Black sea bass adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-16; Figure E-1-16). Black sea bass adults are found in benthic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998a). Adults generally summer in estuaries and coastal waters in depths of 125 ft (38 m) and overwinter offshore in deeper waters (MAFMC 1998a). They are generalist carnivores that feed on a variety of infaunal and epibenthic invertebrates, especially crustaceans, small fishes, and squid (Drohan et al. 2007). They exhibit high site fidelity and preference for structurally complex substrates, sand with shell hash, and artificial reefs (MAFMC 2017). Designated EFH for black sea bass adults is 66 to 1,312 ft (20 to 400 m), where temperatures span 43 to 81°F (6 to 27°C) and salinities are within 30 to 36 ppt (MAFMC 1998a; Drohan et al. 2007; MAFMC 2017).

The black sea bass is managed under the MAFMC Summer Flounder, Scup, and Black Sea Bass FMP as a single stock: the Mid-Atlantic Coast stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

E-1.2.16 Bluefish (*Pomatomus saltatrix*)

Bluefish egg EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-17; Figure E-1-17). In the Mid-Atlantic Bight, bluefish eggs are found in pelagic marine habitats over the continental shelf (MAFMC 1998b). Surface currents transport eggs south and offshore (Shephard and Packer 2006). The prolonged bluefish spawning season is attributed to at least three separate cohorts of bluefish that spawn independently in spring, summer, and fall. Designated EFH for bluefish eggs is in depths of 98 to 230 ft (30 to 70 m), where temperatures span 64 to 72°F (18 to 22°C) and salinities exceed 26 ppt (Fahay et al. 1999b; Shepherd and Packer 2006).

Table E-1-17. Bluefish (*Pomatomus saltatrix*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Egg	50,823	2,068	0
Larva	54,000	2,068	0
Juvenile	58,798	14,234	1,646
Adult	0	13,770	1,646
Percent of Project Area Covered by EFH by Life Stage			
Egg	45.1%	14.5%	0.0%
Larva	47.9%	14.5%	0.0%
Juvenile	52.1%	100.0%	99.6%
Adult	0.0%	96.7%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
Egg	0.170%	0.007%	0.000%
Larva	0.065%	0.002%	0.000%
Juvenile	0.059%	0.014%	0.002%
Adult	0.000%	0.010%	0.001%

Sources: MAFMC 1998b; Fahay et al. 1999b; Shepherd and Packer 2006; MAFMC 2017

Bluefish larva EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-17; Figure E-1-17). Bluefish larvae are found in pelagic marine habitats over the continental shelf (MAFMC 1998b). Individuals from the spring cohort associate strongly with surface

waters, while those from the summer cohort exhibit diel migrations from surface waters at night to below depths of 13 ft (4 m) during the day (Fahay et al. 1999b; Shepherd and Packer 2006). Young larvae primarily consume copepods and shift their diets to fish as they age (Shepherd and Packer 2006). Designated EFH for bluefish larvae spans May to September in depths of 98 to 230 ft (30 to 70 m), where temperatures span 64 to 79°F (18 to 26°C) and salinities are within 30 to 35 ppt (Fahay et al. 1999b; Shepherd and Packer 2006).

Bluefish juvenile EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-17; Figure E-1-17). Bluefish juveniles are found in pelagic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998b). They move shoreward with growth and enter estuarine nurseries (Fahay et al. 1999b; Shepherd and Packer 2006). Individuals from the summer cohort exhibit diel distributions from the shoreline during the day to open bay or channel waters at night (Fahay et al. 1999b; Shepherd and Packer 2006). Juveniles are opportunistic feeders that consume whatever taxa are locally abundant, including fish, crustaceans, and polychaetes (Shepherd and Packer 2006). Designated EFH for bluefish juveniles is in surface waters to mid-shelf depths, where temperatures span 59 to 86°F (15 to 30°C) and salinities are within 23 to 36 ppt (Fahay et al. 1999b; Shepherd and Packer 2006; MAFMC 2017).

Bluefish adult EFH is designated in both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-17; Figure E-1-17). Bluefish adults are found in pelagic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998b). They are highly migratory and their distribution varies seasonally and according to the size of the individuals comprising the schools (MAFMC 1998b). Like juveniles, adults are opportunistic feeders and consume a large variety of fishes, crustaceans, and polychaetes (Shepherd and Packer 2006). Designated EFH for bluefish adults is in surface waters to mid-shelf depths, where temperatures span 57 to 86°F (14 to 30°C) and salinities are within 32 to 33 ppt (Fahay et al. 1999b; Shepherd and Packer 2006; MAFMC 2017).

The bluefish is managed under the MAFMC Bluefish FMP as a single stock: the Atlantic Coast stock. The fishery stock is currently overfished but is not subject to overfishing (NOAA Fisheries 2019).

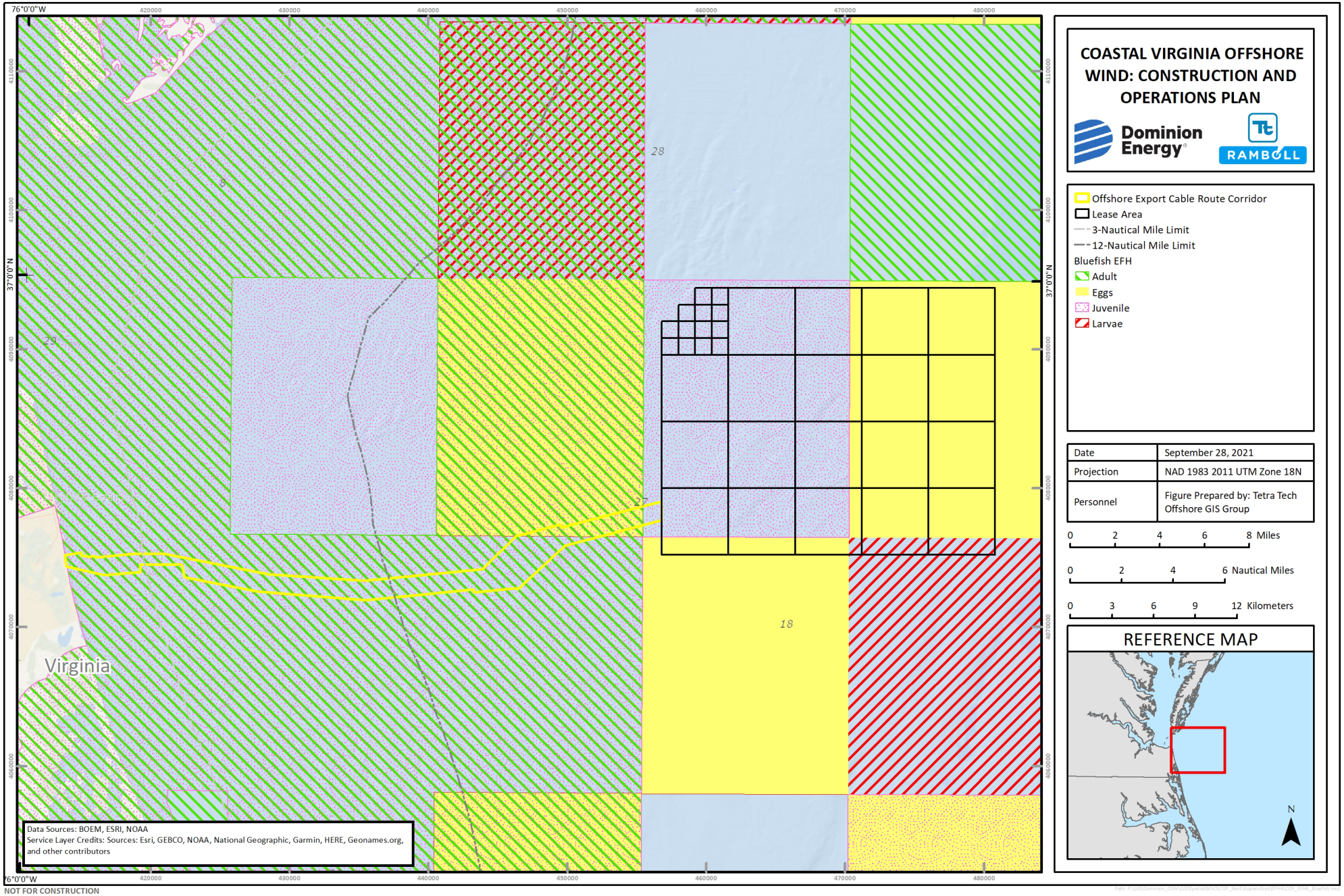


Figure E-1-17. Bluefish (*Pomatomus saltatrix*) Designated EFH in the Offshore Project Area

E-1.2.17 Longfin Inshore Squid (*Doryteuthis [Amerigo] pealeii*)

Longfin inshore squid egg EFH is designated in both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-18; Figure E-1-18). In the Mid-Atlantic Bight, longfin inshore squid eggs are found in inshore and offshore benthic marine habitats (MAFMC 2011). Egg masses, or "mops," are anchored to hand substrates, including shells, rocks, boulders, submerged aquatic vegetation, sand, and mud (MAFMC 2011). Designated EFH for longfin inshore squid eggs is in benthic habitat from the shoreline to depths of 164 ft (50 m), where temperatures span 50 to 73°F (10 to 23°C) and salinities are within 30 to 32 ppt (Cargnelli et al. 1999d; Jacobson 2005).

No longfin inshore squid larva EFH is designated in the Offshore Project Area.

Longfin inshore squid juvenile EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-18; Figure E-1-18). Juveniles and subadults (pre-recruits) are found in pelagic marine habitats in coastal inshore waters in spring through fall and offshore continental shelf waters in winter (Cargnelli et al. 1999d; Jacobson 2005). Juveniles exhibit diel migrations from the surface at night to greater depths during the day (Cargnelli et al. 1999d; Jacobson 2005). Their prey varies with size; small juveniles consume euphausiids and arrow worms, while larger juveniles consume small crabs, polychaetes, and shrimp (Jacobson 2005). Designated EFH for longfin inshore squid juveniles and subadults is the upper 33 ft (10 m) of pelagic habitat over depths of 164 to 328 ft (50 to 100 m), where temperatures span 50 to 79°F (10 to 26°C) and salinities are within 28 to 37 ppt (Cargnelli et al. 1999d; Jacobson 2005; MAFMC 2011).

Table E-1-18. Longfin Inshore Squid (*Doryteuthis [Amerigo] pealeii*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Egg	0	6,691	1,646
Juvenile	109,616	5,478	0
Adult	109,616	5,478	0
Percent of Project Area Covered by EFH by Life Stage			
Egg	0%	47.0%	99.6%
Juvenile	97.2%	38.5%	0.0%
Adult	97.2%	38.5%	0.0%
Percent of Total Species EFH Area Covered by Project Area			
Egg	0.000%	0.052%	0.013%
Juvenile	0.338%	0.019%	0.000%
Adult	0.339%	0.017%	0.000%

Sources: Cargnelli et al. 1999d; Jacobson 2005; MAFMC 2011

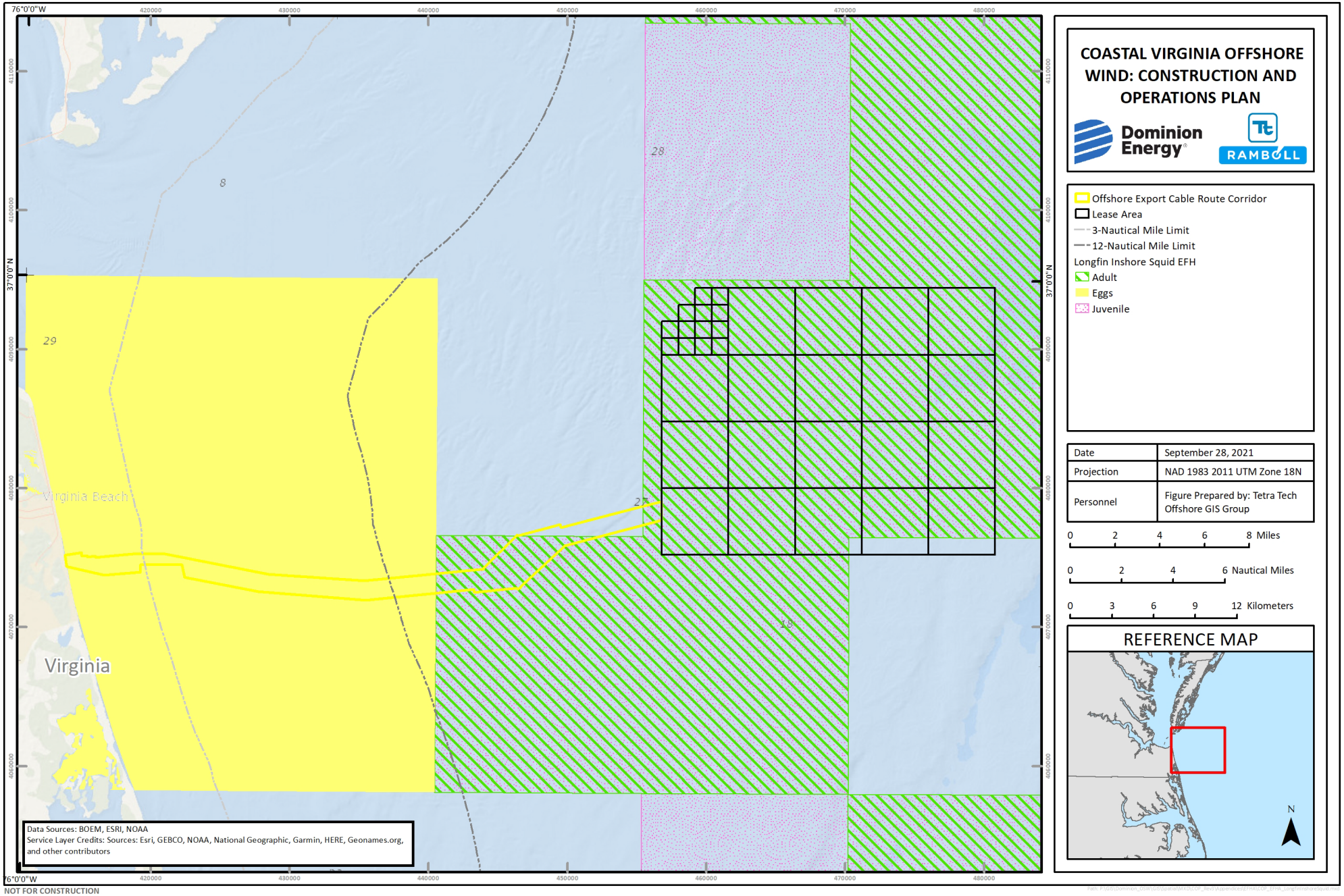


Figure E-1-18. Longfin Inshore Squid (*Doryteuthis [Amerigo] pealeii*) Designated EFH in the Offshore Project Area

Longfin inshore squid adult EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-18; Figure E-1-18). Adults (recruits) are found in pelagic marine habitats in inshore and offshore continental shelf waters and in the high salinity zones of regional embayments (MAFMC 2011). They migrate offshore in the fall and overwinter in warmer waters along the edge of the shelf; they exhibit diel vertical migrations from the surface at night to greater depths during the day (MAFMC 2011). Prey varies with individual size; small adults consume larval and juvenile fish and squid, while larger adults consume adult fish (e.g., hakes, mackerel, herring, anchovies, menhaden, weakfish) and squid (Jacobson 2005). Designated EFH for longfin inshore squid adults is in surface waters to depths of 591 ft (180 m) during spring and summer and depths of 1,312 ft (400 m) during fall and winter, where temperatures span 46 to 61°F (8 to 16°C) and salinities are within 24 to 37 ppt (Cargnelli et al. 1999d; Jacobson 2005; MAFMC 2011).

The longfin inshore squid is managed under the MAFMC Atlantic Mackerel, Squid, and Butterfish FMP as a single stock: the Georges Bank/Cape Hatteras stock. The fishery stock is not currently subject to overfishing, but the stock status remains unknown (NOAA Fisheries 2019).

E-1.2.18 Scup (*Stenotomus chrysops*)

No scup egg or larva EFH is designated in the Offshore Project Area.

Scup juvenile EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-19; Figure E-1-19). In the Mid-Atlantic Bight, scup juveniles are found in intertidal and subtidal benthic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998a). Juveniles exhibit seasonal changes in distribution from inshore waters in summer and nearshore waters in fall to offshore waters in winter and spring (Steimle et al. 1999d). In inshore waters, juveniles associate with a variety of substrates, including mud, sand, mussel, and eelgrass beds; in offshore waters, juveniles are found over a variety of sand substrates (Steimle et al. 1999d). They feed on polychaetes, epibenthic amphipods and other small crustaceans, mollusks, and fish eggs and larvae (Steimle et al. 1999d). Designated EFH for scup juveniles is from the shoreline to depths of 125 ft (38 m), where temperatures span 45 to 81°F (7 to 27°C) and salinities exceed 15 ppt (MAFMC 1998a; Steimle et al. 1999d).

Table E-1-19. Scup (*Stenotomus chrysops*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	112,799	14,234	1,652
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	100.0%	100.0%	100.0%
Adult	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.353%	0.045%	0.005%
Adult	0.328%	0.041%	0.005%

Sources: MAFMC 1998a; Steimle et al. 1999d

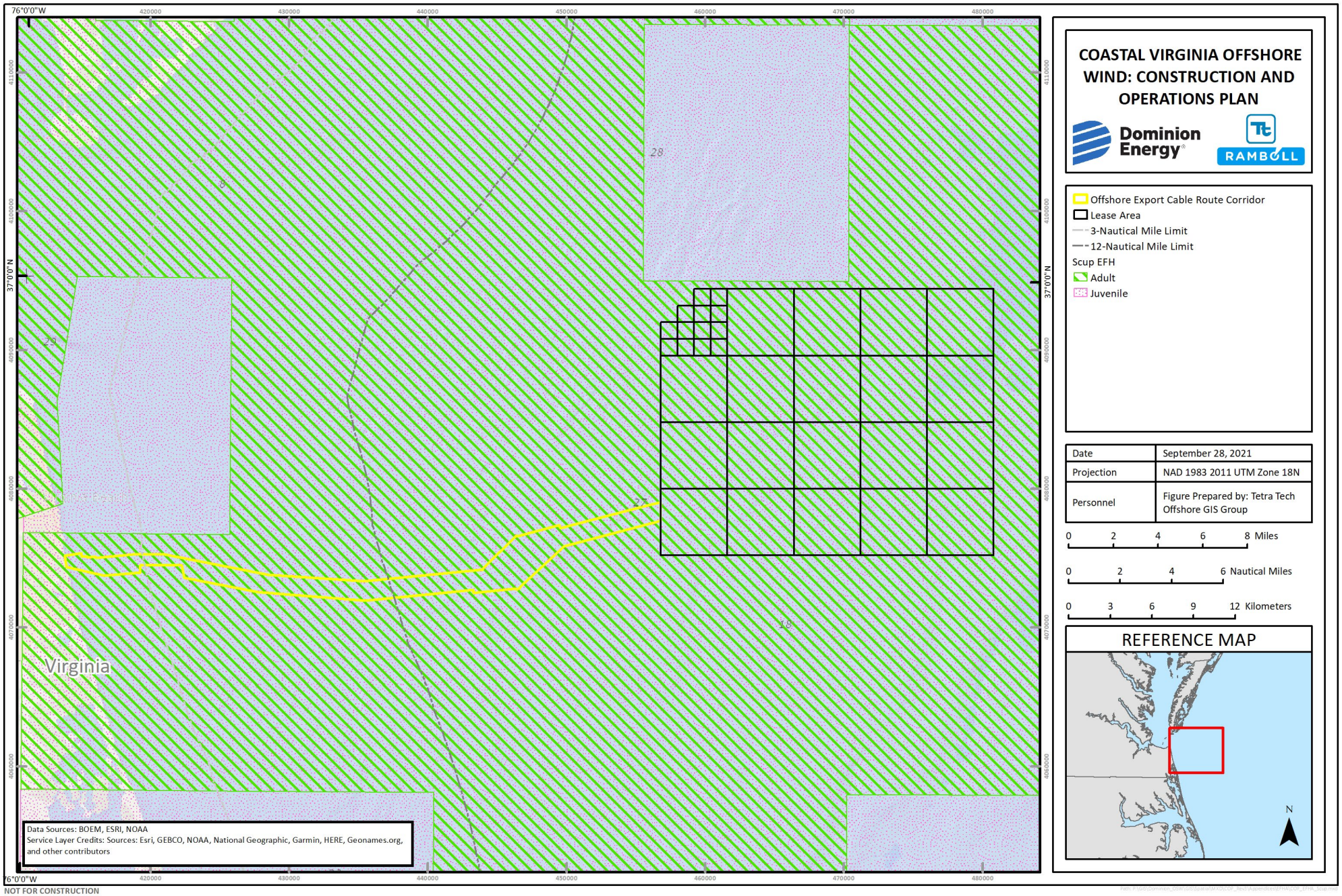


Figure E-1-19. Scup (*Stenotomus chrysops*) Designated EFH in the Offshore Project Area

Scup adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-19; Figure E-1-19).

Scup adults are found in intertidal and subtidal benthic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998a). Adults generally overwinter offshore and move inshore during summer, during which time they associate with a variety of substrates, including fine to silty sand, mud, mussel beds, rocks, and artificial reefs (Steimle et al. 1999d). They feed on polychaetes, mollusks, small squid, detritus, insect larvae, hydroids, sand dollars, and small fish (Steimle et al. 1999d). Designated EFH for scup adults is in depths of 7 to 125 ft (2 to 38 m) during summer and 125 to 607 ft (38 to 185 m) during winter, where temperatures span 45 to 77°F (7 to 25°C) and salinities are within 20 to 31 ppt (Steimle et al. 1999d).

The scup is managed under the MAFMC Summer Flounder, Scup, and Black Sea Bass FMP as a single stock: the Atlantic Coast stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

E-1.2.19 Spiny Dogfish (*Squalus acanthias*)

No spiny dogfish neonate, juvenile, or sub-adult male EFH is designated in the Offshore Project Area.

Spiny dogfish sub-adult female EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-20; Figure E-1-20). In the Mid-Atlantic Bight, sub-adult females are often more widely distributed than sub-adult males and are found in epibenthic and pelagic marine habitats, primarily on the outer continental shelf (MAFMC 2014). They feed on a variety of fish, squid, and ctenophores (Stehlik 2007). Designated EFH for spiny dogfish sub-adult females is over a wide depth range in temperatures spanning 45 to 59°F (7 to 15°C) and salinities within 32 to 35 ppt (MAFMC 2014).

Table E-1-20. Spiny Dogfish (*Squalus acanthias*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Sub-Adult Female	112,799	14,234	1,652
Adult Female	112,799	12,575	0
Adult Male	58,805	7,155	1,652
Percent of Project Area Covered by EFH by Life Stage			
Sub-Adult Female	100.0%	100.0%	100.0%
Adult Female	100.0%	88.3%	0.0%
Adult Male	52.1%	50.3%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Sub-Adult Female	0.271%	0.034%	0.004%
Adult Female	0.321%	0.036%	0.000%
Adult Male	0.161%	0.020%	0.005%

Sources: McMillan and Morse 1999; Stehlik 2007; MAFMC 2014

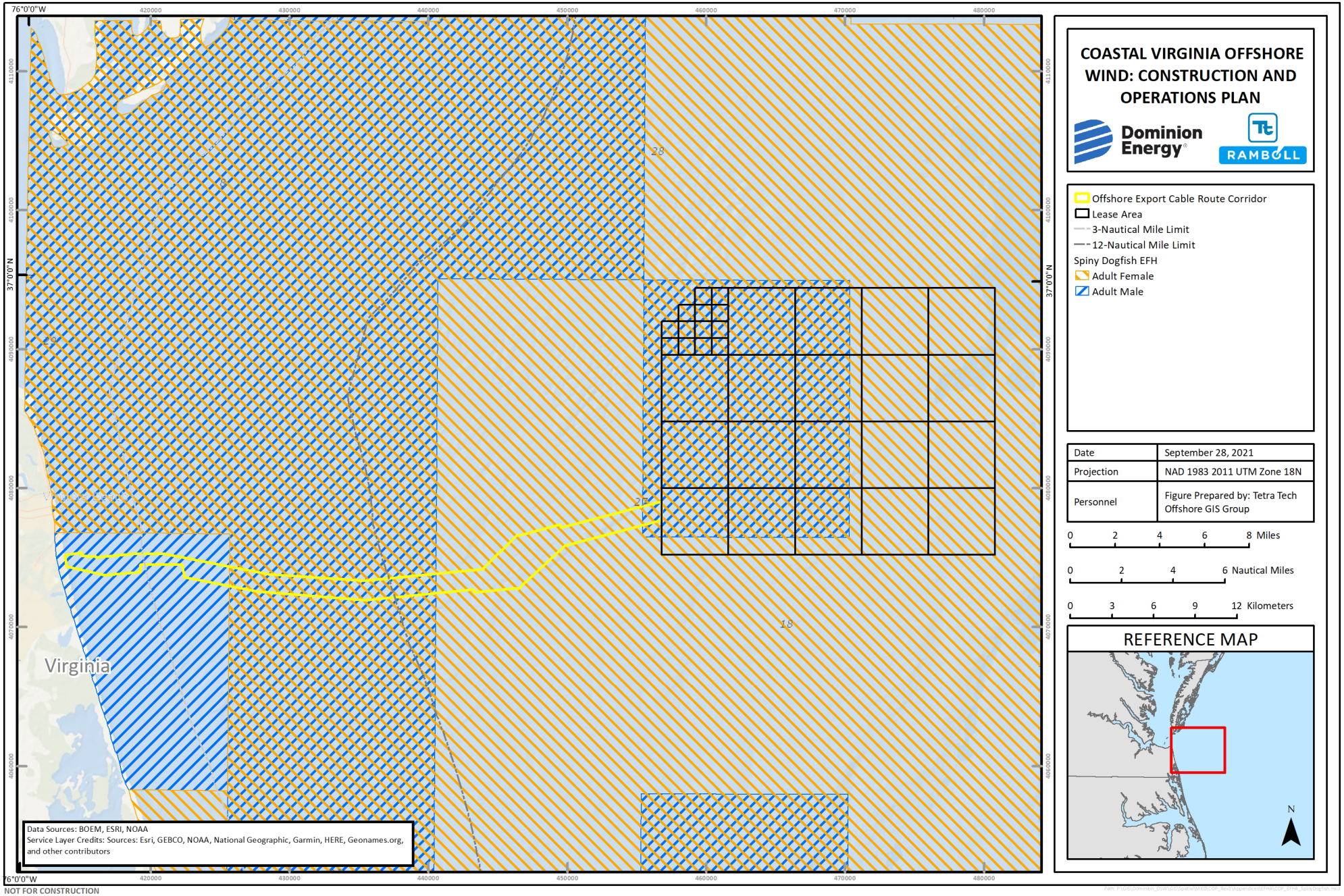


Figure E-1-20. Spiny Dogfish (*Squalus acanthias*) Designated EFH in the Offshore Project Area

Spiny dogfish adult male and female EFH is designated in the Lease Area and federal of the Offshore Export Cable Route Corridor; adult male EFH is also designated in state waters of the Offshore Export Cable Route Corridor (Table E-1-20; Figure E-1-20). Spiny dogfish adults are found in epibenthic and pelagic marine habitats (MAFMC 2014). They are widely distributed in winter and spring, but few remain in the Mid-Atlantic Bight in summer and fall when temperatures exceed 59°F (15°C) (MAFMC 2014). They consume the same prey as sub-adults, though the size of their prey increases as they age (Stehlik 2007). Designated EFH for spiny dogfish adults is in depths of 82 to 1,194 ft (25 to 364 m), where temperatures span 45 to 59°F (7 to 15°C) and salinities are within 30 to 35 ppt (McMillan and Morse 1999; Stehlik 2007; MAFMC 2014).

The spiny dogfish is co-managed by the NEFMC and MAFMC under the Spiny Dogfish FMP as a single stock: the Atlantic Coast stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

E-1.2.20 Summer Flounder (*Paralichthys dentatus*)

Summer flounder EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-21; Figure E-1-21). In the Mid-Atlantic Bight, summer flounder eggs are found in pelagic marine habitats over the continental shelf (MAFMC 1998a). Designated EFH for summer flounder eggs is in depths of 30 to 360 ft (9 to 110 m), where temperatures span 48 to 73°F (9 to 23°C) and salinities are within 22 to 33 ppt (Packer et al. 1999b).

Summer flounder larva EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-21; Figure E-1-21). Summer flounder larvae are found in pelagic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries; they primarily feed on copepods (MAFMC 1998a; Packer et al. 1999b). Larvae are most abundant nearshore and exhibit a seasonal shift from the northern Mid-Atlantic Bight from September through February to the southern Mid-Atlantic Bight from November to May (MAFMC 1998a). Designated EFH for summer flounder larvae is in depths of 30 to 230 ft (9 to 70 m), where temperatures span 32 to 73°F (0 to 23°C) and salinities are within 10 to 30 ppt (Packer et al. 1999b).

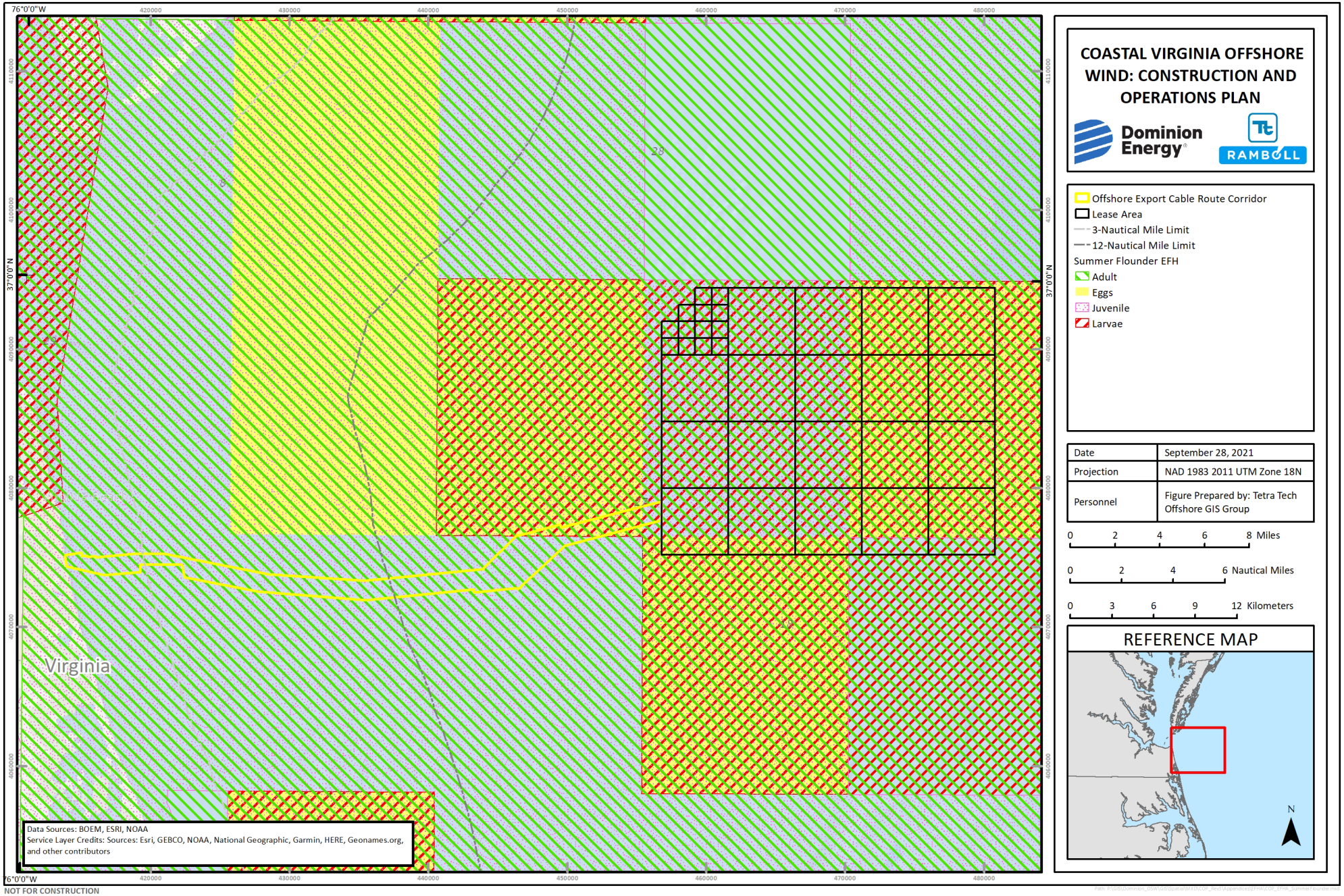


Figure E-1-21. Summer Flounder (*Paralichthys dentatus*) Designated EFH in the Offshore Project Area

Table E-1-21. Summer Flounder (*Paralichthys dentatus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Egg	50,823	2,068	0
Larva	112,799	2,530	0
Juvenile	109,621	14,234	1,652
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Egg	45.1%	14.5%	0.0%
Larva	100.0%	17.8%	0.0%
Juvenile	97.2%	100.0%	100.0%
Adult	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Egg	0.598%	0.024%	0.000%
Larva	0.244%	0.005%	0.000%
Juvenile	0.193%	0.025%	0.003%
Adult	0.156%	0.020%	0.002%

Sources: MAFMC 1998a; Packer et al. 1999b

Summer flounder juvenile EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-21; Figure E-1-21). Summer flounder juveniles are found in benthic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998a). Juveniles generally use estuaries as nursery habitat, including salt marsh creeks, seagrass beds, mudflats, and sands of open bay areas (MAFMC 1998a). They are opportunistic feeders that consume polychaetes, infaunal invertebrates, bivalve siphons, and small fish (Packer et al. 1999b). Designated EFH for summer flounder juveniles is benthic habitat from the shoreline to depths of 500 ft (152 m), where temperatures span 37 to 81°F (3 to 27°C) and salinities are within 18 to 35 ppt (Packer et al. 1999b).

Summer flounder adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-21; Figure E-1-21). Summer flounder adults are found in benthic marine habitats over the continental shelf and in the mixed and high salinity zones of regional estuaries (MAFMC 1998a). Adults generally inhabit shallow coastal and estuarine waters during warmer months and move offshore to outer continental shelf substrates in colder months (MAFMC 1998a). Like juveniles, they are opportunistic feeders that consume a variety of fish (e.g., flounders, anchovies, hakes, scup, bluefish, weakfish) and invertebrates (e.g., crabs, squids, shrimps, bivalves, gastropods, worms, sand dollars) (Packer et al. 1999b). Designated EFH for summer flounder adults is benthic habitat from the shoreline to 500 ft (152 m), where temperatures span 36 to 81°F (2 to 27°C) (Packer et al. 1999b).

The summer flounder is managed under the MAFMC Summer Flounder, Scup, and Black Sea Bass FMP as a single stock: the Mid-Atlantic Coast stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

E-1.2.21 Albacore Tuna (*Thunnus alalonga*)

No albacore tuna egg, larva, or adult EFH is designated in the Offshore Project Area. Albacore tuna juvenile EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-22; Figure E-1-22).

Table E-1-22. Albacore Tuna (*Thunnus alalonga*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.090%	0.011%	0.001%

Sources: NOAA Fisheries 2017

The albacore tuna is a highly migratory, temperate, epipelagic species with a poorly known life history. In the Atlantic Ocean, the species ranges from between 40°N to 40°S (NOAA Fisheries 2017). Individuals aggregate in schools (often containing multiple species of tuna) according to size; schools comprised of the largest individuals complete the longest journeys. The albacore tuna is generally found in surface waters in temperatures ranging from 61 to 66°F (16 to 19°C), but individuals may dive into waters as cold as 48°F (9°C) (NOAA Fisheries 2017). Juveniles (up to five years old) and adults conduct feeding migrations throughout the central Atlantic during winter and northeastern Atlantic during summer and fall (NOAA Fisheries 2017). They forage opportunistically in epipelagic to upper mesopelagic waters and consume medium-sized fish and cephalopods (NOAA Fisheries 2017). Designated EFH for albacore tuna juveniles and adults is offshore, pelagic habitats of the Atlantic Ocean from the outer edge of the United States (U.S.) Exclusive Economic Zone through Georges Bank and south to Cape Hatteras, North Carolina (NOAA Fisheries 2017).

The albacore tuna is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the North Atlantic stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

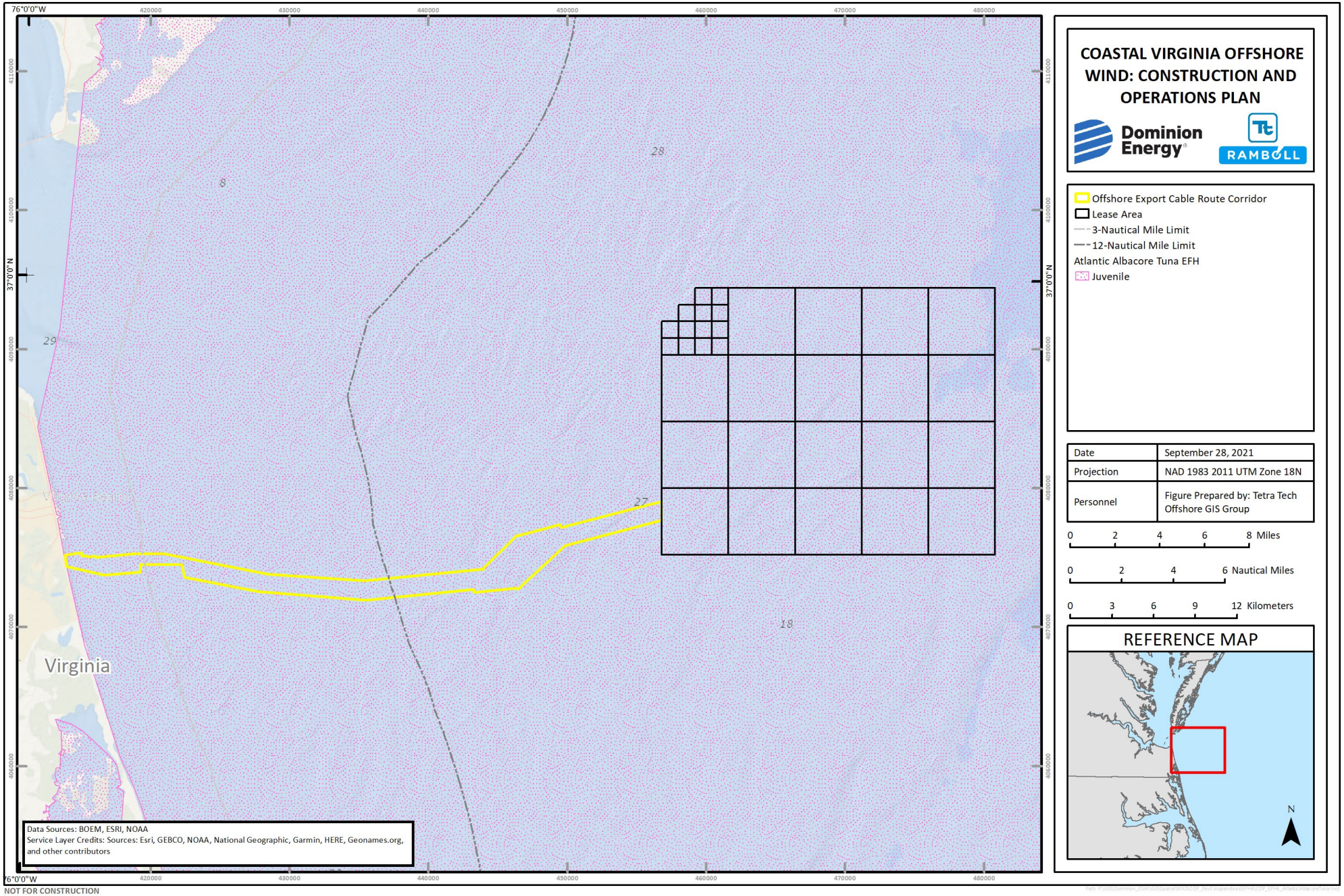


Figure E-1-22. Albacore Tuna (*Thunnus alalonga*) Designated EFH in the Offshore Project Area

E-1.2.22 Atlantic Angel Shark (*Squatina dumeril*)

Atlantic angel shark EFH for all life stages is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-23; Figure E-1-23).

Table E-1-23. Atlantic Angel Shark (*Squatina dumeril*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
ALL	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
ALL	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
ALL	0.239%	0.030%	0.004%

Sources: NOAA Fisheries 2017

The Atlantic angel shark is a highly migratory species found in benthic marine habitats in coastal waters of the U.S. from Massachusetts to the Florida Keys, Gulf of Mexico, and Caribbean (NOAA Fisheries 2017). They conduct seasonal migrations from shallow to deep waters and consume teleost fishes, cephalopods, crustaceans, and portunid crabs (NOAA Fisheries 2017). Designated EFH for all life stages of the Atlantic angel shark in the Atlantic Ocean includes benthic habitats on the continental shelf from Cape May, New Jersey to Cape Lookout, North Carolina (NOAA Fisheries 2017).

The Atlantic angel shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP. Fishing for the Atlantic angel shark is prohibited in U.S. waters (NOAA Fisheries 2017).

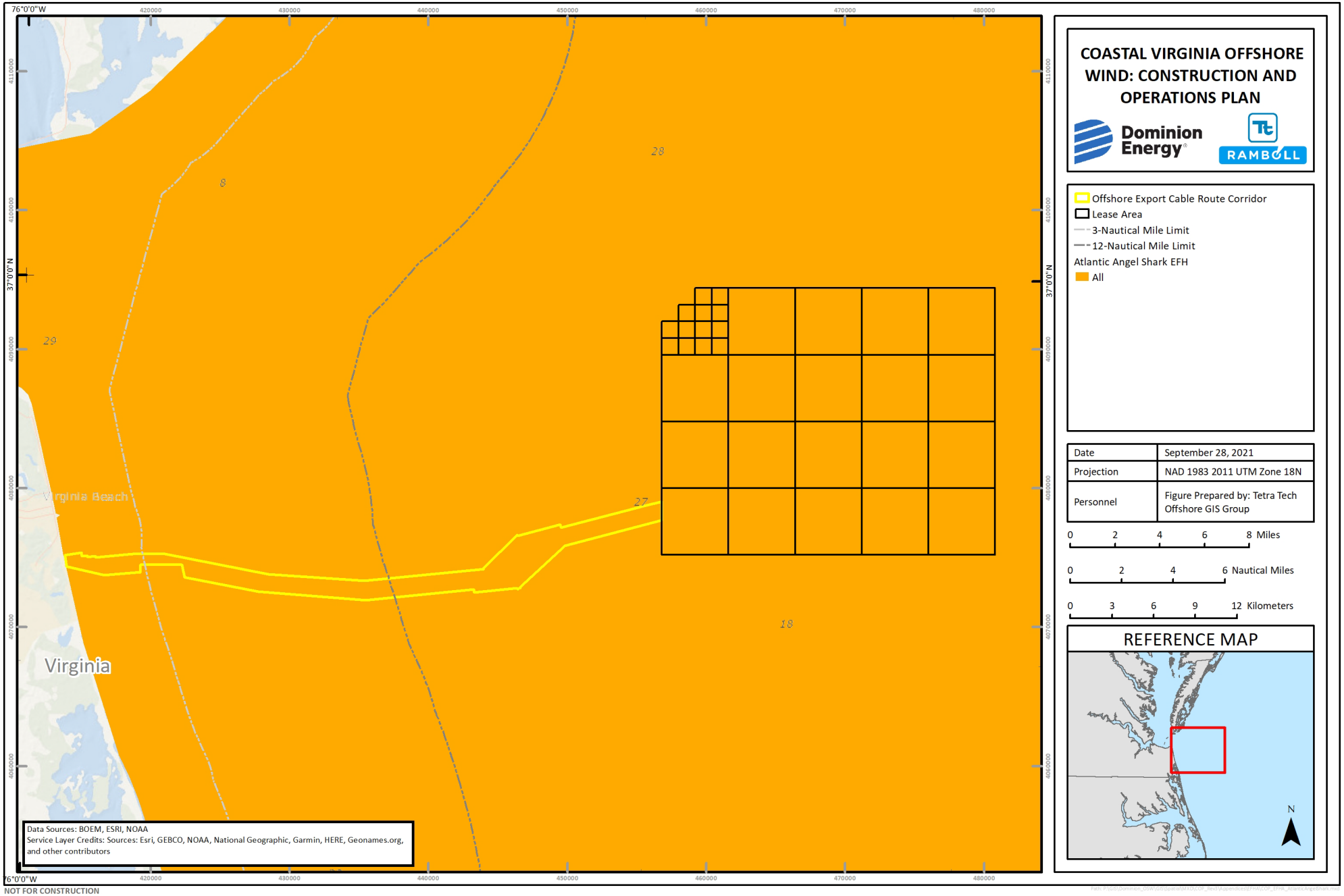


Figure E-1-23. Atlantic Angel Shark (*Squatina dumeril*) Designated EFH in the Offshore Project Area

E-1.2.23 Atlantic Bluefin Tuna (*Thunnus thynnus*)

No Atlantic bluefin tuna egg or larva EFH is designated in the Offshore Project Area. Atlantic bluefin tuna juvenile and adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-24; Figure E-1-24).

