SINGATSE PEAK SERVICES

Phase 2 Drill Plan

Bear Deposit

Yerington, Nevada

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Rev. 1

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This document describes the proposed drill program for Ph2 at the Yerington Bear Deposit. It includes pre-drilling, drilling and post-drilling activities to be completed. Rev. 1 includes changes to the Environmental Considerations in Section 5 and the Rotosonic drill procedures in Section 8. These changes will achieve a 4 in. annulus between the Rotosonic borehole and the casing.

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1. Introduction

This document describes the proposed drill program for Ph2 at the Yerington Bear Deposit. It includes pre-drilling, drilling and post drilling activities to be completed.

Singatse Peak Services, LLC (SPS) and Freeport Nevada LLC (Freeport) entered into a Membership Interest and Option Agreement on June 13, 2014. Under the terms of the Agreement, Freeport can earn a majority share in SPS by funding three staged due diligence and exploration programs. Under terms of the Agreement, Ph1 is dedicated solely to performing due diligence and without performing any intrusive exploration work (drilling). Ph2 includes ongoing due diligence as well as performing an initial exploration over a 12 month period. If Freeport decides to continue at Yerington, Ph3 would include ongoing due diligence and implementing a larger drilling program over a 24 month period prior to earning an interest in SPS.

As with SPS's previous exploration activities in Yerington, SPS plans to communicate with numerous Stakeholder groups before the start of Ph 2 drilling. These include the Regulatory Agencies (US EPA and NDEP), the local community (City of Yerington, Lyon County and the Yerington Paiute Tribe) and potentially other organizations that may have an interest in SPS's activities in the Yerington area.

2. Overview of the Bear Deposit

Property Description - The Bear project is located near the geographic center of Lyon County, Nevada, USA, east of the Singatse Range, approximately 2 miles north/northwest of the town of Yerington, Nevada (Figure 1). The project area is accessible by paved highway 95A and numerous dirt roads. Topographic coverage is on US Geological Survey "Mason Butte" and "Yerington" 7.5' topographic quadrangles. The nearest major city is Reno, Nevada approximately 75 miles to the northwest.

Most of the project area is located on private land, with a few hundred acres of the known deposit located on unpatented BLM claims staked by SPS (Figure 2). The BLM land is located west of Highway 95A on a portion of the former Anaconda Mine.

Regional Geology - The Bear Project is located within the western Basin and Range Province in Nevada. Basin and Range normal faults have down-dropped basins and uplifted mountain ranges. The Bear Deposit lies within the down dropped Mason Valley with the uplifted Singatse Range to the west and the Wassuk Range to the east.

The oldest rocks in the Yerington District are a Late Triassic, intermediate and felsic metavolcanic section with lesser sedimentary rocks. This sequence is disconformably overlain by Triassic carbonates, clastic sediments and volcaniclastics.

Igneous rocks intruded the Triassic section during the Middle Jurassic with the emplacement of the Yerington batholith consisting of the McLeod Hill Quartz Monzodiorite (granodiorite) and the Bear Quartz Monzonite (quartz monzonite) which was soon followed by the intrusion of the Luhr Hill Granite with multiple related quartz monzonite porphyry dikes. Much of the mineralization in the district is associated with the porphyry dikes. The batholith has been age dated at 169 Ma (Proffett and Dilles, 1984).

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The Jurassic rocks are overlain by mid-Tertiary tuffs and lesser sedimentary rocks. The entire sequence of rocks in the Yerington area was subsequently subjected to basin and range faulting consisting of north-trending, down-to-the-east dipping faults that resulted in extension and westerly tilting.

Bear Geology overview - The understanding of the geology of the Bear deposit is based upon mapping, drill holes, and reports by both the Anaconda Company and the Phelps Dodge Company during their exploration in the 1960-1970's.

Alluvium is present in some areas of the Bear Deposit at a thickness of 0 to over 500 ft. In other areas, Tertiary or Jurassic bedrock outcrops at the surface. Ground water is generally encountered within 10 to 30 ft. of the surface in the alluvium.

The Bear deposit is underlain by outcropping -Tertiary tuffs and the Yerington batholith. When present, the mid-Tertiary rocks overlie the batholith. The batholith consists of the McLeod Hill Quartz Monzodiorite (granodiorite) and the Bear Quartz Monzonite (quartz monzonite) which is intruded by a series of north/northeast dipping quartz monzonite porphyry dikes. Narrow fine grained andesite and rhyolite dikes have also intruded the batholith. It appears that all rocks associated with the Bear deposit have been tilted approximately 50-70° to the west due to basin and range faulting.

The Bear fault is a recognized structure that has been identified in previous drilling of the Bear deposit. The fault is commonly the contact between the granodiorite and the quartz monzonite. It is an east-northeast dipping spoon-shaped fault that is hypothesized to have approximately 4000' of displacement toward the east. The Bear fault as well as subsequent basin and range faults appears to have caused the mineralized areas to be divided into two or more zones. Toward the west, the mineralization occurs mainly in the footwall of the fault, and a somewhat deeper portion of the mineralization occurs in the hanging wall of the faults toward the east. One or more steep range front faults appear to have displaced the Bear Deposit into two or more 'zones'.

The Bear fault has been identified in some of the historic drill holes by the presence of a Tertiary hornblende andesite dike. In some cases, 1-2 feet of gouge is present within or on the margins of the dike. The gouge consists of dark clay and commonly contains rolled granodiorite and/or quartz monzonite and sulfide fragments. Slickenslides and slight brecciation also occasionally occurs in this zone. Further exploration is required to better understand the presence and significance of the Bear fault and the subsequent basin and range faulting and its relationship to the mineralization associated with the Bear Deposit.

Historic Drilling at the Bear Deposit - The Bear deposit was discovered in 1961 by Anaconda drilling in the area of the sulfide tailings and was further delineated in the 1960s and 1970s. The deposit is open in several directions and includes private property located north and east of the Anaconda mine site on property controlled by SPS. Historical information compiled for the Bear Deposit includes 126,400 feet of drilling in 49 drill holes that define a mineralized system covering an area of at least two square miles. The historic drilling has been used to identify additional drilling locations, and was used to estimate the types and depths of various strata to be encountered.

3. Objectives and Overview of Phase 2 Drill Program

The primary objective of the Ph2 drill program is to determine the extent and distribution of higher grade mineralization of the Bear Deposit. The Ph2 results will provide the basis for making a decision with regards to moving to Ph3 of the exploration program.

An important aspect of the Ph2 drill program is to enhance the understanding of the geology and mineralization of the Bear Deposit, while at the same time not incurring environmental liability related to existing ground water contamination.

Since the earlier meetings with the regulatory agencies in early 2015, SPS has completed additional review of the historical drilling and we have secured control of additional property in the area of the Bear Deposit. Therefore, SPS has modified the drill program to include drilling on the newly acquired property and adding a borehole just west of Highway 95A to better understand the lateral extent of the Bear Deposit to the west. Based on data provided in the most recent ground water monitoring reports prepared at the former Anaconda mine site (Brown & Caldwell, 2015), there is some uncertainty as to the extent of ground water contamination. Therefore, to address this uncertainty, SPS plans to use specialized drilling procedures to prevent possible cross contamination of the aquifer. Borehole drilling and abandonment procedures are discussed further in Section 10.

4. Pre-Drilling Activities

Geophysics – SPS is planning to perform a phased AudioMagnetoTellurics / MagnetoTellurics (AMT/MT) geophysical testing in the area of the Bear Deposit and the broader Yerington Copper District. Details of the AMT/MT program are not included as part of this Ph2 drill plan. The AMT/MT survey in the vicinity of the Bear Deposit may not be completed prior to the start of Ph2 drilling.

Drill Pad Construction – Drill sites will be accessed from State Highway 95A. Once on private property, existing dirt roads will be used to access the drill locations. Drill pads will be constructed at each drill location as discussed in Section 11.

