THE TOM JOHNSTON PROPERTY

PENNSYLVANIA DISTRICT, LINCOLN CO., NEVADA

Geology, trenching and sampling

Sept. 10, 1969 L. E. Smith

GEOLOGY, TRENCHING, AND SAMPLING

The Tom Johnston Property

Pennsylvania District, Lincoln County, Nevada

ABSTRACT

The Tom Johnston property in the Pennsylvania District of Lincoln County, Nevada, has been investigated cursorily by Homestake Mining Company and others, has been explored ineffectually by short wagon drill holes by Kennecott Exploration Company, but has generally been overlooked although it is a close neighbor of the Delamar District with easily exposed high grade silver-gold mineralization.

The preliminary Western Ventures appraisal included deep, continuous crosscut bulldozing to reveal for the first time the attitude and full thickness of the quartz breccia lode; and chip sampling in large intervals to show the gold, silver, and copper distribution within the lode.

A 67 foot thickness of quartz breccia, sampled in 6 consecutive lots, has a weighted average value of $6.40 per ton; an 8-foot thickness within the low grade zone assays $28.00 per ton. The potential reserve of the 67 foot thickness of mineralization is on the order of 1 million tons, projected at about a 20 degree inclination northeastward away from the outcrop on the Jumbo claim knob at very acceptable stripping depths.

The quartz breccia and gold-silver mineralization appear to be closely similar to counterparts at Delamar which were highly amenable to standard cyanide leaching.

The Pennsylvania lode, of which the Johnston quartz breccia zone is an extension, contains at least three known and potential gold-silver ore shoots, each apparently of smaller dimensions and disadvantaged by inclination into a steep slope. All are outside the Johnston ownership and should be acquired on option as possible supplement to the Jumbo shoot.

A program is recommended to explore the Jumbo ore shoot by wagon drilling and to investigate the wider district for possible extensions of the Pennsylvania lode and similar structure.

807

Tom Johnston Property, Lincoln County, Nevada

INTRODUCTION:

The Pennsylvania District lies in a shallow basin at an elevation of about 5500 feet on the west edge of the broad, shallowly dissected plateau at the north end of Mormon Mountain and 5 miles east of the Union Pacific Railroad where it follows Mormon Canyon. It is in the approximate center of T 6 S, R 67 E, in Lincoln County, Nevada, about 24 miles west of the Utah border and 15 miles south of Caliente, Nevada and U. S. Highway #93.

The area is accessible by a 20 mile dirt road southward over the plateau from Caliente, or eastward by a steep, 7-mile, winding, unimproved truck road from Elgin, a division point of the Union Pacific Railroad in Mormon Canyon. Water is available in the Meadow Valley Wash, which carries a persistant stream 2200 feet below the property elevation.

The Johnston property is owned by Thomas C. Johnston of Eureka, Nevada, and has been maintained in good standing by the Johnston family for many years. The property consists of three old unpatented mining claims, the Jumbo, the Owl #1, and the Sureshot, the first two of which cover a southern 1000 foot extension of the once productive Pennsylvania Lode. Under other ownership, the Pennsylvania Mine workings and prospects occupy 1500 feet of the northern part of the same structure, covered by the Charity and Southend claims. The Johnston's Sureshot claim overlaps the Charity claim over the downdip extension of the structure (see map).

HISTORY OF DISTRICT

The early record of activity at the Pennsylvania Mine has been largely lost. It is not known when the outcrop was first prospected and a silver ore shoot discovered. An incline, now called the "old" incline, followed the silver-ore shoot north-easterly down the 20 degree dip of the quartz breccia zone over a slope distance of more than 400 feet. Caved areas signify stopes, and a tailings pile down the drainage from the basin indicates milling, but the production and process never entered the literature or records.

Under DMEA Loan Contract #Idm-E212, The Federal Government undertook an exploration program which, according to Tom Johnston, was in progress in 1943, directed by Frank Smith, in a war-time search for copper. A "new" main incline, 230 feet north along the outcrop, was driven eastward to converge with the end of the "old" incline and was continued to intercept the ore shoot more than 500 feet down-dip from the outcrop. From this point a drift was driven 500 feet north and 200 feet south in the quartz breccia, revealing lean mineralization without significant ore shoots.

History of District (continued)

Somehow, not only the records of the early development and mining but also the sampling data from the DMEA program escaped the notice of Federal and Nevada compilers of mineral statistics. Thus the resource maps of the Nevada Bureau of Mines up to 1962 have ignored the Pennsylvania District. Nevertheless, lessees have tried to resume operations on the Pennsylvania Lode and the Johnston family of Eureka has maintained its three claims by road building, trenching and other prospecting for high-grade gold-silver ore. A small test mill was installed on the Jumbo claim. Total family expenditures have been estimated at $25,000.