Table E-1-24. Atlantic Bluefin Tuna (*Thunnus thynnus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	112,799	14,234	1,652
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	100.0%	100.0%	100.0%
Adult	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.318%	0.040%	0.005%
Adult	0.058%	0.007%	0.001%

Sources: NOAA Fisheries 2017

The Atlantic bluefin tuna is a highly migratory species that historically ranged from the equator to 45°N in the Western Atlantic Ocean; warming sea temperatures have allowed a range expansion as far north as 60°N (NOAA Fisheries 2017). The species spawns from April to June in the Gulf of Mexico, Bahamas, and Florida Straits; there is also evidence of spawning behavior and larval presence in the Slope Sea of the Mid-Atlantic Bight. Larvae are typically found at depths of 6,000 ft (1,829 m) and within narrow temperature and salinity ranges of approximately 79°F (26°C) and 36 ppt, respectively (NOAA Fisheries 2017). YOY begin migrations in June to juvenile habitats over the continental shelf near 34°N and 41°W and shift with age to nursery areas between Cape Hatteras, North Carolina, and Cape Cod, Massachusetts. Individuals conduct seasonal migrations in pursuit of forage species off the eastern U.S. and Canadian coasts from June through March (NOAA Fisheries 2017). Though the species is generally epipelagic in the open ocean, some individuals migrate inshore during the summer in pursuit of prey (e.g., herring, mackerel, and squid). Juveniles feed primarily on zooplanktivorous fishes and crustaceans, while adults opportunistically prey on schooling fish, cephalopods, and benthic invertebrates (NOAA Fisheries 2017). Designated EFH for juveniles is in coastal and pelagic habitats from shore to the continental shelf break, where depths span 66 to 328 ft (20 to 100 m) and temperatures range from 39 to 79°F (4 to 26°C). Designated EFH for adults in the Mid-Atlantic Bight is in coastal and offshore pelagic habitat from southern New England to Onslow Bay, North Carolina (NOAA Fisheries 2017).

The Atlantic bluefin tuna is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Western Atlantic stock. The fishery stock is not currently subject to overfishing, but the stock status remains unknown (NOAA Fisheries 2019).

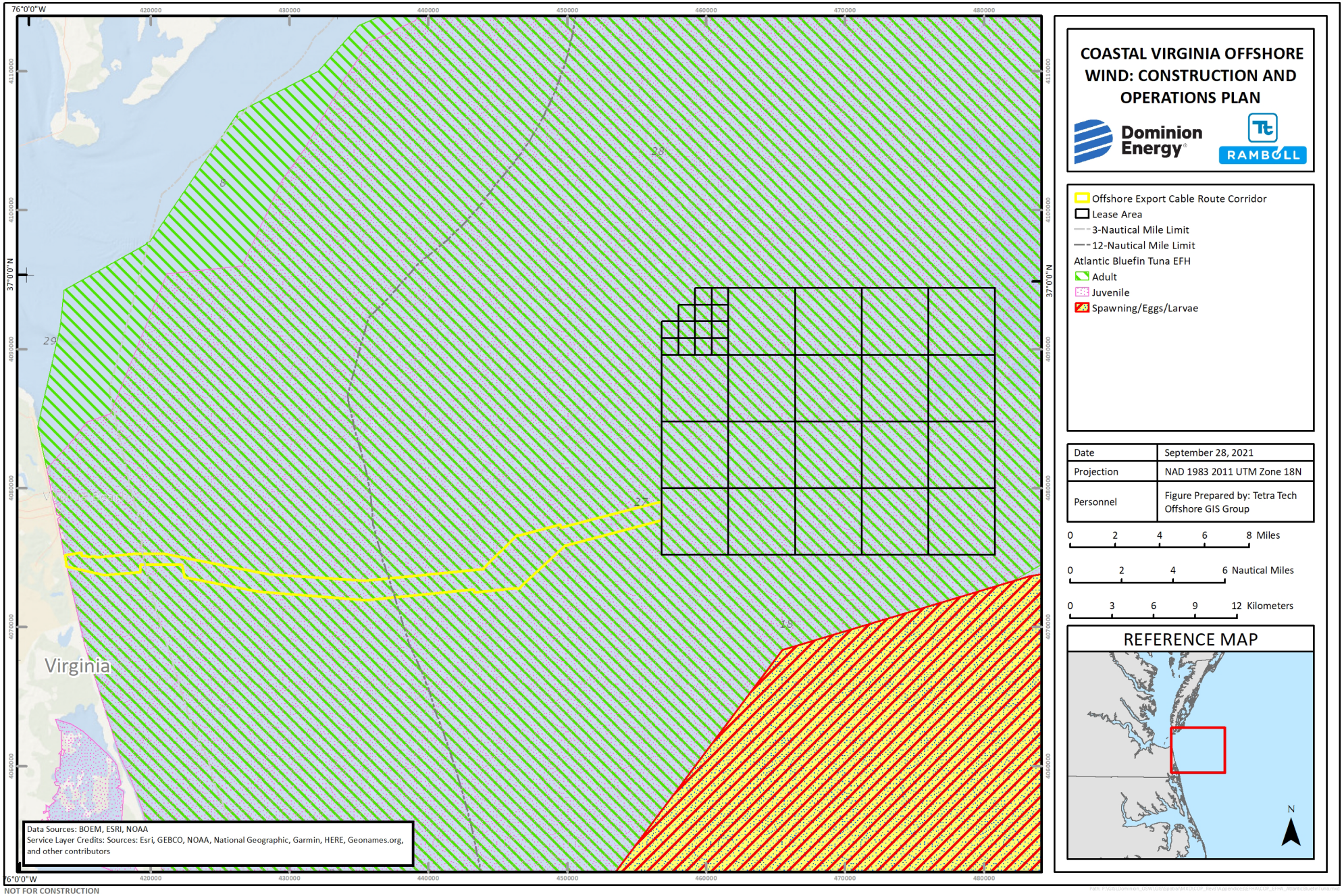


Figure E-1-24. Atlantic Bluefin Tuna (*Thunnus thynnus*) Designated EFH in the Offshore Project Area

E-1.2.24 Atlantic Sharpnose Shark (*Rhizoprionodon terraenovae*)

No Atlantic sharpnose shark neonate EFH is designated in the Offshore Project Area. Atlantic sharpnose shark juvenile and adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-25; Figure E-1-25).

Table E-1-25. Atlantic Sharpnose Shark (*Rhizoprionodon terraenovae*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	0	3,648	1,652
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	0.0%	25.6%	100.0%
Adult	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.000%	0.013%	0.006%
Adult	0.351%	0.044%	0.005%

Sources: NOAA Fisheries 2017

The Atlantic sharpnose shark is an abundant summer migrant off coastal Virginia and the Chesapeake Bay. Designated EFH for neonates and YOY is in estuarine, inshore, and nearshore nursery habitats from the shoreline to maximum depths of 43 ft (13 m), where temperatures span 64 to 89°F (18 to 31°C) and salinities are within 21 to 37 ppt (NOAA Fisheries 2017). Designated EFH for juveniles is in estuarine, inshore, and nearshore waters with an offshore depth extent of 591 ft (180 m), where temperatures span 63 to 91°F (17 to 33°C) and salinities are within 21 to 37 ppt. Juveniles and adults primarily feed on teleost fishes (NOAA Fisheries 2017). Designated EFH for adults is in inshore and nearshore waters with an offshore depth extent of 591 ft (180 m). Both juveniles and adults exhibit seasonal summer distributions in the northern portion of the species' Atlantic stock range (NOAA Fisheries 2017).

The Atlantic sharpnose shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as two separate stocks: the Atlantic stock and the Gulf of Mexico stock. Neither stock is currently overfished or subject to overfishing (NOAA Fisheries 2019).

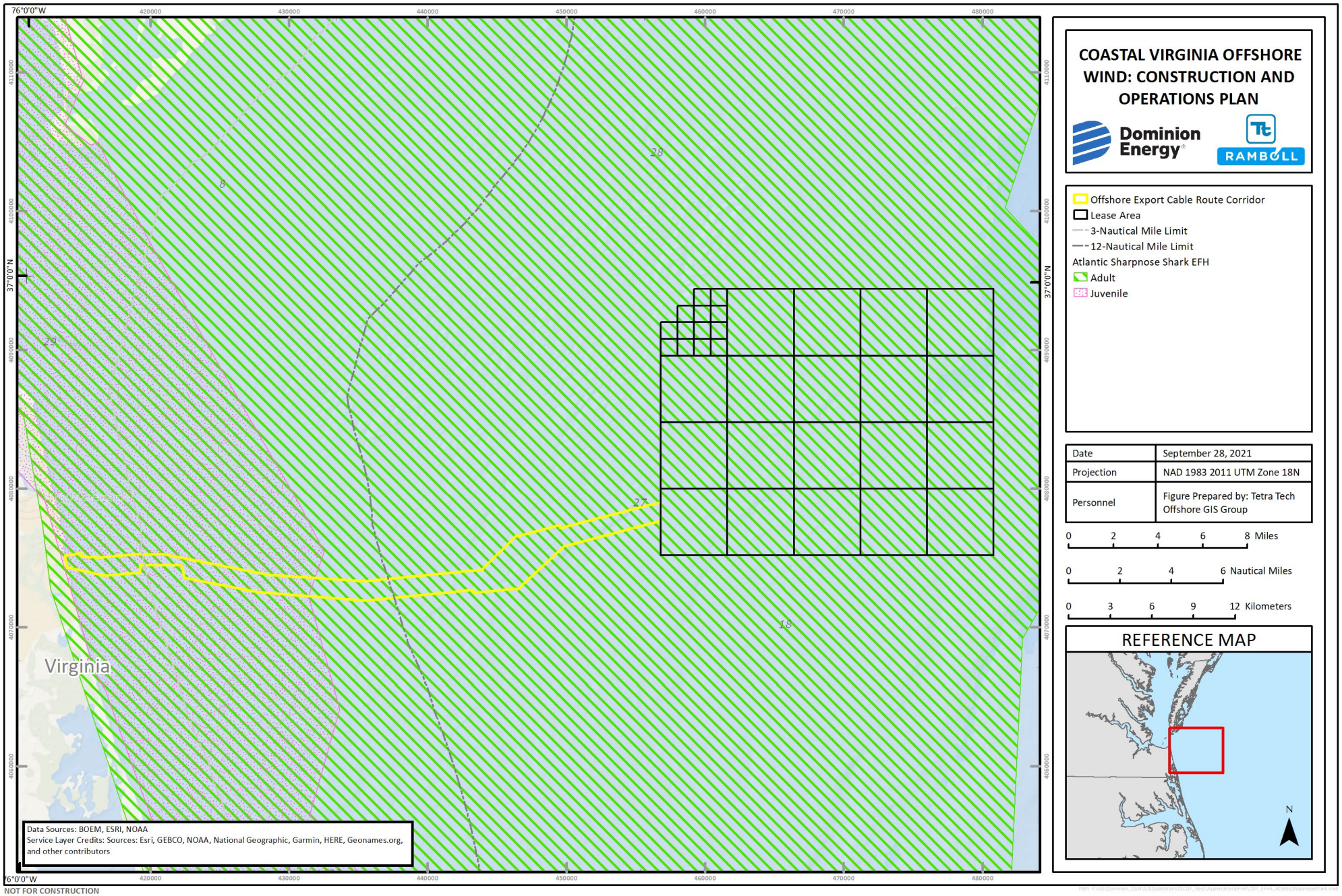


Figure E-1-25. Atlantic Sharpnose Shark (*Rhizoprionodon terraenovae*) Designated EFH in the Offshore Project Area

E-1.2.25 Atlantic Skipjack Tuna (*Katsuwonus pelamis*)

No Atlantic skipjack tuna egg or larva EFH is designated in the Offshore Project Area. Atlantic skipjack tuna juvenile EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-26; Figure E-1-26). Atlantic skipjack tuna adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-26; Figure E-1-26).

Table E-1-26. Atlantic Skipjack Tuna (*Katsuwonus pelamis*) Designated EFH in the Offshore Project Area

Action Area		Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	112,799	3,119	0
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	100.0%	21,9%	0.0%
Adult	100.0%	100.0%	99.647%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.056%	0.002%	0.000%
Adult	0.071%	0.009%	0.001%

Sources: NOAA Fisheries 2017

The Atlantic skipjack tuna is a highly migratory, epipelagic species present in tropical and warm-temperate waters from Newfoundland to Brazil (NOAA Fisheries 2017). While the species resides in surface waters, individuals may dive to depths of 853 ft (260 m) during the day. Schools of Atlantic skipjack tuna are associated with convergences, hydrographic discontinuities, birds, drifting objects, whales, sharks, and other tuna species. Both juveniles and adults opportunistically feed on fishes, cephalopods, and crustaceans; their prey often include *Sargassum*-associated species (NOAA Fisheries 2017). Designated EFH for juveniles is in coastal pelagic habitats from Massachusetts to South Carolina and in offshore pelagic habitats seaward of the continental shelf break in depths greater than 66 ft (20 m). Designated EFH for adults is in coastal and offshore pelagic habitats from Massachusetts to Cape Lookout, North Carolina. The optimal temperature range for the species is 68 to 88°F (20 to 13°C) (NOAA Fisheries 2017).

The Atlantic skipjack tuna is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Western Atlantic stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

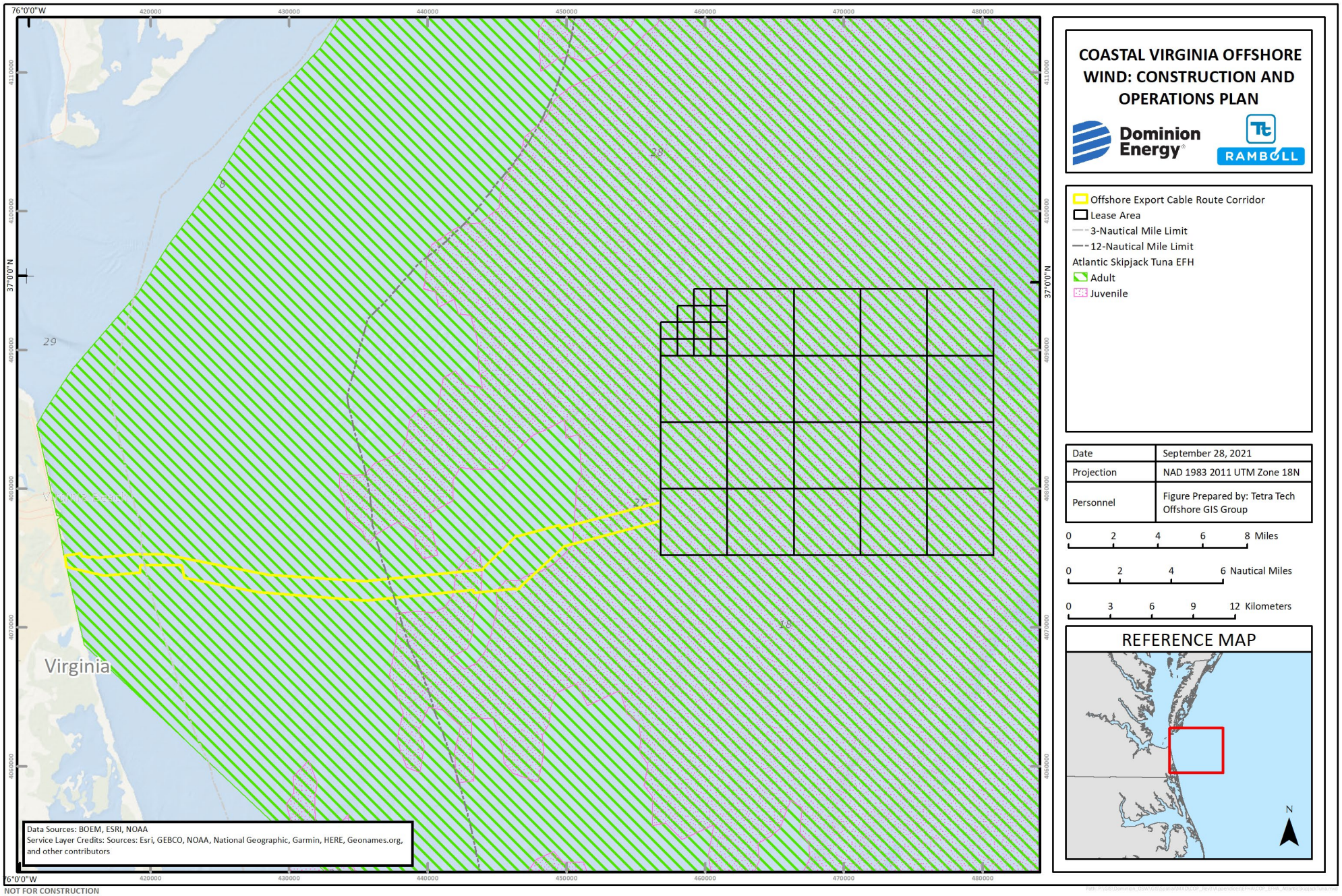


Figure E-1-26. Atlantic Skipjack Tuna (*Katsuwonus pelamis*) Designated EFH in the Offshore Project Area

E-1.2.26 Atlantic Yellowfin Tuna (*Thunnus albacares*)

No Atlantic yellowfin egg or larva EFH is designated in the Offshore Project Area. Atlantic yellowfin tuna juvenile EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-27; Figure E-1-27). Atlantic yellowfin tuna adult EFH is designated in the Lease Area (Table E-1-27; Figure E-1-27).

Table E-1-27. Atlantic Yellowfin Tuna (*Thunnus albacares*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile	112,799	14,234	1,652
Adult	19,690	0	0
Percent of Project Area Covered by EFH by Life Stage			
Juvenile	100.0%	100.0%	100.0%
Adult	17.5%	0.0%	0.0%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile	0.062%	0.008%	0.001%
Adult	0.015%	0.000%	0.000%

Sources: NOAA Fisheries 2017

The Atlantic yellowfin tuna is a highly migratory, epipelagic species found in tropical and temperate waters between 45°N and 40°S (NOAA Fisheries 2017). Juveniles aggregate at the surface in mixed schools of skipjack and bigeye tuna, while larger adults extend their ranges into deeper waters and higher latitudes; vertical distribution has been associated with thermocline depth. Both juveniles and adults opportunistically feed on fishes, cephalopods, and crustaceans; their prey often include *Sargassum*-associated species (NOAA Fisheries 2017). Designated EFH for juveniles is in coastal and offshore pelagic habitats between Cape Cod, Massachusetts, and Florida and seaward of the continental shelf break. Designated EFH for adults is in coastal and offshore pelagic habitats from Cape Cod to North Carolina and seaward of the continental shelf break; adults are generally confined to the upper 328 ft (100 m) of the water column (NOAA Fisheries 2017).

The Atlantic yellowfin tuna is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Atlantic stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2019).

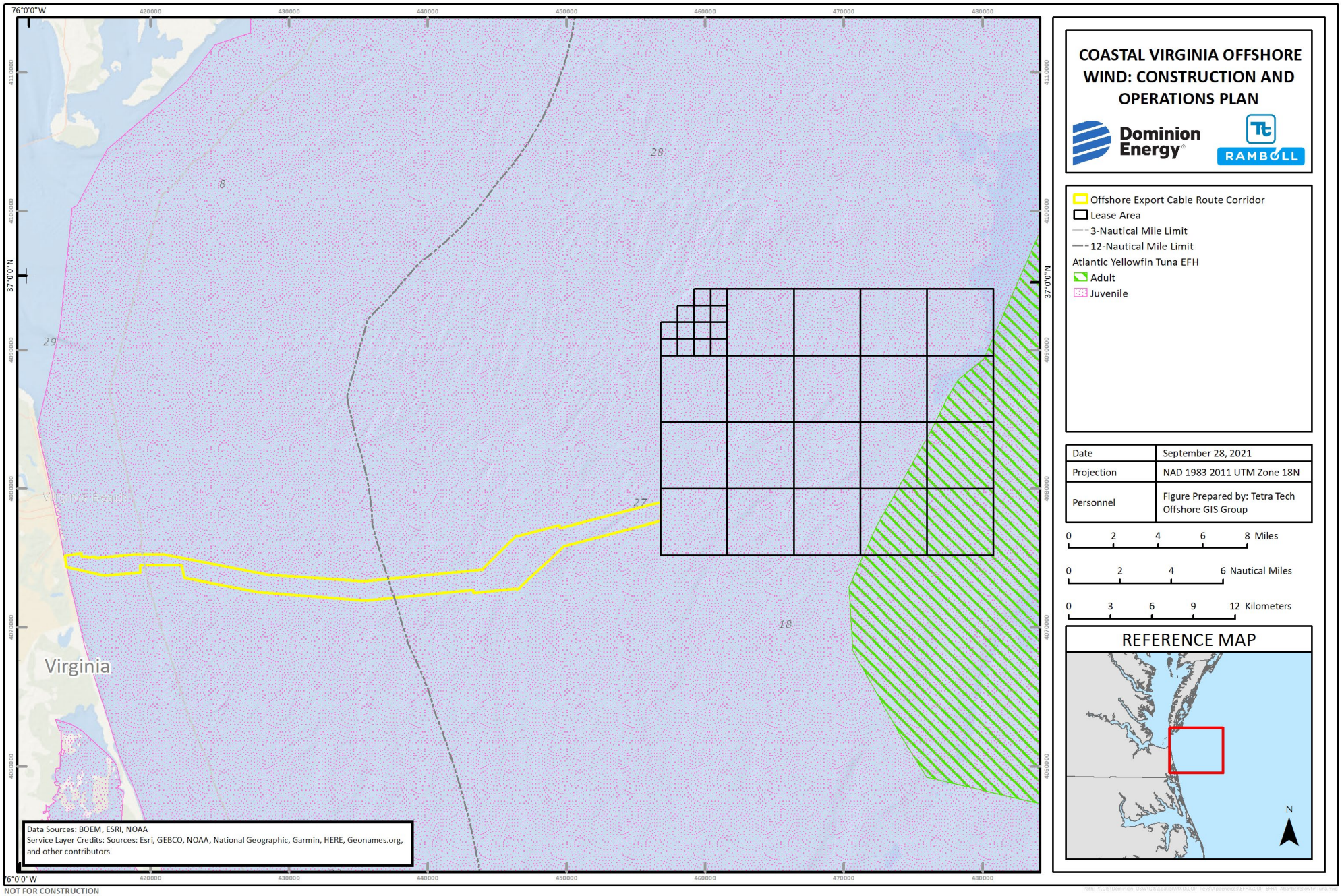


Figure E-1-27. Atlantic Yellowfin Tuna (*Thunnus albacares*) Designated EFH in the Offshore Project Area

E-1.2.27 Blacktip Shark (*Carcharhinus limbatus*)

No blacktip shark neonate EFH is designated in the Offshore Project Area. Blacktip shark juvenile and adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-28; Figure E-1-28).

Table E-1-28. Blacktip Shark (*Carcharhinus limbatus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**13,800**	**1,832**
EFH Acreage in Project Area by Life Stage			
Juvenile/Adult	83,974	14,234	1,647
Percent of Project Area Covered by EFH by Life Stage			
Juvenile/Adult	74.4%	100.0%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile/Adult	0.514%	0.087%	0.010%

Sources: NOAA Fisheries 2017

The blacktip shark is a highly migratory, circumtropical species present in shallow coastal waters and offshore surface waters of the continental shelf (NOAA Fisheries 2017). The species prefers warmer temperatures, mid to deep waters, and salinities exceeding 30 ppt over silt, sand, mud, and seagrass habitats; juveniles and adults are also found over shell, sand, and rocky habitats. They feed primarily on fishes, cephalopods, and crustaceans (NOAA Fisheries 2017). Designated EFH for juveniles and adults is in estuarine and coastal areas from Virginia to Florida in depths of 3 to 30 ft (1 to 9 m), where temperatures span 66 to 91°F (20 to 32°C) and salinities are within 22 to 35 ppt (though some juveniles have been found in salinities as low as 7 ppt) (NOAA Fisheries 2017).

The blacktip shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as two separate stocks: the Atlantic stock and the Gulf of Mexico stock. The Gulf of Mexico stock is not currently overfished or subject to overfishing; the status of the Atlantic stock remains unknown (NOAA Fisheries 2019).

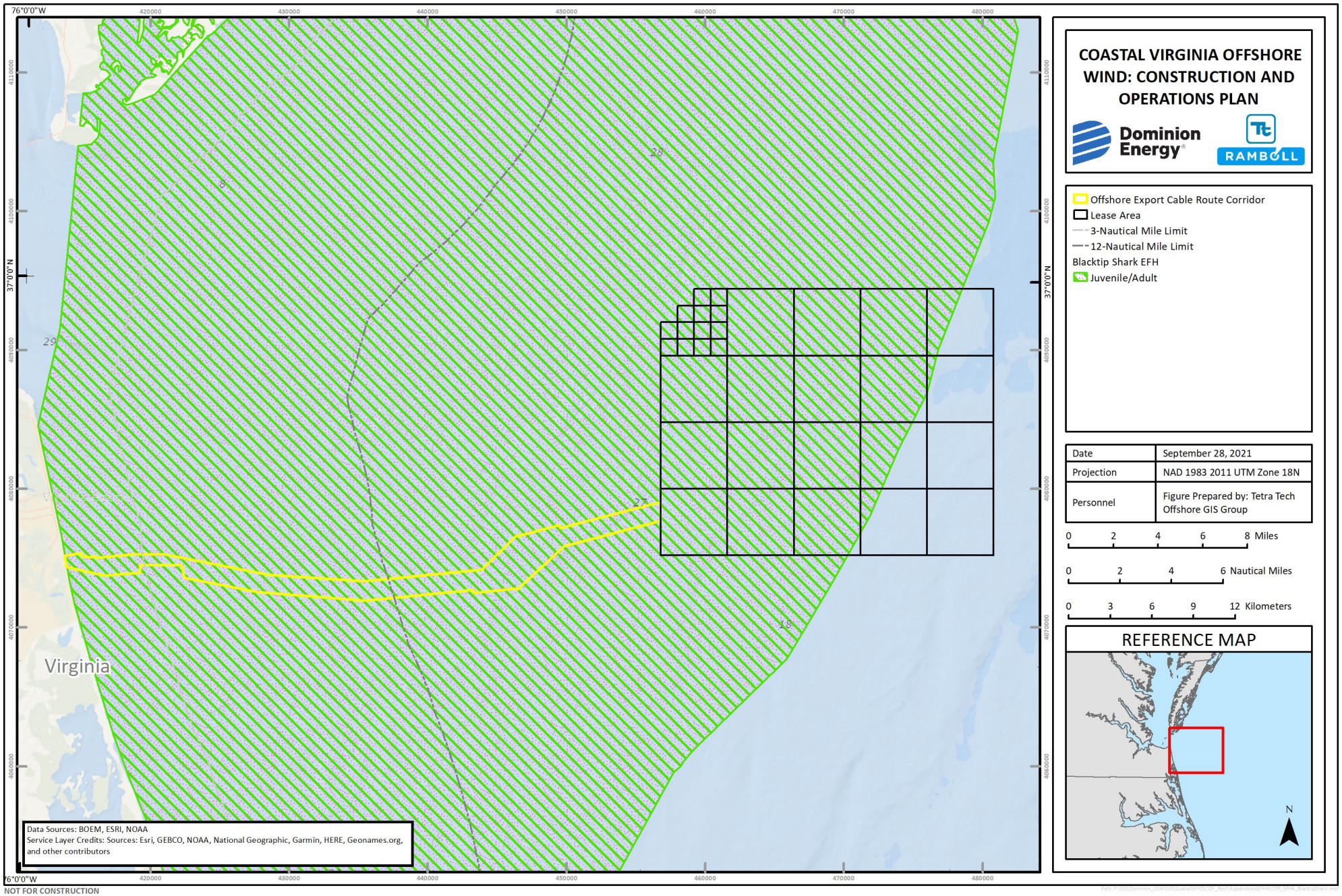


Figure E-1-28. Blacktip Shark (*Carcharhinus limbatus*) Designated EFH in the Offshore Project Area

E-1.2.28 Common Thresher Shark (*Alopias vulpinus*)

Common thresher shark EFH for all life stages is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-29; Figure E-1-29).

Table E-1-29. Common Thresher Shark (*Alopias vulpinus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
ALL	112,799	14,234	1,647
Percent of Project Area Covered by EFH by Life Stage			
ALL	100.0%	100.0%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
ALL	0.234%	0.030%	0.003%

Sources: NOAA Fisheries 2017

The common thresher shark is a highly migratory species common to warm and temperate coastal and oceanic waters (NOAA Fisheries 2017). It is more abundant in nearshore pelagic habitats and exhibits north-south seasonal migrations, particularly in offshore and cold inshore waters during summer months. The species feeds on invertebrates (e.g., squid and pelagic crabs) and small fishes (e.g., anchovies, sardines, hakes, mackerels) (NOAA Fisheries 2017). Designated EFH for all life stages of the common thresher shark is in the Atlantic Ocean from Georges Bank to Cape Lookout, North Carolina in depths of 16 to 43 ft (5 to 13 m), where temperatures span 64 to 70°F (18 to 21°C) (NOAA Fisheries 2017).

The common thresher shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock. The stock status remains unknown (NOAA Fisheries 2019).

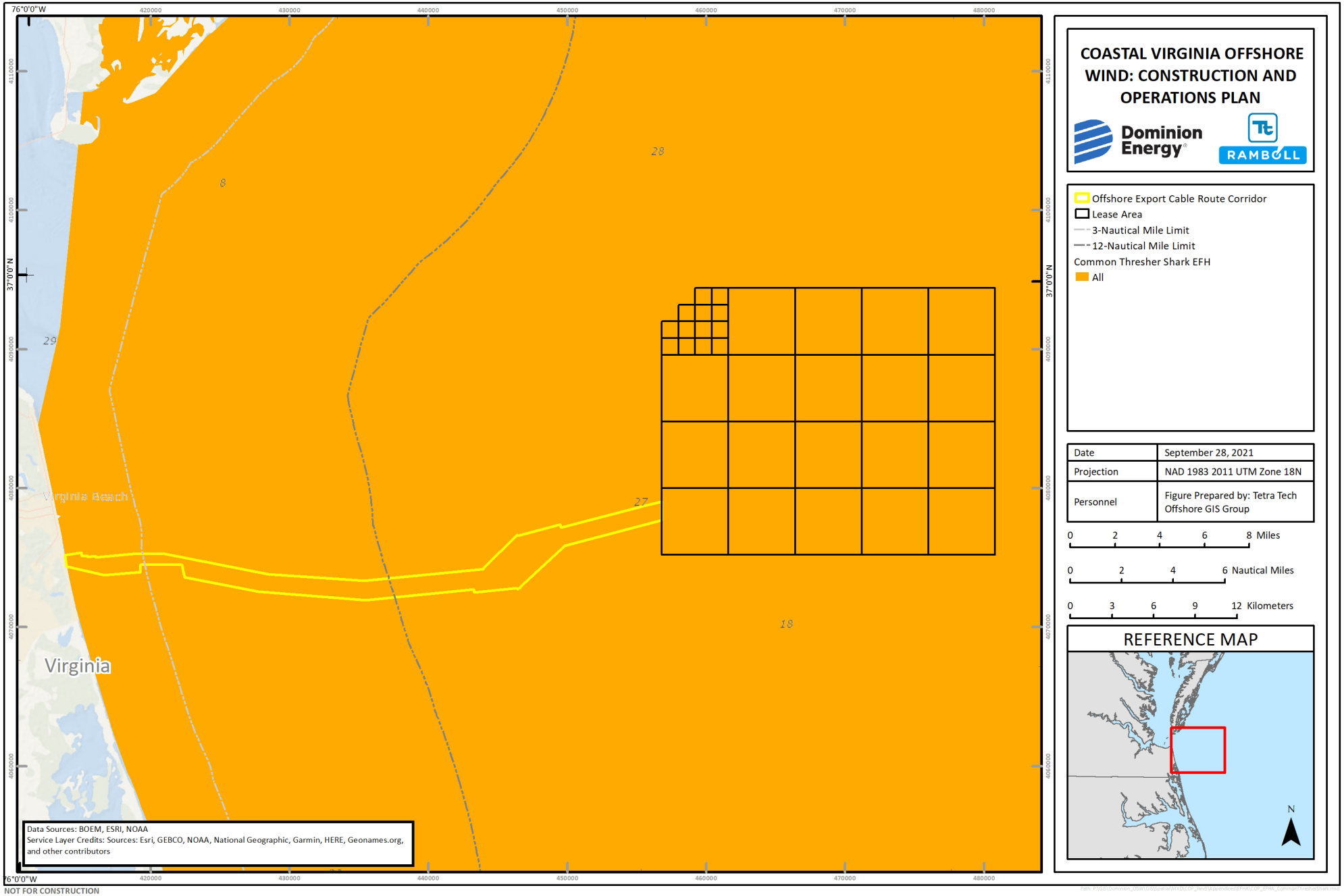


Figure E-1-29. Common Thresher Shark (*Alopias vulpinus*) Designated EFH in the Offshore Project Area

E-1.2.29 Dusky Shark (*Carcharhinus obscurus*)

Dusky shark neonate EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-30; Figure E-1-30). Dusky shark juvenile and adult EFH is designated in the Lease Area and federal waters of the Offshore Export Cable Route Corridor (Table E-1-30; Figure E-1-30).

Table E-1-30. Dusky Shark (*Carcharhinus obscurus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**13,800**	**1,832**
EFH Acreage in Project Area by Life Stage			
Neonate	112,799	14,234	1,644
Juvenile/Adult	112,799	3,119	0
Percent of Project Area Covered by EFH by Life Stage			
Neonate	100.0%	100.0%	99.5%
Juvenile/Adult	100.0%	21.9%	0.0%
Percent of Total Species EFH Area Covered by Project Area			
Neonate	0.604%	0.076%	0.009%
Juvenile/Adult	0.112%	0.003%	0.000%

Sources: NOAA Fisheries 2017

The dusky shark is a highly migratory species found in warm and temperate continental shelf waters from inshore habitats to the outer continental shelf; it makes seasonal north-south migrations (NOAA Fisheries 2017). They are generalist predators and feed on demersal fishes (e.g., flounders, skates), pelagic fishes (e.g., sardines, tunas), and cephalopods (NOAA Fisheries 2017). Designated EFH for dusky shark neonates and YOY is in offshore pelagic habitats of New England to Cape Lookout, North Carolina, in depths of 13 to 197 ft (4 to 60 m), where temperatures span 64 to 72°F (18 to 22°C) and salinities are within 25 to 35 ppt. Designated EFH for juveniles and adults is in coastal and pelagic habitats inshore of the continental shelf break in depths of 66 to 656 ft (20 to 200 m), where temperatures span 68 to 75°F (20 to 24°C). Adults are generally found deeper than juveniles in depths of 6,562 ft (2,000 m) (NOAA Fisheries 2017).

The dusky shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Atlantic and Gulf of Mexico stock. The fishery stock is currently overfished and subject to overfishing (NOAA Fisheries 2019).

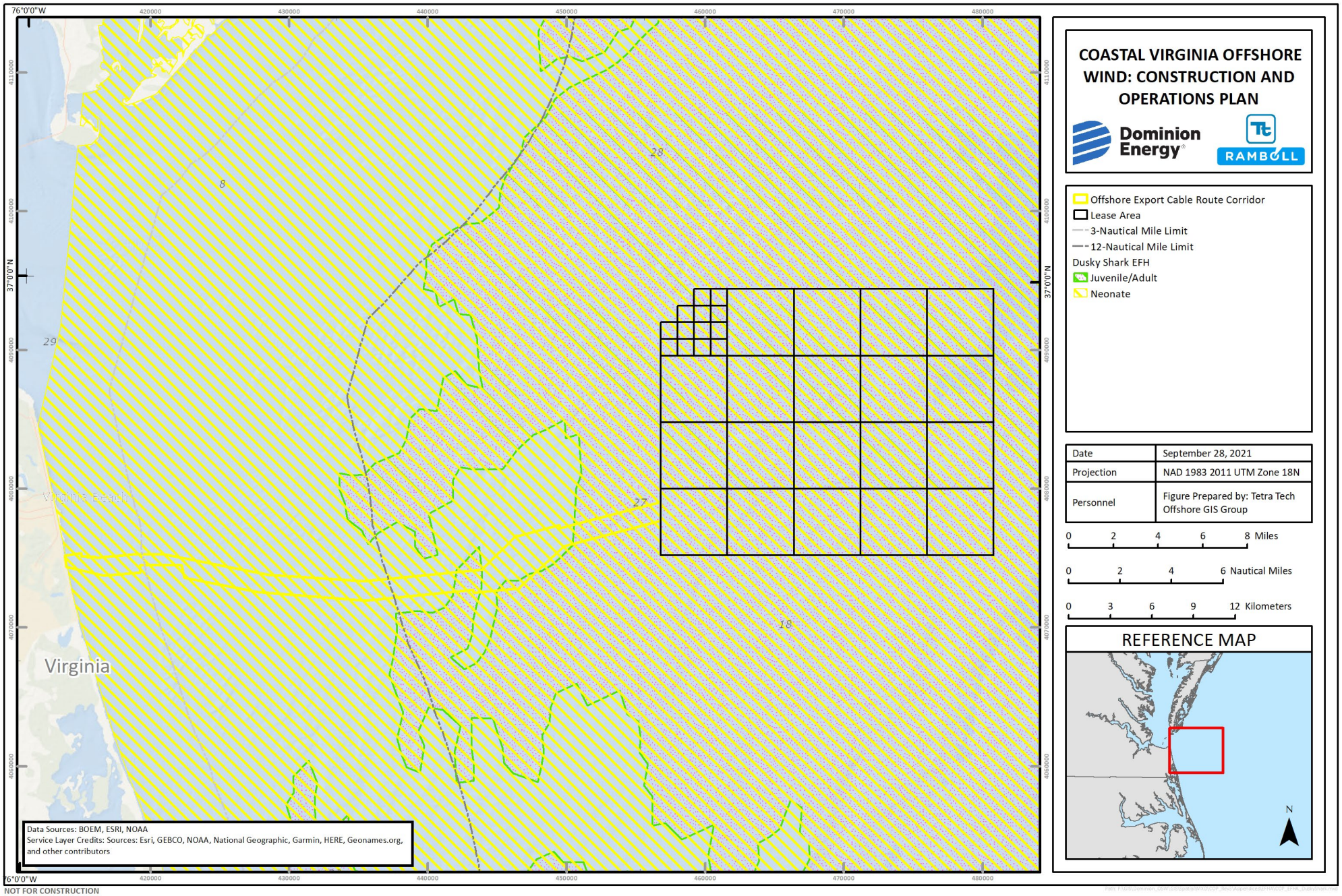


Figure E-1-30. Dusky Shark (*Carcharhinus obscurus*) Designated EFH in the Offshore Project Area

E-1.2.30 Sand Tiger Shark (*Carcharhinus taurus*)

Sand tiger shark EFH for all life stages is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-31; Figure E-1-31).

Table E-1-31. Sand Tiger Shark (*Carcharhinus taurus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Neonate/Juvenile	94,517	14,234	1,652
Adult	112,799	14,234	1,652
Percent of Project Area Covered by EFH by Life Stage			
Neonate/Juvenile	83.8%	100.0%	100.0%
Adult	100.0%	100.0%	100.0%
Percent of Total Species EFH Area Covered by Project Area			
Neonate/Juvenile	0.283%	0.043%	0.005%
Adult	0.395%	0.050%	0.006%

Sources: NOAA Fisheries 2017

The sand tiger shark is a highly migratory species found in tropical and warm temperate coastal waters (NOAA Fisheries 2017). The species exhibits seasonal migrations from northern summer habitats to southern overwintering habitats; individuals may segregate by sex, with males exhibiting stricter north-south migrations and females exhibiting greater inshore-offshore seasonal movements. In North America, adults give birth to two pups in March and April, likely in the southern part of their range. Neonates migrate northward to rear in estuaries and coastal sounds in the Mid-Atlantic Bight. They feed on a variety of fishes (e.g., hakes, herring), crabs, and cephalopods (NOAA Fisheries 2017). Designated EFH for sand tiger shark neonates, YOY, and juveniles extends from Massachusetts to Florida in nearshore habitats and coastal sounds; they exhibit habitat preferences for mud, rocky substrates, and complex natural or artificial reef structures in depths of 26 to 46 ft (8 to 14 m), where temperatures span 66 to 81°F (19 to 27°C) and salinities are within 30 to 31 ppt. Designated EFH for adults is in shallow coastal waters from Florida to Delaware Bay (typically in 13 ft [4 m]) in temperatures spanning 63 to 73°F (17 and 23°C) (NOAA Fisheries 2017).

The sand tiger shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP. Fishing for the sand tiger shark is prohibited in U.S. waters (NOAA Fisheries 2017).

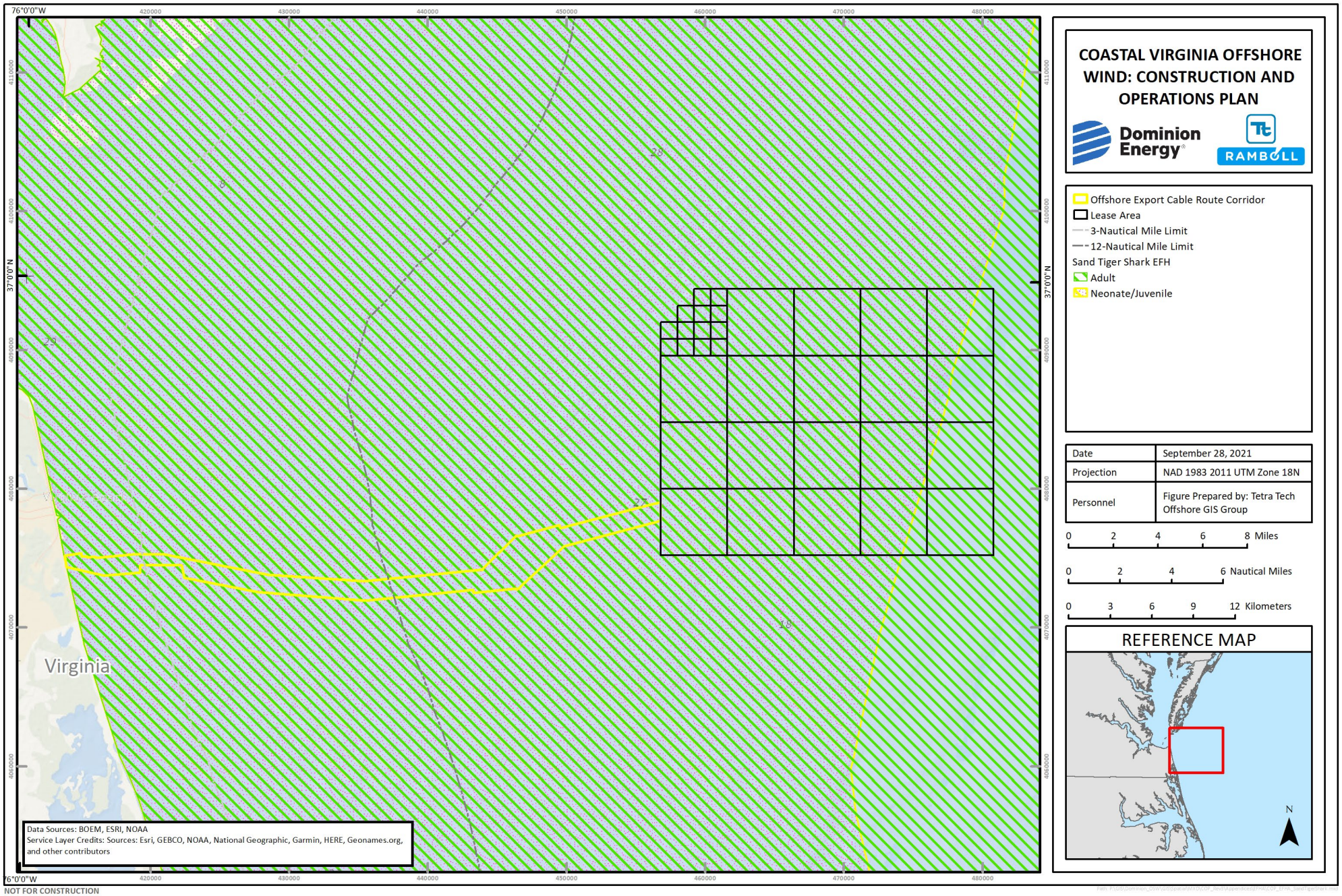


Figure E-1-31. Sand Tiger Shark (*Carcharhinus taurus*) Designated EFH in the Offshore Project Area

E-1.2.31 Sandbar Shark (*Carcharhinus plumbeus*)

Sandbar shark EFH for all life stages is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-32; Figure E-1-32).

Table E-1-32. Sandbar Shark (*Carcharhinus plumbeus*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Neonate	15,789	14,234	1,652
Juvenile	112,799	14,234	1,652
Adult	112,799	14,234	1,647
Percent of Project Area Covered by EFH by Life Stage			
Neonate	14.0%	100.0%	100.0%
Juvenile	100.0%	100.0%	100.0%
Adult	100.0%	100.0%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
Neonate	0.098%	0.088%	0.010%
Juvenile	0.297%	0.038%	0.004%
Adult	0.096%	0.012%	0.001%

Sources: NOAA Fisheries 2017

The sandbar shark is a highly migratory species common to subtropical and warm temperate benthic habitats (NOAA Fisheries 2017). It is common to coastal areas from Cape Cod to the Gulf of Mexico, migrates seasonally, and segregates itself by sex throughout much of the year. The species feeds opportunistically on a variety of fishes, smaller sharks, cephalopods, gastropods, crabs, and shrimp (NOAA Fisheries 2017). Designated EFH for sandbar shark neonates and YOY is in coastal benthic habitats from Long Island, New York to Cape Lookout, North Carolina, including estuarine nursery habitat in Chesapeake Bay; they exhibit habitat preferences for sand, mud, shell, and rocky substrates in depths of 3 to 75 ft (1 to 23 m), where temperatures span 59 to 86°F (15 to 30°C) and salinities are within 15 to 35 ppt. Designated EFH for juveniles is in coastal habitats from New England to Georgia, including estuarine habitat in Chesapeake Bay; they exhibit habitat preferences for sand, mud, shell, and rocky substrates in depths of 6 to 20 ft (2 to 236 m), where temperatures span 59 to 86°F (15 to 30°C) and salinities are within 15 to 35 ppt. Designated EFH for adults is in coastal habitats from New England to the Florida Keys, spanning estuarine habitats to the continental shelf break in depths of 66 to 656 ft (20 to 200 m) (NOAA Fisheries 2017).

