

3/1/93

March 1, 1993

Memorandum

To: Director, National Program Office(NV-960)  
From: Deputy State Director, Lands and Renewable Resources  
Subject: Report on Net Gun Capture Effort Near Lake Mead, Arizona

In November of 1992, Lake Mead National Recreation Area(NPS) participated with Arizona BLM in an effort to evaluate aerial net gunning as an alternative method of capturing wild burros.

The effort demonstrated the humaneness and efficiency of this capture method. After evaluating the data and seeking input from special interest groups associated with wild horses and burros, we have determined that this method can be used as an alternative management tool when the need to capture wild burros is present. Enclosed is our report on the capture effort and associated reports and data that demonstrated the feasibility of net gun capture.

Thank you for giving us the support required to conduct this study.

Sincerely,

Beaumont C. McClure  
Deputy State Director  
Lands and Renewable Resources

Enclosure-10

Enclosures:

1. Report: Net Gun Capture of Wild Burros
2. Observations, Medical Reports and Recommendations on Net Gunning from Helicopter Burro Capture Technique
3. Memorandum, Burro Fatality at Receiving Pen, Temple Bar Net Capture
4. Memorandum, Burro Net Gunning Project
5. Letter, Commission for the Preservation of Wild Horses
6. Letter, International Society for Mustangs and Burros
7. Memorandum, Request-Burro Removal, Temple Bar Area - Gypsum Beds - Lake Mead National Recreation Area
8. Aviation Management Plan for Net Gunning Project at Temple Bar
9. Request-Helicopters Landing and Refueling at Temple Bar Air Strip
10. Aircraft Use Reports(OAS-23)

**REPORT: NET GUN CAPTURE OF WILD BURROS**

Prepared by:  
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Wild Horse and Burro Specialist  
Bureau of Land Management  
Arizona State Office

## NET GUN CAPTURE OF WILD BURROS ON LAKE MEAD NATIONAL RECREATION AREA

The National Park Service requested the removal of problem wild burros inhabiting an area of Lake Mead National Recreation Area that has a sensitive plant species occurring there. The area is geographically referred to as "Gypsum Beds". BLM has visited this area several times in the past, removing wild burros by the traditional capture methods including helicopter/rope and helicopter/trap. The last time wild burros were removed from this area was May of 1992 when 30 animals were captured at a cost for the helicopter of \$7,908.84 (\$263.63 per head). After the capture, it was evident that there were still animals in the area. Captures in the area will have to continue until NPS is satisfied that the problem has been resolved. Both the BLM and NPS were looking for suitable alternative capture methods as both agencies realized that as animal densities decrease, the cost associated with spotting and capturing wild burros will increase. BLM and NPS agreed to co-fund an experimental wild equine capture method using a helicopter platform from which the animals would be net gunned. This technique is employed successfully on other large ungulates. Use of this technique on wild burros in Death Valley was conducted in the past and the results were less than satisfactory.

The National Wild Horse and Burro Program in Reno, Nevada had been approached by a private contractor based in Salt Lake City, Utah wanting to demonstrate the feasibility of capturing wild equines by net gun. The company's expertise had been accumulated in New Zealand with 20 years of experience capturing large ungulates using the helicopter/net gun method. Contact was made between Scenic Helicopters and Arizona BLM. The proposed capture of wild burros occurring outside of the Black Mountain Herd Management Area near Temple Bar on Lake Mead National Recreation Area was selected as an area to demonstrate the feasibility and humaneness of the capture method. Special interest groups were invited to attend to monitor the humaneness of the operation. A veterinarian was contracted to monitor the physical response of the wild burros to be captured (report enclosed). A second helicopter was employed as a follow ship to give BLM and NPS personnel an observation platform from which to monitor the net gunning operation. The aviation branch of the Kingman Resource Area fire program was involved to run the air operation to ensure helicopter safety was up to standard as prescribed by OAS and BLM (See enclosed Air Operations Plan). A representative of OAS was also on hand to monitor the air operation (report forth coming).

The program began Sunday, November 1, 1992 when the crew and pilot from Scenic Helicopter and the pilot from Versatile Helicopter (follow ship) were brought into the Kingman Area Office for a pilot and mission briefing. Monday November 2, 1992 was the first day of the capture operation. This day was used to demonstrate the humaneness of the capture method. Representatives from The Nevada Wild Horse Commission and the President of Wild Horse Organized Assistance (WHOA) were present on day one and day two of the operation. Nine animals were captured on the first day. The veterinarian (Dr. Jerry Zitterkofft DMV) was in the follow ship and when an animal was netted, the follow ship would land immediately and Dr. Zitterkofft would disembark and monitor the stress level indicators of the burros. The second and third day were used to let Scenic Helicopters operate freely while being observed by BLM and NPS personnel from the follow ship. A BLM wrangler was part of the flight

crew of the second ship and was available to assist the Scenic Helicopter crew if problems arose while handling the netted animals. Once the burros were netted, they were slung below the capture helicopter and transported to a holding facility. The veterinarian was located at the holding facility on the second and third days to monitor the physical stress indicators as the animals arrived. The president of the International Society for the Protection of Mustangs and Burros (ISPMB) was present on the second and third day. Seventeen and eighteen wild burros were captured on day two and day three respectively.

## METHODOLOGY

A Hughes 500, model C was used as the capture ship. It would enter into the area designated for population reduction and begin a search pattern. Because this area is slated for complete removal, any wild burro observed became a target animal. The helicopter would engage into the pursuit mode. This would usually entail working the burro into an advantageous position to be captured. This could mean moving the animal away from rocky, steep hazardous terrain on to more favorable ground to reduce the risk of injury when the animal became entangled in the net. As the helicopter came up on the left rear quarter of the burro, the net gun was fired when the burro was within range (usually 10 to 20 feet). Typically there were two types of entanglement. The first was when the burro became completely tangled in the net while running at a fast speed, the net centered near the head with the leading edge of the net rolling up under the burros front legs causing the burro to take a header. This usually resulted in the burro suffering chipped teeth or abrasions about the head. The result was that the burro was immediately on the ground. The capture ship would land with the net gunner jumping out of the ship and running to the downed burro. He would work to secure the burros four legs with nylon hobbles. The animal was then removed from the net (on the second and third day to demonstrate time and speed of the operation, the net was left on the animals). A wide nylon strap was then run through the hobbles and attached to the bottom of the helicopter. The burros were then slung back to a central holding corral and lowered slowly to the ground by the pilot. The ground crew then took the hobbles off and in the case of it still being in the net, removed the net. The animal was then left alone to get up when it felt safe enough to do so. The second typical response to being entangled in the net was when the burro was traveling at a slower speed. The burro would be trotting along when the net was fired. The net again was centered near the head. As the leading edge of the net rolled up under the front legs, the legs became entangled in the nylon webbing. The result was that the burro ended up with its feet tied up. Because of the cautious nature of a wild burro, once the burro realized this, it would stop. The result was that the burro was left standing tangled in the net. In this instance, the capture ship would land and the gunner would have to circle behind the burro and tail it to the ground. Once on the ground, the operation continued as described above. This type of net entanglement led to abrasions around the legs as the burro tried to free its legs from the net. Once it realized its predicament, it would stand waiting to see what came next.

