ATTACHMENT 5: SUMMARY of IMMUNOCONTRACEPTION RESEARCH PROTOCOL on BLM MANAGED HERDS

The formulation would be delivered as an intramuscular injection by a jabstick syringe, CO2 dart, or hand pump air powered dart into the mares in the field. Upon impact the liquid in the chamber would be propelled into the muscle along with the pellets. This delivery method has been previously shown to work. Such a vaccine would permit a single injection to cause one or more years of contraception at approximately 90% efficiency. Only trained personnel would mix and/or administer the vaccine.

Previous wild horses immunocontraception research on wild free-roaming horse herds in Nevada has been conducted on the Antelope/Antelope Valley HMA's (1992)(Ely), on the Nevada Wild Horse Range (1996), the Kammas HMA /Antelope HA (1998)(Winnemucca), and the Antelope/Antelope Valley, Sand Springs, and Monte Cristo HMA's (1998)(Ely) utilizing PZP injections. The 1992 Antelope/Antelope Valley HMA's research found that reproductive success was 4.5% using 2 injections, 20.0% using 1 injection plus microspheres, and 28.6% using 1 injection with no microspheres. Reproductive success for mares treated with a placebo was 55.0% and untreated mares was 53.9%, which was significantly greater than treated mares. The following year, without further treatment, reproductive success was 44.0% for mares treated with 2 injections, and 54.5% for untreated mares. Data from the other groups is insufficient for comparison (Turner et al. 1997).

The Nevada Wild Horse Range field study utilized three formulations of a revised controlled release PZP vaccine, with the mares broken up into three groups. The microspheres were designed for longer delay in release and contained adjuvant. Reproductive success was 12.8% for group 1 (2 injections), 10.6% for group 2 (2 injections) and 11.3% for group 3 (1 injection). The lack of difference in fertility rates indicated that the controlled release component in the 1 injection group provided vaccine exposure equivalent to a second injection of vaccine (Turner et al. 1997).

The data for the Kamma HMA/Antelope HA (1998) has not completely been analyzed, but preliminary data shows approximately 75% effectiveness on treated mares. The data for the Antelope/Antelope Valley, Sand Springs, and Monte Cristo HMA's (1998) have not completely been analyzed to show comparative statistics.

Results of fertility control research conducted to date indicate that PZP Immunocontraception is highly effective, and that the reproductive success of the mares returns to normal the year following fertility control. There would be no significant increase in stress above that normally associated with the processing and sorting of animals during a gather.

Wild horse populations would experience a decrease in stress due to extending the period of time between gathers. Mares would experience some stress during the administration of the fertility control drugs and would not produce progeny for one year if successful. Mares which are not supporting young would be expected to experience an increase in health and condition during their non-productive time. Animals would be exposed to potential hazards during treatment. If contraception is used genetic contributions from individual animals will be only delayed, not removed.