In 1967, Mr. John Welsh, then consulting Geologist for Bear Creek Mining Company, discovered the property in a field study of the Delamar and Prince districts and surrounding areas and recommended an exploration of what he considered to be silicification of marbleized limestone breccia pods engulfed in the cupola of a diorite stock. The DMEA exploration records including 124 channel samples were compiled by D. Jensen and Kennecott Exploration, under the direction of J. Vanderpool, bulldozed trenches and sampled short wagon-drill holes in the silicified breccia. An additional 26 "Alta" claims were staked around the Johnston holdings. Kennecott completed the study in early 1968, dropped the lease and assigned the original three and the additional 26 claims back to the Johnstons. Data from this investigation have not been available for this report, but Vanderpool is said to remain enthusiastic over the potential of the property.

Later in 1968, Homestake Mining Company took samples, apparently all from existing exposures. Available assays are shown averaged below:

High Grade "56" pit:	Au:	4.88 oz/ton @	$41.00/oz=	$200.08
	Ag:	28.7 oz/ton @	1.60/oz=	45.92
	Pb:	0.1%		
	Cu:	0.317%		
	Zn, W:	None		
Trench 10-30 feet south:	Au:	0.043 oz/ton @	$41.00/oz=	$1.76
	Ag:	0.5 " "	1.60 "	.80

The U. S. Geological Survey has published a preliminary Geologic map of Lincoln County, Nevada (Mineral Investigations Field Studies Map MF-206, 1961) by G. M. Tschanz and E. H. Pampeyan. The map is scaled 1:200,000, and is based on the Army Map Service 2° topographic sheets.

GEOLOGY:

The plateau area of Mormon Mountain as well as the Delamar Range to the west across Meadow Valley Wash are formed on a thick sequence of rhyolitic volcanic agglomerates, flows, and tuffs, generally inclined at low angles to the south and east. The sequence is well and colorfully exposed in Mormon Canyon, which also reveals local and abrupt steepenings of dip. Nowhere in the canyon below Caliente is the unconformity at the base of the Tertiary rocks exposed by erosion. However, at Delamar, 11 miles farther west, the early Cambrian quartzites, shales, and limestones are exposed at elevations up to 2000 feet above the canyon bottom in a window eroded through eastward dipping volvanics.

Similarly, in the vicinity of the Johnston claims, 5 miles to the east and some 2000 feet above the canyon bottom, the Cambrian formations crop out in an irregularly elongated window eroded through the Tertiary volcanics. The claims lie at the east edge of the window near its south end. Prospect Mountain quartzite is conformably overlain by Pioche shale in the western part of the window, dipping eastward, but near the claims the quartzite and marbleized carbonates higher in the Cambrian system are shown to be strongly folded with steeply opposed dips, suggesting complex faulting. Such faulting is probably transmuted into the abrupt steepenings of dip in the upper Tertiary volcanics.

Diorite exposures occur in both the Delamar and Pennsylvania Districts but are not shown by Tschanz and Pampeyan as intruding the Tertiary volcanics. Both districts are areas of structural doming in which the intrusives are elongated in the strike direction of the prevailing faults. It would appear that the diorite intrusives were to some degree fault-controlled and were later modified by continued faulting in which the diorite has been intruded by rhyolite indicating continuing magmatic activity and possible sources of both the regional volcanics and the local ore mineralization.

The diorite northwest of the Pennsylvania District appears to be a massive plutonic intrusive which simply transects the Cambrian sediments without inclusions or pendants. Locally the intrusive is a dark grey porphyry with white plagioclase phenocrysts. Some diorite found near the volcanic contact has a very fine matrix and appear to be either a chill zone or small dikes within the pluton.

The outcrop and underground relationships between the diorite and the volcanic tuff suggest a fault contact. The DMEA cross section of the mine shows the quartz breccia zone to lie at a 20 degree inclination between a diorite footwall and a tuff hangingwall. Exposures at the incline portals and the distribution of float and surface outcrops (see 500 scale map) modify the DMEA concept, placing the quartz breccia about

Geology (continued)

100 feet below but parallel to the contact within the diorite. The contact is a zone of weakness, expressed topographically as small saddles or flats on spurs descending from the volcanic heights, between which are steep slopes on which the contact is covered by volcanic detritus.

As mapped by John Welsh, the diorite-volcanics contact continues in a N 15° W direction for a distance of well over one mile from the southeast angle of the intrusive mass. To the southeast the volcanics are in contact with Cambrian marbleized carbonates with silicified, brecciated marble at the contact, supporting the conclusion that the volcanics have been lowered on the east side of a major fault, perhaps a confluence of faults of the prevailing north-northwest system detouring around the side of the massive diorite pluton.

