



TRASHING THE SESPE

**How the Oil Industry is Littering Our
Public Lands and Endangering Wildlife**

November 2013



ABSTRACT

Located approximately four miles north of Fillmore in Ventura County, the Sespe Oil Field is one of the oldest oil fields in California. Approximately half of the field's oil and gas wells are in the Los Padres National Forest, and the other half are found throughout a patchwork of private land that is intermingled with the national forest land. The entire area provides important habitat for endangered California condors.

Microtrash – broken glass, bottle caps, plastic bits, bullet casings, and other small fragments – is one of the leading causes of injury and death to California condors. Between 2001 and 2010, of the 29 California condor chicks hatched in the wild, 25 were determined to have micro-trash in their digestive tracts, 10 died as a result, others were removed from the wild for recuperation, and two had emergency surgery and were eventually returned to the wild. According to federal biologists that manage California condor populations, microtrash is “one of the single most threatening challenges to condor recovery.”

One possible source of microtrash is garbage and debris left on oil well pads. Oil companies operating in the Sespe Oil Field – and the government agencies that regulate them – have proposed numerous measures to prevent the accumulation of microtrash on well pads.

To determine whether these measures are being effectively implemented, Los Padres ForestWatch field inspectors conducted visits to twelve pads in the Sespe Oil Field between August 20, 2013 and September 18, 2013. Our inspections revealed significant – and potentially lethal – amounts of microtrash at all twelve pads we visited, along with numerous violations of other measures that have supposedly been in place since 2005 to protect condors and other wildlife.

We collected a total of 1,756 pieces of trash from all twelve pads we inspected, for an average of 146 pieces per pad. We also observed open containers of hazardous fluids, strangulation hazards, and fragments of solder possibly containing lead, which is toxic to condors and other wildlife. Our results suggest that all, or nearly all, of the pads in the Sespe Oil Field contain significant amounts of microtrash and other hazards that can be harmful or fatal to condors and other wildlife.

We recommend that the oil industry, land managers, condor biologists, and nonprofit organizations work immediately and collaboratively to inspect all pads in the Sespe Oil Field, to remove all microtrash that is currently present, and to quickly enact best management practices that will eliminate microtrash and other hazards from the area. The oil industry must take immediate steps to comply with its own wildlife protection measures; without these measures in place, the industry is in ongoing violation of the Endangered Species Act and will continue to jeopardize the success of ongoing efforts to bring the California condor back from the brink of extinction.

ABOUT THE AUTHOR

Los Padres ForestWatch is an independent nonprofit organization based in Santa Barbara, California that works to protect the Los Padres National Forest. Since 2007, ForestWatch has worked with condor biologists to identify key areas in and around the Los Padres National Forest where microtrash is accessible to endangered California condors. Working with teams of skilled volunteers, ForestWatch has organized microtrash cleanups throughout the Los Padres National Forest in Santa Barbara, Ventura, Kern, and Los Angeles counties. During these cleanup efforts, more than 500 volunteers have contributed 3,000+ hours removing more than 8,000 pounds of microtrash from a dozen key sites. ForestWatch has organized more microtrash cleanups, and our volunteers have removed more microtrash, than any other organization in our region, giving us the expertise necessary to effectively identify and remove this hazard from the environment.

ACKNOWLEDGMENTS

This report was made possible through the generous contributions of our members and donors. Thank you for supporting our efforts to keep the Los Padres National Forest safe for California condors and other wildlife.

MORE INFORMATION

For more information about microtrash, California condors, and our efforts to protect the Los Padres National Forest, please visit our website at www.LPFW.org or contact us at:

Los Padres ForestWatch
Post Office Box 831
Santa Barbara CA 93102
(805) 617-4610
info@LPFW.org

TABLE OF CONTENTS

THE SESPE OIL FIELD 5

CONDORS & MICROTRASH 7

INSPECTION METHODOLOGY 11

INSPECTION RESULTS 12

RECOMMENDATIONS..... 19

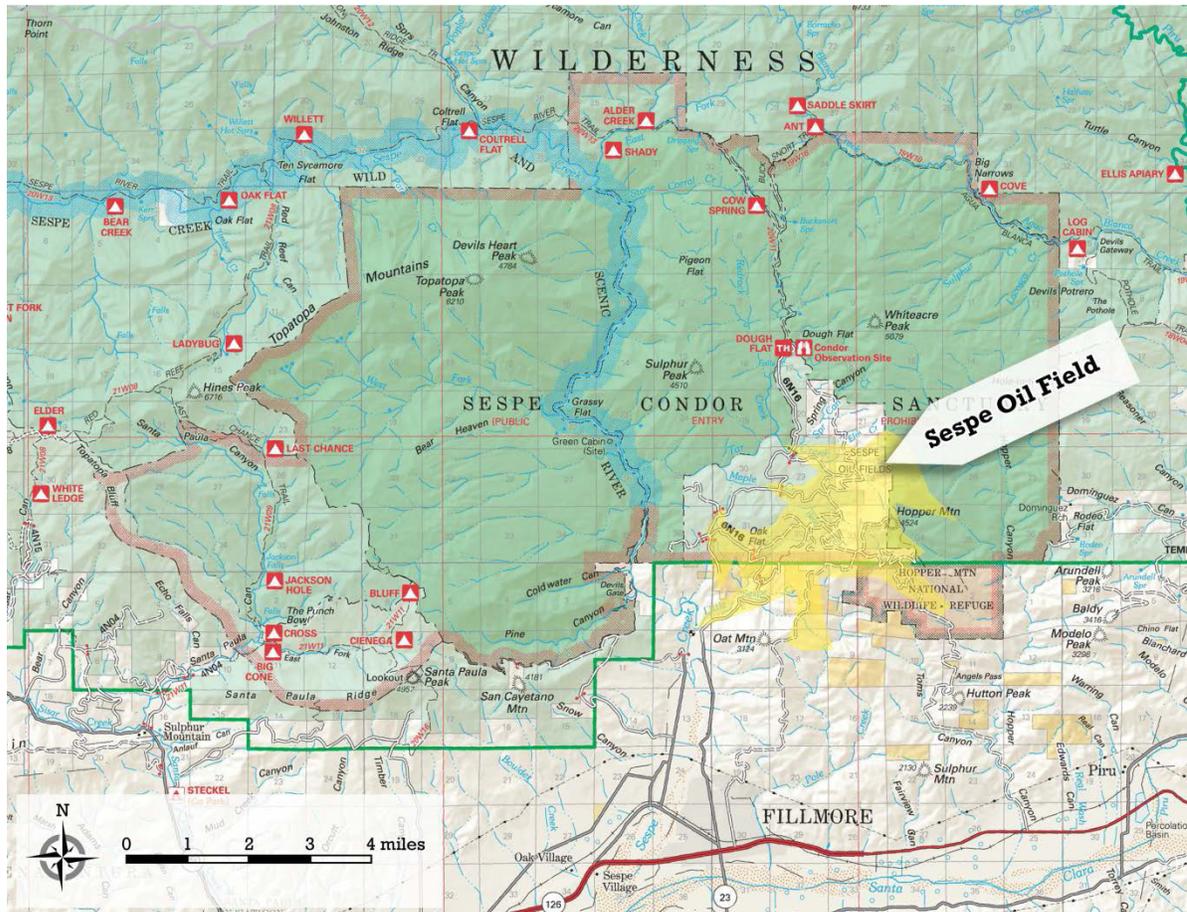
APPENDIX 1: INSPECTION SUMMARIES..... 21



Endangered California condors roost on an oil well pump in the Sespe Oil Field. Photo courtesy USFWS.

