



IN REPLY REFER TO:
L7615(YOSE-PM)

United States Department of the Interior

NATIONAL PARK SERVICE

Yosemite National Park
P. O. Box 577
Yosemite, California 95389

Memorandum

To: Kent van Wagendonk, Project Manager, Yosemite National Park

From: Superintendent, Yosemite National Park

Subject: NEPA and NHPA Clearance: 2010-047 Gaylor Pit Lead Abatement (30189)

The Leadership Team has reviewed the proposed project/action and completed its environmental assessment documentation, and we have determined that there:

- Will not be any effect on threatened, endangered, or rare species and/or their critical habitat.
- Will not be any effect on historical, cultural, or archeological resources.
- Will not be serious or long-term undesirable environmental or visual effects.

The subject proposed project, therefore, is now cleared for all NEPA and NHPA compliance requirements as presented above. Project plans and specifications are approved and construction and/or project implementation can commence.

For the proposed project actions to be within compliance requirements during construction and/or project implementation, the following mitigations must be adhered to:

- No mitigations identified.

\\ Don L. Neubacher \\
Don L. Neubacher

Enclosure (with attachments)

cc: Statutory Compliance File



Categorical Exclusion Form

Project: 2010-047 Gaylor Pit Lead Abatement

PEPC Project Number: 30189

Project Description: The goal of this project is to mitigate environmental lead contamination while protecting wilderness values at the abandoned Gaylor Pit shooting range.

- Crews trained in soil lead abatement would be used in this project.
- Soil disturbance from the use of hand tools would create dust, and, thus, cause the lead to become air-borne. Therefore, proper safety measures, including use of personal protective equipment and following pertinent safety procedures, will be adhered to.
- All contaminated material will be hauled off-site to be disposed of properly.
- The Yosemite Safety Office will review and comment on the contractor's work plan for removal of lead contaminated material.
- The use of contract hand crews, and non-motorized equipment for 5-7 days to remove the contaminated material would be employed.
- The site is relatively small at 0.15 acre, this coupled with the fact that the contaminated area consists of 20 logs and 40 cubic yards of soil, potentially makes this a short project in duration. Also, the site is adjacent to the Wilderness boundary where heavy machinery can be staged for loading and hauling.
- Once removed from Wilderness by wheelbarrows or garden carts, the contaminated material could be placed directly into a loader that would then load the material into a dump truck. If the material is to be placed on the ground before being loaded into a dump truck, mitigation measures would be in place to ensure that the surrounding area does not receive any lead.
- Soil sample sites would be in place to determine acceptable levels of lead.
- The objective of this project is to remove the wooden backstop, the litter of bullets and casings, and all soil contaminated with lead from bullets and casings. After removal, the area will be restored to its wilderness appearance.

During the construction of the new Tioga Road, Gaylor Pit was created as a borrow pit and quarry for road material. Since the 1950s the pit and surrounding area was used by the NPS for various administrative uses. The California Wilderness Act validated Gaylor Pit as wilderness. The entire Gaylor Pit area was decommissioned in 2003; ceasing such uses as storage, dumping, temporary native plant nursery, wood yard, staging, and shooting range.

The site contains approximately forty cubic yards of contaminated soil along with twenty logs used as a backstop for the range. Soil samples were collected from the range and surrounding area and analyzed for lead content in 2004. All samples except those from the backstop contained lead concentrations below 100 ppm. Samples from the backstop contained lead concentrations of 150-3600 ppm. The EPA's standard for lead in bare soil in playground areas is 400 ppm by weight and 1200 ppm for non-playground areas. This regulation applies to cleanup projects using federal funds.



National Park Service
U.S. Department of the Interior

Yosemite National Park
Date: 08/09/2010

ENVIRONMENTAL SCREENING FORM (ESF)

DO-12 APPENDIX 1

Date Form Initiated: 04/19/2010

Updated May 2007 - per 2004 Departmental Manual revisions and proposed Director's Order 12 changes

A. PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2010-047 Gaylor Pit Lead Abatement
PEPC Project Number: 30189
PMIS Number: 119939
Project Type: Environmental Management System (EMS)
Project Location: County, State: Tuolumne, California
Project Leader: Kent van Wagendonk

Preliminary drawings attached? Yes

Is project a hot topic (controversial or sensitive issues that should be brought to attention of Regional Director)? No

B. RESOURCE EFFECTS TO CONSIDER:

Identify potential effects to the following physical, natural, or cultural resources	No Effect	Negligible Effects	Minor Effects	Exceeds Minor Effects	Data Needed to Determine/Notes
1. Geologic resources – soils, bedrock, streambeds, etc.		Negligible			This project entails 40 cubic yards of soil removal.
2. From geohazards	No				
3. Air quality			Minor		Temporary impact from dust from removal activities, exhaust from equipment.
4. Soundscapes			Minor		Temporary noise impacts while equipment is in operation.
5. Water quality or quantity			Minor		Potential improvement. Lead is currently soluble in soil, but hasn't migrated to the Dana Fork yet.
6. Streamflow characteristics	No				

