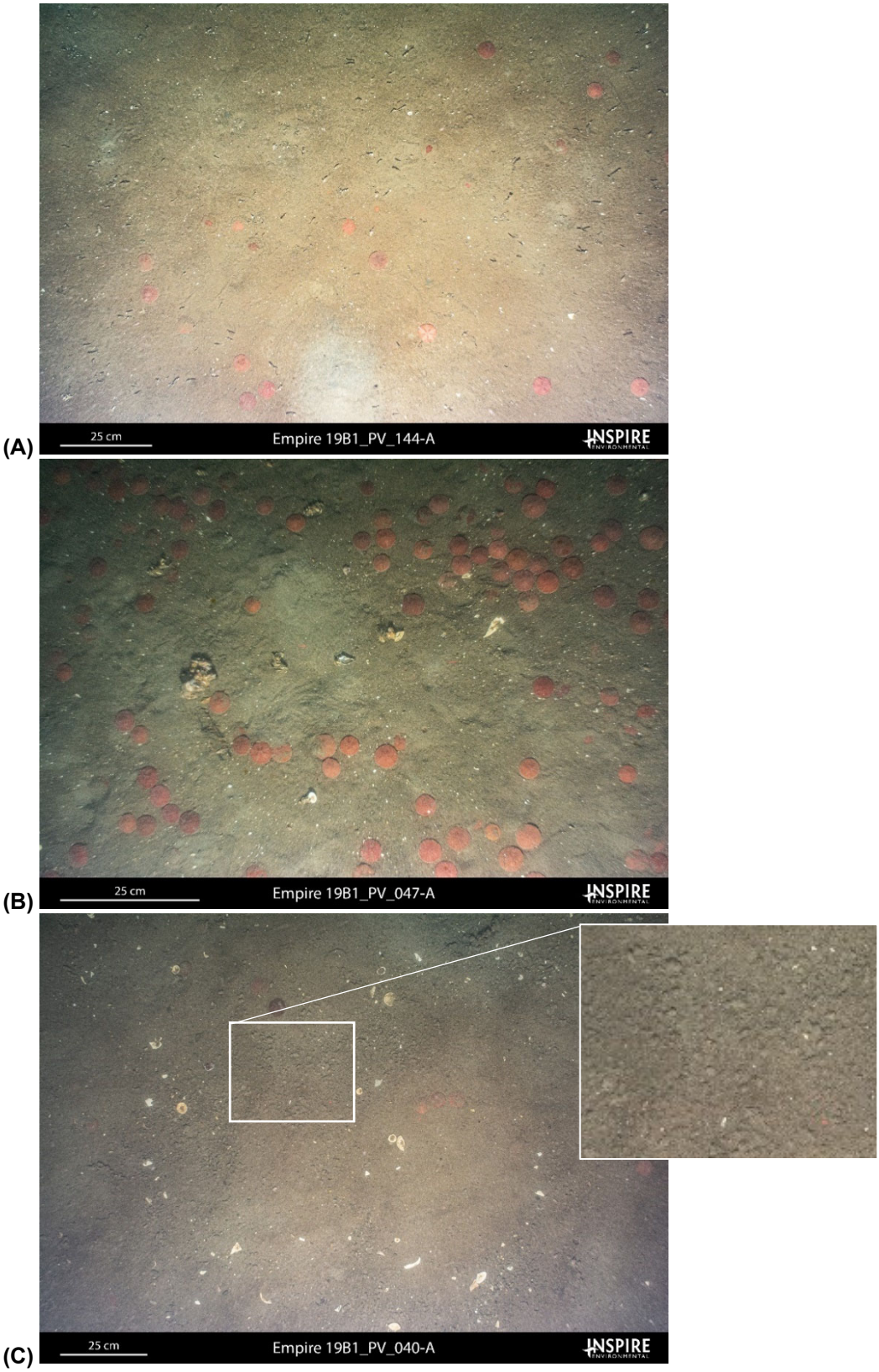


Figure 3-24. Representative PV images where the following CMECS Biotic Groups were observed: (A) Larger Tube- Building Fauna; (B) Sand Dollar Beds; (C) Small Surface-Burrowing Fauna; and (D) Mussel Beds (E) Burrowing Anemones

(D)

(E)

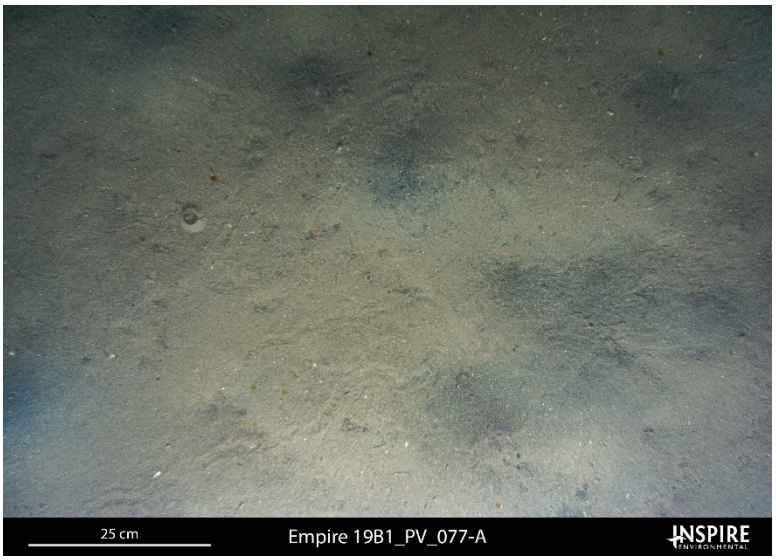
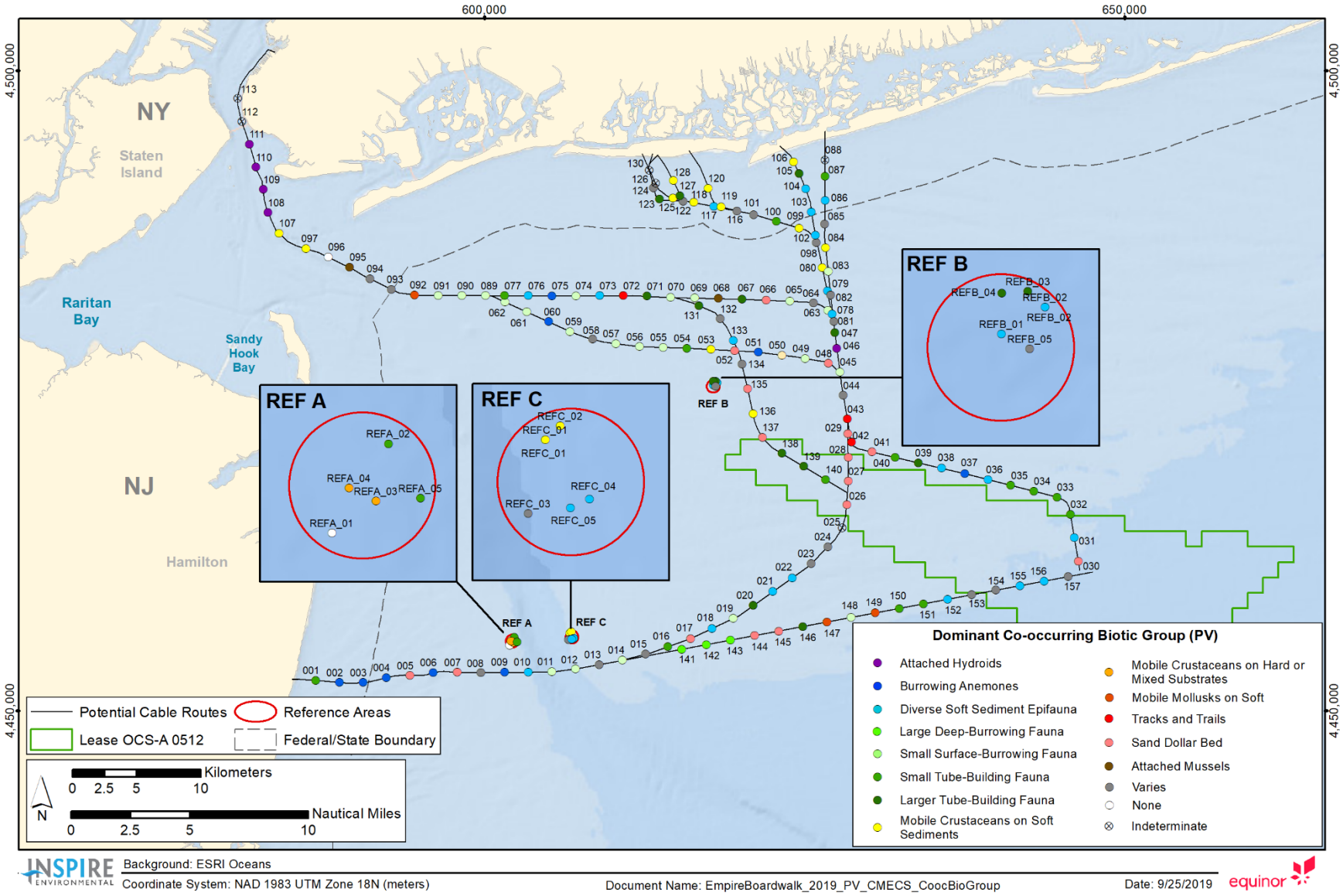


Figure 3-24. continued ***Representative PV images where the following CMECS Biotic Groups were observed: (A) Larger Tube- Building Fauna; (B) Sand Dollar Beds; (C) Small Surface-Burrowing Fauna; and (D) Mussel Beds (E) Burrowing Anemones***



Background: ESRI Oceans
Coordinate System: NAD 1983 UTM Zone 18N (meters)
Document Name: EmpireBoardwalk_2019_PV_CMECS_CoocBioGroup
Date: 9/25/2019

Figure 3-25. Dominant CMECS Co-occurring Biotic Group at the Equinor Wind survey area

