

Report Approval

Report Title: **Technical Memorandum
Fort Ord
May 9, 2019 Gasoline Spill
Seaside, California**

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Technical Memorandum
Fort Ord
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This technical memorandum describes the vehicle accident that occurred on May 9, 2019 and the voluntary response activities which included gasoline-contaminated soil removal, laboratory analysis and site restoration. This Technical Memorandum will be provided to the County of Monterey Certified Unified Program Agency (CUPA).

Figure 1 presents the regional setting and general location of the incident.
Figure 2 shows the location of the incident and excavation extent.
Figure 3 is a schematic of the sample collection locations.

Table 1 presents the analytical results of the sidewalls, base and excavated soil.

Description of Incident/Introduction:

On May 9, 2019, an unauthorized vehicle was traveling east bound on Eucalyptus Road within the former Fort Ord Army BRAC property. The vehicle was adjacent to the restricted impact area munitions response area (MRA). Access to the property is restricted due to the possible presence of Munitions and Explosives of Concern (MEC). The vehicle had a collision with the Impact Area fence on the southern shoulder of Eucalyptus Road, approximately 250 feet from the Impossible Canyon Gate (also known as MOUT Site Gate). One of the T-posts of the fence punctured the gasoline tank of the vehicle and gasoline discharged onto the ground. Based on the specifications of the vehicle (make: Mazda; model "6") the capacity of the vehicle's gasoline tank was 16 gallons. Therefore, the quantity of spilled fuel is estimated to be 16 gallons or less. The vehicle was towed from the site on May 9, 2019.

Site Geology, Hydrology and Habitat Considerations:

The soil in the impact area is largely classified as the Aromas Sand which is a fine sand derived from wind-blown dune deposits (Diblee, T.W. & Minch, J.A., 2007). This is consistent with what was encountered during this voluntary removal. Depth to groundwater in the area is unknown. Vernal Pool 11 in Unit 32 in the MRA is approximately 100 feet south of the site of the accident and did not contain any water at the time of the accident. The pond is in an incised subdued depression that is part of a large drainage that runs toward the east-northeast. This is also the expected groundwater flow direction. The area of the crash site is on the road shoulder; therefore, the area is outside of the biological requirements under the Fort Ord Habitat Management Plan or the Programmatic Biological Opinion. The Wildlife Biologist, Bart

Kowalski, from Chenega Tri-Services, LLC evaluated the site and found no special status species present.

Immediate Response:

Upon notification of the accident on May 14, 2019, R. Curtis Payton, II, Munitions Response Project Manager (U.S. Army Corps of Engineers), and Betsy Hibbits the Munitions and Site Security Manger (Chenega Tri-Services, LLC) removed approximately 7 cubic feet of petroleum contaminated soil by excavating with hand tools a roughly 8.5-foot by 10-foot ellipse to a depth of 3 to 6 inches in an effort to remove the gross petroleum contaminated soil. During the hand excavation activities, Unexploded Ordinance (UXO) personnel cleared the excavation footprint by providing anomaly avoidance. No suspected MEC was identified. After filling one 55-gallon drum with waste soil, the base of the hand excavated depression still contained evidence of gasoline contaminated soil. The removed contaminated soil was sealed in the 55-gallon drum and delivered to Presidio of Monterey (POM) Hazardous Waste. The drum was disposed by POM Hazardous Waste on July 3, 2019.

Voluntary Removal Action:

The USACE contracted with CKG Environmental to remove the remainder of the petroleum contaminated soil. CKG Environmental subcontracted Vanquish Environmental & Engineering to excavate the remaining contaminated soil and restore the site to original condition before the incident. On September 16, 2019, Vanquish excavated approximately 14 cubic yards of soil to a depth of 3 feet in the original 8-foot by 10-foot elliptical footprint of the hand excavation performed on May 14, 2019. During excavation an Industrial Scientific 5 gas meter was used to evaluate organic vapors. Readings were taken from freshly excavated soil immediately upon removal from the excavation. The results of the gas meter were nominal and not indicative of gross residual contamination.

During the excavation activities, Unexploded Ordinance (UXO) personnel cleared each 1 foot increment in depth for anomaly identification. No suspected MEC was identified.

The contaminated soil was stored in a roll-off bin and kept onsite until confirmation soil sample analysis was performed.

