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TECHNICAL MEMORANDUM REGARDING RESULTS OF OCEANA SALVAGE YARD ACCESS ROAD CONFIRMATION SAMPLING NAS OCEANA VA

11/17/2010

CH2M HILL

Results of Oceana Salvage Yard Access Road Confirmation Sampling, Naval Air Station Oceana, Virginia Beach, Virginia

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COPIES:

DATE: November 17, 2010

Background

In accordance with the *Technical Memorandum Work Plan: Oceana Salvage Yard Access Road Confirmation Sampling, Naval Air Station Oceana, Virginia Beach, Virginia* (CH2M HILL, 2010), CH2M HILL was contracted by NAVFAC Mid-Atlantic to conduct soil sampling to determine the lead concentrations along the shoulders of the Oceana Salvage access road.

The sampling was completed to support the USEPA Draft Consent Order for the Oceana Salvage Yard Site, which includes the access road and road shoulder areas. Specifically, the purpose of the sampling was to delineate the physical extent of lead contamination along the shoulders of the access road, which was defined in the Draft Consent Order as strips of land extending 10 feet from the edges of either side of the access road to a maximum depth of 2 feet bgs. This delineation included the shoulders of the automobile traffic portion of the access road that begins at Oceana Boulevard, continued along the easement over the Navy property, and extended up to the service building on the Oceana Salvage Yard property. Even though the 2007 Draft Consent Order was not finalized, the Navy reached agreement with the USEPA and VDEQ to remediate the access road and shoulders in accordance with the draft version. Because Oceana is not on the National Priorities List (NPL) and has no Federal Facilities Agreement (FFA), only VDEQ approval of the remedy is required.

The Technical Memorandum Work Plan was prepared to define the sampling and data quality objectives. The objective was to adequately define areas along the shoulders of the access road (10 feet on either side of the road) with concentrations of lead greater than 800 mg/kg to a maximum depth of 2 feet bgs. Therefore, the data quality objective for lead was set at 800 mg/kg. The work plan divided each side (north and south) of the access road into approximate 50-foot by 10-foot grids (**Figure 1**). Three-point composite samples (0 to 2 feet depth) were collected from each grid cell and analyzed for lead using method SW846 6010B. Environmental Conservation Laboratories, Inc. was subcontracted by CH2M HILL to analyze the samples. Sampling was completed between October 1 and October 5, 2010.

Summary of Results

The sampling results indicate that 18 of the 33 grid cells exceeded the project threshold value of 800 mg/kg lead in soil. Sample results for each grid cells are provided in **Table 1**. While the Technical Memorandum Work Plan called for evenly spaced 50-foot by 10-foot grids along each side of the road, there was variation in the actual size based upon field conditions and areas where the road widened. The grid cells and corresponding results are shown on **Figure 2**. Shaded cells indicate an exceedance of the threshold value and that excavation is required in accordance with the Draft Consent Order. **Table 2** provides a summary of the excavation quantities for those grid cells requiring excavation.

References

CH2M HILL, 2010. *Technical Memorandum Work Plan: Oceana Salvage Yard Access Road Confirmation Sampling, Naval Air Station Oceana, Virginia Beach, Virginia*. September.

United States Environmental Protection Agency (USEPA). 2007. Consent Order.

Table 1
Oceana Salvage Yard
Data Exceedance Results
October 2010

Station ID	Screening Value	OSAL-SO01	OSAL-SO02	OSAL-SO03	OSAL-SO04	OSAL-SO05	OSAL-SO06	OSAL-SO07	OSAL-SO08	OSAL-SO09	OSAL-SO10	OSAL-SO11	OSAL-SO12	
Sample ID		OSAL-SO01-1010	OSAL-SO02-1010	OSAL-SO03-1010	OSAL-SO04-1010	OSAL-SO05-1010	OSAL-SO06-1010	OSAL-SO07-1010	OSAL-SO08-1010	OSAL-SO09-1010	OSAL-SO10-1010	OSAL-SO11-1010	OSAL-SO12-1010	
Sample Date		10/5/2010	10/5/2010	10/5/2010	10/4/2010	10/4/2010	10/4/2010	10/4/2010	10/4/2010	10/4/2010	10/4/2010	10/4/2010	10/5/2010	
Chemical Name														
Metals (MG/KG)														
Lead	800	**520 D**	**374 D**	**608 D**	**354 D**	**291 D**	**410 D**	**289 D**	**461 D**	**3080 D**	**2770 D**	**2140 D**	**7030 D**	**6540 D**

