Department of the Navy Announces the Proposed Plan for Cleanup of Site 21 at Marine Corps Base Camp Pendleton

Draft—January 2015

Navy Proposes Environmental Action

The Department of the Navy (DON) (including both the Navy and Marine Corps) invites the public to comment on the Proposed Plan for the cleanup of contaminated groundwater at Marine Corps Base (MCB) Camp Pendleton Site 21 (Figure 1).

The proposed cleanup is part of the DON's Installation Restoration (IR) program. The purpose of the IR program is to identify, investigate, and clean up hazardous substances from former activities at military installations.

This Proposed Plan summarizes the cleanup alternatives evaluated for Site 21 and identifies the DON's preferred alternative. The plan also summarizes information that can be found in greater detail in the 2014 Feasibility Study and other documents contained in the Administrative Record for MCB Camp Pendleton. The DON, the United States Environmental Protection Agency – Region 9 (EPA), and the State of California, represented by the Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB), are sponsoring this Proposed Plan. This Proposed Plan will be available for a public comment period and a public meeting. These stakeholders encourage the public to review this document to better understand this site and other IR program activities that have been conducted at MCB Camp Pendleton.

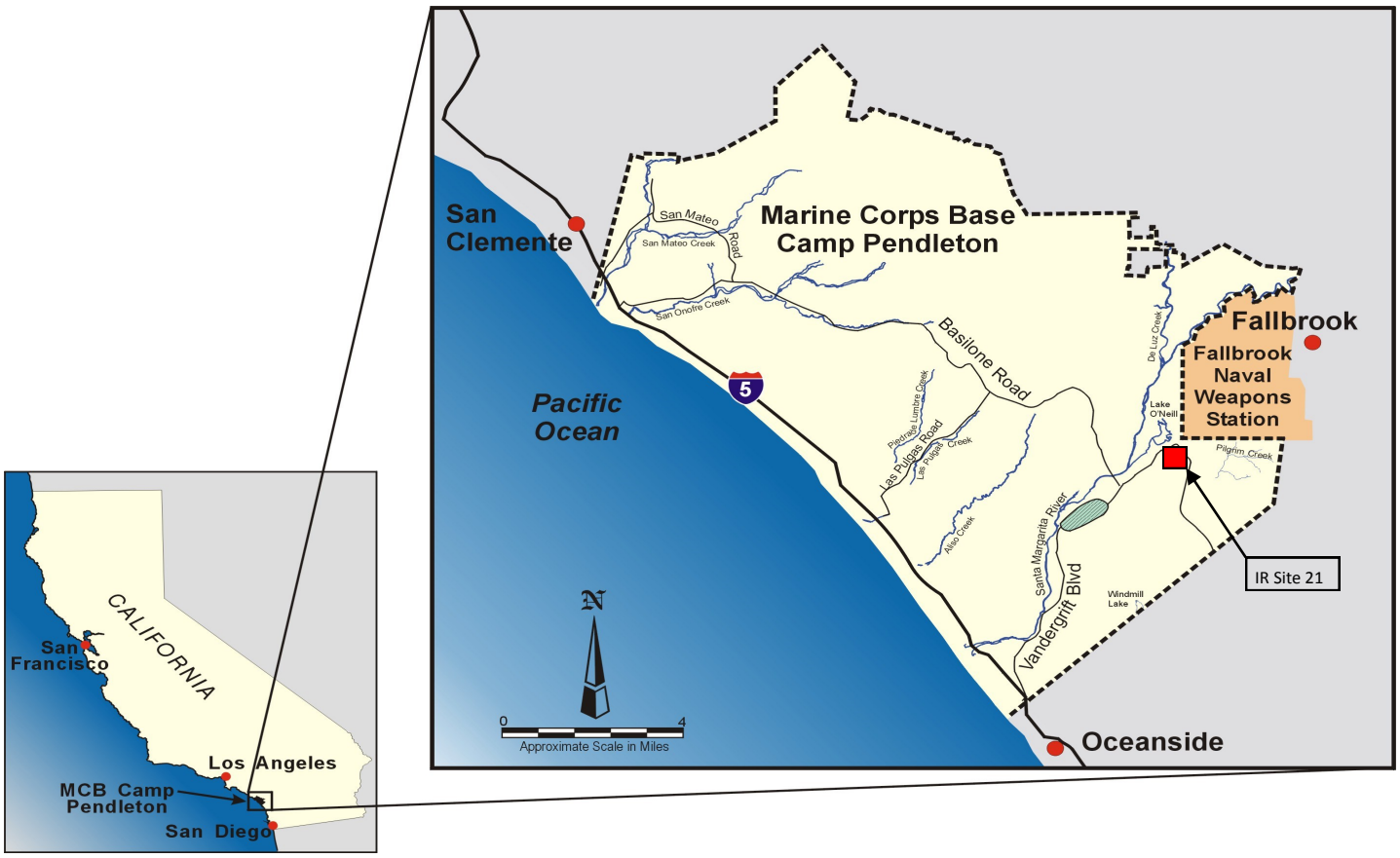

Figure 1: General Location of IR Site 21

FACILITY BACKGROUND

MCB Camp Pendleton (herein referred to as "the Base") is located in northern San Diego County, California and has been operational since 1942. The Base is bordered on the west by the Pacific Ocean and occupies approximately 125,000 acres of land, including 17 miles of relatively undisturbed coastline along the Pacific Ocean (Figure 1). Nearly 65,000 personnel train at Camp Pendleton every year, with over 42,000 service members assigned to the Base. Rolling hills and valleys range inland an average of 10 to 12 miles. Much of the land is open and undeveloped and directly supports the training mission of the Base. Land use consists of airfield operations, maneuver and impact areas, troop and family housing, recreation areas, and out-leased areas used by various entities. There are over 450 species of wildlife, including birds, fish, reptiles, and mammals. Base Environmental provides management for 12 federally endangered and four federally threatened species.