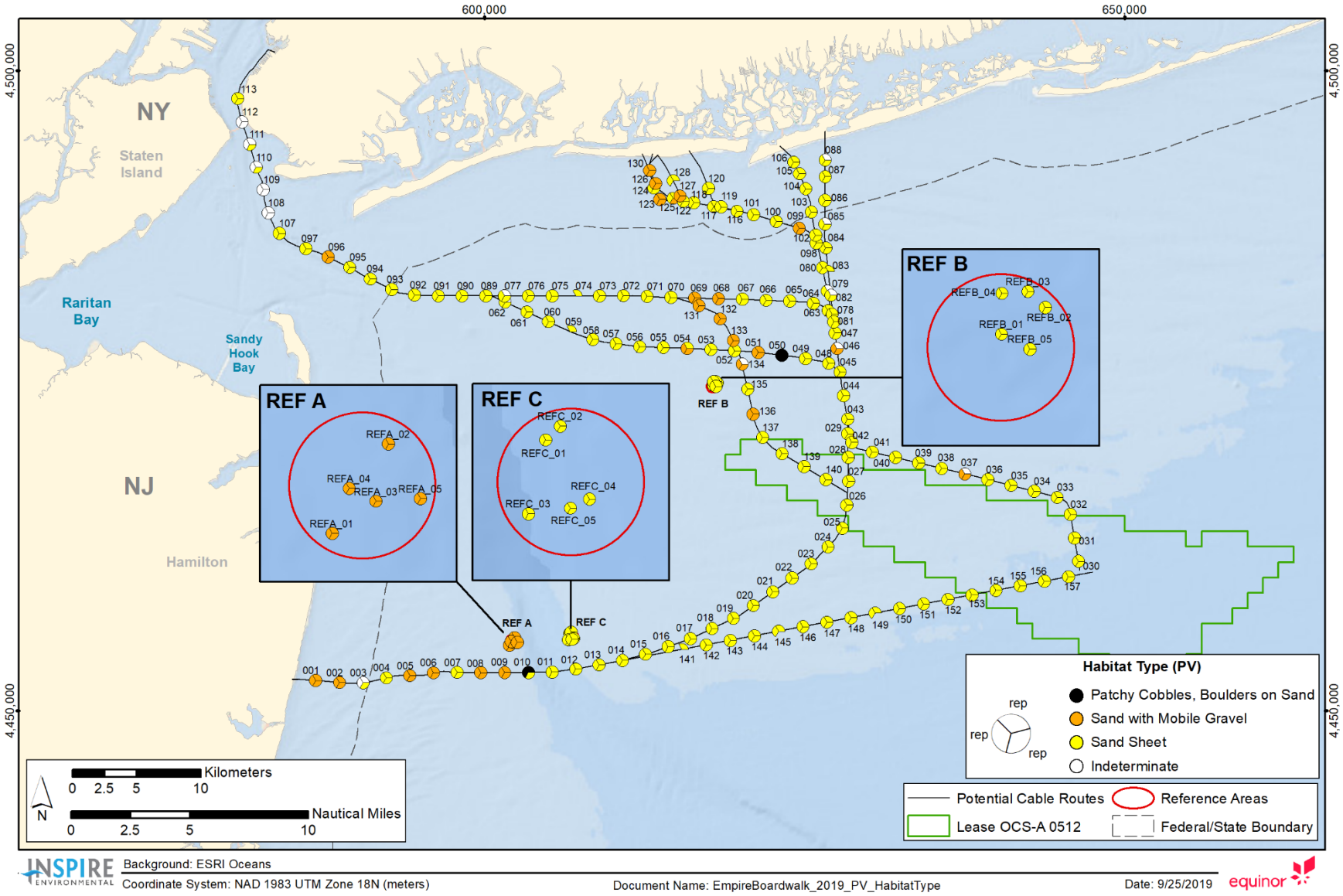


Figure 3-26. Habitat Type at the Equinor Wind survey area

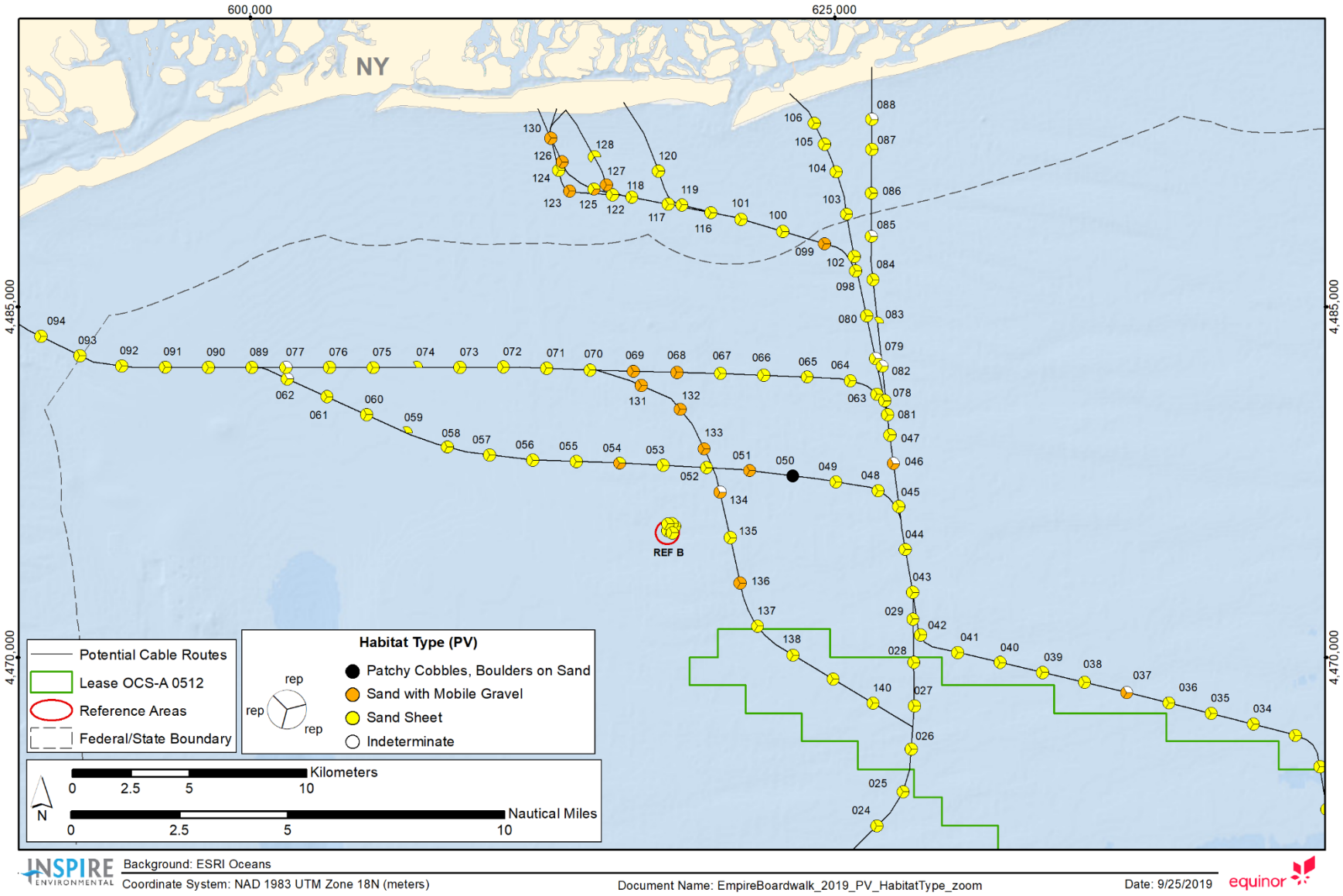


Figure 3-27. Zoom-in of the Long Island export cable route showing Habitat Type

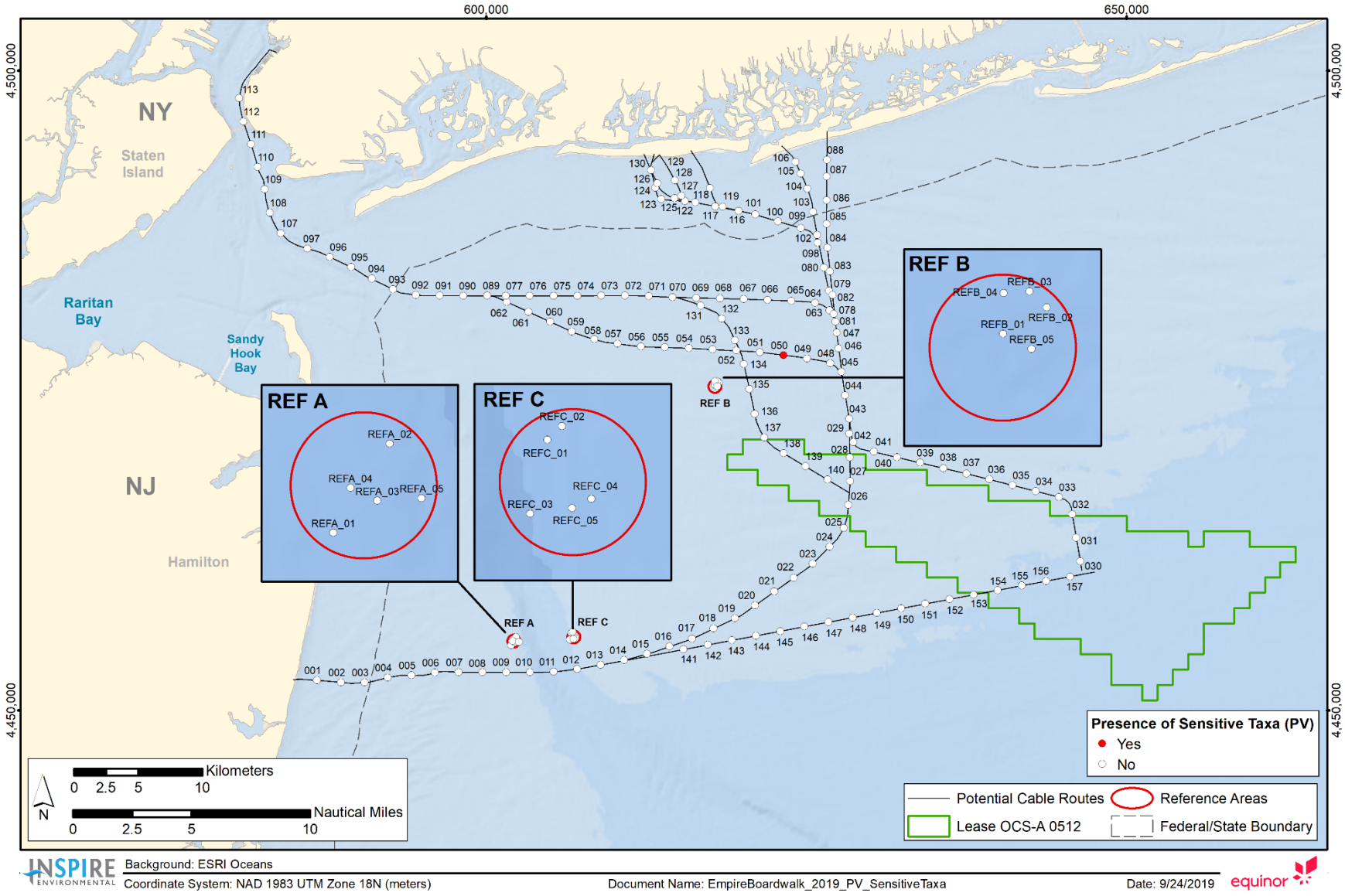


Figure 3-28. Sensitive Taxa Present at the Equinor Wind survey area

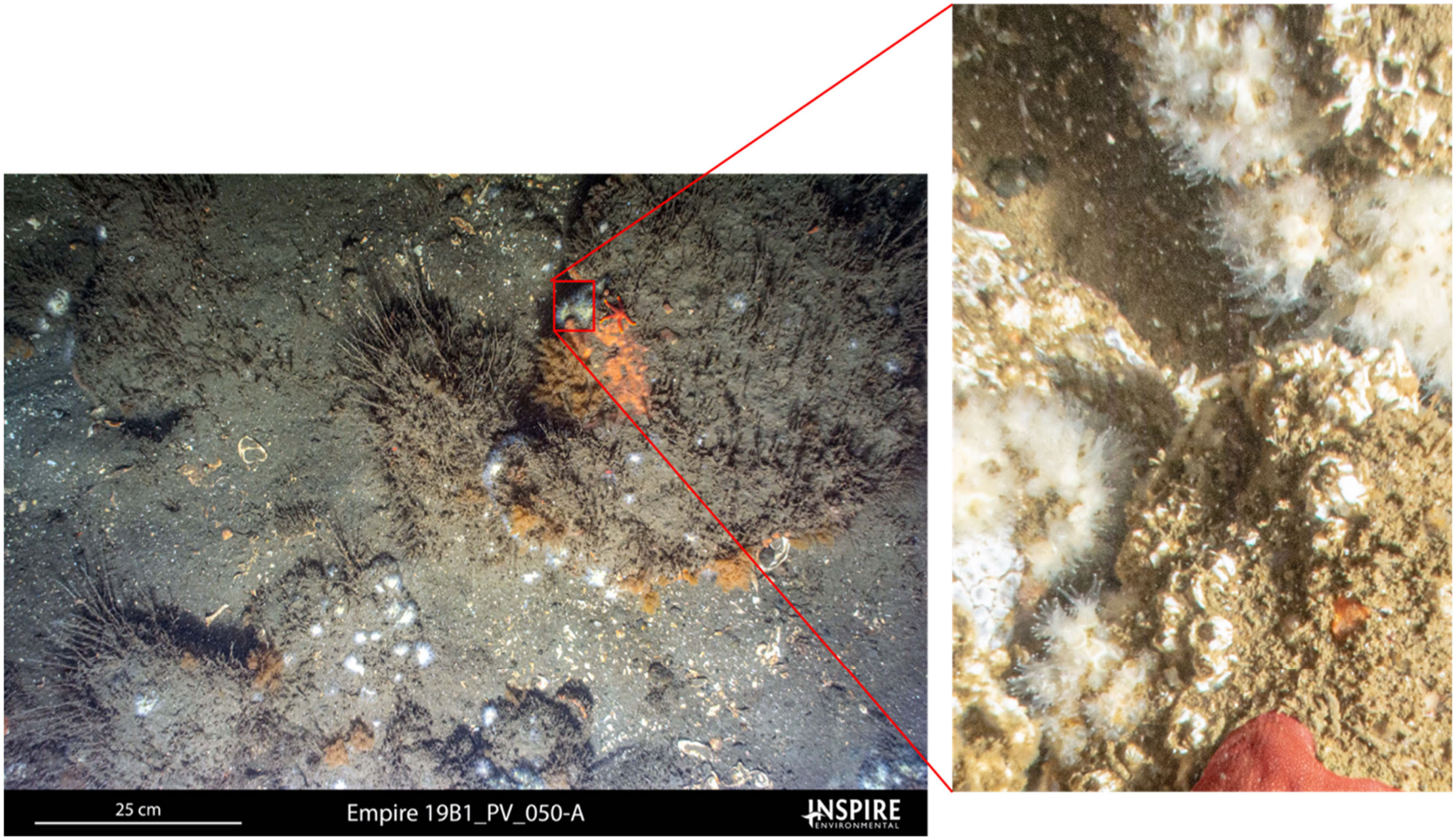


Figure 3-29. Station 050-A depicting a bottom with preferential habitat for attached fauna. The stony coral, Astrangia spp. (see inset), is visible as small white tufts on the cobble and boulders. This species is documented as sensitive taxa.

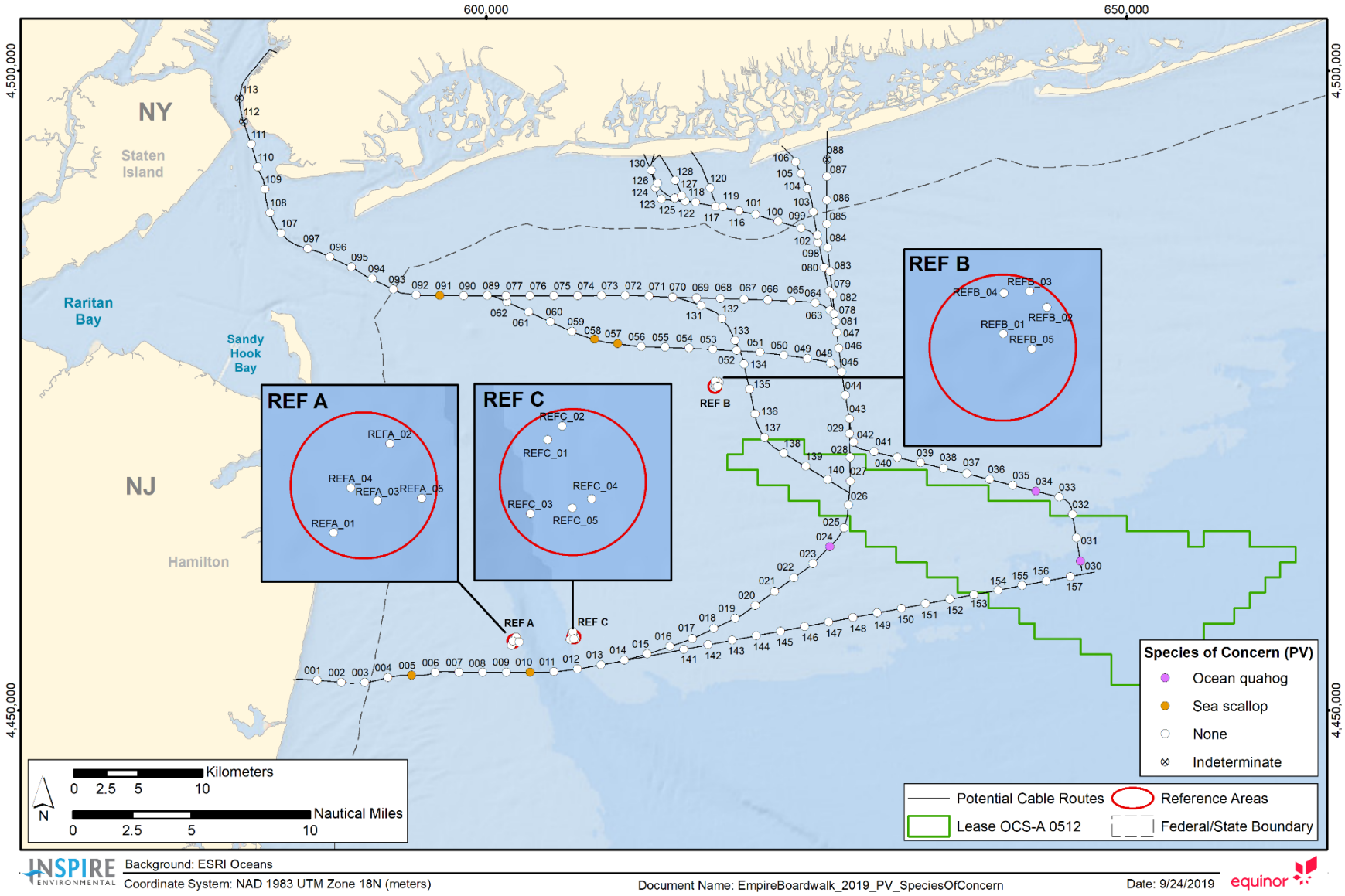
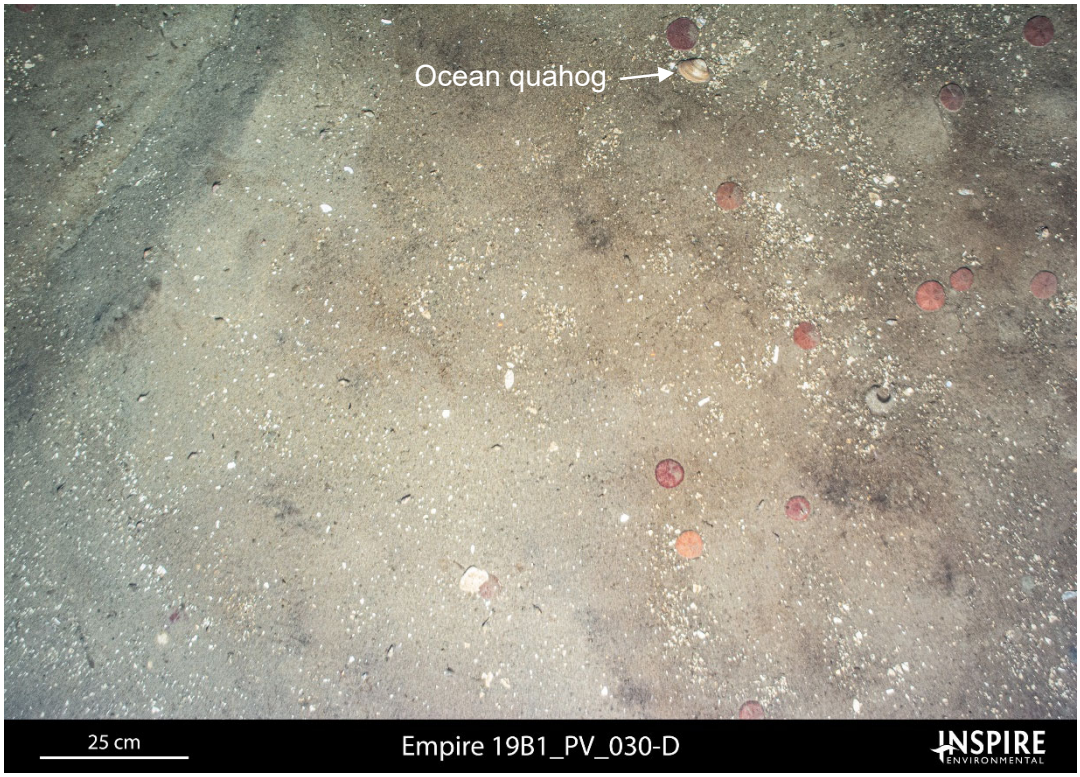


Figure 3-30. Species of Concern Type at the Equinor Wind survey area



(A)

(B)

Figure 3-31. Examples of species of concern present at the Equinor Wind survey area at (A) Station 030 composed of mobile sand with an ocean quahog present surrounded by small-tube building fauna; and (B) Station 010 with a sea scallop present

