Recommendation
It is recommended that Seabridge Gold complete an initial drill test of the Four-Mile Basin property. The target test involves completing 3 inclined RVC drill holes to cross the projection of a fault believed to have focused gold-bearing hydrothermal fluids in the area. Total drilling on this target is estimated to be about 3200 meters. Based on results of these drill holes additional work programs would be planned.

Background
During the summer months of 2005, basic exploration work was conducted on Nevada properties held by Pacific Intermountain Gold Corp (PIGCO). The work consisted of field examinations, geological mapping, geochemical sampling including rock and soil samples and collecting and validating historical data. Of the 12 properties examined in the field, two were considered sufficiently prospective to warrant additional exploration efforts by Seabridge, Four-Mile Basin and Golden Arrow South.

Based upon geologic mapping, geochemical sampling and compilation of past exploration efforts, the Four-Mile Basin property was selected for additional exploration work. In discussions regarding the direction of exploration to advance the property, it was concluded that the geologic setting and surface geological indications were consistent with a buried hydrothermal system and that the appropriate next step was to identify gold in this hydrothermal system. Employing soil geochemistry, an airborne magnetic survey and geologic mapping, prospective areas for geochemical rock sampling were refined. Compilations of the past geochemical sampling and confirmation sampling by Seabridge have documented the presence of gold in the hydrothermal system and targets for drill testing have been identified.

Four-Mile Basin Project
The Four-Mile Basin property consists of 121 lode mining claims, about 2420 acres, located by PIGCO in 2002 (Figure 1). These claims were staked on several historical mining properties that were relinquished that year by past operators. Historical records of extensive gold exploration during the 1980’s and 1990’s were obtained by PIGCO that suggested viable untested targets were available on the property.
Previous work did not define a resource; however, it is believed that the target concept for this work focused exclusively on disseminated deposits, invoking a Round Mountain target model to the exclusion of other potential target types. It is now believed that a good quality high-grade vein target, analogous to Goldfields, NV, remains untested at Four-Mile Basin. A conspicuous feature of the property is a 2 km long ridge of silicic sinter, Sinter Ridge, which contains only minor and localized gold concentrations. Drilling in the vicinity of the silicic sinter and across the Four-Mile Basin valley identified extraordinary thickness of “colluvium” that these previous exploration programs were unable to place into a geologic context.
Project Geology
Regional Setting
The southeastern part of the Monitor Mountain Range is the site of the Four-Mile Basin property and this area has been identified as the locus of 2 overlapping collapsed caldera complexes (Figure 2). One complex is centered on Big Ten Peak, northwest of the property, while the other is in Saulsbury Wash southwest of the property (Ekren, et al., 1976). An arcuate ring fracture system associated with the collapse of these caldera complexes has been used to explain the location of several small mines in the area (Kelly’s Mine, Grandpa’s Mine), alteration patterns and the ridge of silicic sinter. Extensive argillic alteration forms wide envelopes around these structures, while intense silica alteration is restricted to the structures.

Felsic tuffaceous rocks in the southern Monitor Mountain Range have been age dated, documenting 2 periods of eruption. The older eruptive event is dated at between 33.0 and 35.3 m. y. and the younger event is dated at 23.8 to 25.4 m. y (Kleinhamp and Ziony, 1967). The older rocks are spatially and temporally related to caldera collapse and locally hydrothermally altered with precious metal occurrences. The younger rocks are uniformly unaltered, implying an age for alteration in this area of between 25.5 and 33 m. y. This age corresponds with several significant producing mines in the Walker Lane Lineament including Round Mountain (McKee, 1979).

Local Geology
There are 4 principal lithologies in the Four-Mile Basin property. The oldest unit identified by Ferguson and Cathcart (1954) as a Palmetto Formation analog, crops out on the northwestern margin of Four-Mile Basin as a lone hill. This unit is predominantly thickly laminated to massive, calcareous siltstones and quartzites. The other lithologies are acid-composition volcanic rocks. The oldest volcanic unit is a grey/white, crystal-rich rhyolite ash-flow tuff; derived from this unit and Mesozoic basement is a breccia unit, consisting of mega-lithic breccia, volcanic landslide units and gravity collapse breccia, formed during caldera collapse. Deposited above these units is a dark gray to dark brown very resistant welded tuff.

Palmetto Formation
Palmetto Formation crops out on the northwestern margin of Four-Mile Basin as a lone ovoid hill. Field relationships indicate this unit represents no more than 65 meters of stratigraphic thickness. This rock is a thickly laminated calcareous siltstone to massive silty quartzite. Drill results through this unit by previous operators demonstrate that it is surrounded by caldera collapse volcanic landslide material. Although it is a large and coherent block of Mesozoic rock, this unit is part of the megalithic breccia associated with caldera collapse.