SITE LOCATION

IR Site 21 is located in the eastern portion of the Base, northeast of the intersection of Vandegrift Boulevard and De Luz Road. The site is bordered on the north by a pond that was formerly the oxidation pond for the effluent discharge from a Sewage Treatment Plant (STP) (Figure 2). The area occupied by Site 21 is unused much of the time, but it is occasionally used to stage materials, equipment, and vehicles for construction projects in the vicinity. Site 21 is located within an area classified as a potential source of drinking water according to the RWQCB, but the nearest production well is over two miles away from the site.

SITE HISTORY

The pond located to the north of the Site was created in the 1940s for the STP by placing a concrete dam in a natural canyon. According to records, STP wastewater discharged to the pond for oxidation. Effluent from the pond flowed through a short concrete channel on the northwest side into the canyon. From this point the canyon runs approximately 4,200 feet to Lake O'Neill. However, when the STP was discharging to the pond, effluent from the pond was diverted into a pipeline before it reached Lake O'Neill. From there it discharged to the Santa Margarita River Basin. Today, the pond still retains surface water runoff from the surrounding slopes and hillsides.

To the south of the Site a former fuel dock facility was constructed in the early 1940s. It included three concrete diesel-fuel underground storage tanks (USTs) and a storage area for solvents and various cleaning compounds. This fuel dock facility was in operation until it was removed in 1993.

The Site consists of groundwater that contains chemicals of concern (COCs) exceeding state or federal maximum contaminant levels (MCLs). There are two distinct contaminated groundwater plumes (a shallow zone plume and a deep zone plume) located under a vacant parcel. Chemicals of concern at the site are primarily fuel-related compounds in the shallow zone and chlorinated solvents in the deeper zone. Approximate areas of contamination identified in previous investigations are shown in Figure 2. Future land use for the site will likely remain industrial/commercial, due to the site's proximity to the former oxidation pond.

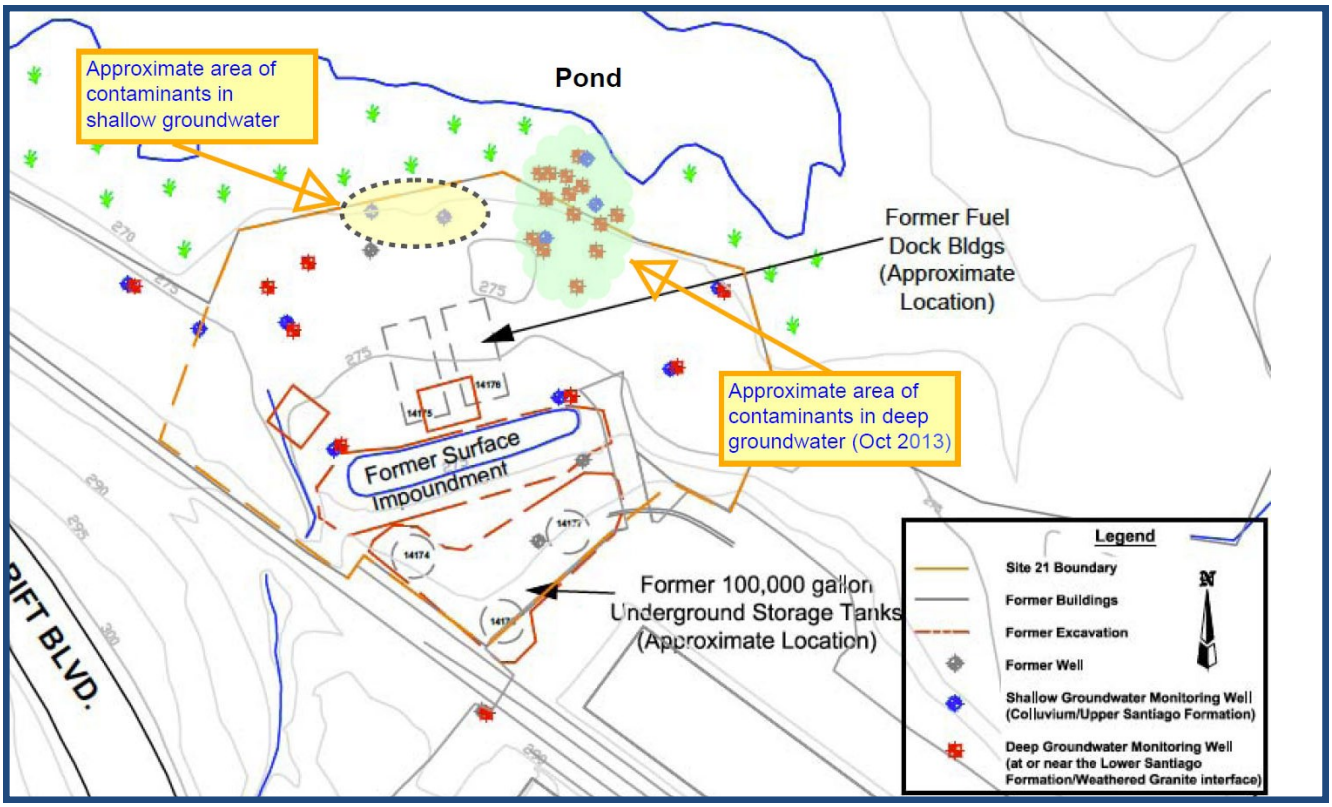

Figure 2: Approximate Areas of Contamination

THE CERCLA CLEANUP PROCESS

The environmental investigations and cleanup at the Base follow the steps shown in Figure 3. These investigations are carried out in accordance with various environmental laws and regulations, including CERCLA (*Comprehensive Environmental Response, Compensation, and Liability Act*), SARA (*Superfund Amendments and Reauthorization Act*), the NCP (*National Contingency Plan*), and Executive Order 12580, which delegates the implementation of CERCLA to the DON. Steps 1 through 3 have been completed for Site 21.

During step 2, the *Remedial Investigation*, an environmental study and risk assessment were conducted to identify the type and extent of contamination at the site, and to determine the potential risk that hazardous chemicals at the site pose to human health and the environment. During step 3, the *Feasibility Study*, the results of the risk assessment were evaluated, and alternative methods for site cleanup were analyzed. The reports completed during the previous steps are available for review in the Administrative Record, at the Base, and at the Oceanside Public Library (see page 11). This Proposed Plan is step 4 and is based on previous field investigations and reports completed in the first three steps. This Proposed Plan presents site information to the public, identifies the preferred alternative, and invites public comments.