5. Environmental Considerations

Historic operations at the Yerington Anaconda Mine Site have resulted in contaminated ground water that has migrated northerly from the evaporation ponds located on the northern portion of the Yerington Anaconda Mine Site (Figure 2). Ground water monitoring data indicate that sulfate, uranium and arsenic are the key indicator parameters for mine-impacted ground water at the Site. Sulfate moves most efficiently in ground water and has been used as the indicator parameter showing the extent of the ground water contamination.

ARC (under the supervision of the EPA) has done extensive drilling and well installation on and around the Anaconda Mine Site which includes areas north, west, and east of the Site. The subsequent monitoring has defined an area of ground water containing levels of sulfate >250 mg/L, which is the Secondary Maximum Contaminant Level (SMCL) as defined by the EPA.

SPS will enter into a contract with an independent 3rd Party environmental professional to observe and document all drilling activities associated with the Rotosonic drilling and casing installation. Once the casing is set and core drilling has started, periodic site visits will be made by the 3rd Party professional to observe

and document the coring activities. Upon completion of coring, all borehole plugging and abandonment activities will be observed and documented full time by the 3rd Party professional.

Under the Nevada Division of Water Resources (NDWR) regulations Nevada Administrative Code (NAC) 534, the proposed mineral exploration drill holes are classified as "boreholes" (NAC 534.047) The NDWR regulatory requirements for the drilling, completion, and abandonment of boreholes is addressed at NAC 534.4369 through .438, inclusive. NDWR regulations are provided in Appendix A.

As specified at NAC 534.4369 and .4371 the drilling and abandonment of a borehole is to be conducted in a manner that is different than the requirements for a well. However, the regulations do in specific circumstances cross reference provisions in the NAC 534 regulations for the drilling, completion, and abandonment of wells. These circumstances include plugging a borehole, casing a borehole, or the development of artesian conditions in the borehole.

Based on the drill procedures described in Section 8 , the general drilling and plugging procedures for the borehole are specified in NAC 534.4369 and NAC 534.4371, and includes the following:

- No notification to NDWR is necessary;
- The drill does not need to be a licensed well driller;
- A NDWR permit is not required;
- A record of the borehole drill date, location, depth, diameter, plugging method, the name of the driller, name of the operator of the exploration project, owner of the land needs to be maintained; and
- Plug the borehole as prescribed in NAC 534.4371.

As described in the drill procedures , the upper portion of the boreholes will be cased. Therefore, NAC 534.4371.6 will apply to the completion and plugging of the boreholes. Specifically, the cased portion of the borehole needs to be completed as a well pursuant to the provisions at NAC 534. This includes the applicable provisions under NAC 534.360 through .390, inclusive, which according to the specifics of the Project include the following:

- Meet the casing requirements under .360.3 and .360.6;
- Meet the control of contaminated water requirements under .375; and
- Meet the seal requirements under .380, except subsections 5, 6, 7, and 10.

The key to interpreting the NDWR regulations under NAC 534, is that a borehole is always considered a borehole by NDWR even if a provision under the borehole regulations cross references to certain provisions for wells. The drilling operation as described above meets the regulatory requirements for the drilling, completion, and abandonment of the borehole.

6. Permitting

The Phase 2 drill program will involve exploration drilling of the Bear Deposit that is located entirely on private land. The disturbance associated with the Ph2 Bear Deposit drill plan is less than 5 acres. No permits are required for drilling on private land from the State of Nevada, Lyon County or City of Yerington when the disturbance area is less than five (5) acres. SPS will provide NDEP and EPA with a courtesy notification and a copy of the proposed drill plan.

7. Phase 2 Drill Program

The Ph2 drill program is designed to accomplish the objectives identified in Section 3. Figure 2 shows the drill hole locations. Details of the drill holes are summarized in Table 1 which includes the depths of different drilling and casing requirements, as well as the estimated depths of various strata to be encountered. Prior to drilling, the proposed drill hole locations will be staked using handheld GPS. It should be noted that changes or additions to subsequent drill hole locations may occur depending on the results of the previous hole(s). Water for drilling will be purchased from the City of Yerington.

Historic drilling by others did not determine the full extent of the Bear deposit. The deposit remains open to the north and the south and may also be open at depth, especially in the western area of known deposit. It appears that the deposit is broken into two or more "zones" that are be separated by the Bear fault and two or more steep range-front faults. The zones are further described below. The Ph2 drilling will start in Zone B and then move to Zone A, as discussed below.

Bear Deposit, Zone A – Zone A is located in the area of the historic Anaconda resource and includes the area around B-22. Zone A is shown on Figure 2. Based on grade/thickness projections, drilling to the northeast of B-22 is a high priority. This area was not accessible during historic exploration. Two holes are planned along this NE extension. A third hole could then be located north-northwest of B-22 to test the extent of Zone A in the northwesterly direction. All holes would be drilled to a TD of 4,500 ft. and may be adjusted based on actual conditions encountered.

The first drill hole in Zone A is planned in the area north of B-22, on Yerington Mining LLC property. B-003-2015 will be drilled 750 ft. north of B-22. This drill hole will collar in alluvium followed by Tertiary volcanic bedrock. Previous information suggests that the Tertiary volcanics could occur to approximately 1,600' or that a block of unmineralized to weakly mineralized granodiorite could occur as shallow as 300'. Mineralized quartz monzonite and quartz monzonite porphyry is expected in the foot wall of the Bear fault which is predicted to occur at approximately 1,600 ft. in either scenario.

The second drill hole in Zone A is B-004-2015, is a step out to the northeast, 1,500'northeast of B-22, also on Yerington Mining LLC property. The geology of this drill hole is expected to be similar to that in B-001-2015 with approximately 50 to 100' of alluvium at the top of the drill hole and Tertiary volcanics to approximately 1,500-1,600' before intersecting the Bear fault and entering into mineralized quartz monzonite and quartz monzonite porphyry.

Depending on the results of the first two holes in Zone A and available budget, a third hole (B-005-2015) would be located 1500' north/northwest of B-22 to test the western extension of the mineralization in Zone A on Desert Pearl Farms property. This hole would also test the outer IP high and mag low anomalies present in this area. The third hole in Zone A will be the last drill hole drilled as part of the proposed Ph2 plan. The location of the third drill hole in Zone A may be further refined based on conditions encountered in the previous holes. This drill hole will collar in alluvium which is expected to approximately 250 to 350'. An additional 900 to 1000' of volcanics is expected where the Bear fault will be encountered at approximately 1300-1400'. Below this depth the mineralized quartz monzonite and quartz monzonite is expected.

Bear Deposit, Zone B – The first two drill holes planned for Ph2 will be located in Zone B. Zone B is generally located east of Zone A and separates Zone A by a steeply dipping range front fault. Zone B is also shown on Figure 2. Previous drilling shows this area has good potential to encounter high grade zones,

including historic drill hole B-23B. Zone B appears to be separated from Zone A by a possible range front fault, given the barren nature of B-30. Two holes are planned in Zone B of the Bear Deposit. Drill holes in Zone B will be drilled to a TD of 4,500 ft.

The first hole in Zone B (B-001-2015) is located on O-N Ranch property. The first hole is planned as a twin to B-23B given the structural complexity and potential for higher grades in this area.

The second drill hole in Zone B (B-002-2015) is on projection of the strongest grade-thickness contours in Zone B and is located on Yerington Mining LLC property. The second hole in Zone B is planned to be drilled 1000 ft. to the north/northeast of B-23B to test the northeastern extension of Zone B. The second drill hole will collar in alluvium which is anticipated to be approximately 350' thick. Granodiorite is expected to grade into quartz monzonite at approximately 1600'. The presence of a steeply east dipping range front fault appears to have down dropped the Bear deposit in Zone B. Based upon field mapping it appears that the mineralization in this drill hole will occur beneath a steep range front fault and possibly in the hanging wall of the Bear fault. This leaves approximately a zone of 700-800' or more of mineralized material within quartz monzonite and quartz monzonite porphyry before intersecting the Bear fault at approximately 2400' (and possibly deeper). Based on historic drilling, the area below the Bear fault in Zone B is not expected to be mineralized, and this will be verified.