On day one the contracted veterinarian was in the follow ship. When an animal was captured, the follow ship landed, and the veterinarian ran to the immobilized burro(or at least partially immobilized) and monitored stress indicators such as pulse and temperature(see enclosed report). He also noted any injuries. On day two and three, the veterinarian was located at the drop zone or holding corral. There, he again monitored the animals for measurable indicators of stress and also noted injuries.

After each days capture effort, the burros were loaded into a goose neck trailer and transported to the Kingman Wild Burro Preparation Facility where they were segregated from other animals. This allowed the veterinarian to observer the animals for an extended period of time to see if there were any problems that would occur later because of the stress associated with this type of capture. The animals were prepared for adoption in the normal and accepted fashion. Of the animals that were captured using the net gun technique, there was no noted increase of problems such as elevated occurrence of aborted foals, orphan foals because of their mothers refusal to accept them, loss of appetite, unwillingness to drink or death.

## RESULTS

The experimental capture effort netted 44 wild burros in three days. Of these, there were two deaths. On the first day when the operation was designed to demonstrate the humaneness of the method, a 9 nine year old stud died while on the ground in the net. Observations of this burro indicated he may have been in ill health before being netted. This burro was running with a group of other burros. When the capture helicopter began to put pressure on the burros, the nine year old stud quickly fell behind. The stud was netted, the capture ship landed and the net gunner ran to the burro. While trying to free the burro from the net, the animal expired. The veterinarian was present at the time of death and nothing could be done to save the burros life. Tissue samples were taken for further examination(see enclosed Veterinarian report). On the third day of the operation, a second death occurred. This was a three month old jenny foal that was being slung into the holding corral with two other burros. As the helicopter approached, I observed that the foal was not moving and the eyes glazed. As the helicopter set the burros down I realized the burro was dead. Its head was twisted back and the net which had been left on had slipped up around the muzzle, deeply creasing the skin. The foal was pulled to the side and the other two burros were removed from their nets. The veterinarian then examined the dead foal. Two things were discussed. First, care should be taken when slinging burros to prevent placement that might facilitate injury or death and second, when an injured or dead looking burro comes in, notify the veterinarian. Even though the burro may appear dead it could possibly be resuscitated. Of the 44 wild burros captured, 27 were uninjured. Besides the two deaths eight burros had injuries about the head(one severe but not enough to require stitches), three with abrasions about the legs and four with injuries to both head and legs. No

injuries were serious or life threatening requiring major medical treatment or follow up care. All of the injuries were minor and were treated locally with antiseptic spray with no dressing applied. None of the injuries required treatment once the animals had been received at the Kingman Wild Burro Preparation Facility nor were there any injuries or illnesses discovered once the animals had arrived at the Kingman facility.

## COMPARISON

In May of 1992, a traditional capture event took place in the same area. During that capture effort, 30 burros were captured. Of those, five(16%) were run into a wing trap and twenty five(84%) were roped. Because these are standard capture practices, no records were kept on injuries occurring to the animals so no comparison can be drawn between traditional and net gun capture techniques. No deaths, were recorded during the traditional capture event. Typically, the death loss at the capture site is near 1%. Death loss at the net gun capture site was 4.5%.

The highest cost associated with the capture of wild burros is the cost of the helicopter. It is understood by most people involved with the capturing of wild burros that as the number of burros in a wild population decreases, the density decreases and because of their coloring, social behavior and lack of movement due to no natural airborne predators causing no natural fear from helicopters, wild burro observation rate decreases. Because of this, the fewer burros that are in a wild population, the harder you have to hunt for them, and the more flight time is required to find them. Once located, suitable capture sites have to be found, the animals then located again and then put into groups that can be efficiently driven to the selected capture site. This requires at least two flights to locate the burros in addition to the second flight requiring time to group and herd the animals. Every minute in the air whether locating or herding burros escalates the cost of animals captured.

In May of 1992, the capture area was scouted and the burros located. A trap site was selected and a temporary trapping corral constructed. The capture helicopter again went and located the burros. By the time the corral was completed, the burros had wandered in various directions. Five animals were placed in the trap but several others were spilled and had to be roped. The rest of the animals had moved to locations that made it uneconomical to try to drive them back to the trap. Instead, the capture crew was loaded into trucks and trailers and driven to several locations that the burros had wandered to. Suitable ambush locations were located and the helicopter went and located the animals again, driving them to the areas where the wranglers were concealed in ambush. In this way, most of the animals initially observed were captured but several that were sighted on the first flight were never located again. It took 14.8 flight hours of helicopter time to capture the 30 wild burros(2.0 burros per flight hour or \$263.63 per head captured).

In another area slated for excess animal removal located in the northern portion of the Black Mountain Herd Management Area, 38 burros were captured using a helicopter to herd the animals into a wing trap. This operation required 7.2 flight hours to complete. If animal occurrence is high enough, wing trapping is a very efficient method to capture wild burros. This

operations efficiency was 5.7 burros captured per flight hour at a cost of \$103.14 per burro captured. In a second capture effort in the northern section of the Black Mountain Herd Management Area, 59 excess wild burros were captured. Of the 59 captured, 55(93%) wild burros were roped with 4(7%) run into a wing trap. This capture event required 37.5 flight hours or 1.6 burros per flight hour at a cost of \$267.98 per burro captured. Net gun operation required 10.6 flight hours to capture 44 animals at a rate of 4.1 burros per flight hour. The cost of the net gunned animals when just examining the cost of the net gun helicopter was \$244.87 per burro captured. When the total cost of both the net gun ship and the follow ship are considered, the cost per burro captured rose to \$447.25.

When considering the cost of burros captured by the experimental net gun method, there are two factors that will slightly skew the figures. The first being that the first day of the net gun operation was restrictive to the efficiency of the effort as the operation was slowed so the humaneness of this method could be evaluated. This would increase the flight hours per burro captured which would cause the overall cost to rise. The second thing that would influence the fairness of the efficiency evaluation would be while the follow ship was in the air, it also located burros and radioed these sightings to the capture ship. This increased the observation rate of a low density population by having two spotter aircraft working the area. This would increase the efficiency of the capture ship thus lowering the cost of burros captured per flight hour of the capture ship. Because one procedure influenced the cost upward while the second influenced the cost downward, the capture efficiency is close enough for a comparison with other capture methods but should not be used as an absolute capture cost comparative estimate.