The sandbar shark is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Atlantic and Gulf of Mexico stock. The fishery stock is currently overfished but is not subject to overfishing (NOAA Fisheries 2017).

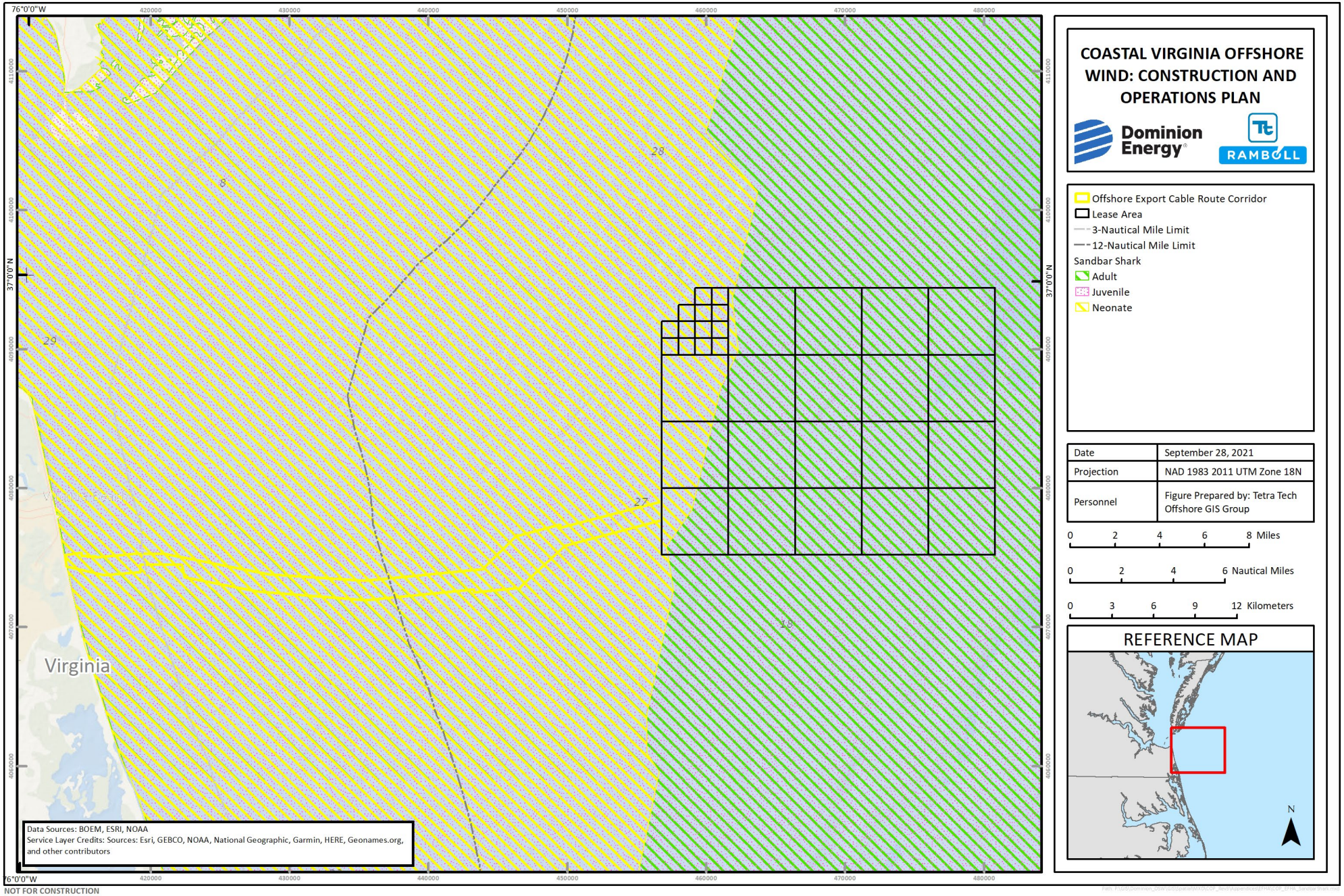


Figure E-1-32. Sandbar Shark (*Carcharhinus plumbeus*) Designated EFH in the Offshore Project Area

E-1.2.32 Smoothhound Shark / Smooth Dogfish (*Mustelus canis*)

Smoothhound shark/smooth dogfish EFH for all life stages is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-33; Figure E-1-33).

Table E-1-33. Smoothhound Shark / Smooth Dogfish (*Mustelus canis*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
ALL	112,799	14,234	1,647
Percent of Project Area Covered by EFH by Life Stage			
ALL	100.0%	100.0%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
ALL	0.403%	0.051%	0.006%

Sources: NOAA Fisheries 2017

The smooth dogfish is a common coastal shark species found in the Atlantic Ocean from Massachusetts to northern Argentina (NOAA Fisheries 2017). The species is found primarily in benthic habitats on the continental shelf; it aggregates between North Carolina and the Chesapeake Bay in offshore habitats in the winter and moves inshore to coastal habitats in the spring when bottom temperatures exceed 43°F (6°C). Mating occurs from May through September; neonates rear in estuaries and inshore marsh creeks during June and July and YOY migrate to open waters in October. The species primarily feeds on large crustaceans and small fishes (NOAA Fisheries 2017). Designated EFH for all life stages of the smoothhound shark complex/smooth dogfish is in coastal and continental shelf benthic marine habitats and inshore bays and estuaries from the shoreline to depths of 656 ft (200 m), where temperatures span 43 to 81°F (6 to 27°C) (NOAA Fisheries 2017).

The smooth dogfish is managed on the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Atlantic stock. The fishery stock is not currently overfished or subject to overfishing (NOAA Fisheries 2017).

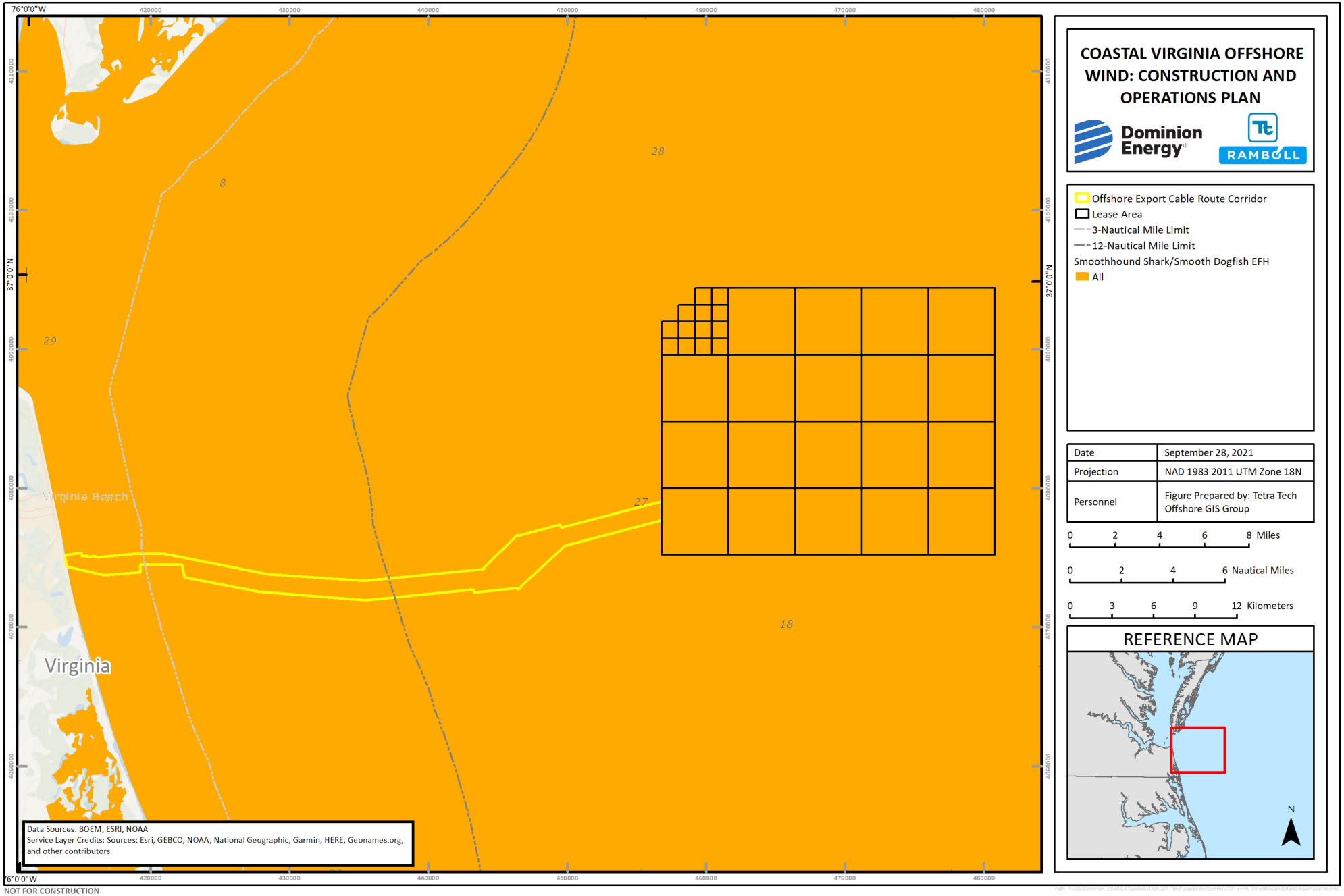


Figure E-1-33. Smoothhound Shark / Smooth Dogfish (*Mustelus canis*) Designated EFH in the Offshore Project Area

E-1.2.33 Tiger Shark (*Galeocerdo cuvier*)

No tiger shark neonate EFH is designated in the Offshore Project Area. Tiger shark juvenile and adult EFH is designated in the Lease Area and both federal and state waters of the Offshore Export Cable Route Corridor (Table E-1-34; Figure E-1-34).

Table E-1-34. Tiger Shark (*Galeocerdo cuvier*) Designated EFH in the Offshore Project Area

Action Area	Lease Area	Offshore Export Cable Route Corridor	
		Federal Waters	State Waters
Total Project Acreage	**112,799**	**14,234**	**1,652**
EFH Acreage in Project Area by Life Stage			
Juvenile/Adult	112,799	14,234	1,647
Percent of Project Area Covered by EFH by Life Stage			
Juvenile/Adult	100.0%	100.0%	99.6%
Percent of Total Species EFH Area Covered by Project Area			
Juvenile/Adult	0.403%	0.051%	0.006%

Sources: NOAA Fisheries 2017

The tiger shark is a highly migratory species that inhabits warm waters in shallow coastal and deep pelagic habitats (NOAA Fisheries 2017). In the western North Atlantic Ocean, it occurs in coastal and offshore waters from 40°N to the equator and is known to make long distance movements in pursuit of forage species. Juveniles and adults are generalists and consume a wide variety of fishes, other sharks, crustaceans, cephalopods, and marine mammals (NOAA Fisheries 2017). Designated EFH for juveniles and adults is in offshore pelagic habitats at the continental shelf break; individuals typically remain in the upper 164 ft (50 m) of the water column but are known to make dives to depths greater than 656 ft (200 m) (NOAA Fisheries 2017).

The tiger shark is managed in the Atlantic Coast of the U.S. by NOAA's HMS Management Division under the Consolidated HMS FMP as a single stock: the Atlantic and Gulf of Mexico stock. The stock status remains unknown (NOAA Fisheries 2017).

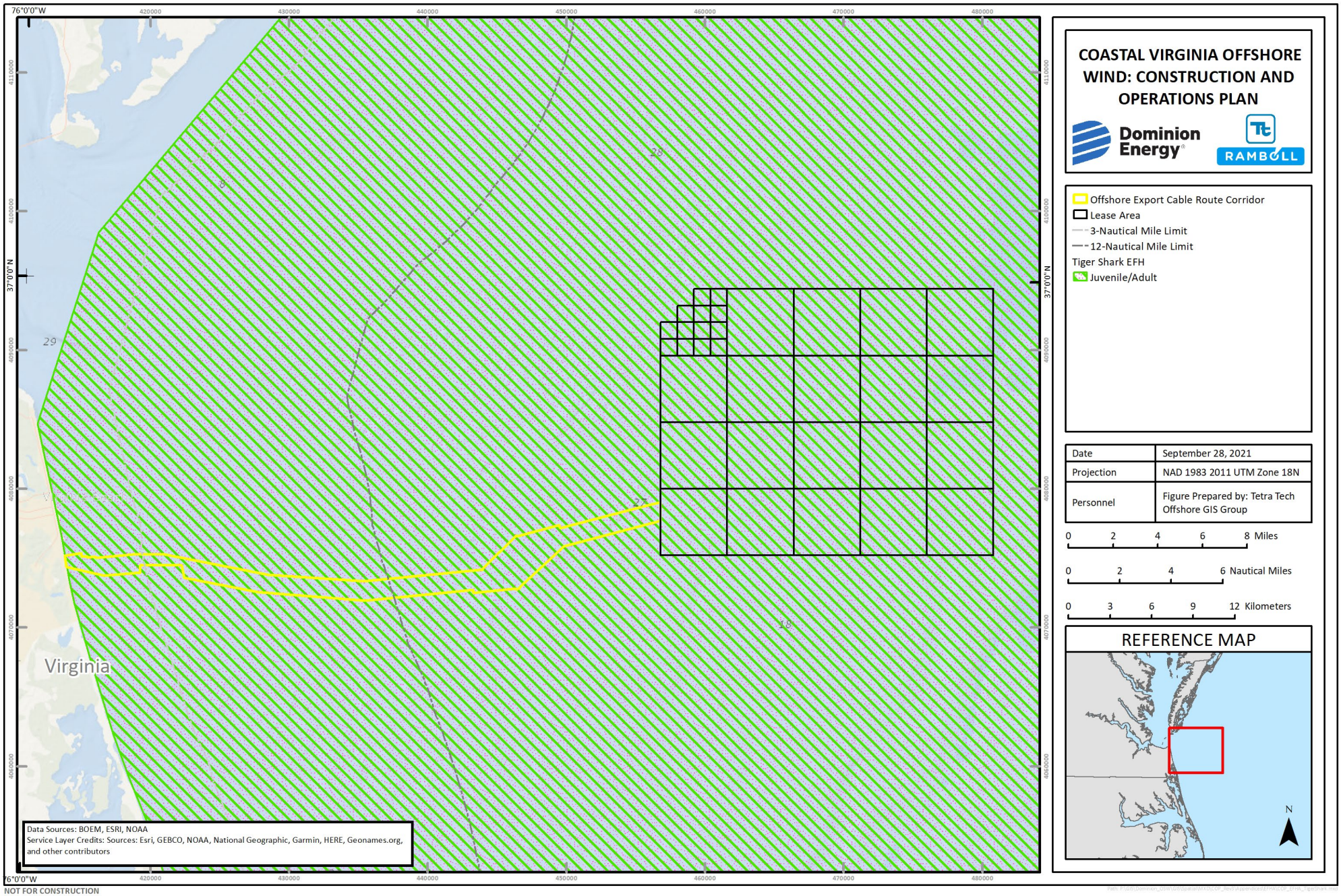


Figure E-1-34. Tiger Shark (*Galeocerdo cuvier*) Designated EFH in the Offshore Project Area

E-1.3 REFERENCES

Cargnelli, L., S. Griesbach, D. Packer, P. Berrien, D. Johnson, and W. Morse. 1999a. *Essential Fish Habitat Source Document: Pollock,* Pollachius virens*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-131. Available online at: https://repository.library.noaa.gov/view/noaa/3117.

Cargnelli, L., S. Griesbach, D. Packer, P. Berrien, W. Morse, and D. Johnson. 1999b. *Essential Fish Habitat Source Document: Witch Flounder,* Glyptocephalus cynoglossus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-139. Available online at: https://repository.library.noaa.gov/view/noaa/3136.

Cargnelli, L., S. Griesbach, D. Packer, and E. Weissberger. 1999c. *Essential Fish Habitat Source Document: Atlantic Surfclam,* Spisula solidissima*, Life History and Habitat Characteristics.* NOAA Tech Memo NMFS-NE-142. Available online at: https://repository.library.noaa.gov/view/noaa/3144.

Cargnelli, L., S. Griesbach, C. McBride, C. Zetlin, and W. Morse. 1999d*. Essential Fish Habitat Source Document: Longfin Inshore Squid,* Loligo pealeii*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-146. Available online at: https://repository.library.noaa.gov/view/noaa/3151.

Chang, S., P. Berrien, D. Johnson, and W. Morse. 1999. *Essential Fish Habitat Source Document: Windowpane,* Scophthalmus aquosus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-137. Available online at: https://repository.library.noaa.gov/view/noaa/3127.

Cross, J., C. Zetlin, P. Berrien, D. Johnson, and C. McBride. 1999. *Essential Fish Habitat Source Document: Butterfish,* Peprilus triacanthus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-145. Available online at: https://repository.library.noaa.gov/view/noaa/3146.

Drohan, A., J. Manderson, and D. Packer. 2007. *Essential Fish Habitat Source Document: Black Sea Bass,* Centropristis striata*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-200. Available online at: https://repository.library.noaa.gov/view/noaa/4038.

Fahay, M., P. Berrien, D. Johnson, and W. Morse. 1999a. *Essential Fish Habitat Source Document: Atlantic cod,* Gadus morhua*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-124. Available online at: https://repository.library.noaa.gov/view/noaa/3099.

Fahay, M., P. Berrien, D. Johnson, and W. Wallace. 1999b. *Essential Fish Habitat Source Document: Bluefish,* Pomatomus saltatrix*, Life History and Habitat Characteristics.* NOAA Tech Memo NMFS-NE-144. Available online at: https://repository.library.noaa.gov/view/noaa/22659.

Jacobson, L. 2005. *Essential Fish Habitat Source Document: Longfin Inshore Squid,* Loligo pealeii*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-193. Available online at: https://repository.library.noaa.gov/view/noaa/4035.

Johnson, D., W. Morse, P. Berrien, and J. Viraliano. 1999. *Essential Fish Habitat Source Document: Yellowtail flounder,* Limanda ferruginea*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-140. Available online at: https://repository.library.noaa.gov/view/noaa/3137.

Lough, R. 2004. *Essential Fish Habitat Source Document: Atlantic cod,* Gadus morhua*, Life History and Habitat Characteristics. 2nd ed*. NOAA Tech Memo NMFS-NE-190. Available online at: https://repository.library.noaa.gov/view/noaa/4032.

MAFMC (Mid-Atlantic Fishery Management Council). 1998a. *Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plant.* Prepared by the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission in cooperation with the National Marine Fisheries Service, the New England Fishery Management Council, and the South Atlantic Fishery Management Council. Available online at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/53e3ac8ce4b0b6a302b8dea3/1407429772601/SFSCBSB_Amend_12.pdf.

MAFMC. 1998b. *Amendment 1 to the Bluefish Fishery Management Plan.* Prepared by the Mid-Atlantic Fishery Management Council and the Atlantic States Marine Fisheries Commission in cooperation with the National Marine Fisheries Service, the New England Fishery Management Council, and the South Atlantic Fishery Management Council. Available online at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/53e3adade4b0a6f03dc680eb/1407430061511/Bluefish_Amend_1_Vol_1.pdf.

MAFMC. 2011. *Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan*. Prepared by the Mid-Atlantic Fishery Management Council in cooperation with the National Marine Fisheries Service. Available online at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/518968c5e4b0884a65fe5067/1367959749407/Amendment+11+FEIS+-+FINAL_2011_05_12.pdf.

MAFMC. 2014. *Amendment 3 to the Spiny Dogfish Fishery Management Plan*. Prepared by the Mid-Atlantic Fishery Management Council in cooperation with the National Marine Fisheries Service. Available online at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/54e79dace4b021b682bc8984/1424465324916/Spiny+Dogfish+Amd+3.pdf.

MAFMC. 2017. *Unmanaged Forage Omnibus Amendment*. Prepared by the Mid-Atlantic Fishery Management Council in cooperation with the National Marine Fisheries Service. Available online at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5a0b49b053450ab00cbe4e46/1510689203283/20170613_Final%2BForage%2BEA_FONSI%2BSigned.pdf.

McMillan, D. and W. Morse. 1999. *Essential Fish Habitat Source Document: Spiny Dogfish,* Squalus acanthias*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-150. Available online at: https://repository.library.noaa.gov/view/noaa/3155.

NEFMC (New England Fishery Management Council). 2017. *Omnibus Essential Fish Habitat Amendment 2. Volume 2: EFH and HAPC Designation Alternatives and Environmental Impacts.* Prepared by the New England Fishery Management Council in cooperation with the National Marine Fisheries Service. Available online at: https://www.habitat.noaa.gov/protection/efh/efhmapper/oa2_efh_hapc.pdf.

NOAA (National Oceanographic and Atmospheric Administration) Fisheries. 2017. *Final Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan: Essential Fish Habitat and Environmental Assessment*. Prepared by the Office of Sustainable Fisheries Atlantic Highly Migratory Species Management Division. Available online at: https://www.habitat.noaa.gov/application/efhinventory/docs/a10_hms_efh.pdf.

NOAA Fisheries. 2019. *Status of Stocks 2019: Annual Report to Congress on the Status of U.S. Fisheries.* Stock Status Tables prepared by the National Marine Fisheries Service. Available online at: https://www.fisheries.noaa.gov/national/sustainable-fisheries/status-stocks-2019.

NOAA Fisheries. 2021. "Essential Fish Habitat Mapper." Available online at: https://www.habitat.noaa.gov/apps/efhmapper/. Accessed February 4, 2021.

Packer, D., L. Cargnelli, S. Griesbach, and S. Shumway. 1999a. *Essential Fish Habitat Source Document: Sea Scallop,* Placopecten magellanicus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-134. Available online at: https://repository.library.noaa.gov/view/noaa/3124.

Packer, D., S. Griesbach, P. Berrien, C. Zetlin, D. Johnson, and W. Morse. 1999b. *Essential Fish Habitat Source Document: Summer Flounder,* Paralichthys dentatus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-151. Available online at: https://repository.library.noaa.gov/view/noaa/3149.

Packer, D., C. Zetlin, and J. Vitaliano. 2003a. *Essential Fish Habitat Source Document: Clearnose Skate,* Raja eglanteria*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-174. Available online at: https://repository.library.noaa.gov/view/noaa/3326.

Packer, D., C. Zetlin, and J. Vitaliano. 2003b. *Essential Fish Habitat Source Document: Winter Skate,* Leucoraja ocellata*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-179. Available online at: https://repository.library.noaa.gov/view/noaa/3337.

Reid, R., L. Cargnelli, S. Griesbach, D. Packer, D. Johnson, C. Zetlin, W. Morse, and P. Berrien. 1999. *Essential Fish Habitat Source Document: Atlantic Herring,* Clupea harengus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-126. Available online at: https://repository.library.noaa.gov/view/noaa/3101.

Shepherd, G. and D. Packer. 2006. *Essential Fish Habitat Source Document: Bluefish*, Pomatomus saltatrix*, Life History and Habitat Characteristics.* NOAA Tech Memo NMFS-NE-198. Available online at: https://repository.library.noaa.gov/view/noaa/4039.

Stehlik, L. 2007. *Essential Fish Habitat Source Document: Spiny Dogfish,* Squalus acanthias*, Life History and Habitat Characteristics. 2nd ed*. NOAA Tech Memo NMFS-NE-203. Available online at: https://repository.library.noaa.gov/view/noaa/3528.

Steimle, F., W. Morse, and D. Johnson. 1999a. *Essential Fish Habitat Source Document: Goosefish,* Lophius americanus*, Life History and Habitat Characteristics.* NOAA Tech Memo NMFS-NE-127. Available online at: https://repository.library.noaa.gov/view/noaa/3104.

Steimle, F., W. Morse, P. Berrien, and D. Johnson. 1999b. *Essential Fish Habitat Source Document: Red Hake,* Urophycis chuss*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-133. Available online at: https://repository.library.noaa.gov/view/noaa/3119.

Steimle, F., C. Zetlin, P. Berrien, and S. Chang. 1999c. *Essential Fish Habitat Source Document: Black Sea Bass,* Centropristis striata*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-143. Available online at: https://repository.library.noaa.gov/view/noaa/3145.

Steimle, F., C. Zetlin, P. Berrien, D. Johnson, and S. Chang 1999d. *Essential Fish Habitat Source Document: Scup,* Stenotomus chrysops*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-149. Available online at: https://repository.library.noaa.gov/view/noaa/3154.

Stevenson, D. and M. Scott. 2005. *Essential Fish Habitat Source Document: Atlantic herring*, Clupea harengus*, Life History and Habitat Characteristics. 2nd ed*. NOAA Tech Memo NMFS-NE-192. Available online at: https://repository.library.noaa.gov/view/noaa/4034.

Studholme, A., D. Packer, P. Berrien, D. Johnson, C. Aetlin, and W. Morse. 1999. *Essential Fish Habitat Source Document: Atlantic mackerel,* Scomber scombrus*, Life History and Habitat Characteristics*. NOAA Tech Memo NMFS-NE-141. Available online at: https://repository.library.noaa.gov/view/noaa/3138.

ATTACHMENT E-2: OVERSIZED TABLES

CONSTRUCTION AND OPERATIONS PLAN

Coastal Virginia Offshore Wind Commercial Project

Appendix E, Attachment E-2
Oversized Tables

Prepared for:

Dominion Energy®

707 East Main Street
Richmond, VA 23219

Prepared by:

TETRA TECH

Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

www.tetratech.com

October 2021

TABLES

Table E-2-1. Summary of Designated EFH for Managed Species and Life Stages in the Offshore Project Area E-2-3
Table E-2-2. Summary of Potential Impacts to Managed Species and Life Stages in the Offshore Project Area E-2-7

Table E-2-1. Summary of Designated EFH for Managed Species and Life Stages in the Offshore Project Area

Species	Stock Status a/	Life Stage	Depth (meters) b/	Habitat Type and Description b/	Typical Prey b/
Atlantic cod	1,2	Egg	0-70	Epipelagic; bays, estuaries, and upper 10 m of continental shelf water column	n/a
		Larva	0-75	Epipelagic; bays, estuaries, and upper 75 m of continental shelf water column	Plankton
Atlantic herring	1	Juveniles	0-300	Epipelagic; bays, estuaries, and intertidal and subtidal pelagic habitats	Zooplankton including copepods, decapod larvae, barnacle larvae, cladocerans, and mollusk larvae
		Adults			Euphausiids, chaetognaths, and copepods
Atlantic sea scallop	3	Eggs	18-110	Benthic; inshore and continental shelf habitats in the vicinity of adult scallops	n/a
		Larvae	Upper 10 m of water column	Pelagic; inshore and offshore habitat until settling as spat on gravel, pebbles, shells, macroalgae, and other seafloor surfaces	Phytoplankton and microzooplankton
		Juveniles	18-110	Benthic; attached to gravel, pebble, cobbles, and shells until losing their byssal threads and becoming active swimmers	
		Adults	18-110	Benthic; seafloor habitats with sand and gravel substrates	
Clearnose Skate	3	Juveniles	0-300	Benthic; bays, estuaries, and subtidal benthic habitats on coastal and inner continental shelf	Polychaetes, amphipods, mantis and mysid shrimps, crabs, squid, and fishes
		Adults			
Monkfish	3	Eggs	0-1,000	Pelagic in mucoidal egg veils	n/a
		Larvae	0-1,000	Pelagic; inshore areas and on continental shelf and slope	Zooplankton, including copepods, crustacean larvae, and chaetognaths
		Juveniles	20-400	Benthic; subtidal benthic habitats over soft mud, sand, gravel, pebbles, shell fragments, and rock outcroppings with attached algae	Small fishes, red shrimp, and squid
		Adults	0-800	Benthic; subtidal benthic habitats over soft mud, sand, gravel, pebbles, and shell fragments	Benthic and pelagic crustaceans, squid, and fishes
Pollock	3	Larva	30-1,250	Pelagic; bays, estuaries, inshore and offshore habitats	Copepods
Red hake	1,2	Adults	5-750	Benthic; bays, estuaries, outer continental shelf on depressions in soft mud and sand	Crustaceans, demersal and pelagic fish, squid
Windowpane flounder	3	Eggs	0-70	Pelagic; bays, estuaries, pelagic habitat	n/a
		Larvae			Plankton
		Juveniles	0-75	Benthic; intertidal and sub-tidal benthic habitats in estuaries, bays, and continental shelf over mud and sand substrates	Small crustaceans and fish larvae
		Adults			
Winter skate	3	Juveniles	0-371	Benthic; estuaries, bays, and subtidal benthic habitats on continental shelf	Polychaetes, amphipods, decapods, isopods, bivalves, and fishes

Species	Stock Status a/	Life Stage	Depth (meters) b/	Habitat Type and Description b/	Typical Prey b/
Witch flounder	1	Egg	10-170	Epipelagic; surface waters over continental shelf	n/a
		Larvae	0-250	Pelagic; continental shelf	Pelagic prey
Yellowtail flounder	3	Larvae	10-1,250	Pelagic; estuaries, bays, and upper 20 m of coastal and continental shelf habitats	Plankton
Atlantic butterfish	3	Eggs	0-1,500	Epipelagic; estuaries, bays, and upper 200 m of water column over continental shelf and slope	n/a
		Larvae	0-1,750		Plankton
		Juveniles	10-330	Pelagic; estuaries, bays, and inner and outer continental shelf	Thaliaceans, mollusks, crustaceans, coelenterates, polychaetes, small fishes, and ctenophores
		Adults	0-420		
Atlantic mackerel	1, 2	Eggs	10-325	Pelagic; estuaries, bays, and continental shelf	n/a
		Juveniles	0-320		Copepods, amphipods, mysid shrimp, decapods
		Adults	0-380		
Atlantic surfclam	3	Juveniles	8-66	Benthic; softbottom substrates to depths of 1m below sediment/water interface	Plankton
		Adults			
Black sea bass	3	Larvae	0-2,000	Epipelagic; estuaries and in the upper 100m of water column over continental shelf	Decapods
		Juveniles	0-400	Benthic; estuaries and continental shelf	Benthic and epibenthic crustaceans and small fishes
		Adults	20-400		Epibenthic invertebrates, small fishes, and squid
Bluefish	1	Eggs	30-70	Pelagic; continental shelf	n/a
		Larvae			Copepods
		Juveniles	5-20	Pelagic; estuaries and continental shelf	Fishes, crustaceans, and polychaetes
		Adults	Varies		
Longfin inshore squid	4	Eggs	0-50	Benthic; anchored to hardbottom on shells, rocks, boulders, vegetation, sand and mud	n/a
		Juveniles	50-100	Pelagic; coastal inshore waters and offshore continental shelf waters	Euphausiids, arrow worms, small crabs, polychaetes, and shrimp
		Adults	6-200	Pelagic; regional embayments, costal inshore and offshore continental shelf waters	Larval and juvenile fish and squid, adult fishes and squid
Scup	3	Juveniles	0-38	Benthic; estuaries, intertidal and subtidal habitats over continental shelf	Polychaetes, epibenthic amphipods, other crustaceans, mollusks, and fish eggs and larvae
		Adults	2-38	Benthic; estuaries, intertidal and subtidal habitats over continental shelf	Polychaetes, mollusks, small squid, detritus, insect larvae, hydroids, sand dollars, and small fishes
Spiny dogfish	3		25-364	Epibenthic and pelagic; outer continental shelf	Fishes, squid, and ctenophores

Species	Stock Status a/	Life Stage	Depth (meters) b/	Habitat Type and Description b/	Typical Prey b/
		Sub-adult females; Adult males and females			
Summer flounder	3	Eggs	9-110	Pelagic	n/a
		Larvae	9-70	Pelagic	Plankton, copepods
		Juveniles	0-152	Benthic; estuaries, salt marshes, seagrasses, mudflats, bays	Polychaetes, infaunal invertebrates, bivalve siphons, small fish
		Adults	0-152	Benthic; shallow coastal and estuarine waters to offshore outer continental shelf	Fishes and invertebrates
Atlantic albacore tuna	3	Juveniles	Varied	Epipelagic; offshore seaward of the continental shelf	Fishes and cephalopods
Atlantic angel shark	4	All	Varied	Benthic; continental shelf	Bony fishes, cephalopods, crustaceans, and portunid crabs
Atlantic bluefin tuna	4	Juveniles	20-100	Epipelagic; coastal and pelagic habitats to the continental shelf break	Zooplanktivorous fishes and crustaceans
		Adults			Fishes, cephalopods, benthic invertebrates
Atlantic sharpnose shark	3	Juveniles	0-180m	Estuarine, inshore, and nearshore waters	Bony fishes
		Adults			
Atlantic skipjack tuna	4	Juveniles	>20	Epipelagic; coastal and offshore habitats	Fishes, cephalopods, and crustaceans
		Adults			
Atlantic yellowfin tuna	3	Juveniles	Upper 100 m of water column	Epipelagic; coastal and offshore pelagic habitats seaward of the continental shelf break	Fishes, cephalopods, and crustaceans
		Adults			
Blacktip shark	3	Juvenile; Adult	1-9	Epipelagic; offshore surface waters and shallow coastal waters over silt, sand, mud, and seagrass habitats	Fishes, cephalopods, and crustaceans
Common thresher shark	4	All	5-13	Pelagic; nearshore	Invertebrates and small fishes
Dusky shark	1, 2	Neonate	4-60	Pelagic; offshore	Demersal and pelagic fishes and cephalopods
		Juvenile; Adult	20-200	Pelagic; coastal, inshore of the continental shelf break	
Sand tiger shark	4	Neonate; Juvenile	8-14	Bays and coastal sounds over mud, rocky substrates, and complex habitat	Fishes, crabs, and cephalopods
		Adult	1-4	Shallow coastal waters	
Sandbar shark	1	Neonate	1-23	Benthic; coastal and estuarine habitats over sand, mud, shell, and rocky substrates	Fishes, smaller sharks, cephalopods, gastropods, crabs, and shrimp

Species	Stock Status a/	Life Stage	Depth (meters) b/	Habitat Type and Description b/	Typical Prey b/
		Juvenile	1-236	Pelagic; coastal and estuarine habitats over sand, mud, shell, and rocky substrates	
		Adult	20-200	Benthic; coastal, estuarine, and shelf break habitats	
Smoothhound shark / smooth dogfish	3	All	0-200	Benthic; coastal and continental shelf, inshore bays and estuaries	Large crustaceans and small fishes
Tiger Shark	4	Juvenile	0-200	Epipelagic; shallow coastal and deep pelagic habitats at the continental shelf break	Fishes, other sharks, crustaceans, cephalopods, and marine mammals
		Adult			

Notes:
a/ NOAA Fisheries Stock Status Update as of 2nd Quarter, 2021; 1=overfished; 2=overfishing; 3=recovered; 4=not mentioned
b/ See EFH Source documents listed in Attachment E-1.

Table E-2-2. Summary of Potential Impacts to Managed Species and Life Stages in the Offshore Project Area

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Atlantic Cod (*Gadus morhua*)	--	X	--	--	X	X	--	--	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs and larvae are pelagic and have a minimal chance of entrainment.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									Eggs and larvae are pelagic.
Atlantic Herring (*Clupea harengus*)	--	--	X	X	--	--	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									The Project would not affect pelagic prey or habitat.
Atlantic Sea Scallop (*Placopecten magellanicus*)	X	X	X	X	--	--	--	--	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration	✓	✓	✓	✓					Demersal eggs, settled spat, sessile juveniles, and adults with limited mobility could be disturbed, injured, or crushed by direct contact with construction equipment. Sessile life stages could also be buried by sediment deposition. All life stages could be adversely affected by impact pile driving.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat	✓	+	+	✓					Eggs settled on hard structure may be less viable than those settled on unconsolidated natural substrate, while spat and juveniles may benefit from increased hardbottom available for settlement. Adults would be displaced laterally to adjacent softbottom. No changes are expected to pelagic prey.
Clearnose Skate (*Raja eglanteria*)	--	n/a	X	X	--	n/a	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓	✓			✓	✓	Juveniles and adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			✓	✓			✓	✓	Juveniles, adults, and demersal prey would be displaced by novel structure laterally to adjacent softbottom.
Monkfish (*Lophius americanus*)	**X**	**X**	**X**	**--**	**X**	**X**	**--**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓					✓	Eggs and larvae are pelagic and have a minimal chance of entrainment. Juveniles in the Lease Area and adults in the Offshore Export Cable Route Corridor could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+					+	Juveniles and adults are known to forage on the edge of complex reef habitat and may benefit from the introduction of novel structure.
Pollock (*Pollachius virens*)	**--**	**X**	**--**	**--**	**--**	**X**	**--**	**--**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Larvae are pelagic and have a minimal chance of entrainment.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									Larvae are pelagic.
Red Hake (*Urophycis chuss*)	**--**	**--**	**--**	**X**	**--**	**--**	**--**	**--**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration				✓					Adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because adults are mobile and EFH for this life stage only intersects with the southern edge of the Lease Area.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat				+					Adults are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Windowpane Flounder (*Scophthalmus aquosus*)	X	X	X	X	X	X	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓	✓			✓	✓	Eggs and larvae are pelagic and have a minimal chance of entrainment. Juveniles and adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			✓	✓			✓	✓	Juveniles, adults, and demersal prey would be displaced by novel structure laterally to adjacent softbottom.
Winter Skate (*Leucoraja ocellata*)	--	n/a	X	--	--	n/a	X	--	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓				✓		Juveniles could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because juveniles stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			✓				✓		Juveniles, and demersal prey would be displaced by novel structure laterally to adjacent softbottom.
Witch Flounder (*Glyptocephalus cynoglossus*)	X	X	--	--	X	X	--	--	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs and larvae are pelagic and have a minimal chance of entrainment.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									Eggs and larvae are pelagic.
Yellowtail Flounder (*Limanda ferruginea*)	--	X	--	--	--	X	--	--	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs and larvae are pelagic and have a minimal chance of entrainment.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									Eggs and larvae are pelagic.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Atlantic Butterfish (*Peprilus triacanthus*)	--	X	X	X	X	--	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs and larvae are pelagic and have a minimal chance of entrainment. Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									The Project would not affect pelagic prey or habitat.
Atlantic Mackerel (*Scomber scombrus*)	X	--	X	X	X	--	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs are pelagic and have minimal chance of entrainment. Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									The Project would not affect pelagic prey or habitat.
Atlantic Surfclam (*Spisula solidissima*)	--	--	X	X	--	--	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓	✓			✓	✓	Juveniles and adults buried in unconsolidated sediments could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			✓	✓			✓	✓	Juveniles and adults would be displaced by novel structure laterally to adjacent softbottom.
Black Sea Bass (*Centropristis striata*)	--	X	X	X	--	X	X	X	
Construction: Direct disturbance, injury, or mortality of life stage; sediment deposition; entrainment; noise and vibration			✓	✓			✓	✓	Larvae are pelagic and have minimal chance of entrainment. Juveniles and adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Juveniles and adults are heavily structure-associated and exhibit strong site fidelity. They may benefit from the introduction of novel structure.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Bluefish (*Pomatomus saltatrix*)	**X**	**X**	**X**	**--**	**X**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Eggs and larvae are pelagic and have a minimal chance of entrainment. Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat									The Project would not affect pelagic prey or habitat.
Longfin Inshore Squid (*Doryteuthis [Amerigo] pealeii*)	**--**	**--**	**X**	**X**	**X**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration					✓				Benthic eggs could be disturbed, injured, or crushed by direct contact with construction equipment. They could also be buried by sediment deposition. Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat					✓+				Eggs are attached to hard substrates and may benefit from increased hardbottom available for attachment.
Scup (*Stenotomus chrysops*)	**--**	**--**	**X**	**X**	**--**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓	✓			✓	✓	Juveniles and adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Juveniles and adults are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.
Spiny Dogfish (*Squalus acanthias*)	**n/a**	**--**	**--**	**X**	**n/a**	**--**	**--**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Sub-adult females and adult males and females are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Sub-adult females and adult males and females are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Summer Flounder (*Paralichthys dentatus*)	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration			✓	✓			✓	✓	Eggs and larvae are pelagic and have a minimal chance of entrainment. Juveniles and adults could be disturbed, injured, or crushed by direct contact with construction equipment or indirect contact with noise and vibration. Impacts would be minimal because these life stages are mobile and can avoid injury. Demersal prey may also be injured or temporarily displaced.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			✓	✓			✓	✓	Juveniles, adults, and demersal prey would be displaced by novel structure laterally to adjacent softbottom.
Albacore Tuna (*Thunnus alalonga*)	**--**	**--**	**X**	**--**	**--**	**--**	**X**	**--**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+				+		Juveniles are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Atlantic Angel Shark (*Squatina dumeril*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are highly mobile and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.
Atlantic Bluefin Tuna (*Thunnus thynnus*)	**--**	**--**	**X**	**X**	**--**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Juveniles and adults are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Atlantic Sharpnose Shark (*Rhizoprionodon terraenovae*)	**n/a**	**--**	**--**	**X**	**n/a**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat				+			+	+	Juveniles and adults are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Atlantic Skipjack Tuna (*Katsuwonus pelamis*)	**--**	**--**	**X**	**X**	**--**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Juveniles and adults are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Atlantic Yellowfin Tuna (*Thunnus albacares*)	**--**	**--**	**X**	**X**	**--**	**--**	**X**	**--**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+		Juveniles and adults are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Blacktip Shark (*Carcharhinus limbatus*)	**n/a**	**--**	**--**	**X**	**n/a**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									Juveniles and adults are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	Juveniles and adults are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Common Thresher Shark (*Alopias vulpinus*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Dusky Shark (*Carcharhinus obscurus*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are pelagic, highly mobile, and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around structure in the water column and may benefit from the introduction of novel structure.
Sand Tiger Shark (*Carcharhinus taurus*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are highly mobile and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.
Sandbar Shark (*Carcharhinus plumbeus*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are highly mobile and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.
Smooth Dogfish (*Mustelus canis*)	**n/a**	**X**	**X**	**X**	**n/a**	**X**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are highly mobile and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat		+	+	+		+	+	+	All life stages are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.

Managed Species	Lease Area				Offshore Export Cable Route Corridor				Supporting Information
	Life Stage								
	E	L	J	A	E	L	J	A	
Tiger shark (*Galeocerdo cuvier*)	**n/a**	**--**	**X**	**X**	**n/a**	**--**	**X**	**X**	
Construction: Direct disturbance, injury, or mortality of life stage; sediment suspension and deposition; entrainment; noise and vibration									All life stages are highly mobile and can avoid injury due to physical interactions or noise and vibration.
Operations: Loss of softbottom habitat; introduction of hardbottom habitat			+	+			+	+	All life stages are known to aggregate around complex reef habitat and may benefit from the introduction of novel structure.