7. Marine or estuarine resources	No				
8. Floodplains or wetlands	No				
9. Land use, including occupancy, income, values, ownership, type of use	No				
10. Rare or unusual vegetation – old growth timber, riparian, alpine	No				
11. Species of special concern (plant or animal; state or federal listed or proposed for listing) or their habitat	No				
12. Unique ecosystems, biosphere reserves, World Heritage Sites	No				
13. Unique or important wildlife or wildlife habitat	No				
14. Unique or important fish or fish habitat	No				
15. Introduce or promote non-native species (plant or animal)	No				
16. Recreation resources, including supply, demand, visitation, activities, etc.	No				
17. Visitor experience, aesthetic resources		Negligible			There will be a temporary presence of crews and equipment. Visitor experience will be enhanced due to the removal of evidence of human activity and contaminated material.
18. Archeological resources	No				
19. Prehistoric/historic structure	No				
20. Cultural landscapes	No				
21. Ethnographic resources	No				
22. Museum collections (objects, specimens, and archival and manuscript collections)	No				
23. Socioeconomics, including employment, occupation, income changes, tax base, infrastructure	No				
24. Minority and low income populations, ethnography,	No				

size, migration patterns, etc.					
25. Energy resources	No				
26. Other agency or tribal land use plans or policies	No				
27. Resource, including energy, conservation potential, sustainability	No				
28. Urban quality, gateway communities, etc.	No				
29. Long-term management of resources or land/resource productivity	No				
30. Other important environment resources (e.g. geothermal, paleontological resources)?	No				

C. MANDATORY CRITERIA

Mandatory Criteria: If implemented, would the proposal:	Yes	No	N/A	Comment or Data Needed to Determine
A. Have significant impacts on public health or safety?		No		
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?		No		
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?		No		
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?		No		
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?		No		
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?		No		

G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?		No		
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?		No		
I. Violate a federal law, or a state, local, or tribal law or requirement imposed for the protection of the environment?		No		
J. Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?		No		
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?		No		
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?		No		

For the purpose of interpreting these procedures within the NPS, any action that has the potential to violate the NPS Organic Act by impairing park resources or values would constitute an action that triggers the DOI exception for actions that threaten to violate a federal law for protection of the environment.

D. OTHER INFORMATION

Are personnel preparing this form familiar with the site? Yes

Did personnel conduct a site visit? No

Is the project in an approved plan such as a General Management Plan or an Implementation Plan with an accompanying NEPA document? No

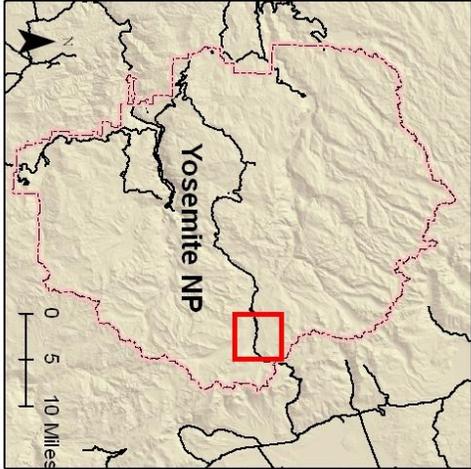
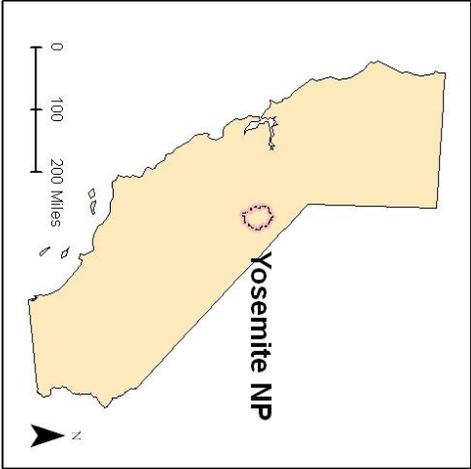
Are there any interested or affected agencies or parties? No

