



<p><i>Date Prepared:</i></p> <p>September 30, 2008</p>	<p><i>BAER Project Name:</i></p> <p>Neola North Fire Burn Area Emergency Stabilization Plan Bureau of Indian Affairs</p>	<p><i>Location (Region, Agency/Tribe):</i></p> <p>Western Region Uintah and Ouray Agency Ute Indian Tribe</p>
<p><i>Prepared By:</i></p> <p>Dale S. Hanberg</p>	<p><i>Project Implementation Leader:</i></p> <p>Dale S. Hanberg</p>	

Line Item #: 1	Description of Specification: BIA Emergency Stabilization Plan Preparation	
% Of Project Completed:	Total Funds expended:	Type of funding:
100%	\$111,636.38	Emergency Stabilization
		Amount Approved:
		\$111,836.38

Narrative

What was done: The Burned Area Emergency Stabilization Plan for the Neola North Fire was completed by the BAER Team. They conducted a closeout presentation to the Ute Tribe, BIA-Uintah and Ouray Agency, USDA Ashley National Forest and other agency representatives on July 20, 2008. The Ute Indian Tribe hired an implementation leader to implement the plan on August 27, 2008.

Location of Work: The Neola North Fire burned 43,830 acres of Uintah and Ouray Indian Reservation within the Uintah Basin located in North Eastern Utah near the communities of Whitrocks and Neola. Land ownership included 22,185 acres on the Uintah and Ouray Indian Reservation, 20,377 acres managed by the Forest Service, and 1,268 acres of privately owned land.

Treatment Effectiveness: Did it work? Yes, the plan has been successfully implemented.. In general the plan was well organized and easy to understand. **Were there problems?** Yes. There was a problem with the seed mix and acreage computations for Specification BIA-9. For example specifications on page 25 of the plan, and the table on page 27 both indicate 11 pounds of seed/acre would be applied to 1538 acres of land. However item C-6 on page 25 also indicates Forage Kochia would be seeded to a polygon of 208 acres. The way the specification was written indicates 208 acres was part of the 1538 acres. The polygon was placed on top of the area proposed for reseeding and it was subtracted from the actual acreage leaving one to believe their was only 1538 acres in the treatment area.. In reality there was 1746 acre

Seed for Specification BIA-9 was ordered from the Seed Mix Table on page 27 of the plan. The basic seed mix was to be seeded to the entire area, later that winter Forage Kochia was to be re-seeded on the 208 acres.

Therefore the amount of seed ordered was based on 1538 acres rather than the 1746 acres. See the following table for details.

Seed Mix for Neola Fire Southwest Portion-DPS, page 27 of the Plan

	Planned Amount specified	Corrected amount			
<u>Common Name</u>	<u>1538 acres</u>	<u>lbs/acre</u>	<u>Bulk lbs.</u>	<u>lbs/acre</u>	<u>1746 acres</u>
• Forage Kochia (Ordered separate)	4 lbs/acre	850	4 lbs/acre	850 lbs	
• Intermediate Wheatgrass ‘Rush’	3 lbs/acre	4614	4 lbs/acre	6984 lbs	
• Siberian Wheatgrass ‘Vavilov’	3 lbs/acre	4614	4 lbs/acre	6984 lbs	
• Russian Wildrye ‘Bozoisky’	2 lbs/ acre	3076	3 lbs/acre	5238 lbs	
Total	(11) 7.53 lbs/acre	13,154	11 lbs/acre	19,206 lbs	

This error caused two problems: (1) the amount of seed that was applied was less than specified. (2) The aerial applicator set his seeder for 1538 acres. When he discovered there was not enough seed to cover treatment area he tried to adjust his seeder to cover the actual 1746 acres. This caused serious seed distribution problems. Therefore, it is necessary to reseed much of this area again.