#### Comparison Captures

<u>Capture area</u>	<u>Method</u>	<u># Captured</u>	<u>Flt. Hr.</u>	<u>Burro/Hr</u>	<u>Cost/Head</u>
Temple Bar	Net Gun	44	10.6	4.1	\$245
Temple Bar	Rope	30	14.8	2.0	\$264
N. Blk Mtns	Wing Trap	38	7.2	5.7	\$103
N. Blk Mtns	Rope	59	37.5*	1.6	\$268

\* Capture effort involved extensive time flight time scouting

Reservations: Though the net gunning capture method clearly has merit, it is unrealistic to think of it as a replacement for standard capture methods. Even though it appears to be humane in the capture and delivery of wild burros, injuries and death loss can be expected to be higher than experienced during standard capture operations. Realizing this, death loss and injuries can be reduced through training and a continued conscious effort to maintain safety for personnel and animals.



Because the size, behavior and temperament of wild burros is much different than that of wild horses, this report should not be taken to be a recommendation to use this method of capture on all wild equines. Before employing this capture method to capture wild horses, a similar test should be conducted on a small scale for wild horses. An ideal situation would be on wild horses in good health that are in imminent danger of death or injury and have to be removed to preserve their health or lives. Because of their larger size and tendency to panic, wild horses would probably be running at greater speeds which would make their fall to the ground harder, increasing the chances of death or injury. Once netted, wild horses would be expected to thrash around more and harder to handle. This too, would increase the chance of injury. This is only speculation. A test needs to be conducted to demonstrate how wild horses behave when netted from the air. Even if this is the case, net gunning wild horses may still be acceptable if death or destruction of the herd is imminent.

During the operation, it was noted on several occasions that Scenic Helicopters had complete disregard for helicopter safety as outlined in OAS and BLM Aviation directives. This problem can be easily over come by working with the operators of the helicopter company. If they fail to comply with aviation safety requirements while on the job, the operation can be terminated.

Advantages: There are some advantages to utilizing net gunning wild burros over standard capture techniques. In areas that are remote with no vehicular access to set up capture sites, wild burros can be removed efficiently and humanely.

In areas where a manager wanted to do selective removals targeting specific animals for capture, it can be done effectively. Instead of capturing all the wild burros in an area and sorting out those animals that are to be released, they could be spared the stress of confinement and handling by handling only those animals slated for removal.

Wild burros have to be removed immediately because an imminent threat to their life can be quickly removed.

In areas where population densities are low or when removing the last of a population from an area where the alternative is destruction of the last remaining animals.

## RECOMMENDATIONS:

When examining the net gunning operation as an acceptable method of capturing wild burros in a humane manner, I find it to be an acceptable population management tool. The death loss of a net gun capture operation can be lowered with more experience in netting wild burros and more care taken with the animals as they are being transported to the holding facility. The occurrence of injuries can also be lowered as experience is gained in netting them by taking time to maneuver them in to safe terrain and working to get the burro into a slower gate.

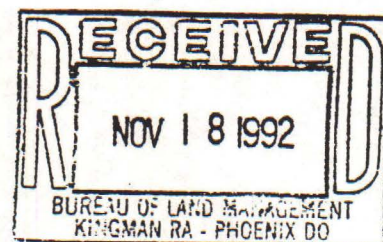
When examining the net gunning operation on the basis of cost per animal, it is comparable to traditional capture methods. Net gunning can be more economical when dealing with low density populations.

Based on the humaneness of net gun capture and the cost of animals captured for flight time, Arizona BLM recommends that net gunning wild burros be excepted as an alternative capture method.

OBSERVATIONS, MEDICAL REPORTS  
and  
RECOMMENDATIONS  
on  
THE NET GUNNING FROM HELICOPTER  
BURRO CAPTURE TECHNIQUE

Temple Bar Recreational Area  
November 2, 3, 4, 1992

Dr. Jerry L. Zitterkopf



REPORT ON BURROS CAPTURED  
AT TEMPLE BAR ON NOVEMBER 2,3,4 1992

INTRODUCTION--

The following data and observations were taken on Nov. 2,3, and 4th near Temple Bar Landing Northwest of Kingman Arizona. The information has been gathered and documented for the purpose of determining one aspect of the feasibility of capturing wild burros by means of net-gunning from helicopters. This report is presented in effort to evaluate this technique from the perspective of an individual concerned with the health and welfare of the animals being captured. No attempt is made to compare the helicopter net gunning technique with other techniques currently available nor does this report attempt to address the over all feasibility of this technique.

OBSERVATIONS AT NET SITE  
November 2, 1992

TABLE 1--

Burro #	Color	Sex	Age	Temp.	Pulse	Comments
Burro 1	Grey	Stud	8yrs	not taken	not taken	
Burro 2	Black	Stud	2yrs	99	120	
Burro 3	Black	Jenny	12yrs	101	135	very small cut on nose
Burro 4	Black	Stud	1 1/2yr	none taken	80	no injury
Burro 5	Grey	Stud	1 1/2yr	102	120	no injury
Burro 6	Grey	Stud	7yrs	101	130 3-4 min. later 88	broken left incisor
Burro 7	Black	Stud	8yrs	100	152	small nick bleeding on flank
Burro 8 DOA*		Jack	9yrs	101		
Burro 9	Grey	Jack	8yrs	103	120	Abrasions on nose
Average			6.33yrs	101.0	122	

\*

Burro #8 was agonal upon examination which occurred within 3 minutes of netting. The abdomen appeared slightly pendulous. There was no external bleeding of any significance. I was unable to detect any bony crepitus on movement of the head and neck although a broken neck could not be precluded by such an exam. Examination of the abdomen revealed normal abdominal contents with the exception that the stomach was extremely full of feed material and the omental fat and fat lacing about the viscera was a golden yellow color (this color is often a normal pigmentation seen in grass fed beef which may have been the cause here as well). There was no excessive peritoneal fluid. Liver and kidney tissue were taken for histopathology.

Examination of the chest cavity was unremarkable except that a subjective evaluation of the heart was that it might have been considered enlarged. Heart size is extremely variable in the equine species among apparently healthy animals. However, the proportion of the left ventricular wall (3/4") to the right ventricular wall (1/4") (that is a ratio of 3:1) can be considered normal in the equine. In addition there was no other indication of congestive heart failure (i.e. peritoneal or pleural effusion, liver enlargement, or thinning of the right ventricular wall). Normal pericardial fluid was present. The lungs were normal appearing.

Blood was drawn for a complete Blood count and Chemistry, all findings were within normal limits for an animal of this type and age. (See table 2 .)

Histopathology of the kidney tissue was considered normal. Minor inflammatory changes were considered insignificant. (See report 1.)

Histopathology of the liver tissue was not accomplished as a result of the tissues being confused and the liver tissue being discarded by a technical assistant. However, the liver appeared grossly normal and from an evaluation of the chemistry panel it can be ascertained with a high degree of certainty that this animal did not die as a result of any condition related to his liver.

The cause of death in this animal therefore is not determined. From all the findings noted above I believe it can be safely stated that death was directly related to the capture procedure. It is possible the animal died as a result of extreme stress related to capture or as a result of a broken neck or back which could not be precluded by the type of examination that was possible under field conditions.

