STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND and WATER

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POGO INSPECTION REPORT

Inspection Date:	October 6, 2011
Weather:	Clear, 26 degrees F morning, 40 afternoon.
Time of Inspection:	9:00 am to 2:00 pm
Operator Contact:	Makoto Umedera, Julia Andoe – Sumitomo Pogo; Mika Mack - Mappa
Agency Personnel:	Brent Martellaro – ADNR
Inspection Objectives:	Observe the Geotechnical Monitoring of the Dry stack Shell Construction

I arrived at the Pogo mine site at 9:00 a.m. Makoto explained that material in Shell 2 and 3 had been placed and compacted as recent as the day before. The temperature was below freezing. The top 2 inches of dry stack appeared partially frozen. The Shell 2 surface appeared smoother and drier than Shell 3. Large tire ruts up to one foot deep were visible on Shell 3.

The compactor was not being operated on this day. I observed a half-ton pick-up drive across the surface of both shells. The material appeared to sink up to six inches below the truck tires and then rebound. Makoto explained that he normally does not try to drive across dry stack material that has been compacted so recently but the partially frozen conditions allowed him to do so without getting stuck. This was confirmed when a truck became temporarily stuck on shell 2 in the afternoon as the temperature rose.

A 30-foot grid, 3 rows of 12 monitoring locations, was delineated on shell 2, and 3 rows of 7 monitoring locations on shell 3. This resulted in 36 monitoring points on shell 2, and 21 on shell 3. These points were tested with a nuclear density gauge or densometer. Additionally, material for three Proctor tests was collected on each of the shells.

The monitoring plan schedule calls for sand cone testing to be conducted every 80,000 tons of material placed in each shell. On this day, three sand cone tests were conducted on Shell 2 but none were required on shell 3.

Because of the partially frozen conditions, the top 3 to 4 inches of material was scraped off to provide a flat, ice-free surface for the nuclear densometer.

Conclusions

The geotechnical monitoring appears to be conducted in accordance with the procedures outlined in the monitoring plan.