THE SESPE OIL FIELD

Located approximately four miles north of Fillmore in Ventura County, the Sespe Oil Field is one of the oldest oil fields in California. The field has produced commercial quantities of oil and gas since it was first discovered in the late 1880s, and currently contains 270 active oil wells spread across 3,000 acres of land. In 2012, the field produced 392,332 barrels of oil and 753,969 Mcf of natural gas, representing just 0.2% and 0.4% of the state's total oil and gas production, respectively.



Map of Sespe Oil Field and Surrounding Federal Lands

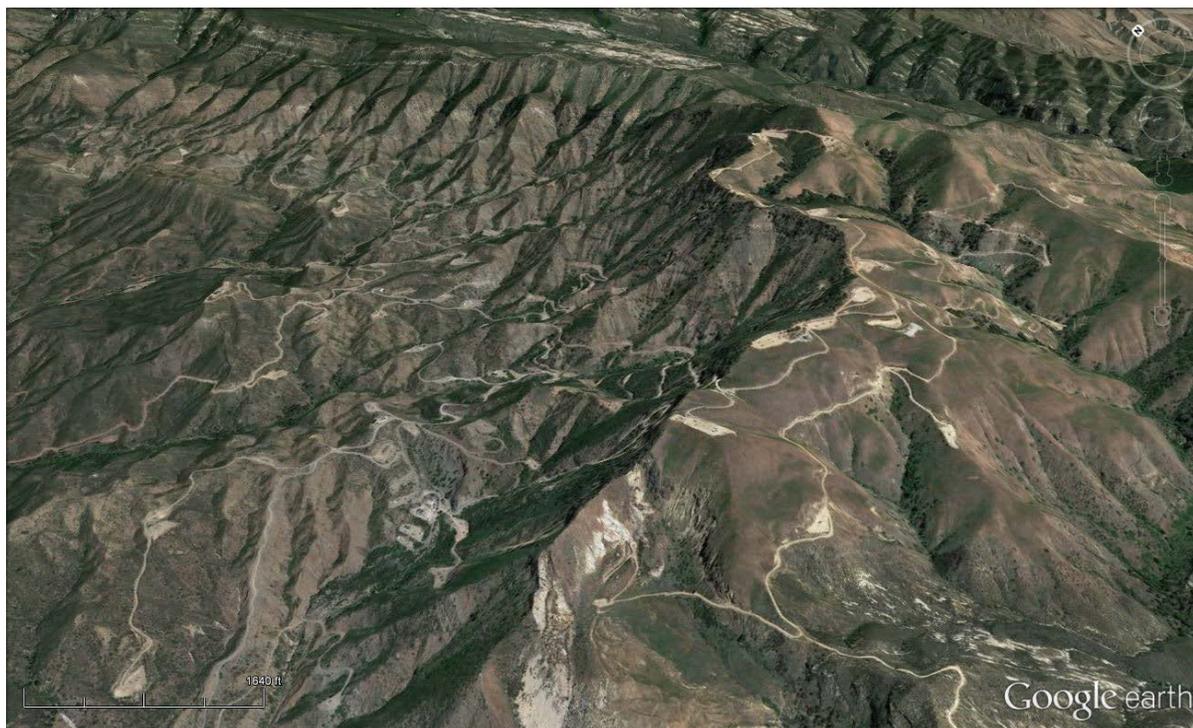
The Sespe Oil Field is a patchwork of private and national forest land. Approximately half of the wells are located in the Los Padres National Forest, and the other half are found on private land that is intermingled with the national forest land. Most (83%) of the active oil wells in the Sespe Oil Field are operated by Seneca Resources, a mid-sized oil company headquartered in Houston, Texas. Four other oil companies also have facilities in the Sespe Oil Field.

While valued for its oil reserves, the Sespe Oil Field is located in one of the most ecologically sensitive areas along California's central coast. The field is drained by several streams that flow into Sespe Creek, which is formally classified as "critical habitat" for endangered southern

steelhead. The Sespe Creek watershed historically supported a large steelhead run. Several other imperiled species are found in Sespe Creek, including arroyo toads, California red-legged frogs, and endangered songbirds like southwestern willow flycatchers and least Bell's vireos.

The Sespe area also provides important habitat for endangered California condors. Recognizing this importance, the Sespe Condor Sanctuary was established in 1947 and includes 53,000 acres that surround the oil field on three sides. The 2,471-acre Hopper Mountain National Wildlife Refuge – a field base of operations for biologists involved with reintroducing condors to the wild – was established in 1974 and is located along the field's southern boundary.

Several government agencies are charged with regulating operations in the Sespe Oil Field. The U.S. Bureau of Land Management (BLM) is charged with managing any oil drilling that occurs on federal land, including the Los Padres National Forest. The U.S. Forest Service retains some oversight authority as well. The California Department of Oil, Gas & Geothermal Resources oversees oil drilling on private lands. The U.S. Fish & Wildlife Service manages the Hopper Mountain National Wildlife Refuge and oversees the California Condor Recovery Program. These agencies all undertake the challenging task of ensuring that oil drilling operations in the Sespe Oil Field do not cause harm to the area's unique and fragile landscape and its wildlife.



Satellite Image, Sespe Oil Field and Surrounding Federal Lands

CONDORS & MICROTRASH

The California condor (*Gymnogyps californianus*) is the largest bird in North America, with a wingspan of up to nine and half feet. It is also one of our country's most imperiled animals. Fewer than two dozen condors remained in the wild in the 1980s when a controversial decision was made to capture all remaining wild condors and breed them in captivity. Now, two decades later, 217 condors command the skies in the wild, including more than 114 free-flying birds in California – approximately half of which nest, roost, and forage in the Sespe Oil Field and surrounding public lands, including the Los Padres National Forest and the Hopper Mountain National Wildlife Refuge.



The Los Padres National Forest provides prime habitat for the California condor, one of the world's most endangered birds. Photo courtesy Daniel Bianchetta.

Most condor habitat in California occurs in and adjacent to the Los Padres National Forest, highlighting the importance of protecting these forest lands and ensuring that they remain a safe place for condors to survive. With the ability to fly more than 150 miles in a single day, and a penchant for curiosity, the California condor is particularly susceptible to human development. It depends on large swaths of land for foraging, is exposed to high levels of environmental toxins due to its scavenging behavior, and has life history characteristics that do not allow for rapid recovery from depleted populations. Condors mate for life, have long life spans (up to 60 years by some estimates), and take up to six years to reach maturity. Moreover, a mated pair may only lay a single egg, every two years. Losses incurred at any stage in a condor's life, adult or juvenile, can have a heavy impact on the condor population.



(Left) A radiograph showing microtrash impaction in the digestive tract of a California condor.
(Right) Microtrash surgically removed from a California condor. Photos courtesy USFWS.