After step 4, the DON will review public comments and make a final decision regarding the cleanup alternatives. The DON will summarize and respond to public comments in a Responsiveness Summary.

For step 5 the DON will then write the *Record of Decision*. Any cleanup action decided upon is completed in step 6. Once the site achieves the remediation objectives described in the iROD, a closure report is written and approved by the regulatory agencies to document that the cleanup process is complete.

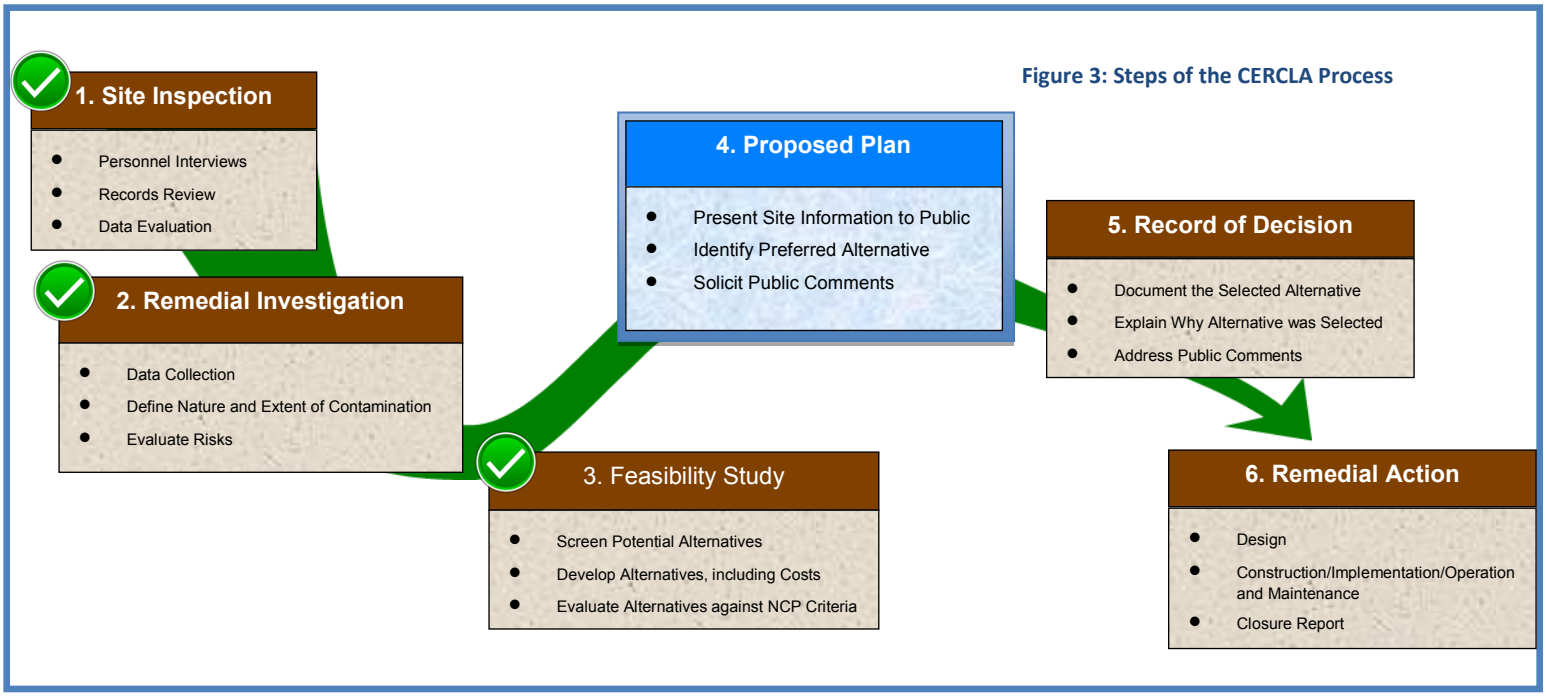

Figure 3: Steps of the CERCLA Process

Environmental Investigation Overview

Site 21 was initially designated as a site in the Installation Restoration (IR) program in 1991. The IR program manages the Navy's contaminated sites that are subject to CERCLA laws.

In 1993 and 1994, all buildings and facilities at the site (including the three USTs) were removed. In addition, a number of soil borings and monitoring wells were constructed and sampled to assess the extent of diesel-impacted soil and groundwater. Results from the investigation identified diesel-impacted soil as deep as 15 feet below ground surface (bgs) in the vicinity of the former USTs. Consequently, 29,500 cubic yards of diesel-impacted soil was excavated and removed from the site.

In 1995 and 1996, an additional 4,990 cubic yards of diesel-impacted soil was removed from eight "hot spots."

Confirmation samples collected from the excavations indicated that residual diesel contamination remained in the soil. Four additional groundwater-monitoring wells were installed and sampled to further assess the contamination. Groundwater samples indicated concentrations of benzene, trichloroethylene (TCE), cis-1,2-dichloroethene (DCE), trans-1,2-DCE, vinyl chloride, and 1,2-dichloroethane (DCA) at levels above their respective drinking water standards called *maximum contaminant levels* (MCLs).

In 1998, during a Phase II Remedial Investigation (RI), 10 new monitoring wells were installed and aquifer tests were conducted. The nature and extent of the contamination at the Site was detailed in a Remedial Investigation (RI) (step 2) report in 2004, which included a human health risk assessment.

SUMMARY OF SITE RISKS

The results of the risk assessment identified volatile organic compounds (VOCs) as the COC at the site. The VOCs detected at the site included chlorinated solvents and fuel-related compounds. Chlorinated solvents such as TCE are primarily found in the site's deep groundwater zone. Fuel-related compounds such as benzene are primarily found in the site's shallow groundwater zone.

It is unlikely that the groundwater at the site would be used as a municipal or domestic water supply since the site is located next to a former sewage treatment plant. However since the potential exists, the risk assessment evaluated consumers of the groundwater as a potential human receptor.