Rhyolite Lithic Tuff
The rhyolite lithic tuff is a poorly welded tuff that forms low subdued ridges and knobs or crops out at the base of hills and in canyons. Rhyolite lithic tuff is believed to be part of a 33.0 to 35.3 m.y. old tuff sequence associated with the caldera formation in the
south Monitor Mountain Range (Kleinhampl and Ziony, 1967). The thickness of this unit is not known on the Four-Mile Basin property but within the region ranges from 800 to 2200 feet thick. This rock is rhyolitic to dacitic in composition and contains from 5 to 20% lithic fragments of quartzite, siltstone and hornfels.

**Landslide Breccia/ Mega Breccia/ Collapse Breccia**
The landslide breccia is believed to fill much of Four-Mile Basin valley. Consequently, there is little exposure of this rock unit and it is known principally from drilling by past operators. The most spectacular example of this rock unit is the large coherent block of Palmetto Formation, but in most cases the implied dimension of rhyolite lithic tuff blocks in this breccia unit are in the range of 1.5 to 3.0 meters. In the vicinity of Sinter Ridge, drill holes into this rock unit contain abundant chalcedonic silica flooding the groundmass. This observation places the timing of the breccia development and caldera collapse before extensive hydrothermal alteration and before deposition of the latite tuff unit.

**Latite Lithic Tuff**
A massive dark brown welded latite lithic tuff is a prominent lithologic feature on the property because it is a cliff forming unit. The base of the unit contains poorly welded auto-breccia and slightly up-section is a poorly developed vitrophyre up to 10 feet thick. Latite lithic tuff is believed to be 23.8 to 25.4 m.y old (Kleinhampl and Ziony, 1967), but other correlations have suggested an age as young as 17.3 m.y. The unit is more than 100 meters thick and contains less than 10% very angular devitrified pumice fragments. The unit has a vitric groundmass with rare biotite, it is generally a very massive unit that shows little effect of duteric devitrification and lacks hydrothermal alteration.

**Structure**
North-south trending faults bound the margins of Four-Mile Basin. These structures are part of the arcuate caldera collapse or ring faults that have been traced regionally (Herron, 1981). The best example of this structural type is along Sinter Ridge and that fault is referred to here as the East Ring Fault. Several northeast trending faults have been mapped traversing the basin. These faults were either created as radial fractures during caldera collapse or in response to shearing associated with the Walker Lane structural zone.

**Hydrothermal Alteration**
Hydrothermal alteration on the Four-Mile Basin property is dominated by structurally controlled silica. This alteration style is best represented by Sinter Ridge, where a 2 km long zone of silica sinter is developed. This silica sinter seems to be asymmetric, with only the eastern part preserved; the western part of the sinter may have been eroded and incorporated in the landslide breccia unit during caldera collapse or was never preserved. Other areas of silicic alteration are north of the property and include a 1.5 to 3 meter wide chalcedonic quartz vein and pervasive silica replacement of the rhyolite lithic tuff at Schover Peak.
Argillic alteration is pervasive property wide but generally not intense. Clay alteration enveloping quartz veins can be intense, although localized, with complete clay replacement of pumice and lithic fragments. Clay minerals identified from the property are dominated by kaolinite with local concentrations of dickite/celadonite. Clay alteration with abundant iron-oxide minerals is closely related to quartz veining and include hematite with patchy jarosite and minor goethite.

**Exploration Results**
Seabridge Gold conducted a review and evaluation of the property during 2005. The evaluation included property wide geological mapping, geochemical sampling and an airborne magnetic survey.

**Geologic Mapping**
Geologic Mapping was completed on the property at a scale of 1:1000. The two volcanic rock types described above were the principal units described in this program. The key observations from this work were:
- The latite lithic tuff (23.8 to 25.4 m. y.) unit is pristine and does not contain any recognizable hydrothermal alteration, even in proximity or contact with altered rhyolite lithic tuff.
- Sinter Ridge contains textures in the silica sinter consistent with deposition at the surface or very shallow depths, including desiccation fractures, mud balls and laminated airfall tuff.

**Geochemical Sampling**
Approximately 15 days were devoted to soil sampling grids on 350 meter center with infill lines dictated by results. Rock sampling was carried out in 4 separate programs with results driving each follow-up program. During this review 776 soil samples were collected as well as 102 rock chip samples. Geochemical results include:
- Rock chip sampling by Seabridge Gold demonstrated the presence of significant concentrations of precious metals associated with hydrothermal alteration in the rhyolite lithic tuff unit (Table 1).
- Soil geochemical sampling has demonstrated that a consistent anomalous concentration of gold in soil is on Sinter Ridge and coincident with the projection of a fault interpreted as a ring fault related to caldera collapse (Figure 3).