This concept permits the quartz-breccia zone of the Johnston-Pennsylvania lode to be considered as a concordant, sympathetic zone of movement within the margin of the pluton initiated at a time when the rocks across the fault were competent Cambrian sediments.

SCOPE AND METHOD OF CURRENT INVESTIGATION:

This study was limited to the immediate area of the quartz breccia lode on the Johnston and Pennsylvania claims, and was intended to determine the nature, origin, attitude, size, and metal content of the quartz breccia. A D-8 tractor-bulldozer was employed to expose the full thickness of the silicified breccia zone in three cuts. A compass and tape map was made of the area to show the attitude of the breccia and the most evident gold-silver mineralization. Compass triangulation was extended from the mapped area to tie together all of the quartz breccia outcrops. Compass-pace maps were made of some breccia exposures which lay on Pennsylvania Mine property.

Non-continuous chip samples were taken at intervals of from 8 to 20 feet from the walls of the three bulldozed cuts after thorough cleaning by shovel and broom; from three pit walls along the Pennsylvania lode outcrop, and from the dump of a vertical shaft that had been sunk on the Sureshot claim.

The control of mineralization was studied in the megascopic lithologic characteristics of the quartz breccia, in the relationships of the breccia to the more or less silicified and altered diorite included in and marginal to the breccia, and in the apparent relationships of the quartz breccia zone to the adjacent diorite-tuff contact.

STUDY AND SAMPLING OF QUARTZ BRECCIA ZONE:

The quartz breccia was studied in considerable detail on the Jumbo claim. The quartz is white to grey, very fine grained and reveals the angular, fragmental character of a tectonic breccia. The breccia includes small bodies of diorite with no discernable conformity and in all degrees of silicification. Included and marginal unsilicified diorite is altered to an incoherent brownish green sand.

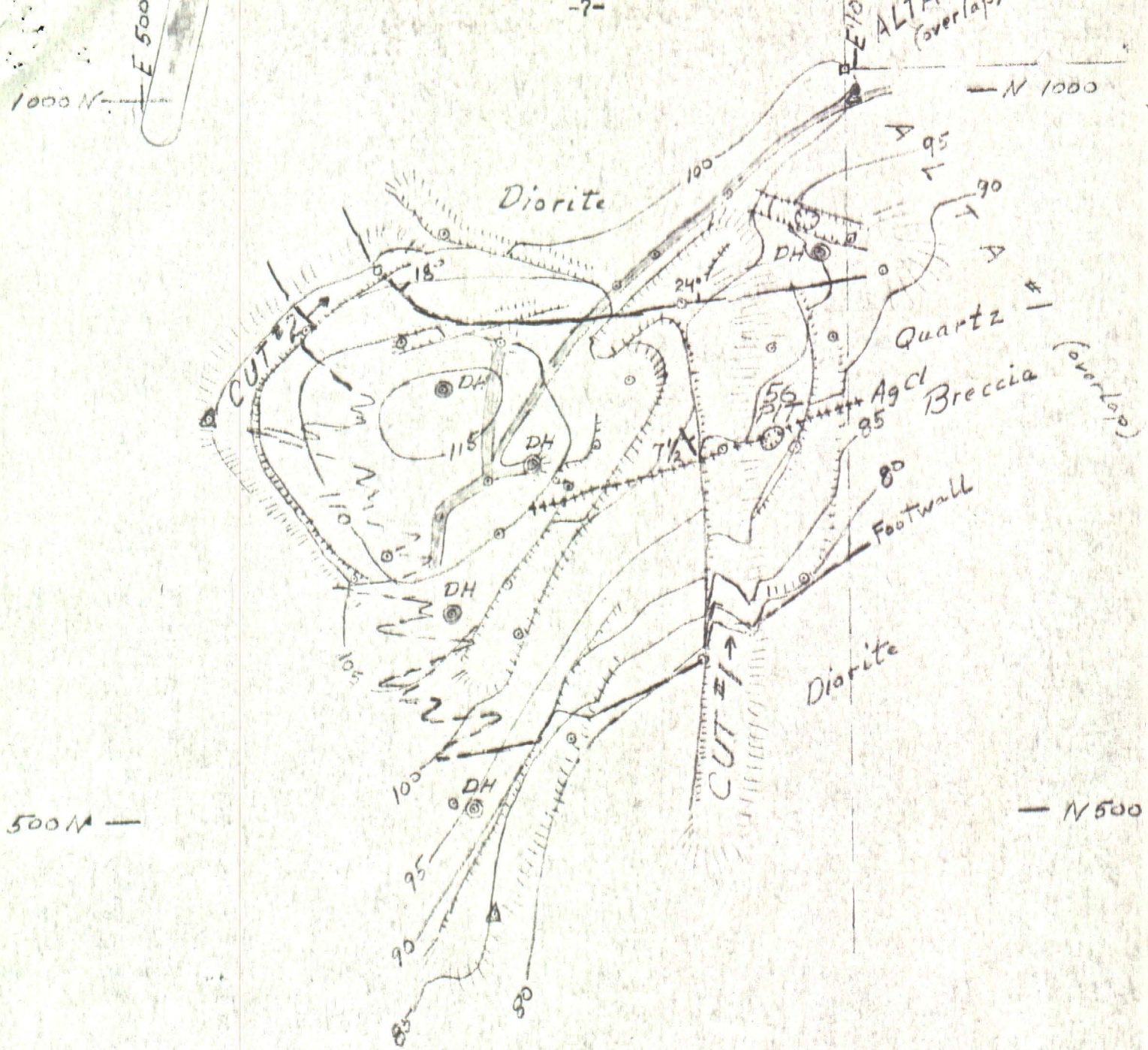
The breccia zone includes calcite in layers of fine, white, loosely coherent crystals, particularly at and near the margins, and as random large crystals within the breccia. I did not recognize any sedimentary carbonate nor find any vugs or cavities such as result from the solution of carbonate.