Further Work to be done:

Because of the seed distribution problems it is necessary to apply more seed to approximately 400 acres of this treatment area later this fall. (2008)

Line Item #: 2	Description of Specification: Treatment Monitoring
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% Of Project Completed:	Total Funds expended:	Type of funding: Emergency Rehabilitation
41%%	\$47,285.81	Amount Approved: \$115,380.00

Narrative

What was done?

Twenty-five monitoring sites have been selected throughout the burn area. GPS coordinates have been established to mark each site. There is 18 nested sites 150 feet in length with five 1x1 foot photo points at stations 20, 40, 60, 80, and 100 foot intervals. At each nested site there is also five 1x1 meter vegetation inventory sites located out 200 feet from the hubs. Two of the sites are control sites. In addition six line sites have been established that vary in length from 1600 to 4000 feet. Each site is marked by driving 10 to 12 inch long nails into the ground located at each end of the site, and at each 1x1 meter vegetation site.

Treatment Effectiveness: Did it work? Yes. From the monitoring sites:

- Aerial seed efficiency and distribution has been determined and documented.
- Causes of various species of seed success and failure are being documented.
- Impacts to vegetation cover, litter, rock, bare ground, and cryptogammic crusts are being monitored.
- The effectiveness of Plateau and Journey herbicide to control cheat grass is being documented.
- The impact of Plateau and Journey herbicide on desirable grasses and forbs is being documented.
- As rangelands recover vegetation changes are being documented.
- Control sites are being studied to determine the presence of native vegetation and their responses and recovery from fire are being documented.
- From the monitoring sites cost/benefits of treatment can be determined.

Further Work to be done: Monitoring will continue this fall and until August of 2009.

Line Item #: 3	Description of Specification: Pinion-Juniper Aerial Seeding	
% Of Project Completed:	Total Funds expended:	Type of funding: (Emergency Stabilization or Rehabilitation):
100%	\$182,554.00	Emergency Rehabilitation
		Amount Approved
		\$213,820.00

Narrative



Figure #1- Shows the typical land condition following the Neola North Fire.

What was done?

Treatment area BIA-#3 includes 3366 acres of land that burned on July 20, 2007. The land was treated as specified in the Neola North Fire Burned Area Emergency Stabilization Plan. The re-seeding was completed ahead of winter snowfall with fixed wing aircraft, and 12.25 lbs seed/acre of seed was applied on October 25, 2007. Over 15 inches of snow occurred between December 8th and the 25th.



Figure #2 Preparing to load seed onto plane

Figure #2- Showing aircraft preparing to load seed mix specified by BIA-3 of the BAER plan.

Seed met the minimum standards for purity, germination, noxious weeds, and crop seeds, and the vendor provided certification testing from an accredited seed-testing laboratory within 120 prior to the delivery date, which was October 16 & 20, 2007. (See Rehabilitation Program Files in the BIA-Forestry Offices, Fort Duchesne, Utah)

The Spanish Fork Flying Service was the OAS carded contractor that under an “end service contract” applied 41,282 pounds of seed, 12.25 pounds/acre (55 seeds/square foot) on October 26 & 27, 2007. The contractor was equipped with ARCVIEW GIS in NAD 83, Zone 12 with associated metadata shape file electronic data records.

Seed was stored on pallets and protected from moisture and rodents at the Tridell Air Strip from October 16th until the time it was applied on October 26th.



Figure #3- Photo #1067 dated October 20, 2007 showing seed protection and storage.

Treatment Effectiveness: Did it work? Yes. Five monitoring sites were established throughout the treat area. Five sticky sheets were placed at fifty-foot intervals across the length of each site, and a total of 25 sticky sheets were used throughout the treatment area. The average number of seeds applied/square foot was 41.32. The seed counts ranged from 0 to 88/sticky sheet. The BAER plans specified 55/square foot. Four of the 25 sheets had less than 10 seeds/square feet.

Further Work to be done: None

Location of Work: The 3366 acres of land included in Treatment area BIA-3 borders the Ashley National Forest on the north and includes a strip of land approximately 1.25 miles wide extending westward from Farm Creek approximately 5 miles to where it enters the Pole Creek drainage. It includes Sections 26, 27, 28, 29, & 30, T2N, R1E, and USBM.