Microtrash is one of the leading causes of injury and death to California condors. These small pieces of trash – broken glass, bottle caps, plastic bits, bullet casings, and other small fragments – are picked up by curious condors, who take them back to their nests and feed to their young. Over time, the small pieces of trash accumulate in the digestive tract of the young chicks, preventing the proper digestion of food. If the trash is not surgically removed, the young condor will eventually die of starvation.

In 2011, biologists with the U.S. Fish & Wildlife Service – the federal agency charged with managing and safeguarding the California condor population – conducted a formal review of the impacts of oil drilling to California condors in and around the Sespe Oil Field. That report states:

garbage and debris left out by workers at the well pads while conducting project activities could be detrimental to California condors. Such small items include: bottle caps, nails, screws, nuts, washers, rags, electrical components, and wire. California condors have been known to ingest these and similar items. Between 2001 and 2010, of the 29 California condor chicks hatched in the wild, 25 were determined to have micro-trash in their digestive tracts, 10 died as a result, others were removed from the wild for recuperation, and two had emergency surgery and were returned to the wild.

The combination of condors and well pads creates a difficult management challenge for the California Condor Recovery Program. Microtrash ingestion is seen as one of the single most threatening challenges to condor recovery.

In addition, condor biologists note that long sections of loosely-coiled wire can entangle curious condors that might investigate oil pads, and toxic fluids at oil drilling sites can contaminate condors. For example, in 2002, a California condor visited a well pad in the Sespe Oil Field and his head became covered with oil. Other condors have been found with oil on their heads as well, according to a former manager of the Hopper Mountain National Wildlife Refuge.



The oil industry and federal land agencies have placed several signs, like this one, in the Sespe Oil Field to warn against the hazards of leaving microtrash on oil pads.

In an extraordinary and controversial move, the Service recently shut down all condor feeding sites at the Hopper Mountain National Wildlife Refuge, moving them 45 miles away to the Bitter Creek National Wildlife Refuge in Kern County. Federal biologists hoped that this would lessen the presence of the condors in the Sespe Oil Field. However, it has also served to put additional strain on dwindling budgets and staff, and has reduced condor presence at the most important and highly used nesting area in southern California. Given these constraints, federal biologists question whether all of the condor nesting and roosting sites can be monitored effectively, suggesting that industrial activities in the Sespe Oil Field may be incompatible with the long-term recovery of the California condor.

While federal regulators acknowledge that the oil industry has contributed to the microtrash problem in the past, they currently seem satisfied with Seneca’s commitment to clean up its act. In 2011, the U.S. Fish & Wildlife Service concluded, “Despite inattention to removing microtrash in the past, we are convinced that Seneca more firmly realizes its responsibilities to adhere to these avoidance and minimization measures, and that BLM will strictly enforce them.”

Our inspections, however, tell a different story.

RUNNING ON EMPTY PROMISES

Beginning in 2005, oil companies operating in the Sespe Oil Field – and the government agencies that regulate them – have proposed numerous measures to prevent the accumulation of microtrash on well pads. These measures include:

- All food items and associated trash will be placed in covered containers to preclude access to or use by California condors. This includes small bits of trash and debris, such as aluminum can pull tabs, electrical connectors, broken glass, and pieces of rubber, plastic, and metal.
- All work areas will be kept free of trash and debris. Particular attention will be paid to micro-trash. All construction debris and trash (including such small items as screws, nuts, washers, nails, coins, rags, small electrical components, small pieces of plastic, glass or wire, and any debris or trash that is colorful or shiny) will be covered, kept in closed containers, and removed from the project site at the end of each day or prior to periods when workers are not present at the site.
- All equipment and work-related materials (including loose-wires, open containers or other supplies or materials) will be contained in closed containers either in the work area or placed inside vehicles. Loose items (e.g., rags, hose, etc.) will be stored within closed containers or enclosed in vehicles.
- All hoses or cords that must be placed on the ground due to drilling operations that are outside of the primary work area (immediate vicinity of the drilling rig) will be covered to prevent California condor access. Covering will take the form of burying or covering with heavy mats, planks, or grating that will preclude access by California condors.
- All liquids will be in closed, covered containers. Any spills of hazardous liquids will not be left unattended until clean-up has been completed. No open drilling mud, water, oil or other liquid storage or retention structures will be allowed. All such structures are required to have some sort of netting or other covering that precludes entry or other use by condors.
- Prior to conducting work on-site, employees and contractors will be made aware of the protected species, and how to avoid and minimize impacts to them. Special emphasis will be placed on keeping the well pad site free of micro-trash and other hazards.

Source: U.S. Fish & Wildlife Service, 2005. Biological Opinion on the Proposal to Lease Oil and Gas Resources within the Boundaries of the Los Padres National Forest, California (1-8-04-F-32), and 2011 update thereto.

When properly implemented, these measures would go a long ways towards protecting condors and ensuring that hazards are removed from condor habitat in the Sespe Oil Field. However, our inspections – as detailed in this report – indicate that the oil industry is not adhering to many of these protective measures, placing the lives of dozens of condors at risk and jeopardizing efforts to bring the endangered bird back from the brink of extinction.

INSPECTION METHODOLOGY

ForestWatch field inspectors conducted visits to twelve pads in the Sespe Oil Field between August 20, 2013 and September 18, 2013 to evaluate them for the presence of microtrash. The pads were selected based on their location on federal public land – no pads on private land were surveyed. Eleven of the inspections were conducted on land managed jointly by the U.S. Forest Service and the U.S. Bureau of Land Management; one additional pad was located on land managed by the U.S. Bureau of Land Management, outside of the national forest boundary.

We requested permission to inspect several pads located inside the boundary of the Hopper Mountain National Wildlife Refuge, where public access is restricted. Unfortunately, those repeated requests were denied.

During each inspection, ForestWatch staff walked back and forth across the entire pad, picking up all pieces of microtrash and placing them in a sealed, labeled bag for further inspection and inventory at our lab in Santa Barbara. Inspectors also noted the presence of other hazards to condors, photo-documented the site, and recorded its coordinates using a hand-held GPS unit.

Back at the lab, our inspectors spread the trash from each pad and displayed it for photo-documentation. All items were then categorized, counted, recorded, and placed back into their original sealed bags for evidentiary storage.



Aerial image showing the location of twelve survey locations. One location was surveyed twice. The thirteenth survey was conducted in a separate area, on land administered by the U.S. Bureau of Land Management.

Image courtesy Google Earth.

INSPECTION RESULTS

Our well pad inspections revealed significant – and potentially lethal – amounts of microtrash at all twelve pads we visited. The “cleanest” pad contained fourteen pieces of microtrash, and four pads had 200 or more pieces of trash each. We collected a total of 1,756 pieces of trash from all pads combined, for an average of 146 pieces per pad. Summaries of each inspection and accompanying photographs are included in Appendix 1 of this report.