The Risk Assessment identified exposure to groundwater contamination as a potential threat to human health if the site groundwater is considered to be a source of drinking water. The Risk Assessment also identified exposure through inhalation of VOCs by way of vapor intrusion into a future building at the site as another potential threat to human health. However, exposure to soil at the site was not considered to be a significant risk as VOC concentrations in soil were below acceptable limits. The Risk Assessment also concluded that there are no chemicals present in site sediments or surface water at concentrations that pose a hazard to ecological receptors.

REMEDIAL ACTION OBJECTIVES

In the Feasibility Study (step 3) conducted in 2014, potential cleanup alternatives were developed and evaluated. The first step in that process involved developing Remedial Action Objectives (RAOs) designed to protect human health and the environment. The following RAOs were developed for Site 21 to address the protection of human health and the environment:

- Prevent inhalation, dermal contact, and ingestion of contaminated groundwater containing COCs at concentrations in excess of cleanup levels.
- Preserve and protect the watershed of the lower Santa Margarita River.

The RAOs provide the basis for developing the site specific Remediation Goals (RGs) for each COC based on the land use, receptors, and contaminant levels of the subject site. Using regulatory guidance, each RG was defined as a chemical concentration that is protective of human health and the environment. Drinking water standards used as RGs include the more stringent of the federal and state MCLs that satisfied the RAOs. The regulatory agencies overseeing this project agreed to the RGs. The concentrations of the COCs present at Site 21 exceed the established RGs.

CHOOSING A PREFERRED ALTERNATIVE

Following the risk assessment and establishment of cleanup goals for the site, the lead agency (in this case, the DON) develops and analyzes a number of alternative methods to achieve site cleanup, and then chooses a preferred alternative that is considered the best all-around cleanup choice. Since Site 21 has two distinct groundwater plumes (a shallow zone and a deep zone), site cleanup alternatives were evaluated and compared for each plume. The cleanup choice is based on standards that are spelled out in the NCP. The NCP requires that each alternative be evaluated against each of several criteria, which are divided into two threshold criteria, five balancing criteria, and two modifying criteria as shown in Figure 4. The alternative that is selected must, at minimum, meet the two threshold criteria. The five balancing

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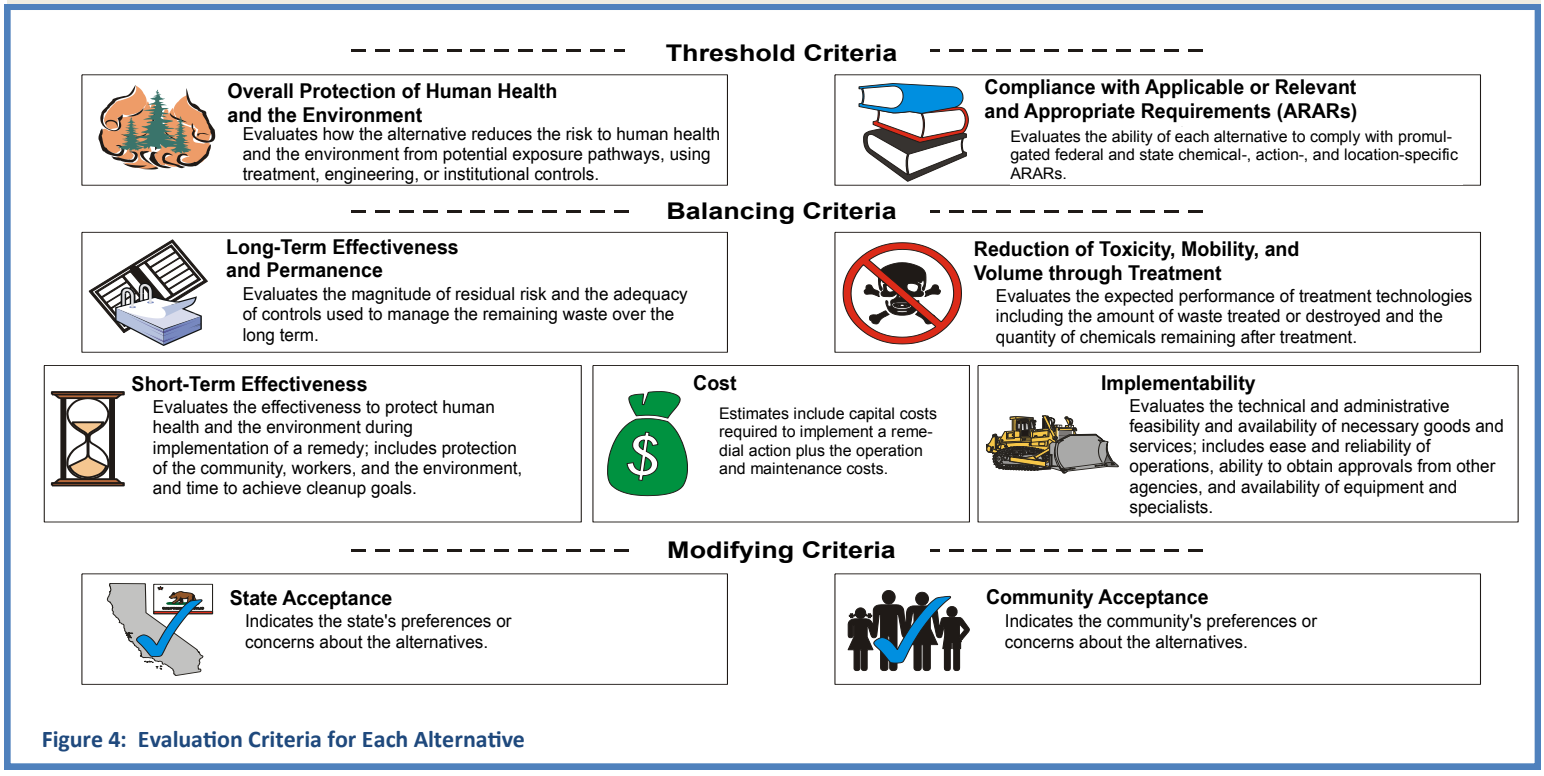

Figure 4: Evaluation Criteria for Each Alternative

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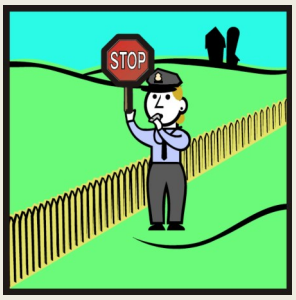
criteria are used to balance the alternatives against each other based on how possible and cost-effective the permanent solutions and treatment can be. State and community acceptance are factored into a final determination of the preferred alternative. Community concerns will be addressed following the 30-day public comment period on the Proposed Plan.