Line Item #: 4	Description of Specification Non-Native Invasive Weed Control:	
% Of Project Completed:	Total Funds expended:	Type of funding:
55%	\$25,507.24	Emergency Stabilization
		Amount Approved:
		\$52,083.00

NARRATIVE

BIA-4 specifies non-native invasive weed control on 292 acres of land during a three-year period beginning in 2007 and ending in 2009. (Total = 876 acres) Control was to be within the fire area and in proximity to the fire area. Based on this data surveys were performed to locate cheat grass populations that:

- Were within the fire are or in the proximity of the fire area.
- Seriously contributes to the increase frequency of wild fires.
- Seriously contributes to the degradation of big game winter range.
- Contributes to degradation of sage hen habitat.
- Seriously contributes to the degradation of rangeland for livestock grazing.

During these surveys 4100 acres were found that met these criteria. This land is located adjacent to the south and east boundary of Specification BIA-9 & 10. (See Figure #4)

The problem was that BARE funding was not sufficient to treat the entire area. Therefore, the Duchesne Soil Conservation Service, a sub-division of the state of Utah agreed to enter into a 50% cost share agreement to fund the entire treatment area. The treatment was estimated to cost \$190,000. From funds provided by BIA to the Ute Tribe 638 contract the, the Tribe was able to provide their 50% of the treatment.

Following the identification of the problem four monitoring sites were established in the treatment area. Vegetation inventories made on these sites indicate that 77 to 86% of the plant composition in is cheat grass. However, there is a significant component of exotic and native perennial vegetation growing within the cheat grass. Crested wheat grass, alfalfa, and other grasses were seeded to this area following the 2005 fire, but it appears that Cheat grass competition may have interfered with plant establishment and stunted perennial plant growth. One of the monitoring sites (MS-23) was located in an area that was treated with herbicide in 2007. In this site crested wheat grass weight was 205% heavier than crested wheat grass that was growing within the heavily infested cheat grass areas. Based on this we believe the treatment of cheat grass will increase the strength and size of the desirable vegetation.

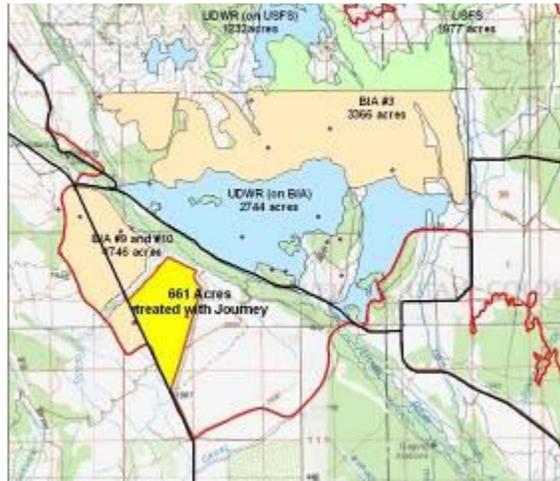
The Objective is:

- To strengthen the health and vigor of the perennial vegetation component that exists within the treatment area.
- Establish desirable vegetation in the treatment areas where there is either no perennial vegetation growing, or where there are inadequate amounts of perennial vegetation.
- Decrease the frequency of wild fires.
- Improve big game winter range.
- Improve sage hen habitat.
- Improve rangeland for livestock grazing.

Our plan includes:

1. The application of 6-ounces of Plateau/acre + 1 quart of MSO/acre prior to cheat grass germination.

2. There are areas within the cheat grass infested land where no perennial vegetation exists. Therefore we plan to reseed the treatment area with one pound of Forage Kochia and ¼ pound of Wyoming sagebrush after snowfall 2008.



**Figure #4 showing all the treatments
Within the burn area on the U&O Indian Reservation.**

What was done: Six-ounces of Plateau/acre + 1 quart of MSO/acre was applied to the 4200 acre treatment area prior to cheat grass germination on October 13-16, 2008.