Legend:
X: EFH for this life stage is designated in the portion of the Project Area indicated
--: No EFH for this life stage is designated in the portion of the Project Area indicated
n/a: Life stage does not exist
E: Egg
L: Larva (and neonate sharks)
J: Juvenile
A: Adults (and sub-adult female spiny dogfish)
✓: Likely adverse impact
+: Likely beneficial effect
Tan: Negligible or no adverse impact

ATTACHMENT E-3: OVERSIZED MAPS

CONSTRUCTION AND OPERATIONS PLAN

Coastal Virginia Offshore Wind Commercial Project

Attachment E-3
Oversized Maps

Prepared for:

Dominion Energy®

707 East Main Street
Richmond, VA 23219

Prepared by:

TETRA TECH

Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

www.tetratech.com

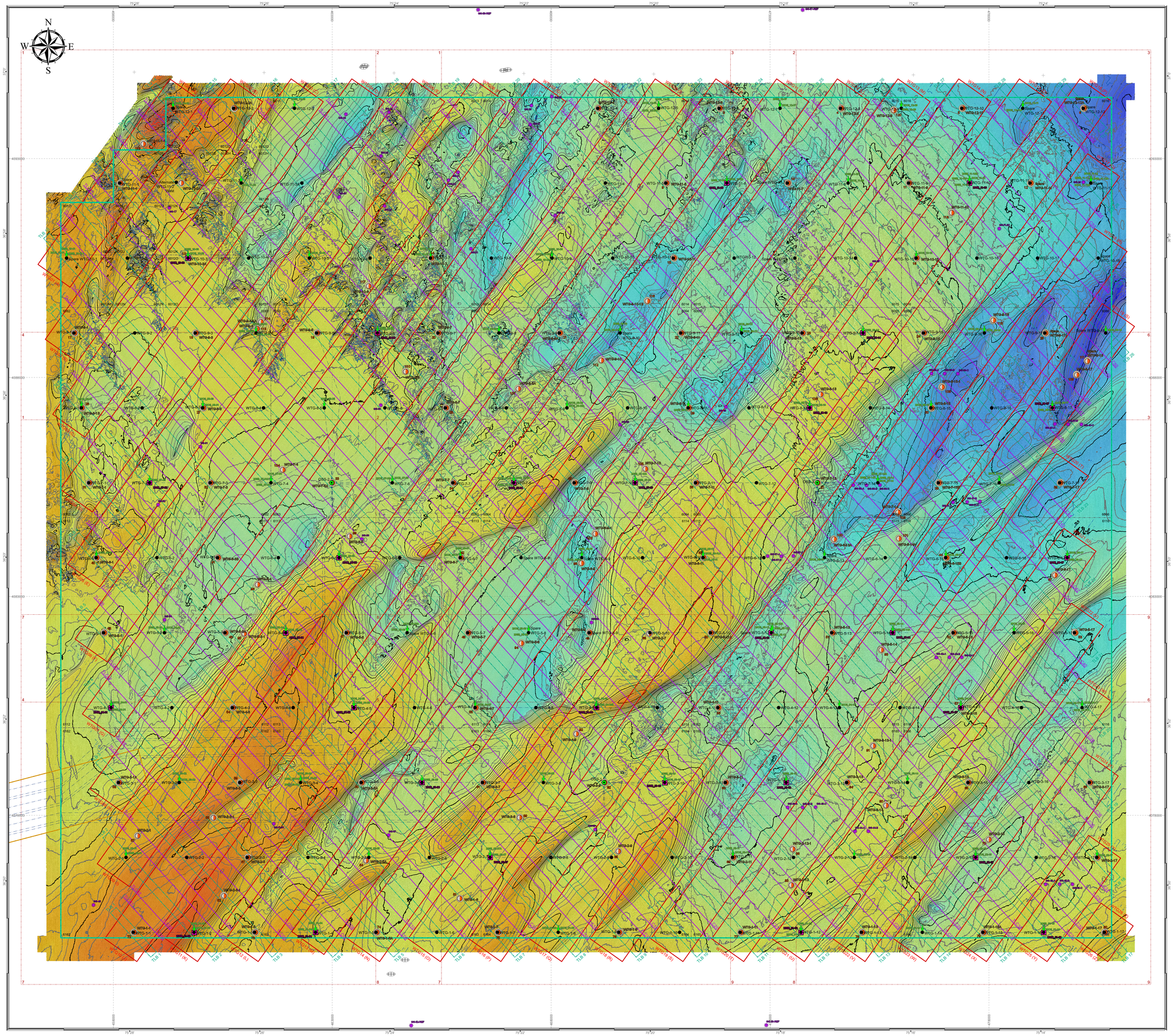
October 2021

APPENDIX E ESSENTIAL FISH HABITAT ASSESSMENT ATTACHMENT E-3

FIGURES

Chart 2, Overview. Lease Area Bathymetry 1
Chart 2, Tile 1 of 9. Lease Area Bathymetry 2
Chart 2, Tile 2 of 9. Lease Area Bathymetry 3
Chart 2, Tile 3 of 9. Lease Area Bathymetry 4
Chart 2, Tile 4 of 9. Lease Area Bathymetry 5
Chart 2, Tile 5 of 9. Lease Area Bathymetry 6
Chart 2, Tile 6 of 9. Lease Area Bathymetry 7
Chart 2, Tile 7 of 9. Lease Area Bathymetry 8
Chart 2, Tile 8 of 9. Lease Area Bathymetry 9
Chart 2, Tile 9 of 9. Lease Area Bathymetry 10
Chart 3d, Overview. Lease Area Seabed Sediment Classification (CMECS) 11
Chart 3d, Tile 1 of 9. Lease Area Seabed Sediment Classification (CMECS) 12
Chart 3d, Tile 2 of 9. Lease Area Seabed Sediment Classification (CMECS) 13
Chart 3d, Tile 3 of 9. Lease Area Seabed Sediment Classification (CMECS) 14
Chart 3d, Tile 4 of 9. Lease Area Seabed Sediment Classification (CMECS) 15
Chart 3d, Tile 5 of 9. Lease Area Seabed Sediment Classification (CMECS) 16
Chart 3d, Tile 6 of 9. Lease Area Seabed Sediment Classification (CMECS) 17
Chart 3d, Tile 7 of 9. Lease Area Seabed Sediment Classification (CMECS) 18
Chart 3d, Tile 8 of 9. Lease Area Seabed Sediment Classification (CMECS) 19
Chart 3d, Tile 9 of 9. Lease Area Seabed Sediment Classification (CMECS) 20
Chart 3c, Overview. Lease Area Seabed Features and Morphology (CMECS) 21
Chart 3c, Tile 1 of 9. Lease Area Seabed Features and Morphology (CMECS) 22
Chart 3c, Tile 2 of 9. Lease Area Seabed Features and Morphology (CMECS) 23
Chart 3c, Tile 3 of 9. Lease Area Seabed Features and Morphology (CMECS) 24
Chart 3c, Tile 4 of 9. Lease Area Seabed Features and Morphology (CMECS) 25
Chart 3c, Tile 5 of 9. Lease Area Seabed Features and Morphology (CMECS) 26
Chart 3c, Tile 6 of 9. Lease Area Seabed Features and Morphology (CMECS) 27
Chart 3c, Tile 7 of 9. Lease Area Seabed Features and Morphology (CMECS) 28
Chart 3c, Tile 8 of 9. Lease Area Seabed Features and Morphology (CMECS) 29
Chart 3c, Tile 9 of 9. Lease Area Seabed Features and Morphology (CMECS) 30
Chart 4, Overview. Lease Area Side Scan Sonar Mosaic 31

Chart 4, Tile 1 of 9. Lease Area Side Scan Sonar Mosaic 32
Chart 4, Tile 2 of 9. Lease Area Side Scan Sonar Mosaic 33
Chart 4, Tile 3 of 9. Lease Area Side Scan Sonar Mosaic 34
Chart 4, Tile 4 of 9. Lease Area Side Scan Sonar Mosaic 35
Chart 4, Tile 5 of 9. Lease Area Side Scan Sonar Mosaic 36
Chart 4, Tile 6 of 9. Lease Area Side Scan Sonar Mosaic 37
Chart 4, Tile 7 of 9. Lease Area Side Scan Sonar Mosaic 38
Chart 4, Tile 8 of 9. Lease Area Side Scan Sonar Mosaic 39
Chart 4, Tile 9 of 9. Lease Area Side Scan Sonar Mosaic 40
Centerline Alignment Chart, Overview. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 41
Centerline Alignment Chart, Sheet 1 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 42
Centerline Alignment Chart, Sheet 2 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 43
Centerline Alignment Chart, Sheet 3 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 44
Centerline Alignment Chart, Sheet 4 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 45
Centerline Alignment Chart, Sheet 5 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 46
Centerline Alignment Chart, Sheet 6 of 6. Export Cable Route Corridor Bathymetry, Surface Features, Sediment (CMECS), and Side Scan Sonar Mosaic 47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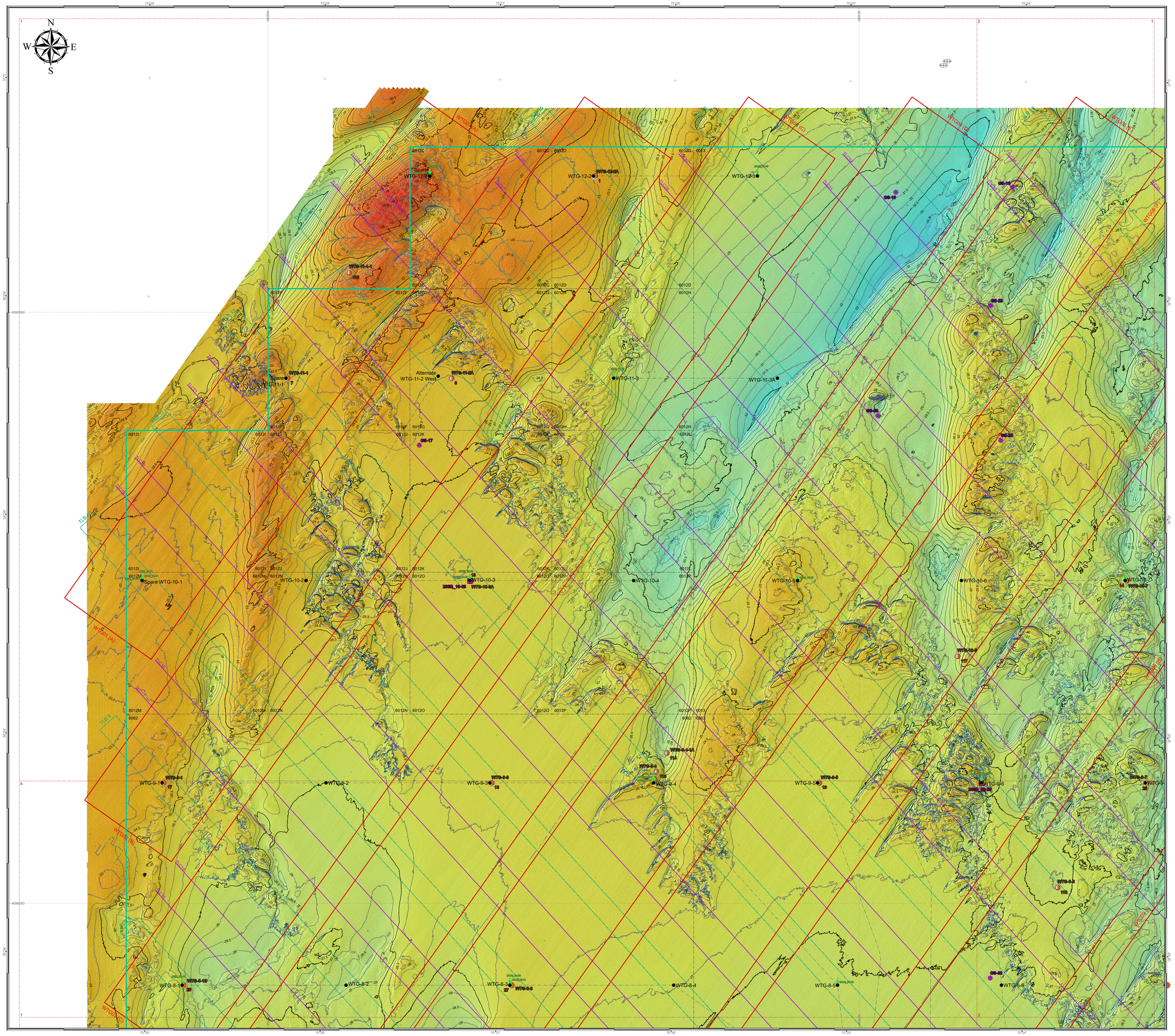
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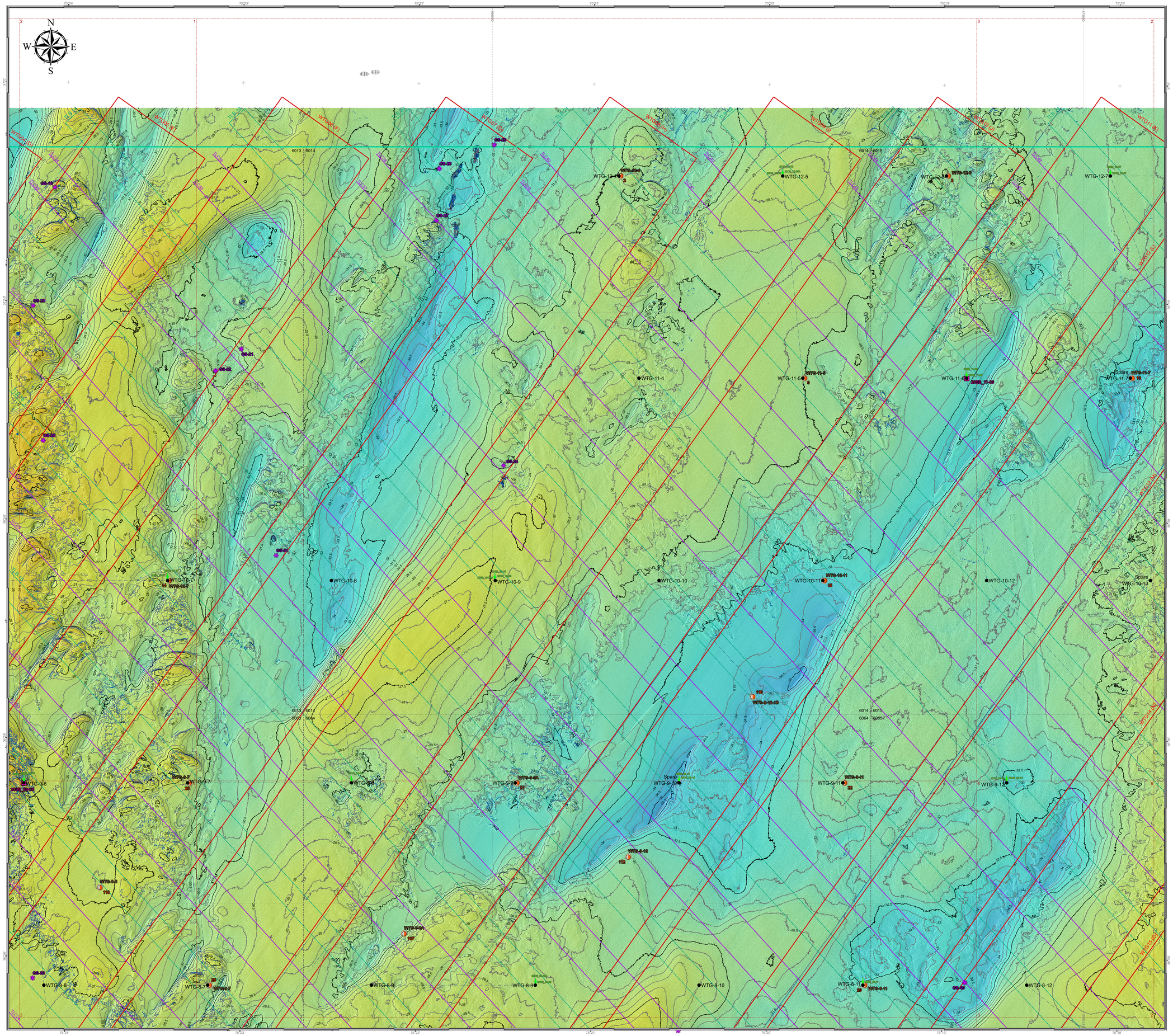


General Map Symbols

Dominion Lease Boundary
OCS-A 0483

Proposed Cable Route
"Conceptual cables routes; Detailed re-routing/micro-siting will follow"

TLC Planned Line

TLB Corridor

WTG Corridor

Cable Corridor

BOEM Lease Block Main Chart
OCS-A 0483

Tile Panel 1 - 9 Main Chart

WTG Location
Preliminary position/subject to change

OSS Location
Preliminary position/subject to change

Grab Sample

Box Corer

Geotechnical Boring

Benthic Sample

CPT

Charted Shipwreck
Source: NOAA Office of Coast Survey

USA State and Cities Geographic Data downloaded from ESRI
Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Bathymetry

30 Major Contours (2.5 m interval)

Minor Contours (0.50 m interval)

Slope Gradient >= 10°

The elevation values for the current display:

Minimum: -36.24m

Maximum: -19.68m

Bathymetric Grid

-18 -21 -24 -27 -30 -33 -36 -39 -42

MBES surface was created at 50 cm resolution.
Bathymetric Grid: values are elevation, in meters

Multibeam Echosounder Processing Notes

Multibeam bathymetry data were processed in QPS Qimera 2.2.1.

Data Import and Navigation

Qinsy Database (DB) files were imported into Qimera 2.2.1, and an initial surface was made; post-processed POSPac PP-RTX results in the form of Smoothed Best Estimate Trajectories (SBETs) were imported. In Qimera, position and altitude data were analyzed for erroneous points; these data points were flagged and then removed.

Sound Velocity Correction

Sound velocity data were imported, evaluated for erroneous points, and applied to the MBES data. Unless sound velocity errors were noted, "Nearest in Distance Within Time – 360 minutes" was the method for pairing SV casts to the DB files.

Vertical Datum

The data were then converted to the working vertical datum, MLLW, by the application of NOAA V-Datum separation model; this separation model shifted the SBET from its native ellipsoidal elevation.The data were checked for tidal errors, refraction, and noise and adjusted where necessary.

Data Cleaning

Data were filtered using an TPU (Total Propagated Uncertainty) filter for IHO Special Order. Data were then manually edited and cleaned using the swath, slice, and 3D editor tools in Qimera. The Density Grid was analyzed prior to cutting any outer beams (if necessary) to ensure a minimum of 5 pings per square meter. The final surface was inspected using the Uncertainty Grid (95% confidence level) for any remaining outliers to be removed. Final QC was performed using the Density, Uncertainty (95%), Total Horizontal Uncertainty (THU), and Total Vertical Uncertainty (TVU) grids.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) : RZSonic 2024 (200-400 kHz)[6]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer
Sparker[1]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[3]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milston
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

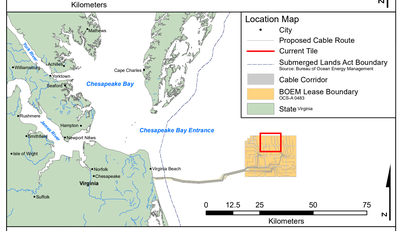
Current Tile

BOEM Lease Block
OCS-A 0483

Tile Panel 1 - 9



0 2.5 5 10 15 20
Kilometers



0 125 250 500 750 1,000 1,250
Meters

0 500 1,000 2,000 3,000 4,000 5,000
Feet

1:10,000

Survey Contractor:
TERRASOND
PRECISION GEOSPATIAL SOLUTIONS

Client:
Dominion Energy

Project Title:
CVOW-C Geophysical Survey 2021

Chart Title:
CHART 2
BATHYMETRY
TILE 2 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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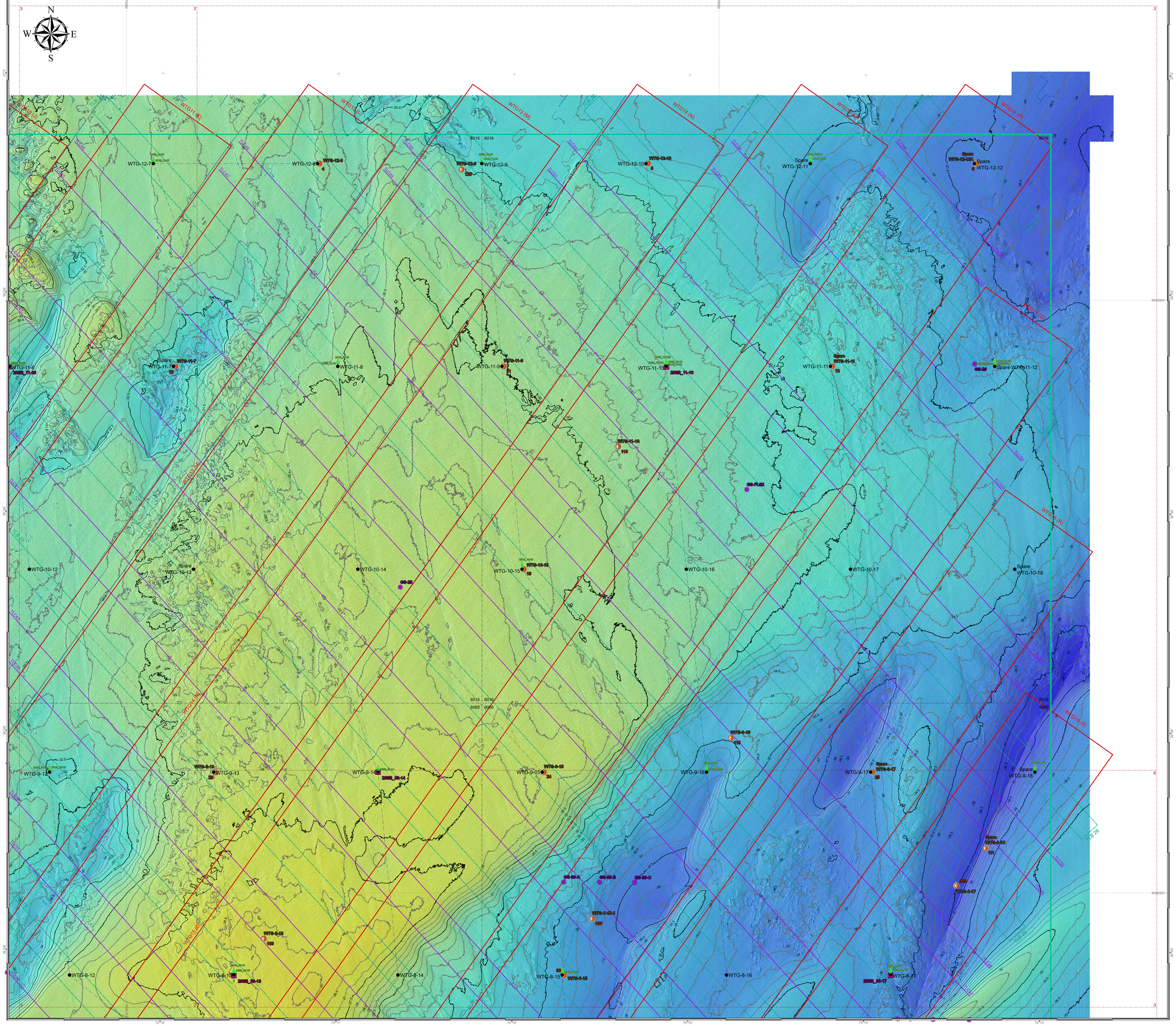

General Map Symbols

- Dominion Lease Boundary — OCS-A 0483
- Proposed Cable Route — "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
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- Tile Panel 1 - 9 — Main Chart
- WTG Location — Preliminary position/subject to change
- OSS Location — Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck — Source: NOAA Office of Coast Survey

USA States and Cities: Geographic Data: download from ESRI Stories; Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Bathymetry

- Major Contours (2.5 m interval)
- Minor Contours (0.50 m interval)
- Slope Gradient >= 10°

The elevation values for the current display:

Minimum: -41.74m

Maximum: -27.38m

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Operations Manager	: William Busey
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Lead Surveyor	: Larry Andrews
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Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block — OCS-A 0483
- Tile Panel 1 - 9

1 2 3 4 5 6 7 8 9

0 2.5 5 10 15 20 Kilometers

Location Map

- City
- Proposed Cable Route
- Current Tile
- Submerged Lands Act Boundary — Source: Bureau of Ocean Energy Management
- Cable Corridor
- BOEM Lease Boundary — OCS-A 0483
- State Virginia

Cape Charles, Yorktown, Newport News, Hampton, Norfolk, Chesapeake, Virginia Beach, Suffolk, Isle of Wight, Smithfield, Poquoson, Williamsburg, Tappahannock, Kilmarnock, Urbanna, Gloucester, Mathews, Chesapeake Bay, Chesapeake Bay Entrance

0 12.5 25 50 75 Kilometers

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 2 BATHYMETRY TILE 3 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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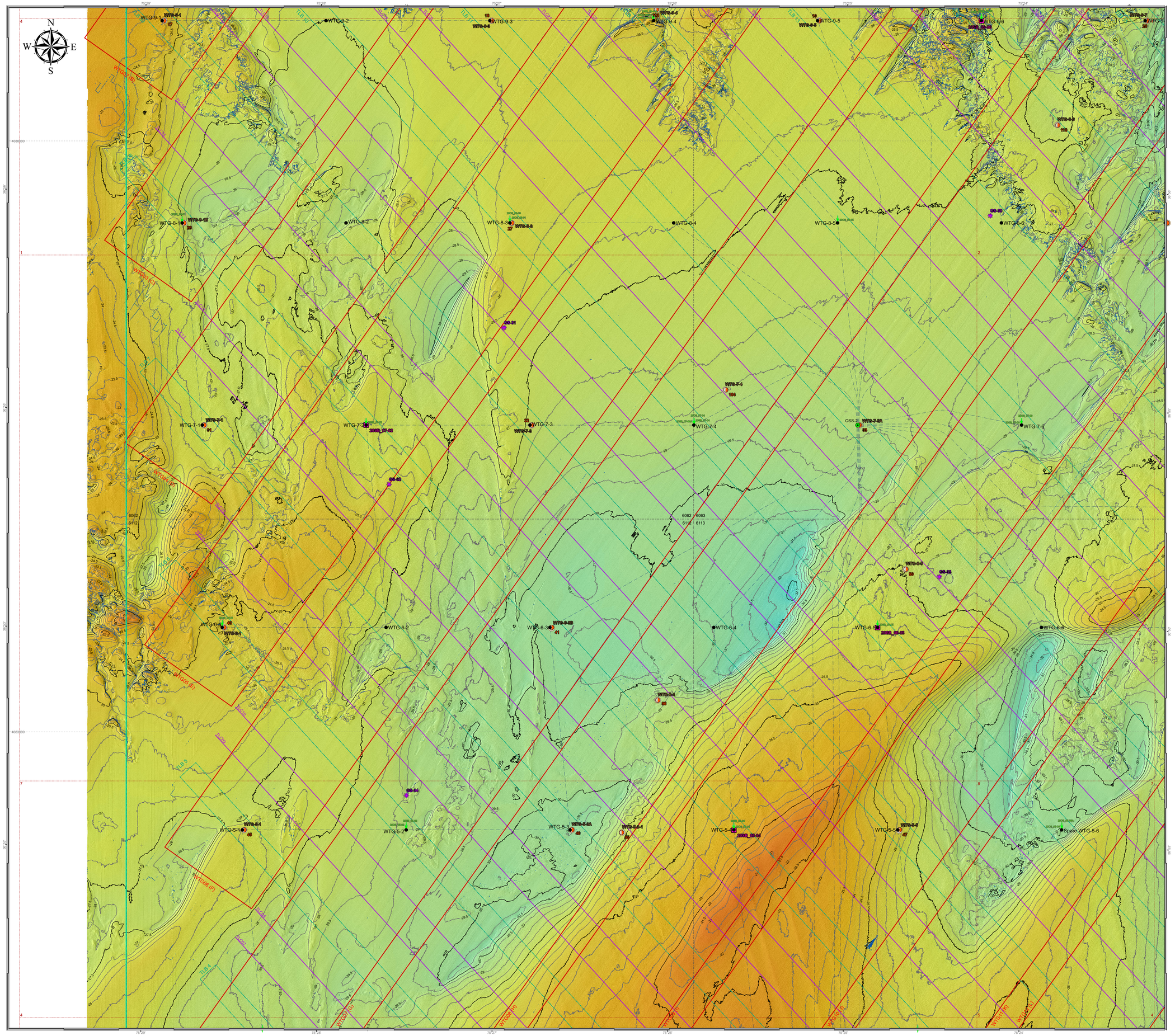
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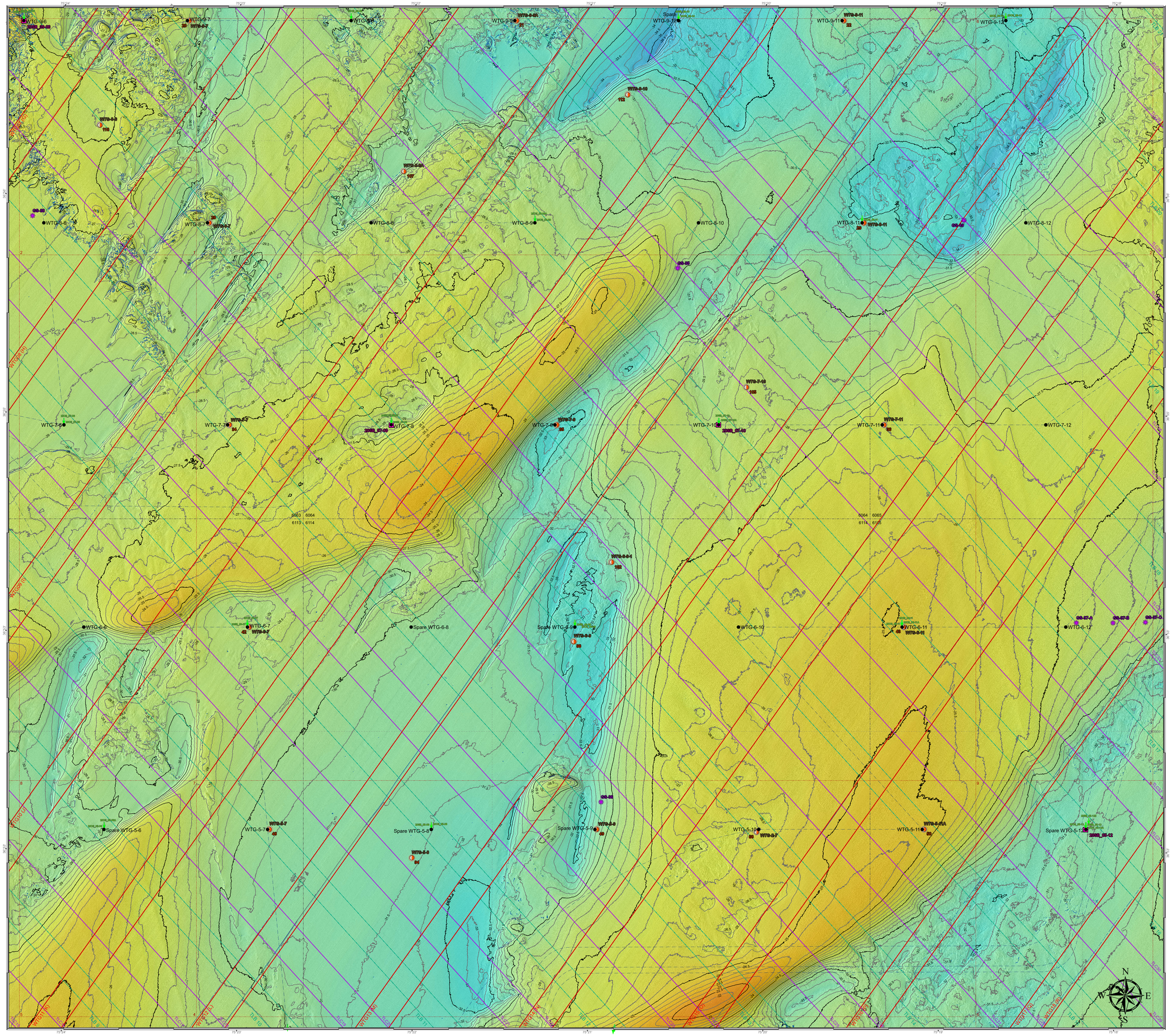
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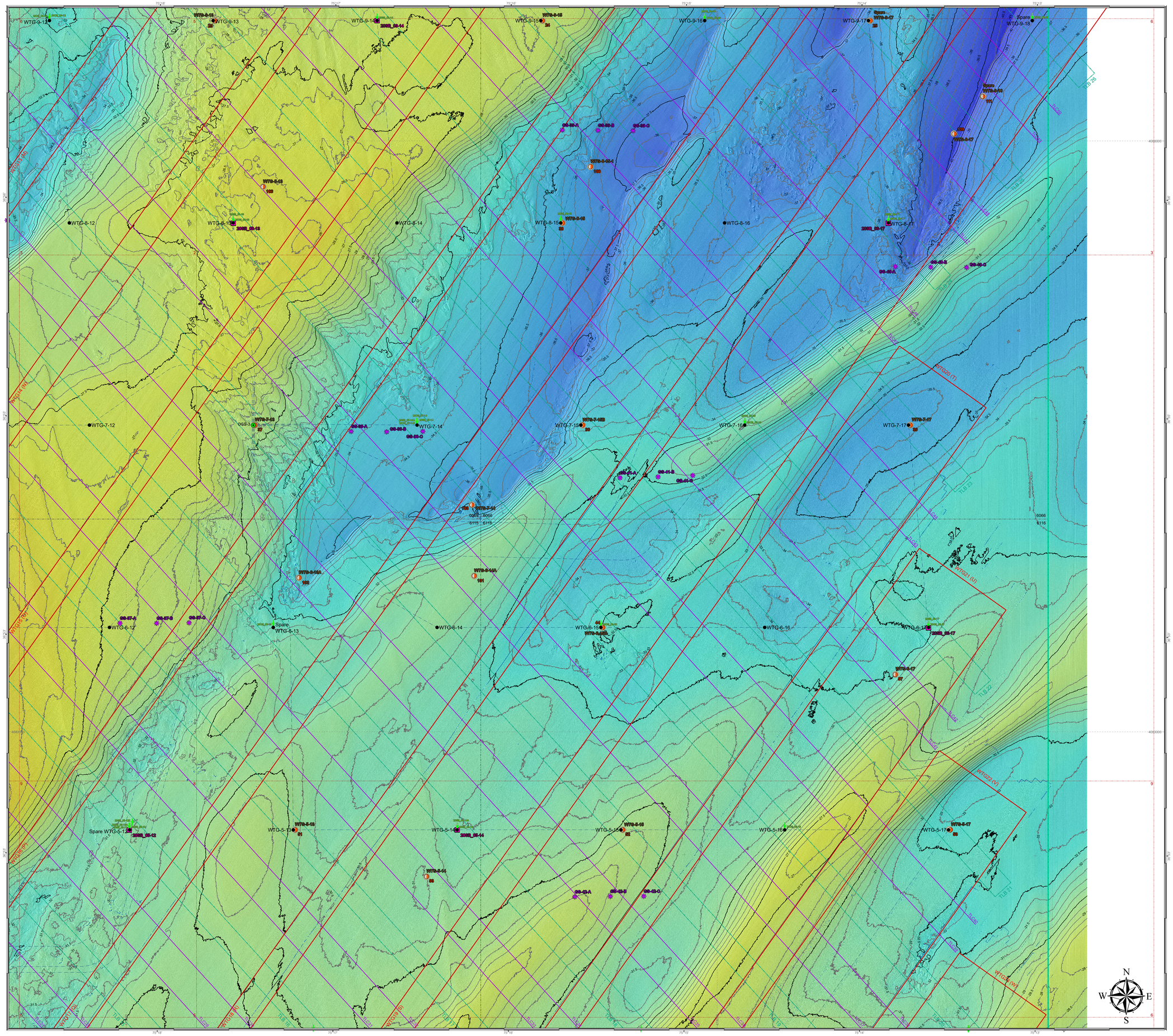

General Map Symbols

- Dominion Lease Boundary (OCS-A 0483)
- Proposed Cable Route ("Conceptual cables routes; Detailed re-routing/micro-siting will follow")
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block (Main Chart, OCS-A 0483)
- Tile Panel 1 - 9 (Main Chart)
- WTG Location (Preliminary position/subject to change)
- OSS Location (Preliminary position/subject to change)
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck (Source: NOAA Office of Coast Survey)

USA States and Cities: Geographic Data: download from ESRI Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Bathymetry

- Major Contours (2.5 m interval)
- Minor Contours (0.50 m interval)
- Slope Gradient >= 10°

The elevation values for the current display:

Minimum: -41.27m

Maximum: -25.72m

Bathymetric Grid

-18 -21 -24 -27 -30 -33 -36 -39 -42

MBES surface was created at 50 cm resolution.
Bathymetric Grid: values are elevation, in meters

Multibeam Echosounder Processing Notes

Multibeam bathymetry data were processed in QPS Qimera 2.2.1.

Data Import and Navigation

Qinsy Database (DB) files were imported into Qimera 2.2.1, and an initial surface was made; post-processed POSPac PP-RTX results in the form of Smoothed Best Estimate Trajectories (SBETs) were imported. In Qimera, position and altitude data were analyzed for erroneous points; these data points were flagged and then removed.

Sound Velocity Correction

Sound velocity data were imported, evaluated for erroneous points, and applied to the MBES data. Unless sound velocity errors were noted, "Nearest in Distance Within Time – 360 minutes" was the method for pairing SV casts to the DB files.

Vertical Datum

The data were then converted to the working vertical datum, MLLW, by the application of NOAA V-Datum separation model; this separation model shifted the SBET from its native ellipsoidal elevation.The data were checked for tidal errors, refraction, and noise and adjusted where necessary.

Data Cleaning

Data were filtered using an TPU (Total Propagated Uncertainty) filter for IHO Special Order. Data were then manually edited and cleaned using the swath, slice, and 3D editor tools in Qimera. The Density Grid was analyzed prior to cutting any outer beams (if necessary) to ensure a minimum of 5 pings per square meter. The final surface was inspected using the Uncertainty Grid (95% confidence level) for any remaining outliers to be removed. Final QC was performed using the Density, Uncertainty (95%), Total Horizontal Uncertainty (THU), and Total Vertical Uncertainty (TVU) grids.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) : RZSonic 2024 (200-400 kHz)[6]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer
Sparker[7]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[1]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milston
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block (OCS-A 0483)
- Tile Panel 1 - 9

1 2 3 4 5 6 7 8 9

0 2.5 5 10 15 20 Kilometers

N

Location Map

- City
- Proposed Cable Route
- Current Tile
- Submerged Lands Act Boundary (Source: Bureau of Ocean Energy Management)
- Cable Corridor
- BOEM Lease Boundary (OCS-A 0483)
- State Virginia

Cape Charles, Chesapeake Bay, Chesapeake Bay Entrance, Williamsburg, Yorktown, Newport News, Hampton, Poquoson, Hudson, Seaford, Fairmont, Smithfield, Isle of Wight, Norfolk, Chesapeake, Virginia Beach, Virginia, Suffolk

0 12.5 25 50 75 Kilometers

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title:

CVOW-C Geophysical Survey 2021

Chart Title:

CHART 2
BATHYMETRY
TILE 6 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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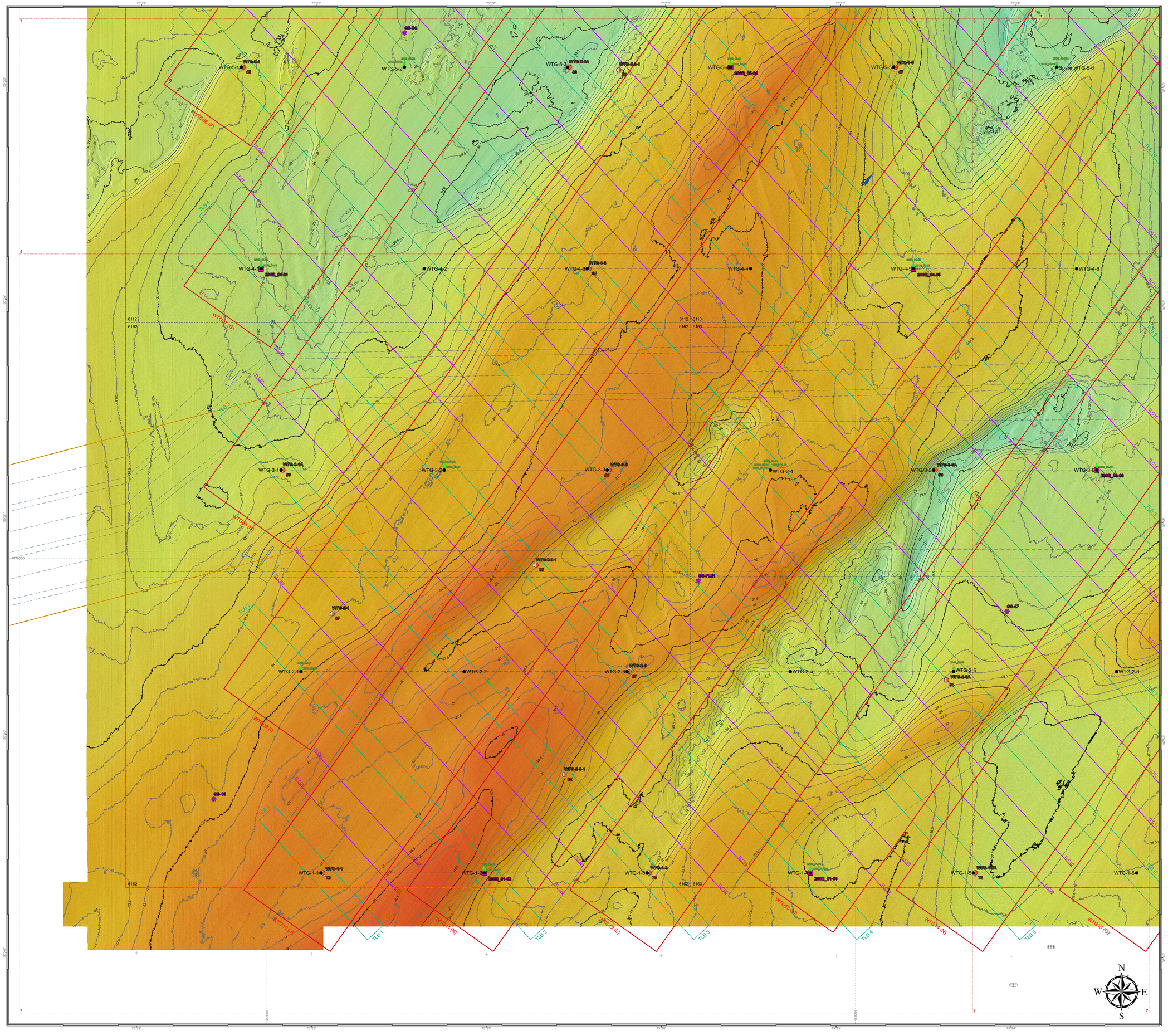

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- Slope Gradient >= 10°

The elevation values for the current display:
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Maximum: -19.19m

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Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
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Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9

1 2 3 4 5 6 7 8 9

0 2.5 5 10 15 20 Kilometers

N

Location Map

- City
- Proposed Cable Route
- Current Tile
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- BOEM Lease Boundary OCS-A 0483
- State Virginia

Chesapeake Bay
Chesapeake Bay Entrance
Cape Charles
Williamsburg
Yorktown
Newport News
Hampton
Virginia Beach
Chesapeake
Suffolk
Isle of Wight

0 12.5 25 50 75 Kilometers

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 2 BATHYMETRY TILE 7 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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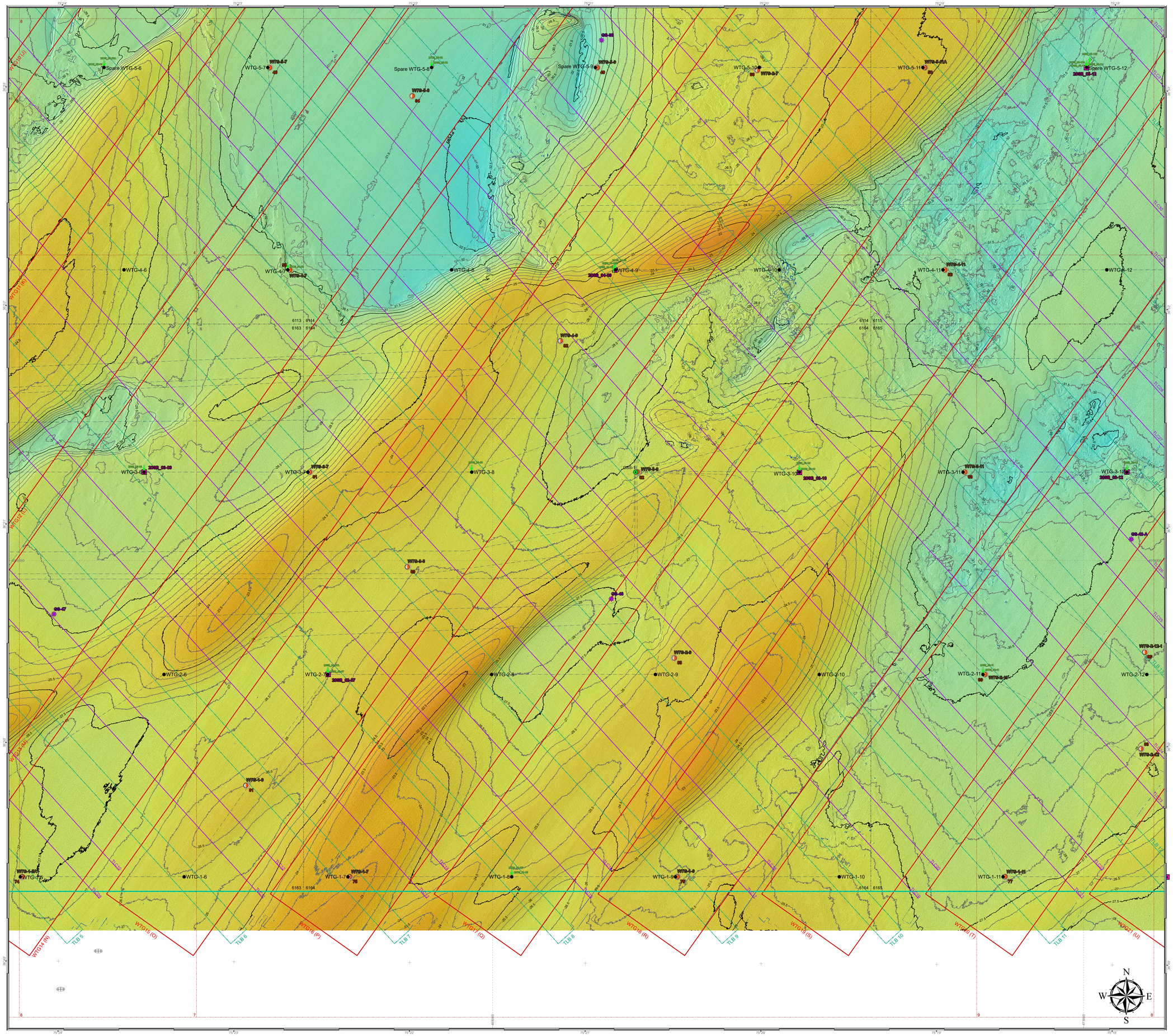

General Map Symbols

- Dominion Lease Boundary — OCS-A 0483
- Proposed Cable Route — "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block — Main Chart, OCS-A 0483
- Tile Panel 1 - 9 — Main Chart
- WTG Location — Preliminary position/subject to change
- OSS Location — Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck — Source: NOAA Office of Coast Survey

USA States and Cities - Geographic Data downloaded from ESRI Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Bathymetry

- Major Contours (2.5 m interval)
- Minor Contours (0.50 m interval)
- Slope Gradient >= 10°

The elevation values for the current display:
Minimum: -33.33m
Maximum: -21.8m

Bathymetric Grid

-18 -21 -24 -27 -30 -33 -36 -39 -42

MBES surface was created at 50 cm resolution.
Bathymetric Grid: values are elevation, in meters

Multibeam Echosounder Processing Notes

Multibeam bathymetry data were processed in QPS Qimera 2.2.1.

Data Import and Navigation

Qinsy Database (DB) files were imported into Qimera 2.2.1, and an initial surface was made; post-processed POSPac PP-RTX results in the form of Smoothed Best Estimate Trajectories (SBETs) were imported. In Qimera, position and altitude data were analyzed for erroneous points; these data points were flagged and then removed.

Sound Velocity Correction

Sound velocity data were imported, evaluated for erroneous points, and applied to the MBES data. Unless sound velocity errors were noted, "Nearest in Distance Within Time – 360 minutes" was the method for pairing SV casts to the DB files.

Vertical Datum

The data were then converted to the working vertical datum, MLLW, by the application of NOAA V-Datum separation model; this separation model shifted the SBET from its native ellipsoidal elevation.The data were checked for tidal errors, refraction, and noise and adjusted where necessary.