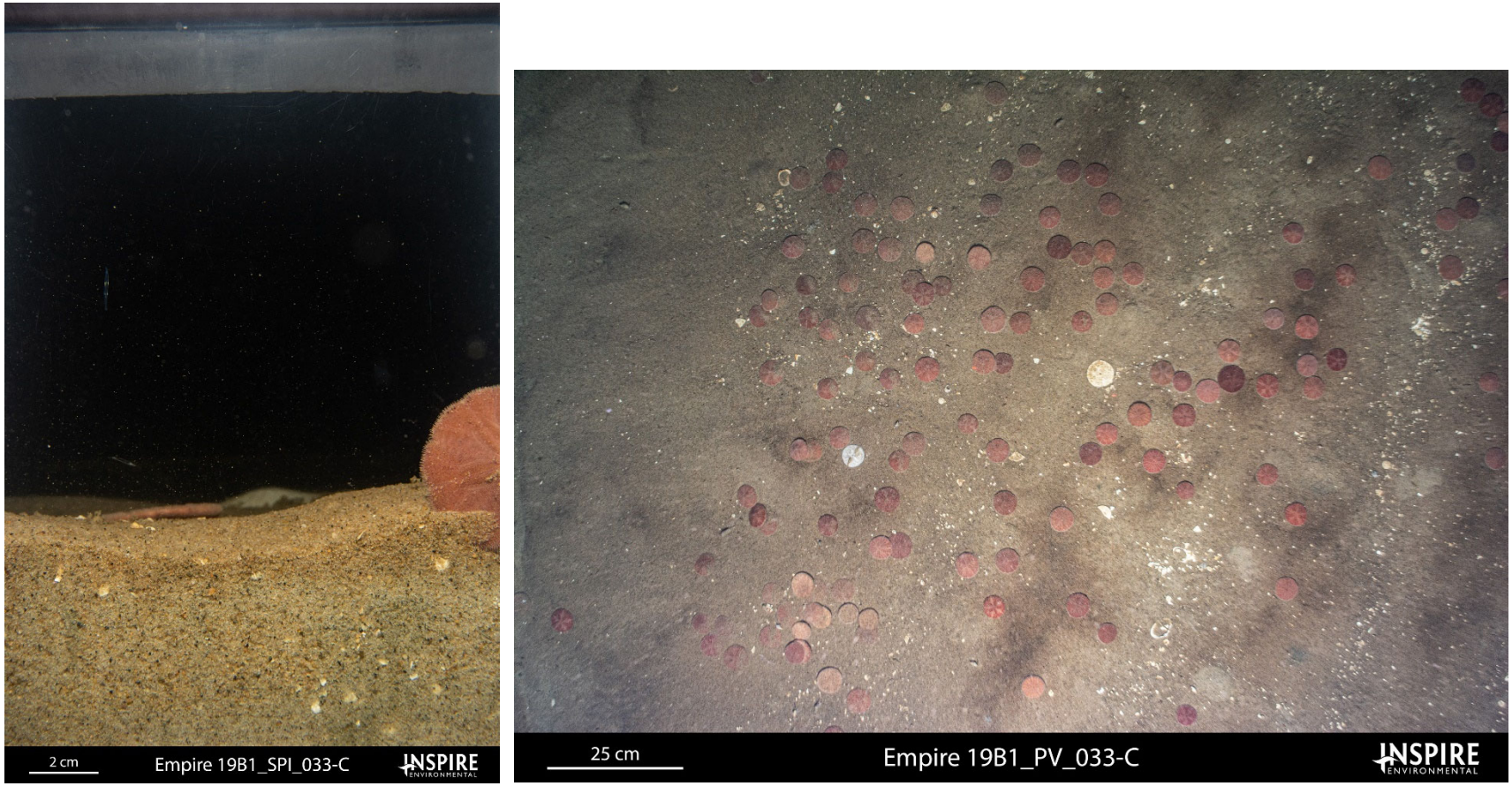
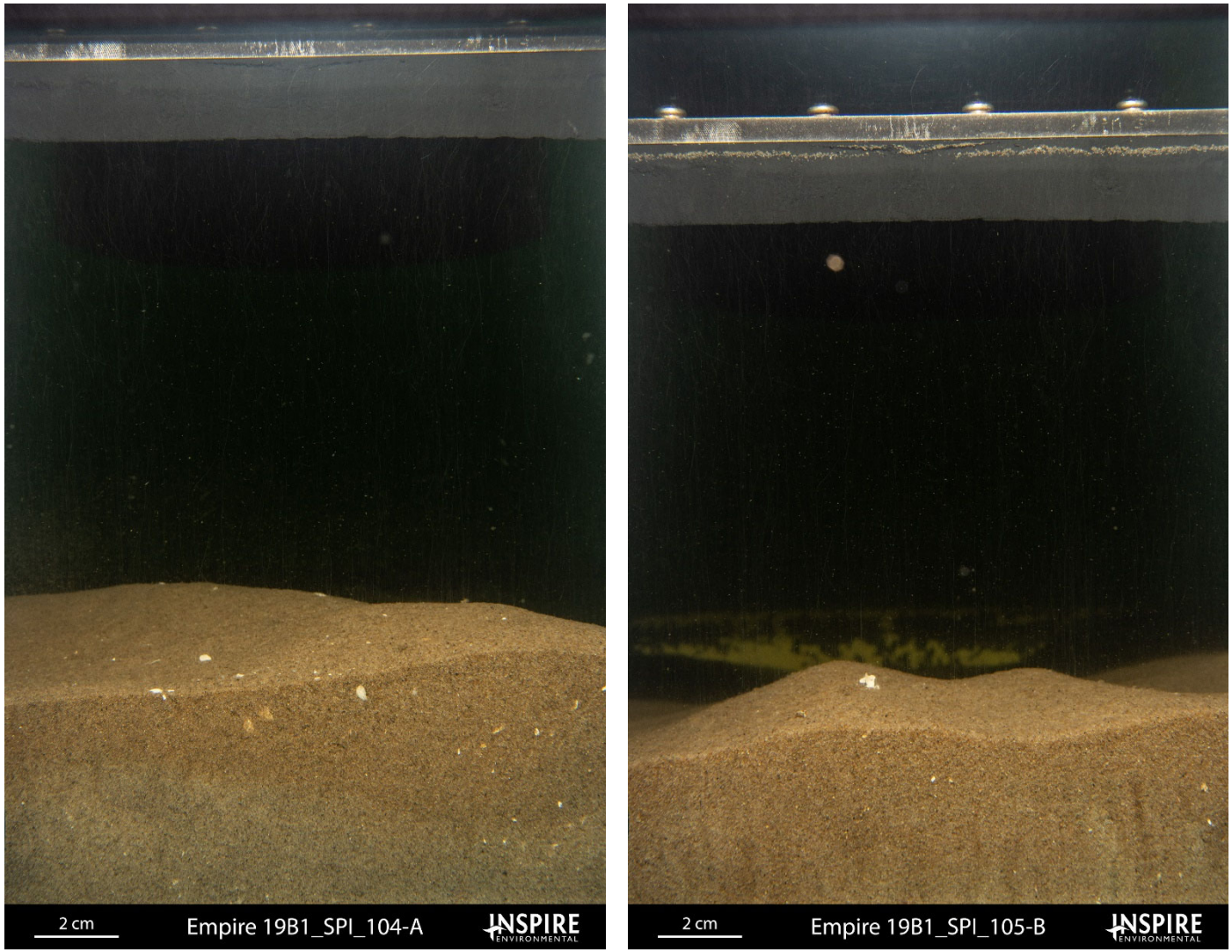
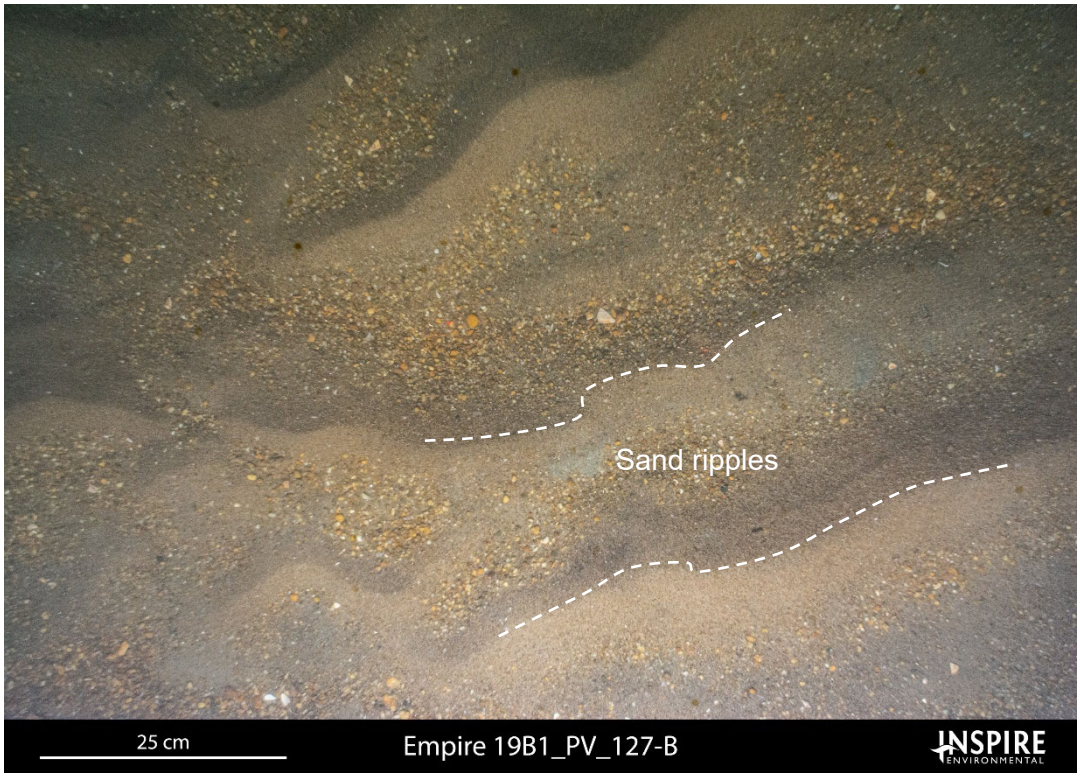


Figure 3-32. Representative SPI and PV images showing an area composed of medium sand with a seafloor covered in sand dollars

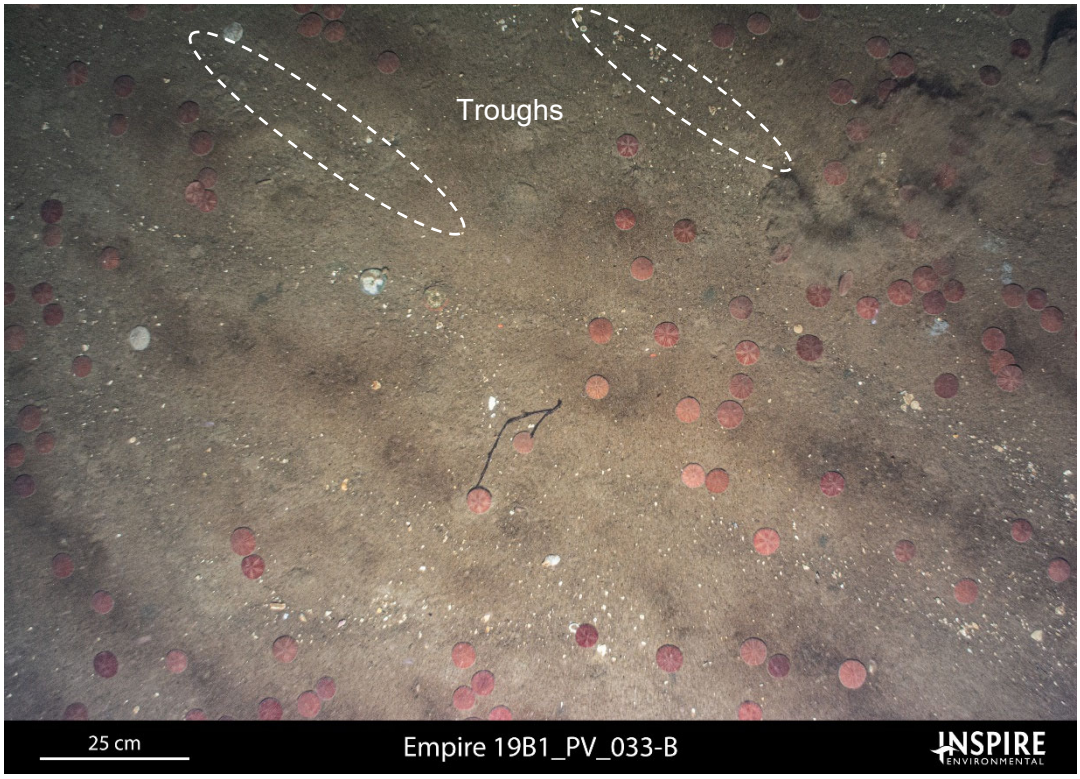


(A) **(B)**

Figure 3-33. Representative SPI images from (A) Station 104 composed of very fine sand; and (B) Station 105 composed of fine sand



(A)



(B)

Figure 3-34. Representative PV images depicting (A) pronounced sand ripples at Station 126; and (B) less-defined sand ripples at Station 033. In each image larger grains have settled into the trough of the sand ripples.

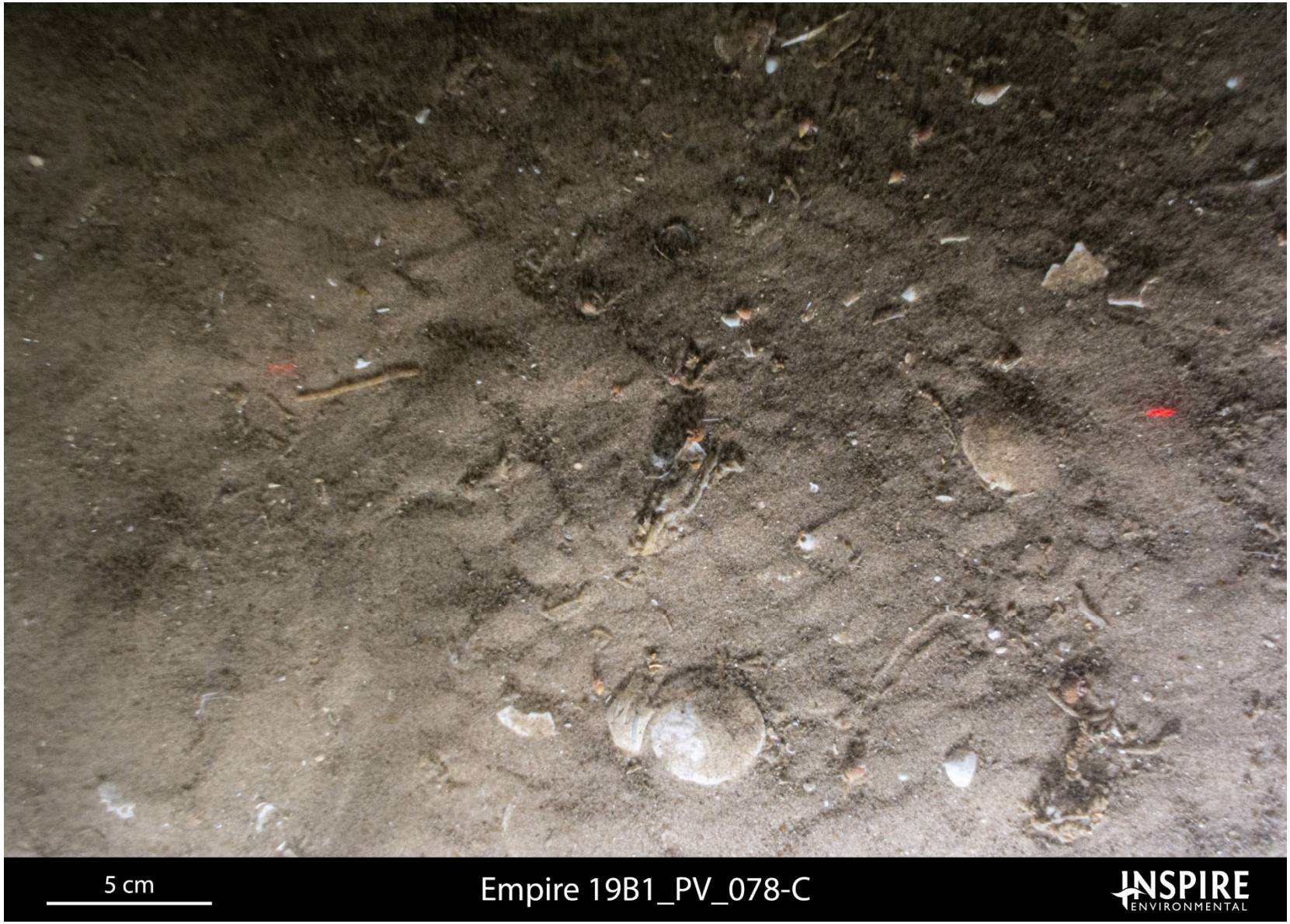


Figure 3-35. Plan view image from Station 078 with numerous small tubes on the seafloor