Treatment effectiveness: (Did it work?) If not why? Cheat grass started to germinate on October 12, 2008. At this time many of the cheat grass seedlings are showing the effects of the herbicide application, and no other cheat grass seedlings have emerged since the treatment. However, it is too early to know the full extent of the treatment effectiveness at this date. We do not expect to know how effective the treatment is until late spring 2009.

Location: See Figure #4 for the location of the treatment area.

Further work to be done: Reseed the treatment area with one pound of Forage Kochia and ¼ pound of Wyoming sagebrush after snowfall 2008.

Line Item #: 5	Description of Specification: Post Flood Road and Irrigation Infrastructure Clean Up	
% Of Project Completed: 25%	Total Funds expended: \$5,979.00	Type of funding: Emergency Stabilization
		Amount Approved: \$23,915.00

Narrative

On September 22-23, 2007, 0.67-inch of rainfall occurred on the watershed within the boundary of the burned area. This resulted in flooding of residential homes, roads, and irrigation systems. One regulating reservoir and irrigation pipeline was filled with silt and debris.

What was done: The BIA Roads department cleaned rock and sediment from the Farm Creek highway and drainage culverts that were plugged from the debris. . BIA Irrigation assisted with cleaning the canal and reservoir. Similar floods also occurred twice more during the summer of 2008

Location of Work:

Treatment Effectiveness: Did it work? Yes, but it has not solved the flooding problem. **If not, why?** Because there needs to be additional watershed treatment to control the flooding and debris deposits.

Further Work to be done: None at this time.

Line Item #: 6	Description of Specification Native American Consultation-BIA	
% Of Project Completed:	Total Funds expended:	Type of funding:
%	\$0.00	Emergency Stabilization
		Amount Approved: \$1693.00

Narrative

What was done: The Ute Tribe Cultural Rights Chairman, or those appointed by the chairman, was present with the archaeologist during all cultural rights surveys, and they played a key roll in all decisions associated with decisions.

Location of Work:

Farm Creek community, Farm Creek Road, Regulating Reservoir and pipeline.

Treatment Effectiveness: Did it work? Yes.

Further work to be done: None at this time.

Line Item #: 7	Description of Specification: Cultural Resources Treatment Clearance-BIA	
% Of Project Completed:	Total Funds expended:	Type of funding:
%	\$0.00	Emergency Stabilization
		Amount Approved: \$70,184.00

Narrative

What was done: Cultural Resource surveys and SHIPO consultation was completed on 1740 acres of land that was planned for chaining, and 1.7 miles of new fence line. This completed all the cultural resource work required by the BAER Plan.

Location of Work:

Treatment Effectiveness: Did it work? Yes. Several cultural resource sites were identified and appropriate mitigation was included in the scope of work. None of the sites were damaged during construction.

Further Work to be done: Not at this time.

Line Item #: 8	Description of Specification: Safety Signs
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% Of Project Completed:	Total Funds expended:	Type of funding: Emergency Stabilization
100%	\$	Amount Approved: \$6,188.00

Narrative

What was done: Eight warning signs were built and placed at strategic locations throughout the burned area.



Figure #13 Greg Littlewhiteman & Leonard Thompson after installing warning sign.

Location of Work:

1. Tribal boundary on the Neola Highway.
2. U-Bar Ranch at Tribal boundary..
3. Farmcreek road as it leaves the Neola Highway.
4. Farmcreek road as it leaves Farmcreek.
5. Whiterock road as it leaves Whiterocks.
6. Bacons Park at the Tribal boundary.
7. Whiterocks river road north of the Tridell junction.
8. One sign was left for replacement.

Treatment Effectiveness: (Did it work?) Yes, but two signs were painted and or shot full of holes. The damage was done after spring warm-up.

Further Work to be done: The two damaged signs will be replaced after it gets cold.