| Table 1: Selected Rock Chip Geochemical Results Four-Mile Basin Property |
|---------------------------------|-----|-----|-----|-----|-----|-----|
| Sample Number | Au ppb | Ag ppm | Sample Number | Au ppb | Ag ppm |
| SA-1217        | 2070  | 4.9   | SA-6221        | 257   | 11.4 |
| SA-1200        | 1492  | 15.2  | SA-6217        | 215   | 17.9 |
| SA-6031        | 974   | 10.5  | SA-1202        | 197   | 5.8  |
| SA-6255        | 733   | 2.4   | SA-6215        | 182   | 68.1 |
| SA-6032        | 619   | 14.0  | SA-6028        | 140   | >60.0 |
| SA-6216        | 450   | 15.3  | SA-6218        | 132   | 2.0  |
| SA-6219        | 444   | 3.5   | SA-1215        | 105   | 0.7  |
Airborne Magnetic Survey

During October 18 to 22, 2005 an airborne magnetic survey was completed for Seabridge Gold and processed by PRJ Inc of Lakewood, Colorado. The digital magnetic and location data were inspected for editing and determined to be high quality and no filter algorithms were applied. A diurnal correction was applied to the data set utilizing measurements collected from a base magnetometer. A reduction to pole calculation was made and the data presented on 1:10,000 scale maps. A total of 90 line kilometers of surveying (Figure 4) was completed. Observations from this survey include:

- The latite lithic tuff unit produces a strong positive magnetic response (+100nT).
- The projection of the East Ring Fault produces a discontinuous but discreet negative magnetic response (>10nT) with steep gradients on the east and west margin of the anomaly.
- The block of Palmetto Formation is characterized by a moderate-low magnetic response (30-50nT) with little variation.
Within the covered part of Four-Mile Basin there are discrete bodies of high magnetic response material (+120nT). These bodies may represent diapiric intrusive rocks into the landslide breccia unit.

Data Compilation
In addition to the work completed by Seabridge Gold, results from significant past work were obtained for the Four-Mile Basin property. This information included several types of studies but drill hole geologic logs and surface and drill hole geochemistry made up the bulk of the data. Past operators on the property or in the vicinity included, Cominco America, Atlas Minerals, Marathon Minerals and Kennecott Minerals. Results from this previous work include:

- Identification of the landslide/mega breccia unit filling Four-Mile Basin (Kennecott, Marathon).
- Recognition of silica alteration in the landslide/mega breccia as part of the sinter development along the East Ring fault (Marathon).
- The association between hydrothermal alteration and fault projections in the region (Cominco).
- Precious metal concentration in hydrothermally altered rhyolite lithic tuff and proximity of alteration to faults (Cominco, Atlas).

Discussion
The initial impression of the Four-Mile Basin property is that the area has been the focus of extensive and intensive hydrothermal alteration. Textural and fluid inclusion evidence from the area indicates that the level of exposure of this hydrothermal system is very near the paleo-surface. These observations led to the conclusion that a trap for precious metal accumulation is potentially buried at depths greater than 250 meters. In order to advance the project to target testing it was deemed critical to demonstrate that gold and silver are essential components of the hydrothermal alteration system.

Three lines of evidence have been found to demonstrate that the hydrothermal system at Four-Mile Basin is gold-bearing.

- A coherent and consistent gold in soil geochemical signature has been discovered along the trace of the East Ring Fault at Sinter Ridge. This geochemical anomaly is 1500 meters in length and although gold concentrations are not ore grade they are an order of magnitude higher than surrounding sample results (Figure 3).
- Rock chip geochemistry has confirmed that gold concentrations on the property are elevated near structures and in the altered rhyolite lithic tuff. Sampling by pervious operators on the property was confirmed by Seabridge Gold, providing confidence that past geochemical work is reliable.
- Results from previous drill testing of structural targets indicate that gold was present in the hydrothermal system. These results also indicate that gold and silver concentrations are increasing with depth, consistent with the interpreted level of exposure for the hydrothermal system on the property (Appendix A).
**Target Identification**

The initial target on the Four-Mile Basin property is along the East Ring Fault exposed on Sinter Ridge. This target is believed to be 3 to 10 meters wide and is likely to be represented by a near vertical quartz vein. One hole in this system has penetrated the target to a depth of 105 meters which based on compilation of the drill results is likely to be too high in the hydrothermal system. Drill hole IG-RH 8 (hole 8 in Figure 5) encountered massive quartz vein with banded and massive chalcedonic quartz and several open voids. It is believed that additional target tests should be designed to intersect the system at depths of between 250 and 350 meters.

Phase one testing of the Four-Mile Basin target is designed as a 3 drill hole program (Figure 5). Total drilling is projected to be 3200 meters. The drill holes will be inclined and projected to encounter the quartz vein system at depths of 250 meters and 300 meters.

**References**


Figure 2: Interpreted Calderas in Southern Monitor Mountain Range
Figure 4: Annotated Airborne Magnetic Map
Figure 5: Conceptual Drill Target for Four-Mile Basin Property

Looking North on Sinter Ridge

Proposed drill test, 090 Azm, -65, 315m (1030 ft)

Breccia

Rhyolite Lithic Tuff

Gypsum-bearing alteration

1650 1750 1850 1950

1700 1800 1900
Appendix A: Drill Hole Geochemical Results from Marathon Minerals Dilling
(drill hole numbers correspond to those in Figure 5)