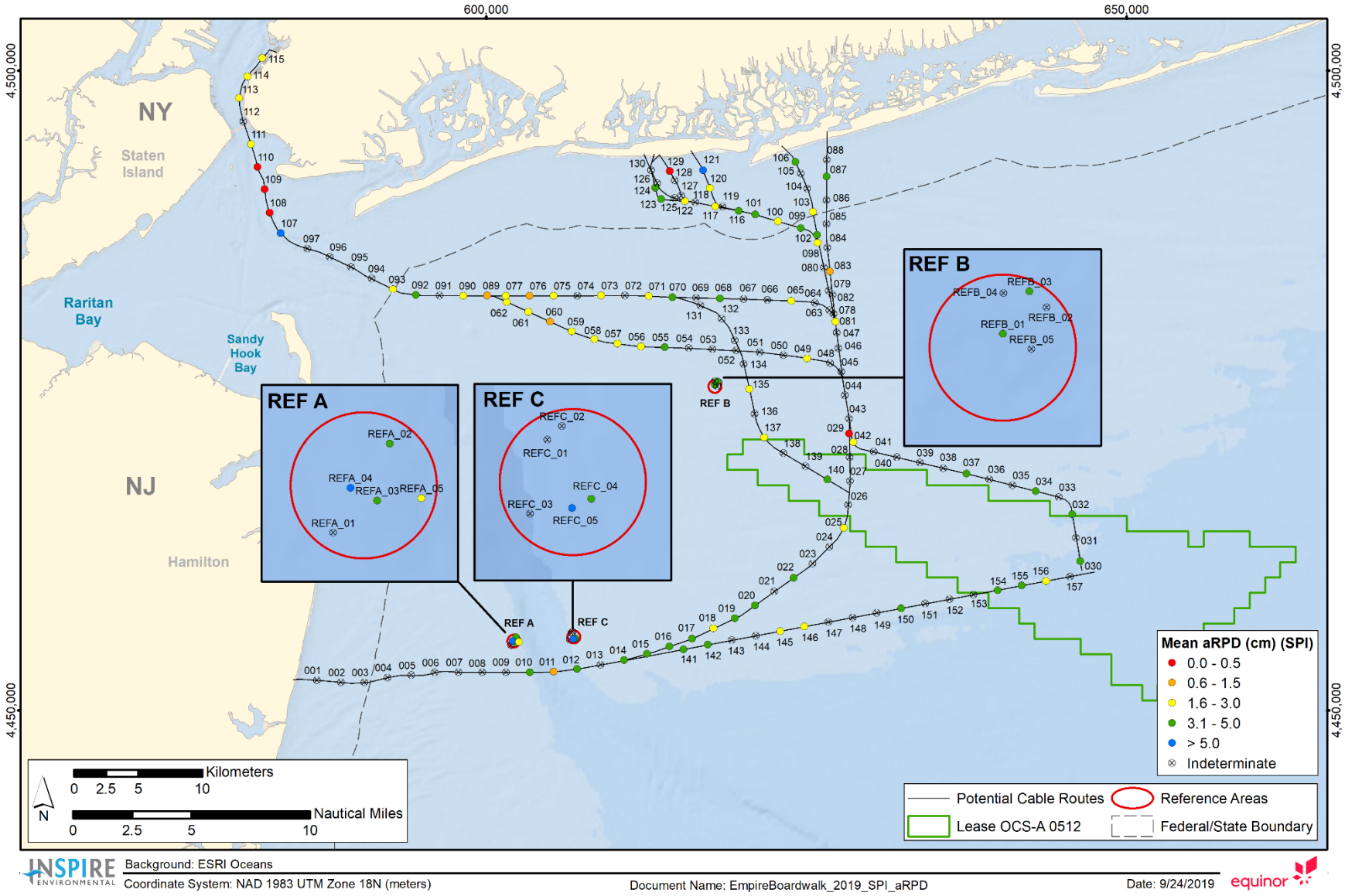
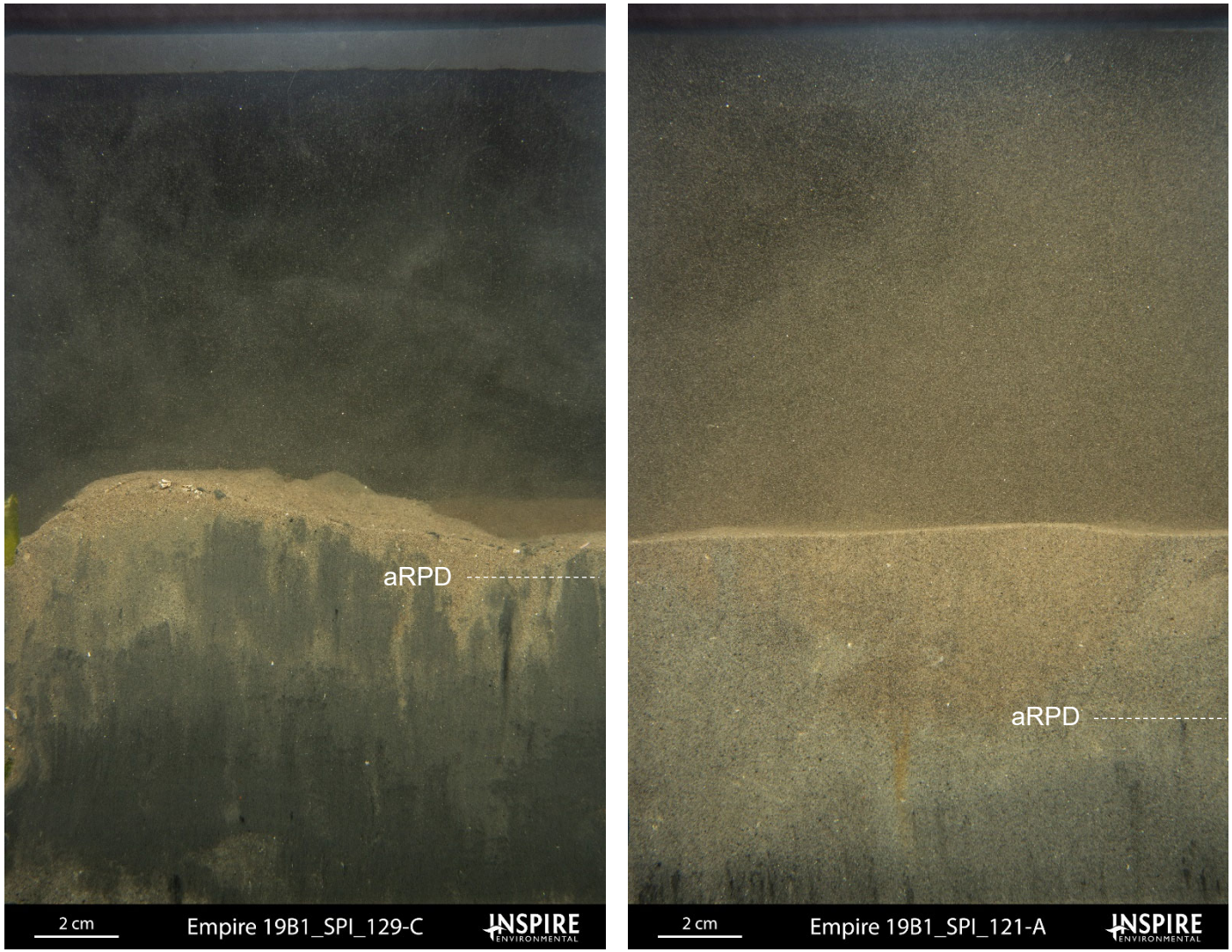


Figure 3-36. Mean station aRPD depth values (cm) at the Equinor Wind survey area



(A) (B)

Figure 3-37. Profile images depicting (A) Station 129 with a shallow aRPD and medium sediment oxygen demand (SOD); and (B) Station 121 with a deep aRPD and low SOD. Stations 129 and 121 had the shallowest and deepest aRPDs, respectively, along the Long Island Export Cable Route

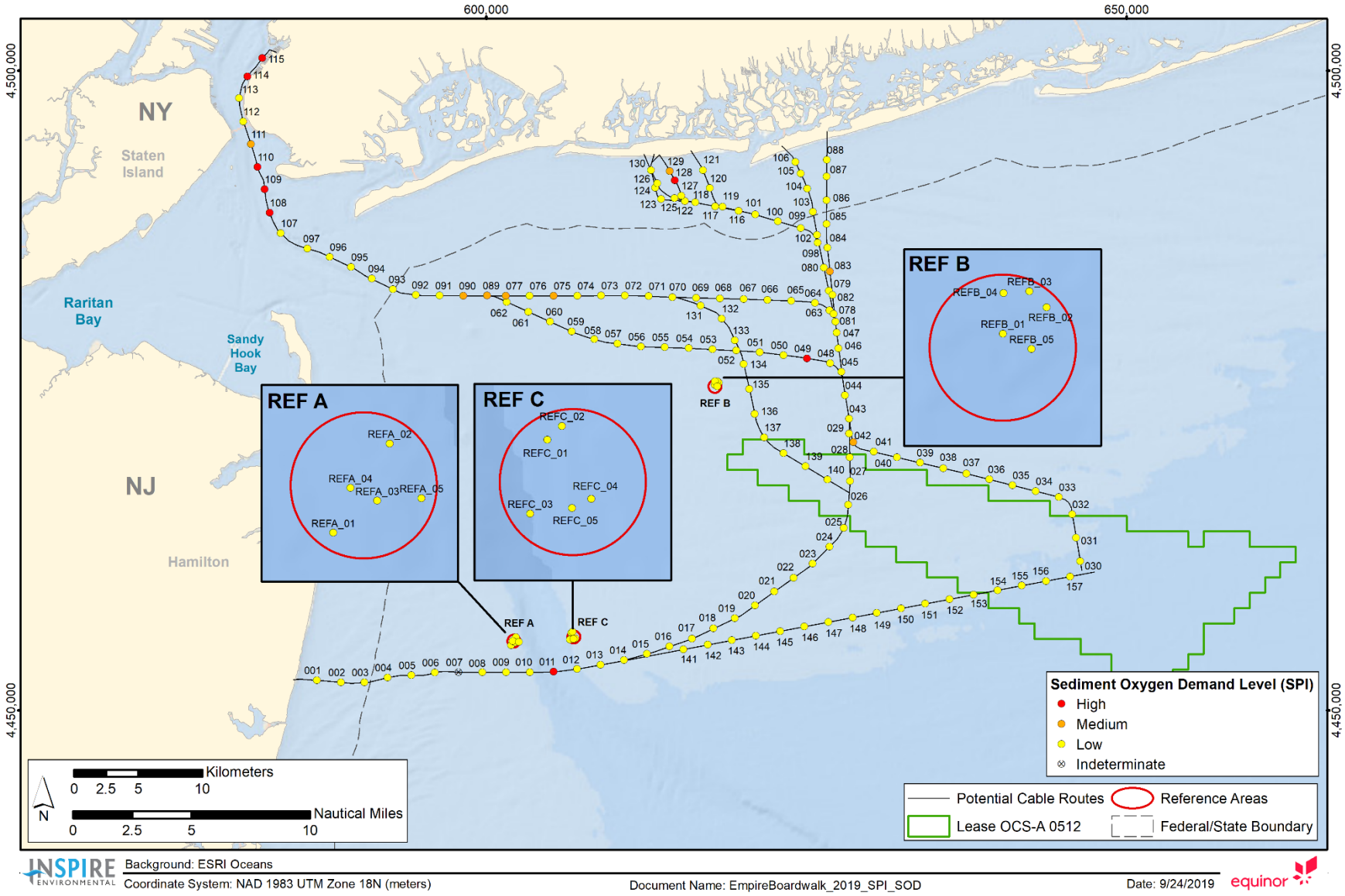


Figure 3-38. Dominant Sediment Oxygen Demand at the Equinor Wind survey area

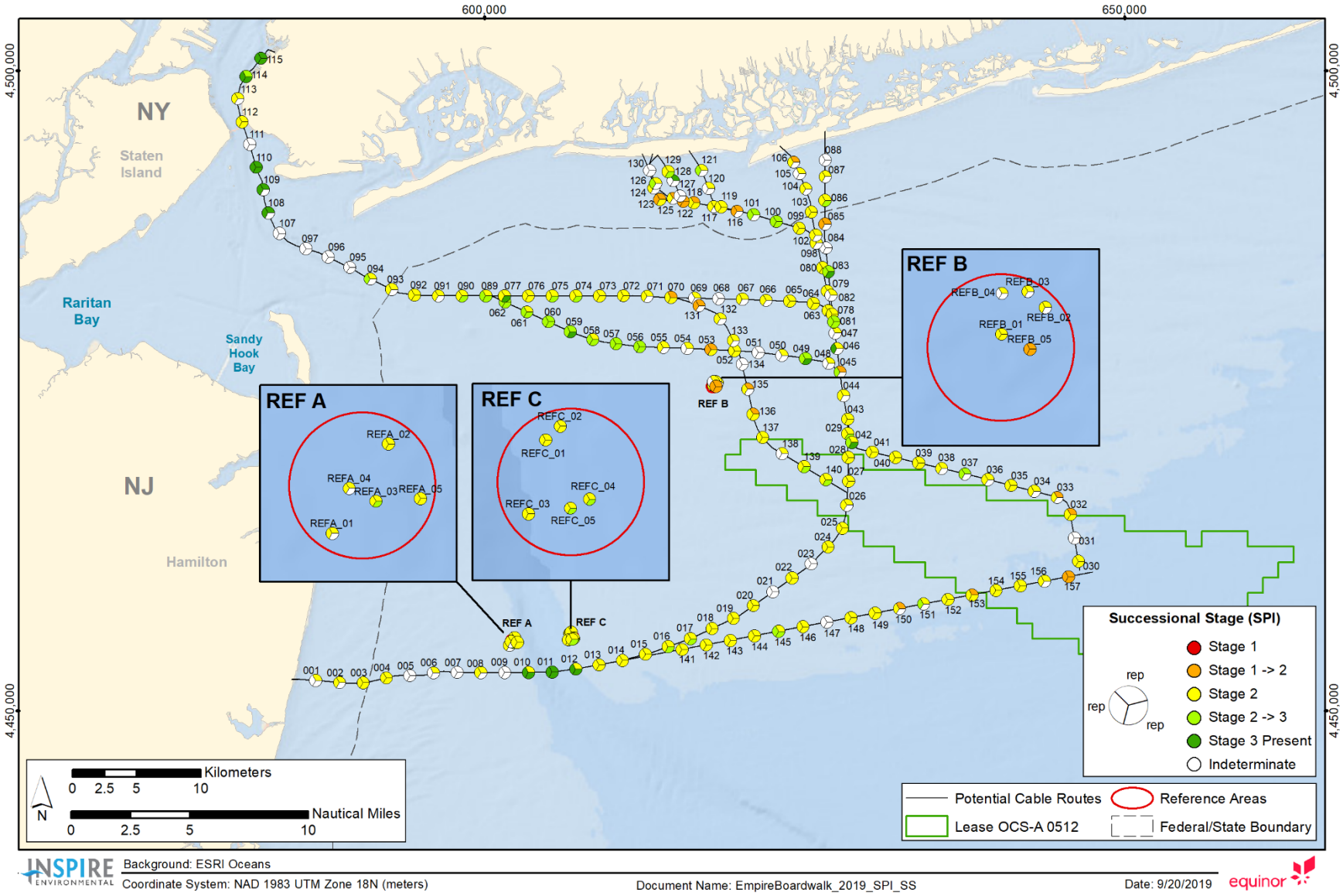


Figure 3-39. Infaunal successional stages at the Equinor Wind survey area. Results shown provide a value for each of three replicate images at each sampling station.