Table 1: Amount of Microtrash Removed During Inspections

| Pad ID | Pad Name | Amount of Microtrash (pieces) | Weight of Microtrash (pounds) |
|---------------|---|-------------------------------|-------------------------------|
| 1 | Red Rock Fire Water Tank Battery | 60 | 2.1 |
| 2 | Orcutt Central Tank Battery – 1 st Visit | 325 | 10 |
| 3 | Red Rock Wells 58-29, 67, 68 | 14 | 0.4 |
| 4 | Goodman Tank Battery | 389 | 18 |
| 5 | Shale Ridge Well 16-28 | 19 | 0.2 |
| 6 | Shale Ridge Well 15-28 | 23 | 0.4 |
| 7 | Shale Ridge Wells 77-29, 75-29, 85-29 | 24 | 1.1 |
| 8 | Goodman Wells 1, 3 | 59 | 3.6 |
| 9 | Shale Ridge Well 18-28 | 64 | 1.2 |
| 10 | Shale Ridge Wells 81-32, 88-29, 78-29 | 42 | 3.2 |
| 11 | Pipeyard, Shale Ridge Well 17-28 | 158 | 3.6 |
| 12 | Orcutt Central Tank Battery – 2 nd Visit | 207 | 10 |
| 13 | Bonebrake A Tank Battery | 372 | 16 |
| TOTALS | | 1,756 | 69.8 |

Most Common Items

The most common items we discovered on the well pads were small pieces of deteriorated rubber belts that drive the oil well pumps. These rubber belts gradually weaken over time and, if not properly maintained, they disintegrate into dozens of tiny pieces that fall to the ground. While



they were not found on many pads (only three of the twelve pads), the pads where they were found had significant numbers of deteriorated rubber pieces surrounding the well pump.

Bolts and nuts were the second- and third-most common items that we recovered during our inspections, and were found on nearly all pads. These items were typically scattered around tanks used to store crude oil and water on the well pads. Some bolts and nuts were rusted and weathered, while others were new and/or freshly painted.

Table 2: Top Ten Items Found on Oil Pads

| Microtrash Type | Number of Pieces Removed |
|----------------------------|--------------------------|
| Rubber Belt Pieces | 192 |
| Bolts | 165 |
| Nuts | 145 |
| Metal Pieces | 135 |
| Rubber Pieces | 126 |
| Wire Segments | 124 |
| Hard Plastic Pieces | 104 |
| Glass Fragments | 102 |
| Washers | 101 |
| Small Steel Rivets | 79 |

Other common items found at oil pads include small pieces of metal and rubber, segments of wire, small pieces of hard plastic and glass, metal washers, and small round steel rivets. Less-common items included nails, screws, metal or plastic shavings, aluminum foil, pieces of broken PVC pipe, tape, flagging, pieces of paper, dried paint chips, dried caulking strips, hydrogen sulfide test vials, soda can tabs, food wrappers, salsa packets, bullet casings, rags, plastic tubing, and segments of string and rope.

Cigarette Butts

We collected forty cigarette butts from eight of the pads we inspected. Nearly half of these cigarette butts were found on one pad (Orcutt Central Tank Battery) where active work was occurring. This pad was clearly marked with “NO SMOKING” signs, and is located on national forest land subject to Level IV fire restrictions. These restrictions state, “Smoking is prohibited in all areas of the national forest except within an enclosed vehicle, building, or designated Campfire Use Site.”





Orcutt Central Tank Battery (1st Visit): 325 pieces of microtrash totalling more than 10 pounds.



Orcutt Central Tank Battery (2nd Visit): 207 pieces of microtrash totalling more than 10 pounds.

Uncovered Containers

Two of the pads we inspected were active work sites (though work was not occurring on the days we visited). On these pads, we observed several uncovered containers containing bolts, nuts, and other items within easy reach of condors. These pads also contained wood pallets with cardboard boxes, many of which were opened and contained small items. The boxes on the pallets were wrapped in thin plastic, which was decomposing from being exposed to the elements. This decomposing plastic presented another source of microtrash.



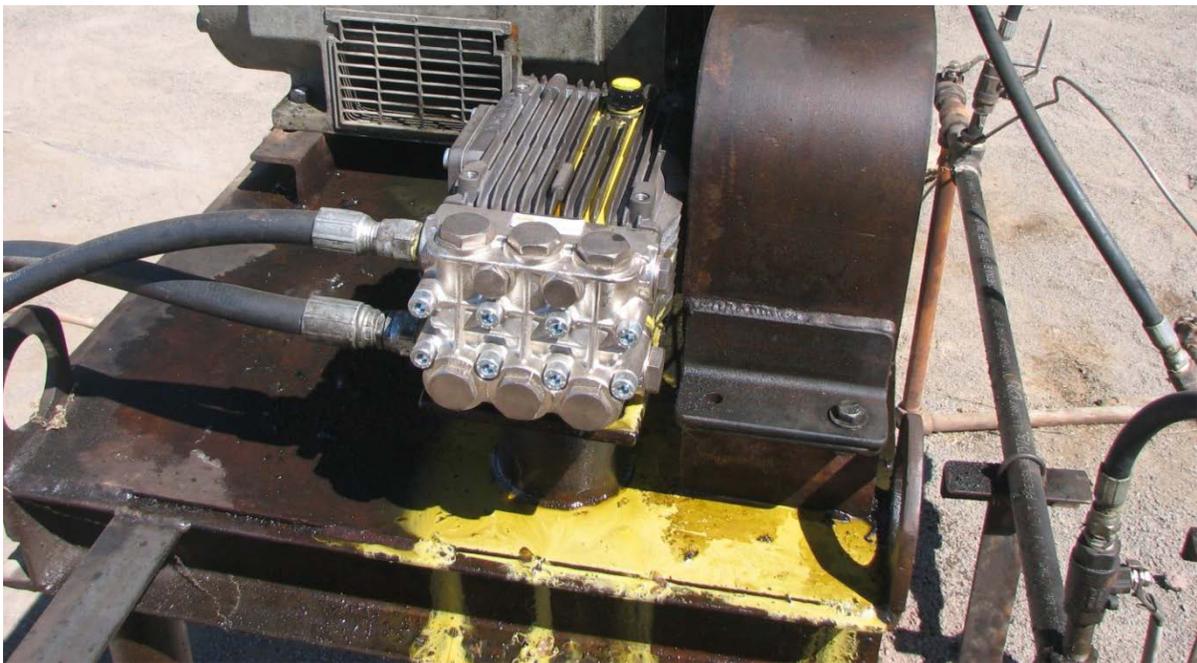
Hazardous Materials

In addition, we observed several open containers containing crude oil, chemicals, and other hazardous substances accessible by condors and other wildlife, along with leaking pipelines, tubes, tanks, well heads, and other equipment. Other hazards observed include segments of string, rope, hoses, cables, and wires that present a stangulation risk to condors. Finally, we observed eleven small pieces of melted solder at the Goodman Tank Battery and two other pads. Certain types of solder contain lead, which can be harmful or fatal to condors if ingested.





Crude oil is exposed in this open container accesible to condors and other wildlife.



Unknown yellow fluid leaking from equipment and contaminating the soil below.