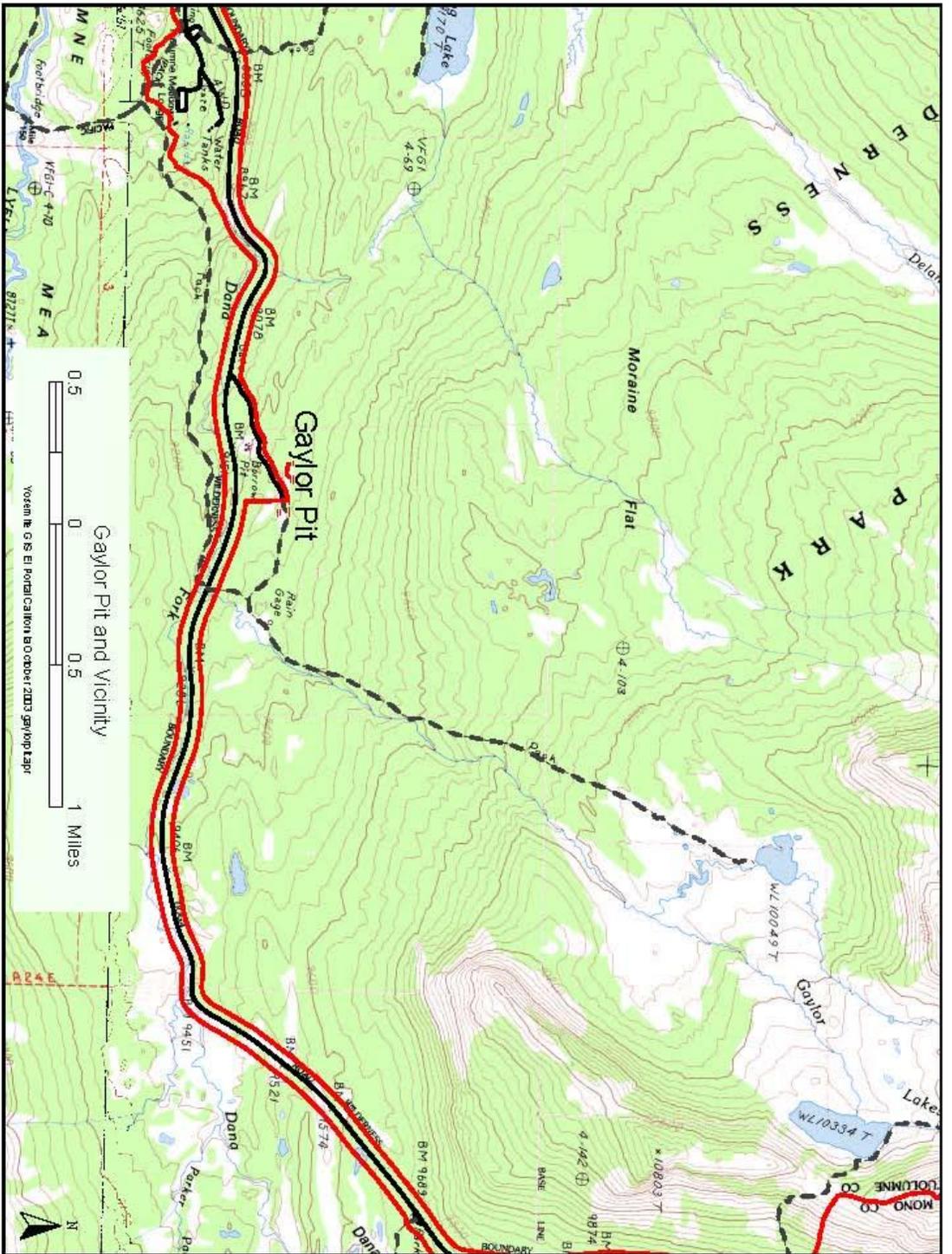
Has consultation with all affected agencies or tribes been completed? No

Are there any connected, cumulative, or similar actions as part of the proposed action? (e.g., other development projects in area or identified in GMP, adequate/available utilities to accomplish project)? No

Gaylor Pit Lead Abatement

Yosemite National Park
California
U. S. Department of the Interior







National Park Service
U.S. Department of the Interior

Yosemite National Park
Date: 08/09/2010

PARK ESF ADDENDUM

Today's Date: August 9, 2010

PROJECT INFORMATION

Park Name: Yosemite National Park
Project Title: 2010-047 Gaylor Pit Lead Abatement
PEPC Project Number: 30189
Project Type: Environmental Management System (EMS)
Project Location: County, State: Tuolumne, California
Project Leader: Kent van Wagendonk

PARK ESF ADDENDUM QUESTIONS & ANSWERS

ESF Addendum Questions	Yes	No	N/A	Data Needed to Determine/Notes
SPECIAL STATUS SPECIES CHECKLIST				
1. Listed or proposed threatened or endangered species (Federal or State)?		No		
2. Species of special concern (Federal or State)?		No		
3. Park rare plants or vegetation?		No		
4. Potential habitat for any special-status species listed above?		No		
NATIONAL HISTORIC PRESERVATION ACT CHECKLIST				
5. Entail ground disturbance?	Yes			Forty yards of contaminated soil will be removed from the site.
6. Are any archeological or ethnographic sites located within the area of potential effect?		No		Current data shows that surveys were completed in 2006. No sites found.
7. Entail alteration of a historic structure or cultural landscape?		No		
8. Has a National Register form been			N/A	

completed?				
9. Are there any structures on the park's List of Classified Structures in the area of potential effect?		No		
WILD AND SCENIC RIVERS ACT CHECKLIST				
10. Fall within a wild and scenic river corridor?	Yes			Dana Fork, Tuolumne River
11. Fall within the bed and banks AND will affect the free-flow of the river?		No		
12. Have the possibility of affecting water quality of the area?		No		
13. Remain consistent with its river segment classification?	Yes			
14. Fall on a tributary of a Wild and Scenic River?		No		
15. Will the project encroach or intrude upon the Wild and Scenic River corridor?		No		
16. Will the project unreasonably diminish scenic, recreational, or fish and wildlife values?		No		
17. Consistent with the provisions in the Merced River Plan Settlement Agreement?	Yes			
WILDERNESS ACT CHECKLIST				
18. Within designated Wilderness?	Yes			Minimum Requirement Analysis is attached.
19. Within a Potential Wilderness Addition?			N/A	



ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. DESCRIPTION OF UNDERTAKING

1. **Park:** Yosemite National Park **Park District:** Wilderness

2. Project Description:

a. **Project Name:** 2010-047 Gaylor Pit Lead Abatement

b. **Date:** August 11, 2010

c. **PEPC Project ID Number:** 30189

3. Has the area of potential effects been surveyed to identify cultural resources?

 No

 X Yes, Source or reference: **Gaylor Pit was surveyed in 2006.**

 X Check here if no known cultural resources will be affected. (If this is because area has been disturbed, please explain or attach additional information to show the disturbance was so extensive as to preclude intact cultural deposits.)