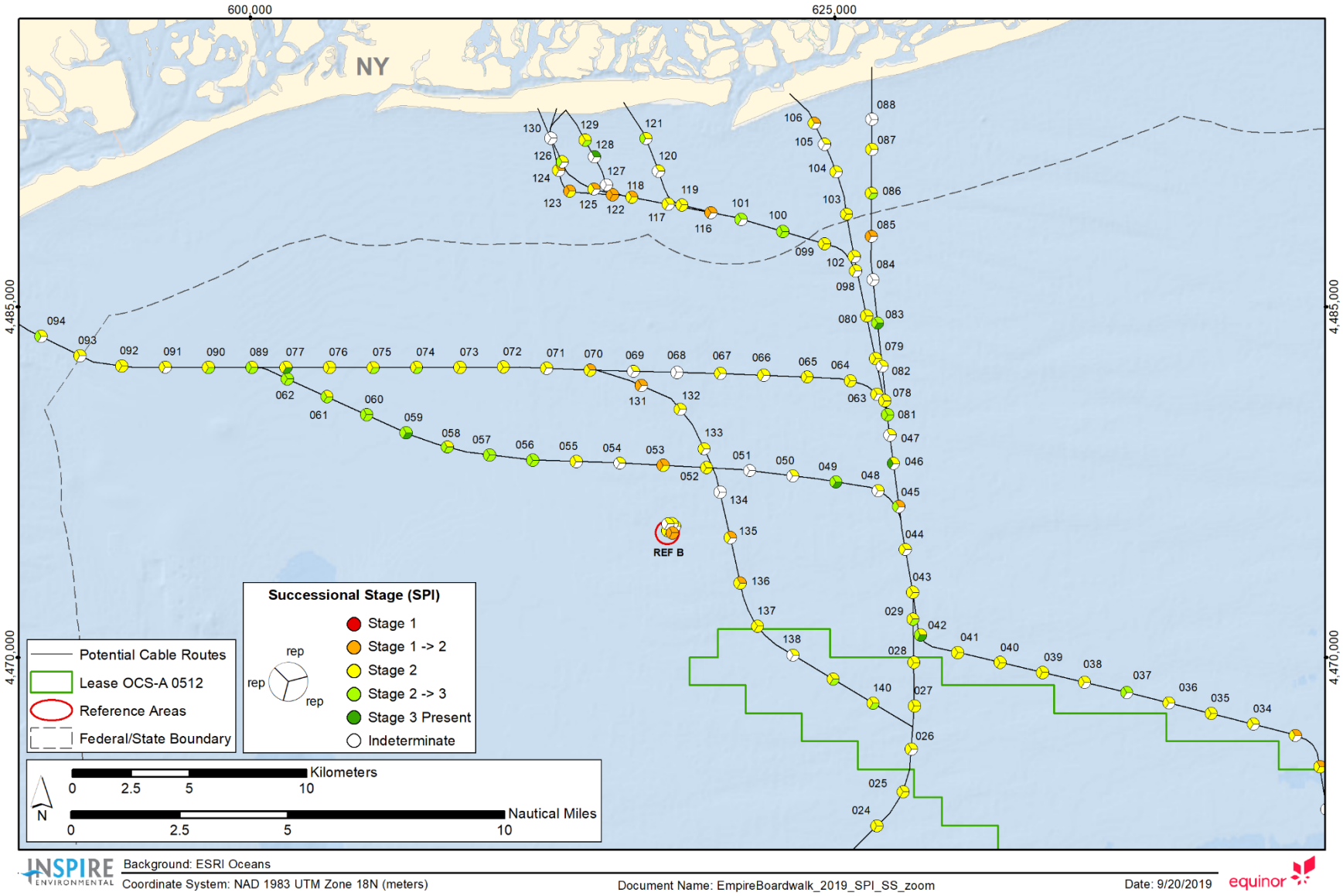
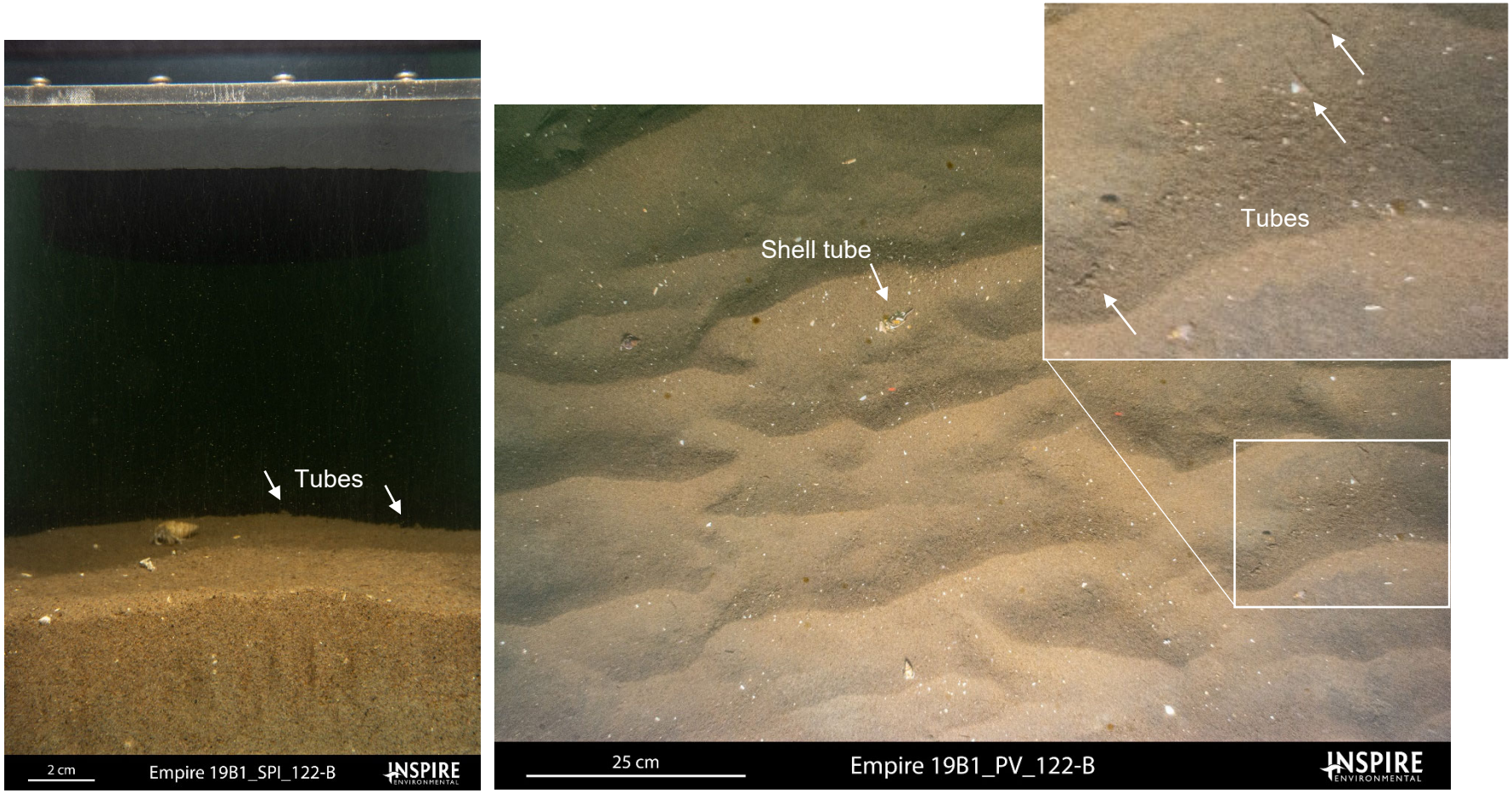


Figure 3-40. Zoom-in of the Long Island export cable route. Infaunal successional stages at the Equinor Wind survey area. Results shown provide a value for each of three replicate images at each sampling station.

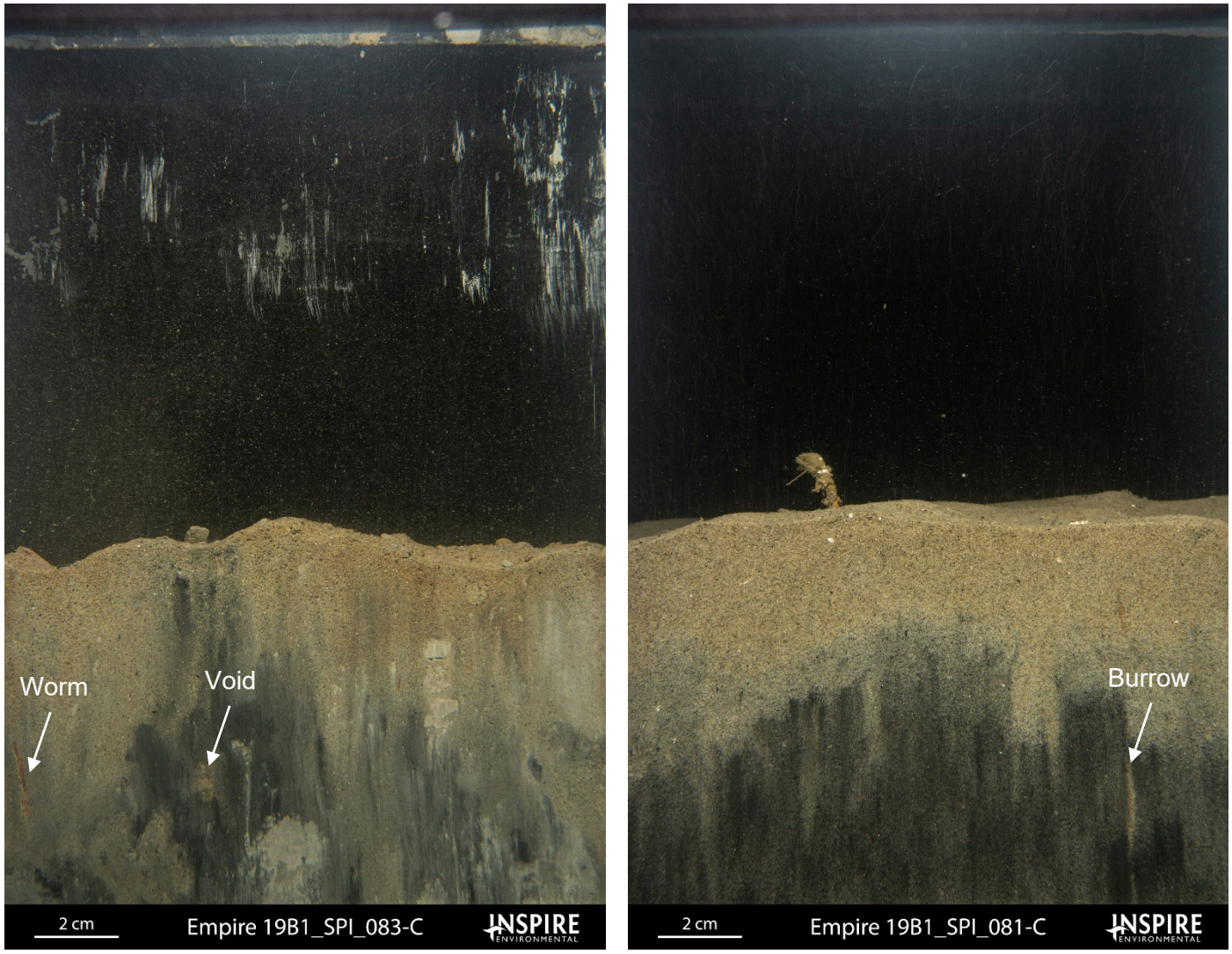
(A) **(B)**

Figure 3-41. Representative profile and plan view images depicting (A) Stage 2 tubes at the sediment-water interface; and (B) Stage 2 shell tubes produced by the polychaete Diopatra cuprea



(A) **(B)**

Figure 3-42. Representative profile and plan view images of a bottom shaped by hydrodynamic forcing with Stage 1->2 succession evidenced by (A) small tubes at the sediment–water interface in the background of the profile image, and (B) tubes in the trough of sand ripples



(A) (B)

Figure 3-43. Representative profile images of advanced succession at (A) Station 083 with filled and open feeding voids and a large worm in a burrow; and (B) Station 081 with a burrow penetrating deep into the sediment column

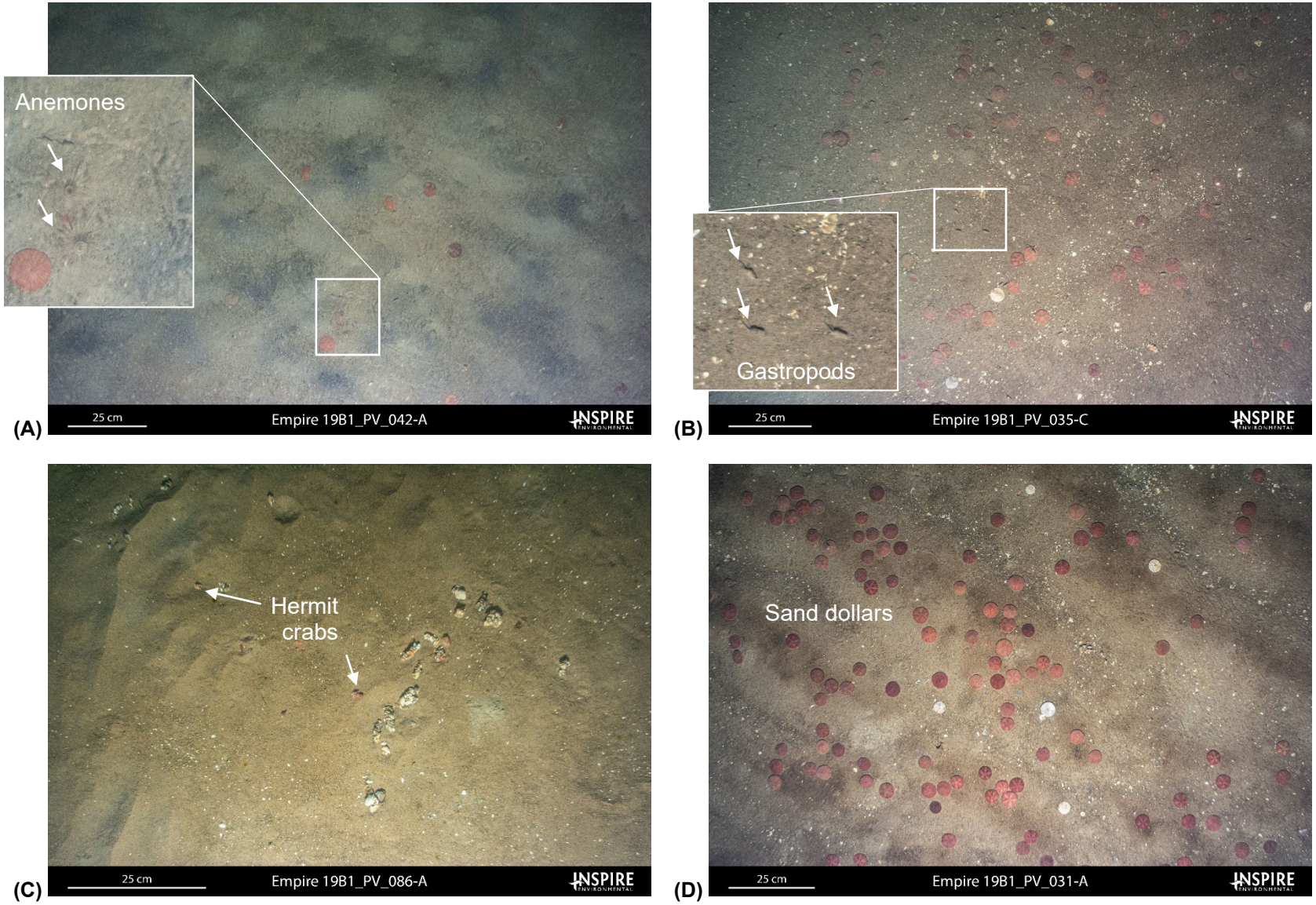


Figure 3-44. Representative plan view images indicating prevalent epifauna along the Long Island Export Cable route where (A) anemones were observed at Station 042; (B) gastropods were documented at Station 035; (C) hermit crabs were observed at Station 086; and (D) sand dollars documented at Station 031

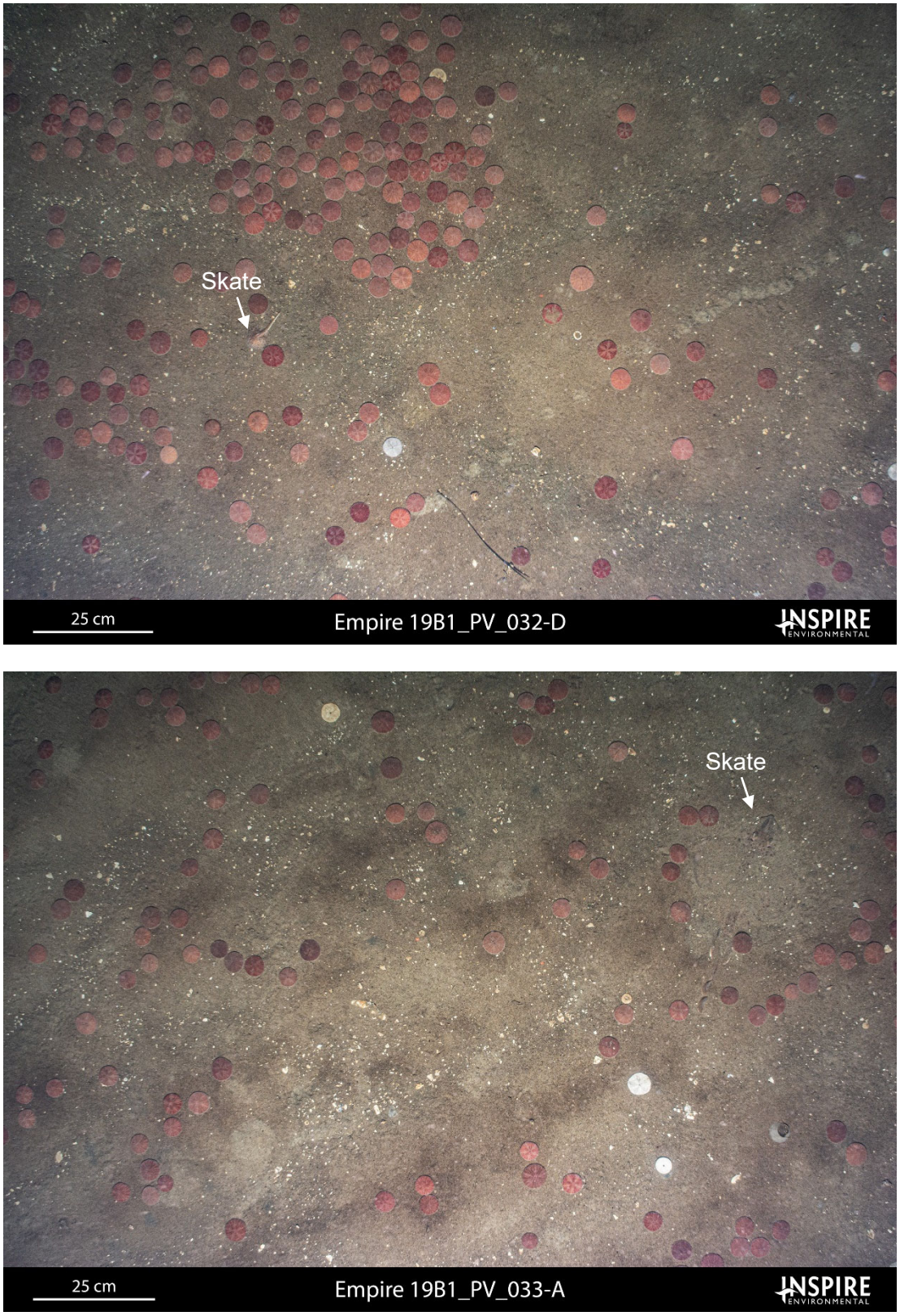


Figure 3-45. Plan view images at Stations 032 and 033 where skate were observed. At Station 033 the skate was observed partially buried in the seafloor.