Station ID	Screening Value	OSAL-SO13		OSAL-SO14		OSAL-SO15		OSAL-SO16		OSAL-SO17		OSAL-SO18	
Sample ID		OSAL-SO13-1010		OSAL-SO14-1010		OSAL-SO15-1010		OSAL-SO16-1010		OSAL-SO17-1010		OSAL-SO18-1010	
Sample Date		10/5/2010		10/5/2010		10/5/2010		10/5/2010		10/5/2010		10/5/2010	
Chemical Name													
Metals (MG/KG)													
Lead	800	**2710 D**	**2660 D**	**1790 D**	**1790 D**	**241 D**	**215 D**	**8290 D**	**8410 D**	**23600 DE**	**24400 D**	**15800 D**	**15500 D**

Station ID	Screening Value	OSAL-SO19		OSAL-SO20	OSAL-SO21	OSAL-SO22	OSAL-SO23	OSAL-SO24	OSAL-SO25	OSAL-SO26	OSAL-SO27	OSAL-SO28	OSAL-SO29
Sample ID		OSAL-SO19-1010		OSAL-SO20-1010	OSAL-SO21-1010	OSAL-SO22-1010	OSAL-SO23-1010	OSAL-SO24-1010	OSAL-SO25-1010	OSAL-SO26-1010	OSAL-SO27-1010	OSAL-SO28-1010	OSAL-SO29-101
Sample Date		10/5/2010		10/5/2010	10/5/2010	10/5/2010	10/5/2010	10/6/2010	10/6/2010	10/6/2010	10/6/2010	10/6/2010	10/6/2010
Chemical Name													
Metals (MG/KG)													
Lead	800	**20900 D**	**21200 D**	**3800 D**	**10300 D**	**16000 D**	**19200 D**	**2700 D**	**2450 D**	**829 D**	**1280 D**	**198 D**	**284 D**

Station ID	Screening Value	OSAL-SO30	OSAL-SO31	OSAL-SO32	OSAL-SO33
Sample ID		OSAL-SO30-1010	OSAL-SO31-1010	OSAL-SO32-1010	OSAL-SO33-1010
Sample Date		10/6/2010	10/6/2010	10/6/2010	10/5/2010
Chemical Name					
Metals (MG/KG)					
Lead	800	**187 D**	**34.7**	**126 D**	**138 D**