EVALUATION OF ALTERNATIVES

After a thorough consideration of various technologies to reduce or eliminate the potential risks posed by exposure to COCs in the groundwater at Site 21, the DON selected six cleanup alternatives to evaluate. The DON used the nine NCP evaluation criteria (Figure 4) to compare the alternatives (Table 1). CERCLA requires that remedial actions meet federal (or State, if more stringent) environmental standards, requirements, and criteria that are identified as ARARs. All of the alternatives except Alternative 1 satisfy the two threshold criteria: overall protection of human health and the environment and compliance with ARARs. The following discussion presents the evaluation of the balancing criteria for each alternative.

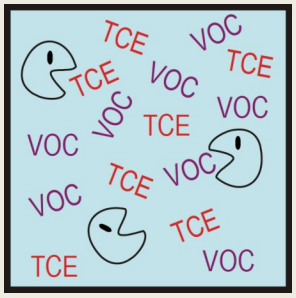
Alternative 1: CERCLA requires that "No Action" be evaluated as an alternative as a point of comparison. Under this option, nothing is done to clean up the groundwater contamination, prevent land use, or limit contaminant movement. Natural attenuation processes would continue to degrade chemicals; however, there would be no groundwater monitoring data collected to document that natural attenuation is occurring or that the plume is not migrating. This alternative does not protect human health or provide long-term effectiveness and permanence. It does not comply with ARARs because chemicals remain in groundwater and would take an unacceptable amount of time to reach levels that are considered safe. Therefore, this alternative does not satisfy the two threshold criteria.



Alternative 2: Land Use Controls and Long-Term Monitoring prevents exposure to hazardous substances left in place at a site by restricting site access. This alternative includes implementing land use controls that would ensure the groundwater exceeding RGs would not be used in the future and initiation of a long-term groundwater monitoring program. Land use controls, such as Base permit limitations, planning restrictions, and security fencing for this site would be implemented by the Base as part of the site approval process, which is required for all projects involving construction, acquisition, or modification. This process would ensure that any plans for new wells or buildings at the Base take into account the Site 21 plume.

Alternative 2 is rated moderate to high for each of the five balancing criteria except for *reducing toxicity*, *mobility*, or volume *by treatment* since there is no treatment included. *Long-term effectiveness and permanence* is rated moderate because this alternative relies on natural subsurface physical and biological processes to reduce VOC concentrations over an extended period of time. *Reduction of toxicity* is rated low because it does not include active treatment of the contaminated groundwater. *Short-term effectiveness* considers risks to site workers during implementation of the alternative. Any risks associated with groundwater monitoring in Alternative 2 would be addressed through implementation of protective safety measures documented in a site-specific health and safety plan. *Short-term effectiveness* also considers green & sustainable practices when implementing an alternative. Each alternative was evaluated to calculate the environmental footprint of remedial alternatives.

This alternative has a relatively greater environmental impact compared to other alternatives if implemented alone because it is assumed to be implemented for 30 years. The overall short-term effectiveness for Alternative 2 is rated high. Alternative 2 involves common, proven, and reliable methods and practices; therefore, it is rated high for implementability. The cost is approximately $2,444,000 to implement this alternative for a period of 30 years, the highest cost of any of the alternatives.



Alternative 3: Shallow Zone Plume Treatment via In Situ (in place) Bio-venting/Bio-sparging involves injection of air into the shallow groundwater zone to increase the biological activity of naturally occurring microorganisms and promote the aerobic biological degradation of petroleum constituents including benzene. These microorganisms consume the contaminated material as a food source, effectively reducing the overall concentration. Alternative 3 would be protective of human health and the environment and would comply with ARARs because land use controls would be used to prevent access to contaminated groundwater until RGs are met. However, only the shallow portion of the aquifer would be actively addressed; therefore, this alternative would have to be selected in conjunction with another alternative that addresses the deeper aquifer in order to fully address the contaminated groundwater in a reasonable timeframe.

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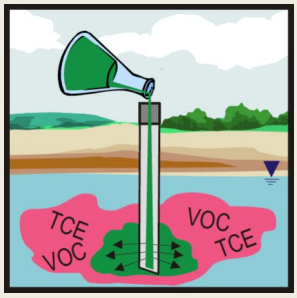
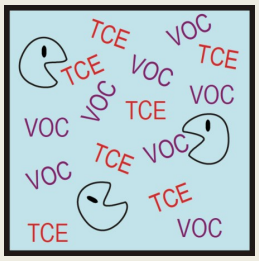
This alternative is rated moderate to high for *long-term effectiveness and permanence* since the injections will continue until the RGs are reached in shallow groundwater. Alternative 3 is rated moderate to high for *reduction of toxicity, mobility, or volume* because the in situ technologies would steadily reduce the chemical mass and the volume of contaminated shallow groundwater requiring remediation as treatment proceeds. Similarly, the toxicity of the chemicals in shallow groundwater would be reduced as their concentrations are reduced over time. *Short-term effectiveness* is rated high since protection of site workers during active remediation would be addressed through implementation of protective safety measures documented in a site-specific health and safety plan. Also, Alternative 3 was rated high for sustainable practices as it did not require as much field activity as Alternatives 4 through 6.

In situ biosparging uses widely available equipment and labor, and all constituent activities of system installation involve common, proven, and reliable methods and practices. However, installation would have some logistical issues, such as providing electrical power to the blower. Therefore, *implementability* is ranked moderate for Alternative 3. For cost estimating purposes, it is assumed that performance monitoring would be conducted during active remediation for 5 years. The total cost for Alternative 3 would be approximately $990,000, which is the lowest cost of all of the treatment alternatives.