Line Item #: 9	Description of Specification: Aerial Seeding/Chaining	
% Of Project Completed:	Total Funds expended:	Type of funding:
100%	\$0.00	Emergency Stabilization
		Amount Approved: \$114,765.00

Narrative

The BAER plan specified treating this area with herbicide (See Specification BIA-4 for details), aerial seeding, and chaining to cover the seed.

What was done?

The treatment area including 1746 acres of aerial re-seeded with 7.53 lbs of range grasses on October 26-27, 2007.



Between October 27 and November 15 the area was chained to cover the seed.

Location of Work: See Figure #10.

Treatment Effectiveness: Did it work? Yes. There should have been 11 pounds of seed planted per acre but there was only 7.53 lbs. (See Specification BIA-2 for detail) Because of the error in it was decided to plant an additional 1-lb of Forage Kochia after snow fall.

Problems: There were three problems that affected this treatment success. There was 661 acres that all the seedlings died that were planted. (See Specification BIA-4 for detail) In addition 390 acres only has approximately 50% of the perennial

1. There were seed distribution problems in part due to an error in the BAER Plan.
2. The treatment area receives an average of 9-inches of annual precipitation. The soil is a loamy-sand with approximately 50% cobble, therefore the water holding capacity of the soil is approximately 0.65-inches/foot. Throughout the entire area the top 1-inch of soil dries to wilt point within 3 days after any precipitation. There was approximately 30 inches of snow on the ground during the winter, but after April there was very little precipitation.

Further Work to be done: Through a cost share agreement with the State of Utah and Duchesne County Soil Conservation District the Ute Tribe is able to Re-seed the 661 acres where the seeding failed plus 390 acres where seedling survival was below planned standards. This will be accomplished after snow fall 2008. (Total acres 1051)

Line Item #: 10	Description of Specification Aerial Herbicide	
% Of Project Completed:	Total Funds expended:	Type of funding:
%	\$0.00	Emergency Stabilization
		Amount Approved:
		\$67,833.00

Narrative

The BAER Plan specified the use of herbicide to control cheat grass on the (1538) 1746-acre treatment area. It is important to understand the 1746-acre includes 1085 acres of land that burned in 2007, and an additional 661 acres that burned twice, once in 2005 and again in 2007. Vegetation studies indicate cheat grass made up from 77 to 86% of plant composition in this area by 2007.