Data Cleaning

Data were filtered using an TPU (Total Propagated Uncertainty) filter for IHO Special Order. Data were then manually edited and cleaned using the swath, slice, and 3D editor tools in Qimera. The Density Grid was analyzed prior to cutting any outer beams (if necessary) to ensure a minimum of 5 pings per square meter. The final surface was inspected using the Uncertainty Grid (95% confidence level) for any remaining outliers to be removed. Final QC was performed using the Density, Uncertainty (95%), Total Horizontal Uncertainty (THU), and Total Vertical Uncertainty (TVU) grids.

General Information

Equipment

Survey Vessels	M/V Marcelle[3]/M/V Sarah Bordelon[3]/ R/V Kommandor Iona[1]/ R/V Kommandor Stuart[1]/ M/V GO Discovery[2]/M/V Minerva Uno[4]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) / RZSonic 2024 (200-400 kHz)[3]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,5]	: AAS-Boom and SCS Streamer
Sparker[2]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[3]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milsten
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



0 2.5 5 10 15 20 Kilometers

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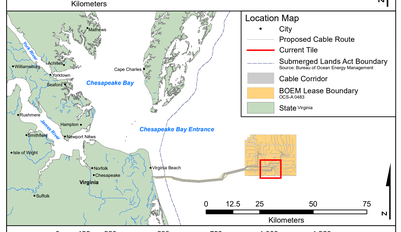

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 2 BATHYMETRY TILE 8 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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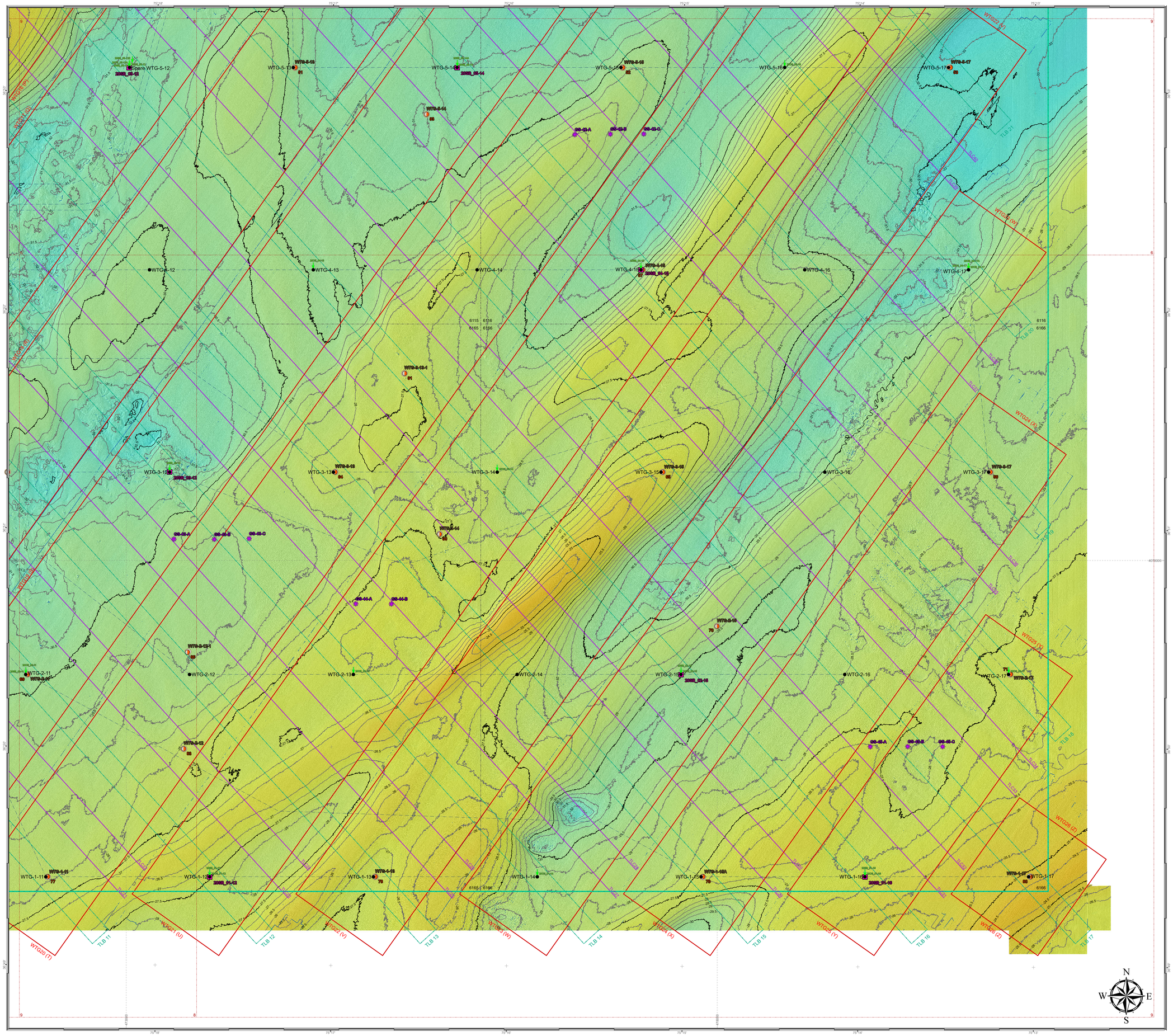

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Bathymetry

- Major Contours (2.5 m interval)
- Minor Contours (0.50 m interval)
- Slope Gradient >= 10°

The elevation values for the current display:

Minimum: -33.51m

Maximum: -24.06m

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Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
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Tile Index Overview

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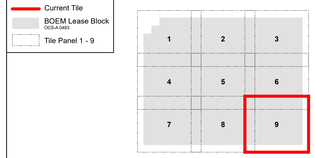
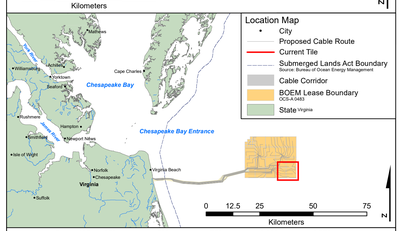
- BOEM Lease Block (OCS-A 0483)
- Tile Panel 1 - 9



0 2.5 5 10 15 20 Kilometers



0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 2 BATHYMETRY TILE 9 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/04/21	DRAFT	CLS	KMM	KMM
06/14/21	Rev00	CLS	KDW	KMM
07/29/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/29/2021

File Name: Dominion_Bathymetry_Rev01.pdf

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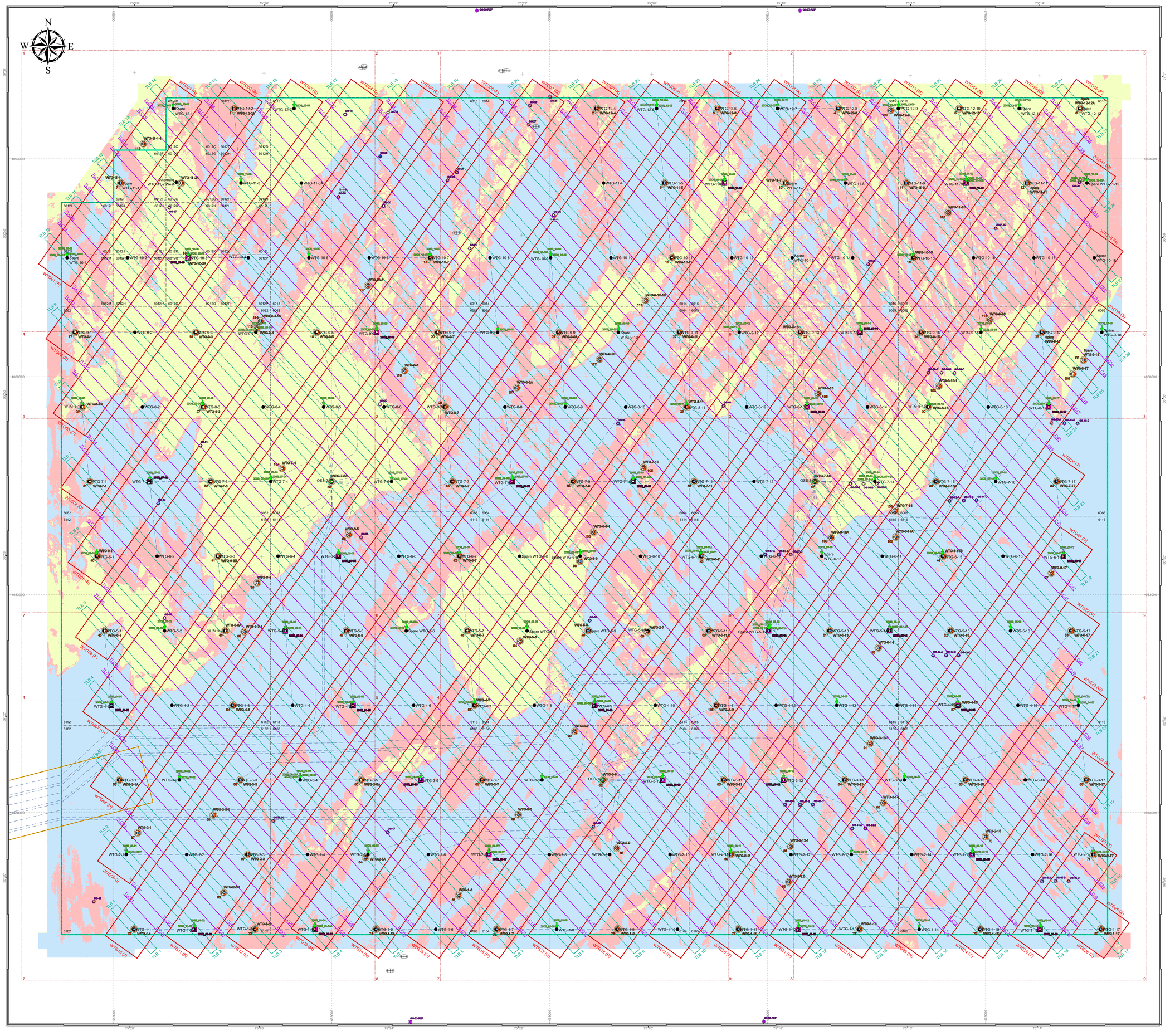
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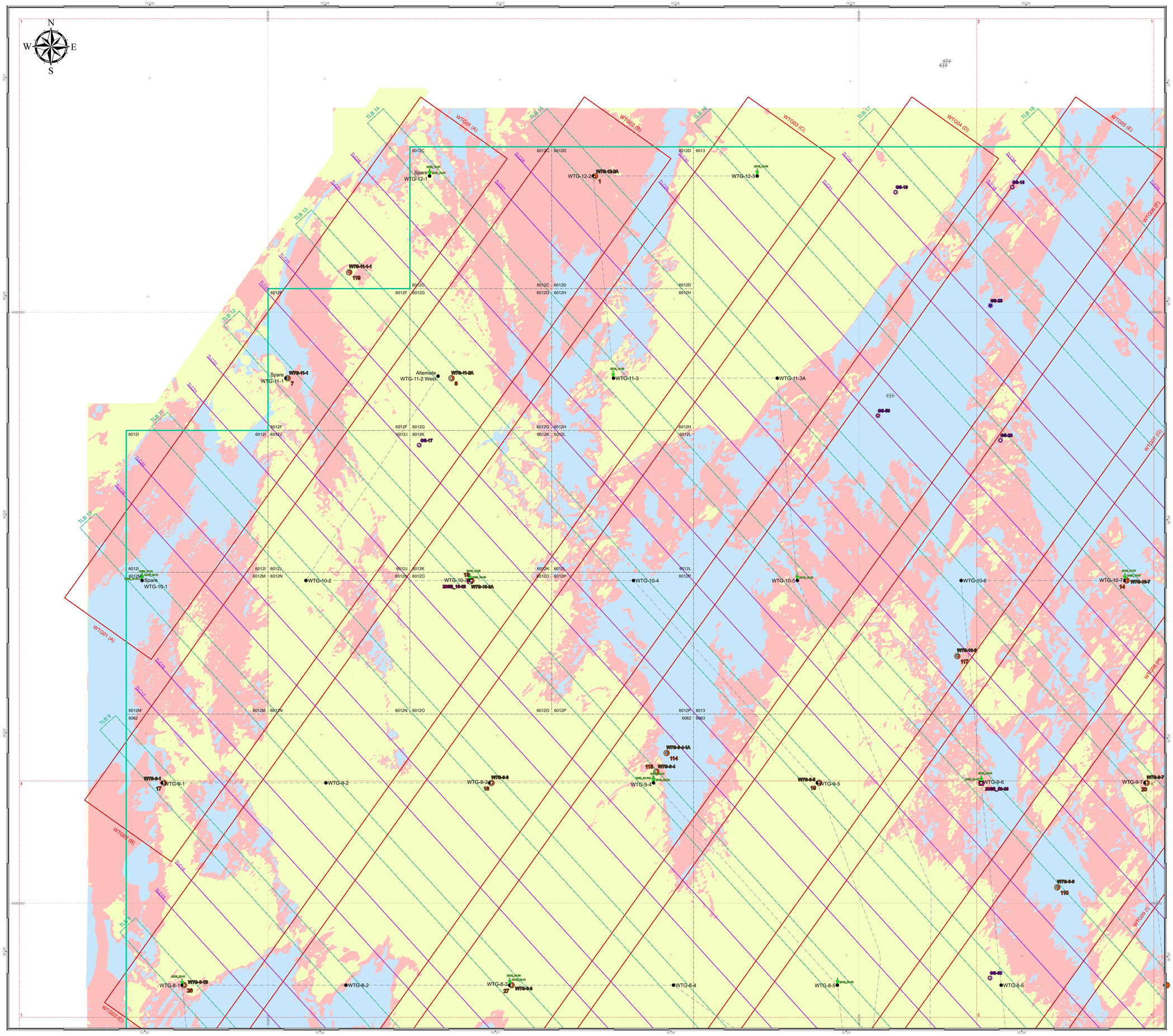
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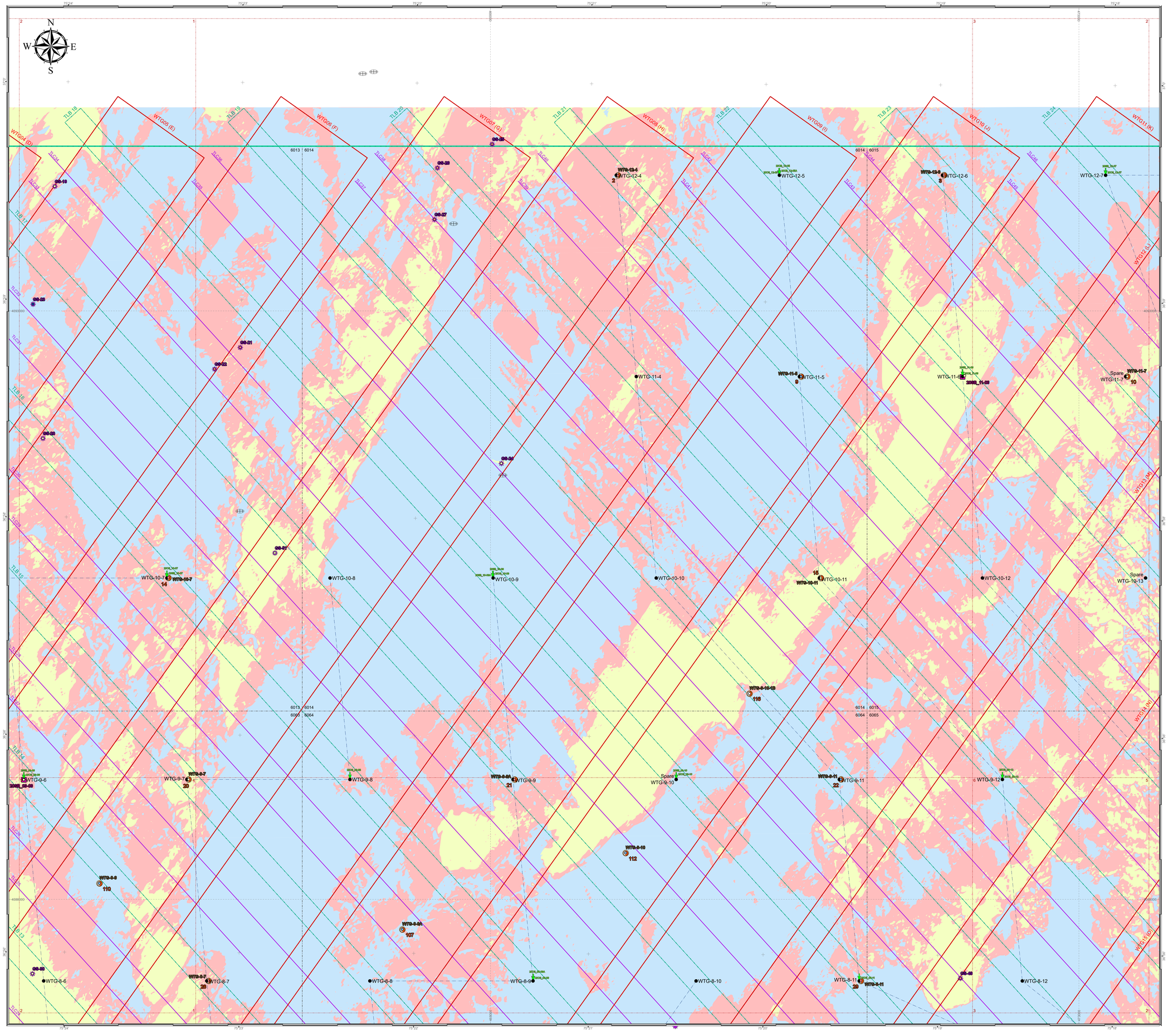
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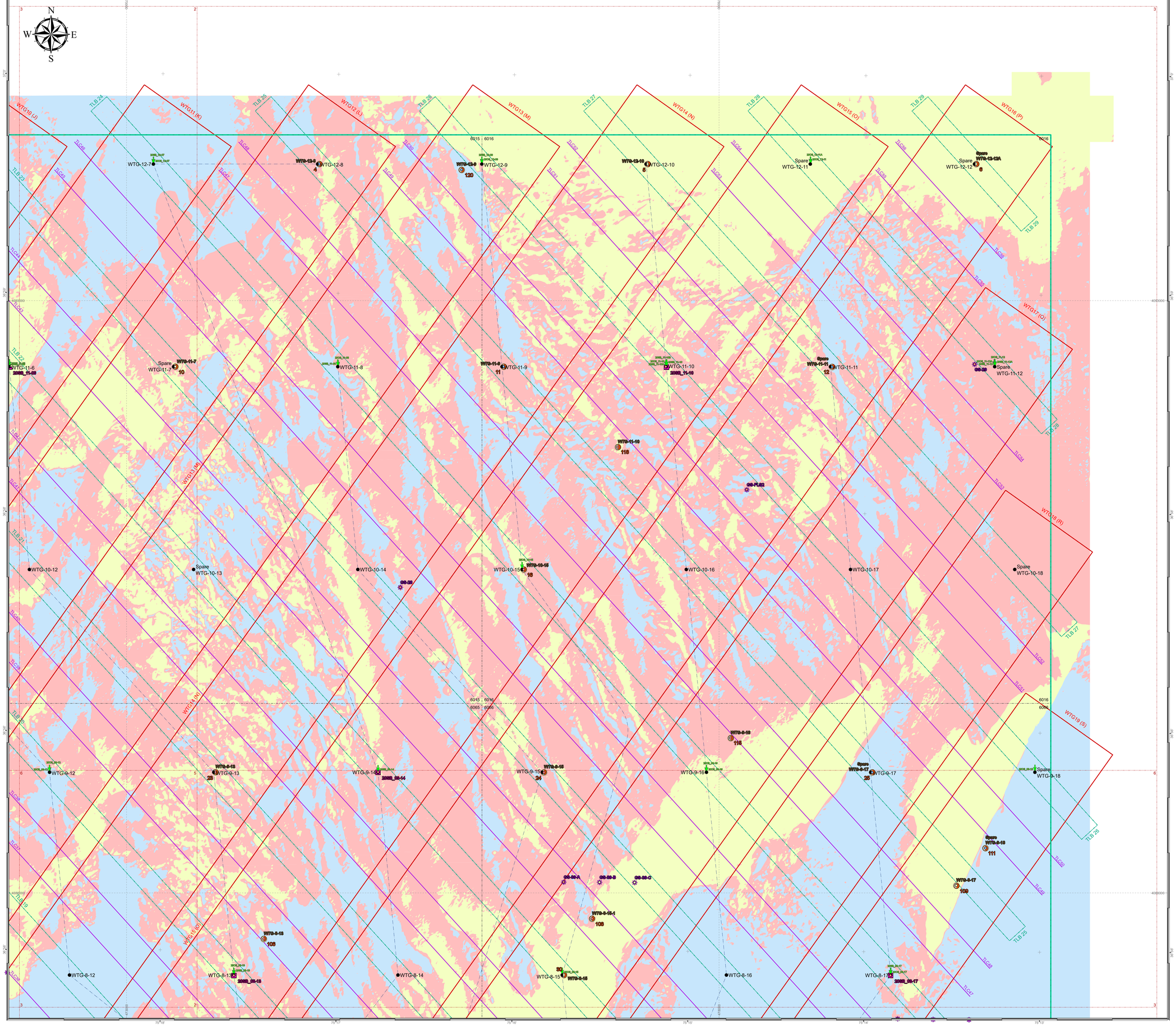
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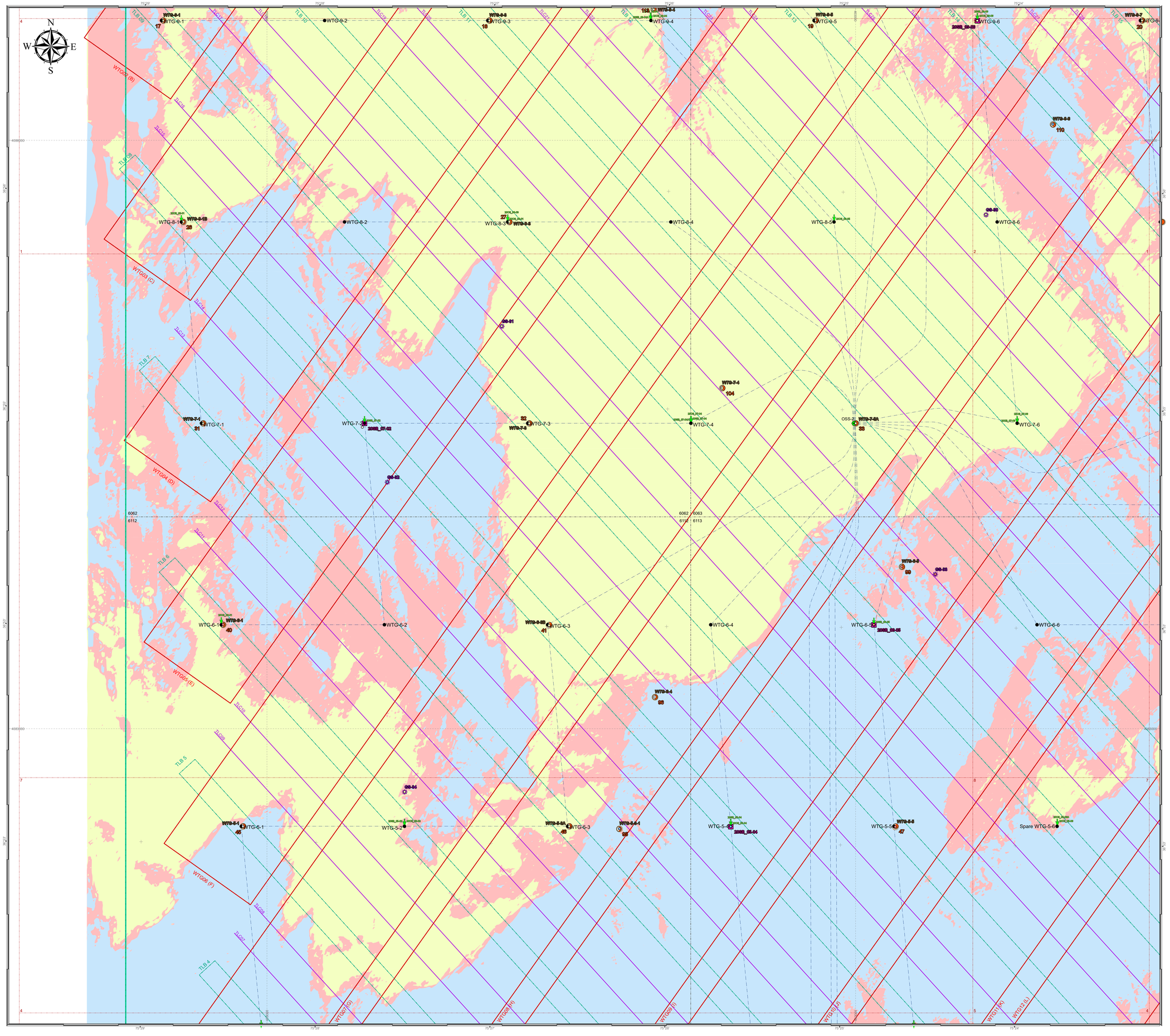
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Particle Size (mm)	64	9.500	4.750	2.000	1.000	0.850	0.425	0.106	0.250	0.106	0.075	0.053
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Tile Index Overview

- Current Tile
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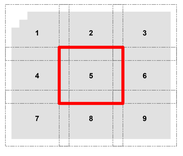
- Tile Panel 1 - 9



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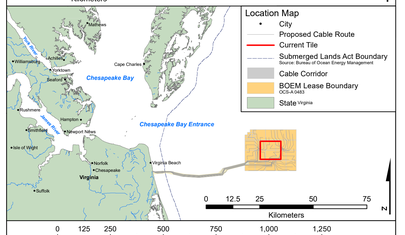

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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 3d
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE
SEABED SEDIMENT CLASSIFICATION (CMECS)
TILE 5 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01
Date: 7/30/2021

File Name: Dominion_GeoSurfaceFeatures_Sediment_CMECS_Rev01.pdf

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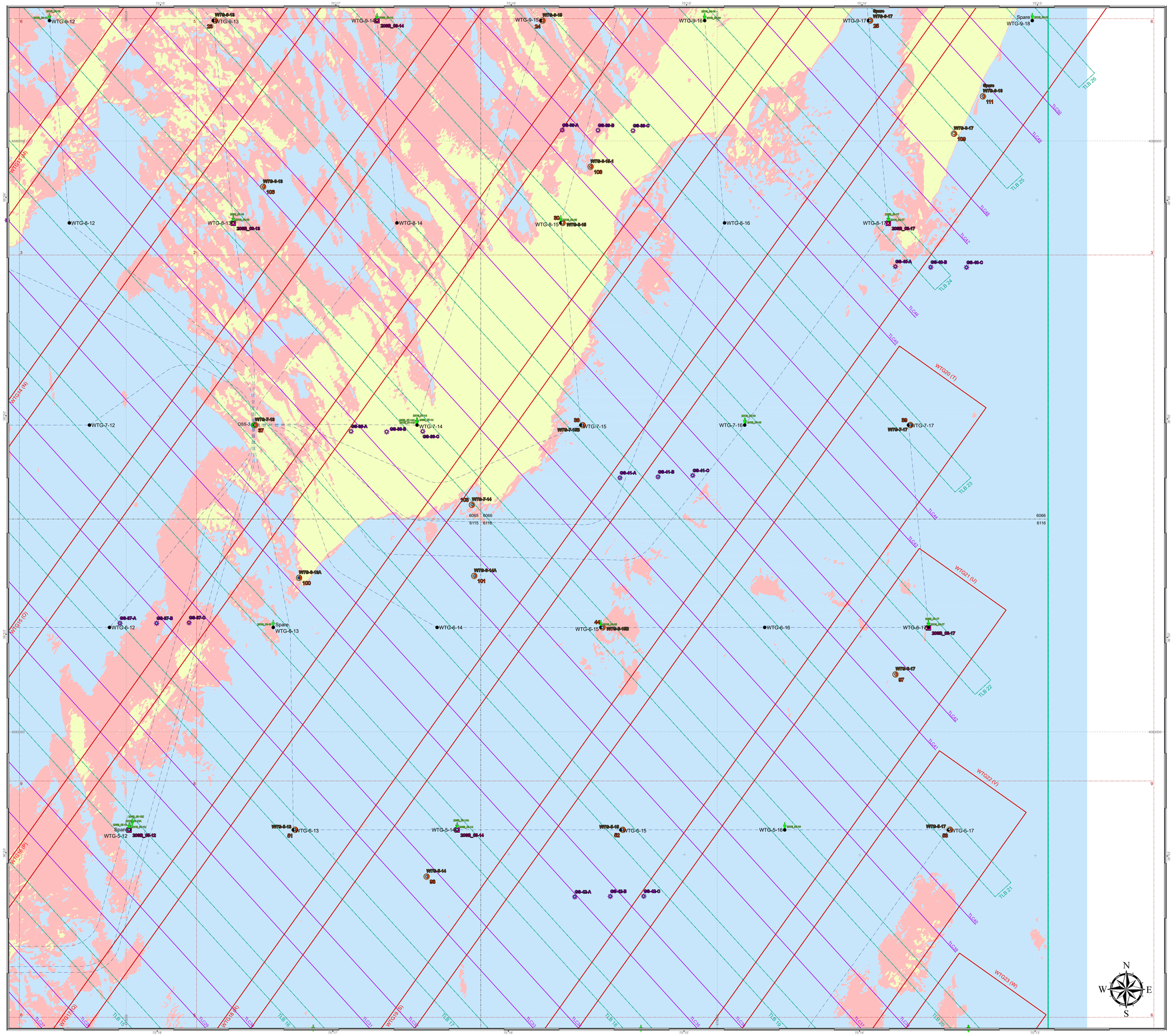

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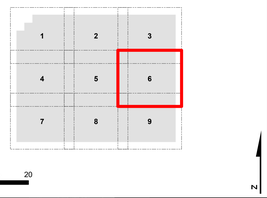

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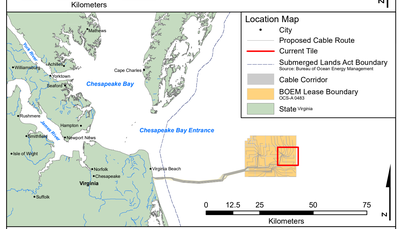

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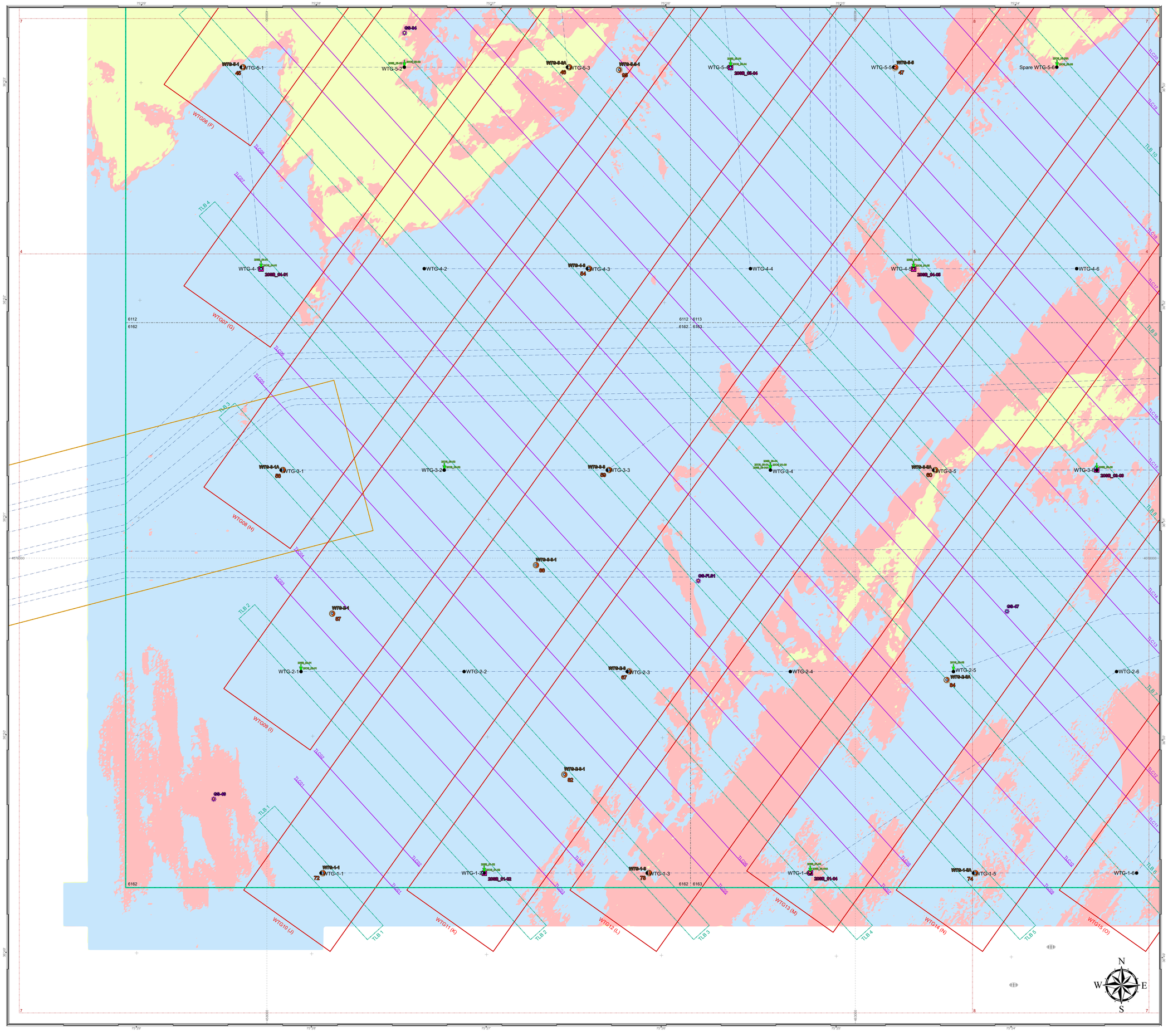

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Coordinate Reference System

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EPSG Code :6347
Geodetic Datum :North American 1983
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Vertical Coordinate Reference System
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Axis -down :Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



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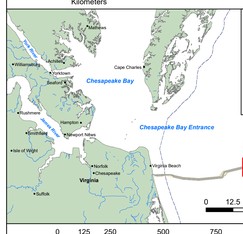

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Meters
0 500 1,000 2,000 3,000 4,000 5,000
Feet
1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title:
CVOW-C Geophysical Survey 2021

Chart Title:
CHART 3d
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE
SEABED SEDIMENT CLASSIFICATION (CMECS)
TILE 7 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01
Date: 7/30/2021

File Name: Dominion_GeoSurfaceFeatures_Sediment_CMECS_Rev01.pdf

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General Map Symbols

- Dominion Lease Boundary OCS-A 0483
- Proposed Cable Route "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block Main Chart OCS-A 0483
- Tile Panel 1 - 9 Main Chart
- WTG Location Preliminary position/subject to change
- OSS Location Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck Source: NOAA Office of Coast Survey

USA State and Cities - Geographic Data: download from ESRI
Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

CMECS Subgroup Classification

- Fine Sand: minimum grain size 0.0625mm; maximum grain size 0.25mm
- Medium Sand: minimum grain size 0.25mm; maximum grain size 0.5mm
- Coarse Sand: minimum grain size 0.5mm retained by #40; maximum grain size 2.0mm passing #10

Geotechnical Samples

- Fine Sand/Very Fine Sand
- Medium Sand
- Coarse Sand
- Very Coarse Sand
- Granule/Pebble

ASTM Classification												
Class	Gravel			Coarse Sand	Medium Sand			Fine Sand				
Sieve Size or No.	3"	3/8"	#4	#10	#18	#35	#60	#140	#230	#450	#500	#635
Particle Size (mm)	76.200	9.525	4.750	2.000	1.000	0.500	0.250	0.106	0.063	0.250	0.125	0.090
Particle Size (mm)	64	8	4	2	1	0.5	0.25	0.125	0.063	0.25	0.125	0.090
Substrate SubGroup	Pebble		Granule	Very Coarse Sand		Coarse Sand	Medium Sand	Fine Sand/Very Fine Sand				
CMECS Classification												

Geologic Setting

The survey area lies along a portion of mid North Atlantic continental shelf that is subject to multiple concurrent processes that shape the overall geologic/stratigraphic framework of the region. These include glacio-eustatic sea level changes, variations in sediment supply from and proximity to the Chesapeake Bay drainage system, and storm related effects on sediment supply and distribution.

Multiple studies have been conducted that examine the transgressive/regressive influence on the seismic stratigraphy of the Atlantic shelf. On broader timescales, the work of Greenlee et al. (1992) and others provides the overall identifying characteristics of high stand, low stand, transgressive and regressive system tracts as evidenced along the outer New Jersey shelf and slope. This work is complemented by that of Duncan et al. (2000) who focus on the latest quaternary portion of the record. Closer to the CVOW survey area (approximately 180 km SSW), the work of Mallinson et al. (2005 and 2010) and that of Theiler et al. (2015) provide a more immediate stratigraphic framework over the late Quaternary that can be correlated to the acquired data.

Fluvial influence over the late quaternary has been investigated extensively by Chen et al.(1995), Oertel and Foyle (1995) and others. These investigations, based primarily on very shallow sub-bottom profiles, seek to establish a sequence stratigraphic framework and chronology for the numerous channel features imaged in the shallow subsurface proximal to the mouth of the Chesapeake Bay. However, these interpretations are extremely limited by the quality of data collected and are reflective of the state of technology at the time. The dominant bathymetric features within the survey area are pronounced sand ridges. These features, which create a "ridge and swale" topography, are present as a result of storm related sediment dynamics and hydrodynamic interactions with transgressive/regressive relict features such as beach ridges, etc. (Swift et al. 1973, 1986; Trowbridge 1995).

Sediment Mapping

Backscatter data and sediment sample locations were imported into Blue Marble Geographics Global Mapper v20.0. A correlation of the samples grainsize with the backscatter amplitude was used to generate contours consistent with backscatter intensity.
The generated contours were then adjusted on the basis of the bathymetry and SSS data.
The resulting interpreted boundaries were classified using the
CMECS Substrate Component (SC) and the ASTM D2488 to describe the surficial sediments.
The digitized regions were then imported into a GIS project using ESRI ArcCatalog 10.7.1 and ESRI ArcMap 10.7.1.
Metadata was generated for the sediment boundaries in ESRI ArcCatalog 10.7.1.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) RZSonic 2024 (200-400 kHz)[6]
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Subbottom Profiler	: Innomar SES-2000 medium
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Commercial Manager	: Scott Croft
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Project Manager	: James Hougham
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Tile Index Overview
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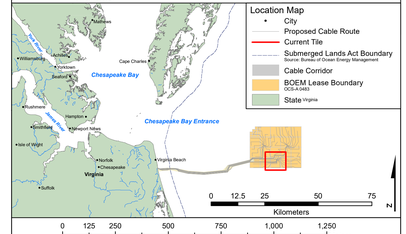
0 2.5 5 10 15 20 Kilometers



0 125 250 500 750 1,000 1,250 Meters
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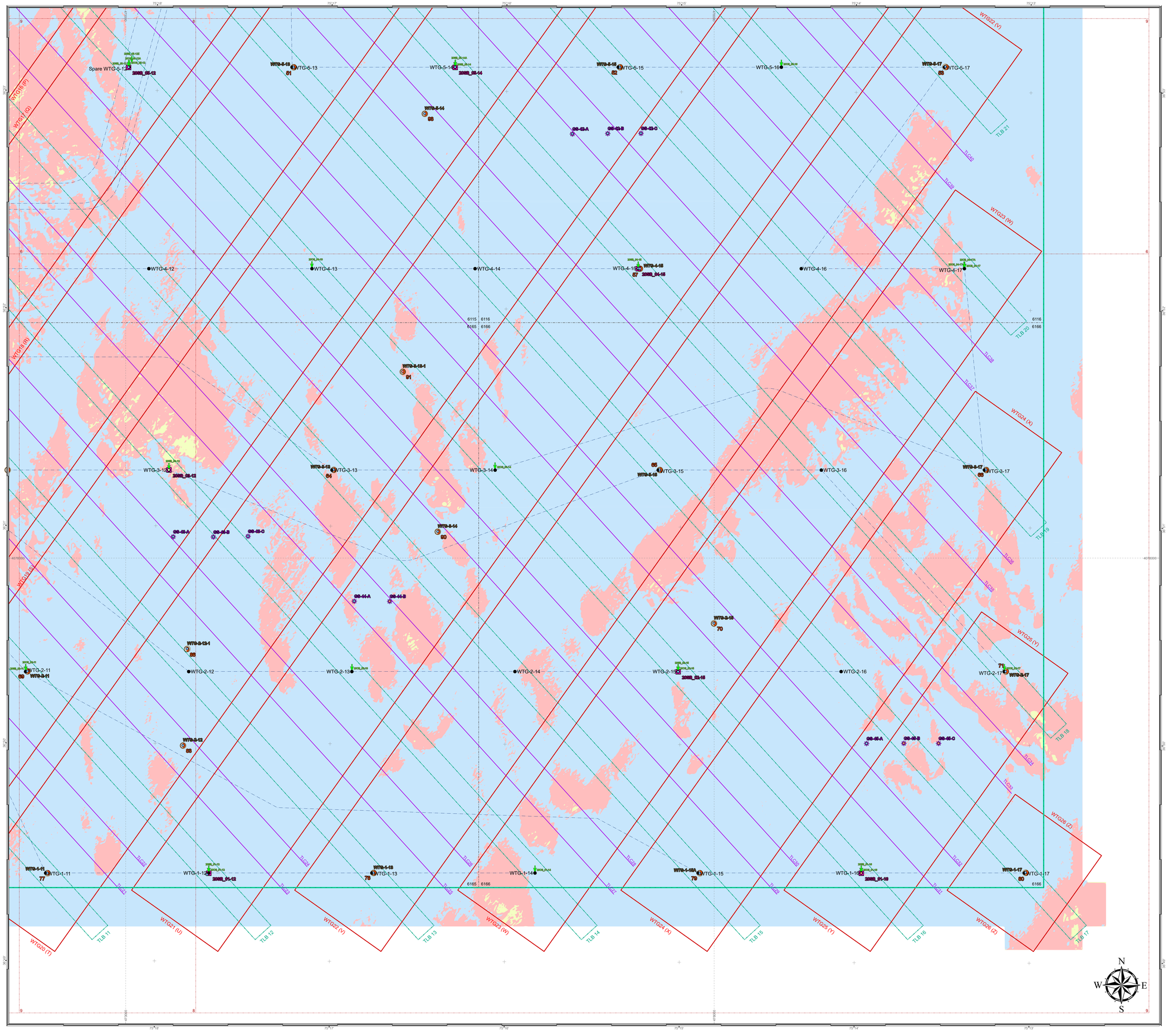

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Particle Size (mm)	4	-4	-5	-6	-7	-8	-9	-10	-11	-12
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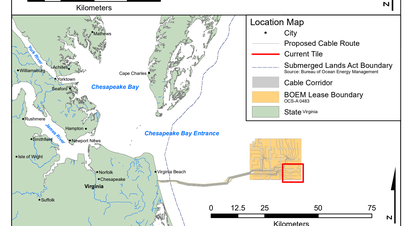

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Client: Dominion Energy

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CVOW-C Geophysical Survey 2021