8. Drilling Procedures

Overview - This section describes the drilling procedures to be used during Phase 2. The drilling procedures described below are consistent with industry standards and will follow all Nevada Administrative Code (NAC) requirements. Copies of NAC 534.4369 and NAC 534.4371 are included in Appendix A.

The drilling procedures will involve two methods; Rotosonic through alluvium (estimated 50-350' thick) and 20' into bedrock followed by diamond core drilling PQ and HQ diameters to depths of 4,500'. Both methods are discussed in more detail below.

Rotosonic drilling through alluvium section - Rotosonic drilling penetrates the ground through a method of slight rotation and a resonance frequency and utilizes a core and case technique which will prevent potential cross-contamination in the alluvium. A core barrel is vibrated into the ground at 5' to 10' lengths dependent on ground conditions. The drill head then detaches from the core barrel and retracts at which time override casing is threaded and advanced to the bottom of the cored interval. The core barrel is removed from the cased boring with drill core, tilted away from the mast and vibrated out of the barrel into a plastic sample sleeve. This same process of a core and case is repeated.

Based upon previous Rotosonic drilling in the Mason Valley up to 700 ft deep, it is expected that drill holes will be able to drill through the alluvial section and into bedrock. The rotosonic drilling will be initiated without addition of water into the hole. Depending on drilling results, minimal water may be used to lubricate the sonic bit to assist in achieving the desired depths. Water management is discussed further in Section 9. All Rotosonic samples will be collected in a sealed plastic sleeve, logged and archived at the Anaconda Mine site core storage facility.

Rotosonic drilling does not require the addition of water, however, as contingency, limited water may be required to reach the depth to bedrock Drilling from the surface will begin utilizing a 9" core barrel with 10.75"OD X 9.65"ID sonic casing. This will result in a 10.75" diameter sonic borehole. The 9" drilling will be done until refusal.

Once the 9" core and case technique can no longer advance, the Rotosonic drill will reduce to 8" core barrel with 9.5"OD X 8.4"ID sonic casing. This will result in a 9.5" diameter sonic borehole. Hole will be drilled with the core and case technique method as above until refusal or 20' of bedrock has been drilled. Both the 9" and 8" core barrel casing will provide adequate space to accommodate PWT Casing (5" X 5.5") while maintaining a 2" annulus between the PWT casing and the borehole wall (4" total).

Once bedrock is reached, the drill rods will be removed, and PWT (5" x 5.5") casing sleeve will be lowered to bottom of hole through the remaining Rotosonic casing. Centralizers will be utilized on the core casing sleeve to center casing in the hole. A tremmie pipe will be placed to the bottom of the drill hole, between the PWT casing and Rotosonic casing and cement-grouting will begin from the bottom up. As the grout fills the column, the Rotosonic casing is removed one joint at a time, with the last piece being removed as the grout has been pumped to surface. Cement-grout volume calculations will be made between the drill contractor and the on-site third party environmental contractor prior to cementing operations to ensure correct volumes.

PQ coring would be initiated upon completion of this process.

As a contingency (if refusal is encountered with 8" sonic core barrel before reaching bedrock), an additional reduction to a 7" core barrel will be implemented utilizing 8.5"OD X 7.28"ID sonic casing. This will result in an 8.5" diameter sonic borehole (The 7"core barrel casing will provide adequate space to accommodate HWT Casing (4" X 4.5") while maintaining a 2" annulus between the HWT casing and the borehole wall (4" total). Once bedrock is reached, the drill rods will be removed, and HWT (4" x 4.5") casing sleeve will be lowered to bottom of hole through the remaining Rotosonic casing. Centralizers will be utilized on the core casing sleeve to center casing in the hole. Cementing procedures for the HWT casing sleeve would be the same as PWT installation.

HQ coring would be initiated upon completion of this process.

<u>Core Drilling</u> – Core drilling will follow the Rotosonic drilling. For all core drilling, drilling fluids are pumped down the drill rods to cool the drill bit. The drilling fluid also carries the cuttings up the hole where they will be directly pumped into an aboveground Solids Removal Unit (SRU) for solids removal and fluid recirculation (See Section 9). All muds used in drilling will be inert substances and SDS sheets of all utilized product will be obtained prior to drilling. A barrel inside the drill pipe allows for a drill core sample to be collected via wire line. The core will be brought to the surface in variable sample lengths up to 10' and placed in sample boxes for geological logging.

Core drilling will begin at PQ (~4.95" hole size and 3.345" core size with a 4-4.5" rod size) to maintain good drill hole stability which will help in reaching the required total depths of the drill holes (~4,500'). Based upon geological projections PQ core drilling will be utilized to a depth of approximately 750-1,200' (or until refusal) into Tertiary volcanics and possibly Jurassic rock. Once PQ drilling reaches the desired depth or refusal occurs, a 4 x 4 ½ in. OD X 0.250 in wall thickness by 11.7 lb HWT casing, or equivalent, will be set. HQ core size (2.5" core size and ~3.75" hole diameter) drilling will follow.

It is desired that HQ core drilling be able to reach the final depth of the drill hole (at least 4,500'), however, if total depth cannot be reached the drill hole will be reduced to NQ size (1.875" core size and ~3" hole diameter) drilling to reach total depths. If reduction to NQ size is necessary, the driller will pull all HQ drill rods and set casing using the appropriate casing material to the current depth. Once casing is set NQ drilling will proceed to the total depth. A geologist will determine what depth the drill hole will be terminated based upon geological observations in the drill core.

9. Cuttings and Water Management

Overview – Cuttings and excess water may be produced from drilling activities at the Bear. All material from Rotosonic drilling will be collected and stored in plastic sleeves as described in section 8. In the event that water is produced during the Rotosonic drilling process, it will be captured at the drill collar and pumped to holding tanks. For the core drilling method, an SRU (Solids Removal Unit) will be used to process all of the cuttings and water / drilling fluids. Contingency plans are presented below in the event that the tanks cannot maintain all of the cuttings and water produced in the drilling process. Each process is explained in more detail below.

Rotosonic Drilling – Rotosonic drilling will be used to drill alluvium and 20' into bedrock. All solids will be collected in sealed plastic sleeves, logged by the geologist, transported to the core storage area at the Anaconda Mine site along with other drill core.

The rotosonic drilling will be initiated without addition of water into the hole. Depending on drilling results, minimal water may be used to lubricate the sonic bit to assist in achieving the desired depths. In any event some water is anticipated to be produced with the Rotosonic method. Any water produced during Rotosonic drilling will be managed on site by the following steps: Drill the first 10' of the hole dry and place a drill tub over the surface casing sealed with bentonite. Drilling is then performed inside this sealed surface casing and any water returns will flow through the drill casing into the tub. Water is then pumped from the tub into a tank. Water will be tested for NDEP Profile I standards plus uranium (U). The reference value for U will be 30 µg/L and the reference value for sulfate will be 250 mg/L. Water that tests below reference values will be utilized for the coring operations. Water testing above reference values will be disposed off-site at an approved facility.

Core Drilling – Prior to the start of coring, the aquifer will be cased and cemented to prevent potential cross contamination from the alluvium to the bedrock. As with the Rotosonic core, the rock core will be logged and retained at the core storage facility at the Anaconda Mine site. Solids separated from the drilling fluids will be managed as discussed below.