4. Potentially Affected Resources:

None

5. The proposed action will: (check as many as apply)

 No Destroy, remove, or alter features/elements from a historic structure

 No Replace historic features/elements in kind

 No Add non-historic features/elements to a historic structure

 No Alter or remove features/elements of a historic setting or environment (inc. terrain)

 No Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape

 No Disturb, destroy, or make archeological resources inaccessible

 No Disturb, destroy, or make ethnographic resources inaccessible

 Yes Potentially affect presently unidentified cultural resources

 No Begin or contribute to deterioration of historic features, terrain, setting, landscape elements, or archeological or ethnographic resources

 No Involve a real property transaction (exchange, sale, or lease of land or structures)

 Other (please specify)

6. Measures to prevent or minimize loss or impairment of historic/prehistoric properties:

No Assessment of Effect mitigations identified.

7. Supporting Study Data:

(Attach if feasible; if action is in a plan, EA or EIS, give name and project or page number.)

8. Attachments:

Maps Archeological survey, if applicable Drawings Specifications Photographs
 Scope of Work Site plan List of Materials Samples Other:

Prepared by: Renea Kennec **Date:** August 11, 2010 **Title:** Environmental Protection Specialist **Telephone:** 209.379.1046

B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

Archeologist
Name: Jessica Middleton
Date: 08/09/2010
Comments:

Check if project does not involve ground disturbance
Assessment of Effect: No Historic Properties Affected No Adverse Effect Adverse Effect Streamlined Review
Recommendations for conditions or stipulations:

Historical Architect
Name: Sueann Brown
Date: 06/23/2010
Comments:

Check if project does not involve ground disturbance
Assessment of Effect: No Historic Properties Affected No Adverse Effect Adverse Effect Streamlined Review
Recommendations for conditions or stipulations:

Doc Method: No Potential to Cause Effects [800.3(a)(1)]

106 Advisor
Name: Jeannette Simons
Date: 08/11/2010
Comments: Secondary deposits of historic artifacts determined ineligible for the NR.

Check if project does not involve ground disturbance []
Assessment of Effect: No Historic Properties Affected No Adverse Effect Adverse Effect
 Streamlined Review
Recommendations for conditions or stipulations:

[] Anthropologist
Name: Jeannette Simons
Date: 08/11/2010
Comments: American Indian Liaison No resources having cultural or religious significance to American Indians will be impacted.

Check if project does not involve ground disturbance []
Assessment of Effect: No Historic Properties Affected No Adverse Effect Adverse Effect
 Streamlined Review
Recommendations for conditions or stipulations:

[] Historical Landscape Architect
Name: David Humphrey
Date: 06/23/2010
Comments: None.

Check if project does not involve ground disturbance []
Assessment of Effect: No Historic Properties Affected No Adverse Effect Adverse Effect
 Streamlined Review
Recommendations for conditions or stipulations: None.

Doc Method: No Potential to Cause Effects [800.3(a)(1)]

No Reviews From: Curator, Historian, 106 Advisor

C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

1. Assessment of Effect:

No Historic Properties Affected No Adverse Effect Adverse Effect

2. Compliance requirements:

[] A. STANDARD 36 CFR PART 800 CONSULTATION
Further consultation under 36 CFR Part 800 is needed.

[] B. STREAMLINED REVIEW UNDER THE 2008 SERVICEWIDE PROGRAMMATIC AGREEMENT (PA)

The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

APPLICABLE STREAMLINED REVIEW Criteria
(Specify 1-16 of the list of streamlined review criteria.)

C. PLAN-RELATED UNDERTAKING

Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 2008 Servicewide PA and 36 CFR Part 800.
Specify plan/EA/EIS: _____

D. UNDERTAKING RELATED TO ANOTHER AGREEMENT

The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR 800.7 or counterpart regulations.
Specify: _____

E. COMPLIANCE REQUIREMENTS SATISFIED BY USE OF NEPA

Documentation is required for the preparation of an EA/FONSI or an EIS/ROD has been developed and used so as also to meet the requirements of 36 CFR 800.3 through 800.6

F. No Potential to Cause Effects [800.3(a)(1)]

G. STIPULATIONS/CONDITIONS

Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

Recommended by Park Section 106 coordinator:

Signature of Historic Preservation Officer _____ *//Jeanette Simmons //*

Date: _____ 8-11-10 _____

D. SUPERINTENDENT'S APPROVAL

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

Signature of Superintendent _____ *//Don L. Neubacher //*

Date: _____ 9/2/10 _____

Minimum Requirements Analysis for Gaylor Pit Lead Abatement

Abstract: During the construction of the new Tioga Road, Gaylor Pit was created as a borrow pit and quarry for road material. Since the 1950s the pit and surrounding area was used by the NPS for various administrative uses. In 1984, the California Wilderness Act designated 95% of Yosemite National Park as wilderness. Once the wilderness boundary near Gaylor pit was validated, the entire Gaylor Pit area was decommissioned in 2003; ceasing such uses as storage, dumping, temporary native plant nursery, wood yard, staging, and shooting range.