This animal was not subjected to a lengthy or arduous capture. I would estimate that it was captured within 3 minutes of engagement but seemed to be slow and sluggish in his movements prior to capture.

The following are the Chemistry results from Burro #8.

TABLE 2--  
CHEMISTRY                      RESULT    NORMALS                      HEMATOLOGY                      NORMALS

Glucose	90	75-115	WBC	4.5X10 <sup>3</sup>	5.5-14.0
BUN	16	10-25	RBC	7.79X10 <sup>6</sup>	5.5-12.5
Creatinine	1.2	1.0-2.0	HGB	15.2gm/dl	11-19
Cholesterol	86	49-150	HCT	46.1%	32-52
T.Bili	0.1	1.0-3.5	MCV	60fl	34-58
D.Bili	0.0	0.0-0.8	MCH	19.4uug	13-19
T.Protein	7.3	5.8-7.9	MCHC	33%	31-37
Albumin	3.8	2.3-5.0	LYMPHS	36%	appr. 30%
Globulin	3.5	1.6-5.0	SEGS	63%	appr. 70%
A/G Ration	1.1	0.5-1.3	EOSIN	1%	appr. 1%
Alk.Phos.	72	20-200	RBC	normal	
AST(SGOT)	572	200-600	PLATELETS	normal	
LDH	289	10-400	Fibrinogen	200	100-500
CPK	249	10-550	Plts.	200-500X10	100-350
Calcium	11.9	9.5-13.8			
Phosphorus	4.5	2.0-5.5			
Sodium	151	130-146			
Potassium	5.5	3.0-4.7			
Chloride	110	93-107			
T CO2	23	20-32			
Anion Gap	24	10-28			
Osmolality	302	280-325			
Na/K Ratio	27	27-35			
GGTP	53	10-70			

REPORT 1-- OWNER: BLM  
ANIMAL: BURRO PATIENT ID 0001511198  
PATH.NO.: T92-37914 01142126  
REC'D FROM: MANZANITA ANIMAL HOSPITAL (80109)  
ZITTERKOPF (9999)  
AGE: 9Y SEX: Male  
SPECIES: EQ BREED:  
OBTAINED: 11/02/92 14:26  
REC'D: 11/04/92  
SPECIMEN: A-liver, kidney samples

**GROSS:**

Two red-brown portions of tissue measure 0.9 x 0.7 x 0.2cm and 6 x 3 x 1.5cm. The smaller is entirely submitted in cassette #1 and a cross section of the larger is submitted in cassette #2.

mb06:a:11/04/92

**MICROSCOPIC:**

Kidney: Two sections of kidney only are present. The first is large and somewhat oblong and the second is smaller. There are a few small focal interstitial aggregates of lymphocytes and plasma cells. Moderate diffuse congestion is evident. The proximal convoluted tubular epithelium often contains brown cytoplasmic pigment.

**DIAGNOSIS:**

KIDNEY, TWO SECTIONS: MILD MULTIFOCAL SUBACUTE INTERSTITIAL NEPHRITIS.

**COMMENT:**

Only renal tissue was received. The inflammation was mild and of little significance. The pigment within the tubular epithelial cells is also of uncertain significance. If you do have sections of liver or any other tissues, I would be glad to look at them in the hopes of giving you more of an answer as to what caused the death in this burro. Dr. Schiller concurs.

br78:11/06/92

*James K. Klaassen*  
James K. Klaassen, DVM PhD <sup>CAJ</sup>

4A



OBSERVATIONS AT DROP SITE  
November 3, 1992

TABLE 3--

Burro #	Color	Sex	Age	Temp.	Pulse	Comments
Burro 1	Grey	Jenny	4 1/2yr	100.0	112	Wound on left rear ankle open and bleeding; was reinjured older wound
Burro 2	Black	Jack	None	102.0	104	Minor abrasions to mouth area, no net
Burro 3	Brown	Jenny	1yr	100.0	64	calm during net removal
Burro 4	Black	Jack	4yrs	98.6	120	minor cuts around facial area. Rose and walked off immediately
Burro 5	Grey	Jack	10yrs	98.6	60	Rose and walked off immediately
Burro 6	Grey	Jack	6yrs	99.5	100 15m del ay	Rose and walked off immediately
Burro 7	Grey	Jenny	6yrs	100.8	132	
Burro 8	Grey	Jenny	1 1/2yr	104.0	104 10m del ay	Rose and walked off immediately
Burro 9	Grey	Jenny	4 1/2yr	100.5	152 15m del ay	Rose and walked immediately
Burro10	Grey	Jenny	4 1/2yr	103.5	124	No problem getting up
Burro11	Grey	Jenny	11yrs	101.4	120	
Burro12	Brown	Stud	8months	100.3	88	
Burro13	Black	Jenny	5yrs	100.4	96	
Burro14	Grey	Stud	10month	101.0	160	Walked immed.

Burrol5	Grey	Jenny	6yrs	101.4	116	Minor facial abrasion, small abras. rt. stifle walked immed.
Burrol6	Grey	Jenny	7months	102.2	108	
Burrol7	Grey	Jenny	4 1/2yr	101.4	100	
Average			4.43yrs	100.9	109.41	

OBSERVATIONS AT DROP SITE  
November 4, 1992

TABLE 4--

Burro #	Color	Sex	Age	Temp.	Pulse	Comments
Burro 1	Grey	Jack	1 1/2yr	99.8	100	Got up immed.
Burro 2	Grey	Jenny	6months	101.2 10min delay	120	Got up OK
Burro 3	Grey	Jenny	6yrs	99.0	150	Hobbles only didn't get up immed.
Burro 4	Grey	Jenny	1 1/2yr	99.0 15m delay	72	up immed.
Burro 5	Grey	Jenny	8yrs	99.0	130	up immed.
Burro 6	Grey	Jenny	1 1/2yr	102.0	76	up immed.; Abras. rt. shoulder
Burro 7	Grey	Jenny	2 1/2yr	101.0	112	up immed.
Burro 8	Grey	Jack	7months	101.4	100	up immed.
Burro 9	Grey	Jenny	4months	100.4	72	delayed getting up; abras. on nose
Burro10	Grey	Jack	7yrs	99.0 15m delay	60	up immed.; Abrasions on lips, knees, and face
Burro11	Grey	Jenny	8yrs	98.2 15m delay	88	Abrasions on hocks & nose
Burro12	Grey	Jack	3months	101.4	92	up OK
Burro13	Grey	Jenny	3yrs	102.0	88	up immed.; small laceration nose abras. mouth
Burro14 DOA*	Grey	Jenny	3months	104.0	0	Pos. suffocation from net
Burro15	Grey	Jenny	3yrs	101.2	N/T	up OK; skinned nose & RR hoof
Burro16	Grey	Jenny	8yrs	102.0	60	up OK

Burrol17	Grey	Jack	4 1/2yr	99.0	48	up OK; numerous & fairly severe lacerations to face, eye trtd.
Burrol18	Grey	Jenny	3yrs	100.0	88	up OK
Average			3.5yrs	100.5	91	

\*

Burro #14 appeared to have died as a result of the unfortunate position she settled into during transport from the capture site to the release site. This little burro was transported with two other burros. I do not believe the multiple transport was a problem since this burro was slung higher than the other two, but rather the problem was the burro's positioning in it's capture net which was not removed prior to transport (as a rule capture nets were not removed). The head was bent in extreme ventral flexion which would tend to hinder normal breathing in itself. In addition the net became tight over the nose and mouth during transport which further occluded the air passages resulting in suffocation.