During coring, a Solids Removal Unit (SRU) will maintain all of the cuttings and drilling fluids. Drilling fluids will be pumped directly from the drill collar to the SRU. The drilling fluid will be pumped over a shaker screen to capture coarser material while the fines and water/ drilling fluid will drop into a tank and are cleaned via a centrifuge and recirculated back into the drilling process. The solids will flow off of the shaker screen and from the centrifuge where they will be collected in a roll-off container. The solids will be analyzed using acid/base accounting following the Nevada Modified Sobek Procedure. Solids exhibiting an acid generation potential will be disposed off-site at an approved facility. Solids that do not exhibit acid generation potential will be integrated into site reclamation.

Water used in the coring process will be recirculated through the SRU. If excess water is produced, it will be stored in on-site storage tanks and used for coring future holes during Ph2.

10. Post Drilling Activities

Post drilling activities include a borehole deviation survey, geophysical surveys, detailed location survey, and borehole abandonment.

Borehole Deviation Survey – The drill contractor will notify an SPS employee when a drill hole is nearing completion, approximately 24-48 hour estimation. At that time, SPS will contact International Directional Services (IDS) to schedule a time for the surveyor and SPS to meet. The surveyor will meet SPS at the core logging facility and will follow SPS to the drill site. At this time drilling will stop. The IDS contractor will complete the survey using a down the hole north seeking gyro technique. IDS will produce a hard copy of the survey information, including a graph and all orientation data. All data produced will also be emailed to SPS for electronic records.

Geophysical Surveys - After the borehole deviation study is completed, geophysical equipment will be installed in the drill hole. It is recommended that a Downhole Radial Complex Resistivity & IP survey (DHCR) is conducted in each drill hole. A transmitter electrode will be placed down the drill hole using a wireline to the necessary depth, which will be as deep as or deeper than the mineralization. The wireline will be carefully and safely hung outside of the drill hole. Upon completion of the borehole abandonment procedure the wireline will be safely hung from the cemented part of the top of the borehole. When the geophysical study takes place a geophysical crew will place a transmitter electrode at the base of the drill hole and run radial lines using multiple electric field dipoles with an a-spacing of 100 m; the planned length of individual radial lines will be 1200 m. The actual number of lines needed, spacing and distance of the lines will be determined by the geophysical crew. Electric-field signals will be measured using standard equipment and any pots dug into the ground will be kept minimal in size and filled-in upon completion of the survey. The results of the geophysical survey should determine resistivity and IP responses no deeper than the downhole transmitter electrode.

Location Survey – A location survey will take place at the cement plug and pin of the borehole by an SPS employee using a Trimble GPS.

Borehole Abandonment – All drill holes will be plugged and abandoned in accordance with Nevada Administrative Code, NAC 534.4371 (Appendix A). Casing that was cemented in the hole will remain in the borehole. Casing that is not cemented in the drill hole will be removed. In the unlikely event that casing is unable to be pulled, a waiver will be obtained from the NDWR to perforate and pressure grout.

All boreholes will be plugged within 30 days after the borehole is no longer required. All boreholes will be plugged by placing neat cement or a high-solids bentonite grout, which consists of not less than 20 percent bentonite by weight of water, by tremmie pipe in an upward direction from the bottom of the borehole to the surface of the well. If the casing in the borehole can be removed from the well bore, neat cement or high-solids bentonite grout will be placed by tremmie pipe(in this case, casing is used as trimmie) in an upward direction from the bottom of the borehole to the surface as the casing is removed from the well bore. If the integrity of the borehole remains intact as the casing is removed from the well bore, the well may be plugged as provided in NAC 534.4371.

Upon completion of Rotosonic drilling and coring, the 3rd Party professional will be present on site full time to observe and document borehole plugging and abandonment activities.

11. Site Management and Reclamation

Drill Site Organization and General Housekeeping - The layout of the drill site will be kept clean and orderly in an effort to maintain zero injuries on the job. All work surfaces will be kept free of debris and unnecessary items will be removed from the site. Collection containers will be available to dispose of any rags, containers, and other refuse and will be emptied as necessary and disposed of at an off-site facility.

Any containers or other products too large for the collection containers will be collected daily and disposed of at the proper facility. Any staking, flagging, or paint needed at the drill site will be kept at a minimum and removed after the completion of each drill hole.

Drill Sites - All drill sites are planned to minimize disturbance and will not be larger than necessary. New access roads will also be kept to a minimum in order to limit land disturbance. Access drill roads will be watered as necessary to control dust pollution. Any ruts or holes that occur in the road will be repaired in a timely manner for safety as well as to limit soil erosion.

Petroleum Products Management - Petroleum products kept on site will be kept at the minimum amount for efficient operation. All petroleum products are to be kept in their original container or in a clearly marked container which has secondary containment that is external and separate from the primary containment. The secondary containment must be able to hold 110 percent of the product.

Spill Prevention - Each drill site will have a covered barrel that contains a spill kit. Each spill kit will include items for spill cleanup such as absorbent pads, booms, and heavy-duty protective gloves. Signs will be posted at the drill site and at the core shack that provide information on spill prevention and cleanup methods. All field supervisors and employees are responsible for understanding the response plan and following the guidelines. If a spill occurs, all work operations will stop and the spill must be contained and cleaned as safely and efficiently as possible. No spills will be flushed into waterways and nearby waterways should be bermed with dirt or other barriers in the event of a spill. The drill site and drill rig will be checked daily for any parts that contain fluids which could leak. One individual will maintain an inspection record on site and oversee that all prevention practices are utilized. The drill contractor will be required to lay plastic liner beneath the drill rig prior to the start of drilling to mitigate potential spills and place splash pans or plastic liner under any equipment, products, or supplies that can leak.

During Rotosonic drilling, samples will be collected in plastic bags and archived. Section 12 discusses sample handling and storage in detail. During core drilling, cuttings will pass through an SRU and into a roll-off container. All disturbed areas and drill pads will be reseeded upon completion.

SPS will restore the property to the condition it was in prior to exploration activities, to owner's reasonable satisfaction in accordance, with the requirements defined in the various land owner agreements. SPS will photo-document pre- and post-disturbance conditions at each drill hole. The pre-drilling inspection will be performed along with the owner to establish baseline conditions and reclamation requirements.

12. Sample Handling and Storage

The core will be logged using the form provided in Appendix B. Rotosonic samples will be collected in plastic sleeves, labeled with drill hole number and depth interval. The bags are wire-tied and loaded onto pallets on a trailer for transport to the Yerington Mine site. Following logging, all Rotosonic core and rock core samples will be archived at the Yerington Mine site core storage facility.

Drill core will be collected by the drill contractor in card board sample boxes. Core drillers will take recovery and run measurements on site and place wooden blocks with labeled depths, drilled length, and recovered length between each run. After each twelve hour shift an SPS representative will transport the drill core to a secure SPS warehouse for logging and assay preparation. Logging will include geology, recovery, rock quality designations (RQD), and magnetic susceptibility. A geologist will draw a line on the drill core with a wax pen and divide samples into approximate five foot sample intervals for assaying. Once

each sample box is prepared, it is labeled to identify the drill hole number, box number, and footage interval and photographed.

Core sawing will be performed at the logging warehouse and half of the core sample will be placed in a cloth bag which is labeled with the drill hole number, depth interval, and sample number. Each bag is tied and approximately 10-15 bags are placed inside a 24- by 36-inch woven polypropylene bag that is wire-tied for transport to the assay lab. For shipping the polypropylene bags are carefully loaded onto plastic lined wooden pallets. The bags on the pallet are secured with shrink wrap and further secured with plastic bandings. The other half of the sample is kept in the core box and stored inside at the core warehouse.

The lab performing the analyses will pick up the samples on a consistent schedule for transport to the lab. A chain of custody will accompany all samples.

13. Assay Procedures

A lab for assaying will be determined based upon capabilities and bids. Once all of the samples have been prepared as described below they will be packaged and sent to the determined lab for a multi-element + Au analysis. The multi-element analysis will include at least Ag, Cu, and Mo. The lab will prepare the samples for assaying, in which the drill core samples will be crushed, pulverized, and assayed. The remaining portion of the sample will be packaged and returned to SPS after sample preparation. SPS will catalog and store all returned samples on site as they are received. To ensure quality control on the assays SPS will place blanks and premeasured standards into the sample stream every 50 ft.