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Rev01
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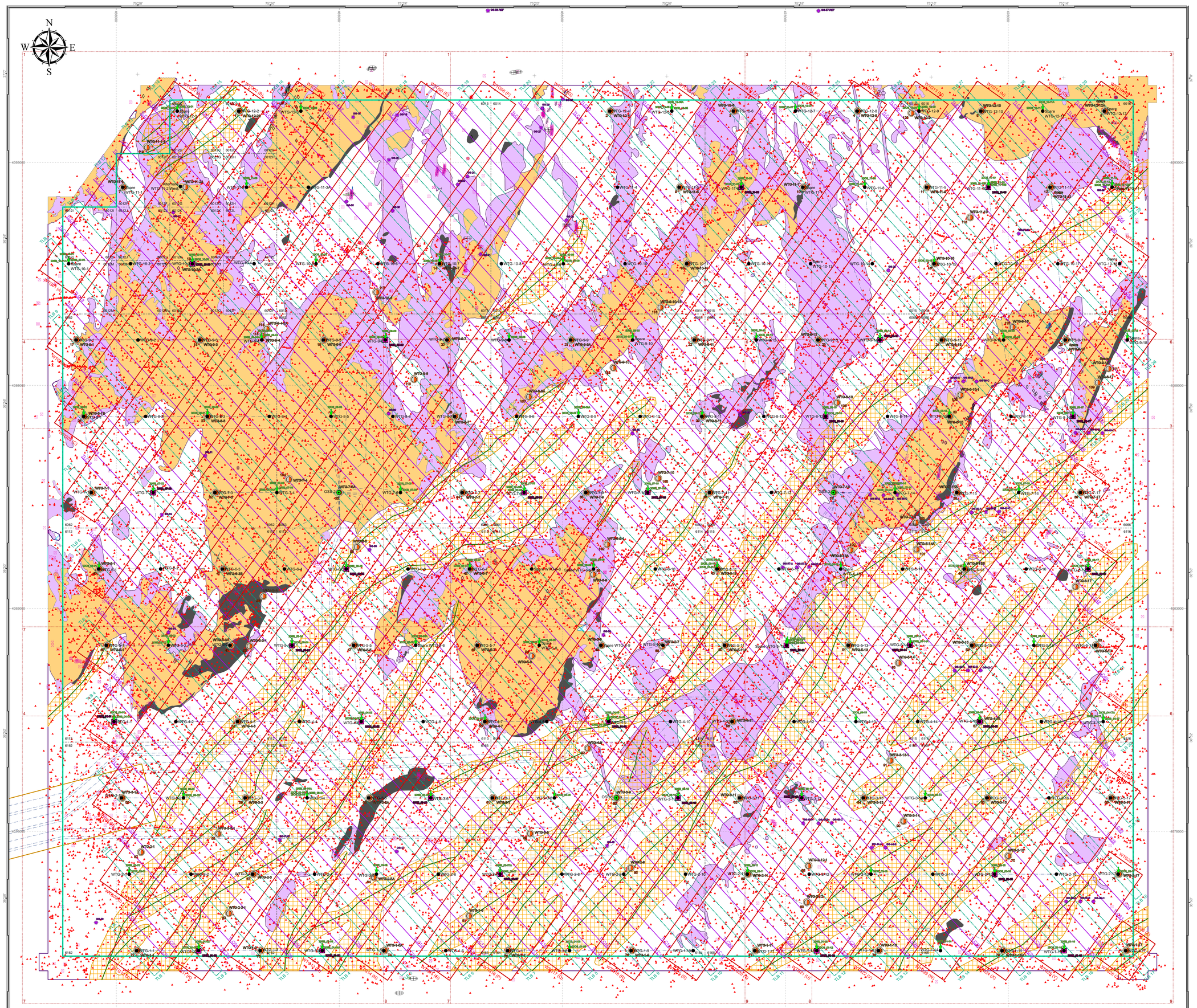
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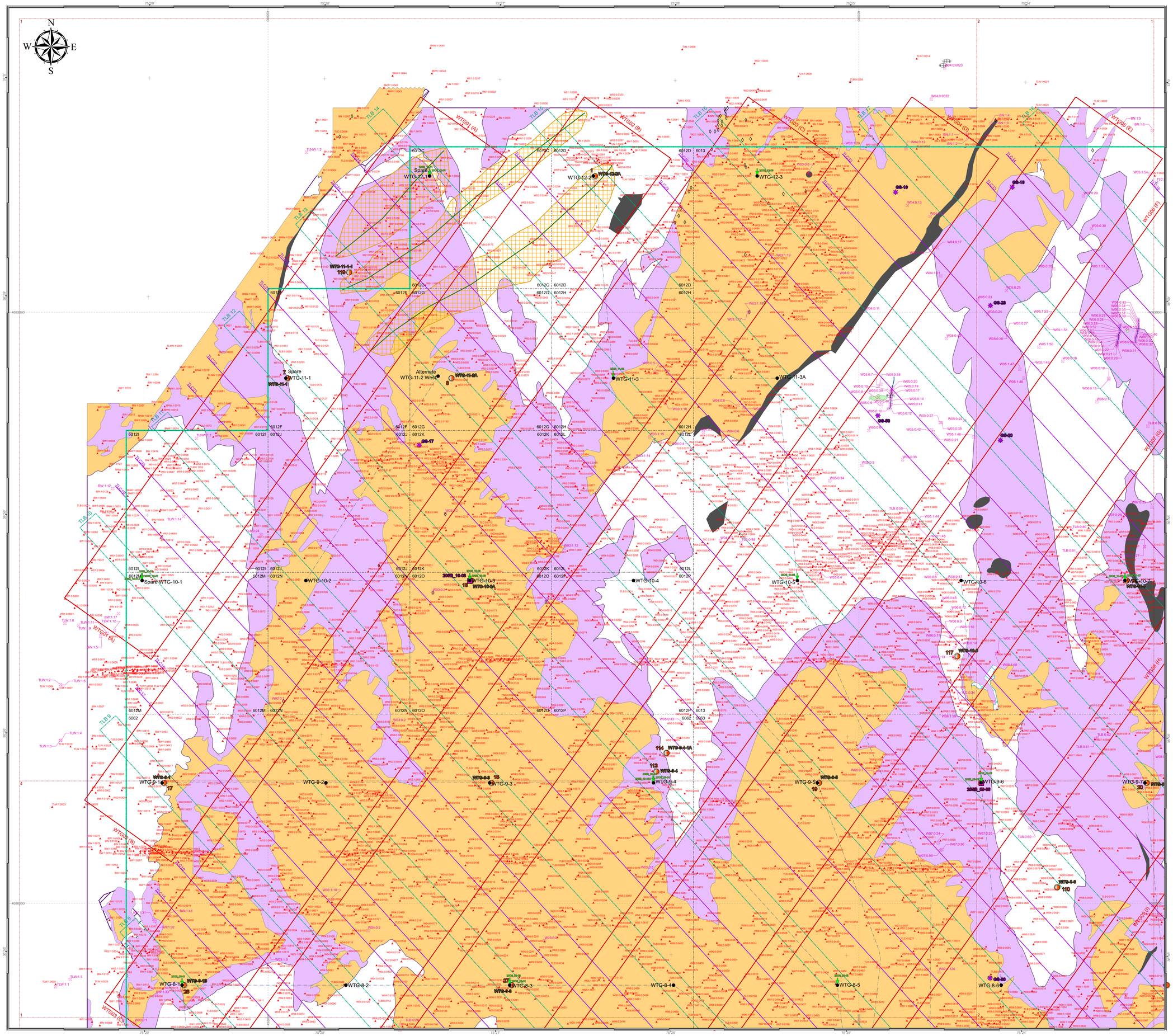
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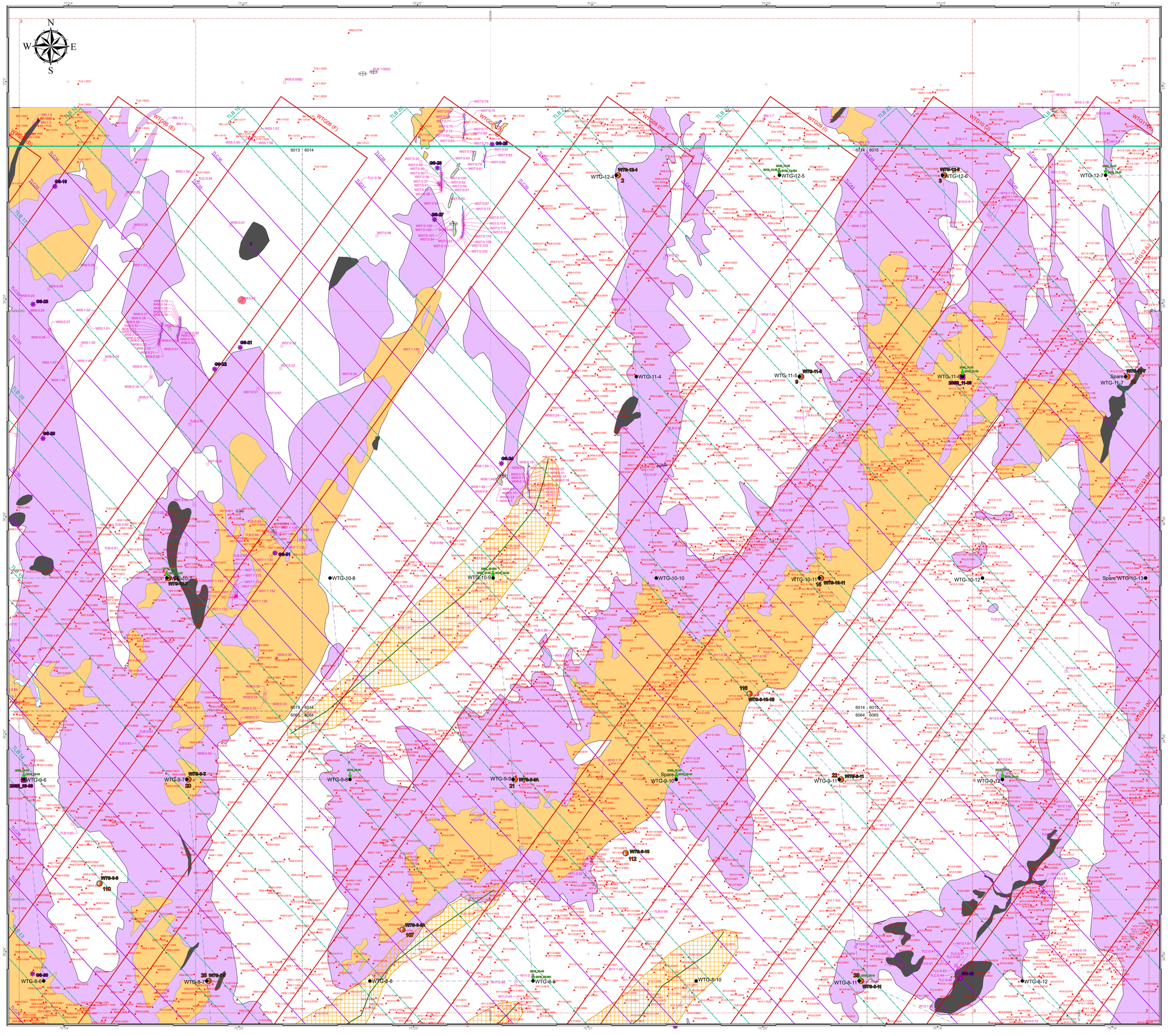

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USA State and Cities - Geographic Data downloaded from ESRI Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

Seabed Features

- Slope
- Flat
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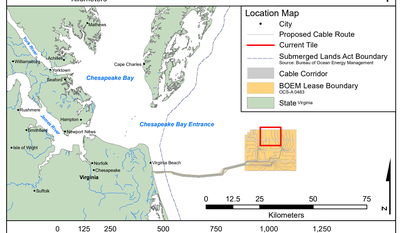

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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 3c
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE
SEABED FEATURES AND MORPHOLOGY (CMECS)
TILE 2 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01
Date: 7/31/2021

File Name: Dominion_GeoSurfaceFeatures_FeaturesMorph_CMECS_Rev01.pdf

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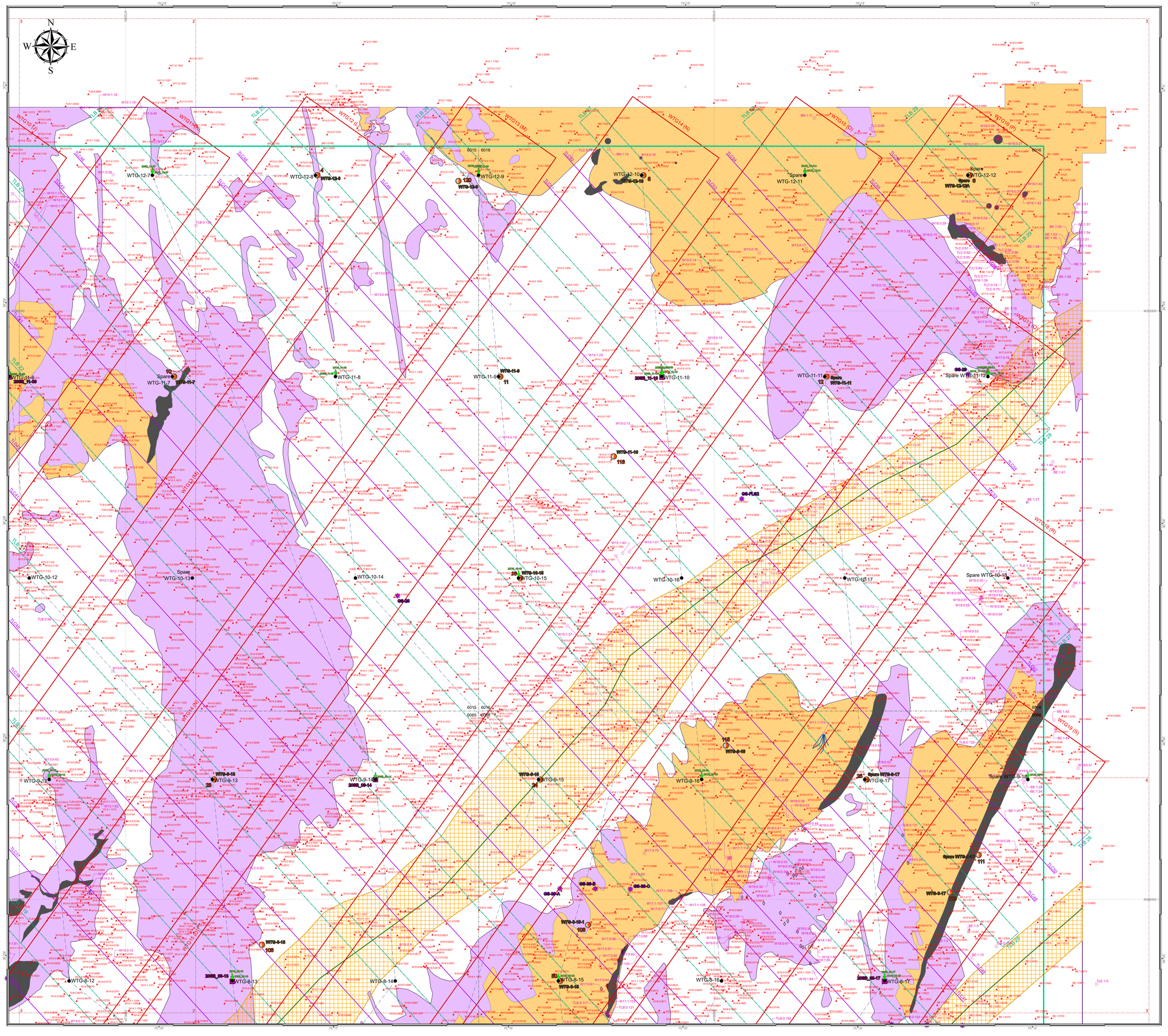

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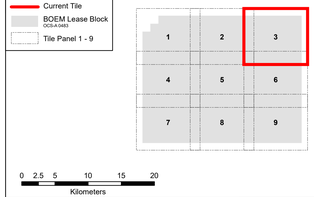

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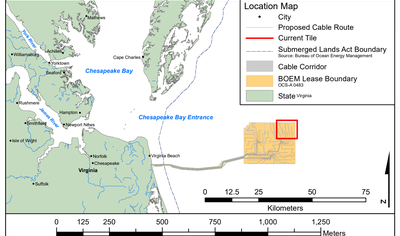

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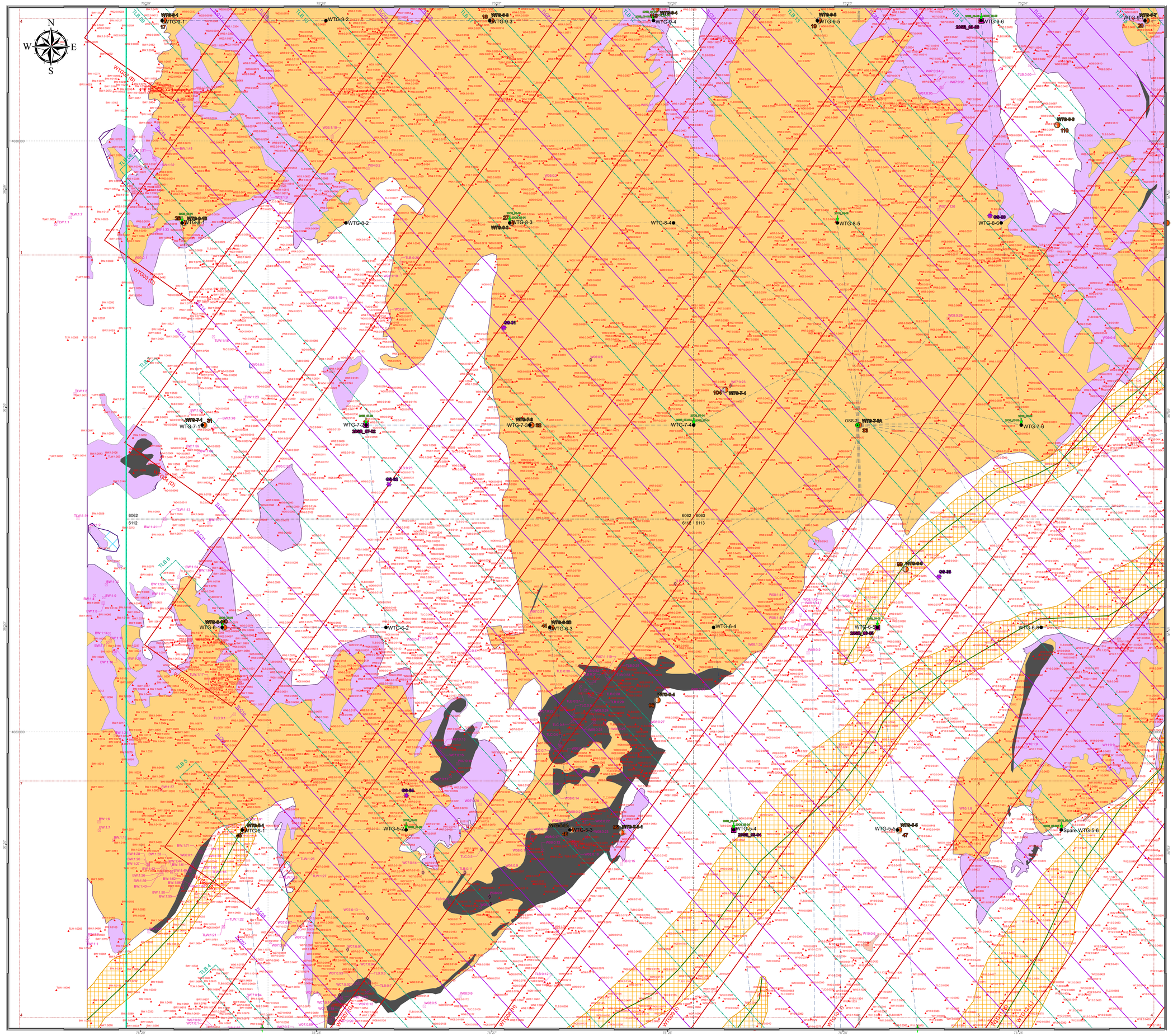
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General Map Symbols

- Dominion Lease Boundary OCS-A 0483
- Proposed Cable Route *Conceptual cables routes; Detailed re-routing/micro-siting will follow*
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block Main Chart OCS-A 0483
- Tile Panel 1 - 9 Main Chart
- WTG Location Preliminary position/subject to change
- OSS Location Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck Source: NOAA Office of Coast Survey

USA States and Cities: Geographic Data: download from ESRI Source: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

Seabed Features

- Slope
- Flat
- Wreck
- Scour/Erosion Features
- Boulder/Boulderfield
- Linear Seabed Feature
- Seabed Feature Depression Point
- Trash Aggregation
- Depression

Seabed Morphology

- Ripple
- Megaripple
- Sediment Wavefield
- Sand Ridge Area
- Sand Ridge Crest
- Side Scan Sonar Contact
- Magnetic Anomaly

Note: Contact and anomaly labels are truncated.

Geologic Setting

The survey area lies along a portion of mid North Atlantic continental shelf that is subject to multiple concurrent processes that shape the overall geologic/stratigraphic framework of the region. These include glacio-eustatic sea level changes, variations in sediment supply from and proximity to the Chesapeake Bay drainage system, and storm related effects on sediment supply and distribution.

Multiple studies have been conducted that examine the transgressive/regressive influence on the seismic stratigraphy of the Atlantic shelf. On broader timescales, the work of Greenlee et al. (1992) and others provides the overall identifying characteristics of high stand, low stand, transgressive and regressive system tracts as evidenced along the outer New Jersey shelf and slope. This work is complemented by that of Duncan et al. (2000) who focus on the latest quaternary portion of the record. Closer to the CVOW survey area (approximately 180 km SSW), the work of Mallinson et al. (2005 and 2010) and that of Theiler et al. (2015) provide a more immediate stratigraphic framework over the late Quaternary that can be correlated to the acquired data.

Fluvial influence over the late quaternary has been investigated extensively by Chen et al.(1995), Oertel and Foyle (1995) and others. These investigations, based primarily on very shallow sub-bottom profiles, seek to establish a sequence stratigraphic framework and chronology for the numerous channel features imaged in the shallow subsurface proximal to the mouth of the Chesapeake Bay. However, these interpretations are extremely limited by the quality of data collected and are reflective of the state of technology at the time. The dominant bathymetric features within the survey area are pronounced sand ridges. These features, which create a "ridge and swale" topography, are present as a result of storm related sediment dynamics and hydrodynamic interactions with transgressive/regressive relict features such as beach ridges, etc. (Swift et al. 1973, 1986; Trowbridge 1995).

Seabed Feature Interpretation

Regions containing seabed features and hazards were identified and digitized from gridded multibeam, backscatter, sidescan, and slope gradient datasets.

The digitized seabed features and hazards were given classifications according to the Coastal Marine Ecological Classification Standard (CMECS) 2012 in addition to classifications based on the prevalence of 'Moderate' to 'Very Steep' BOEM slope gradients.

Morphology Interpretation

Morphological bedforms; Ripples, Megaripples, and/or Sand Waves were identified and digitized from gridded multibeam, backscatter, and sidescan data.

Digitized morphology was given classifications according to the Coastal Marine Ecological Classifcation Standard (CMECS) 2012.

Magnetometer Interpretation

Evaluation of the 10Hz gradiometric magnetometer data involved processing the total field of individual magnetometer readings and reducing them to a residual magnetic profile. A total of 28094 magnetic anomalies were interpreted within the survey area.

General Information

Equipment		TerraSond Personnel	
Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kvandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]	Commercial Manager	: Scott Croft
		Project Manager	: Don Ross
		Project Manager	: James Hougham
		Production Manager	: Kate Mildon
Positioning System	: Applanix POSMV and Hemisphere	Technical Manager	: Chris McHugh
USBL	: Sonardyne Ranger 2 (19-34 kHz)	Geophysical Manager	: Scott Hiller
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) RZSonic 2024 (200-400 kHz)[7]	Operations Manager	: William Busey
		Party Chief	: Mark MacLean
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)	Lead Surveyor	: Larry Andrews
Magnetometer	: Geometrics G-882 (TVG)	Director HSEQ	: Forrest Davis
Subbottom Profiler	: Innomar SES-2000 medium		
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer		
Single Channel Seismic[2,3,6] Sparker[7]	: AAS-Boom and SCS Streamer : Geospark 200+400 and 96-Element Streamer		
Sound Velocity Profiler	: AML MVP30/MVP200[7]	This geophysical survey was conducted April 29th, 2020 through June13th, 2021	
Acquistion Software	: QINSy		

Coordinate Reference System

Horizontal Coordinate Reference System

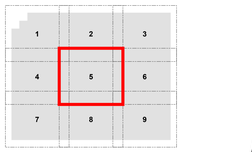
CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



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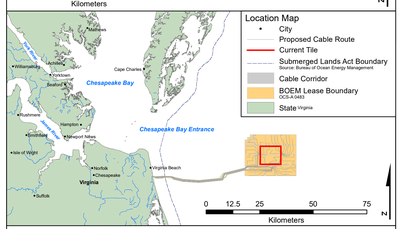

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 3c
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE
SEABED FEATURES AND MORPHOLOGY (CMECS)
TILE 5 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_GeoSurfaceFeatures_FeaturesMorph_CMECS_Rev01.pdf

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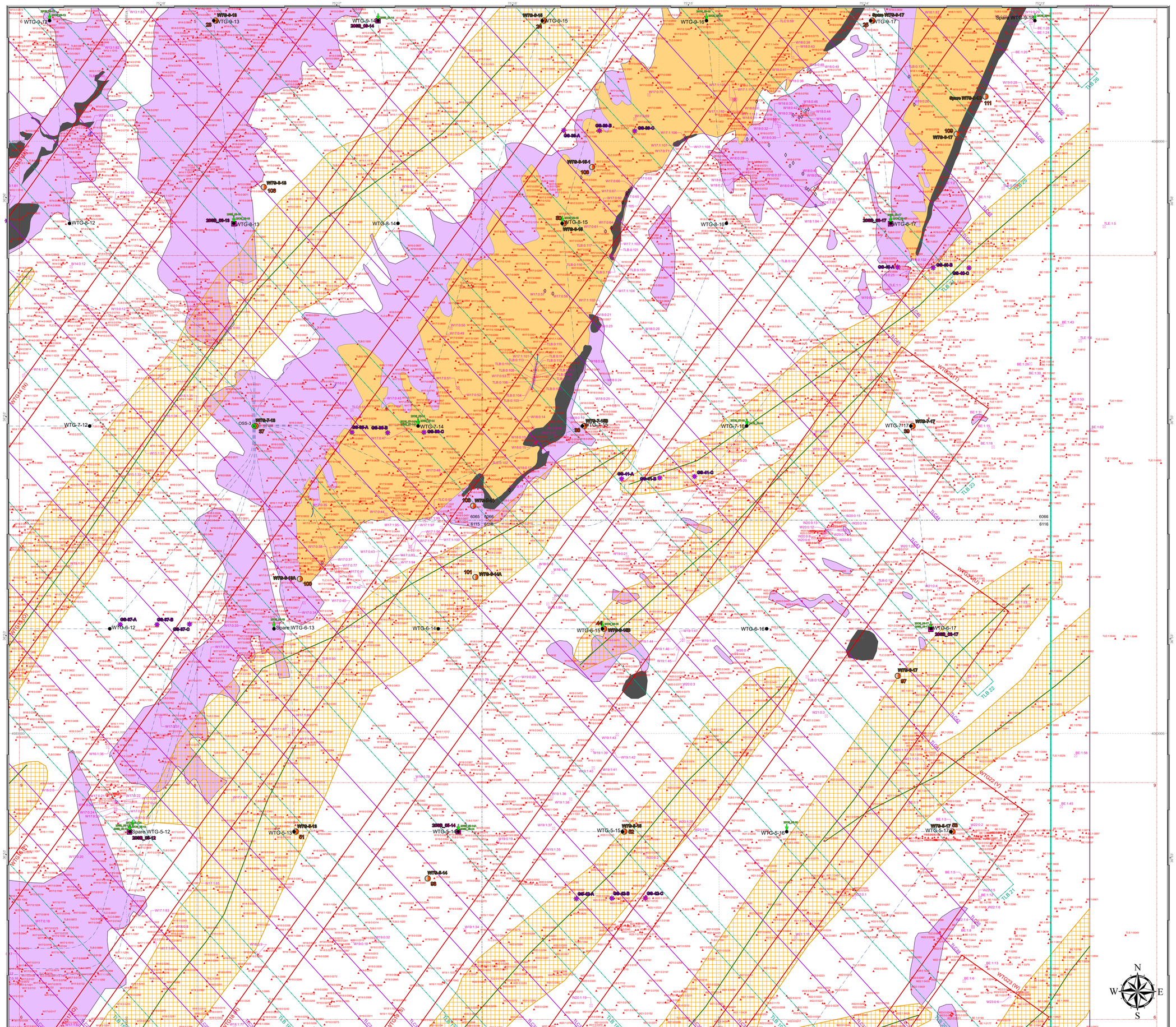
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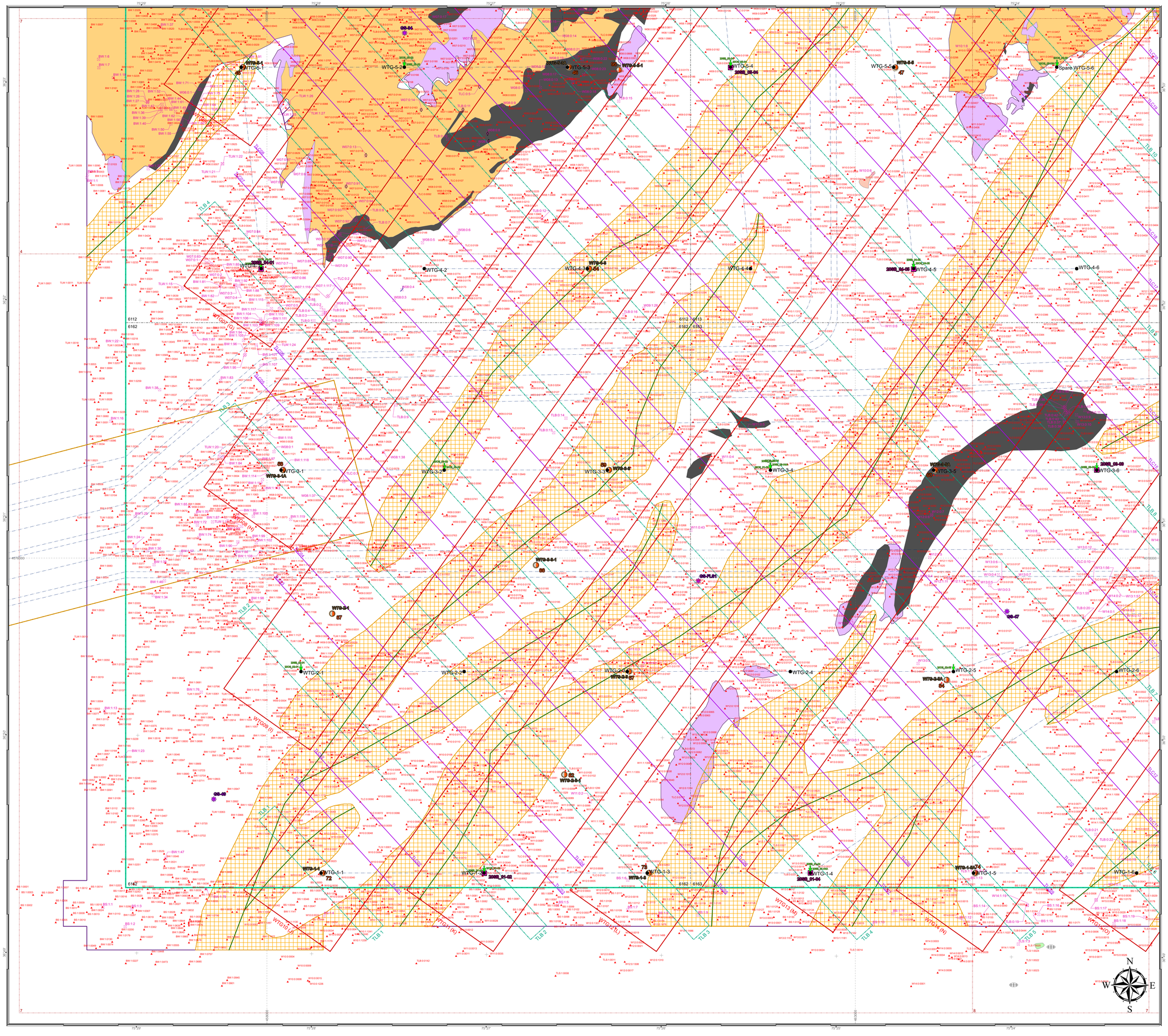
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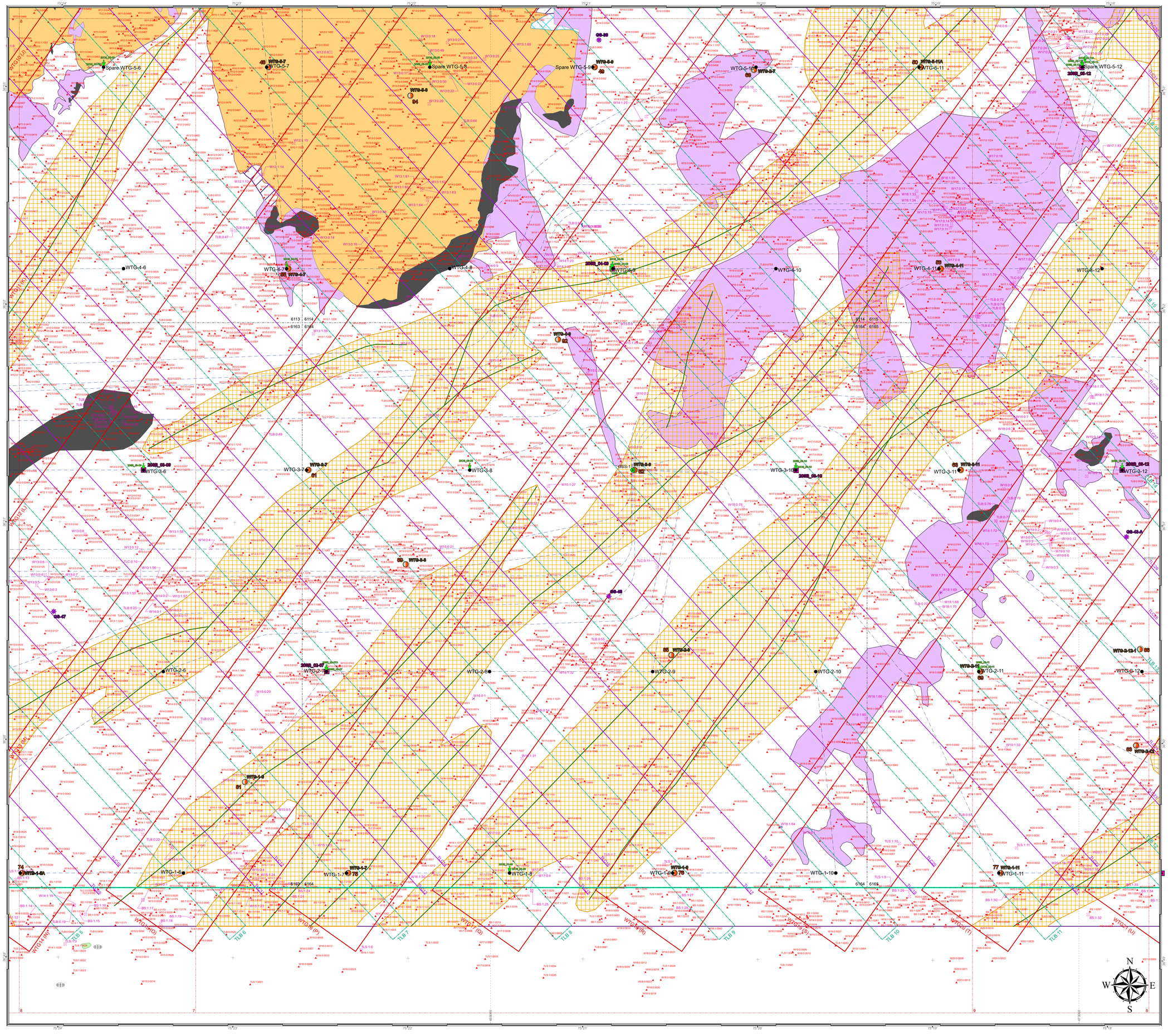

General Map Symbols

- Dominion Lease Boundary OCS-A 0483
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- Grab Sample
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- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck Source: NOAA Office of Coast Survey

USA States and Cities: Geographic Data: downloaded from ESRI Source: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Counties: U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

Seabed Features

- Slope
- Flat
- Wreck
- Scour/Erosion Features
- Boulder/Boulderfield
- Linear Seabed Feature
- Seabed Feature Depression Point
- Trash Aggregation
- Depression

Seabed Morphology

- Ripple
- Megaripple
- Sediment Wavefield
- Sand Ridge Area
- Sand Ridge Crest
- Side Scan Sonar Contact
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Note: Contact and anomaly labels are truncated.

Geologic Setting

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Fluvial influence over the late quaternary has been investigated extensively by Chen et al.(1995), Oertel and Foyle (1995) and others. These investigations, based primarily on very shallow sub-bottom profiles, seek to establish a sequence stratigraphic framework and chronology for the numerous channel features imaged in the shallow subsurface proximal to the mouth of the Chesapeake Bay. However, these interpretations are extremely limited by the quality of data collected and are reflective of the state of technology at the time. The dominant bathymetric features within the survey area are pronounced sand ridges. These features, which create a 'ridge and swale' topography, are present as a result of storm related sediment dynamics and hydrodynamic interactions with transgressive/regressive relict features such as beach ridges, etc. (Swift et al. 1973, 1986; Trowbridge 1995).

Seabed Feature Interpretation

Regions containing seabed features and hazards were identified and digitized from gridded multibeam, backscatter, sidescan, and slope gradient datasets.

The digitized seabed features and hazards were given classifications according to the Coastal Marine Ecological Classification Standard (CMECS) 2012 in addition to classifications based on the prevalence of 'Moderate' to 'Very Steep' BOEM slope gradients.

Morphology Interpretation

Morphological bedforms; Ripples, Megaripples, and/or Sand Waves were identified and digitized from gridded multibeam, backscatter, and sidescan data.

Digitized morphology was given classifications according to the Coastal Marine Ecological Classification Standard (CMECS) 2012.

Magnetometer Interpretation

Evaluation of the 10Hz gradiometric magnetometer data involved processing the total field of individual magnetometer readings and reducing them to a residual magnetic profile. A total of 28094 magnetic anomalies were interpreted within the survey area.

General Information

Equipment		
Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]	
Positioning System	: Applanix POSMV and Hemisphere	
USBL	: Sonardyne Ranger 2 (19-34 kHz)	
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) / RZSonic 2024 (200-400 kHz)[6]	
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)	
Magnetometer	: Geometrics G-882 (TVG)	
Subbottom Profiler	: Innomar SES-2000 medium	
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer	
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer	
Sparker[1]	: Geospark 200+400 and 96-Element Streamer	
Sound Velocity Profiler	: AML MVP30/MVP200[3]	
Acquistion Software	: QINSy	

TerraSond Personnel	
Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Mildon
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

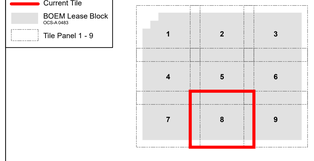
This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

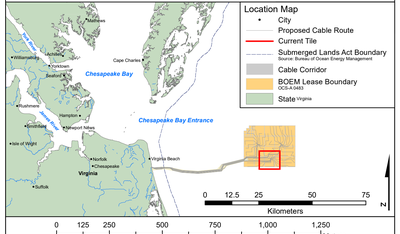
Horizontal Coordinate Reference System
CRS Name: NAD 1983 (2011) UTM Zone 18N
EPSG Code: 6347
Geodetic Datum: North American 1983
Projection: Universal Transverse Mercator
Units: Meter

Vertical Coordinate Reference System
Datum: Mean Lower Low Water (MLLW)
Axis -down: Depth

Tile Index Overview



Location Map



Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title:

CHART 3c
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE
SEABED FEATURES AND MORPHOLOGY (CMECS)
TILE 8 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_GeoSurfaceFeatures_FeaturesMorph_CMECS_Rev01.pdf

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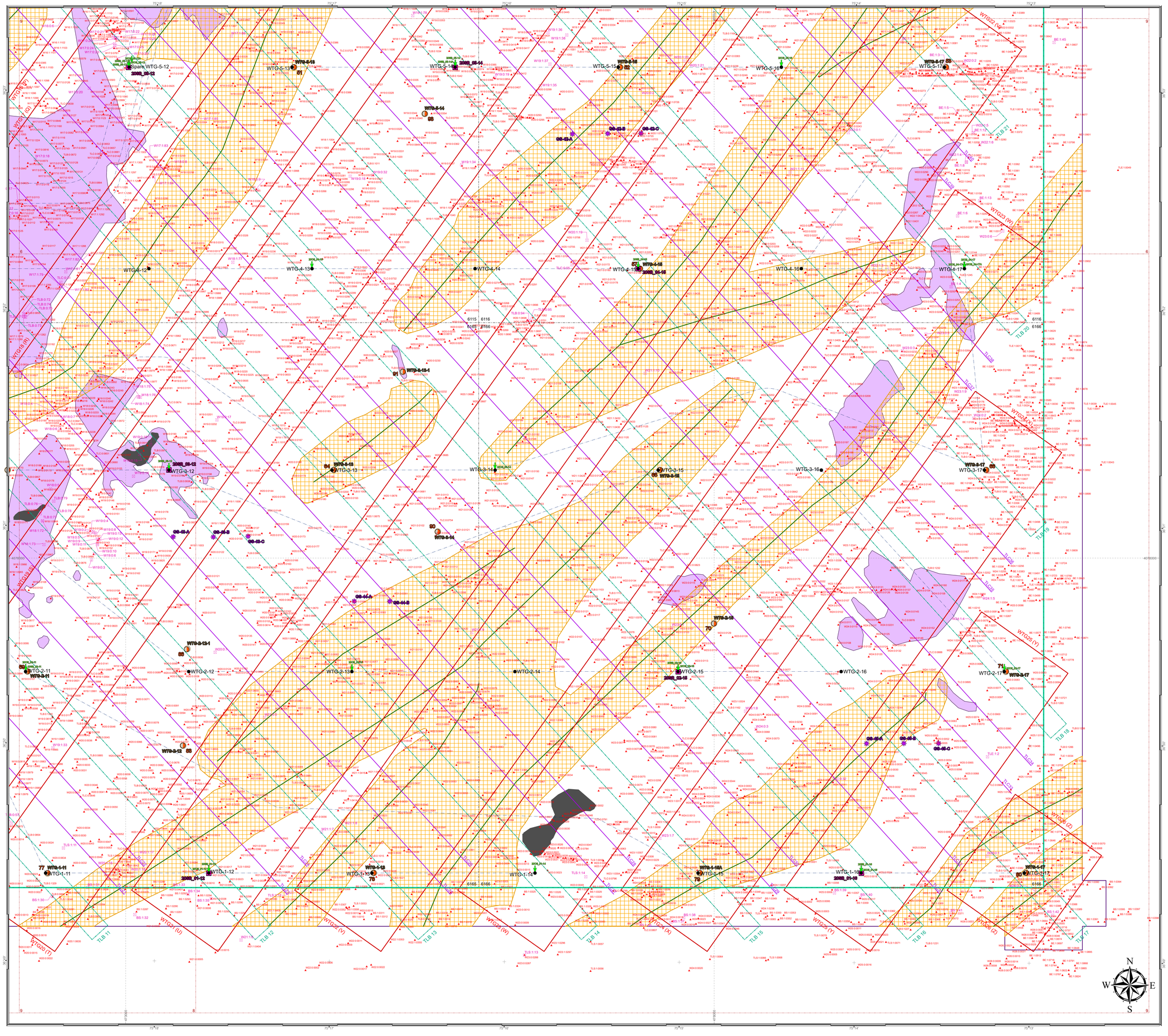

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- Charted Shipwreck Source: NOAA Office of Coast Survey

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The survey area lies along a portion of mid North Atlantic continental shelf that is subject to multiple concurrent processes that shape the overall geologic/stratigraphic framework of the region. These include glacio-eustatic sea level changes, variations in sediment supply from and proximity to the Chesapeake Bay drainage system, and storm related effects on sediment supply and distribution.

Multiple studies have been conducted that examine the transgressive/regressive influence on the seismic stratigraphy of the Atlantic shelf. On broader timescales, the work of Greenlee et al. (1992) and others provides the overall identifying characteristics of high stand, low stand, transgressive and regressive system tracts as evidenced along the outer New Jersey shelf and slope. This work is complemented by that of Duncan et al. (2000) who focus on the latest quaternary portion of the record. Closer to the CVOW survey area (approximately 180 km SSW), the work of Mallinson et al. (2005 and 2010) and that of Theiler et al. (2015) provide a more immediate stratigraphic framework over the late Quaternary that can be correlated to the acquired data.

Fluvial influence over the late quaternary has been investigated extensively by Chen et al.(1995), Oertel and Foyle (1995) and others. These investigations, based primarily on very shallow sub-bottom profiles, seek to establish a sequence stratigraphic framework and chronology for the numerous channel features imaged in the shallow subsurface proximal to the mouth of the Chesapeake Bay. However, these interpretations are extremely limited by the quality of data collected and are reflective of the state of technology at the time. The dominant bathymetric features within the survey area are pronounced sand ridges. These features, which create a "ridge and swale" topography, are present as a result of storm related sediment dynamics and hydrodynamic interactions with transgressive/regressive relict features such as beach ridges, etc. (Swift et al. 1973, 1986; Trowbridge 1995).

Seabed Feature Interpretation

Regions containing seabed features and hazards were identified and digitized from gridded multibeam, backscatter, sidescan, and slope gradient datasets.

The digitized seabed features and hazards were given classifications according to the Coastal Marine Ecological Classification Standard (CMECS) 2012 in addition to classifications based on the prevalence of 'Moderate' to 'Very Steep' BOEM slope gradients.

Morphology Interpretation

Morphological bedforms; Ripples, Megaripples, and/or Sand Waves were identified and digitized from gridded multibeam, backscatter, and sidescan data.

Digitized morphology was given classifications according to the Coastal Marine Ecological Classifcation Standard (CMECS) 2012.

Magnetometer Interpretation

Evaluation of the 10Hz gradiometric magnetometer data involved processing the total field of individual magnetometer readings and reducing them to a residual magnetic profile. A total of 28094 magnetic anomalies were interpreted within the survey area.