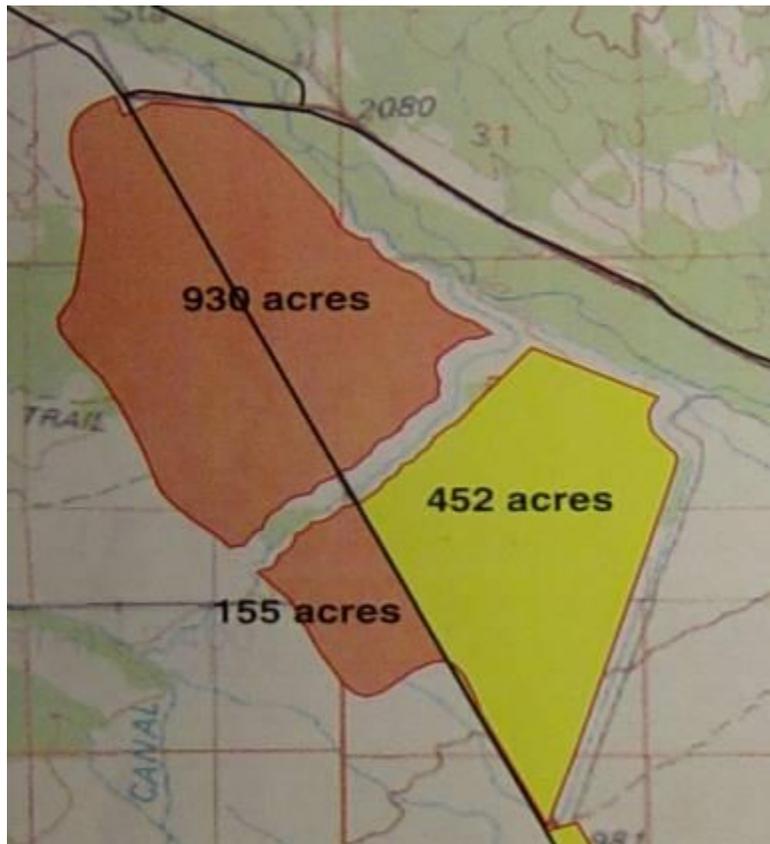


Figure #4 showing the location of the Treatment Area #4

What was done: Plateau and Journey were the herbicide selected. Plateau is effective for controlling cheat grass prior to germination, but within a few days following germination it is not effective. Journey is recommended after germination. Cheat grass germinated on September 12th on the 661 acres therefore Journey was used to treat this area shown in yellow. (See Figure # 4) Cheat grass had not germinated on the remaining 1085 acres shown in bash, therefore Plateau was used to treat this area.

Location of Work: The treatment area is located approximately 2 miles north of the communities of Neola, and 10 miles west of Whiterocks on the Uintah & Ouray Indian Reservation in the South West portion of the burned area. (See Figure #4)

Pre-treatment Conditions:



Figure #5 Shows 1085 acres burned in 2007



Figure #6 Showing 661 acres burned 2005 & 2007



**Figure # 7 Showing 1085 acres burned in 2007
No cheat grass present.**



**Figure# 8 Showing cheat grass & mustard 2008
on the 661 acres that burned 2005 & 2007.**

What was done?

On October 8th Journey herbicide was used to treat 661 acres of land where cheat grass seedlings were present. The application rate was one pint/acre of Journey plus one quart/acre of Hasten (HMO). That same day Plateau herbicide was applied to the 1085 acres of land at the rate of 6 ounces/acre.

Treatment Effectiveness: Did it work? Yes.

These photographs show progressive effects of Journey herbicide on cheat grass and mustard. Vegetation surveys performed in September 2008 indicate that 86 to 96% of cheat grass had been killed on the treated areas.



Figure #9 Showing untreated cheat grass 10/22/08



Figure # 10 Showing treated cheat grass 10/19/08



Figure #11 Showing untreated cheat grass 11/27/08



Figure# 12 Showing treated cheat grass 11/27/08

What did not work? Journal entries as early as March 21, 2008 state that grass seedlings are sprouting and are about 3/8 inches long. On April 14 the entry states “Checked on seed germination and it appears a lot of seed has germinated, but during the past two days it has turned warm and the soil moisture in the surface 1-inch is very dry. Soil moisture below 1-inch is at field capacity. Even though grass seedlings have germinated well many of them appear very weak. I suspect the weak seedlings have lost contact with soil moisture. The plants that have made contact with the moist soil appear healthy and well.” Journal entries April 17 state indicate air temperature 59°F, Soil temperature 58°F. Both planted seed and cheat grass seed is present on Monitoring-site #4, but by April 19th “During the last two weeks all cheat grass and planted seedlings died. The seedlings had all died on the 661 acres of land that had been treated with Journey herbicide. The implementation leader believes there must have been herbicide residual remaining in the soil. This coupled with dry soil in the surface 1-inch of the and warm temperatures may have resulted in the death of the new seedlings. Howard Horton of the US Research laboratory at Logan visited the site and he also suspected that the herbicide had something to do with the death of the seedlings.

Further Work to be done: After consultation with Howard Horton, Jim Brown, Cheryl Goodrich, and Karen Korts it was recommended that the area should be reseeded. Therefore, with matching funds from the state of Utah through the Duchesne County Soil Conservation District it has been decided to reseed the 661 acres again this fall.

Location of Work: Treatment area BIA-10 is located 3.5 miles north of Neola, Utah. Section 6 & 7, T1N, R1N, Section 1, T1N, R2W, Section 36, T2N, R2W, USBM.