14. Health and Safety

Health and safety requirements provided in SPS's Safety, Health, Security, and Environmental (SHSE) Manual will be followed. Health and safety requirements provided by the drilling contractor(s) will also be followed.

SPS will contract with an independent 3rd party safety professional to review SPS's and the drilling contractor(s) safety protocols. All personnel working on the Ph2 drill program will attend a safety orientation and training meeting which will be facilitated by the 3rd party professional. Safety training of all site personnel will be documented and maintained with the project files. The 3rd party safety professional will conduct periodic safety reviews and audits during the drilling and field activities. As with all drilling programs, special focus will be on hand safety and driver safety.

15. Schedule

In accordance with the option agreement between Freeport Nevada and SPS, the decision to proceed with Ph2 was made on June 12, 2015. Phase 2 will extend for 12 months from the decision to proceed. It is anticipated that the Ph2 drill program will be completed by the end of 1Q2016.

ED_001725B_00108920-00013

16. References

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Proffett, J.M., 1967, Progress Report on the Bear-Lagomarsino Area, Yerington District, Lyon County, Nevada: unpublished private report for The Anaconda Company, 44p.

Walker, W. J., 1970, Memorandum from W.J. Walker to R.W. Ludden: RE: Possible Ore Reserves at Lago Project, Nevada. April 16, 1970.

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Table 1. Summary of Phase 2 Drill Program

Drillhole ID	Property Owner	UTM E NAD 27	UTM N NAD 27	Elevation (ft.)	Bearing	Angle	Alluvium Depth (ft)	Volcanics Depth (ft)	Bear Fault Depth (ft)	Jurassic (Depth, ft)		Top of Gypsum Depth (ft)	Total Depth (ft)
										Granodiorite	Quartz Monzonite		
Bear Zone B													
B-001-2015	O-N Ranch	312,241	4,320,769	4365	N/A	-90°	325	0	2,650	1,775	2,400	1,800	4,500
B-002-2015	Yerington Mining	312,345	4,321,069	4356	N/A	-90°	350	0	2,400	1,850	2,300	2,600	4,500
Bear Zone A													
B-003-2015	Yerington Mining	311,453	4,321,439	4379	N/A	-90°	50	1,600	1,600	0	2,850	2,200	4,500
B-004-2015	Yerington Mining	311,706	4,321,605	4371	N/A	-90°	75	1,500	1,600	0	2,925	2,200	4,500
B-005-2015	Desert Pearl Farms	311,063	4,321,466	4352	N/A	-90°	350	1,000	1,300	0	3,150	2,200	4,500
						TOTALS	**1,150**	**4,100**		**3,625**	**13,625**		**22,500**