Notes

Shading for Exceedance

Bold indicates compound was detected

D - Sample analyzed at dilution

DE - Estimated value, diluted concentration above calibration

UD - Analyte not detected at dilution

mg/kg - milligrams per kilogram

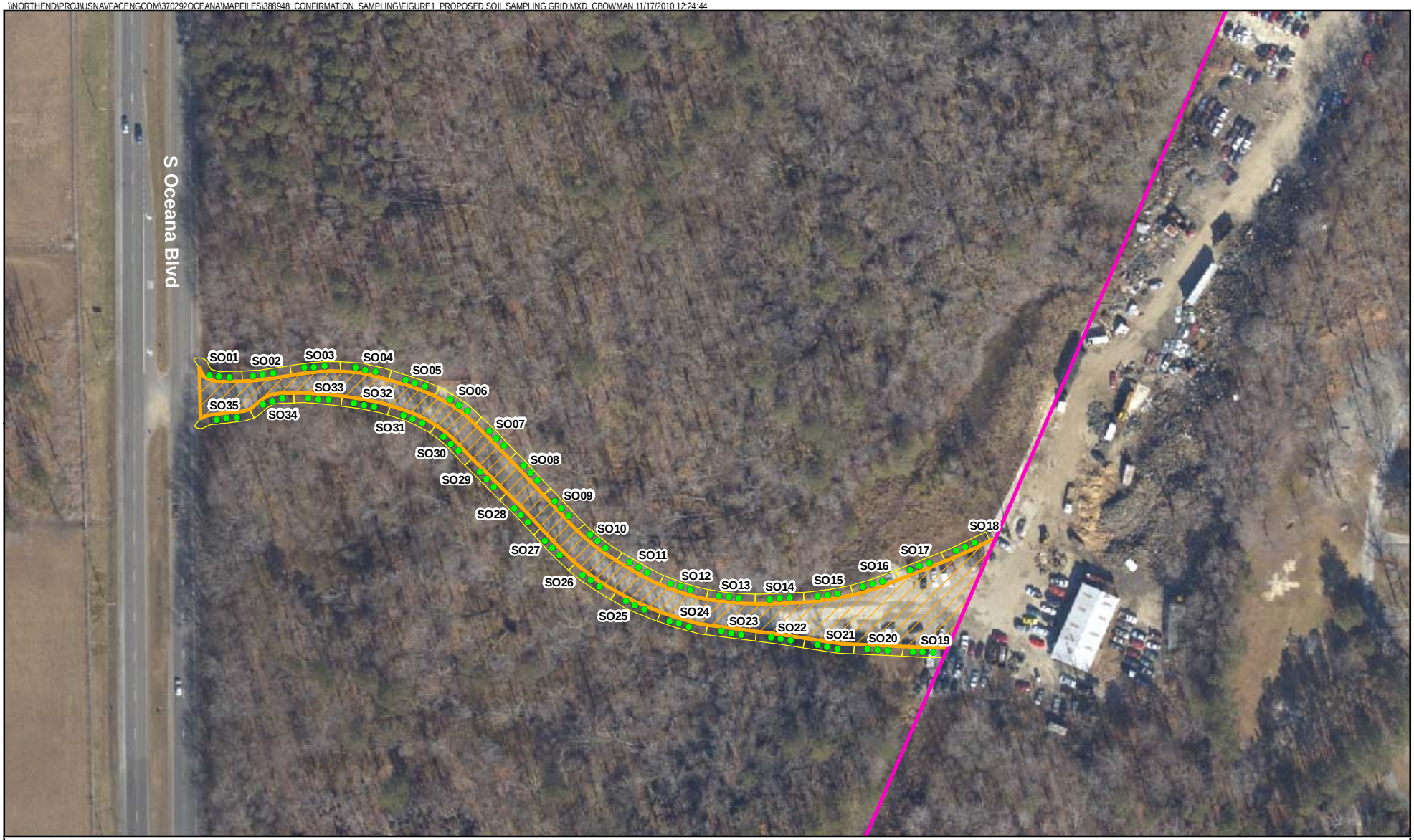
*Sample results were reviewed for quality control but have not been validated by a third party data validator

Table 2
Excavation Estimates
Oceana Salvage Yard

Grids Requiring Excavation	Area (sq. ft.)	Excavation Depth (ft)	Volume (cu. ft.)	Excavation Volume (cu.yd.)*
SO09	669.6	2	1339.2	49.6
SO10	550.7	2	1101.4	40.8
SO11	509.9	2	1019.8	37.8
SO12	524.5	2	1049.0	38.9
SO13	611.7	2	1223.4	45.3
SO14	542.9	2	1085.8	40.2
SO16	654.0	2	1308.0	48.4
SO17	613.0	2	1226.0	45.4
SO18	917.0	2	1834.0	67.9
SO19	834.5	2	1669.0	61.8
SO20	526.0	2	1052.0	39.0
SO21	364.5	2	729.0	27.0
SO22	393.0	2	786.0	29.1
SO23	483.6	2	967.2	35.8
SO24	516.8	2	1033.6	38.3
SO25	502.8	2	1005.6	37.2
SO26	593.2	2	1186.4	43.9
SO27	600.6	2	1201.2	44.5
			TOTAL	**726.5**

*Volume estimates are in-place quantities

\\NORTHEND\PROJ\USNAVFACENGCOM\370292OCEANA\MAPFILES\388948_CONFIRMATION_SAMPLING\FIGURE1_PROPOSED SOIL SAMPLING GRID.MXD CBOWMAN 11/17/2010 12:24:44



Legend

- Proposed Soil Sample Location
- NAS Oceana Boundary
- Extent of Work
- Sampling Grid (50 feet in length)

N
W E
S

0 70 140
Feet

Figure 1
Proposed Sampling Grid
Oceana Salvage Yard Access Road
Confirmation Sampling
NAS Oceana
Virginia Beach, Virginia