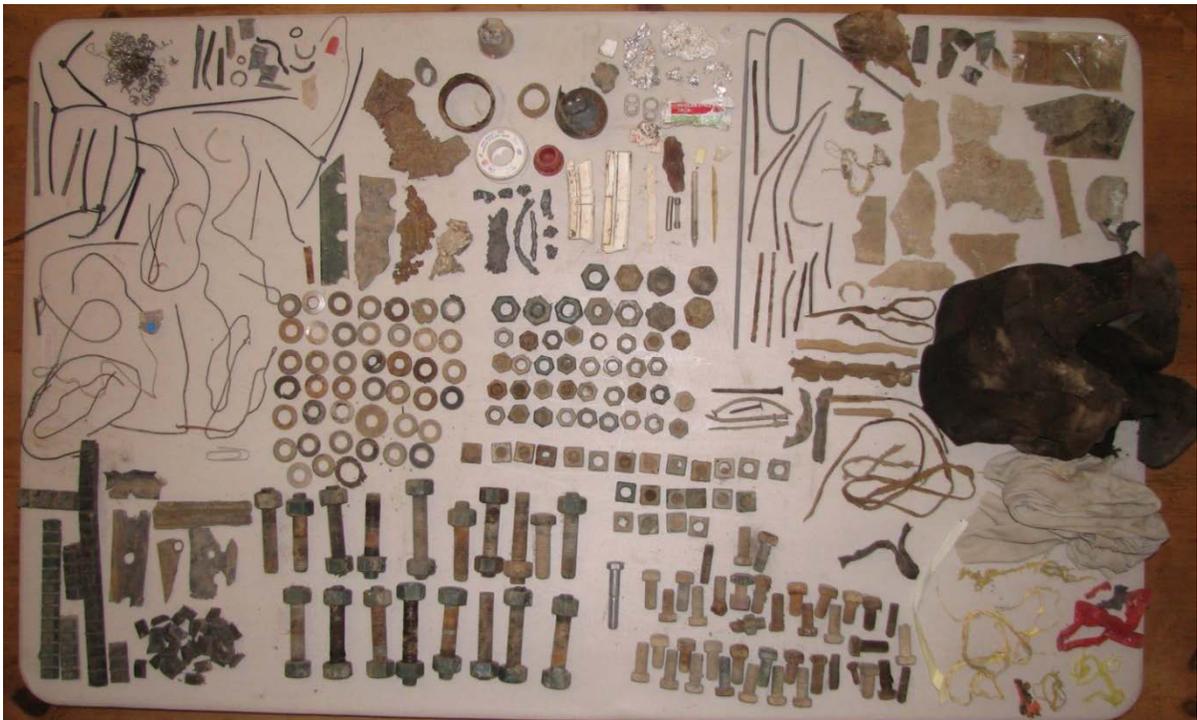
This coiled cable presents a strangulation hazard to condors.



Bonebrake A Tank Battery: 372 pieces of microtrash totalling more than 16 pounds.



Leaking chemicals and strangulation hazard.



Goodman Tank Battery: 389 pieces of microtrash totalling more than 18 pounds.

RECOMMENDATIONS

Microtrash is one of the leading threats to the endangered California condor, and one of the biggest challenges to the recovery of condors to the wild. While condor biologists and wildlife officials have long suspected that some of this microtrash is sourced in the Sespe Oil Field, no comprehensive study on the presence of microtrash in the oil field has been undertaken until now.

For the first time, we now know that microtrash is pervasive throughout the Sespe Oil Field. Every well pad we visited contained microtrash, and we observed numerous examples of the oil industry failing to comply with its own measures to reduce hazards to wildlife.

The Sespe Oil Field contains more than 150 pads, and our results suggest that all, or nearly all, of them contain significant amounts of microtrash and present significant hazards to condors and other wildlife. The magnitude of this problem is staggering, and must be remedied immediately to ensure that condors are not harmed by ongoing activities in the Sespe Oil Field. Given the threat posed to condors by microtrash ingestion and contamination, current practices in the Sespe Oil Field are placing the entire California Condor Recovery Program at risk.

We recommend that the oil industry, land managers, regulators, and nonprofit organizations work immediately and collaboratively to inspect all pads in the Sespe Oil Field, to remove all microtrash that is currently present, and to quickly enact best management practices that will eliminate microtrash and other hazards from the area. The oil industry must take immediate steps to comply with the wildlife protection measures that the industry itself put forward in 2005. Without these measures in place, the oil industry will continue to jeopardize the success of ongoing efforts to bring the California condor back from the brink of extinction. We cannot underscore the urgency of taking immediate action.

Specifically, the following steps should be taken to eliminate microtrash and other hazards throughout the Sespe Oil Field:

1. Conduct regular and thorough inspections of all pads in the Sespe Oil Field, and immediately remove and properly dispose of any trash found.
2. Train employees and contractors to properly dispose of all trash, and educate them on the importance of keeping the pads clean of all microtrash at all times.
3. Properly cover all cables and hoses that present a strangulation hazard to condors.
4. Properly cover or remove open buckets of oil and other hazardous fluids.
5. Properly cover and contain equipment on wooden pallets, including those at the Orcutt Central Tank Battery and Goodman Tank Battery and any others currently present on the well pads. Instruct employees and contractors to cover all boxes and containers, especially those containing small parts such as bolts and nuts.
6. Train employees and contractors on the importance of complying with smoking prohibitions and other fire restrictions issued by forest officers.

7. Require employees and contractors to use non-lead solder to protect condors and other wildlife from lead poisoning.
8. Regularly maintain and inspect belts on well pumps, and replace them before breakage occurs.
9. Repair leaking equipment and pipes and properly remediate any contaminated soil, including:
 - a. Goodman Tank Battery –oil leaking from storage tank
 - b. Pipeyard – oil leaking from utility pole
 - c. Orcutt Central Tank Battery – chemicals leaking from tubing, oil leaking from pipeline, and contaminated soil stockpiled
 - d. Goodman Wells 1, 3 – unknown yellow fluid leaking from equipment
 - e. Shale Ridge Well 18-28 – oil leaking from wellhead
10. Remove the following items on the wellpads to prevent hazards to condors and other wildlife:
 - a. Bonebrake A Tank Battery – remove cables near utility pole
 - b. Orcutt Central Tank Battery – remove coiled tubing beneath chemicals, and remove coiled steel cable near rollaway tanks
 - c. Pipeyard – remove all plastic straps, rope, rags, and open trash can
 - d. Shale Ridge 81-32, 88-29, 78-29 – remove bag of concrete, metal table, equipment, and empty uncovered bucket.
 - e. Orcutt Central Tank Battery – remove rag containing nuts and bolts
 - f. Red Rock Well 58-29, 67, and 68 – remove empty chemical drums
11. Grant independent nonprofit organizations reasonable access to pads on private lands in the Sespe Oil Field, as well as those lands in and surrounding the Sespe Oil Field that are administered by the U.S. Fish & Wildlife Service as part of the national wildlife refuge system. Such access is necessary to ensure future compliance with these recommendations and other best management practices to protect condors and other wildlife.
12. Hire a qualified condor biologist, approved by the U.S. Fish & Wildlife Service’s Condor Recovery Program, to inspect pads, instruct employees/contractors, and report any condor sightings to federal biologists. This should be a full-time position.
13. Prepare a field-wide Surface Use Plan of Operations to establish effective policies for the disposal of waste and the protection of surface resources in the Sespe Oil Field. Currently, no such plan exists, even though one is required under 43 C.F.R. § 3162.3-1.
14. Prepare a Habitat Conservation Plan in cooperation with the U.S. Fish & Wildlife Service to ensure that all ongoing oilfield operations are consistent with the Endangered Species Act.

