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MEMO

TO: John Kennish, Placer Moose Project Personnel

FROM: Don Spalinger

SUBJECT: Alkane Diet Composition Project Schedule

The alkane work will hopefully begin on the week of Oct. 9. I will meet with the Alkane team on Monday or Wed. the 9th or 11th, and instruct them on how to run the ASE and extract samples for analysis. Prior to this meeting, the team should have researched the use of alkanes for diet determination, and have a very good understanding of the methods of the technique. They should start with the papers of Dove and Mayes (Dove and Mayes 1991, Mayes 2000), and work from there. If they are not already familiar with gas chromatography, they should also have investigated this technology, methodology, and theoretical underpinnings, particularly with respect to the analysis of alkanes by this time.

Since the Placer samples will have only recently been collected, the team will have to practice on previously collected and prepped samples. These will be the samples from Nelchina Basin from July. On Friday, Oct. 13, we will run these extracted samples on the GC-FID.

Following the week of Oct. 9, the samples from Placer should be processed, and the team can proceed with the extraction and analysis of these samples. Before being turned loose on the Placer samples, we will require the students to show us a procedure and results from this procedure, including an analysis of the efficiency of extraction of a surrogate added during the initial extraction, the identification of the alkanes in the samples and standards, and the standard curves for each alkane standard.

In addition to the laboratory work, the Alkane team will be asked to help the tame moose team in collecting samples of feces and foods in Placer Valley on the Oct. 6-8 field trip.

Dove, H., and R. W. Mayes. 1991. The use of plant wax alkanes as marker substances in studies of the nutrition of herbivores: a review. *Australian Journal of Agricultural Research* **42**:913-952.

Mayes, R. W. a. H. D. 2000. Measurement of dietary nutrient intake in free-ranging mammalian herbivores. *Nutrition Research Reviews* **13**:107-138.