Sample Collection:

Six soil samples were collected which included, a sample from the base of the final excavation, four samples from the excavation sidewalls and a four-point composite sample from the excavated soil in the roll-off bin (Figure 3). Soil samples were collected by using six Encore™ capsules at each sample location. The samples were sent to McCampbell Analytical, Inc. for analysis. The soils were sampled for TPH-GRO (EPA Method 8260B) and BETX (EPA Method 8015B). A laboratory blank and LCS/LCSD were also evaluated by the lab. Data validation was completed by the USACE chemist, Kyle Bayliff.

The analyzing laboratory, McCampbell Analytical, Inc., is accredited under California Environmental Laboratory Accreditation Program (ELAP). The data is acceptable for its limited intended use only; specifically, characterization of residual soil contamination (if any) resulting from a fuel spill from an unauthorized vehicle after a voluntary removal action was completed.

Results:

Table 1 lists the results of the soil samples. Three samples yielded contaminants of concern above the reporting limits for TPH-GRO (FTO 190916-S, FRO 190916-B and FTO 190916-C1,2,3,4) and total Xylenes (FTO 190916-S, FRO 190916-W and FTO 190916-C1,2,3,4). All samples were below California Environmental Screening Levels – Tier 1 (CA ESL - Tier 1).

For method 8260B, the method blank was non-detect for all analytes. TPH-GRO was detected in the method blank for method 8015B; however, the detected concentration was < ½ LOQ, so no data qualification was necessary.

Site Restoration:

The Subcontractor backfilled the excavation with soil taken from Fort Ord near Historic Area (HA) 29 to avoid the introduction of invasive species. The backfill soils were previously cleared for the presence of munitions and lead. All trailers were washed before field work began to further reduce the risk of introducing invasive species. The backfill operation was conducted in 12-inch lifts which was subjected to nominal compaction with the excavator bucket. The backfill was placed such that the backfill material was approximately 6-inches above the surrounding ground surface.

After laboratory analysis of the confirmation soil samples and composite sample from the drop bin, excavated material was cleared for disposal. The excavated soil material was disposed in the Operable Unit 2 (OU2) Landfill in Area E on October 8, 2019.

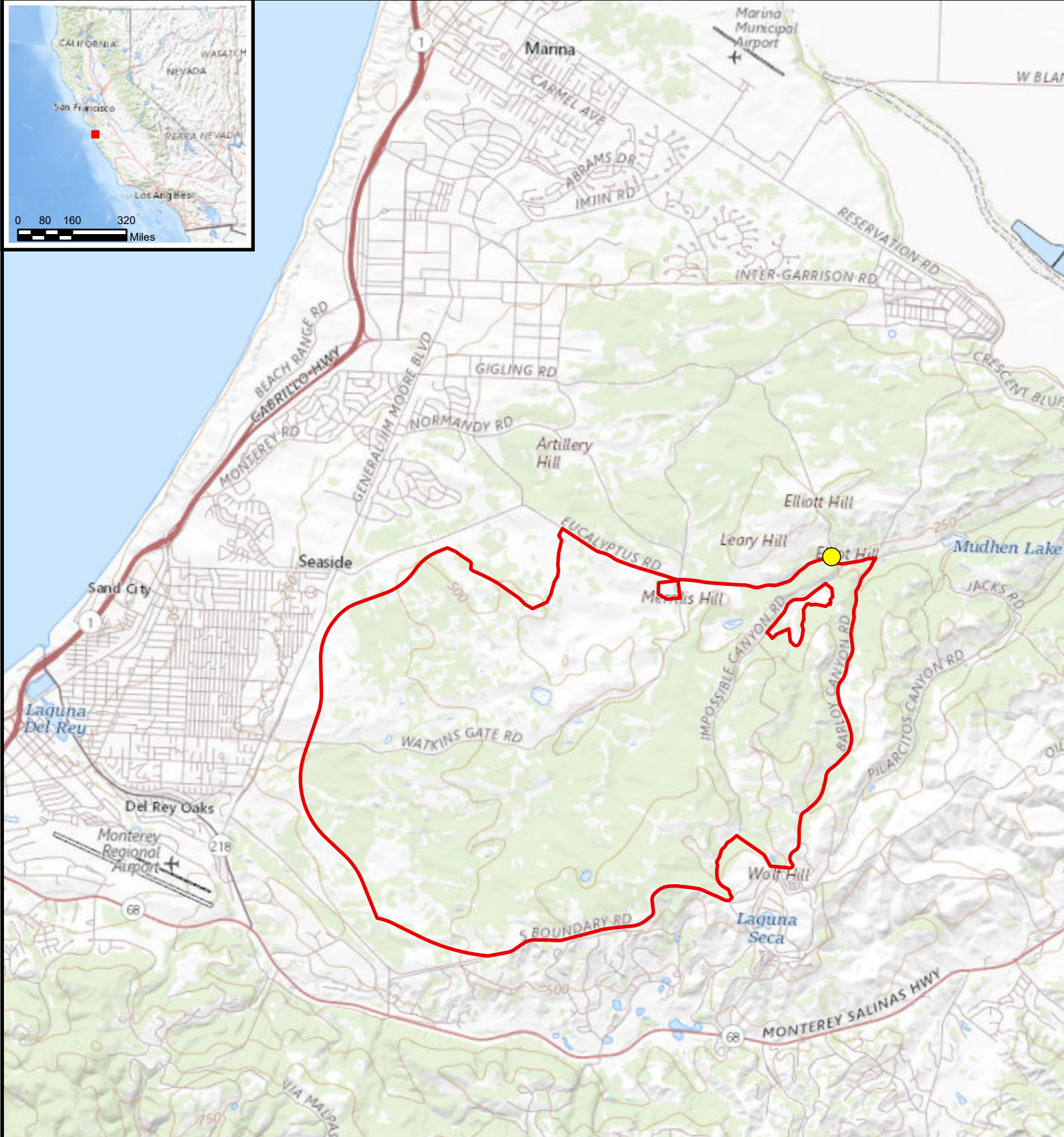
After both the excavation operation and the removal of the soil in the drop bin, the 4-strand barbed-wire fence was reconstructed by Bureau of Land Management (BLM).