No necropsy was deemed necessary.

## CONCLUSION

Of the 44 animals captured, 15 animals received minor injuries considered worthy of mention. Most of the injuries noted were about the facial region. This was a direct result of the capture technique employed. Most of the animals when captured were running. Their front legs become entangled first causing the animal to plummet head first to the ground. In rocky terrain such as is found in the Temple Bar area cuts and abrasions can be expected about the head and forelegs.

In the equine the normal temperature ranges between 99 and 100.5 with an average of 100 degrees. The equine resting pulse rate ranges between 28 and 40 with an average pulse of 35. These are normal stats for a resting animal and would normally be expected to be much higher during periods of exercise or excitement.

As I evaluated these burros both at the capture site and the drop site I discovered that temperatures were remarkably stable and normal even under the stress of capture. In large part this may have been due to the moderate to cool temperatures and breezy conditions on all three days but especially November 3rd and 4th.

Stress was most readily demonstrated by the accelerated pulse rates. Some of the animals with rates in excess of 150 were momentarily quite arrhythmic on auscultation of the heart which made accurate measurement of pulse rate quite difficult. I suspect that these animals might suffer the fate of burro #8 on November 2nd should high humidity and/or high temperatures be present. This can only be determined by further study. While some animals pushed the upper limits of pulse rate especially at the time of netting it was found that pulse rates would often drop 30-40 beats in 3-4 minutes. Recovery toward a normal pulse rate was remarkably rapid. I suspect that examination of burros immediately after roping or other strenuous types of capture would yield comparable results.

Two animals of the 44 captured expired from causes already discussed. This is a 5% death loss which is very close to what I predicted prior to the start of this particular capture. It remains for individuals other than myself to decide whether this rate of loss is within acceptable limits. I would suggest that death loss could be minimized by following the below listed recommendations:

1. Netting should be accomplished during months when the environmental temperatures are lowest. I believe death loss will rise dramatically at increased temperatures.
2. Capture personnel should avoid netting animals that are sluggish or slow to follow after their herd mates. (This may not be possible where zero population is the primary goal.)
3. Where possible nets should be removed at the time of capture to avoid accidental suffocation as was witnessed on November 4th.
4. Where it is necessary to haze animals into more accessible terrain it may be wise to allow a brief period of recuperation prior to net gunning.

UNITED STATES DEPARTMENT OF THE INTERIOR 4720 (025)  
BUREAU OF LAND MANAGEMENT  
Kingman Resource Area Office  
2475 Beverly Avenue  
Kingman, Arizona 86401

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November 17, 1992

Memorandum

To: Area Manager, Kingman

From: Wild Horse and Burro Wrangler

Subject: Burro Fatality at Receiving Pen, Temple Bar Net Capture

When the helicopter came in to set down three (3) burro's that had been net gunned, I observed that two (2) colts were slung below a grown jenny. As the helicopter started to set them down, the bottom colt had its head twisted with its nose under her.

As the pilot backed up, the two above the colt started to come down slowly. The colt on the bottom had no chance to get her head straightened out before the two above her started putting pressure on her. Her neck was broken before the two had touched the ground. The pilot could not see this happening and at that time, he could only keep coming down. If the pilot had noticed what was happening and could have gained some altitude we could have moved the bottom colt to prevent this from happening.

As I re-capped to the pilot, what I saw we decided that to keep this from happening in the future operations, the colts should be slung above bigger animals.

*Sam Jack Bunt*

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Kingman Resource Area Office  
2475 Beveriy Avenue  
Kingman, Arizona 86401

4700 (025)

December 14, 1992

Memorandum

To: Wild Horse and Burro Specialist, (932)  
From: Acting, Wild Horse and Burro Specialist  
Subject: Burro Net Gunning Project

On November 2 thru 4, 1992, the burro program did a net gun project at Temple Bar Resort, Lake Mead National Recreation Area. The airstrip at Temple Bar was use for a helibase; with a helibase manager, weigh master, and people to load and unload passengers.

BLM used two helicopters; the net gun ship was a Hughes 500c. the spotter ship was a Bell Ranger which had a flight manager and up to three passengers, with a vet on board, depending on weather conditions. We had people from National Park Service, Horse Interest Groups and other BLM officials.

The first day the net gunship captured 9 head of burros. When a burro was netted the net gun ship would let the gunner out to tie down the burro; the net gun ship then would hold its position so that the spotter ship could land and the flight manager could get out to assist the gunner in holding and tying down the captured burro. Also, a veterinarian, Dr. Jerry Zitterkiff, would get out of the spotter ship to monitor the burro's vital signs and check the stress level on each of the animals captured.

On the first day a burro was netted and died, the vet took samples from the burro and had it tested. The burro had a weak wall in one side of it's heart thus contributing to a heart attack.

The second and third days the vet monitored the stress levels of the burros from the corrals where the burros were being released at. On the third day a colt died from the result of three burros being slung in at one time; with the colt being on the bottom the adult animals being on top. When the pilot let them down on the ground one of the adult burros was on top of the colt, which resulted in the colts death, broken neck or smothered.

Overall, this capture resulted in 46 animals being captured in 10 hours of flight time. This method would be good in areas where it is so remote that it would be impossible for the capture crew to get to or, for zero population areas where there is only a few burros, 5 to 20, and very remote areas.

The net gun project seemed to be very effective for its purpose. There seemed to be little stress on the burros that were captured. Just a few cuts and scrapes from the fall they made after they were netted.





## United States Department of the Interior

## OFFICE OF THE SECRETARY

In reply refer to:

## Office of Aircraft Services

3905 VISTA AVENUE  
P.O. BOX 15428  
BOISE, ID 83715-5428

January 6, 1993

## MEMORANDUM

TO: CHIEF, DIVISION OF TECHNICAL SERVICES

THRU: CHIEF, TECHNICAL GROUP A

FROM: PRINCIPLE TECHNICAL REPRESENTATIVE, SOUTHWEST

SUBJECT: BURRO CAPTURE OPERATION, SCENIC HELICOPTERS AT LAKE MEAD

On November 2, 1992, at the request of BLM Arizona and Nevada State Offices, I observed the burro capture operations conducted by Scenic Helicopters from Salt Lake City, Utah. The capture took place in the Temple Bar area of the Lake Mead National Recreation Area.