General Information

Equipment		TerraSond Personnel	
Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]	Commercial Manager	: Scott Croft
		Project Manager	: Don Ross
		Project Manager	: James Hougham
		Production Manager	: Kate Mildon
Positioning System	: Applanix POSMV and Hemisphere	Technical Manager	: Chris McHugh
USBL	: Sonardyne Ranger 2 (19-34 kHz)	Geophysical Manager	: Scott Hiller
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) RZSonic 2024 (200-400 kHz)[7]	Operations Manager	: William Busey
		Party Chief	: Mark MacLean
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)	Lead Surveyor	: Larry Andrews
Magnetometer	: Geometrics G-882 (TVG)	Director HSEQ	: Forrest Davis
Subbottom Profiler	: Innomar SES-2000 medium		
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer		
Single Channel Seismic[2,3,6]/ Sparker[7]	: AAS-Boom and SCS Streamer : Geospark 200+400 and 96-Element Streamer		
Sound Velocity Profiler	: AML MVP30/MVP200[7]	This geophysical survey was conducted April 29th, 2020 through June13th, 2021	
Acquisition Software	: QINSy		

Coordinate Reference System

Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



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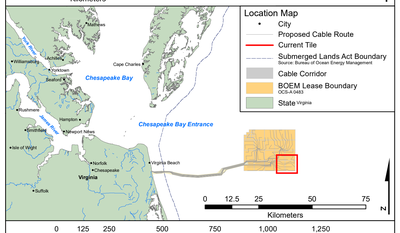

Location Map

- City
- Proposed Cable Route
- Current Tile
- Submerged Lands Act Boundary Source: Bureau of Ocean Energy Management
- Cable Corridor
- BOEM Lease Boundary OCS-A 0483
- State Virginia

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0 500 1,000 2,000 3,000 4,000 5,000 Feet

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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 3c

GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURE SEABED FEATURES AND MORPHOLOGY (CMECS)

TILE 9 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	DRAFT	CLS	KMM	KMM
06/21/21	Rev00	CLS	KDW	KMM
07/30/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_GeoSurfaceFeatures_FeaturesMorph_CMECS_Rev01.pdf

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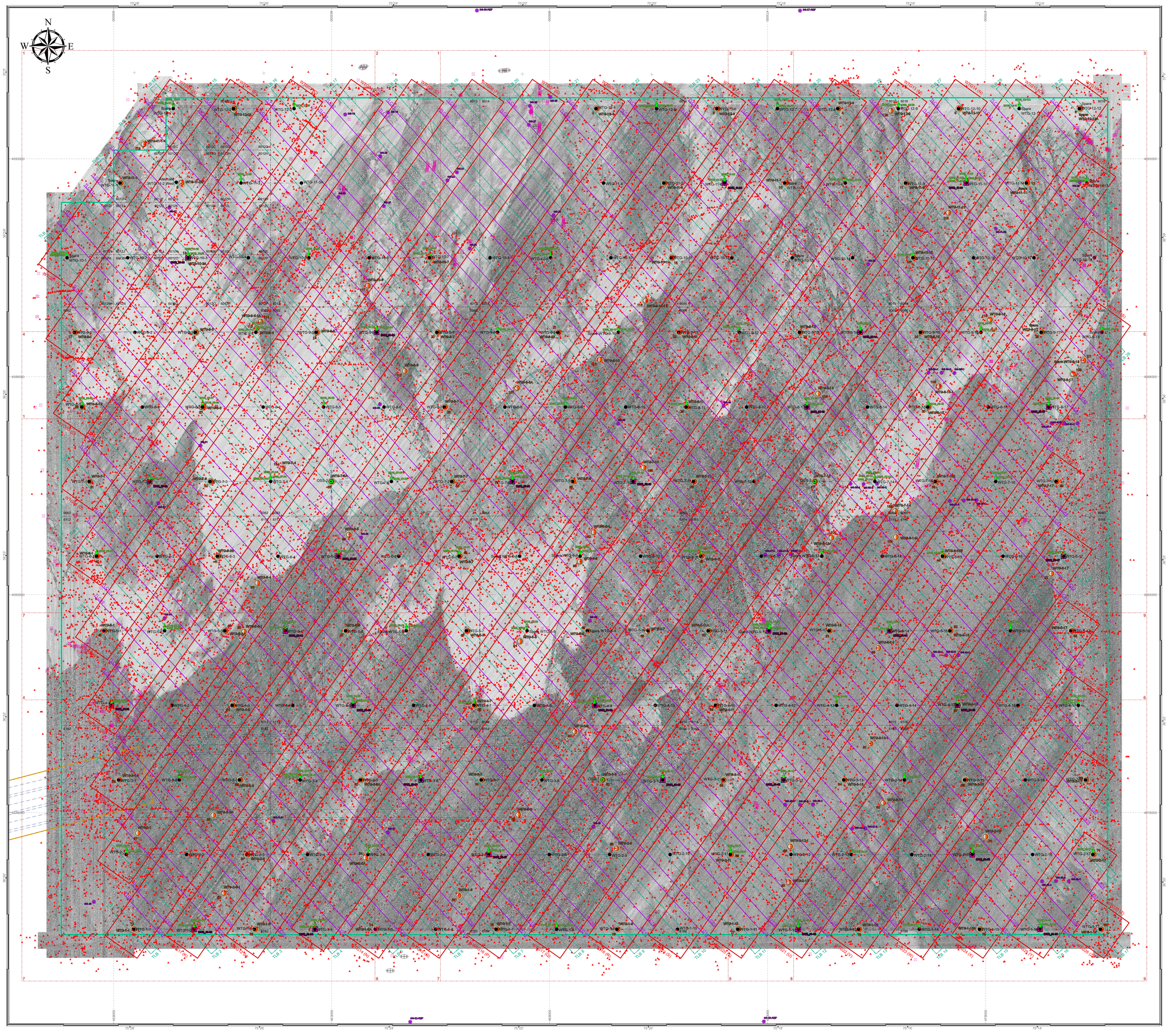
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General Map Symbols

- Dominion Lease Boundary OCS-A 0483
- Proposed Cable Route "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block Main Chart OCS-A 0483
- Tile Panel 1 - 9 Main Chart
- WTG Location Preliminary position/subject to change
- OSS Location Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck Source: NOAA Office of Coast Survey

USA State and Cities. Geographic Data. download from ESRI Sources: Esri, TomTom, North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

Relative Reflectivity: Low — Side Scan Mosaic — High

- Side Scan Sonar Contact
  Note: Mainline SSS Contact labels are truncated to the WTG and the last four of contact ID. Reported anomaly ID: WTG#M-M2D-####
  Tieline SSS Contact labels are truncated to the TL and the last four of contact ID. Reported anomaly ID: TL#A#D-####
- Magnetic Anomaly
  Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTG#M-M2D-####

High Frequency Sidescan Mosaic (600 kHz)

Side Scan Sonar Processing Notes

Side scan sonar data were processed using SonarWiz 7 V7.05.008.

Data Import and Navigation

Ultra-Short Baseline (USBL) acoustic positioning system was employed for side scan sonar navigation. Positioning was set to 2 Hz refresh rate with under two meters of positional accuracy. Where USBL positioning exceeded two meters, SSS cable layback was utilized by verifying cable out values and aligning seafloor features with adjacent lines, where possible. JSF files were imported using project defined coordinate system, NAD83 UTM18N (EPSG: 6347). Upon import each file was inspected for erroneous navigation, ensuring the data met the positioning specification.

Altitude

Data were slant range corrected (SRC). SRC identified the first amplitude return, set the altitude and removed the water column of each record. SRC was performed using the automated bottom tracking algorithm in SonarWiz. After the automated SRC was complete the processors evaluated the results and performed manual edits where needed.

Signal Processing

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General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) R2Sonic 2024 (200-400 kHz)[6]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer
Sparker[1]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[3]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milston
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

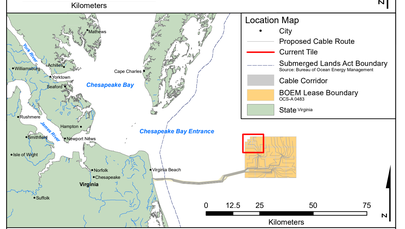
Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



0 2.5 5 10 15 20 Kilometers



0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4 HIGH FREQUENCY SIDE SCAN MOSAIC TILE 1 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
07/31/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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General Map Symbols

- Dominion Lease Boundary — OCS-A 0483
- Proposed Cable Route — "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block Main Chart — OCS-A 0483
- Tile Panel 1 - 9 Main Chart
- WTG Location — Preliminary position/subject to change
- OSS Location — Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck — Source: NOAA Office of Coast Survey

USA States and Cities - Geographic Data: downloaded from ESRI
Sources: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Relative Reflectivity: Low — Side Scan Mosaic — High

- Side Scan Sonar Contact — Note: Mainline SSS Contact labels are truncated to the WTG and the last four of contact ID. Reported anomaly ID: WTG#M-NQ2-####. Tielline SSS Contact labels are truncated to the TL and the last four of contact ID. Reported anomaly ID: TL#A5Q-####
- Magnetic Anomaly — Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTG#M-M2Q-####

High Frequency Sidescan Mosaic (600 kHz)

Side Scan Sonar Processing Notes

Side scan sonar data were processed using SonarWiz 7 V7.05.008.

Data Import and Navigation

Ultra-Short Baseline (USBL) acoustic positioning system was employed for side scan sonar navigation. Positioning was set to 2 Hz refresh rate with under two meters of positional accuracy. Where USBL positioning exceeded two meters, SSS cable layback was utilized by verifying cable out values and aligning seafloor features with adjacent lines, where possible. JSF files were imported using project defined coordinate system, NAD83 UTM18N (EPSG: 6347). Upon import each file was inspected for erroneous navigation, ensuring the data met the positioning specification.

Altitude

Data were slant range corrected (SRC). SRC identified the first amplitude return, set the altitude and removed the water column of each record. SRC was performed using the automated bottom tracking algorithm in SonarWiz. After the automated SRC was complete the processors evaluated the results and performed manual edits where needed.

Signal Processing

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General Information

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Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
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Single Channel Seismic[2,3,5,6] Sparker[3]	: AAS-Boom and SCS Streamer : Geospark 200+400 and 96-Element Streamer
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This geophysical survey was conducted April 29th, 2020 through June 13th, 2021

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Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9

1 2 3 4 5 6 7 8 9

0 2.5 5 10 15 20 Kilometers

Location Map

- City
- Proposed Cable Route
- Current Tile
- Submerged Lands Act Boundary — Source: Bureau of Ocean Energy Management
- Cable Corridor
- BOEM Lease Boundary OCS-A 0483
- State Virginia

Cape Charles, Accomack, Williamsburg, Yorktown, Newport News, Hampton, Chesapeake Bay, Chesapeake Bay Entrance, Isle of Wight, Smithfield, Suffolk, Virginia Beach, Norfolk, Chesapeake, Virginia

0 12.5 25 50 75 Kilometers

0 125 250 500 750 1,000 1,250 Meters

0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4
HIGH FREQUENCY SIDE SCAN MOSAIC
TILE 2 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
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Rev01
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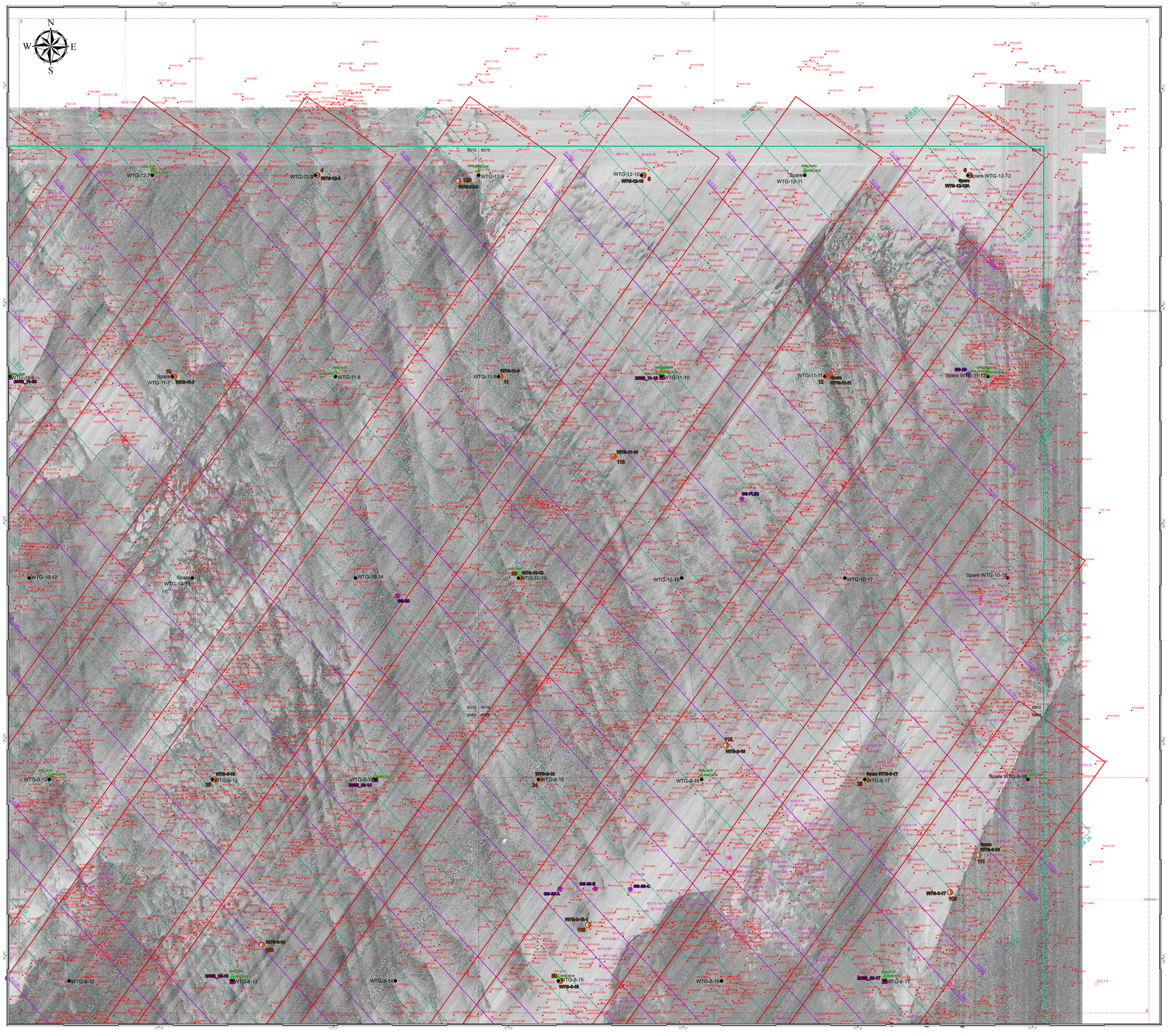

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Relative Reflectivity: Low — Side Scan Mosaic — High

- Side Scan Sonar Contact

Note: Mainline SSS Contact labels are truncated to the WTG and the last four of contact ID. Reported anomaly ID: WTGMN-M2D-####

Tieline SSS Contact labels are truncated to the TL and the last four of contact ID. Reported anomaly ID: TLMA2D-####

- Magnetic Anomaly

Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTGMN-M2D-####

High Frequency Sidescan Mosaic (600 kHz)

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Sound Velocity Profiler	: AML MVP30/MVP200[3]	This geophysical survey was conducted April 29th, 2020 through June13th, 2021	
Acquistion Software	: QINSy		

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CRS Name	:NAD 1983 (2011) UTM Zone 18N	Datum	:Mean Lower Low Water (MLLW)
EPSG Code	:6347	Axis -down	:Depth
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Tile Index Overview

- Current Tile
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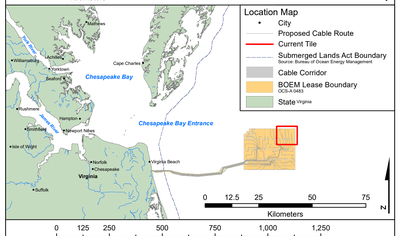
0 2.5 5 10 15 20 Kilometers



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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4 HIGH FREQUENCY SIDE SCAN MOSAIC TILE 3 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
07/31/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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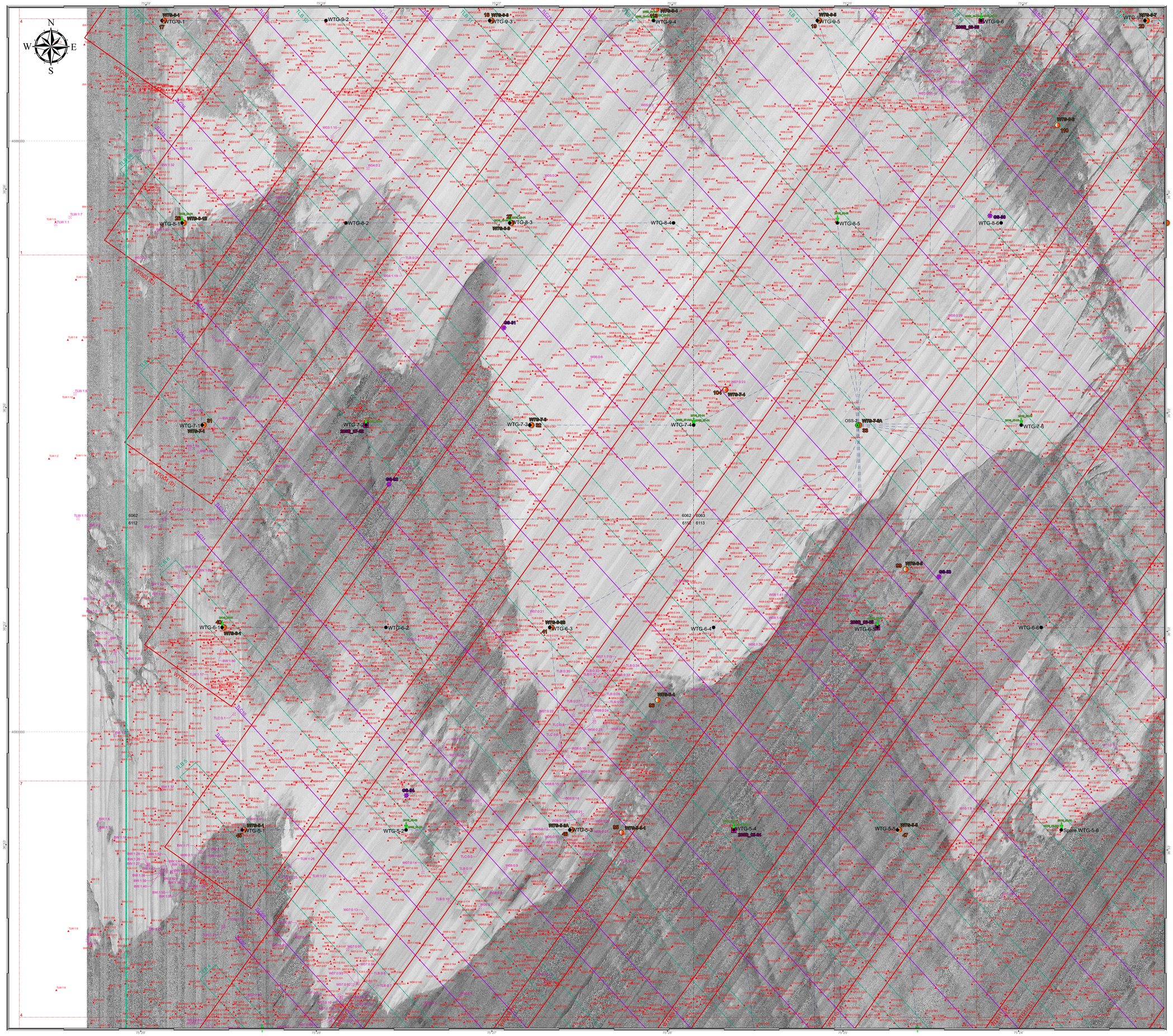
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General Map Symbols

- Dominion Lease Boundary — OCS-A 0483
- Proposed Cable Route — "Conceptual cables routes; Detailed re-routing/micro-siting will follow"
- TLC Planned Line
- TLB Corridor
- WTG Corridor
- Cable Corridor
- BOEM Lease Block Main Chart — OCS-A 0483
- Tile Panel 1 - 9 Main Chart
- WTG Location — Preliminary position/subject to change
- OSS Location — Preliminary position/subject to change
- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck — Source: NOAA Office of Coast Survey

USA States and Cities: Geographic Data: download from ESRI Source: Esri, TomTom North America, Inc., U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agriculture Statistics Service (NASS)

Relative Reflectivity: Low — Side Scan Mosaic — High

- Side Scan Sonar Contact — Note: Mainline SSS Contact labels are truncated to the WTG and the last four of contact ID. Reported anomaly ID: WTGMN-M20-####. Tieline SSS Contact labels are truncated to the TL and the last four of contact ID. Reported anomaly ID: TLMA20-####
- Magnetic Anomaly — Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTGMN-M20-####

High Frequency Sidescan Mosaic (600 kHz)

Side Scan Sonar Processing Notes

Side scan sonar data were processed using SonarWiz 7 V7.05.008.

Data Import and Navigation

Ultra-Short Baseline (USBL) acoustic positioning system was employed for side scan sonar navigation. Positioning was set to 2 Hz refresh rate with under two meters of positional accuracy. Where USBL positioning exceeded two meters, SSS cable layback was utilized by verifying cable out values and aligning seafloor features with adjacent lines, where possible. JSF files were imported using project defined coordinate system, NAD83 UTM18N (EPSG: 6347). Upon import each file was inspected for erroneous navigation, ensuring the data met the positioning specification.

Altitude

Data were slant range corrected (SRC). SRC identified the first amplitude return, set the altitude and removed the water column of each record. SRC was performed using the automated bottom tracking algorithm in SonarWiz. After the automated SRC was complete the processors evaluated the results and performed manual edits where needed.

Signal Processing

Signal processing was conducted utilizing Empirical Gain Normalization (EGN). EGN tables were generated for each transect to sum and average the amplitudes based on transducer, altitude, and range. The EGN table results were applied to side scan sonar data to adjust the beam pattern and apply gains to each file to obtain a homogeneous color scale across each transect mosaic. Static gain was applied to all the data acquired by the Marcelle Bordelon. Mapping range was manually set to the minimum value at 0 and maximum value at 200 for high frequency and minimum value at 0 and maximum at 2000 for low frequency. Transect mosaics were combined and exported with a 25cm resolution.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
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Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milston
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This geophysical survey was conducted April 29th, 2020 through June13th, 2021

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Horizontal Coordinate Reference System

CRS Name	:NAD 1983 (2011) UTM Zone 18N
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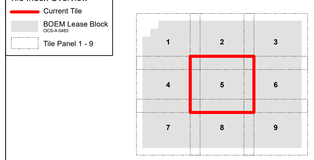
Tile Index Overview

- Current Tile
- BOEM Lease Block OCS-A 0483
- Tile Panel 1 - 9



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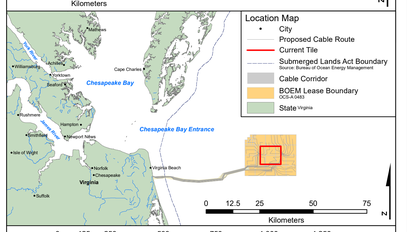

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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4 HIGH FREQUENCY SIDE SCAN MOSAIC TILE 5 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
07/31/21	Rev01	CLS	KDW	KMM

Rev01

Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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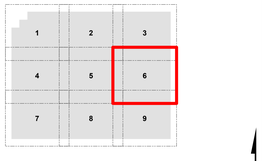

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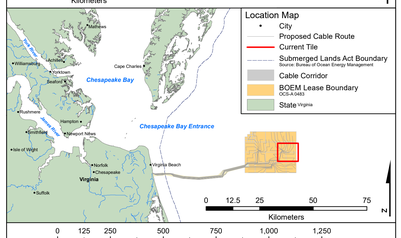

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Rev01

Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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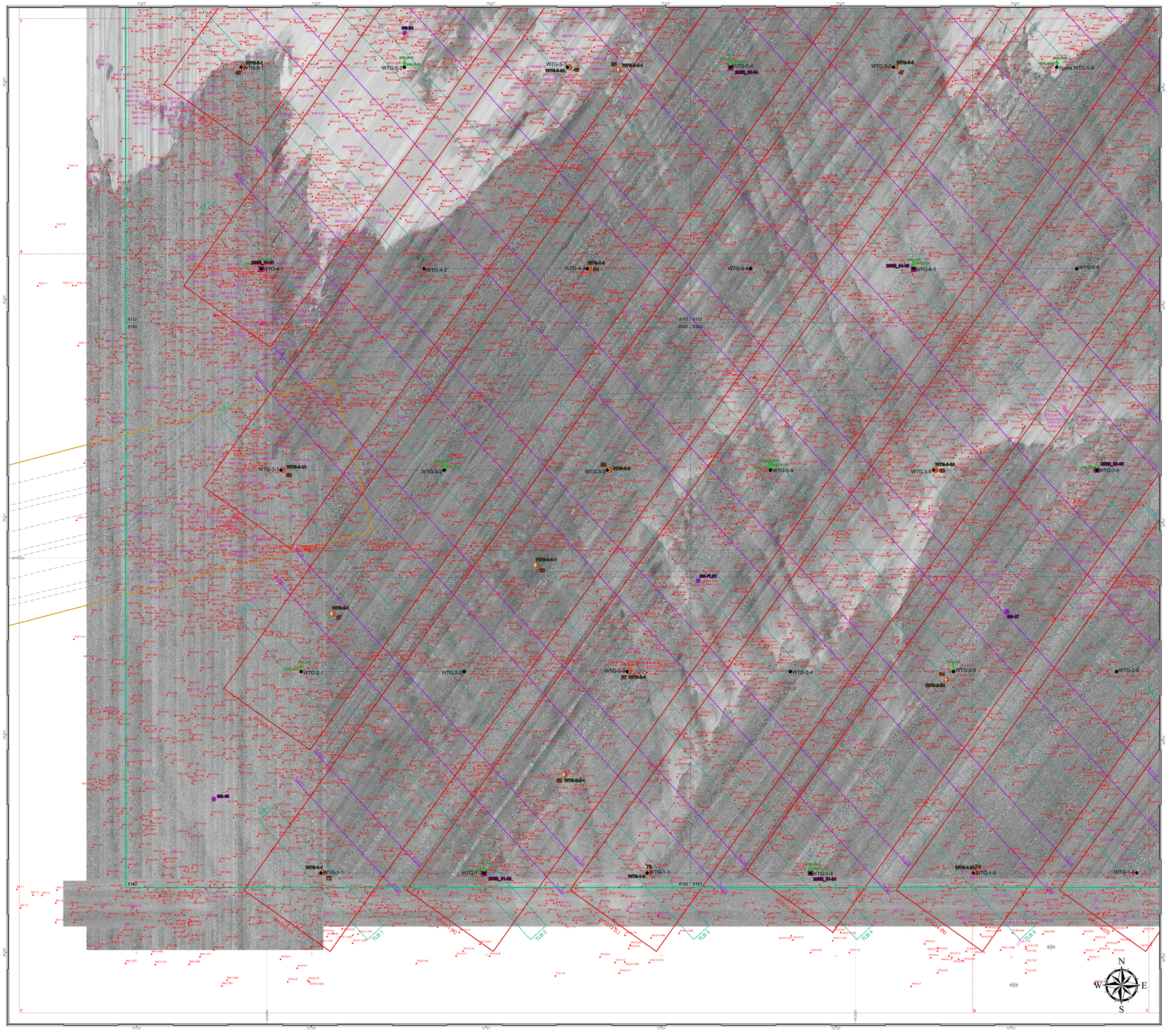
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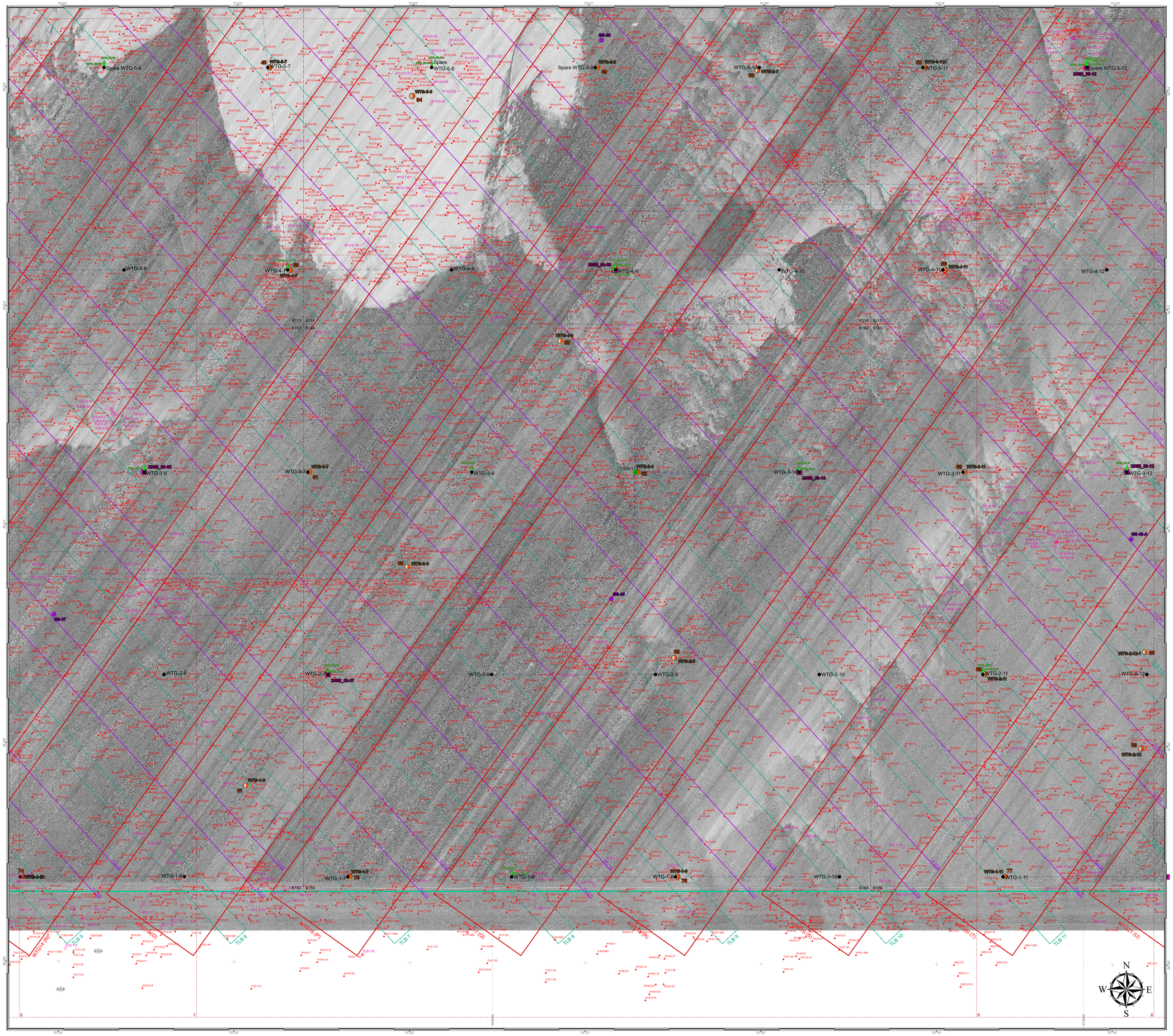

General Map Symbols

- Dominion Lease Boundary (OCS-A 0483)
- Proposed Cable Route ("Conceptual cables routes; Detailed re-routing/micro-siting will follow")
- TLC Planned Line
- TLB Corridor
- WTG Corridor
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- BOEM Lease Block (Main Chart OCS-A 0483)
- Tile Panel 1 - 9 (Main Chart)
- WTG Location (Preliminary position/subject to change)
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- Grab Sample
- Box Corer
- Geotechnical Boring
- Benthic Sample
- CPT
- Charted Shipwreck (Source: NOAA Office of Coast Survey)

USA States and Cities: Geographic Data: download from ESRI Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), TomTom, 2012 Source: U.S. Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS)

Relative Reflectivity: Low – Side Scan Mosaic – High

- Side Scan Sonar Contact
  Note: Mainline SSS Contact labels are truncated to the WTG and the last four of contact ID. Reported anomaly ID: WTGMN-M2D-####
  Tieline SSS Contact labels are truncated to the TL and the last four of contact ID. Reported anomaly ID: TLMA2D-####
- Magnetic Anomaly
  Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTGMN-M2D-####

High Frequency Sidescan Mosaic (600 kHz)

Side Scan Sonar Processing Notes

Side scan sonar data were processed using SonarWiz 7 V7.05.008.

Data Import and Navigation

Ultra-Short Baseline (USBL) acoustic positioning system was employed for side scan sonar navigation. Positioning was set to 2 Hz refresh rate with under two meters of positional accuracy. Where USBL positioning exceeded two meters, SSS cable layback was utilized by verifying cable out values and aligning seafloor features with adjacent lines, where possible. JSF files were imported using project defined coordinate system, NAD83 UTM18N (EPSG: 6347). Upon import each file was inspected for erroneous navigation, ensuring the data met the positioning specification.

Altitude

Data were slant range corrected (SRC). SRC identified the first amplitude return, set the altitude and removed the water column of each record. SRC was performed using the automated bottom tracking algorithm in SonarWiz. After the automated SRC was complete the processors evaluated the results and performed manual edits where needed.

Signal Processing

Signal processing was conducted utilizing Empirical Gain Normalization (EGN). EGN tables were generated for each transect to sum and average the amplitudes based on transducer, altitude, and range. The EGN table results were applied to side scan sonar data to adjust the beam pattern and apply gains to each file to obtain a homogeneous color scale across each transect mosaic. Static gain was applied to all the data acquired by the Marcelle Bordelon. Mapping range was manually set to the minimum value at 0 and maximum value at 200 for high frequency and minimum value at 0 and maximum at 2000 for low frequency. Transect mosaics were combined and exported with a 25cm resolution.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) / RZSonic 2024 (200-400 kHz)[6]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer
Sparker[2]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[1]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Milston
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

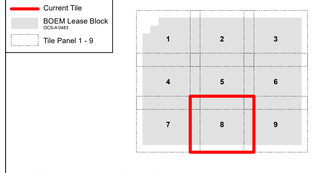
Horizontal Coordinate Reference System

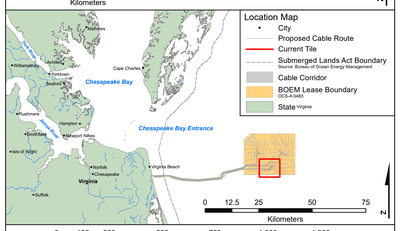
CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview





0 125 250 500 750 1,000 1,250 Meters
0 500 1,000 2,000 3,000 4,000 5,000 Feet

1:10,000

Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4
HIGH FREQUENCY SIDE SCAN MOSAIC
TILE 8 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
07/31/21	Rev01	CLS	KDW	KMM

Rev01
Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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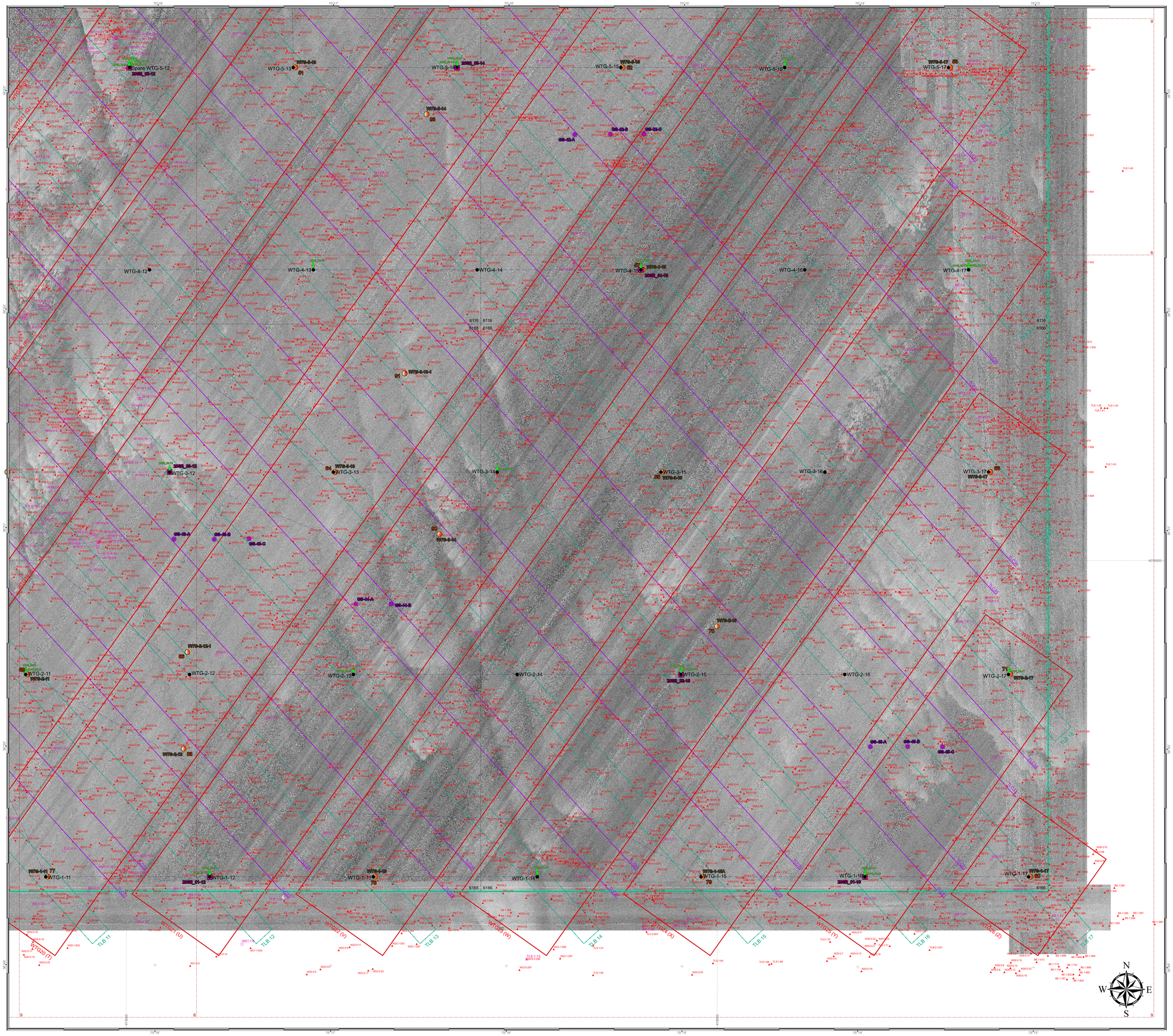

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- Tile Panel 1 - 9 Main Chart
- WTG Location (Preliminary position/subject to change)
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- Grab Sample
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- Geotechnical Boring
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Relative Reflectivity: Low — Side Scan Mosaic — High

High Frequency Sidescan Mosaic (600 kHz)

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- Magnetic Anomaly (Note: Magnetic Anomaly labels are truncated to the last four of anomaly ID. Reported anomaly ID: WTG##-M2D-####)

Side Scan Sonar Processing Notes

Side scan sonar data were processed using SonarWiz 7 V7.05.008.

Data Import and Navigation

Ultra-Short Baseline (USBL) acoustic positioning system was employed for side scan sonar navigation. Positioning was set to 2 Hz refresh rate with under two meters of positional accuracy. Where USBL positioning exceeded two meters, SSS cable layback was utilized by verifying cable out values and aligning seafloor features with adjacent lines, where possible. JSF files were imported using project defined coordinate system, NAD83 UTM18N (EPSG: 6347). Upon import each file was inspected for erroneous navigation, ensuring the data met the positioning specification.

Altitude

Data were slant range corrected (SRC). SRC identified the first amplitude return, set the altitude and removed the water column of each record. SRC was performed using the automated bottom tracking algorithm in SonarWiz. After the automated SRC was complete the processors evaluated the results and performed manual edits where needed.

Signal Processing

Signal processing was conducted utilizing Empirical Gain Normalization (EGN). EGN tables were generated for each transect to sum and average the amplitudes based on transducer, altitude, and range. The EGN table results were applied to side scan sonar data to adjust the beam pattern and apply gains to each file to obtain a homogeneous color scale across each transect mosaic. Static gain was applied to all the data acquired by the Marcelle Bordelon. Mapping range was manually set to the minimum value at 0 and maximum value at 200 for high frequency and minimum value at 0 and maximum at 2000 for low frequency. Transect mosaics were combined and exported with a 25cm resolution.

General Information

Equipment

Survey Vessels	M/V Marcelle[1]/M/V Sarah Bordelon[2]/ R/V Kommandor Iona[3]/ R/V Kommandor Stuart[4]/ M/V GO Discovery[5]/M/V Minerva Uno[6]
Positioning System	: Applanix POSMV and Hemisphere
USBL	: Sonardyne Ranger 2 (19-34 kHz)
Multibeam Echosounder	: Teledyne T50 (200-400 kHz) / RZSonic 2024 (200-400 kHz)[6]
Sidescan Sonar	: EdgeTech 4200 (300/600 kHz)
Magnetometer	: Geometrics G-882 (TVG)
Subbottom Profiler	: Innomar SES-2000 medium
Multi Channel Seismic[1,4,5]	: AAS-Boom and Geospark 200+400 and 96-Element Streamer
Single Channel Seismic[2,3,6]	: AAS-Boom and SCS Streamer
Sparker[2]	: Geospark 200+400 and 96-Element Streamer
Sound Velocity Profiler	: AML MVP30/MVP200[1]
Acquistion Software	: QINSy

TerraSond Personnel

Commercial Manager	: Scott Croft
Project Manager	: Don Ross
Project Manager	: James Hougham
Production Manager	: Kate Mildon
Technical Manager	: Chris McHugh
Geophysical Manager	: Scott Hiller
Operations Manager	: William Busey
Party Chief	: Mark MacLean
Lead Surveyor	: Larry Andrews
Director HSEQ	: Forrest Davis

This geophysical survey was conducted April 29th, 2020 through June13th, 2021

Coordinate Reference System

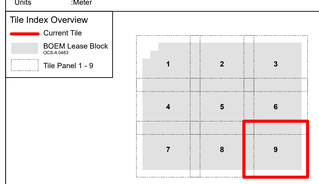
Horizontal Coordinate Reference System

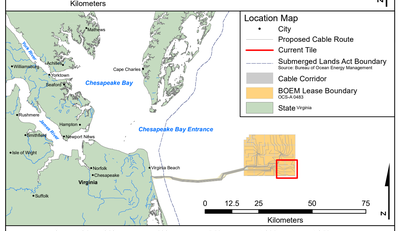
CRS Name	:NAD 1983 (2011) UTM Zone 18N
EPSG Code	:6347
Geodetic Datum	:North American 1983
Projection	:Universal Transverse Mercator
Units	:Meter

Vertical Coordinate Reference System

Datum	:Mean Lower Low Water (MLLW)
Axis -down	:Depth

Tile Index Overview





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Survey Contractor: TERRASOND PRECISION GEOSPATIAL SOLUTIONS

Client: Dominion Energy

Project Title: CVOW-C Geophysical Survey 2021

Chart Title: CHART 4 HIGH FREQUENCY SIDE SCAN MOSAIC TILE 9 of 9

DATE	NOTE	AUTHOR	CHKD	APPD
06/08/21	Rev00	CLS	KDW	KMM
06/14/21	Rev01	CLS	KDW	KMM
07/31/21	Rev01	CLS	KDW	KMM

Rev01
Date: 7/31/2021

File Name: Dominion_SSS_Mosaic_Rev01.pdf

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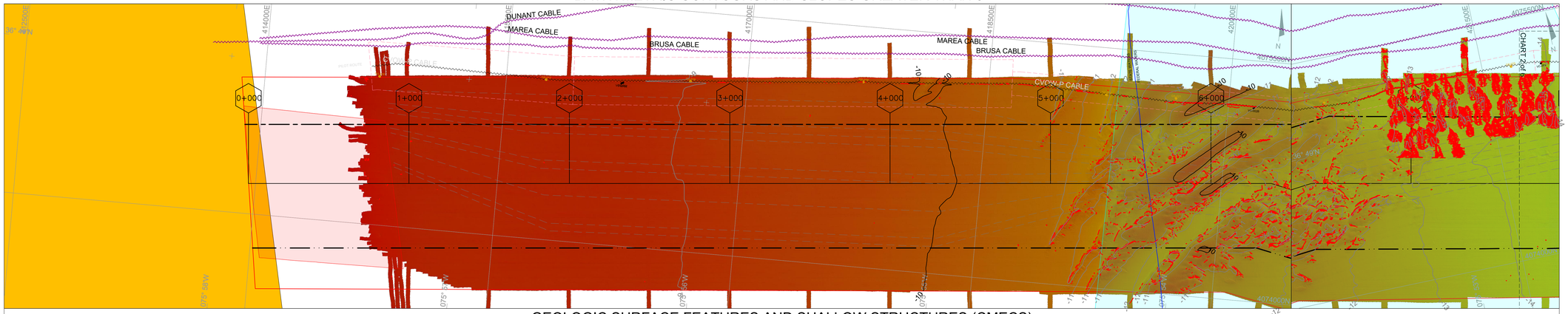
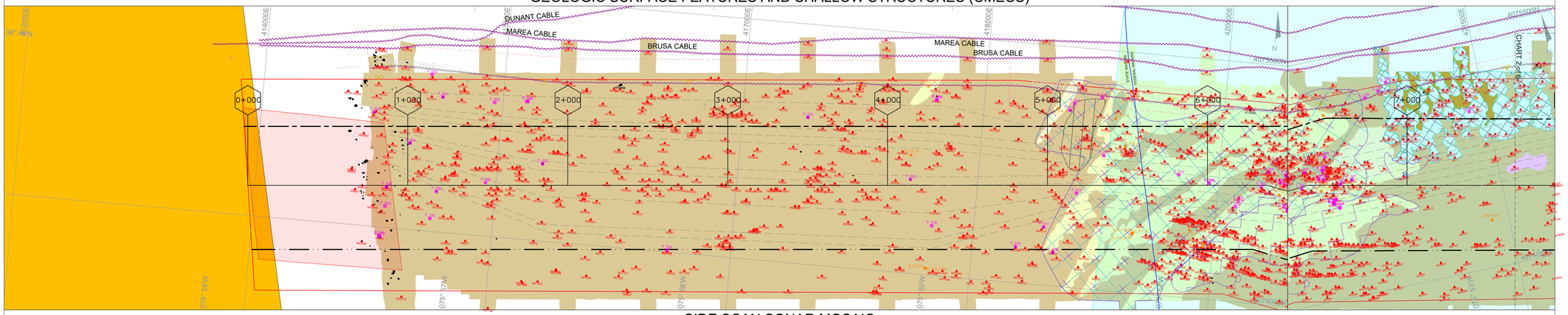
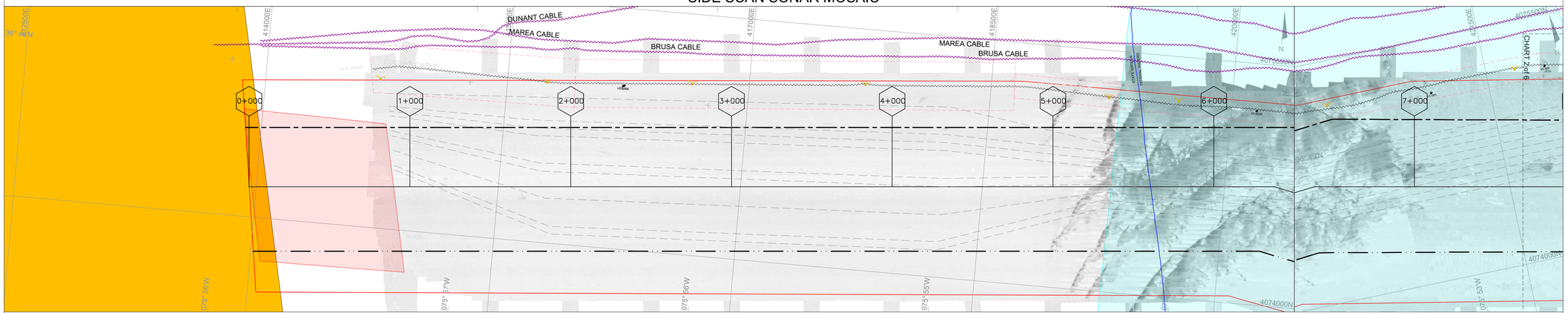
BATHYMETRIC CONTOURS AND SLOPES GREATER THAN 5°