Conclusions and Recommendations:

Based on the limited residual contamination remaining in the sidewall samples and the sample from the base of the excavation, the removal action has succeeded in eliminating the potential risk of petroleum hydrocarbons to human health and the environment. The USACE recommends no further action for this minor gasoline release.

References:

Dibblee, T.W., and Minch, J.A., 2007, Geologic map of the Spreckels quadrangle, Monterey County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-355, scale 1:24,000.



Legend

- Fort Ord Munitions Response Site (MRS) Impact Area Boundary
- Car Accident

Sources

Basemap: Esri
Data: BRAC

N

0 0.25 0.5 1
Mile

Overview Map - Impact Area

Former Fort Ord Seaside, California

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Fig. **1**



Legend

- ✕ ✕ ✕ Impact Area Fence
- Impossible Canyon North Gate aka MOUT Gate
- ▭ Vernal Pond 11 (Dry at time of accident)
- ▭ Excavation Pit (8x10 ft)
- Car Accident

Sources:
BRAC
Google

**Location Map
Gasoline Spill**

Former Ford Ord
Seaside, CA

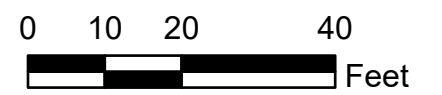
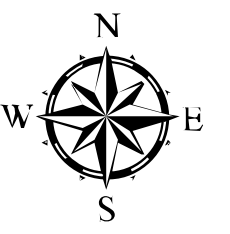