There were a number of things that made this operation unique when compared to DOI burro captures in the past. The most notable was that the animals were captured with a netgun rather than herding them into a pen. The second was the fact that the helicopter company provided the personnel for the operation and delivered the animals to the BLM corral. This particular operation was observed by several special interest groups.

Generally, the operation was conducted as safely as any netgun operation can be conducted. The only modification to Scenic Helicopter's methods that I noted to enhance safety, was for the use of longer lead lines while slinging the animals into the corral. Mr. Immes of Scenic agreed, on site, to make that modification to their program.

I recommend that during all capture operations, a second aircraft be used at altitude, to assure timely flight following for the low (capture) helicopter. The second aircraft would also be a benefit for spotting animals and for assistance in the event of an accident or incident.

cc: BLM State Aviation Manager, Arizona  
BLM State Aviation Manager, Nevada  
Aviation Manager, Lake Mead NRA



COMMISSION FOR THE  
PRESERVATION OF WILD HORSES

Stewart Facility  
Capitol Complex  
Carson City, Nevada 89710  
(702) 687-5589

COMMISSIONERS

Dan Keiserman.  
Las Vegas, Nevada  
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Carson City, Nevada  
Steven Fulstone  
Smith Valley, Nevada  
Dawn Lappin  
Reno, Nevada

November 17, 1992

Kelly Grissom  
BLM-Arizona State Office  
3707 N. 7th Street  
Branch 932  
Phoenix, Arizona 85011

Dear Kelly,

I would like to thank you for allowing us to participate in the recent burro gather you held in the Temple Bar area. I was able to see first hand the technique that James Innes had told us about and was quite impressed. I will be very interested to read the finished evaluation you will be doing on that gather.

I have enclosed the pictures I promised you from that gather. I'm glad they turned out as well as they did, I'm not exactly an expert with that camera. Dawn has viewed her video and told me that it came out very well also. I will be copying that from her tape and we will forward a copy on to you.

Thanks again for getting us "front row seats."

Sincerely,

A handwritten signature in cursive script that reads "Catherine Barcomb".

CATHERINE BARCOMB  
Executive Director



December 14, 1992

Mr. Kelly Grissom  
BLM Wild Horse/Burro Specialist  
State Office  
P.O. Box 16563  
Phoenix, AZ 85011

Dear Kelly:

Thank you for allowing us to participate in the live net captures of wild burros at Temple Bar. This method of capture could be quite useful as an alternative method of capture provided that death loss be minimal.

It has been our experience that certain methods of capture and handling can produce lasting negative effects on animals. These effects, at times, can be reversed with persistent positive reinforcement and bonding with knowledgeable adopters.

What is extremely important in handling wild animals is to reduce negative experiences associated with human intervention. For example, we have documented that animals which are roped often are extremely fearful of halters and lead ropes. This fear can reoccur under stressful situations in spite of the adopter's role to alleviate it. With this concept in mind, it is important that a procedure such as net gunning be carried out with as least stress as possible.

Our suggestions are as follows:

Blindfold the animal at capture and keep blindfolded until the animal can be released.

Speak softly and soothing to the animals captured and be as gentle as possible while releasing them from their nets.

Special goggles should be available for ground crew which would allow observation of animals being lowered into holding area. A radio from ground to helicopter could possibly avoid a potential hazard.

Kelly Grissom  
page 2

Foals should be transported separately from adults to prevent injury from larger animals.

Holding area should be as free from loose dirt, stones, etc. as possible to reduce injuries due to winds produced by the helicopter blades. This could prevent eye injuries to staff and animals.

It appears that net gunning is faster than helicopter gathers and therefore would be less stressful in terms of prolonged increase in pulse, blood pressure and respiratory rates. Other positive considerations are:

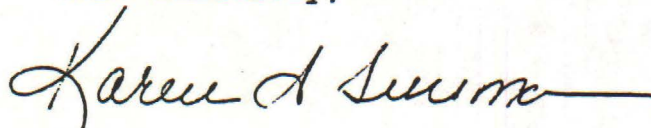
BLM could be more selective about gathering without disturbing the integrity of the entire band.

Animals would not be herded out of their known territory therefore reducing disorientation and possible accidents from treading in unknown territory.

We would very much appreciate being kept informed as to BLMs consideration of net gunning and future net gunning operations.

We truly appreciate your genuine concern for the welfare and well-being of our wild horses and burros.

Most sincerely,

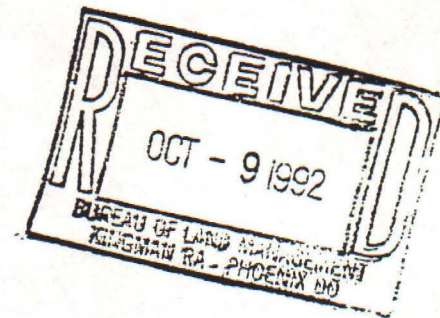
A handwritten signature in cursive script that reads "Karen A. Sussman" followed by a horizontal line.

Ms. Karen A. Sussman  
President



## NATIONAL PARK SERVICE

LAKE MEAD NATIONAL RECREATION AREA  
601 NEVADA HIGHWAY  
BOULDER CITY, NEVADA 89005



IN REPLY REFER TO:

N1615 (LAME-RM)

October 6, 1992

## Memorandum

To: Area Manager, Kingman Resource Area, Bureau of Land Management, 2475 Beverly Avenue, Kingman, Arizona 86401  
Attention: Wild Horse and Burro Specialist Kent Benson

From: Superintendent, Lake Mead National Recreation Area

Subject: Burro Removal, Temple Bar Area - Gypsum Beds - Lake Mead National Recreation Area

We request your assistance in removal of nuisance burros within the Temple Bar District of Lake Mead National Recreation Area.

Located within the Temple Bar District of the park are gypsum beds, in which the rare plant (candidate species for federal listing) Arctomecon californica exists. Extensive burro trailing in this area has impacted the fragile gypsum soils and threatens the long-range survival of Arctomecon.

We request removal of the burros from the Temple Bar gypsum beds as soon as possible. This area has never been a portion of any Herd Management Area designated by Bureau of Land Management. As discussed with Kent Benson and Kelly Grissom, we are prepared to participate in funding for this removal.

*Sally E. Dummey*  
for Alan O'Neill

AVIATION MANAGEMENT PLAN FOR NET GUNNING PROJECT AT TEMPLE BAR1. Project description.

On November 2-4 a net gunning team from New Zealand will demonstrate the use of an aerial net gun capture for wild Burros. The New Zealand team consists of a helicopter pilot and gunner. Their helicopter a (Hughes 500C) will fire the net and land to subdue the Burro and prepare it to be sling loaded to an area where vehicles can be driven. The New Zealand (Hughes 500C) will sling the Burro. No personnel other than the pilot and net gunner will ride in the Hughes 500. This has never been attempted with wild Burros. For this reason its necessary to observe the capture from another helicopter to assess how beneficial to our program net gunning could be. The observation helicopter a (Bell 206 BII) will carry a flight manager, veterinarian and one or two observers. The observers will consist of a representative from the BLM, USNPS and special interest groups which include Nevada Wild Horse Commission, Wild Horse Association of America, ISPMB, and API. We are expecting 15-20 observers will be on site during the 3-day operation. These personnel will ride one or two at a time depending on temperature of the day and are essential to the project completion.