APPENDIX 1: WELL PAD INSPECTION SUMMARIES

ForestWatch field inspectors conducted visits to twelve pads in the Sespe Oil Field between August 20, 2013 and September 18, 2013 to evaluate them for the presence of microtrash. The pads were selected based on their location on federal public land – no pads on private land were surveyed. Eleven of the inspections were conducted on land managed jointly by the U.S. Forest Service and the U.S. Bureau of Land Management; one additional pad was located on land managed by the U.S. Bureau of Land Management, outside of the national forest boundary.

During each inspection, ForestWatch staff walked back and forth across the entire pad, picking up all pieces of microtrash and placing them in a sealed, labeled bag for further inspection and inventory at our lab in Santa Barbara. Inspectors also noted the presence of other hazards to condors, photo-documented the site, and recorded its coordinates using a hand-held GPS unit.

This Appendix includes summaries of each inspection in chronological order. Key photographs of microtrash and other hazards are included for reference. All microtrash collected at these pads was placed back into their original sealed bags for evidentiary storage off-site.

Red Rock Fire Water Tank Battery

34°29'16.52"N, 118°53'22.28"W

| | |
|--------------------------------|------------|
| Inspection Date: | 8/20/2013 |
| Duration of Inspection: | 25 minutes |
| Items Collected: | 60 pieces |
| Weight: | 2.1 lbs. |
| Top Items | |
| <i>Glass</i> | 18 pieces |
| <i>Bolts</i> | 12 pieces |
| <i>Wire</i> | 7 pieces |

The Red Rock Fire Water Tank Battery is located atop a 3,000-foot summit in the Los Padres National Forest with panoramic views of the Sespe Oil Field, the Sespe Condor Sanctuary, the Hopper Mountain National Wildlife Refuge, and the Sespe Wilderness Area, as well as the city of Fillmore and the Santa Clara River Valley. It contains two large 350,000-gallon tanks used for wildfire protection, dust control, and other fresh water needs in the Sespe Oil Field. The pad also contains two active wells (Red Rock 65-29 and 66-29), and two idle wellheads (Red Rock 55-29 and 56-29).





Orcutt Central Tank Battery

34°29'5.91"N, 118°53'14.13"W

Inspection Date: 8/23/2013

Duration of Inspection: 40 minutes

Items Collected: 325 pieces

Weight: 10 lbs.

Top Items

| | |
|---------------|-----------|
| Steel Buttons | 67 pieces |
| Glass | 43 pieces |
| Nails/Screws | 30 pieces |
| PVC Pipe | 27 pieces |
| Rubber | 26 pieces |
| Washers | 20 pieces |
| Nuts | 19 pieces |
| Bolts | 15 pieces |
| Cigarettes | 15 pieces |
| Wire | 15 pieces |

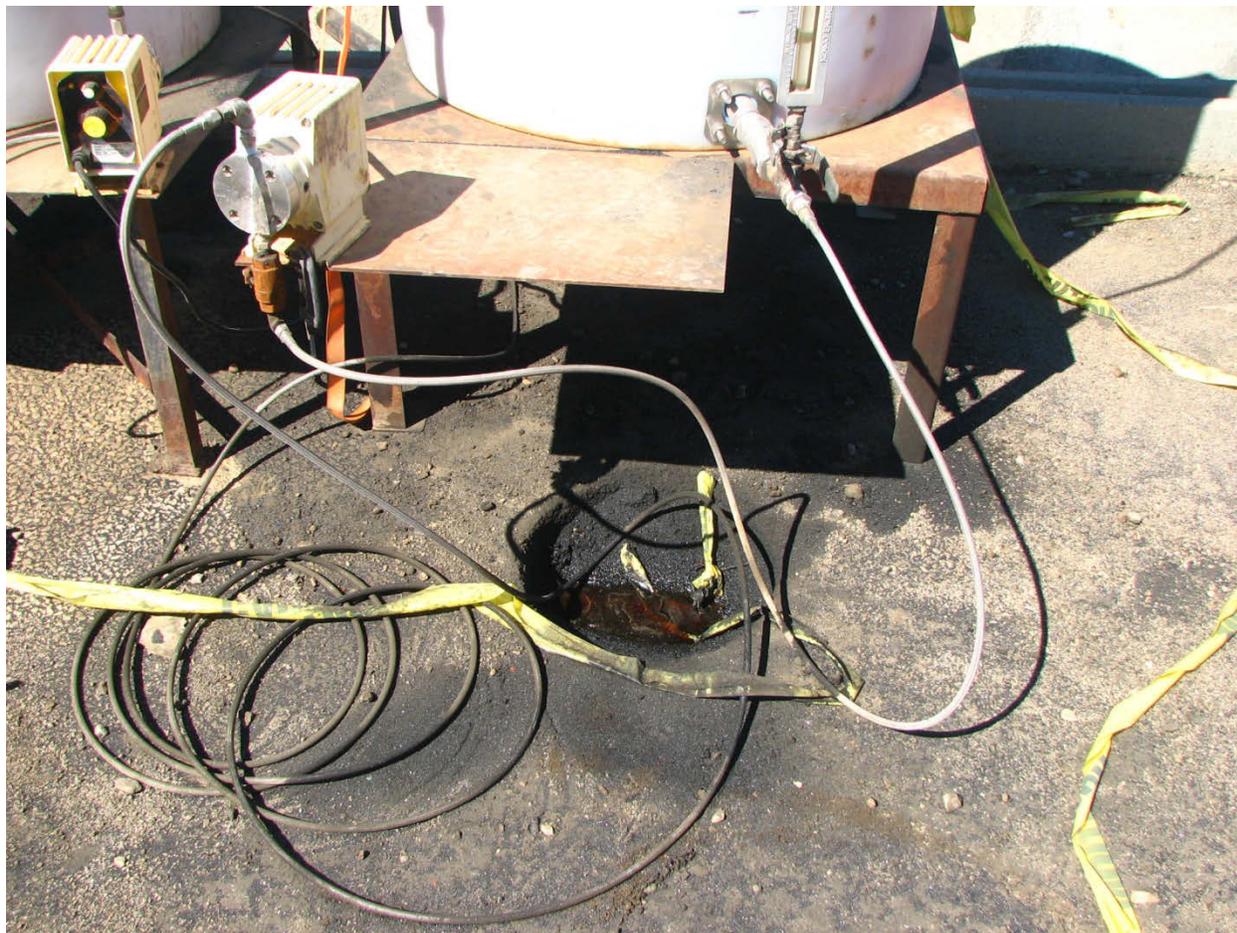
The Orcutt Tank Battery is located along a ridge above Maple Creek on land managed by the U.S. Forest Service. It includes a 1,000-barrel tank that is no longer in service, a concrete pad without a tank, two temporary rollaway tanks, two small plastic tanks filled with chemicals, and several pipelines and other equipment. The pad appeared to be an active work site, as we observed a tractor, a portable toilet, tarps, ladders, and a contractor's truck during our visit, though no workers were present. The pad contained several signs prohibiting smoking in the area.