In 2004, a three year project began to restore the area in both Wilderness and non-Wilderness to a more natural setting. Completed in 2006, the project proposed to restore the morphology and hydrology of the area, and to revegetate it in a manner that would reestablish wilderness character. Additionally, the project aimed to modify the slope edge of the helipad (which is in non-Wilderness and still in use), fill the old barrow pit, and revegetate it to reduce erosion. The shooting range (0.15 acre), due to possible lead contamination, was not part of this effort.

The shooting range is in an environmentally degraded area of designated wilderness that has been heavily impacted by park operations. Evidence of lead contamination from littered bullets and casings at the shooting range mandates more rigorous mitigation and restoration action. The site contains approximately forty cubic yards of contaminated soil along with twenty logs used as a backstop for the range. Soil samples were collected from the range and surrounding area and analyzed for lead content in 2004. All samples except those from the backstop contained lead concentrations below 100 ppm. Samples from the backstop contained lead concentrations of 150-3600 ppm. The EPA's standard for lead in bare soil in playground areas is 400 ppm by weight and 1200 ppm for non-playground areas. This regulation applies to cleanup projects using federal funds.

Measured lead solubility at the shooting range of 400 mg/l is 1,000 times higher than native lead solubility. The Dana Fork of the Tuolumne, which is federally protected as Wild and Scenic and also provides drinking water to the Tuolumne Meadows area, is 0.2 miles from the wooden backstop.

Lead has been identified as a health hazard. Lead is a poisonous metal that can damage nervous system connections (especially in young children) and cause blood and brain disorders. Lead poisoning typically results from ingestion of food or water contaminated with lead; but may also occur after accidental ingestion of contaminated soil, dust, or lead based paint. Lead can also be found listed as a criteria pollutant in the United States Clean Air Act section 108. Lead that is emitted into the atmosphere can be inhaled, or it can be ingested after it settles out of the air. It is rapidly absorbed into the bloodstream and is believed to have adverse effects on the central nervous system, the cardiovascular system, kidneys, and the immune system.

Lead abatement consists of removing all contaminated material and proper disposal at a hazardous waste processing facility. There is no effective way to decontaminate the soil on site to allow it to remain there.

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Project Goal: The goal of this project is to mitigate environmental lead contamination while protecting wilderness values at the abandoned Gaylor Pit shooting range.

Project Objective: The objective of this project is to remove the wooden backstop, the litter of bullets and casings, and all soil contaminated with lead from bullets and casings. After removal, the area will be restored to its wilderness appearance.

Step 1 – Determine whether the proposed action takes place in designated Wilderness

The proposed action takes place near the boundary of but completely within Wilderness. The shooting range is 0.15 acre. The backstop is furthest from the Wilderness boundary at 0.03 mile while the firing area is 0.01 mile away.

Step 2 – Determine whether the proposed action is required for the administration of the Yosemite Wilderness

The proposed action is required to meet the obligations of Yosemite National Park to preserve natural ecological processes on Wilderness lands. The proposed action is consistent with the Yosemite Wilderness management objective that states, "Management will focus on maintaining ecological relationships and processes that would prevail if not for excessive inappropriate human influences." Removal of lead and contaminants in this area is a critical component of Wilderness management.

Step 3 – Determine whether the actions proposed can be met by actions performed outside of wilderness

The proposed action cannot be completed outside of wilderness because the contaminated material is completely within the Wilderness boundary.

Step 4 – Develop a list of alternatives to meet the objective of the proposed action. Include ways to reduce or mitigate the impacts of each alternative

Alternative A – No Action.

The Gaylor Pit shooting range would remain in its current state.

Alternative B – Remove contaminated soil using motorized equipment

Soil lead abatement requires the removal of contaminated soil and the backstop logs. Additionally, to determine the depth of contamination, soil sampling with augers would occur throughout the site. The

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soil would then be tested in a lab with the results allowing the contractor to be able to ensure that enough material is being removed to reach the 100ppm target. Once lead levels drop to below 100ppm, contaminated material removal will cease. It is anticipated that more material will be removed to ensure that this occurs.

Soil removal would require the use of any or all of the following: bull dozer, excavator, backhoe, 10-yard dump truck, and a bobcat. A loader and a 10 yard dump truck could move the 40 cubic yards and 20 logs in one to two days. This would occur in late summer or early fall.

Crews trained in soil lead abatement would be used in this project. Heavy machinery would inevitably disturb the soil, creating dust, and, thus, causing the lead to become air-borne. Proper safety measures, including use of personal protective equipment and following pertinent safety procedures, will be adhered to.