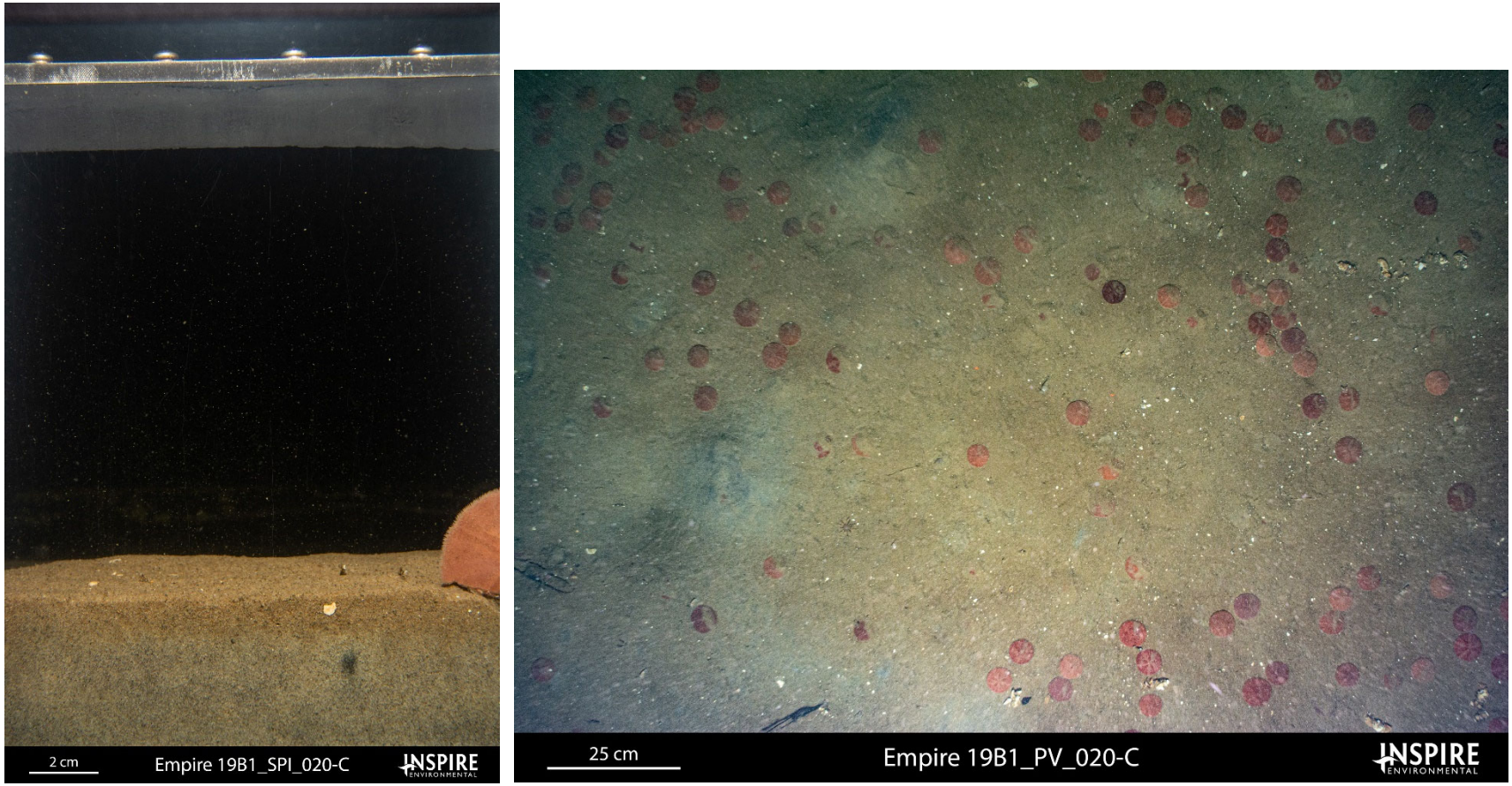


Figure 3-46. Representative profile and plan view images composed of very fine sand with sand dollars covering the seafloor

(A)

(B)

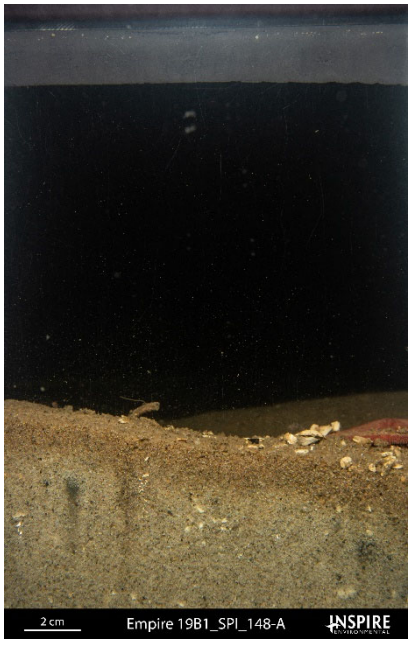


Figure 3-47. Profile images depicting bedforms at (A) Station 023 with uneven sand ripples; and (B) Station 148 with well-formed sand ripples

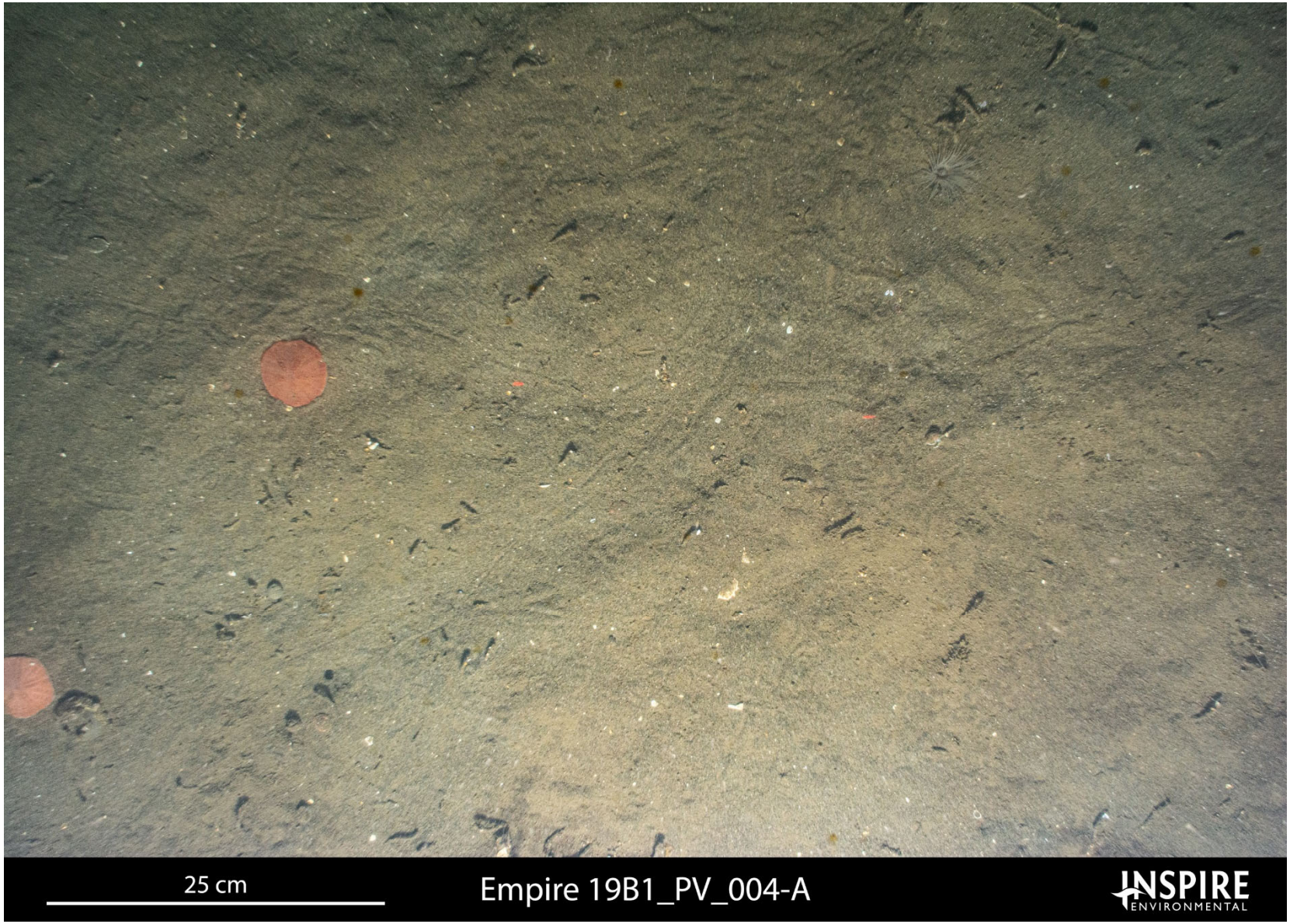
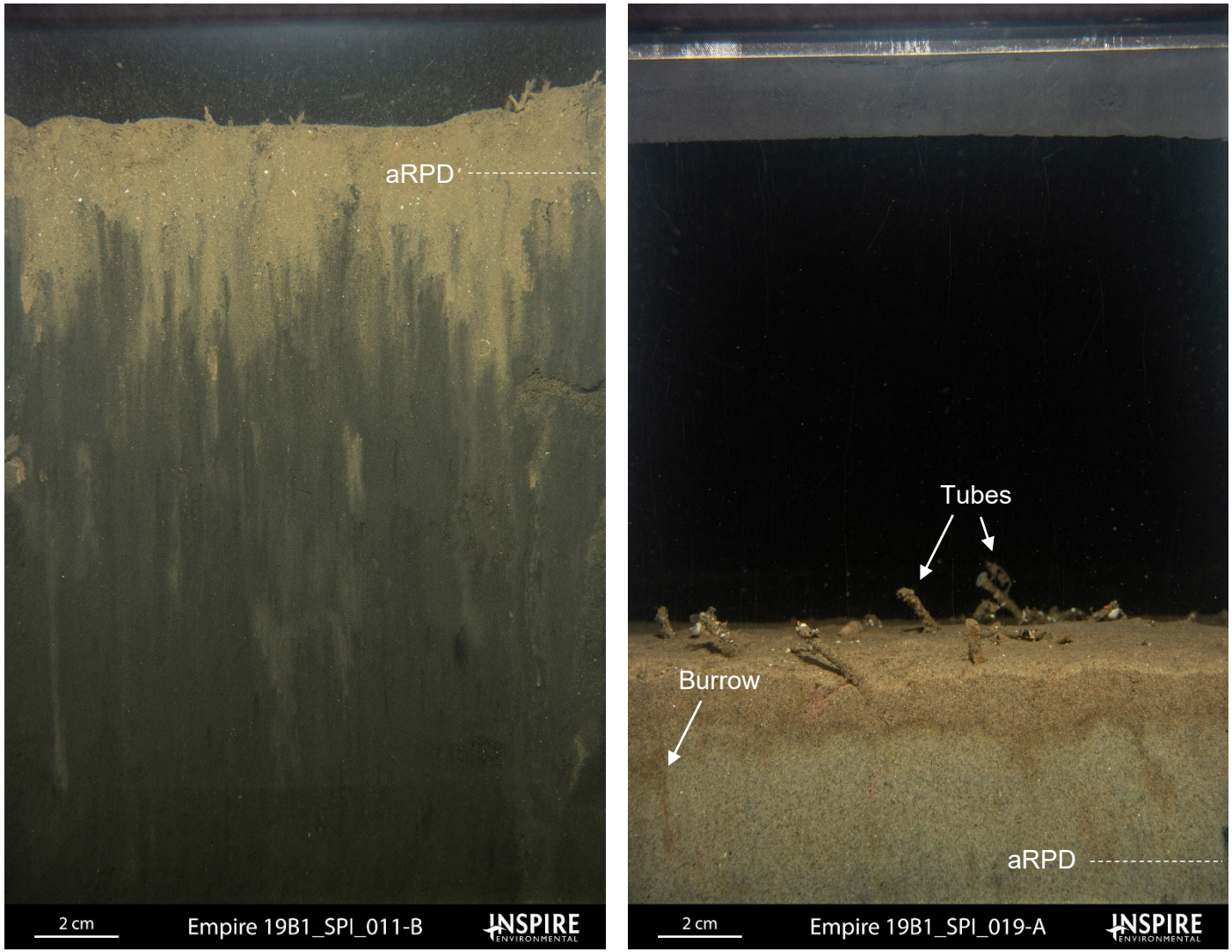


Figure 3-48. Representative plan view image of the Inferred Fauna Co-occurring Biotic Subclass, indicated by tracks on the seafloor



(A) (B)

Figure 3-49. Profile images depicting (A) Station 011 with a shallow aRPD and high sediment oxygen demand (SOD); and (B) Station 019 with a deep aRPD, low SOD, and Stage 2 tubes and shallow burrowing. Stations 011 and 019 had the shallowest and deepest aRPDs, respectively, along the New Jersey Export Cable Route

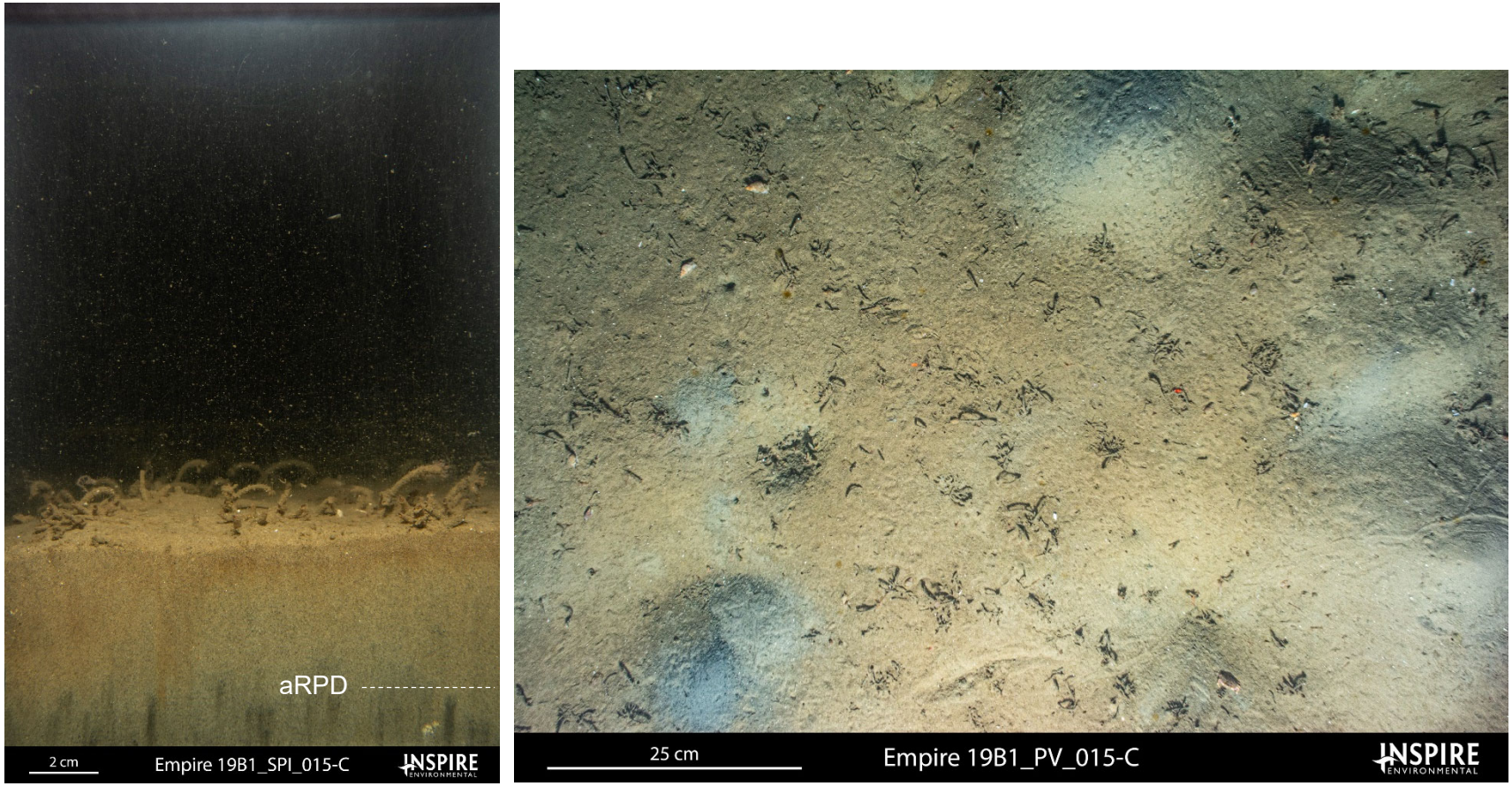


Figure 3-50. Profile and plan view images at Station 015 depicting a seafloor composed of mobile fine sand with heavy biological reworking from tube and burrowing fauna (gray mounds). These combined processes result in a deep aRPD >3.0 cm.