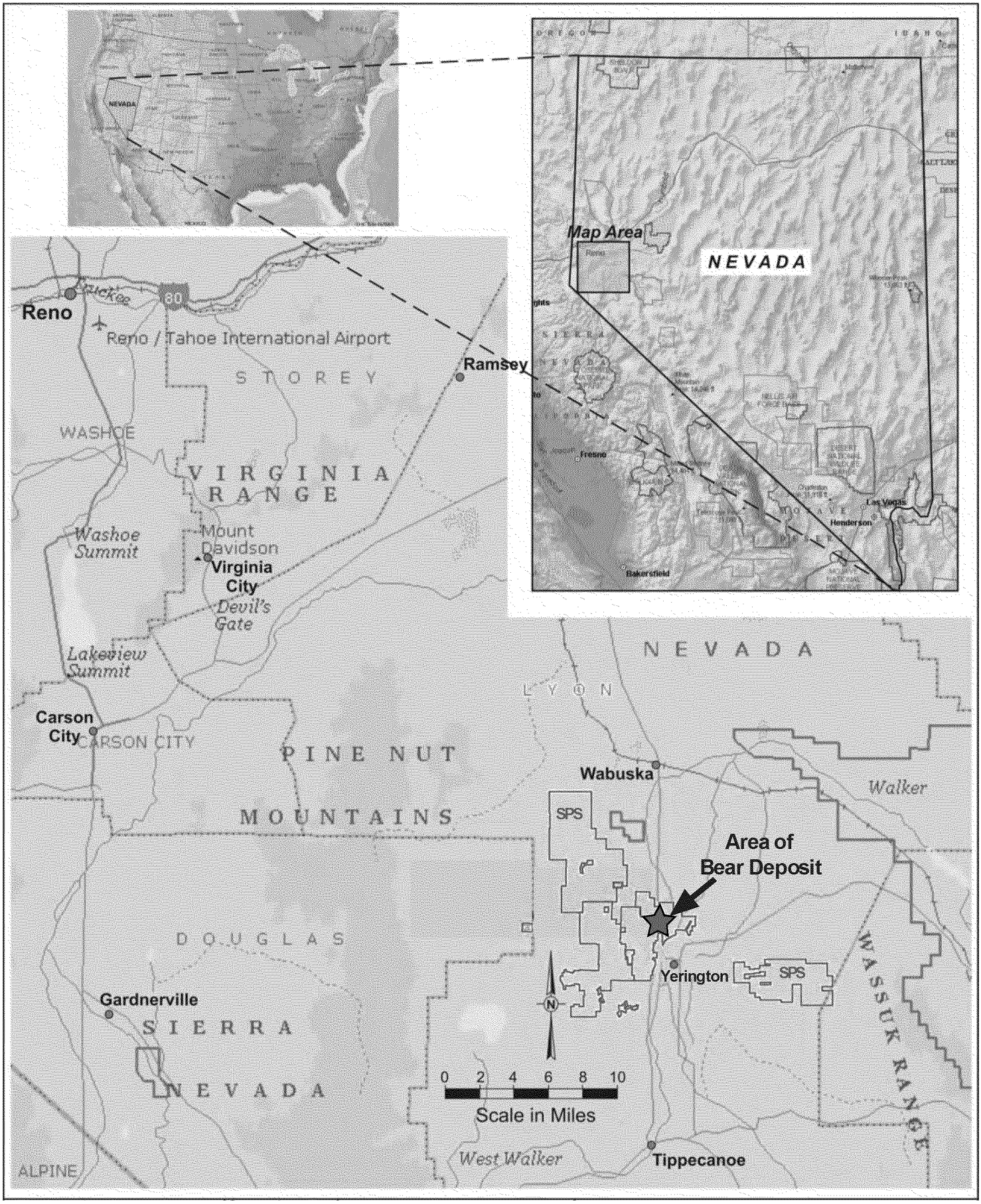

Figure 1. Yerington Copper District - Area Map

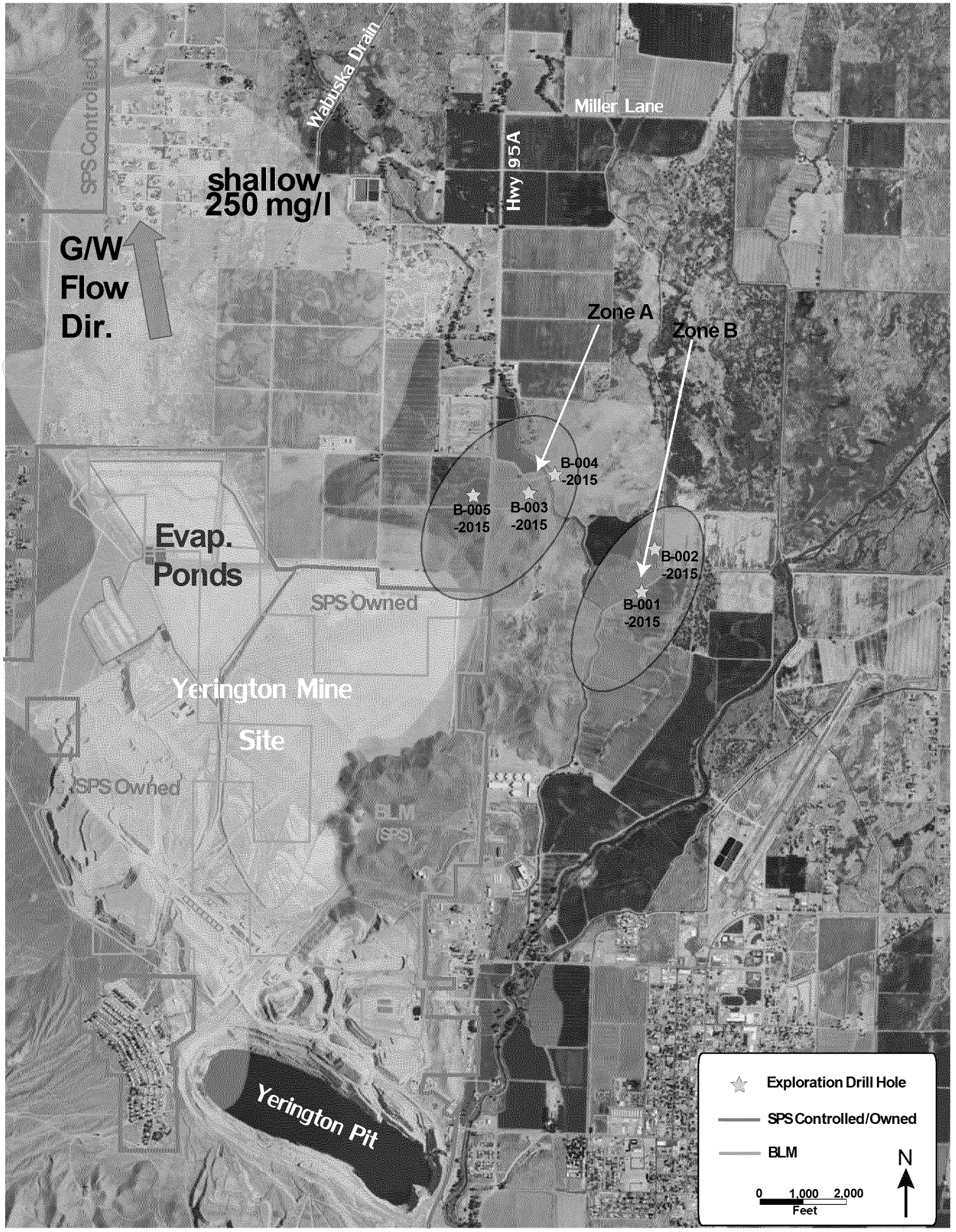

Figure 2. Proposed Drill Locations

Appendix A

State of Nevada Drilling Requirements

a. ***NAC 534.4369 Boreholes: Generally***
b. ***NAC 534.4371 Boreholes: Plugging requirements***
c. ***NAC* 534 Drilling, Construction and Plugging of Wells and Boreholes**

NAC 534.4369 Boreholes: Generally. (NRS 534.020, 534.110)

1. A borehole may be drilled or plugged by a person who is not a licensed well driller.

2. A person who constructs or plugs a borehole is not required to file with the Division a notice of intent to drill or plug the borehole.

3. A borehole may be drilled without obtaining from the Division a permit to appropriate water or a waiver of the requirement to obtain such a permit.

4. A person who drills or plugs a borehole, the operator of the exploration project or the owner of the land where the borehole is located must maintain a record of the drilling operation which includes:

(a) The dates on which the borehole is constructed and plugged;

(b) The location of the borehole as shown by public land survey;

(c) The depth and diameter of the borehole;

(d) The depth at which groundwater is encountered in the borehole; and

(e) The methods and materials used to plug the borehole.

5. The State Engineer may, at any time, require the person drilling or plugging the borehole, the operator of the exploration project or the owner of the land on which the borehole is located to submit to the State Engineer a copy of the record required pursuant to subsection 4 and any other information relating to the construction, operation or plugging of the borehole that the State Engineer determines is necessary.

6. The owner and the lessor of the land on which a borehole is located, the operator of the exploration project and the drilling or plugging contractor for the project shall ensure that the groundwater is uncontaminated during the drilling, operation or plugging of the borehole.

7. A borehole must not be used to divert water for any purpose.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.4371 Boreholes: Plugging requirements. (NRS 534.020, 534.110)

1. A borehole must be plugged within 60 days after it is drilled.

2. Except as otherwise provided in subsections 4, 7 and 8 and NAC 534.438, a borehole must be plugged:

(a) In the manner prescribed for plugging a well in NAC 534.420; or

(b) If the uppermost saturated groundwater stratum is above the bottom of the borehole:

(1) By placing concrete grout, cement grout, neat cement or bentonite grout by tremie pipe in an upward direction from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface;

(2) By placing bentonite chips specifically designed to be used to plug boreholes from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface; or

(3) By placing any of the plugging materials described in this subsection from the total depth of the borehole to 50 feet above the uppermost saturated groundwater stratum and by placing concrete grout, cement grout, or neat cement from 20 feet below the surface to the surface.

3. If the concrete grout, cement grout, neat cement, bentonite grout or bentonite chips are not brought to within 20 feet of the surface pursuant to paragraph (b) of subsection 2, the person responsible for plugging the borehole shall:

(a) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(b) Continue to install concrete grout, cement grout, neat cement, bentonite grout or bentonite chips until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum;

(c) Install uncontaminated fill material or one of the plugging materials described in this subsection from the top of the lower plug to within 20 feet of the surface; and

(d) Place concrete grout, cement grout or neat cement from 20 feet below the surface to the surface.

4. If the elevation of the bottom of the borehole is higher than the preexisting natural elevation of the uppermost saturated groundwater stratum, the borehole must be plugged by:

(a) Backfilling the borehole from the bottom of the borehole to within 20 feet of the surface with uncontaminated soil; and

(b) Placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface.

5. If bentonite chips or uncontaminated soil is placed in the borehole, they must be placed in such a manner that a bridge does not occur. If poured in standing water, bentonite chips must be screened to eliminate the fines. Bentonite chips may be placed by tremie pipe.

6. If casing is set in a borehole, the borehole must be completed as a well pursuant to the provisions of this chapter. The borehole must be plugged pursuant to NAC 534.420, or the casing must be removed from the borehole when it is plugged. The upper portion of the borehole may be permanently cased if the annular space between the casing and the walls of the borehole is completely sealed from the bottom of the casing to the surface pursuant to NAC 534.380.

7. If there is evidence that water-draining formations (lost circulation), or water-bearing formations of different water quality or hydraulic head were encountered during the original borehole construction and if bentonite chips or bentonite grout is used as the plugging material, the driller must, in addition to the requirements of this section, place neat cement across the water-confining formations so that the plugging fluid penetrates the geologic formation to prevent the vertical movement of water. Any drilling casing or pipe that does not break free, and occludes the placement of neat cement across a confining formation, must be perforated so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

8. If the water-bearing formations are unknown and any drilling casing or pipe does not break free, the driller must plug the borehole in accordance with paragraph (b) of subsection 5 of NAC 534.420, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534: Drilling, Construction and Plugging of Wells and Boreholes

NAC 534.358 Construction of well: Compliance with chapter 445A of NAC in certain circumstances. (NRS 534.020, 534.110) If a well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the well must be constructed in accordance with chapter 445A of NAC.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.360 Construction of well: Casing. (NRS 534.020, 534.060, 534.110, 534.140)

1. Except as otherwise provided in subsection 2, all wells must be cased to the bottom of the well bore and constructed to prevent contamination or waste of the groundwater.