Jumbo #1 Cut

As shown on the 100 scale map (figure 2), the #1 bulldozer cut was run southward across the east side of the Jumbo knob through north-dipping breccia. Dips at the hanging wall average 24° but the footwall is so transitional as to preclude determination of attitude. The most persistant inclination of sheeting within the breccia is 7 to 10 degrees. The breccia was sampled from the footwall northward up a slope averaging 7 degrees over a linear distance of 230 feet, indicating a total thickness of 60 to 130 feet.

A zone of relatively high grade silver mineralization is revealed by a yellow-green crystalline coating on fracture surfaces at about the center of the total breccia zone. This zone, sampled in the #56 pit by Homestake and others, is exposed 100 feet to the west in a longitudinal trench cut by Kennecott near the top of the knob, and was also exposed between the pit and the trench during the excavation of the #1 cut. The chloride mineralization apparently occurs as pods within dusky quartz in the weathering zone. During bulldozing, the pod of visible silver chloride in the #1 cut was completely exhumed and thereby omitted from the sampling. Joe Glen Demale, the tractor operator, noted the disappearance and remarked that we had "overdeveloped" the ore body.

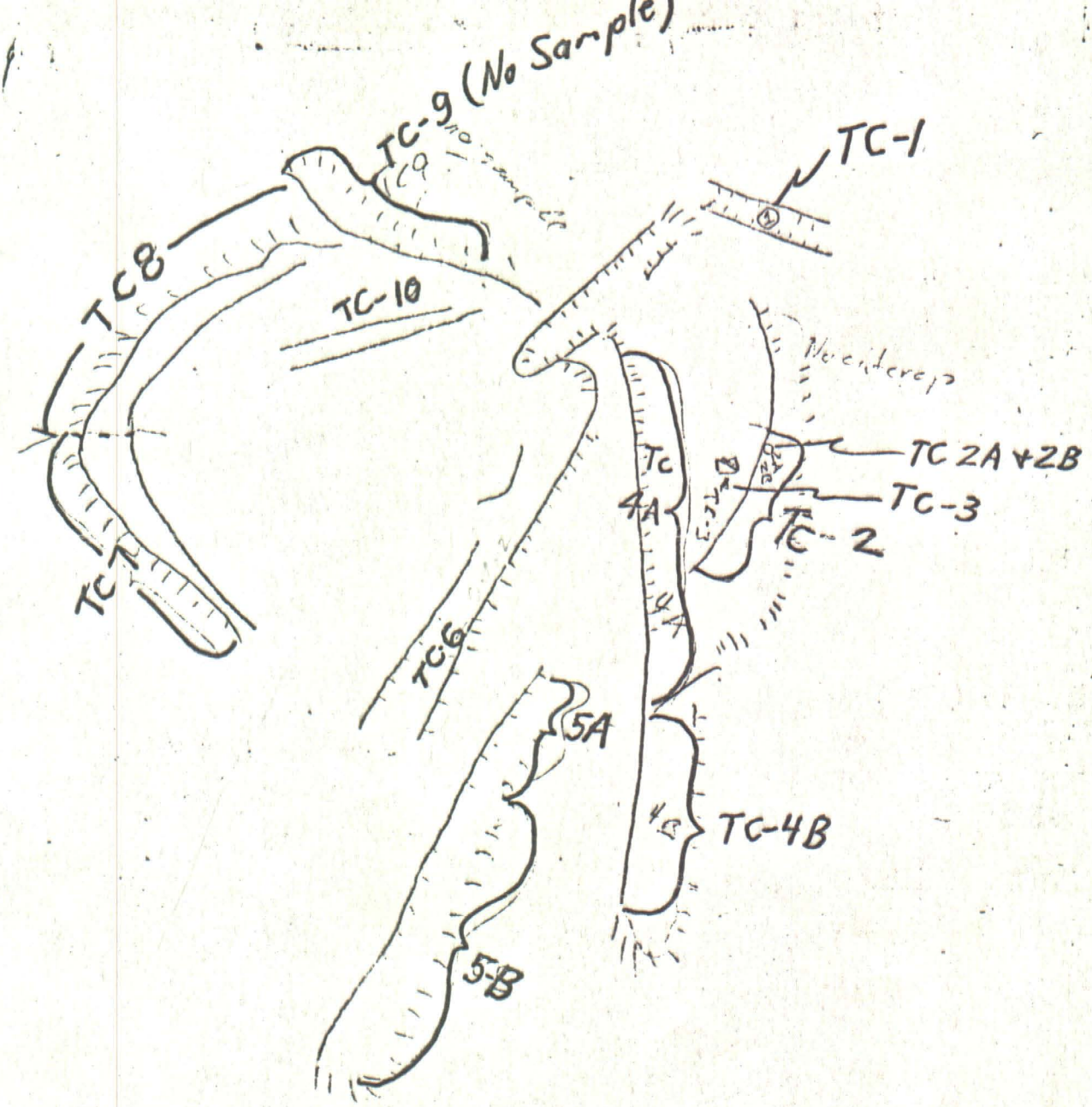
Within the 2 to 6 foot bedrock wall exposed in #1 cut, there is a pronounced color change about 2 feet below erosion surface, the darker color and ferruginous staining of the uppermost breccia grading to a nearly white breccia below. I believe that the silver chloride coatings will be found most abundantly in the oxidized breccia at the erosion surface, but generally will be absent in the deeper, less weathered breccia, even where richly silver-bearing.