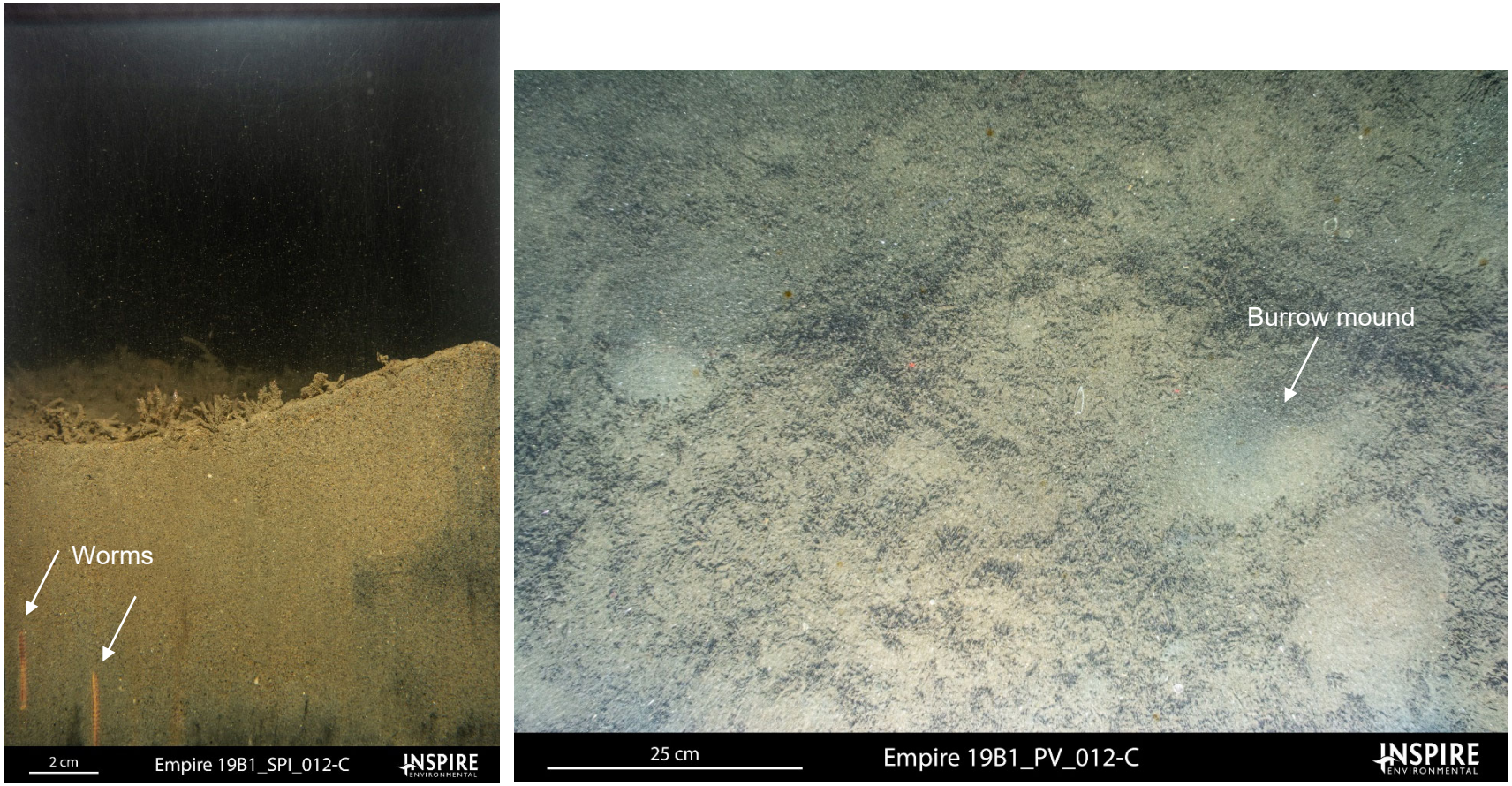


Figure 3-51. Profile and plan view images at Station 012 depicting evidence of deep burrowing fauna in the sediment and on the seafloor

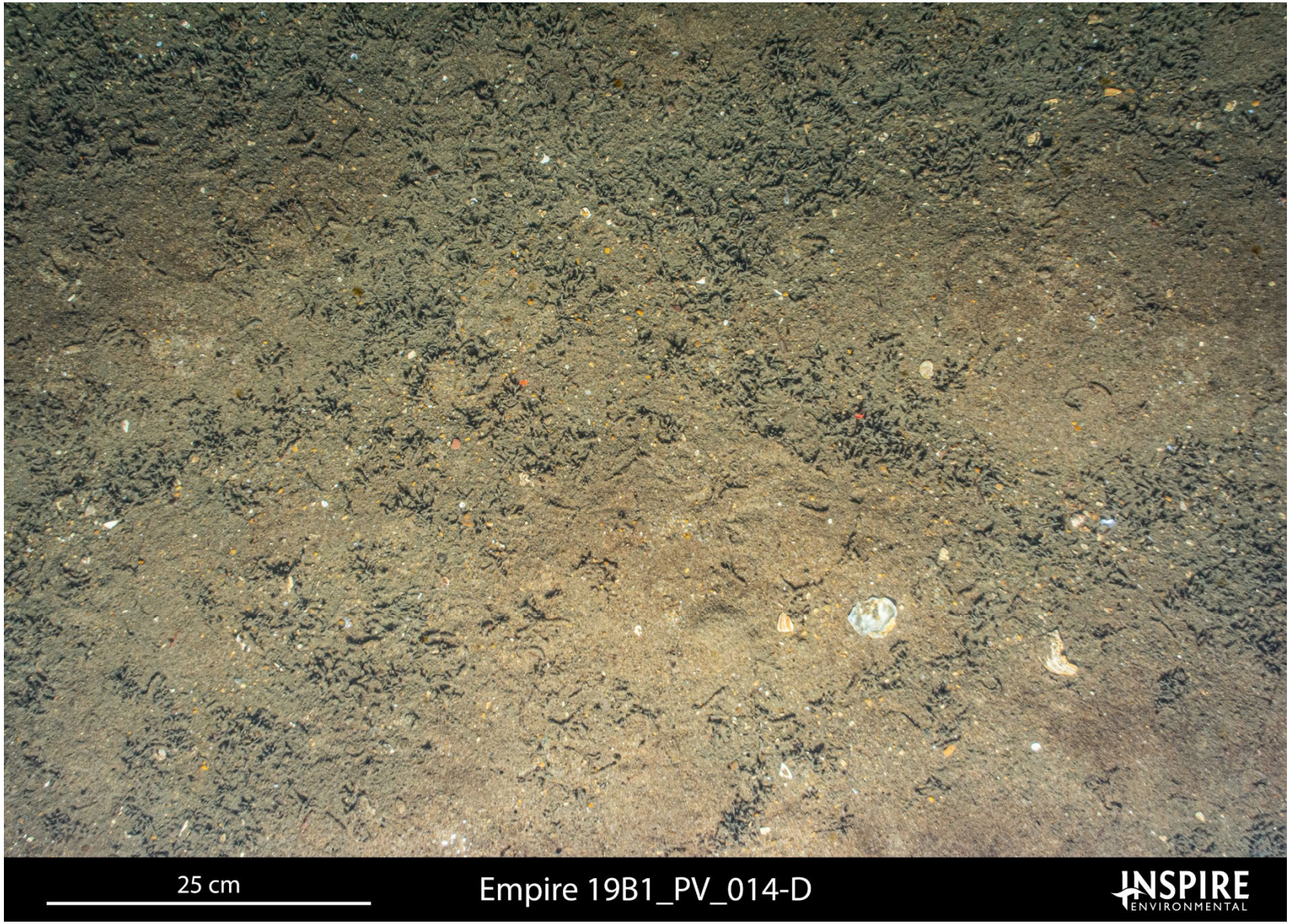


Figure 3-52. Plan view image at Station 014 depicting a seafloor covered in polychaete tubes

(A)

(B)

Figure 3-53. Plan view images at (A) Station 002 with a sea robin; and (B) Station 145 with a skate

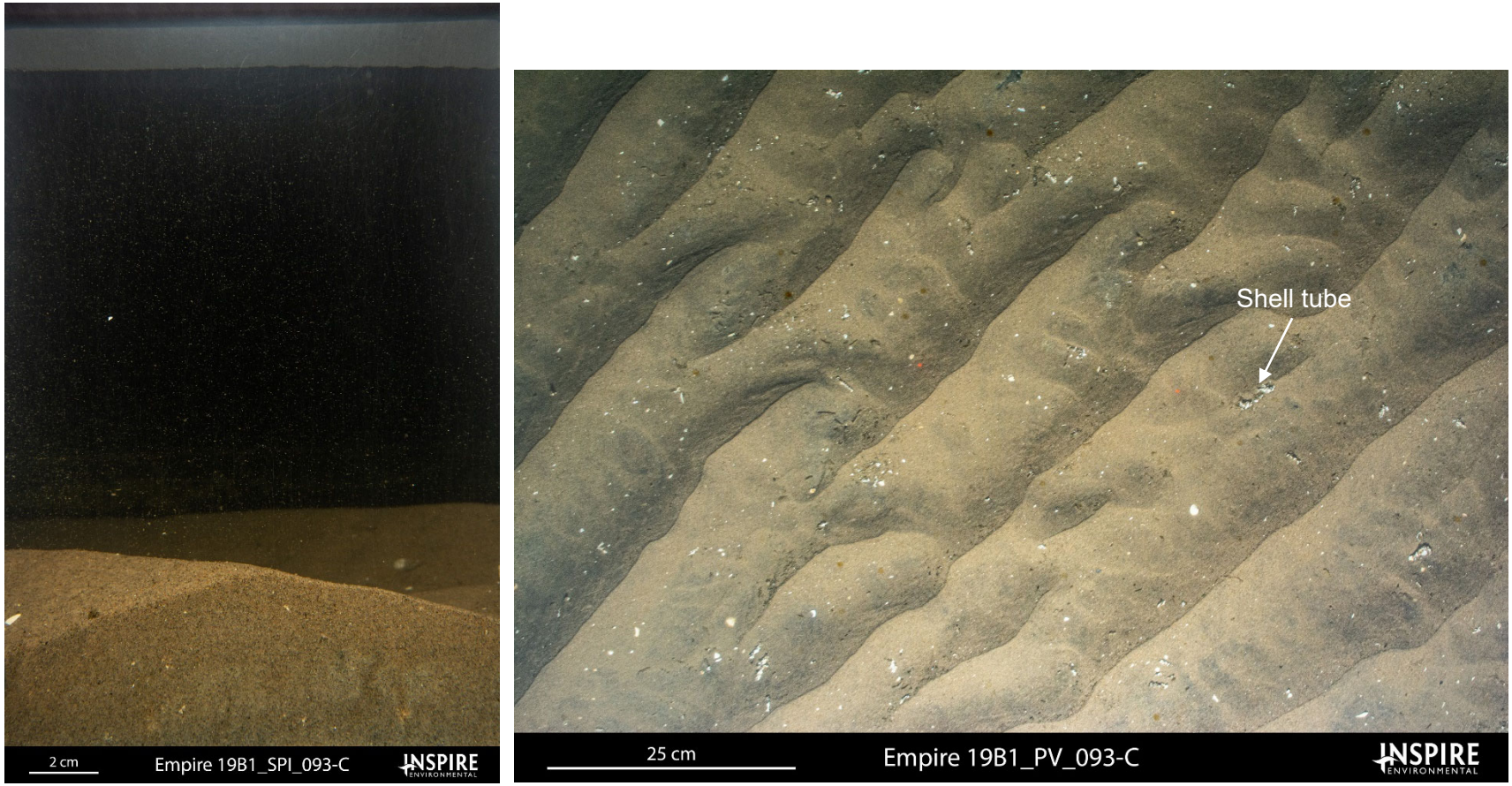


Figure 3-54. Profile and plan view images at Station 093 composed of fine sand with Diopatra cuprea tubes in the trough of the sand ripples. Profile image shows an aRPD driven by sediment transport.

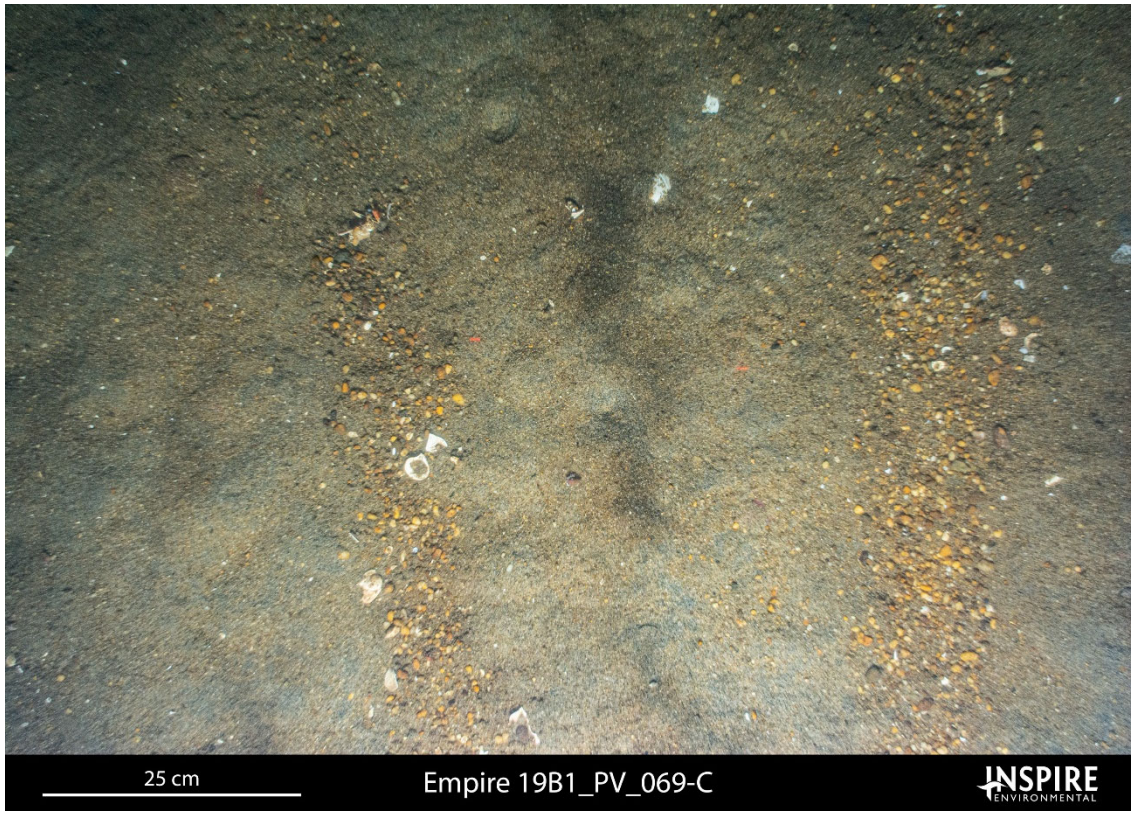


Figure 3-55. Profile and plan view image at Station 069 composed of coarse sand, with well-formed sand ripples