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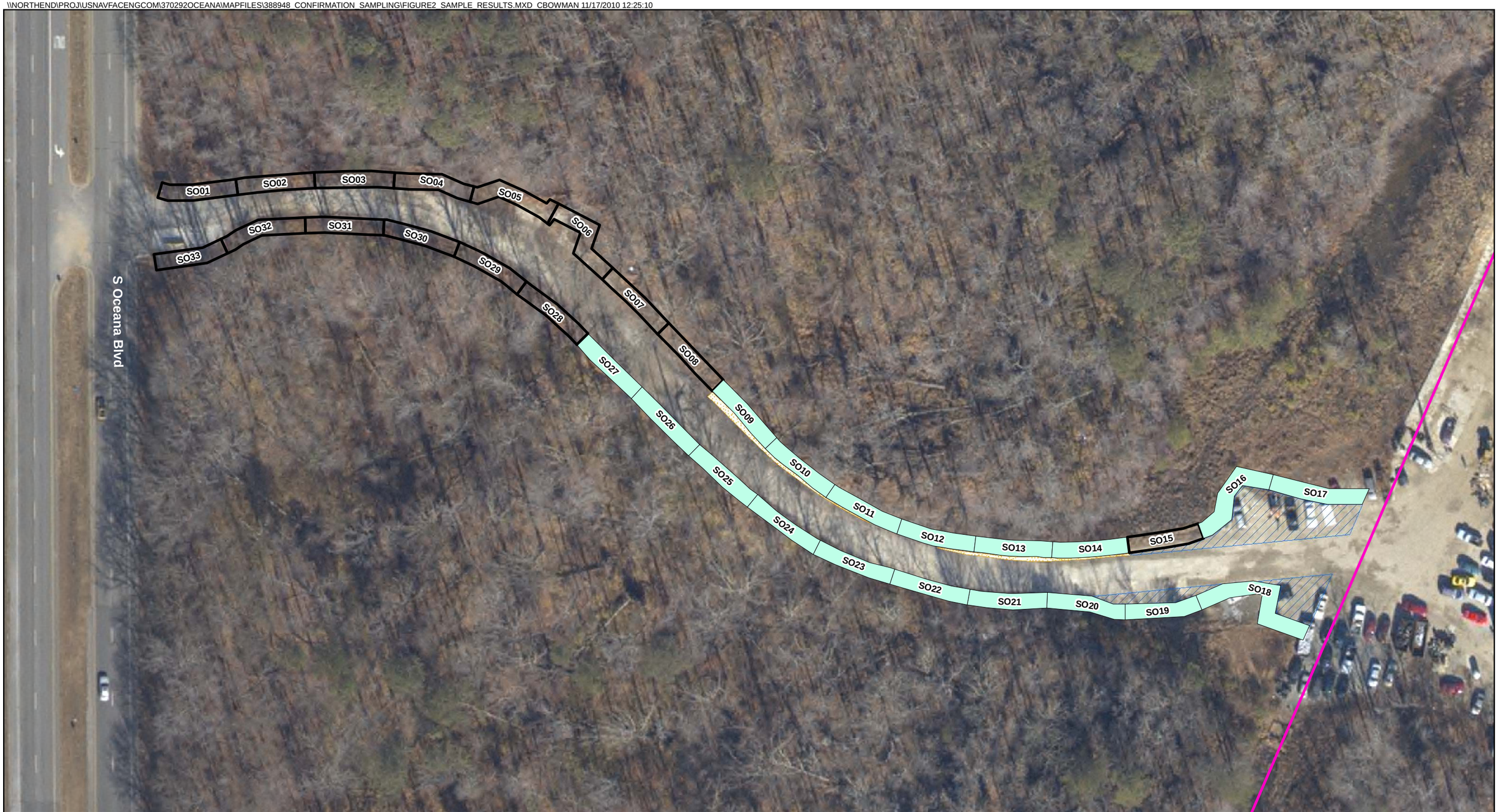
\\NORTHEND\PROJ\USNAVFACENGCOM\370292OCEANA\MAPFILES\388948_CONFIRMATION_SAMPLING\FIGURE2_SAMPLE_RESULTS.MXD CBOWMAN 11/17/2010 12:25:10



Legend

- NAS Oceana Boundary
- Grid Cell Extended to Match New Road
- Improved Area
- Grid Cell
- Impacted Area

N
W E
S

0 30 60 120
Feet

Figure 2
Sample Results
Oceana Salvage Yard Access Road
Confirmation Sampling
NAS Oceana
Virginia Beach, Virginia

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