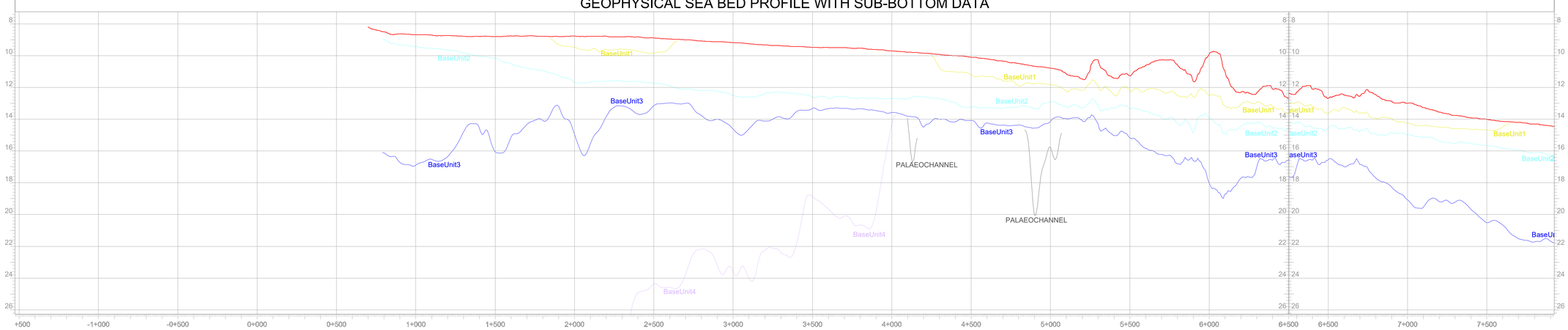
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURES (CMECS)



SIDE SCAN SONAR MOSAIC



GEOPHYSICAL SEA BED PROFILE WITH SUB-BOTTOM DATA



LEGEND

- DISTANCE POST (KILOMETERS) 1+234
- NORTH ROUTE CENTER ROUTE SOUTH ROUTE
- ROUTE*
- CONCEPTUAL CABLE ROUTE (DETAILED RE-ROUTING/MICRO-SITING WILL FOLLOW)*
- DIGITIZED SHORE *
- PILOT ROUTE CORRIDOR CVOW-P HVDC CABLE
- STATE / FEDERAL WATERS BOUNDARY *
- SURVEY AREA LIMITS *
- DAM NECK OCEAN DISPOSAL SITE *
- VA BEACH EXPLOSIVES DUMPING GROUNDS
- BOEM LEASE AREA *
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- D.O.D. BOUNDARY

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- MINOR BATHYMETRY CONTOUR - MBES - @ 1m INTERVAL
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SURFACE FEATURES & SHALLOW STRUCTURES LEGEND

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- SEA BED CLASSIFICATION - FINE TO MEDIUM SAND
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- SEA BED CLASSIFICATION - GRAVELLY SAND
- SEA BED CLASSIFICATION - MUD
- SEA BED CLASSIFICATION - MUDDY SAND
- SEA BED CLASSIFICATION - SANDY GRAVEL
- SEA BED FEATURE - SAND BANK
- SIDE SCAN SONAR TARGET & ID
- MAGNETOMETER TARGET & ID
- 20CS_A22 2020 CPT AND/OR BOREHOLE SAMPLE LOCATION & ID* - GEOQUIP
- SEA BED FEATURE - SAND WAVES
- SEA BED FEATURE - DEPRESSION LOCATION
- SEA BED FEATURE - DEPRESSION AREA
- SEA BED FEATURE - MEGARIPPLES
- SEA BED FEATURE - RIPPLES
- SEA BED FEATURE - SCAR
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HIGH — LOW

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- BASE UNIT 1
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- PALAEOCHANNEL
- BASE UNIT 2
- BASE UNIT 4
- BASE QUATERNARY CHANNEL INFILL SEDIMENTS

20CS_A22

SEABED 0.000
SAND 4.320
GRAVEL 5.120
CLAY 7.420

* CPT LOCATION & ID w/ SEDIMENT TYPES, THICKNESS*, & CPT TIP RESISTIVITY CURVE (2020 SAMPLES/2021 SAMPLES)

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3. HORIZONTAL DATUM: UTM83-18 (m)
   VERTICAL DATUM: MLLW (m)

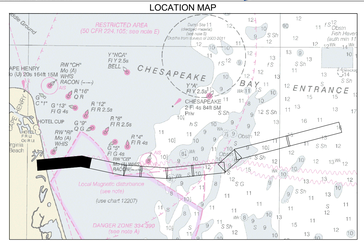
*INFORMATION PROVIDED BY CLIENT

LIST OF SURVEY EQUIPMENT

Item	RV Shearwater	RV Minerva Uno (2020 / 2021)
Positioning	Applanix POS MV OceanMaster CNAV 3050	Applanix POS MV OceanMaster CNAV 5000
SVP	AML Moving Vessel Profiler AML Plus SVP/CTD	AML Moving Vessel Profiler 350 AML Minos X
USBL	Sonardyne Scout / Ranger	Sonardyne Scout Plus
MBES	R2 Sonic 2024	R2 Sonic 2024
SSS	Edgetech 4200 (300-400kHz)	Edgetech 4200 (300-400kHz)
TVG	2 x Geometrics 882 Cesium Vapor	2 x Geometrics 882 Cesium Vapor
SBP	Innomar Medium SES 2000	Innomar Medium SES 2000
S-LHRS	AA301 Boomer Single-Channel 8 Element Hydrophone Streamer	AA301 Geomarine Boomer Single-Channel 8 Element Hydrophone Streamer
Grab Sampler	N/A	Harmon Surficial Day Grab Sampler

Dominion Energy, Inc.
8th & Main Building, 707 East Main St
Richmond, VA 23219

LOCATION MAP



Coastal Virginia Offshore Wind Commercial (CVOW-C) Export Cable Route Corridor

CENTERLINE ALIGNMENT CHART

kp 0+000 to kp 7+925

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
VERTICAL SCALE 1:100 (1cm = 1m = 3.3ft)

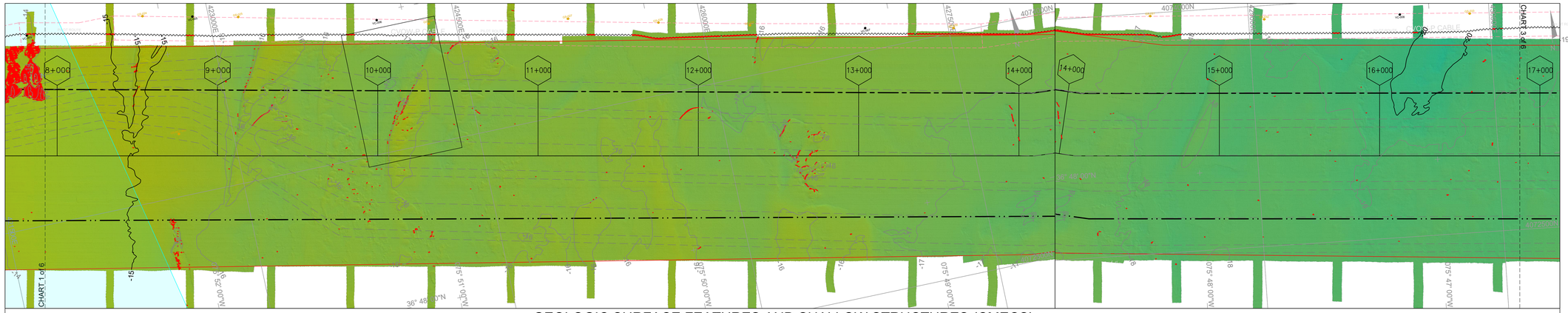
GEODETIC INFORMATION
DATUM: NAD83 (2011)
VERTICAL: MLLW (m)
PROJECTION: UTM83-18N

Drawing Name:	ALIGNMENT CENTERLINE-001
Vessel:	Minerva Uno / Shearwater
Approved By:	JB
Interp. By:	KR
Party Chief:	DW/TK
Drawn By:	BE
Revision:	3 18-Aug-2021
Issue Date:	08-Feb-2021
Survey Date:	May - Nov 2020 & Jan - May 2021
Chart Num:	1 of 6

Alpine

ALPINE OCEAN SEISMIC SURVEY INC 155 Hudson Ave Norwood New Jersey 07648 Tel 201-768-8000 Fax 201-768-5750 www.alpineocean.com

BATHYMETRIC CONTOURS AND SLOPES GREATER THAN 5°



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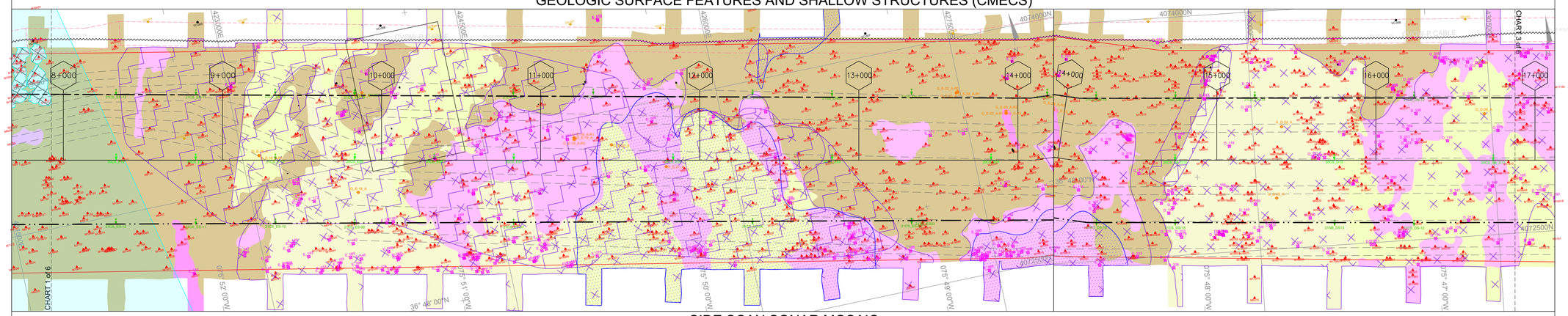

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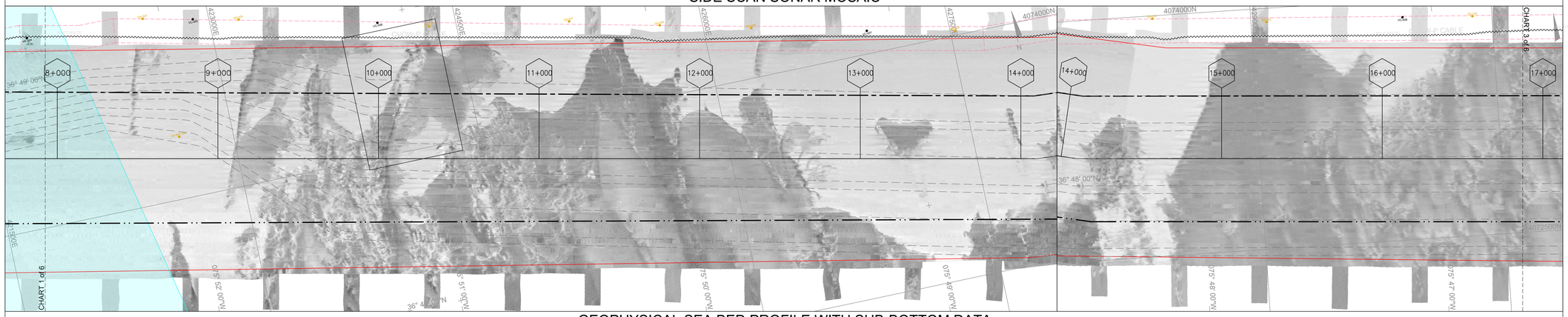

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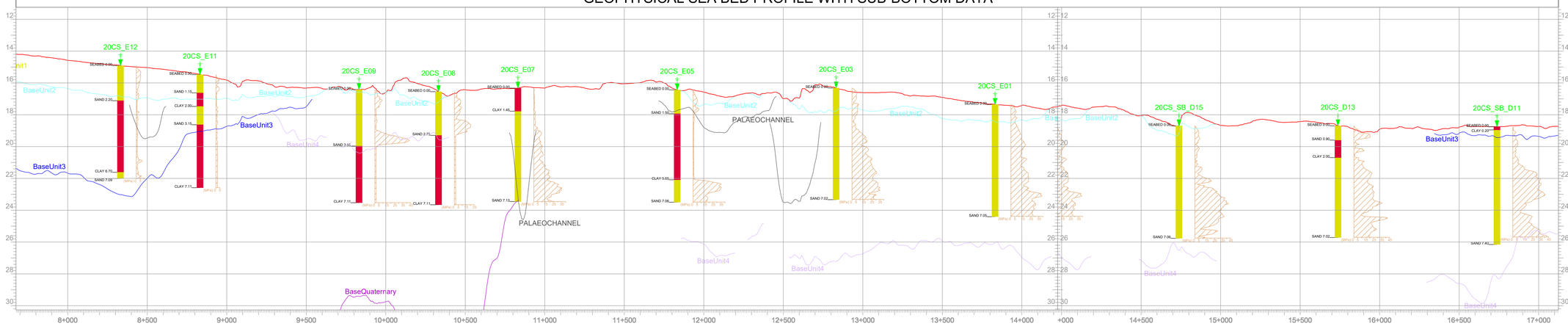

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HIGH — LOW

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20CS_A22

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Dominion Energy, Inc.
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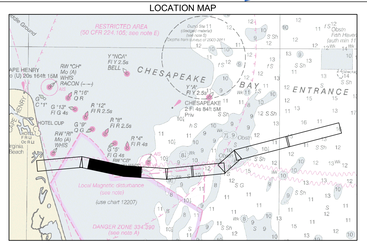

Coastal Virginia Offshore Wind Commercial (CVOW-C) Export Cable Route Corridor

CENTERLINE ALIGNMENT CHART

kp 7+675 to kp 17+125

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
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DATUM : NAD83 (2011)
VERTICAL : MLLW (m)
PROJECTION : UTM83-18N

Drawing Name:	ALIGNMENT_CENTERLINE_-001
Interpret:	Minerva Uno / Shearwater
Approved By:	JB
Interp. By:	KR
Party Chief:	DW/TK
Drawn By:	BE
Revision:	3 18-Aug-2021
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Chart Num.:	2 of 6

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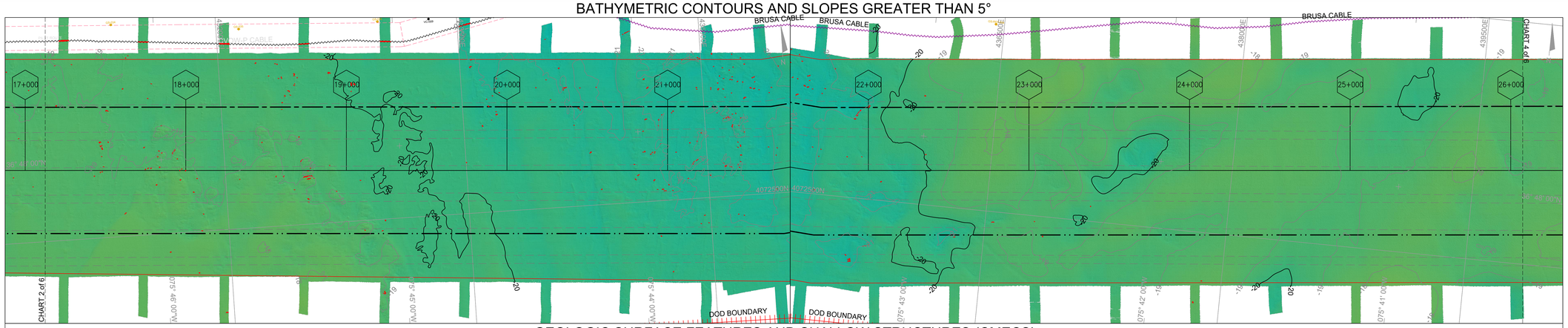

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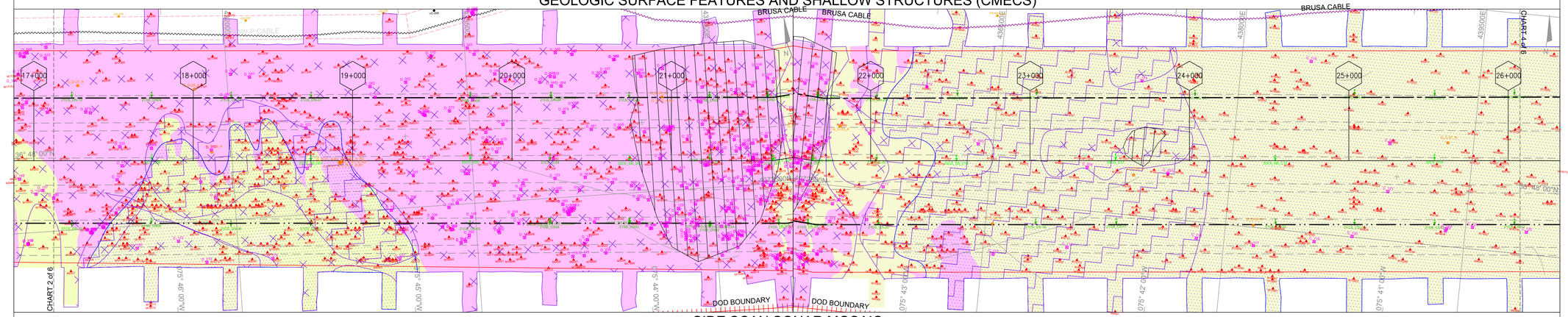

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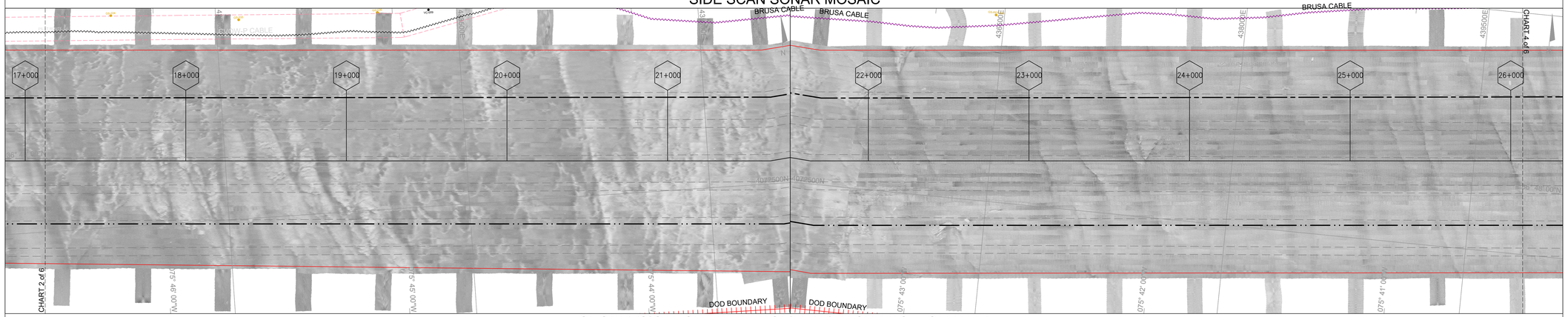

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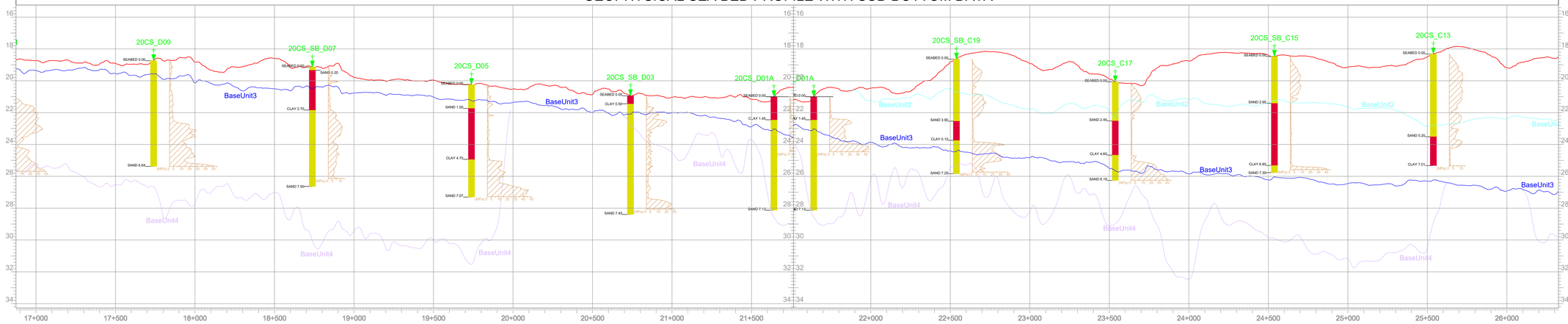

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- 21CS_A22 2021 CPT AND/OR BOREHOLE SAMPLE LOCATION & ID* - GEOQUIP

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THE RESOLUTION OF THE CHARTED SIDE SCAN SONAR MOSAIC IS 1mpp. ONLY LOW FREQUENCY (APPROXIMATELY 233kHz) SIDE SCAN SONAR LINES ARE INCLUDED IN THE MOSAIC. ALL LINES WERE ACQUIRED USING A RANGE OF 50m.

HIGH — LOW

GEOPHYSICAL PROFILE LEGEND

- SEABED SURFACE
- BASE UNIT 1
- BASE UNIT 3
- PALAEOCHANNEL
- BASE UNIT 2
- BASE UNIT 4
- BASE QUATERNARY CHANNEL INFILL SEDIMENTS

20CS_A22

SEABED 0.000
SAND 4.320
GRAVEL 5.120
CLAY 7.420

* CPT LOCATION & ID w/ SEDIMENT TYPES, THICKNESS*, & CPT TIP RESISTIVITY CURVE (2020 SAMPLES/2021 SAMPLES)

GENERAL NOTES:

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3. HORIZONTAL DATUM: UTM83-18 (m)
   VERTICAL DATUM: MLLW (m)

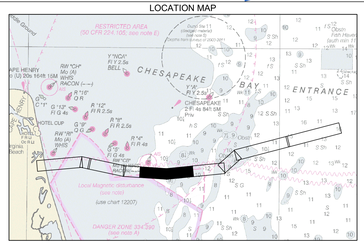
*INFORMATION PROVIDED BY CLIENT

LIST OF SURVEY EQUIPMENT

Item	RV Shearwater	RV Minerva Uno (2020 / 2021)
Positioning	Applanix POS MV OceanMaster CNAV 3050	Applanix POS MV OceanMaster CNAV 5000
SVP	AML Moving Vessel Profiler AML Plus SVP/CTD	AML Moving Vessel Profiler 350 AML Minos X
USBL	Sonardyne Scout Plus	Sonardyne Scout / Ranger
MBES	R2 Sonic 2024	R2 Sonic 2024
SSS	Edgetech 4200 (300-600kHz)	Edgetech 4200 (300-600kHz)
TVG	2 x Geometrics 882 Cesium Vapor	2 x Geometrics 882 Cesium Vapor
SBP	Innomar Medium SES 2000	Innomar Medium SES 2000
S-UHRS	AA301 Boomer Single-Channel 8 Element Hydrophone Streamer	AA301 / Geomarine Boomer Single-Channel 8 Element Hydrophone Streamer
Grab Sampler	N/A	Harmon Surficial Day Grab Sampler

Dominion Energy, Inc.
8th & Main Building, 707 East Main St
Richmond, VA 23219

LOCATION MAP



Coastal Virginia Offshore Wind Commercial (CVOW-C) Export Cable Route Corridor

CENTERLINE ALIGNMENT CHART

kp 16+875 to kp 26+324

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
0 100 200 400 600
0 1 2 4 8
VERTICAL SCALE 1:100 (1cm = 1m = 3.3ft)

GEODETIC INFORMATION
DATUM : NAD83 (2011)
VERTICAL : MLLW (m)
PROJECTION : UTM83-18N

Drawing Name:	ALIGNMENT_CENTERLINE_001
Vessel:	Minerva Uno / Shearwater
Approved By:	JB
Interp. By:	KR
Party Chief:	DW/TK
Drawn By:	BE
Revision:	3 18-Aug-2021
Issue Date:	08-Feb-2021
Survey:	May - Nov 2020 & Jan - May 2021
Chart Num:	3 of 6

Alpine
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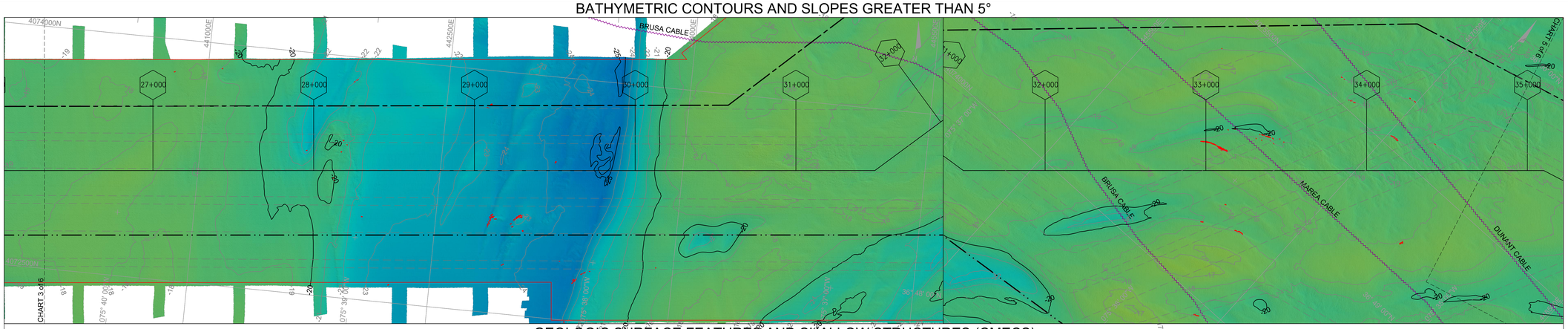
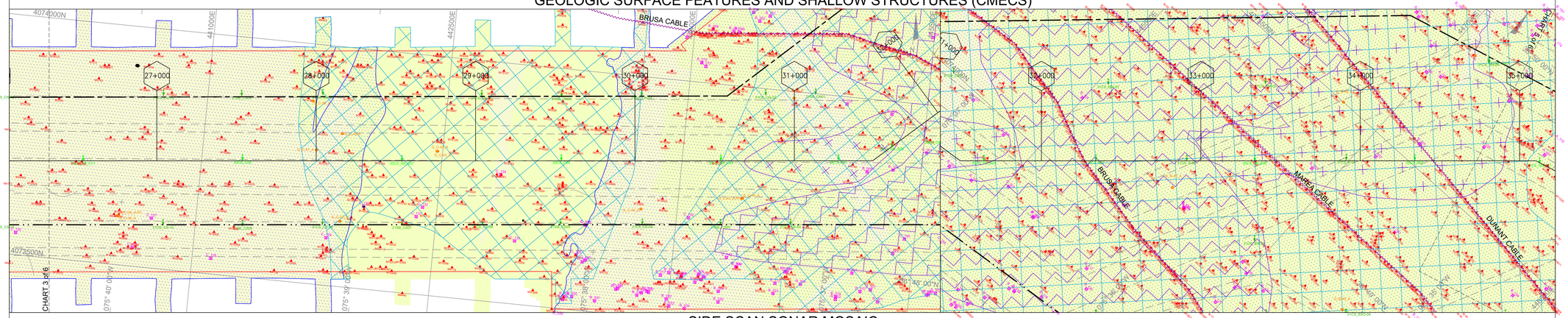
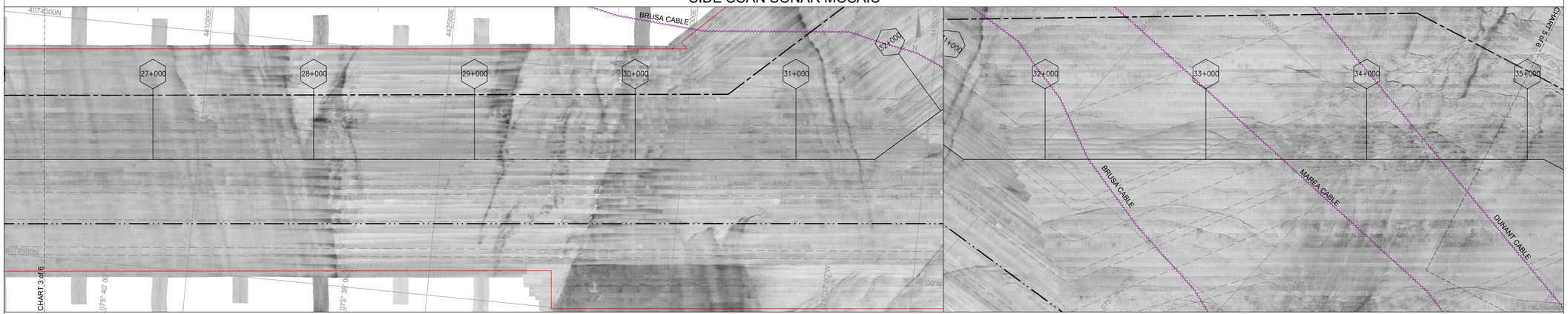
BATHYMETRIC CONTOURS AND SLOPES GREATER THAN 5°



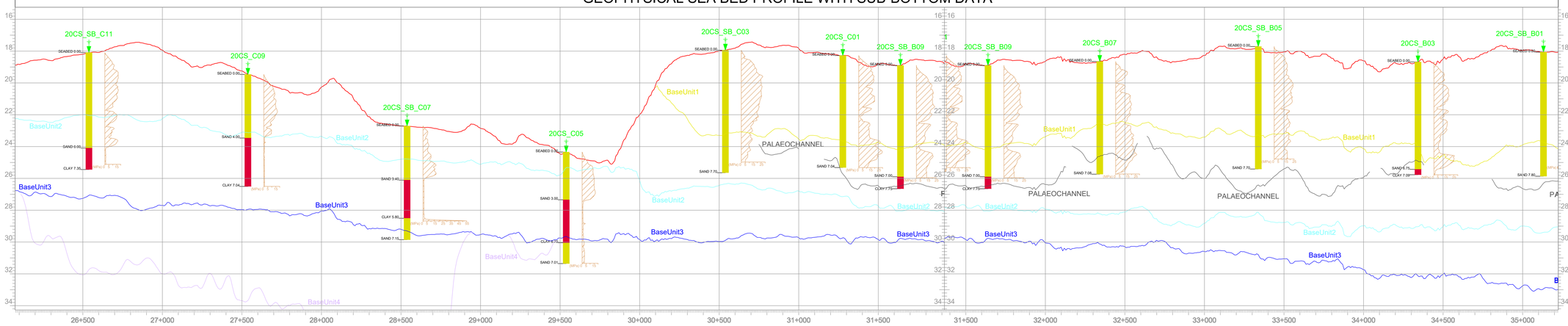
GEOLOGIC SURFACE FEATURES AND SHALLOW STRUCTURES (CMECS)



SIDE SCAN SONAR MOSAIC



GEOPHYSICAL SEA BED PROFILE WITH SUB-BOTTOM DATA



LEGEND

- DISTANCE POST (KILOMETERS) 1+234
- NORTH ROUTE CENTER ROUTE SOUTH ROUTE
- ROUTE*
- CONCEPTUAL CABLE ROUTE (DETAILED RE-ROUTING/MICRO-SITING WILL FOLLOW)*
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BATHYMETRY LEGEND

- 20 MAJOR BATHYMETRY CONTOUR - MBES - @ 5m INTERVAL
- MINOR BATHYMETRY CONTOUR - MBES - @ 1m INTERVAL
- SLOPES EQUAL 5° OR GREATER

BATHYMETRIC COLOR SCALE KEY

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OBSERVED SOUNDINGS HAVE BEEN REDUCED TO THE MLLW TIDAL DATUM.
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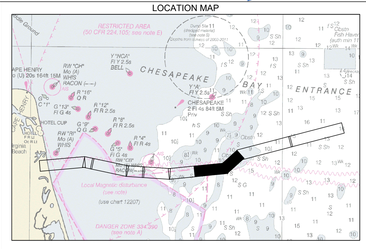

Coastal Virginia Offshore Wind Commercial (CVOW-C) Export Cable Route Corridor

CENTERLINE ALIGNMENT CHART

kp 26+074 to kp 35+224

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
0 100 200 400 600
0 1 4 8
VERTICAL SCALE 1:100 (1cm = 1m = 3.3ft)

GEODETIC INFORMATION
DATUM : NAD83 (2011) Minerva Uno / Shearwater
VERTICAL : MLLW (m)
PROJECTION : UTM83-18N

Drawing Name:	ALIGNMENT CENTERLINE-002
Printed:	
Approved By:	JB
Interp. By:	KR
Party Chief:	DW/TK
Drawn By:	BE
Revision:	3
Issue Date:	18-Aug-2021 08-Feb-2021
Survey Date:	May - Nov 2020 & Jan - May 2021
Chart Num:	4 of 6

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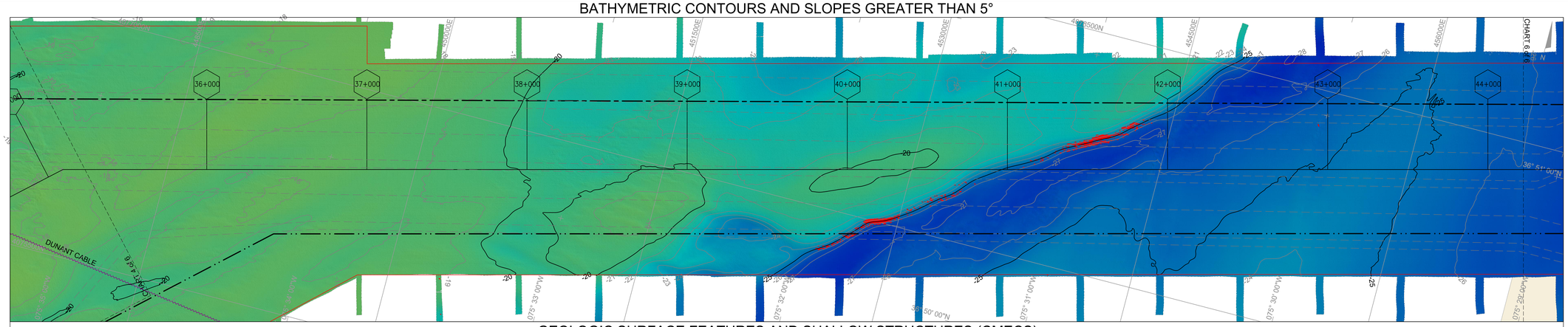

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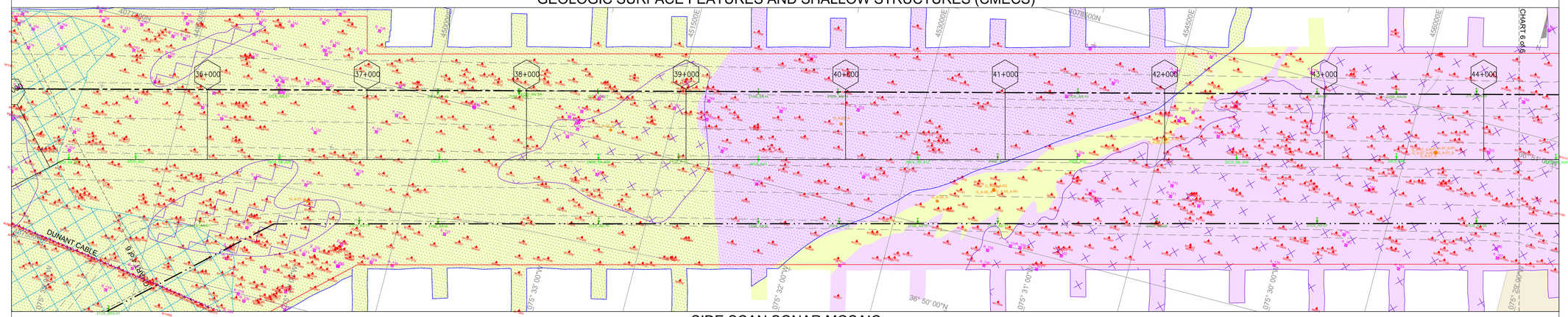

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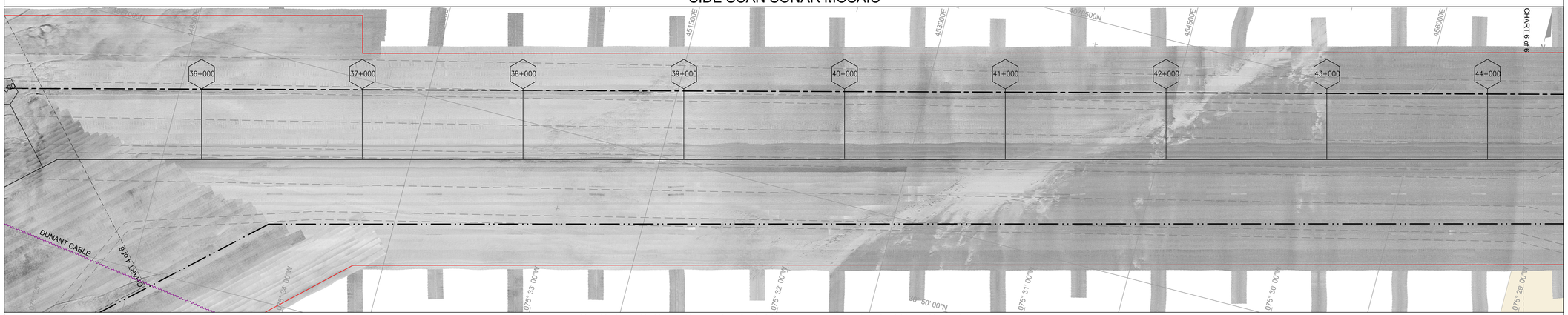

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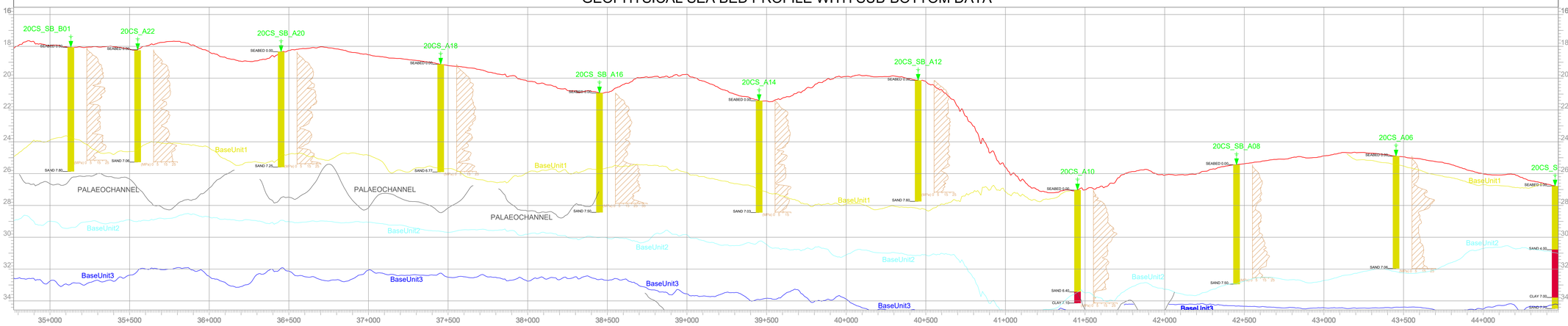

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20CS_A22

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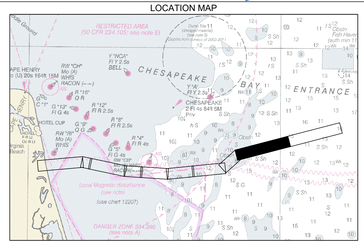

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kp 34+772 to kp 44+472

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
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Drawing Name:	ALIGNMENT CENTERLINE-002
Created:	Minerva Uno / Shearwater
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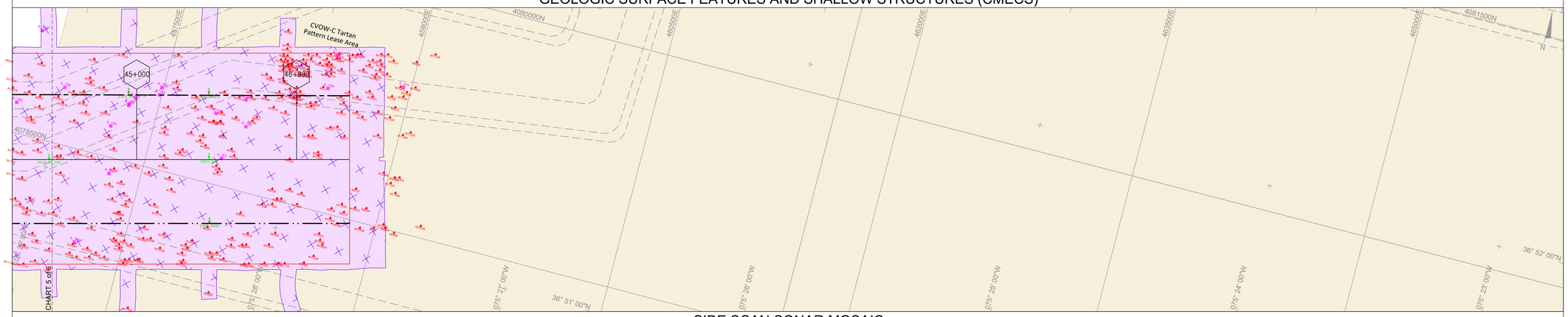

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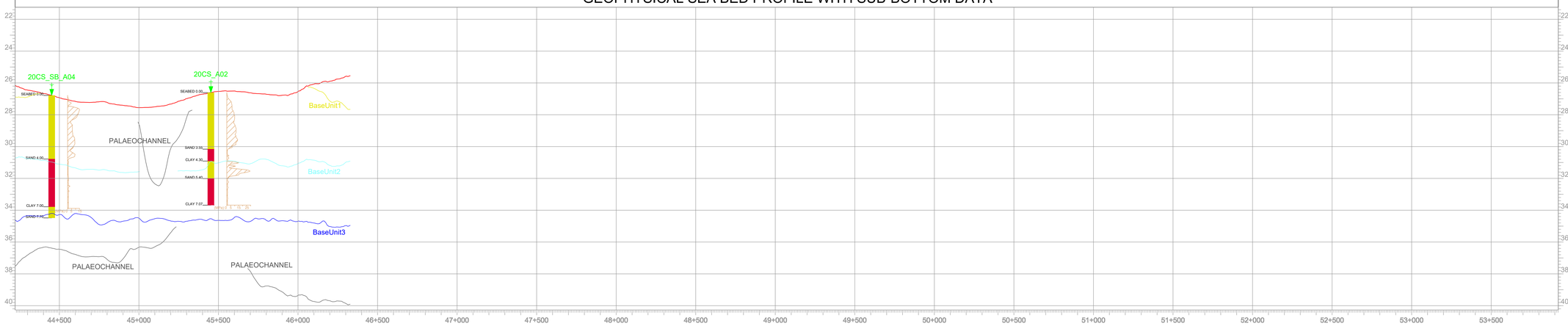

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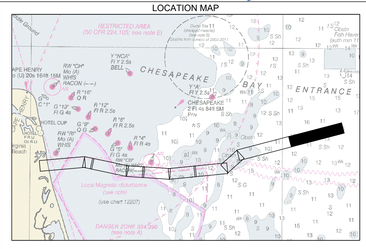
SVP	AML Moving Vessel Profiler AML Plus SVP/CTD	AML Moving Vessel Profiler 350 AML Minos X
USBL	Sonardyne Scout Plus	Sonardyne Scout / Ranger
MBES	R2 Sonic 2024	R2 Sonic 2024
SSS	Edgetech 4200 (300–600kHz)	Edgetech 4200 (300–600kHz)
TVG	2 x Geometrics 882 Cesium Vapor	2 x Geometrics 882 Cesium Vapor
SBP	Innomar Medium SES 2000	Innomar Medium SES 2000
S-UHRS	AA301 Boomer Single-Channel 8 Element Hydrophone Streamer	AA301 / Geomarine Boomer Single-Channel 8 Element Hydrophone Streamer
Grab Sampler	N/A	Harmon Surficial Day Grab Sampler

Dominion Energy, Inc.
8th & Main Building, 707 East Main St
Richmond, VA 23219

LOCATION MAP



Coastal Virginia Offshore Wind Commercial (CVOW-C) Export Cable Route Corridor

CENTERLINE ALIGNMENT CHART

kp 44+222 to kp 46+328

HORIZONTAL SCALE 1:10,000 (1cm = 100m = 328.1ft)
0 100 200 400 600
0 1 4 8
VERTICAL SCALE 1:100 (1cm = 1m = 3.3ft)

GEODETIC INFORMATION
DATUM : NAD83 (2011)
VERTICAL : MLLW (m)
PROJECTION : UTM83-18N

Drawing Name:	ALIGNMENT CENTERLINE-002
Vessel:	Minerva Uno / Shearwater
Approved By:	JB
Interp. By:	KR
Party Chief:	DW/TK
Drawn By:	BE
Revision:	3 18-Aug-2021
Issue Date:	08-Feb-2021
Survey Date:	May - Nov 2020 & Jan - May 2021
Chart Num:	6 of 6

Alpine