We observed a wooden crate containing large and small parts that could present a microtrash hazard to California condors. In addition, a wooden pallet wrapped in plastic also serves as a hazard to condors. Both the crate and the pallet did not comply with the requirement to keep all construction equipment and debris in covered, closed containers.

Our inspector collected fifteen cigarette butts that had been recently smoked and discarded on this pad. Due to dry vegetation and extreme fire danger, the U.S. Forest Service recently enacted Level IV seasonal fire restrictions throughout the Los Padres National Forest. These restrictions prohibit smoking in all areas of the national forest, including on oil pads.



Two small plastic chemical tanks (labeled S31 Group Line and S32 Group Line) were located on the pad. One tank contained an emulsion breaker that is used to separate water and oil when they are pumped out of the ground together. The second tank contained an “iron sulfide control” to prevent iron sulfide buildup in equipment. We observed a pool of fluid underneath a leaking valve on the emulsion breaker tank that could pose a hazard to condors or other wildlife if ingested. This did not comply with the protective standards in place for condors.

In addition, we observed coiled hose and yellow caution tape beneath this tank, both of which present a strangulation hazard to condors. This did not comply with the requirement to cover all hoses with heavy mats to prevent access by condors.



We observed small storage containers at this pad that were also leaking oil and presenting a hazard to condors and other wildlife. This container had pools of oil on the lid because the pipe was not properly connected to the hole in the lid.



We observed a leaking pipe at this pad, contaminating the soil underneath. This contaminated soil could present a hazard to condors and other wildlife, and does not comply with the requirement to immediately clean up all hazardous fluids. In addition, we observed two large piles of dirt containing oil-soaked soil and large drops of oil that could contaminate condors or other wildlife.



Red Rock Well 58-29, 67, and 68

34°29'0.30"N, 118°53'26.14"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 8/23/2013 |
| Duration of Inspection: | 16 minutes |
| Items Collected: | 14 pieces |
| Weight: | 0.4 lbs. |
| Top Items | |
| Metal | 5 pieces |
| Rubber | 3 pieces |

This pad is part of the Red Rock Lease, and contains one active oil well (Well 58-29), and two idle wells (Wells 67 and 68). The pad is located upslope of Maple Creek on national forest land.





We observed two plastic drums on the pad. They appeared to be empty, but were labeled as containing a corrosion inhibitor. We recommend that these drums be removed and properly disposed of, to eliminate any future risk of residual fluid leaks.

Goodman Tank Battery, Goodman Wells 2 & 5

34°29'4.07"N, 118°52'50.00"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 8/26/2013 |
| Duration of Inspection: | 54 minutes |
| Items Collected: | 389 pieces |
| Weight: | 18 lbs. |
| Top Items | |
| <i>Nuts</i> | <i>68 pieces</i> |
| <i>Bolts</i> | <i>59 pieces</i> |
| <i>Washers</i> | <i>43 pieces</i> |
| <i>Rubber Belt Fragments</i> | <i>39 pieces</i> |
| <i>Metal Shavings</i> | <i>29 pieces</i> |
| <i>Metal</i> | <i>25 pieces</i> |
| <i>Hard Plastic</i> | <i>25 pieces</i> |

The Goodman Tank Battery consists of several large storage tanks on a large pad, including three 400-barrel tanks containing crude oil and produced water, a 1,000-barrel crude oil tank (S19), a 2,000-barrel blowdown tank (S21), and several other tanks containing crude oil. Several pipelines cross the pad, which also features two small plastic chemical tanks and various other infrastructure and equipment. Two active oil and gas wells (Goodman Wells 2 & 5) also occur on the pad, along with a portable toilet.





We observed two wooden pallets containing several large items and boxes of smaller items, including bolts, nuts, and small metal pipe fittings that could pose a microtrash hazard to condors. In addition, the pallets were loosely wrapped in a thin sheet of plastic that was visibly shredded in several places. A loose rag was also observed in this area, and an oiled loose rag was found elsewhere on the pad.



The pad contains an open container of hazardous fluid located at the base of a piece of equipment labeled "FB SLIDE PAD." This open container presents a hazard to condors and other wildlife.



Crude Oil Tank 8 has a small oil leak, with oil accumulating at its base that could present a hazard to condors and other wildlife.



Several open containers of hazardous fluid were observed near the tank battery.





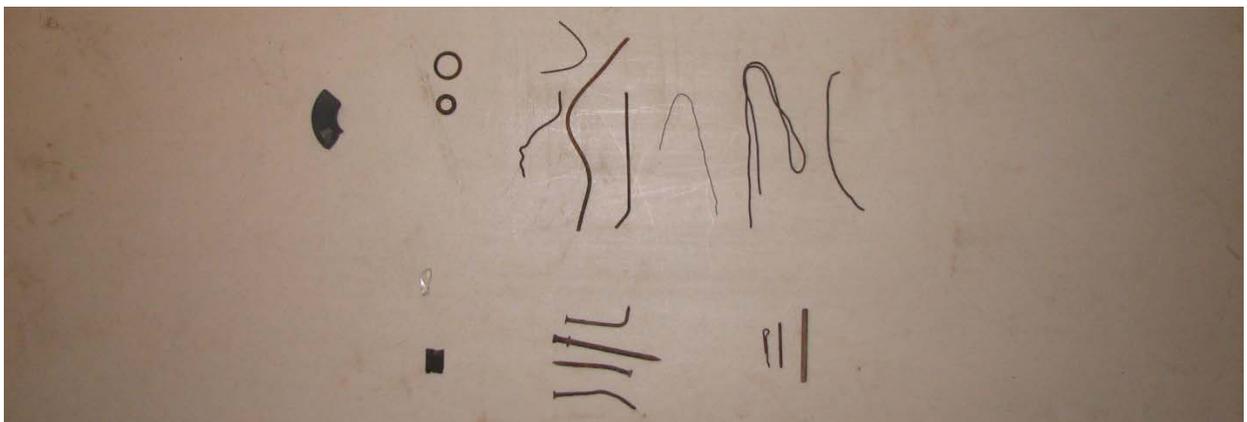
A large area of contaminated soil was observed on this pad.

Shale Ridge Well 16-28

34°29'11.33"N, 118°52'58.39"W

| | |
|--------------------------------|------------|
| Inspection Date: | 8/26/2013 |
| Duration of Inspection: | 10 minutes |
| Items Collected: | 19 pieces |
| Weight: | 0.2 lbs. |
| Top Items | |
| Wire | 7 pieces |
| Nails | 4 pieces |
| Metal | 3 pieces |
| Washers | 2 pieces |

This is a small pad on the Shale Ridge lease containing a single active oil and gas well, an electrical panel, and utility poles. It is located along the access road leading to the Goodman Tank Battery.



Shale Ridge Well 15-28

34°29'17.88"N, 118°53'5.68"W

| | |
|--------------------------------|------------|
| Inspection Date: | 8/26/2013 |
| Duration of Inspection: | 18 minutes |
| Items Collected: | 23 pieces |
| Weight: | 0.4 lbs. |
| Top Items | |
| Rubber | 5 pieces |
| Metal | 5 pieces |
| Glass | 2 pieces |
| Bolts | 2 pieces |
| Hard Plastic | 2 pieces |

This pad is located atop a 3,470-foot hilltop on the Shale Ridge lease, with panoramic views of the Sespe Oil Field, the Sespe Condor Sanctuary, the Hopper Mountain National Wildlife Refuge, and the Sespe Wilderness. It contains one active oil and gas well, a utility pole, and an electrical panel.