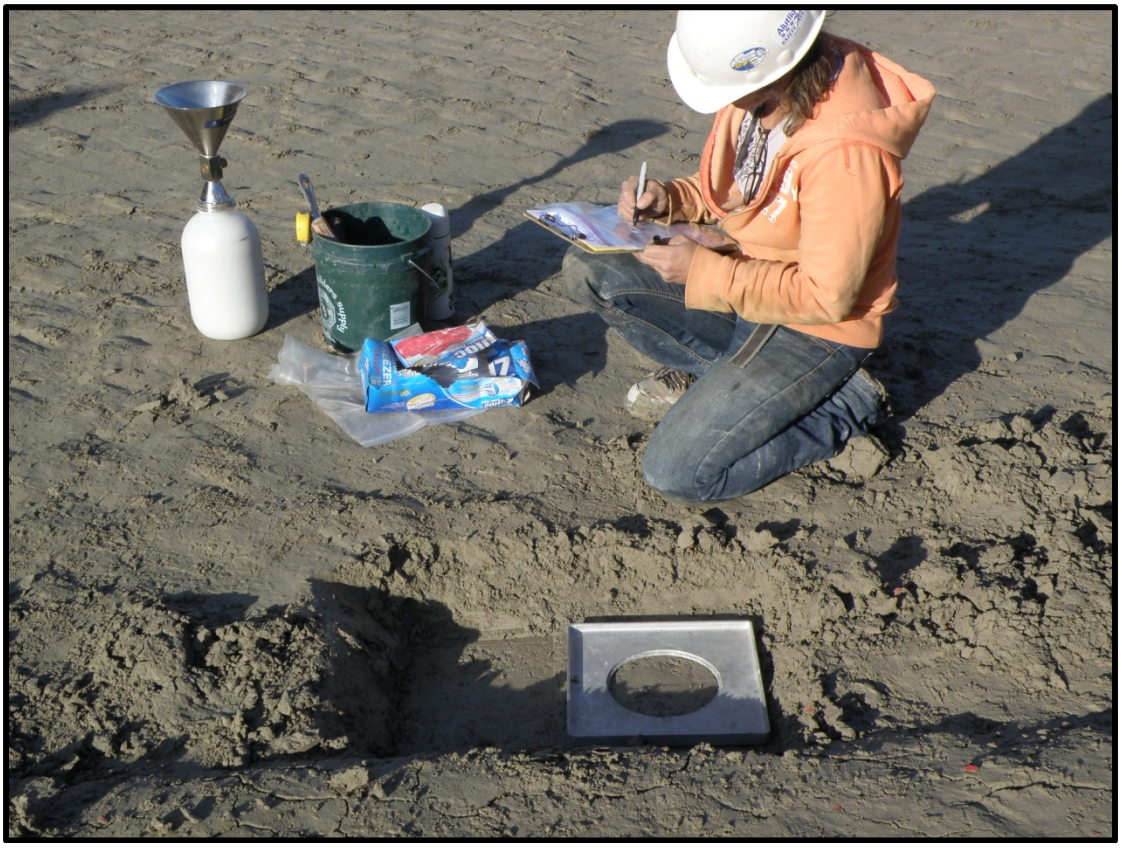
Measuring Out the Grid on Shell 2

Preparing Surface for Nuclear Gauge

Surface and Probe Hole Prepared for Nuclear Gauge

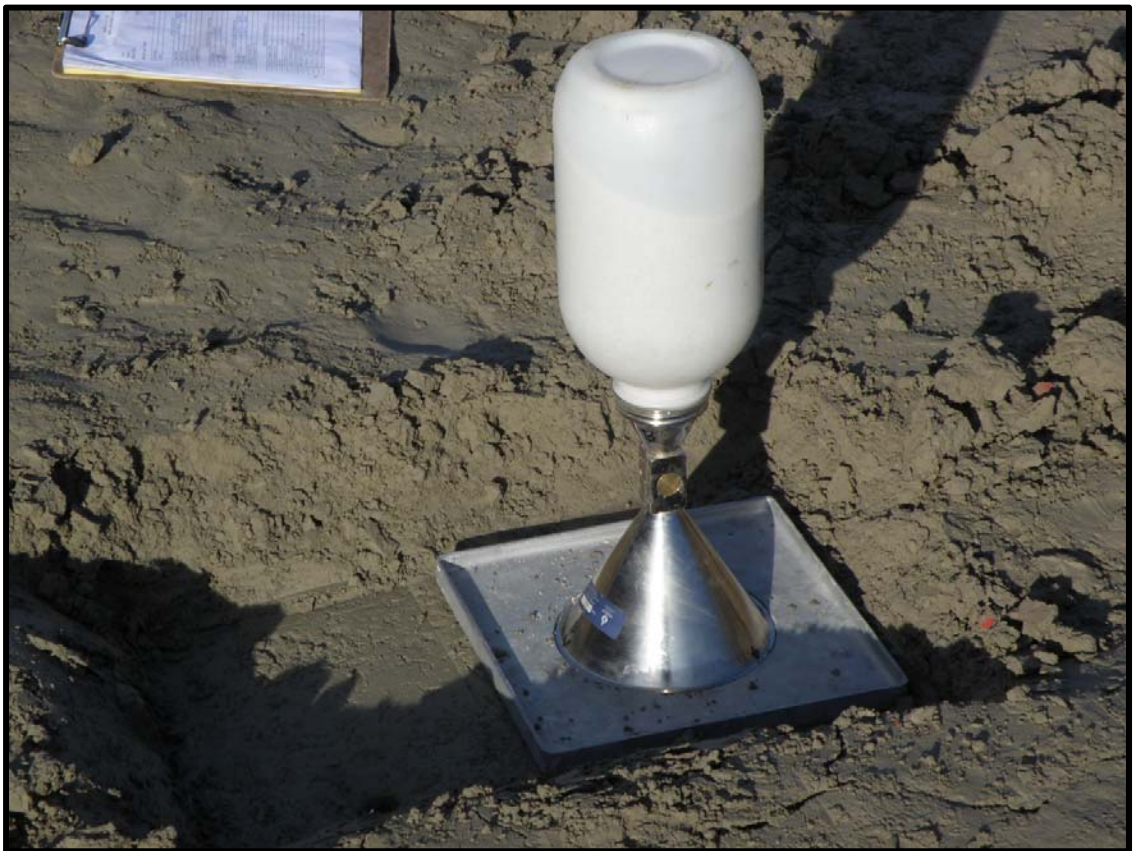
Nuclear Gauge or "Densometer"

Sand Cone Testing Materials



Sand Cone Test Plate

Sand Cone Material Collection



Sand Cone Test – Sand Flows into Hole and Cone

Shell 3 Viewed from Shell 2

Shell Three Tire Tracks and Ruts

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Sharmon Stambaugh, ADNR, Anchorage
Tom Crafford, ADNR, Anchorage
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