Line Item #: 11	Description of Specification Protective Fence Repair	
% Of Project Completed:	Total Funds expended:	Type of funding:
%	\$0.00	Emergency Stabilization
		Amount Approved:
		\$87,833.00

Narrative

The BAER Plan specifies the repair of 10 miles of fence repair to protect the seeded areas. The Ute Tribal Resources department accepted this responsibility. They started construction and repair activities on April 22, 2008. Heavy winter snow prevented fence construction through the winter.

What was done: At this date 4.7 miles of fence has been repaired. The fence completed is located North of the road between Farmcreek and the Youth Camp on the Uintah River. (Actually the tribe completely re-constructed the fence.)



Figure #13 Fence repair, basically a new fence

Location of Work: At places throughout the burned area.

Treatment Effectiveness: Did it work? Yes.

Further Work to be done: Two fences need to be completed. They include:

- A 2-mile fence south of the Uintah River. (This fence will require minor repair and is expected to be completed before November 2008.)
- The Bacon Park fence that is 2.87 miles in length. (Approximately ¾ miles of this fence will require new construction, and it expected to be completed by November 2008.)

Line Item #: 12	Description of Specification: Lop and Scatter for Wind & Water Erosion Control	
% Of Project Completed:	Total Funds expended:	Type of funding: Emergency Stabilization
%	\$	Amount Approved: \$113,472.00.00

Narrative

This project includes the lop & scatter treatment of 327 acres. The BIA Forestry department, with the help of Ute Tribal employees, plan to complete this treatment area. The project begin in the fall of 2007 and has continued at intervals until this date. Plans are to complete the treatment area by the spring of 2009.

What was done: Approximately 150 acres has been completed.



Figure #13 Alonzo John-Winter of 2008



Figure #14 Showing the effect of Lop & Scatter And its affect on seedling establishment.

Location of Work: located north of Farmcreek and Bacon Park on the Uintah and Ouray Indian Reservation.

Treatment Effectiveness: Did it work? Yes in some areas. There are areas where litter has been placed in small drainages and it appears to be reducing sedimentation. Where the lop & scatter was completed through the winter it has helped establish new seedlings.

Further Work to be done: The following still needs to be completed:

- 177 acres still needs to be chopped and scattered.
- The area that was completed during the winter still needs the stumps cut to 6" height.

Line Item #: 13	Description of Specification: Law Enforcement-Surveillance-BIA	
% Of Project Completed:	Total Funds expended:	Type of funding:
100%	\$0.00	Emergency Stabilization
		Amount Approved:
		\$16,536.00

Narrative

This treatment activity was completed by the Ute Tribal Police Department.

What was done: General surveillance of the entire burned area.

Location: Surveillance took place throughout the burned area.

Treatment Effectiveness: Did it work? Yes. At this date no incidents have occurred except the vandalism to two warning signs explained in BIA-8.

Further Work to be done: Continue surveillance through September 30, 2009.

Line Item #: 14	Description of Specification: Protective Fence Construction	
% Of Project Completed:	Total Funds expended:	Type of funding:
%	\$	Emergency Stabilization
		Amount Approved: \$163,231.00

Narrative

The Ute Tribal Resources department performed the New Fence Construction Treatment.



Figure 15 Showing New Fence Construction

What was done: The final inspection has not been completed at this date, but over 95% of the new fence construction has been completed. There may be a few gates and general clean up that still needs to be done otherwise the fences are complete. New fence construction includes:

- | | |
|--|-------------------|
| • Boundary fence between the U&O Indian Reservation and the Ashley National Forest | 5.5 miles. |
| • Pole Creek Fence | 1.4 miles. |
| • Neola West Fence | 3.2 miles. |
| • <u>Neola East Fence</u> | <u>1.9 miles.</u> |
| Total | 12 miles |

Location of Work:

Treatment Effectiveness: Did it work? Yes. As can be seen in Figure # 15, the fence was well constructed.

Further Work to be done: The final inspection and the completion so some gates and clean up.