Shale Ridge Wells 77-29, 75-29, and 85-29

34°29'12.92"N, 118°53'12.86"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 8/26/2013 |
| Duration of Inspection: | 18 minutes |
| Items Collected: | 24 pieces |
| Weight: | 1.1 lbs. |
| Top Items | |
| Rubber | 5 pieces |
| Bolts | 3 pieces |
| Washers | 3 pieces |
| Metal | 3 pieces |

This pad is located on the Shale Ridge lease, along an access road leading to the Red Rock Fire Water Tank Battery. It contains two active oil and gas wells (75-29 and 77-29) and an idle oil and gas well (85-29) that last produced in 2007, along with a portable water tank, a utility pole, and an electrical panel.



Goodman Wells 1, 3 & Produced Water Rollaway Tank

34°28'58.50"N, 118°52'51.21"W

| | |
|--------------------------------|------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 19 minutes |
| Items Collected: | 59 pieces |
| Weight: | 3.6 lbs. |
| Top Items | |
| <i>Metal</i> | 13 pieces |
| <i>Bolts</i> | 6 pieces |
| <i>Washers</i> | 6 pieces |

This pad includes two active wastewater disposal wells, and a rollaway tank that stores produced water (underground water that is brought to the surface as a byproduct of the oil and gas extraction process). A small piece of motorized equipment is connected to hoses and underground pipelines. On the day of our inspection, the equipment was leaking an unknown fluid, yellow in color. A puddle of the fluid had accumulated around the equipment and was leaking onto the ground.









Shale Ridge 18-28

34°28'59.38"N, 118°52'58.28"W

| | |
|--------------------------------|------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 16 minutes |
| Items Collected: | 64 pieces |
| Weight: | 1.2 lbs. |
| Top Items | |
| <i>Dried Caulking</i> | 21 pieces |
| <i>Wire</i> | 14 pieces |
| <i>Hard Plastic</i> | 8 pieces |
| <i>Cigarette Butts</i> | 4 pieces |

This pad contains an active oil and gas well, utility poles, a row of electrical panels, and an old abandoned dump truck.





During our visit, we observed a significant amount of oil leaking from the wellhead that could present a hazard to condors and other wildlife.

Shale Ridge 81-32, 88-29, 78-29

34°29'1.70"N, 118°53'7.85"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 19 minutes |
| Items Collected: | 42 pieces |
| Weight: | 3.2 lbs. |
| Top Items | |
| <i>Hard Plastic</i> | <i>10 pieces</i> |
| <i>Metal</i> | <i>7 pieces</i> |
| <i>Cigarette Butts</i> | <i>5 pieces</i> |

This pad includes two idle wastewater disposal wells (88-29 and 81-32), and an idle oil and gas well that hasn't produced for several years (78-29). It also includes utility poles and an electrical panel, an abandoned bag of concrete, an old concrete pad, a small metal table with equipment, and an empty five-gallon plastic bucket.



Pipeyard & Shale Ridge Well 17-28

34°29'3.49"N, 118°53'0.89"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 35 minutes |
| Items Collected: | 158 pieces |
| Weight: | 3.6 lbs. |
| Top Items | |
| <i>Rubber Belt Fragments</i> | <i>46 pieces</i> |
| <i>String/Rope</i> | <i>15 pieces</i> |
| <i>Rubber Pieces</i> | <i>11 pieces</i> |
| <i>Hard Plastic</i> | <i>1 piece</i> |

This large pad is used to store pipes and other equipment used in the Sespe Oil Field. There is also an active oil and gas well located on the pad, along with a utility pole laying on the ground, and two covered roll-away trash bins.





We observed many strangulation hazards on this pad, including long segments of nylon rope left on the ground. We also observed larger pieces of trash, including large black plastic caps, and metal straps.





We observed this plastic barrel on the pad that is being used as a trash receptacle. It contained several pieces of microtrash and other trash, along with more nylon rope that presents a strangulation hazard to condors. We recommend that this container be covered and/or removed from the pad.

Orcutt Central Tank Battery – SECOND VISIT

34°29'5.91"N, 118°53'14.13"W

| | |
|--------------------------------|------------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 22 minutes |
| Items Collected: | 207 pieces |
| Weight: | 10 lbs. |
| Top Items | |
| <i>Bolts</i> | <i>38 pieces</i> |
| <i>Nuts</i> | <i>32 pieces</i> |
| <i>Rubber</i> | <i>27 pieces</i> |
| <i>Metal</i> | <i>19 pieces</i> |
| <i>Plastic Pipe</i> | <i>18 pieces</i> |
| <i>Wire</i> | <i>14 pieces</i> |

The Orcutt Tank Battery is located along a ridge above Maple Creek on land managed by the U.S. Forest Service. It includes a 1,000-barrel tank that is no longer in service, a concrete pad without a tank, two temporary rollaway tanks, two small plastic tanks filled with chemicals, and several pipelines and other equipment .

This was our second visit to the pad – our first visit on August 23, 2013 revealed significant amounts of microtrash at the site. The contractor’s truck we observed during our first

visit was not present during this follow-up visit. New equipment and supplies were evident at the pad, evidencing ongoing work at the site.

We also observed three uncovered paint buckets with nuts, bolts and washers. The lids were laying on the ground, so we placed the lids back on the containers so that condors would not be able to access the materials. A tool storage rack was also present on the pad, containing lots of microtrash including cigarette butts, nuts, bolts, screws, rags, and small metal components. The inspector did not remove any materials from this rack, not wanting to interfere with an active work site. Several unused packets of Taco Bell salsa were scattered on the ground next to this tool rack. We also observed a long coiled cable and noted that it presents a strangulation hazard to condors. Finally, we observed an oily rag next to the storage tank. The rag held lots of old nuts and bolts that were not removed by the inspector.







Bonebrake A Tank Battery

34°27'55.31"N, 118°55'2.95"W

| | |
|--------------------------------|-------------------|
| Inspection Date: | 9/18/2013 |
| Duration of Inspection: | 51 minutes |
| Items Collected: | 372 pieces |
| Weight: | 16 lbs. |
| Top Items | |
| <i>Belt</i> | <i>106 pieces</i> |
| <i>Wire</i> | <i>43 pieces</i> |
| <i>Metal</i> | <i>39 pieces</i> |
| <i>Hard Plastic</i> | <i>26 pieces</i> |
| <i>Glass</i> | <i>25 pieces</i> |
| <i>Rubber</i> | <i>25 pieces</i> |
| <i>Bolts</i> | <i>24 pieces</i> |

utility poles, and various pipelines and other equipment. It is located atop a 1,960-foot hilltop overlooking Fillmore and the Santa Clara River Valley, two miles west of the Hopper Mountain National Wildlife Refuge.

In addition to a significant amount of microtrash, we also observed an open container of crude oil and produced water at the S3 Production Tank on this pad. The container was easily accessible to condors and other wildlife. The inspector also noted some coiled cables at the base of one of the utility poles – those cables pose a strangulation hazard to condors.