PROSPECT AREA
JUMBO CLAIM-JOHNSTON PROPERTY
PENNSYLVANIA DISTRICT, LINCOLN CO. NEVADA

FIGURE 2

L. E. Smith
8-20-69



MAP OVERLIES
P.7 MAP OF
REPORT BY
L. SMITH

Study and Sampling (continued)

The presence of silver chloride in the soil and detritus down-slope from the outcrop can be detected by simple panning, a technique that might be vital in discovery of less silicified and hence unexposed mineralized structures. The gold is not panning, indicative of extremely fine dissemination.

The diorite inclusions in the quartz breccia of the #1 cut apparently become larger and more westward into diorite partitions between the abruptly narrowing zones of silicification of #2 cut, a transition shown on the 100-scale map. The lower two-thirds of the quartz breccia of #1 cut feather out westward into very thin, discontinuous, separate zones of partial silicification. In #2 cut the reduced quartz breccia zone is a mixture of partially silicified and altered diorite with only minor lenses of true quartz breccia, none of which contains silver chloride.

Jumbo #2 Cut

#2 cut was sampled from the footwall northward to the hangingwall, a linear distance of 73 feet. Dips at both ends ranged between 15 to 20 degrees northward, with a swing in the strike toward the northwest. The reduced breccia zone, apparently excluding the feathered-out high grade subzone, has a thickness of about 35 feet.

Float of silicified diorite and a little quartz breccia on the slope to the northwest indicates some extension of the breccia zone along strike in that direction, but the extension ends short of a southwest-draining dry wash which heads in the saddle north of Jumbo Knob.

Jumbo #3 Cut

Eastward from Jumbo Knob, the quartz breccia zone disappears under alluvium which fills the head of a southward draining wash, but it re-emerges about 500 feet to the southeast on a pair of spurs from the east, the second and higher of which bears a knob-forming quartz breccia outcrop dipping northeastward. #3 cut, crossing the strike on the northwest side of the knob, exposes a 20 foot thickness of quartz breccia, more or less silicified diorite and a little calcite, dipping 21 degrees northeast. The breccia outcrop trace fades out in a gully a few hundred feet further southeast. There is no silver chloride stain in the cut or outcrops southeast of Jumbo Knob.

The local relationships described above show a possible correlation of gold-silver mineralization with the thickest, most complete silicification and brecciation and with local deviation in strike.

Study and Sampling (continued)

"A" Area

About 1000 feet to the north of Jumbo Knob, quartz breccia reappears crossing a low spur from the plateau to the east. In the area labeled "A" on the 200-scale map, slumped ledges and random stripping by bulldozer reveal a total thickness of breccia estimated at 20 feet, of which the upper few feet contain the principal pods or lenses of silicification. Their distribution and the absence of chloride staining is very similar to that in #2 cut, but the silicification is weaker. This exposure constitutes the "discovery" of the South End claim.