Alternative 4: Shallow Zone Plume Treatment via In Situ Chemical Oxidation destroys fuel-related COCs in the shallow groundwater zone by injecting a reagent that reacts with the hazardous chemicals to produce less toxic compounds. Chemical oxidation reagents are proven for treating the COCs present at Site 21. Alternative 4 would be protective of human health and the environment and would comply with ARARs because land use controls would be used to prevent access to contaminated groundwater until RGs are met. However, only the shallow portion of the aquifer would be actively addressed. Similar to Alternative 3, this alternative would have to be selected in conjunction with another alternative that addresses the deeper aquifer in order to fully address the contaminated groundwater in a reasonable timeframe.

Alternative 4 was rated moderate for *long-term effectiveness and permanence* since destruction of COCs requires contact with the reagent and the reagent is only effective for a short time. Although effective for only a short time, the reagent is effective in *reduction of toxicity* since the COCs are chemically destroyed; therefore, Alternative 4 was rated moderate to high for this criterion. *Short-term effectiveness* for Alternative 4 is rated moderate to high because even though safety risks are mitigated through implementation of a health and safety plan, the technology requires a significant amount of resources making a significant impact on the environment. Alternative 4 would use widely available equipment and labor, and all constituent activities of system installation involve common, proven, and reliable methods and practices. However, installation in the plume area has logistical issues with wet ground adjacent to the pond. Therefore, Alternative 4 is rated as moderate for *implementability*. For cost estimating purposes, it is assumed that performance monitoring would be conducted during active remediation for 5 years. The total cost for Alternative 4 would be approximately $1,374,000. The estimated cost for Alternative 4 is almost 40% higher than Alternative 3, the other alternative for treatment of the shallow zone plume.



Alternative 5: Deep Zone Plume Treatment via In Situ Enhanced Bioremediation involves the installation and operation of an in situ enhanced bioremediation system that injects a mixture of nutrients and other compounds into the deep groundwater zone. The mixture enhances the environment for microorganisms already in the groundwater that can breakdown the COCs. Alternative 5 would be protective of human health and the environment and would comply with ARARs because land use controls would be used to prevent access to contaminated groundwater until RGs are met. However, only the deeper portion of the aquifer would be actively addressed. Therefore, this alternative would have to be selected in conjunction with an alternative that addresses the shallow aquifer (e.g., Alternative 3 or 4) in order to fully address the contaminated groundwater in a reasonable timeframe.

Alternative 5 was rated high for *long-term effectiveness and permanence* since two pilot studies at the site have confirmed that in situ enhanced bioremediation is effective at reducing VOC concentration in the deep zone plume. Although slower than chemical oxidation, *reduction of toxicity* for Alternative 5 was rated moderate to high due to the effectiveness and persistence of the anaerobic conditions. For *short-term effectiveness*, Alternative 5 is more favorable for water consumption than chemical oxidation (Alternatives 4 and 6), but is less favorable for greenhouse gas emissions and energy use. Therefore, *short-term effectiveness* is rated moderate to high for Alternative 5.

Alternative 5 was rated moderate to high for *implementability*, since four of the injection wells needed for the treatment were installed for the pilot study. For cost estimating purposes, it is

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assumed that performance monitoring would be conducted during active remediation for 10 years. The total cost for Alternative 5 would be approximately $1,484,000, which is the lower cost of the two treatment alternatives for the deep zone plume.

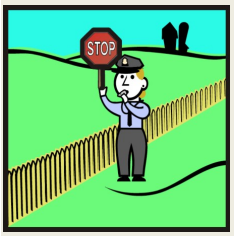
Alternative 6: Deep Zone Plume Treatment via In Situ Chemical Oxidation destroys chlorinated solvent COCs in the deep groundwater zone by injecting a reagent using the same process as Alternative 4. Alternative 6 would be protective of human health and the environment and would comply with ARARs because land use controls would be used to prevent access to contaminated groundwater until RGs are met. However, only the deeper portion of the aquifer would be actively addressed. Similar to Alternative 5, this alternative would have to be selected in conjunction with an alternative that addresses the shallow aquifer (e.g., Alternative 3 or 4) in order to fully address the contaminated groundwater in a reasonable timeframe.

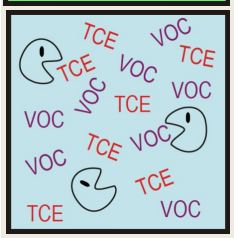
The evaluation of the balancing criteria for Alternative 6 was the same as for Alternative 4 with ratings of moderate to high. For cost estimating purposes, it is assumed that performance monitoring would be conducted during active remediation for 5 years. The total cost for Alternative 6 would be approximately $1,833,000, which is the highest of any of the active alternatives proposed (3, 4, 5, and 6).

Table 1: Summary of Comparative Analysis for Site 21

Criteria	Alternative					
	1 No Action	2 Land Use Controls and Long-Term Monitoring	3 Shallow Zone Plume Treat-ment via In Situ Bio-venting / Bio-sparging	4 Shallow Zone Plume Treatment via In Situ Chemi-cal Oxidation	5 Deep Zone Plume Treatment via In Situ Enhanced Bioremediation	6 Deep Zone Plume Treatment via In Situ Chemical Oxidation
Threshold Criteria						
Overall Protection of Human Health and the Environment	No	Yes	Yes	Yes	Yes	Yes
Compliance with ARARs	No	Yes	Yes	Yes	Yes	Yes
Balancing Criteria						
Long-Term Effectiveness and Permanence	○	◑	◑ to ●	◑	●	◑
Reduction of Toxicity, Mobility, or Volume by Treatment	○	○	◑ to ●	◑ to ●	◑ to ●	◑ to ●
Short-Term Effectiveness	Not Applicable	●	●	◑ to ●	◑ to ●	◑ to ●
Implementability	Not Applicable	●	◑	◑	◑ to ●	◑
Cost	$0	$22,444,000	$990,000	$1,374,000	$1,484,000	$1,833,000
Modifying Criteria						
State Acceptance	NR	NR	NR	NR	NR	NR
Community Acceptance	NR	NR	NR	NR	NR	NR