2. If no additional water is developed in the bottom portion of a well, neat cement, cement grout or concrete grout must be placed by tremie pipe in an upward direction from the bottom of the well to the bottom of the casing. Unused pilot holes below the depth of the cased co nstructed well must have a minimum plug of 5 feet of neat cement or cement grout to isolate the pilot hole from the cased constructed well and may be plugged with bentonite chips below the cement plug.

3. The casing must:

(a) Except as otherwise provided in this paragraph and NAC 534.362, be of new steel or clean and sanitary used steel. Materials other than steel may be used if the design of the well or the subsurface conditions prevent the use of steel casing and a professional engineer who holds a certificate of registration issued pursuant to chapter 625 of NRS has approved the casing materials.

(b) Be free of pits and breaks.

4. The thickness of the wall of the casing must:

(a) For depths of 300 feet or less, conform to the following minimum specifications, allowing for mill tolerance:

(1) If the conductor casing is 50 feet or less in depth, the thickness of the wall must be:

(I) At least 0.141 or 9/64 of an inch if the wall is made of a material other than galvanized steel pipe that has been corrugated; or

(II) At least 0.109 or 7/64 of an i nch if the wall is made of galvanized steel pipe that has been corrugated.

(2) If the depth of the conductor casing exceeds 50 feet, and for all production or intermediate casing, the wall must be sufficiently thick to conform to the casing sizes listed in sub-subparagraphs (I) to (IV), inclusive:

(I) If the casing is smaller than 10 inches nominal size, the wall must be at least 0.188 or 3/16 of an inch thick.

(II) For 10-, 12-, 14- and 16-inch nominal size casing, the wall must be at least 0.250 or 1/4 of an inch thick.

(III) For 18- and 20-inch nominal size casing, the wall must be at least 0.312 or 5/16 of an inch thick.

(IV) For casing larger than 20 inches nominal size, the wall must be at least 0.375 or 3/8 of an inch thick.

(b) For depths of more than 300 feet, be increased in accordance with the *American Water Works Association Standard A100.*

5. The top of the casing on all wells must be at least 18 inches above the surface of the ground or the finished grade.

6. All production casing joints must be threaded and coupled or welded and be watertight. If the casing joints are welded, each joint must be welded completely. Spot welds of casing joints are prohibited.

7. The well driller shall ensure that the integrity of any casing to be used in the construction of the well has not been impaired by storage, shipping, handling, perforating or exposure to ultraviolet light.

[St. Engineer, Drilling Wells Reg. § 3.01, eff. 5 -19-81]—(NAC A 1 -9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.362 Construction of well: Thermoplastic casing. (NRS 534.020 , 534.060, 534.110, 534.140**)**

1. New thermoplastic water well casing made of polyvinyl chloride may be used as casing in a well if the casing:

(a) Is clearly marked as well casing; and

(b) Complies with the standards adopted by ASTM International designated as ASTM F 480-12, or the current F480 designation at the time of installation, which are hereby incorporated by reference. A copy of the standards may be obtained by mail from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959, by telephone at (610) 832-9585 or at the Internet address **http://www.astm.org**, at a cost of $57.

2. If polyvinyl chloride well casing is used:

(a) The differential pressures that may occur during the installation of casing, the development of the well and the operation of the well must be considered by the well driller and the person responsible for designing the well.

(b) The wall thickness must:

(1) For nominal diameters that are 6 inches or less, conform to a rating of schedule 40 or heavier. For example, a nominal pipe that is 6 inches in diameter and has a rating of schedule 40 must have a wall thickness of at least 0.280 inch. The ASTM standard dimension ratio that would exceed this standard is an ASTM standard dimension ratio of 21 or heavier. An ASTM standard dimension ratio of 26 would not satisfy the requirements of this subparagraph for nominal diameters that are 6 inches or less.

(2) For nominal diameters that are more than 6 inches, conform to the A STM standard dimension ratio of 21 or heavier. The standard dimension ratio is equal to the outside diameter divided by the wall thickness. For example, a nominal pipe that is 8 inches in diameter and has an ASTM standard dimension ratio of 21 must have a wall thickness of at least 0.410 inch. A rating of schedule 40 would not satisfy the requirements of this subparagraph for a nominal pipe that is 8 inches in diameter and has a wall thickness of 0.322 inch.

(c) The joint connections must be:

(1) Flush-threaded;

(2) Threaded and coupled; or

(3) Joined with nonmetallic couplings that are sealed with elastomeric sealing gaskets and which consist of flexible thermoplastic splines that are inserted into precisely machined grooves in the casing.

Ê The joint connections must not be glued or joined by restraining devices that clamp into or otherwise damage the surface of the casing. If the joint connections are flush -threaded or threaded and coupled, the well driller shall ensure that the connections are not overtightened.

3. If polyvinyl chloride well casing is used in a water well or monitoring well, the well driller shall set a protective steel casing which complies with the provisions of NAC 534.360 and extends not less than 5 feet inside the sanitary seal and not less than 18 inches above the finished grade. The top of the protective casing must be fitted with a locking cap or a standard sanitary well cap.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.370 Construction of well: Prevention of contamination; securing against unauthorized entry; suspension of drilling. (NRS 534.020, 534.110, 534.140)

1. The driller shall take the precautions necessary to:

(a) Seal off any known zones of poor quality water which may affect the zones of good quality water in the well.

(b) Prevent contamination or waste of groundwater.

2. Any additive used in drilling a well must be safe and must not contaminate or induce contamination of the groundwater.

3. If it becomes necessary for the driller to discontinue the drilling operation before completion of the well, the well must be covered securely to prevent a contaminant from entering the casing or borehole and rendered secure against entry by children, domestic animals and wildlife.

4. After drilling is completed, all openings must be closed off to prevent contamination of the well. A sanitary well cap or welded plate must be welded to the well.

5. If drilling is suspended for any reason, the Division must be notified within 24 hours after drilling is suspended or before the drilling equipment is moved from the drilling site, whichever occurs first. The suspension of drilling without completing or plugging the well must be approved by the Division.

[St. Engineer, Drilling Wells Reg. §§ 3.14 & 3.15, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.375 Construction of well: Measures required if contaminant or contaminated water is encountered. (NRS 534.020, 534.110, 534.140) If a contaminant or contaminated water is encountered during the construction of a well, the strata which contain the contaminant or contaminated water must be cased or sealed in such a manner that the contaminant or contaminated water does not commingle with or impair other strata or the water contained in other strata. The well driller shall, by grouting or by using special seals or packers, prevent the movement of the contaminant or contaminated water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.378 Construction of well: Measures required if artesian condition is encountered. (NRS 534.020, 534.060, 534.110, 534.140)

1. If an artesian condition is encountered in a well, the well driller shall, in addition to complying with the provisions of subsections 2 and 3 of NRS 534.060, ensure that unperforated casing extends through the confining strata above the artesian zone. The annular space between the casing and the walls of the well bore must be sealed by placing neat cement, cement grout or bentonite chips by tremie pipe in an upward direction from the top of the artesian zone to the level necessary to prevent the leakage of artesian water above or below the surface.

2. Any flow of artesian water must be stopped completely in the manner set forth in subsection 3 of NRS 534.060 before the drill rig is removed from the drill site.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.380 Construction of well: Seals. (NRS 534.020, 534.060, 534.110, 534.140)

1. Except as otherwise provided in subsection 2, before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a minimum depth of 50 feet below ground level by:

(a) Placing neat cement, cement grout, concrete grout or bentonite chips from the sealing depth to 20 feet from the surface; and

(b) Placing neat cement, cement grout or concrete grout from 20 feet below the surface to the surface.

If sodium bentonite chips are placed in the annular space, the chips must be placed in such a manner that a bridge does not occur. If bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

2. Before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a depth of greater than 50 feet below ground level if sealing to such a depth is required by subsection 1 of NAC 534.370, NAC 534.375, subsection 1 of NAC 534.378 or paragraph (b) of subsection 1 of NAC 534.390. If the well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the annular space must be sealed in accordance with NAC 445A.66905.