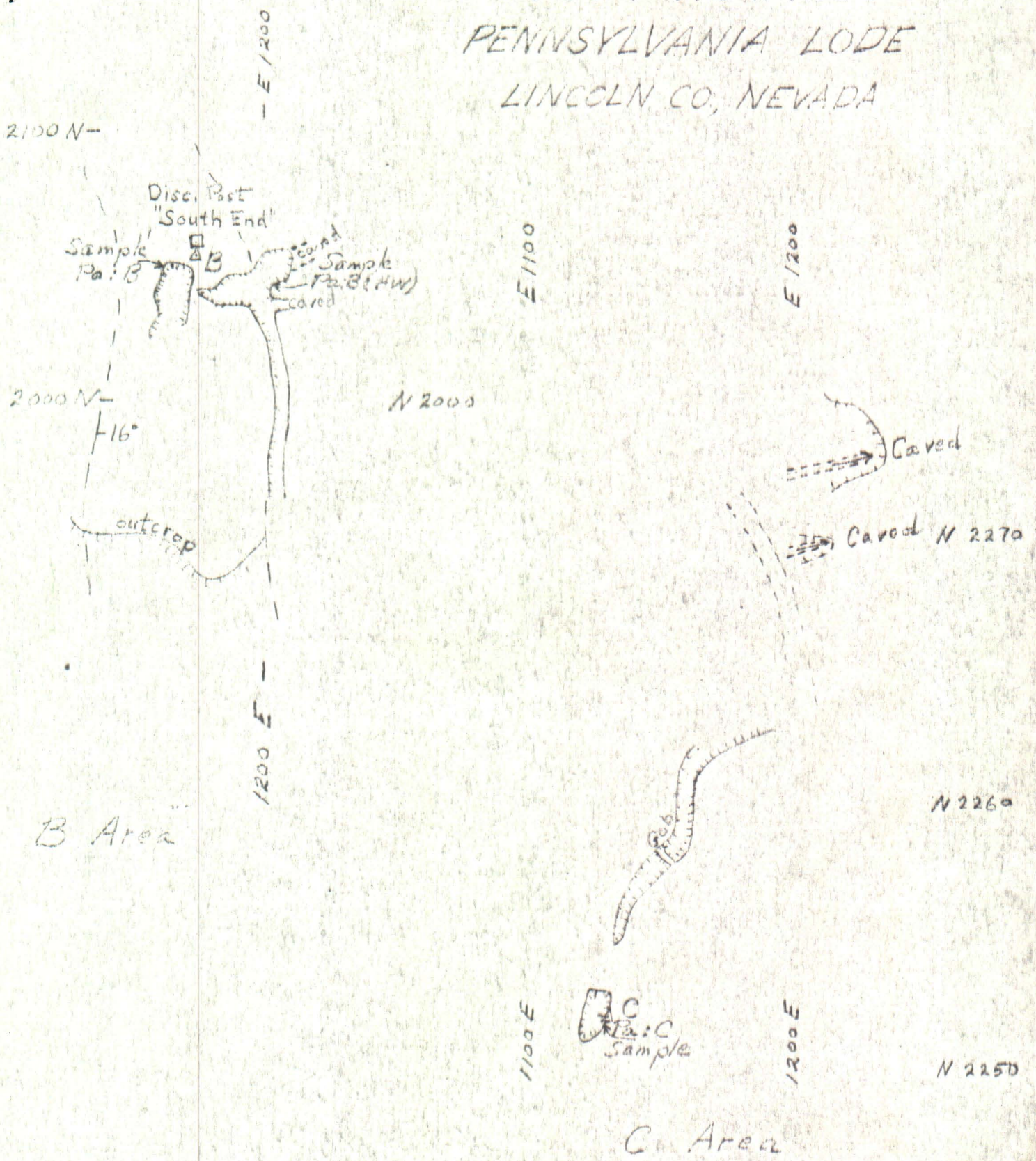
"B" Area

500 feet further north and slightly east, beyond another hiatus in outcrop and dry wash to the southeast, the quartz breccia zone reappears at the south end of the continuous Pennsylvania Lode in the area labeled "B", known as the Culverwell property. The uppermost silicification of "A" has here thickened to at least 15 feet of quartz breccia with minor diorite inclusions, and dips 15 degrees eastward. The upper 6 feet of the zone was mined and hand sorted from cuts, a trench and a short incline, now caved.