Organization Chart

Helibase Manager.	Bill Wadsworth
Deck Coordinator	Bill Boyett
Load Master(personnel)	Bill Boyett
Parking attendants	Kent Benson Jack Bartmus Kelley Grissom
Take-off and landing coordinator	Bill Wadsworth Kelley Grissom
Incident Dispatcher	???
Incident Dispatcher (trainee)	???
Crash Rescue (Engine 237)	Bill Boyett Jack Bartmus

Dust abatement will be provided by a water truck provided by a Lake Mead National Recreation Area water truck. Refills of water are a 5 minute drive from the helibase for recharge.

A daily project briefing will held prior to the first flight. This briefing will cover.

1. Helibase organization and responsibilities.
2. Review of Hazard Maps which will be available for project area.

3. Review of operational plan for helicopters working in tandem (Guidelines for multi-helicopter operation is included in this plan).
4. Posting of Load calculations each day.
5. Medivac procedures (a plan is included in this document).
6. Take-Off and landing chart (approach and departure) provided and reviewed with pilots and Take-off and landing coordinators.
7. Predicted weather conditions.
8. Pilot safety briefing to all personnel who will be passengers in observation helicopter.
9. Full Personal Protective Equipment will be required for all personnel participating in this special use flight project.

#### Guide lines for Helicopters working in Tandem.

1. Pilots will be in constant contact with each other on VHF 122.925 to coordinate their flight maneuvers and maintain proper distance. This frequency will also be used for take-off and landing clearances.
2. While airborne a minimum distance of 500 feet will be maintained between the aircraft at all times with no exceptions.

#### Medivac Plan

The incident dispatcher will be required to have good communications with Phoenix Dispatch and will order the DPS Helicopter for any Medivac emergency. The medical personnel on board the DPS Rescue helicopter will make determinations as to which medical facility they would transport to. A back-up for DPS would be Kingman Air Ambulance which would be used in the same way.

#### Location

Helibase will be located at Temple Bar air strip and operations will range from the airstrip to Bonelli Landing. A map will be provided with this plan to Phoenix Dispatch with locations marked. Helicopters will remain at Temple Bar airstrip at night, security for these aircraft will be provided by Lake Mead National Recreation area. Project personnel will return to Kingman in the evenings.

#### Communications Plan

Project dispatchers will be located in an area away from the helibase to insure good radio communications with Phoenix Dispatch using district net on Mt. Perkins repeater. Dispatchers will flight follow the helicopters on Mt. Perkins repeater and maintain a 1-hour check in with Phoenix Dispatch.

Take-off and landing coordinators at the helibase will operate on VHF122.925.

OFFICIAL FILE COPY

Yellow	<input checked="" type="checkbox"/>	Green	<input type="checkbox"/>	Pink	<input type="checkbox"/>	Blue	<input type="checkbox"/>	White	<input type="checkbox"/>
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9400 (025)

October 21, 1992

**Memorandum**

**To:** Superintendent, Lake Mead National Recreation Area  
**From :** Area Manager, Kingman  
**Subject:** Helicopters Landing and Refueling at Temple Bar Air Strip

*Per your request for the burro removal at the Gypsum Beds, we request permission for the Bureau of Land Management to land and refuel our contract helicopters at Temple Bar air strip.*

*Two helicopters will be used in this capture operation, which will test the effectiveness of net gunning and sling loading of wild burros from remote areas. Also, we would like to station the helicopters over night at the air strip. Pilots and helicopter crew will be staying at the Temple Bar Resort motel. This will help in keeping helicopter costs down.*

**/S/ KEN R. DREW**



**AIRCRAFT USE REPORT**

U.S. DEPARTMENT OF THE INTERIOR  
OFFICE OF AIRCRAFT SERVICES

154120

PLEASE PRINT CLEARLY AS THIS FORM IS USED  
AS AN INPUT DOCUMENT TO AN AUTOMATED SYSTEM

P. O. BOX 15428 4343 AIRCRAFT DRIVE  
BOISE, ID 83715-9998 ANCHORAGE, AK 99502-1052  
FTS 554-9490/208-334-9490 907-243-3320/4330

COMPANY NAME & ADDRESS <i>VERSATILE HELICOPTER 5875 S LAKEDO PRESCOTT VALLEY AZ 86314</i>	CONTRACT/RENTAL NO. <i>BOA-80-4056</i>	ITEM NO. <i>02</i>	AIRCRAFT MAKE & MODEL <i>BELL 206B</i>	PILOT NAME (PIC) Print <i>Y Klein</i>	FOR OAS USE ONLY CONTROL NO. CONTROL NO. AGENCY ORDER NO. OAS CONTROL NO.
AIRCRAFT DESIGNATED BASE (CITY/ST.) <i>DEER VALLEY AZ</i>	AIRCRAFT FAA REGISTRATION NO. <i>N 242-TK</i>	RELEASED (Date & Time) <i>11/5/92 1100</i>	PILOT NAME (2nd PIC) Print	OTHER CREW MEMBER	
HIRED (Date & Time) <i>11/1/92 1500</i>					

DATE	FAA IDENTIFIER		START	STOP	ELAPSED TIME OR QUANTITY	PAY ITEM CODE	PAYLOAD		PILOT INITIAL	BILLET CODE	USE CODE	AGENCY INFORMATION	SIGNED RECEIVE
	M	D					Y	FROM					
11	4	92			02.00	PD			TK	6030		AZ-020-4370-03	MKB
11	4	92			00.95	SM			TK				MKB
11	5	92	70.7	27.1	01.40	TY			TK				MKB
11	5	92			01.60	SM			TK				MKB
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Other Charges/Credits (Add attachments if necessary)  
 PD Rate - receipts to motel is attached, could be in high rate area  
 KRM + KGM = Kingman Area off  
 PRC = Project at Temple Bar Received at PDO 11/05/92

I certify that the above record of services is correct and no payment has been received. SIGNATURE OF CONTRACTOR/AGENT/PILOT	I certify that the above services were received. SIGNATURE OF GOVERNMENT REPRESENTATIVE	AGENCY AGENCY ADDRESS BUREAU OF LAND MANAGEMENT
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AIRCRAFT USE REPORT

U.S. DEPARTMENT OF THE INTERIOR  
OFFICE OF AIRCRAFT SERVICES

092103

PLEASE PRINT CLEARLY AS THIS FORM IS USED  
AN INPUT DOCUMENT TO AN AUTOMATED SYSTEM

P. O. BOX 15428 4343 AIRCRAFT DRIVE  
BOISE, ID 83715-9998 ANCHORAGE, AK 99502-1052  
FTS 554-9490/208-334-9490 907-243-3320/4330

COMPANY NAME & ADDRESS Zenic Helicopters 375 E. 4500 South Suite B220 Salt Lake City, Ut. 84107		CONTRACT/RENTAL NO. BOA-3379	ITEM NO.	AIRCRAFT MAKE & MODEL Hughes 500C	PILOT NAME (PIC) Print Alistar Sutherland	SERV. AGENT NO.	ACCOUNT NO.
AIRCRAFT DESIGNATED BASE (City/SL) Salt Lake City, Utah		AIRCRAFT FAA REGISTRATION NO. N9029F		PILOT NAME (2nd PIC) Print		AGENCY ORDER NO.	
HIRED (Date & Time) 11/01/92 1500		RELEASED (Date & Time) 11/4/92 1600		OTHER CREW MEMBER Jim Innes		OAS CONTROL NO.	