A bull dozer and excavator would de-compact the soil, remove it, and place it into a dump-truck to be hauled to a dump site out of the park. The soil surface would then be groomed to control erosion, direct drainage, and approximate topography of the natural landscape.

Soil sampling will occur during the removal to determine the effectiveness of the process. Once lead levels drop to below 100ppm, contaminated material removal will cease. It is anticipated that more material will be removed to ensure that this occurs.

Crews would salvage available vegetation including smaller Lodgepole pine seedlings from the area of impact. Re-vegetation would be performed by hand crews. Work will be limited to that which is necessary to inoculate the disturbed soils with necessary local microfauna and to create sufficient habitat for the variety of plants in the area. These steps are considered necessary to minimize erosion of bare soils and invasion of exotic plants. Activities would include placement of boulders and logs as well as planting of large vegetation plugs and Lodgepole pine seedlings.

Alternative C – Remove contaminated soil using non-motorized equipment

Soil removal would require the use of a large hand crew with shovels, buckets, wheelbarrows or garden carts, and a dump truck that is parked just beyond the wilderness boundary.

A 10 person crew could shovel and move contaminated material in 5 - 7 days. Removal of the Lodgepole pine log backstop would require cutting logs with cross-cut saws into pieces that would fit into wheelbarrow or garden cart. All material would be taken to loaders at the non-wilderness staging area and then loaded into a 10-yard dump truck. The soil surface would then be groomed to control erosion, direct drainage, and approximate topography of the natural landscape. This would occur in late summer or early fall.

Additionally, to determine the depth of contamination, soil sampling with augers would occur throughout the site. The soil would then be tested in a lab with the results allowing the contractor to be able to ensure that enough material is being removed to reach the 100ppm target. Once lead levels drop

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to below 100ppm, contaminated material removal will cease. It is anticipated that more material will be removed to ensure that this occurs.

Crews trained in soil lead abatement would be used in this project. Soil disturbance from the use of hand tools would create dust, and, thus, cause the lead to become air-borne. Proper safety measures, including use of personal protective equipment and following pertinent safety procedures, will be adhered to. All contaminated material will be hauled off-site to be disposed of properly.

Crews would salvage available vegetation including smaller Lodgepole pine seedlings from the area of impact. Re-vegetation would be performed by hand crews. Work will be limited to that which is necessary to inoculate the disturbed soils with necessary local microfauna and to create sufficient habitat for the variety of plants in the area. These steps are considered necessary to minimize erosion of bare soils and invasion of exotic plants. Activities would include placement of small boulders and logs as well as planting of large vegetation plugs and Lodgepole pine seedlings.

The use of mechanized equipment and hand crews would have minimal noise and air pollution. However, the duration to employ such techniques listed in this alternative could be long.

Step 5 – Determine the effects of each alternative on wilderness, health, and character. Include cumulative effects.

Alternative	Biophysical Effects	Experiential Effects	Wilderness Character
A. No Action	<ul style="list-style-type: none"> ○ Lead concentration will increase in soil ○ Contamination will spread downward ○ Contamination will spread to ground and surface water 	<ul style="list-style-type: none"> ○ Human impact will be evident due to presence shooting range 	<ul style="list-style-type: none"> ○ Wilderness values will continue to be compromised by the appearance of the shooting range ○ Contamination would remain reducing naturalness
B. Motorized Equipment	<ul style="list-style-type: none"> ○ Temporary increase in erosion ○ Vegetation and topsoil depletion ○ Mitigation of environmental contamination ○ Prevention of surface and ground water contamination 	<ul style="list-style-type: none"> ○ Temporary presence of motorized equipment ○ Temporary noise from motorized equipment ○ Temporary noise and disturbance by a work crew 	<ul style="list-style-type: none"> ○ Degradation of wilderness character by presence of large motorized equipment ○ Temporary evidence of human- made improvements ○ Decreased wildness due to manipulation, this is a cumulative effect.
C. Non-motorized Equipment	<ul style="list-style-type: none"> ○ Temporary increase in erosion ○ Vegetation and topsoil depletion 	<ul style="list-style-type: none"> ○ Temporary noise and disturbance by a work crew 	<ul style="list-style-type: none"> ○ Temporary evidence of human- made improvements ○ Decreased wildness due

	<ul style="list-style-type: none"> ○ Mitigation of environmental contamination ○ Prevention of surface and ground water contamination 		to manipulation, this is a cumulative effect.
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Step 6 – Determine the effects of each alternative on Health and Safety and other concerns.