○ Low ◑ Moderate ● High NR = Not Rated





PREFERRED ALTERNATIVE

As discussed above, Alternatives 3 and 4 target shallow zone groundwater contamination whereas Alternatives 5 and 6 target the deeper groundwater zone. Therefore, in order to fully address both the shallow and deep contaminated groundwater, the DON recommends combining Alternatives 2, 3, and 5 (Land Use Controls and Long Term Monitoring, Shallow Zone Treatment via In Situ Biosparging, and Deep Zone Plume Treatment via In Situ Enhanced Bioremediation). The combination of remedial alternatives would attain the RGs over time through injection of air to stimulate naturally present microorganisms to breakdown fuel-related constituents in the shallow plume, as well as by injection of nutrients to promote the biological activity of naturally occurring microorganisms to breakdown chlorinated solvents in the deep plume. Combining these alternatives provides the best protection of both human health and the environment by restricting the land use until the treatment methods chosen for the shallow and deep

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groundwater zones have reduced the potential risk to acceptable levels. Groundwater monitoring would provide the data necessary to track the ongoing results of the treatment. The total cost for the recommended alternative would be approximately $4,932,000 .

Overall Protection of Human Health and the Environment

The recommended combination of alternatives would be protective of human health and the environment because of the continued restrictions on groundwater use under Alternative 2 and because it would minimize the time required to achieve RGs through the active cleanup and reduction of chemical mass in the shallow (Alternative 3) and deep (Alternative 5) groundwater zones.

Compliance with ARARs

As noted above, each of the examined alternatives, except Alternative 1, would comply with ARARs. Therefore, the combination of Alternatives 2, 3 and 5 would comply with ARARs as well. Specifically, the recommended combination of alternatives would comply with ARARs by attaining RGs in groundwater. The recommended alternatives would be implemented with known technologies that comply with ARARs for drilling below the subsurface, injecting nutrients and other compounds into the subsurface, and treating the air effluent from the treatment system.

Long-Term Effectiveness and Permanence

The recommended combination of Alternatives 2, 3, and 5 would provide long-term effectiveness and permanence through enforcement of land use controls, groundwater monitoring, and treatment of COCs in both the shallow and deep groundwater zones. The total expected length of treatment would be 10 years if Alternatives 3 and 5 were conducted concurrently. These alternatives are proven, reliable treatment technologies that would result in permanent reduction of potential risk.

Reduction of Toxicity, Mobility, or Volume Through Treatment

The recommended combination of alternatives 2, 3, and 5 would reduce the toxicity, mobility, and volume of the contamination through application of the treatments included in Alternatives 3 and 5. The treatments would reduce the chemical mass by destroying COCs through biological breakdown processes in Alternatives 3 and 5. By reducing the chemical mass, Alternatives 3 and 5 would also reduce the volume of contaminated groundwater.

Short-Term Effectiveness

The recommended combination of Alternatives 2, 3, and 5 would have a high degree of short-term effectiveness because there would be minimal risk to site workers during implementation because a site-specific health and safety plan would be implemented to protect workers at the site during monitoring and remediation activities. In addition, emissions of greenhouse gases and energy use during implementation would be minimized through shortening the overall time required to achieve MCLs. Also, land use restrictions would prevent possible exposure to contaminated groundwater.

Implementability

All three of the alternatives were rated as moderate to high for implementability. Enforcement of land use restrictions is already a part of operations at the Base. Groundwater monitoring has been in progress at the site for several years. Biosparging is readily implementable, but it does require electricity. The two pilot studies (2007 and 2012) showed that in situ bioremediation can be readily implemented, and several injection wells have already been installed that can be used for full-scale treatment.

Cost

Three types of alternatives are needed to address the site: one for short-term protection and one each for treatment of the shallow and deep groundwater zones. Four combinations were possible: 2-3-5, 2-4-5, 2-4-6, and 2-3-6. The recommended combination of Alternatives 2, 3, and 5 is the least expensive of the available combinations. The combined total cost would be approximately $5 million dollars. However, there could be a cost savings by combining the three alternatives since monitoring costs can be reduced through concurrent treatment events in the field. The next lowest cost combination consists of Alternatives 2-3-6, which was estimated to cost approximately $350,000 more.

State Acceptance

The US EPA and the State of California concur with the preferred combination of Alternatives 2-3-5. Copies of the regulatory comments can be viewed at the information repositories listed on page 11.

Community Acceptance

The public is encouraged to participate and provide comments. Details on the public comment period and the public meeting are provided on page 9.

Public input is important in the decision-making process. Nearby residents and interested parties are encouraged to use the comment period to ask questions about the preferred remedial alternative for Site 21. The DON will summarize and respond to public comments in a Responsiveness Summary, which will become part of the official Record of Decision.

The Proposed Plan fulfills public participation requirements of CERCLA Section 117(a), which specifies that the lead Agency (DON) must publish a plan outlining remedial alternative evaluation for each site and identify the preferred alternative. The remedial alternatives were presented in detail in the Site 21 Feasibility Study (FS). The FS and other documents referenced in

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the Proposed Plan are available for public review in the administrative Record at the Information Repositories.

CONCLUSION

It is the DON's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health from actual or threatened releases of hazardous substances in the environment.

Based on information currently available, the DON believes the Preferred Alternative meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. The DON expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA 121(b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective; 4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfy the preference for treatment as a principal element.

COMMENT PERIOD AND PUBLIC MEETING

The public comment period for this Proposed Plan offers the community opportunity to provide input to the process for controlling contamination and risks at Camp Pendleton. The public comment period will begin on January 27 and end on February 27, and a public meeting will be held on February 10 at MCB Camp Pendleton in the Compass Room of the Pacific Views South Mesa Club (Building 202850).

To attend the public meeting, take Exit 54c from I-5 and enter the main gate, then turn right on Wire Mountain Road. Drive up the hill to the first stop sign, and make a left turn onto San Jacinto Road. The Club is located at the end of the street on the left side.

All interested parties are encouraged to attend the meeting to learn more about the alternatives developed for the site. The meeting will provide an additional opportunity for the public to submit comments on the Proposed Plan to the DON.

RECORD OF DECISION

Following the public comment period, the EPA, the State of California, and the DON will sign a Record of Decision. It will detail the approach chosen for the site and include the DON's responses to comments received during the public comment period.