DATE M D Y	FAA IDENTIFIER		START	STOP	ELAPSED TIME OR QUANTITY	PAY ITEM CODE	PAYLOAD		PILOT INITIAL	BILLET CODE	USE CODE	AGENCY INFORMATION	
	FROM	TO					PAX	CARGO				ORGANIZATION AND CHARGE CODE SYMBOLS	SIGNED RECEIVED
11-01-92	PRJ	PRJ			2.00	PD				6030		LAME-8366-180	MKB
11-01-92	TRX	PRJ			01.45	Sm				↓		LAME-8366-180	MKB
11-01-92	PRJ	PRJ			00.80	FT				60309F		AZ-020-4370-03	MKB
11-02-92	PRJ	PRJ			2.00	PD				↓		LAME-8366-180	MKB
11-02-92	PRJ	PRJ	322.0	324.0	02.00	FT	9 Burros			6030	6030	AZ-020-4370-03	MKB
11-03-92	PRJ	PRJ			2.00	PD				↓		LAME-8366-180	MKB
11-03-92	PRJ	PRJ	324.0	327.7	03.70	FT	15 Burros			6030	6030	AZ-020-4370-03	MKB
11-04-92	PRJ	PRJ	327.7	331.8	04.10	FT	20 Burros			6030	6030	LAME-8366-180	MKB
11-01-92	PRJ	KRN			01.90	SM				↓		LAME-8366-180	MKB
11-01-92	SLC	PRJ			02.00	SM				↓		LAME-8366-180	MKB

or Charges/Credits (Add attachments if necessary)  
PRJ = Net gain at Temple Bar.

Use codes for flight time = 60 + 1A = gathering, capturing + slinging to corrals.  
PD Rate is attached, could be in high rate area. Received PD 1/15

I certify that the above record of services is correct and no payment has been received.  
NATURE OF CONTRACTOR/AGENT/PILOT  
NAME (Print)  
JAMES INNES  
PHONE NO.  
801-2613681  
DATE  
4 Nov 1992

I certify that the above services were received.  
SIGNATURE OF GOVERNMENT REPRESENTATIVE  
NAME (Print)  
Vickie Jensen  
AGENCY TELEPHONE NO. 1 FTS 1 COMM DATE  
602 780-8090 11/09/92

AGENCY  
AGENCY ADDRESS  
BUREAU OF LAND MANAGEMENT  
PHOENIX DISTRICT OFFICE  
2015 W. DEER VALLEY RD.  
PHOENIX, AZ 85027

AIRCRAFT USE REPORT

U.S. DEPARTMENT OF THE INTERIOR  
OFFICE OF AIRCRAFT SERVICES

P. O. BOX 15428  
BOISE, ID 83715-9998  
FTS 554-9490/208-334-9490

4343 AIRCRAFT DRIVE  
ANCHORAGE, AK 99502-1052  
907-243-3320/4330

154119

PLEASE PRINT CLEARLY AS THIS FORM IS USED  
AS AN INPUT DOCUMENT TO AN AUTOMATED SYSTEM

COMPANY NAME & ADDRESS VERSATILE HELICOPTER 8815 E LAREDO PRESCOTT VALLEY AZ 86314		CONTRACT/RENTAL NO. BOA-80-4056	ITEM NO. 02	AIRCRAFT MAKE & MODEL Bell 206 B	PILOT NAME (PIC) Print T Klein
		AIRCRAFT DESIGNATED BASE (City/State) PRESCOTT DEER VALLEY AZ		AIRCRAFT FAA REGISTRATION NO. N-2429K	PILOT NAME (2nd PIC) Print
		HIRED (Date & Time) 11/1/92 1500		RELEASED (Date & Time) Cont -	OTHER CREW MEMBER

FOR OAS USE ONLY

AGENCY NO.	CONTROL NO.
AGENCY ORDER NO.	
OAS CONTROL NO.	

DATE	FAA IDENTIFIER		START	STOP	ELAPSED TIME OR QUANTITY	PAY ITEM CODE	PAYLOAD		PILOT INITIAL	BILLER CODE	USE CODE	AGENCY INFORMATION		SIGNED RECEIVE
	M	D					Y	FROM				TO	PAX	
11-1-92	DVT	KGM	57.3	58.9	01.60	FT	1		TK	6030	6H	AZ-020-4370-03	MKB	
11-1-92	DRK	KGM			01.60	SM			TK				MKB	
11-1-92	KGM	KJM			02.00	PD			TK				MKB	
11-2-92	KGM	PRJ	58.9	62.3	03.40	FT	4		TK		6H		MKB	
11-2-92	KGM	PRJ			00.95	SM			TK				MKB	
11-2-92	PRJ	PRJ			02.00	PD			TK				MKB	
11-3-92	PRJ	PRJ	62.3	66.1	03.80	FT	8		TK		6H		MKB	
11-3-92	PRJ	PRJ			02.00	PD			TK				MKB	
11-4-92	PRJ	PRJ	66.1	70.2	04.10	FT	8		TK		6H		MKB	
11-4-92	PRJ	KGM	70.2	70.7	00.50	FT			TK		6H		MKB	

Other Charges/Credits (Add attachments if necessary)  
 PD rate - receipts to motel is attached, could be in high rate area  
 KGM = Kingman office PRJ = Project area Temple Bar Received at PDO 11/05/92

I certify that the above record of services is correct and no payment has been received.  
 SIGNATURE OF CONTRACTOR/AGENT/PILOT  
 T Klein  
 NAME (Print)  
 T Klein  
 TELEPHONE NO.  
 602-772-0695  
 DATE  
 11/5/92

I certify that the above services were received.  
 SIGNATURE OF GOVERNMENT REPRESENTATIVE  
 Vickie Jensen  
 NAME (Print)  
 Vickie Jensen  
 AGENCY TELEPHONE NO. | FTS | COMM | DATE  
 602-780-8090 | | | 11/09/92

AGENCY  
 AGENCY ADDRESS  
 BUREAU OF LAND MANAGEMENT  
 PHOENIX DISTRICT OFFICE  
 2015 W. DEER VALLEY RD.  
 PHOENIX, AZ 85027







































