3. The casing must be centered as nearly as practicable in the well bore to allow the sanitary seal to surround the casing.

4. If a temporary conductor casing is used, it must be withdrawn during the placement of the grout.

5. If a pitless adapter is used in domestic or small commercial wells:

(a) The sanitary seal must begin not more than 5 feet below ground level;

(b) The sanitary seal must extend at least 50 feet below the bottom elevation of the pitless adapter; and

(c) The portion of the casing above the sanitary seal must be backfilled to ground level with uncontaminated soil which is compacted.

6. A pipe used to feed gravel through the cement seal or to provide access to the interior of the well must be fitted with a watertight cap.

7. A licensed well driller must place the seal or directly supervise the placement of the seal.

8. The seal must be placed:

(a) In the annular space within 3 days after the casing is set and before the drill rig is removed from the drill site.

(b) In one continuous mass from the minimum depth of 50 feet below ground level to the surface.

(c) By tremie pipe in an upward direction to displace the fluid to the surface of the ground, if any fluid is standing in the well bore above the sealing depth.

9. The diameter of the well bore must be at least 4 inches larger than the largest d iameter of the outside of the outermost casing to be used, including any joints or collars. If a fill pipe for gravel is installed, the diameter of the well bore must be 4 inches larger than the largest diameter of the casing plus the largest diameter of t he fill pipe for gravel. A fill pipe for gravel or any other pipe to provide access to the interior of the well must be completely surrounded by the seal. A conductor casing may be used to convey the gravel pack. If a conductor casing is used:

(a) The diameter of the well bore must be at least 4 inches larger than the largest diameter of the conductor casing; and

(b) The annular space between the conductor casing and the well bore must be sealed.

10. A watertight seal must be installed at th e surface level between the conductor casing and the production casing to prevent any contaminants from entering the gravel pack conductor area. A welded plate or a seal consisting of neat cement, cement grout or concrete grout from a minimum depth of 10 feet below ground level to the surface must be used. If a welded plate is used, the entire length of the plate must be welded to the conductor casing and production casing.

[St. Engineer, Drilling Wells Reg. §§ 3.02 -3.13 & 3.16, eff. 5 -19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.390 Construction of well: Location near river, lake, perennial stream, unlined reservoir or unlined canal; compliance with permit or waiver. (NRS 534.020, 534.060, 534.110, 534.140)

1. If a well, other than a monitoring well, is drilled within 1/4 mile of a river, lake, perennial stream, unlined reservoir or unlined canal:

(a) Perforations in the production casing are prohibited from ground level to a depth of 100 feet.

(b) The well must be sealed to a depth of 100 feet.

(c) A permanent conductor casing may be used to convey the gravel pack to the 100-foot level.

2. If a well is being drilled pursuant to a permit or waiver, the well driller is responsible for satisfying the terms and conditions of the permit or waiver concerning the construction of the well.

[St. Engineer, Drilling Wells Reg. Part 5, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97)

NAC 534.420 Plugging of well: General requirements. (NRS 534.020, 534.110)

1. Except as otherwise provided in NAC 534.422, wells must be plugged in the manner prescribed in this section by a well driller licensed by the State Engineer.

2. A well driller shall:

(a) Ensure that a notice of his or her intent to plug a water well is received by the Division not less than 3 working days before the drill rig is moved to the location where the well will be plugged; and

(b) Notify the Division not less than 24 hours before beginning to plug the well.

3. Before the well driller begins to plug the well, he or she shall, if possible, obtain the log and record of work for that well from the Division or the owner of the well.

4. On abandonment or order of the State Engineer, a water well must be plugged by:

(a) Removing the pump or debris from the well bore with appropriate equipment; and

(b) If an annular cement seal was not installed, breaking the casing free with appropria te equipment so that the casing may be pulled from the well.

5. If the casing in the well:

(a) Breaks free, the well driller shall plug the borehole in the manner prescribed in NAC 534.4371 as the casing is pulled from the well. The well must be plugged from the total depth of the well to the surface of the well, in stages if necessary, to displace in an upward direction any fluid or debris in the well.

(b) Does not break free, the well driller shall perforate that portion of the casing which extends from the bottom of the well to not less than 50 feet above the top of the uppermost saturated groundw ater stratum or to the surface of the well. That portion of the casing must be perforated not less than four times per each 2 linear feet to allow the plugging fluid to penetrate the annular space and the geologic formation. The perforations made in each 2 linear feet of the casing must be made along a horizontal plane of the well bore. A well with a diameter of more than 8 inches in nominal size must be perforated a sufficient number of additional times per linear foot to ensure that the plugging fluid pen etrates into the annular space and formation. Except as otherwise provided in subsections 8 and 9, the well driller shall then plug the well from the total depth of the well to 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well with neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water. If the neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water is not brought to within 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well, the well driller shall:

(1) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(2) Continue to install neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodi um bentonite by weight of water until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum; and

(3) Install uncontaminated fill material or one of the plugging materials described in subs ection 3 of NAC 534.4371 from the top of the lower plug to within 20 feet of the surface of the well.

6. The well driller shall place a surface plug in the well consisting of neat cement, cement grout or concrete grout from a depth of at least 20 feet to the surface of the well.

7. If the well casing does not break free and there is no evidence of a sanitary seal around the well casing, the well driller shall, in addition to the requirements of subsection 5, perforate the upper 50 feet of casing before setting the surface plug. The casing must have at least four perforations per each 2 linear feet of casing, and the surface plug must consist of neat cement and must extend from 50 feet below ground level to the surface of the well.

8. If there is evidence that water-bearing formations of different water quality or hydraulic head were encountered during the original well construction and the well casing does not break free, and if bentonite chips are used as the plugging material, the well driller must, in addition to the requirements of this section, perforate the casing, as needed, and place neat cement across each confining formation so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

9. If the well casing does not break free and there is no well log available, the well driller must plug the well in accordance with paragraph (b) of subsection 5, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

10. A well driller shall submit a log and record of work to the Division within 30 days after a water well has been plugged. The log and record of work must contain the location of the well by public land survey and county assessor's parcel number, the name of the owner of the well, the condition of the well, the static water level before plugging and a detailed description of the method of plugging, including, but not limited to:

(a) The depth of the well;

(b) The depth to which the materials used to plug the well were placed;

(c) The type, size and location of the perforations which were made in the casing;

(d) The debris encountered in, milled out of or retrieved from the well; and

(e) The materials used to plug the well.

11. If there is any standing liquid in the interval of the well bore that is being plugged, all grout materials used pursuant to this section must be placed by tremie pipe in an upward direction.

12. If sodium bentonite chips or pellets are placed in the well, the chips or pellets must be placed in such a manner that a bridge does not occur. If bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

[St. Engineer, Drilling Wells Reg. Part 14, eff. 5-19-81]—(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

Appendix B

Forms

a. ***Drill Hole Log***
b. ***Daily Field Report (to be provided by drilling contractor)***
c. ***Drill Hole Abandonment Form (to be provided by drilling contractor)***

Singatse Peak Services

Location: Lyon Co., NV

Project: Bear Project

Hole #_____ Core Size _____ Brg_____ Incl _____ Site Name:_____ Logged by:_____ Date _____ Northing_____ Easting_____ Elev _____ TD _____

P. _____ of _____

Recovery	Depth	RX	Description	Graph	Struc.	Depth	^TCA	Ang to hol ax	Type	Structure notes	2d kf	2d plag	fd alts	2d alteration	2d biotite	inf alt'd	inf (hf)	fbos	halos	sieve inc	Age relationship, % early halos &/or chloritic halos, etc. Alteration	QV	Tot% Sulf	Cpy	Py	Bor	2d cc, cpy	CuOx	Int	oc	limonite	Int	oc	glim	Calcit	Mineral Notes	Samp

Last Modified: Mar. 10, 2015

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