Alternative	Health and Safety	Societal/Economic/Political Concerns
A. No Action	<ul style="list-style-type: none"> ○ Lead contamination of surface and ground water would present a health risk to all plants and animals downstream, including park visitors and residents of SF 	<ul style="list-style-type: none"> ○ Lead contamination in the Tuolumne River threatens a very important water supply for California ○ Presence of human activity
B. Motorized Equipment	<ul style="list-style-type: none"> ○ Worker safety around heavy machinery ○ Potential fuel and oil spills of equipment ○ Temporary air-borne lead exposure from soil disturbance ○ Temporary air-borne lead exposure from soil disturbance 	<ul style="list-style-type: none"> ○ Use of motorized equipment in wilderness. ○ Noise and air pollution and use of motorized equipment could be seen as a negative park action ○ Short in duration (1-2 days)
C. Non-Motorized Equipment	<ul style="list-style-type: none"> ○ Use of hand crews would need to be coordinated ○ Temporary air-borne lead exposure from soil disturbance 	<ul style="list-style-type: none"> ○ Use of mechanized transport in wilderness ○ Relatively short in duration (5 -7 days)

Step 7 – Choose an Alternative

Alternative C, use of hand crews and non-motorized equipment for 5-7 days to remove the contaminated material is the preferred alternative. The site is relatively small at 0.15 acre, this coupled with the fact that the contaminated area consists of 20 logs and 40 cubic yards of soil, potentially makes this a short project in duration. Also, the site is adjacent to the Wilderness boundary where heavy machinery can be staged for loading and hauling. Crews can easily move contaminated material from the site to the staging area. The use of wheelbarrows and/or garden carts is a Section 4C of the Wilderness Act prohibition since these are considered mechanized, but we are willing to grant an allowance for their use.

Leaving the lead on site in its present state (Alternative A – No Action Alternative), impacts Wilderness values by decreasing naturalness over time. Additionally, this alternative would continue to threaten water quality as the lead becomes more soluble. Alternative B would require the use of motorized equipment in Wilderness. While the methods employed in this Alternative would require less time, this

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benefit is negated by the fact that hand crews can remove the material within a week without the use of motorized equipment in Wilderness.

Since the depth of the contamination is unknown, it is likely that more material will be removed than is necessary. This is acceptable since it is not desirable to have to go back into the site at a later time to remove more material. Soil sample sites would be in place to determine acceptable levels of lead. The use of shovels, rakes, mcclouds, and other hand tools would be used to re-contour to enable the site back to recovery.