The #2 bulldozer cut, area "A" and area "B" all contain exposures of a breccia zone of closely similar lithologic character and attitude. Thickness variations are much less than those within the Jumbo knob. However, the three areas are misaligned, each outcrop indicating a north to northwest strike while falling in a north-northeast line. Each is separated from the neighboring exposure by a wide interruption of outcrop coinciding with the head of a southwestward draining wash. The displacements are interpreted as the result of parallel northeast striking faults with uplift on the northwest sides.

Beyond the second fault, the outcrop of quartz breccia continues to the north supporting a low ridge or bench through an area of prospecting and very selective open cut mining, the portals of the Old Incline and the Main (DMEA) Incline and 600 feet beyond through additional prospect cuts, pits, and adits on the Charity claim. This continuation of the quartz breccia structure is the Pennsylvania Lode. Although in ownership outside of present Western Ventures agreements, the lode was studied to compare structure and mineralization with that on the Johnston's extension of the lode.

MINOR WORKINGS
PENNSYLVANIA LODE
LINCOLN CO, NEVADA



L. S. Smith
8-20-69

Study and Sampling (continued)

"C" Area

200 feet north of the "B" area are an 8 foot deep test pit and a long cut following the outcrop. The breccia here, in the area labled "C" on the 500-scale map, is at least 8 feet thick, dips 14° east, and shows no silver chloride coatings. The east wall of the 8 foot pit was sampled (Pa-C).

Pennsylvania "Old" Incline

The caved inclines of the old Pennsylvania Mine and a 10 by 12 foot pit mark the trace of the outcrop in the next several hundred feet to the north. The pit and nearby outcrops show that the breccia ledge has thinned to not more than 4 feet, but here the breccia is stained with silver chloride, marking the Pennsylvania ore shoot.

DMEA "Main" Incline

230 feet beyond the caved portal of the "Old" Incline of the Pennsylvania Mine is the hoist house, headframe and dump of the "Main" Incline sunk during World War II by the Defense Minerals Exploration Administration. Assays of 124 samples taken from the "Old" and "Main" inclines and from the drift on the 5550 level defined an ore shoot about 50 feet wide raking N 50° E more than 500 feet from outcrop through the 5550 level down a quartz breccia zone striking N 20° W and dipping 20° eastward. Ore values occur in silver and copper, ranging within the ore shoot from 5 to 30 ounces per ton in silver and 1 to 5% in copper, in thicknesses ranging from two to seven feet thick. The ore shoot coincides with a thickening of the quartz breccia zone.

Samples from cuts, pits, and shallow underground workings are uniformly impoverished in copper and samples at the outcrop of the ore shoot appear also to be somewhat impoverished in silver, suggesting some migration of these metals to greater depths.

In a few places within the ore shoot, gold values increase from a few hundredths of an ounce to 0.24 ounces per ton with no apparent relationship to the silver and copper values. On the other hand in the DMEA incline a series of five samples angling across a lean ore shoot assayed between 1.17 and 7.58 ounces of silver and 0.04 to 0.22 ounce of gold per ton with proportionate correlation of values.

"D" Area

North of the headframe the northward continuation of the breccia outcrop is obscured by volcanic talus from the east, but reappears in the "D" area at a saddle on a spur from the east in a trench from which

Study and Sampling (continued)

an incline had been run down to the east at a 12° slope. The breccia forms a dip slope on the east face of the low knob west of the saddle. A verticle shaft about 200 feet east up the spur in another saddle reached the breccia zone at a depth of 30 or more feet.

Beyond the Charity spur, the outcrop swings northeastward following the dip along the side of a deep gully in which it disappears due either to weakening of silicification or major offset by faulting.

SAMPLES AND ASSAYS:

Jumbo Claim:

#1 Cut: Union Assay Office series 30187-30198, August 25, 1969

No.	Length (from footwall)	Thick	Description	Oz. per ton Au	Ag	Cu
Pa:Tr-1:	0-20'	15'	Qtz. brx + diorite	0.005	0.4	0.018
	20-40'	14'	Qtz. brx, light	0.120	1.2	0.025
	40-60'	14'	Qtz. brx, massive	0.030	1.3	0.012
	60-80'	13'	Qtz. brx + diorite	0.010	0.5	0.012
	80-100'	10'	Qtz. brx + diorite	0.010	0.8	0.012
	100-120'	8'	Qtz. brx, darker	0.530	3.9	0.025
	120-140'	8'	Qtz. brx, dusky	0.040	2.0	0.006
	140-160'	8'	Diorite + qtz brx	0.010	0.5	0.014
	160-180'	8'	Dusky qtz brx + diorite	0.100	0.8	0.063
	180-200'	8'	Diorite with calcite	0.010	0.3	0.006
	200-215'	7'	Calcite, qtz, & diorite	tr.	-	0.012
	215-230'	8'	Calcite, qtz brx	0.005	0.2	0.006
		120'				

Thicknesses are approximate, varying according to length and slope of the trench, assuming a 20° north dip of the zone.