Figure 3
Schematic Diagram of Soil Samples
not to scale

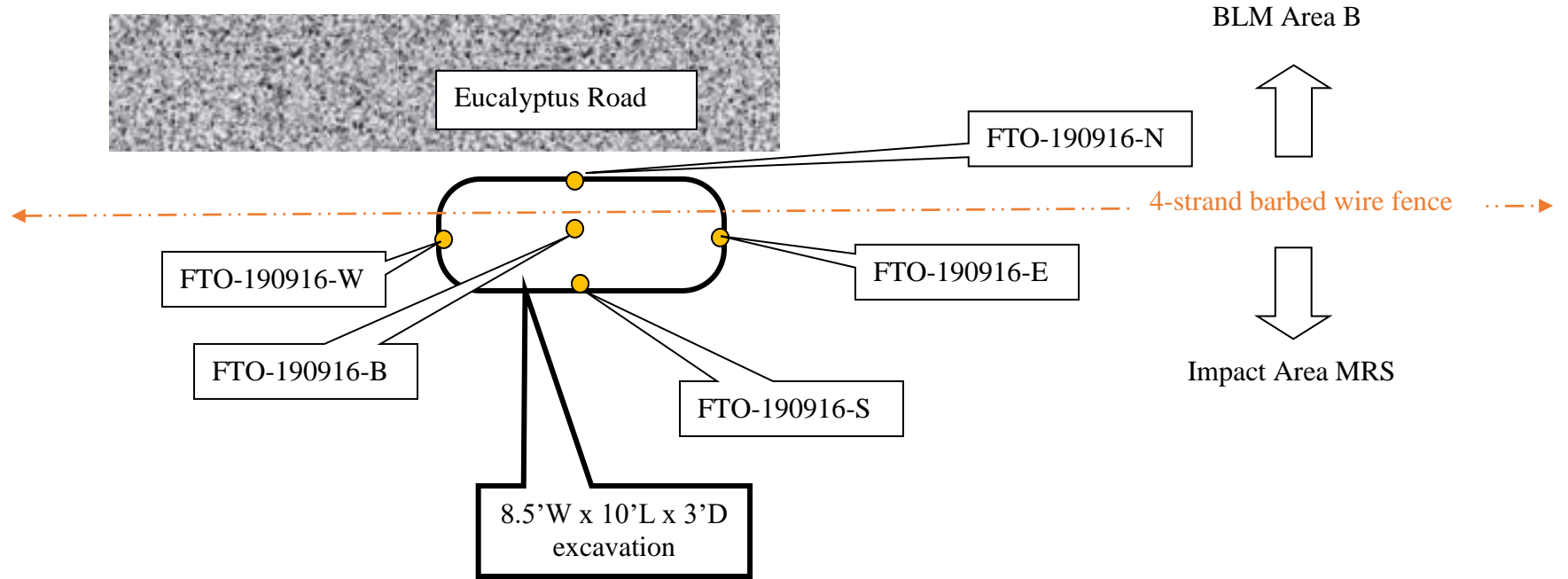


Table 1

**FORT ORD
Gasoline Spill Cleanup
Analytical Results Summary Table**

| | | SIDEWALLS | | | | | | | | BASE | | EXCVTD SOIL | |
|--|-------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|---------------------|-----------|
| Sample Designation ⇨ | | FTO 190916-N | | FTO 190916-E | | FTO 190916-S | | FTO 190916-W | | FTO 190916-B | | FTO 190916-C1,2,3,4 | |
| Date of Collection ⇨ | | 16 SEP 2019 | | 16 SEP 2019 | | 16 SEP 2019 | | 16 SEP 2019 | | 16 SEP 2019 | | 16 SEP 2019 | |
| Date of Analysis ⇨ | | 22-24 SEP 2019 | | 22-24 SEP 2019 | | 22-24 SEP 2019 | | 22-24 SEP 2019 | | 22-24 SEP 2019 | | 22-24 SEP 2019 | |
| ↓ CA ESL - Tier 1 | | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier |
| Volatile Hydrocarbons 8021/8015 | | | | | | | | | | | | | |
| TPH-GRO | 100 | <i>1.1</i> | | <i>1.2</i> | | 1.2 | B | <i>2.0</i> | | 2.5 | B | 6.8 | B |
| VOCs 8260 | | | | | | | | | | | | | |
| Benzene | 0.025 | <i>0.0095</i> | | <i>0.013</i> | | <i>0.0096</i> | | <i>0.013</i> | | <i>0.0099</i> | | <i>0.005</i> | |
| Ethylbenzene | 0.43 | <i>0.0095</i> | | <i>0.013</i> | | <i>0.0096</i> | | <i>0.013</i> | | <i>0.0099</i> | | <i>0.005</i> | |
| Toluene | 3.2 | <i>0.0095</i> | | <i>0.013</i> | | <i>0.0096</i> | | <i>0.013</i> | | <i>0.0099</i> | | <i>0.005</i> | |
| total Xylenes | 2.1 | <i>0.0095</i> | | <i>0.013</i> | | 0.056 | | 0.016 | | <i>0.0099</i> | | 0.032 | |

NOTES:

0.0095 faded italic text indicates no detection above the reporting limit indicated

0.016 bold larger text indicates detection above the reporting limit

B "B" qualifier indicates detection of the analytes in the method blank as well as the sample

CA ESL - Tier 1 California Regional Water Quality Control Board Tier 1 Environmental Screening Level (for Soil) - Based on a generic conceptual site model