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Site Maps and Figures

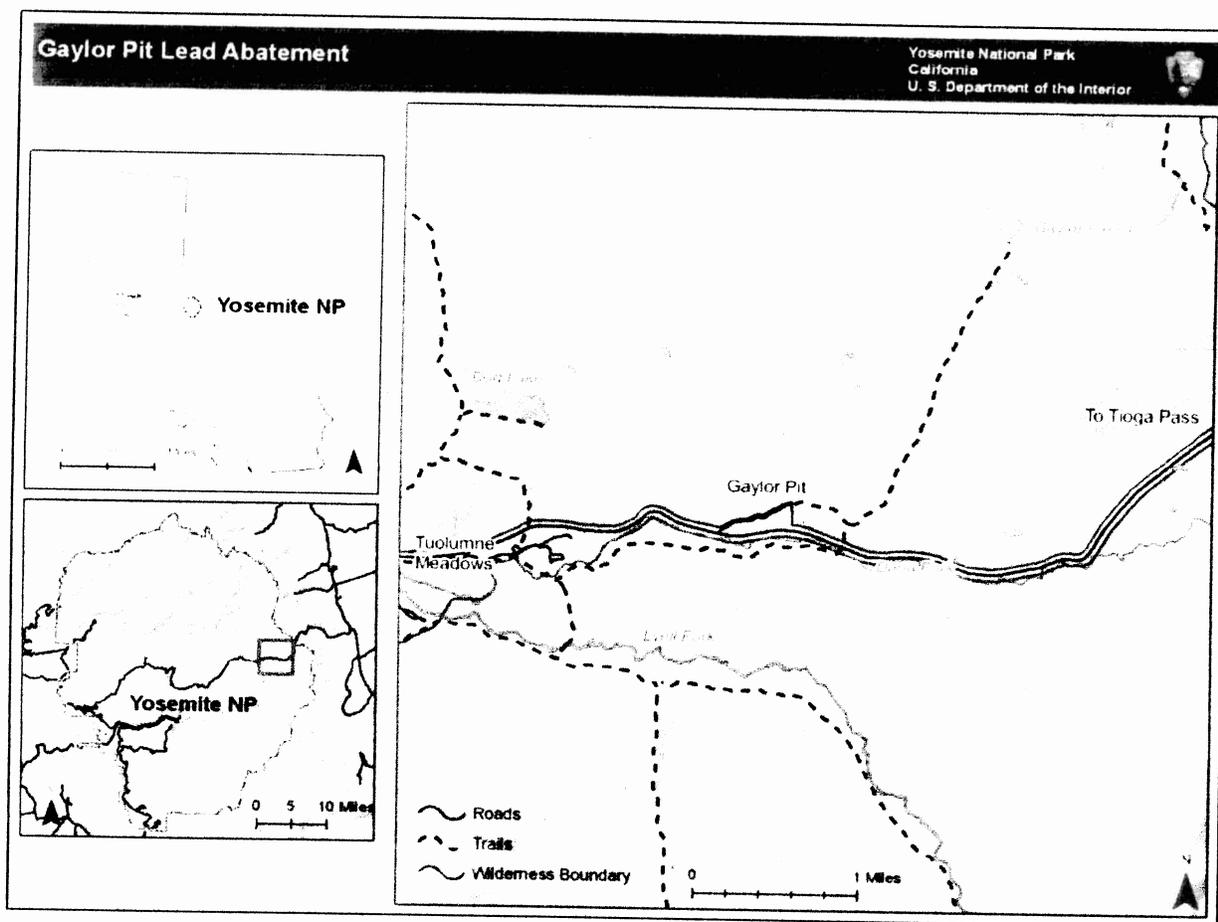


Figure 1. Vicinity map of Gaylor Pit

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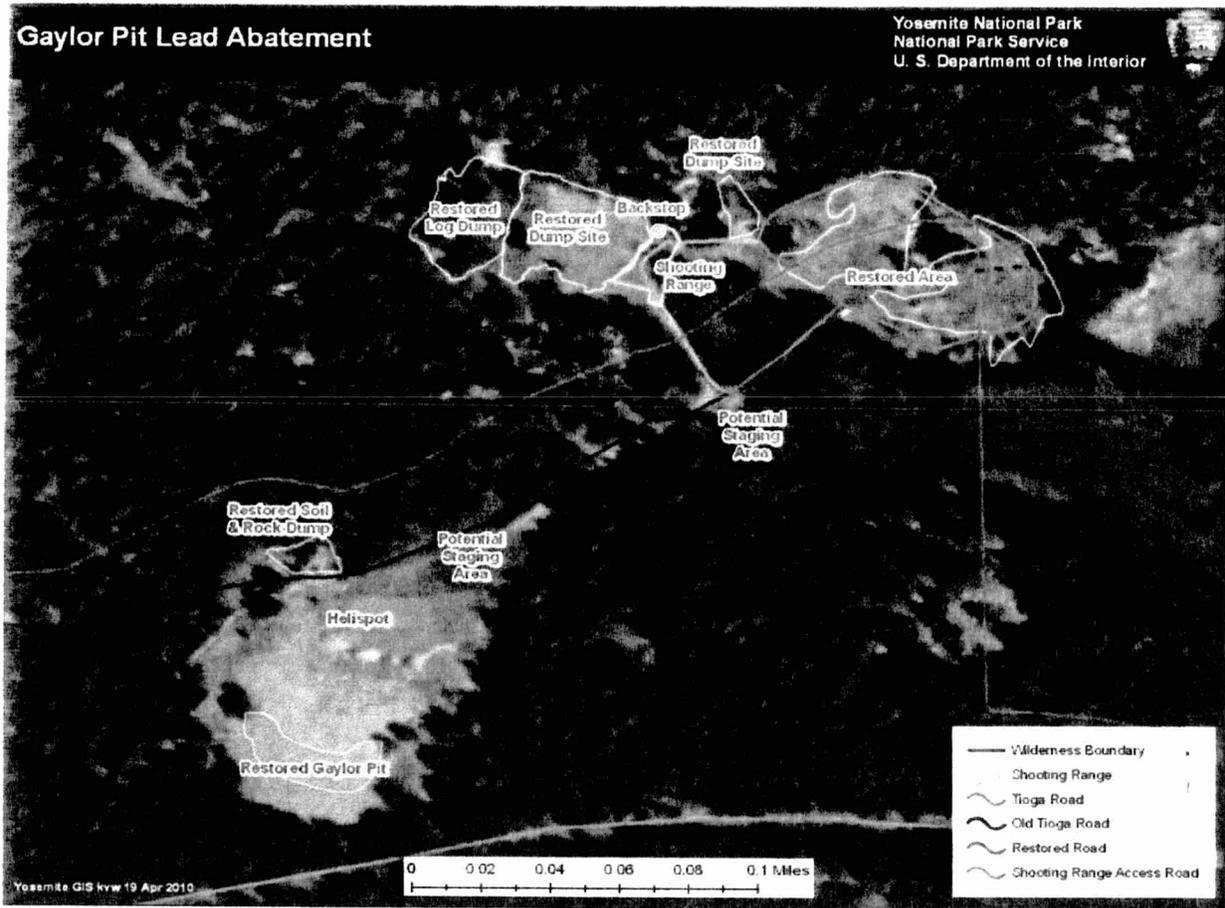


Figure 2. Site map of Gaylor Pit

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Figure 3. Lodgepole Pine log backstop.

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Gaylor Pit Lead Abatement

Check one:

- The proposed action is a temporary, one time activity.
- The proposed action will be an on-going, long term activity.

Submitted By:

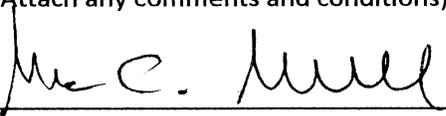
 4/19/2010
Kent van Wagendonk Date

jkm
4-21-2010

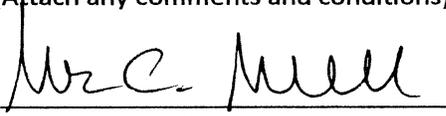
Reviewed By:

 4-19-10
Division Chief, RMS Date

(Attach any comments and conditions)

 4-26-10
Wilderness Manager Date

(Attach any comments and conditions)

 4-27-10
Chief Ranger *ACTING* Date

(Attach any comments and conditions)

Approved By:

 5/6/10
Superintendent Date

(Attach any comments and conditions)