GLOSSARY

Administrative Record – All documents that have a legal bearing and were used to make decisions on cleanup actions.

ARAR (Applicable or Relevant and Appropriate Requirement) – This is a federal or state law that must be considered in choosing a remedial action. Remedial actions must be designed, constructed, and operated to comply with all ARARs.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) – This federal law outlines a series of steps to address the cleanup of hazardous waste disposal and spill sites. CERCLA requires the cleanup, or remediation, of hazardous waste sites created by historical disposal practices. Congress gave the USEPA responsibility for overseeing compliance with this law.

Feasibility Study (FS) – A cost and engineering study that evaluates possible cleanup options that are available and evaluates their ability to clean up contamination at a site.

Human Health Risk – A qualitative or quantitative estimate of the potential impact on the human population exposed to chemicals detected in the environment.

Installation Restoration (IR) – The IR program provides guidance and funding for the investigation and remediation of hazardous waste sites caused by disposal activities at military installations.

Land Use Controls – These are measures designed to prevent or limit exposure to hazardous substances left in place at a site, or to assure the effectiveness of a chosen remedy. Land Use Controls can be physical barriers such as fences or signs or legally binding requirements to prevent groundwater use at a site.

Maximum Contaminant Levels (MCLs) – These standards are set by the USEPA for drinking water quality. An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act. The limit is usually expressed in milligrams or micrograms per liter of water.

National Contingency Plan (NCP) – The NCP establishes the regulatory requirements for CERCLA decision documents, such as this Proposed Plan.

Pilot Study – A small-scale experiment conducted in the field to obtain data necessary to predict how full-scale implementation would work.

Remedial Action Objective (RAO) – Describes what the site cleanup is expected to accomplish.

Remediation Goal (RG) – The acceptable level of a chemical to protect human health and ecological receptors based on regulatory guidance at a specific site. These goals are developed based on scientific studies and are agreed to by the agencies.

Remedial Investigation (RI) – An environmental study that identifies the nature and extent of contamination at a site.

Response Levels (RLs) – These are levels set by the State for chemicals in drinking water that lack MCLs. If the level is greater than those set by the State, then the drinking water source is removed from service.

Record of Decision (ROD) – A public document that explains which cleanup alternatives will be used. The ROD is based on information and technical analysis generated during the remedial investigation/feasibility study and consideration of public comments and community concerns.

SARA (Superfund Amendments and Reauthorization Act) – The Superfund Amendments and Reauthorization Act of 1986 reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, definitions clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. Title III of SARA also authorized the Emergency Planning and Community Right-to-Know Act.

Volatile Organic Compounds (VOCs) - refers to organic chemical compounds that have high vapor pressures and easily form vapors at normal temperatures and pressure. The term is generally applied to organic solvents, paint additives, aerosol spray can propellants, fuels, petroleum distillates, dry cleaning products and many other industrial and consumer products ranging from office supplies to building materials. VOCs are also naturally emitted by a number of plants and trees.

PROGRAM INFORMATION

PROGRAM CONTACTS

To mail comments or receive more information

Theresa Morley
Remedial Project Manager
Naval Facilities Engineering Command
Southwest
1220 Pacific Highway
San Diego, CA 92132-5190
Theresa.Morley@navy.mil

Luis Ledesma
Installation Restoration Section Head
Environmental Security
MCB Camp Pendleton
Luis.Ledesma@usmc.mil

Martin Hausladen
U.S. Environmental Protection Agency, Region 9
Federal Facilities Branch
75 Hawthorne Street
San Francisco, CA 94105-3901
Hausladen.Martin@epa.gov

Tayseer Mahmoud
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
Tayseer.Mahmoud@dtsc.ca.gov

Sophie di Campalto
Northern Cleanup Unit
2375 Northside Dr., Suite 100
San Diego, CA 92108
Sophie.DiCampalto@waterboards.ca.gov

You may also contact any of the above agency representatives with any questions about the content or issues discussed in this Proposed Plan, or about the IR program.

DOCUMENT LOCATIONS

Documents relating to the IR program and this Proposed Plan can be found for public review and comment at the following locations:

Administrative Record
Naval Facilities Engineering Command, Southwest
ATTN: Diane Silva, Command Records Manager, Code EV33
1220 Pacific Highway (NBSD Bldg. 3519)
San Diego, CA 92132

Contact Diane Silva for an appointment at:
(619) 556-1280
diane.silva@navy.mil
Mon-Fri 8:00 AM to 4:30 PM
Last available appointment time is 4:00 PM.

MCB Camp Pendleton
AC/S Environmental Security Office
Attn: IR Manager
Building 22165
Box 555008
MCB Camp Pendleton, CA 92055-5008
Mon-Thu 9:00 AM to 4:00 PM

Oceanside Public Library
330 N Coast Highway, Oceanside, CA 92054
(760) 435-5600
Mon-Tue 9:00 AM to 8:00 PM
Wed-Sat 9:00 AM to 5:30 PM

A copy of the Administrative Record, which contains all of the materials the Base relies on for selecting a cleanup alternative, is also available.

Opportunity for community involvement

Public Comment Period: January 27 to February 27, 2015

Public Meeting: 6:00 p.m. to 7:00 p.m. on February 10, 2015

You are encouraged to comment on the Proposed Plan and the supporting documents during the 30-day public comment period. Comments should be postmarked or sent via e-mail no later than **February 27, 2015**, and submitted to:

Theresa Morley, Remedial Project Manager
Naval Facilities Engineering Command, Southwest
1220 Pacific Highway
San Diego, CA 92132-5190
theresa.morley@navy.mil

Comments received during this review period will be incorporated into the Responsiveness Summary portion of the Record of Decision and will be considered in the final decision for IR Site 21.

The public meeting will be held in the Compass Room at the Pacific View South Mesa Club, MCB Camp Pendleton.

This Proposed Plan is printed on recycled paper.

MCB Camp Pendleton
AC/S Environmental Security Office
Building 22165
Box 555008
Camp Pendleton, CA 92055-5008

Inside:

Information on IR Site 21 Proposed Plan
Public Comment Period: January 27 - February 27, 2015
Public Meeting: Tuesday, February 10, 2015