Figure 3-56. Profile image of Station 115 composed of silt-clay with deep prism penetration and the presence of feeding voids, deep burrowing fauna, and tubes on the sediment surface

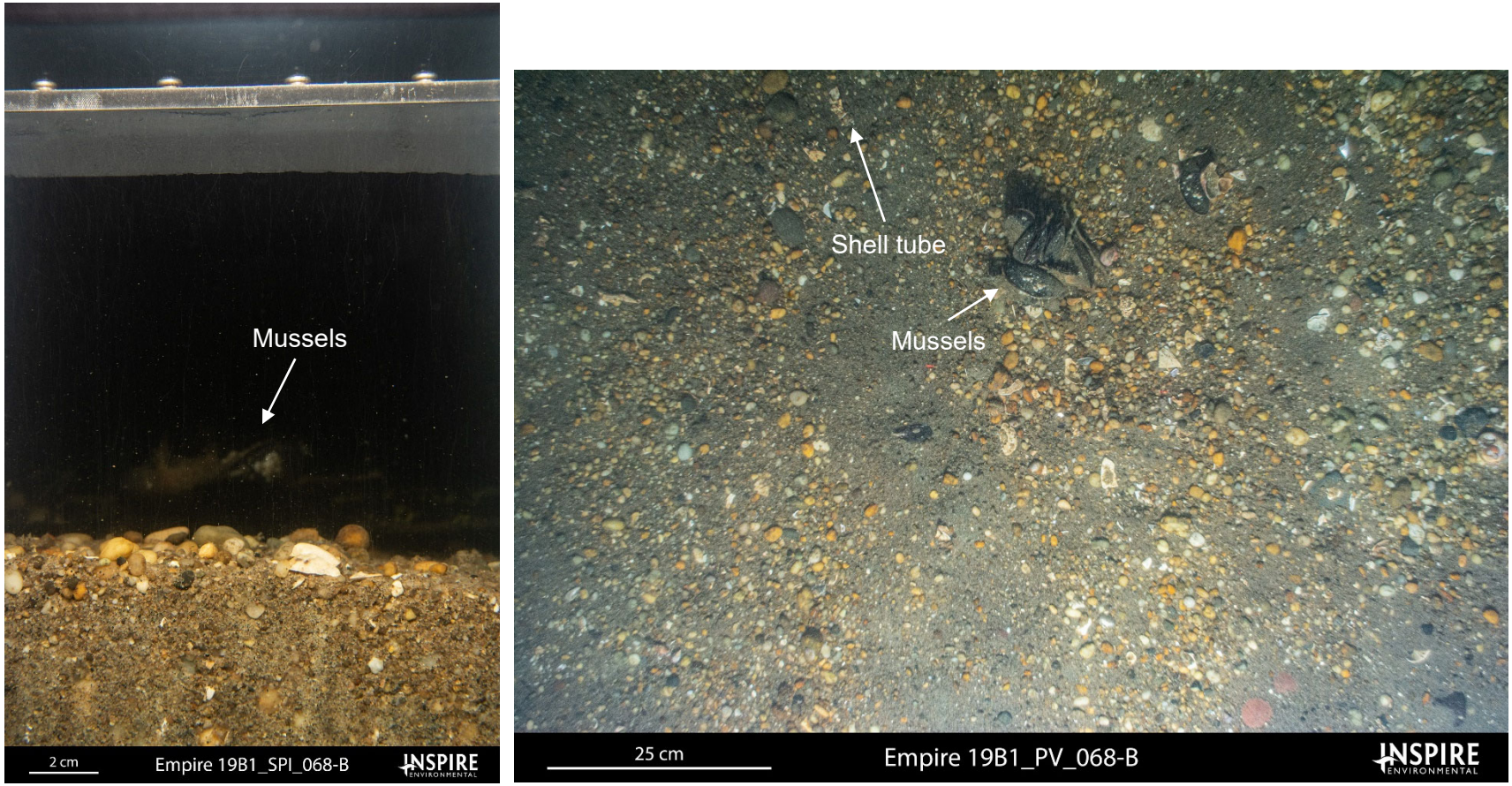
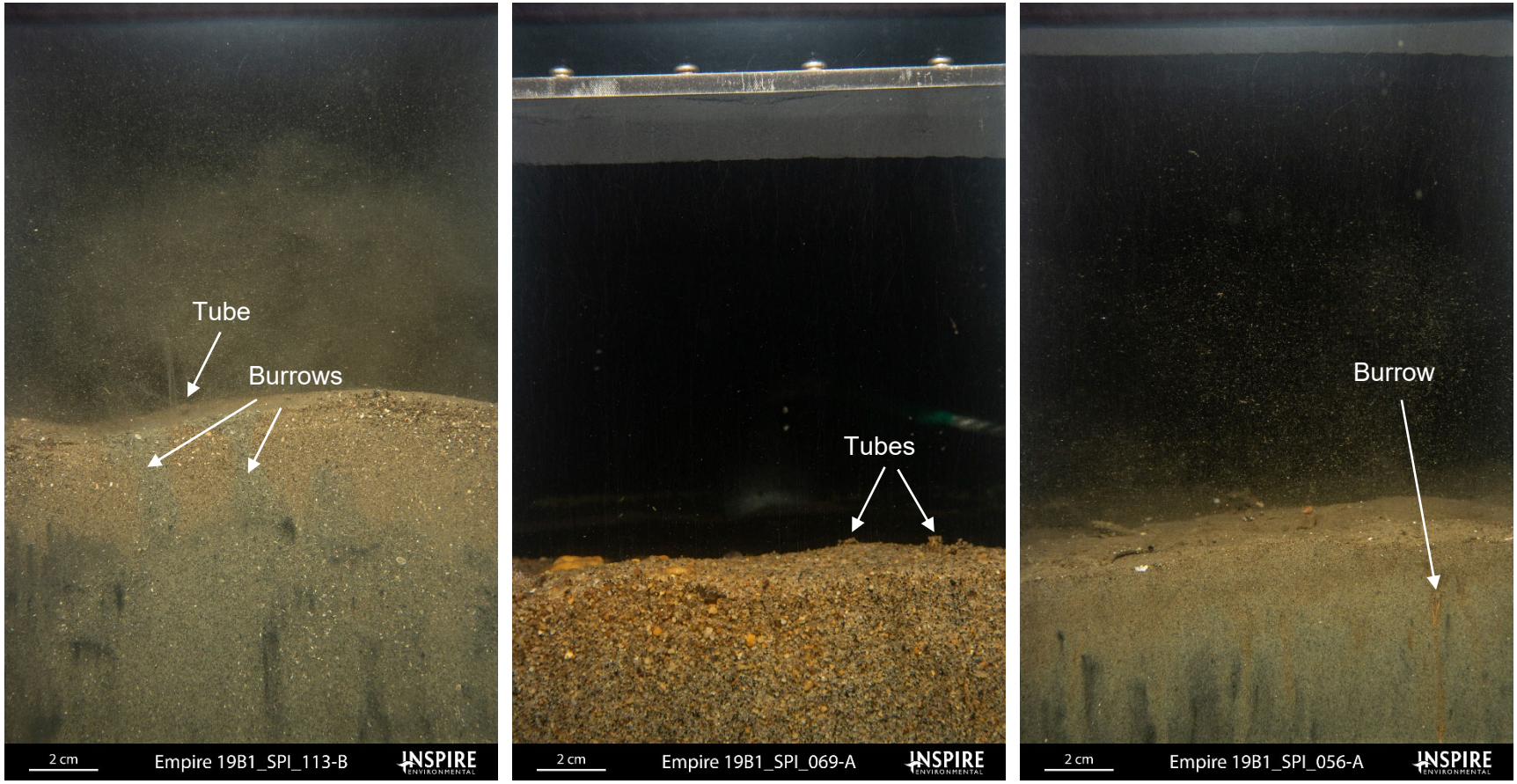


Figure 3-57. Profile and plan view images at Station 068 with mussels present on the seafloor along with tube building fauna (mussels visible in the background of the profile image). The sediment oxygen demand is low and the aRPD extends beneath the prism penetration.

(A) **(B)**

Figure 3-58. Profile images depicting (A) Station 110 with a diffusional aRPD and high sediment oxygen demand (SOD), note oxic brown sediment is dragged down into sediment column; and (B) Station 107 with a deep aRPD and medium SOD. Stations 110 and 107 had the shallowest and deepest aRPDs, respectively, along the New York Harbor Export Cable Route.



(A) **(B)** **(C)**

Figure 3-59. Profile images at (A) Station 113 depicting Stage 2 succession with shallow burrowing and a tube in the background; (B) Station 069 depicting Stage 2 succession evidenced by tubes at the sediment–water interface; and (C) Station 056 depicting Stage 2->3 succession evidence by large burrowing fauna

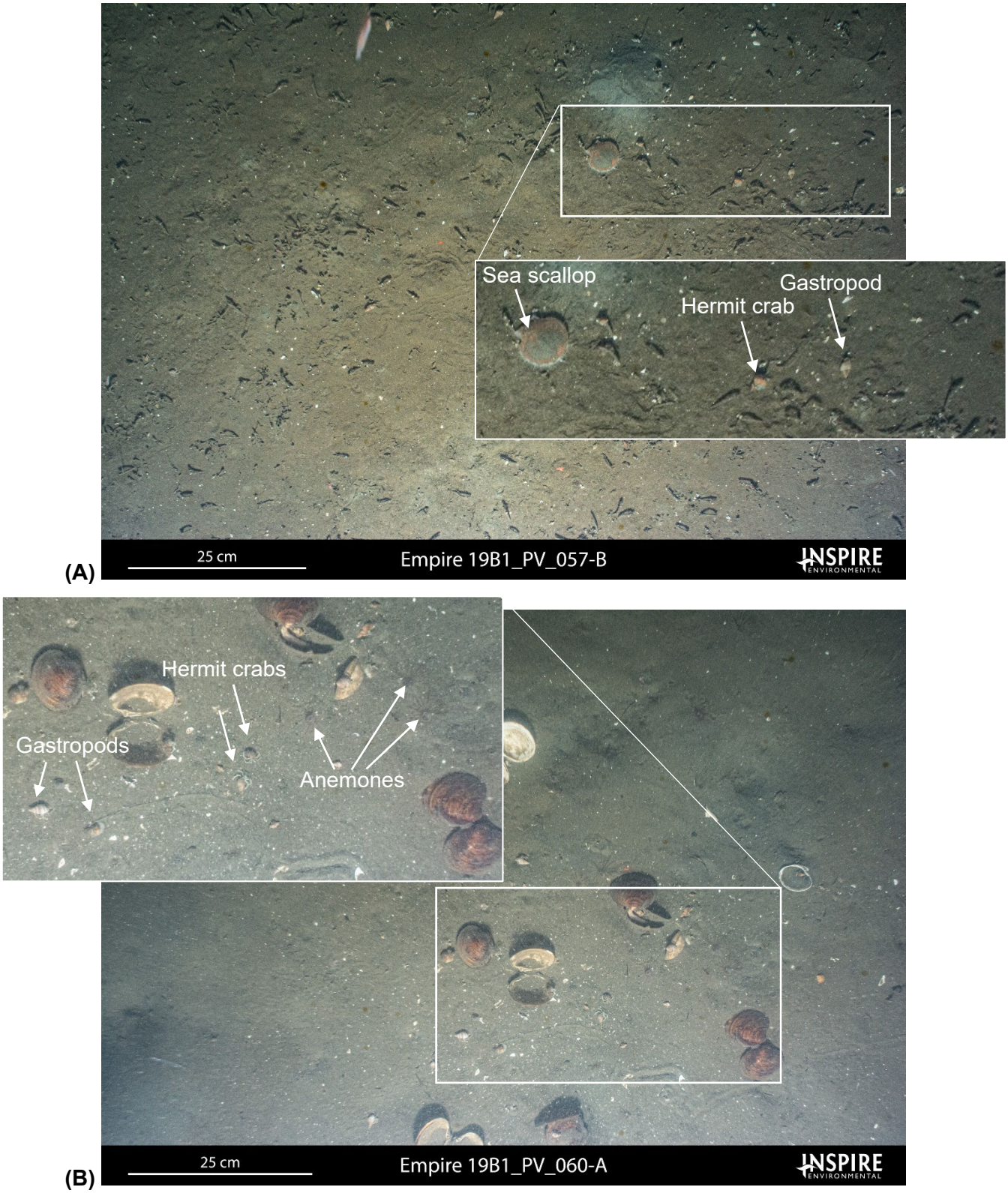


Figure 3-60. Plan view images at (A) Station 057 with a sea scallop visible amongst numerous hermit crabs and gastropods; and (B) Station 060 with numerous burrowing anemones, hermits crabs, and gastropods present

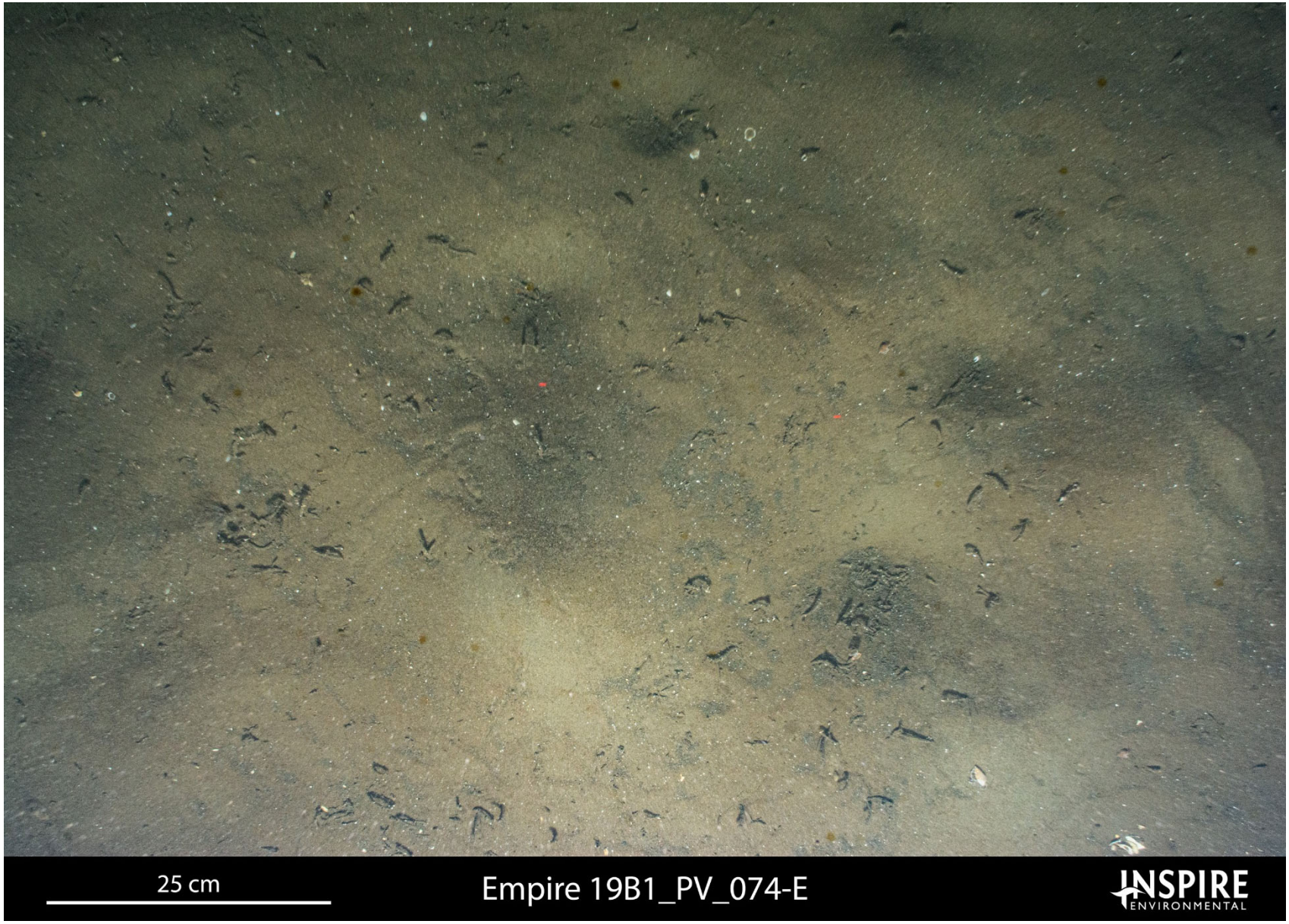


Figure 3-61. Plan view image at Station 074 with Diopatra cuprea tubes covering the seafloor