If mined unselectively from 20 feet to 140 feet in the cut, a thickness of approximately 67 feet would average 0.10 oz. of gold and 1.4 oz. of silver. The silica content is 86.4%. Cyaniding was very successful in the similar breccia at Delamar, and the copper content is low enough to be little threat to milling.

Ascribing a 300 foot strike length, a 600 foot rake length toward the saddle to the northeast, and a thickness of 67 feet to the Jumbo ore shoot, it would contain about one million tons of easily strippable open-pit ore.

Samples and Assays (continued)

There is reason to anticipate an increase in silver content at depths below 10 to 20 feet, and little cause to fear an increase in copper content in the upper half of the hypothecated reserve.

Water was pumped from Meadow Valley Wash to Delamar and could with less expense be pumped the shorter distance to a mill site west of the deposit.

Cuts #2 and #3: Union Assay Office series 30199-30208, August 25, 1969

Sample #	Length		Au	Ag	Cu
Pa:Tr 2	0-10	Brown alt'd diorite, ptly silicif.	tr	--	--
	10-21	Same, more silicified	tr	--	0.006
	21-35	" , less silicified	tr	--	--
	35-51	", silic. brx in lower ½	tr	--	--
	51-73	Brown alt'd diorite, little silic.	tr	--	--
Pa: Tr 3	0-8	Hard Qtz-breccia	tr	--	0.006
	8-15	Same with calcite	tr	--	--
	15-24	Qtz brx with diorite	tr	--	0.006
	24-38	Diorite with qtz pods	0.005	--	--
	38-54	Diorite, qtz brx at top	tr	--	0.006

These assays indicate that only the thickest and most completely brecciated and silicified sections are likely to be mineralized.

"B" area: (Culverwell "South End" property):

Sample Pa: "B": upper 6 feet of 15 foot quartz breccia section from northwest corner of pit.

DMEA Sample 2430: Same pit on East wall, 6 feet distant, 6 feet high.

Samples #2428 and #2427 were taken by the DMEA from a now-caved incline in the northern part of the Culverwell workings, apparently from a more central part of the gold-rich ore shoot.

	Pa:B	#2430	#2427	#2428
oz. Au per ton	0.03	0.08	0.46	0.25
oz. Ag per ton	1.0	1.38	3.26	5.12
% Cu	0.081	tr	0.06	0.04

Samples and Assays (continued)

Pa: E(HW), assaying a trace of gold, 0.2 ounces of silver per ton, and 0.0125 Cu, was taken from a 2-foot interval of the highly ferruginous altered diorite hanging wall at the portal of the caved Culverwell Incline.

No silver chloride stain was seen on breccia exposed in this area.

"C" Area:

Sample Pa: C: East wall of test pit, 8' thick to top of quartz breccia zone, probably less than 10 feet thick. In trench to north only ten few feet mined, hand sorted. No chloride stain visible. West wall of same pit sampled by DMEA #2432:

	Pa: C	#2432
oz/ton Au:	tr	tr
oz/ton Ag:	0.1	0.1
% Cu:	0.012	tr

Other DMEA samples from the cut were little better, indicating that production must have been very small and from carefully selected pods.

"D" Area:

Sample Pa: D: 24 pieces of rock taken blindly from ore pile on the dump of 30'+ deep shaft through the hangingwall diorite at the north end of the Charity claim. This is compared with the 7-foot DMEA sample #41 taken 200 feet to the southwest from the wall of the caved incline from the outcrop trench.

	Pa: D	#41
oz/ton Au	0.08	0.075
oz/ton Ag	2.40	3.30
% Cu.	0.308	0.36

The north end of the Charity claim contrasts with the remainder of the district in retention of notable copper values at outcrop, ranging from 0.12 to 1.43.

CONCLUSIONS:

The program of mapping and trenching has revealed that the Pennsylvania District lode is a single quartz breccia structure dipping about 20° easterly, a fault zone in the margin of a diorite porphyry intrusive and closely parallel to the faulted east contact. The breccia zone is offset twice by cross-faults and varies considerably in thickness and degree of silicification.

The DMEA underground sampling program at the Pennsylvania Mine indicated that the N 50° E trending ore shoot raked across the dip of the breccia zone along the course of a lens-like thickening from 2 or 3 feet to a maximum of 7 feet. It was also shown that copper, and to a lesser degree, silver values are impoverished at the outcrop and to some depth down the dip.

Sampling of the 3 bulldozed cuts in the Jumbo Claim disclosed a phenomenal thickening of the breccia zone within a sinuosity and showed a semi-continuous central sub-zone stained by secondary silver chloride mineralization. Assays of chip samples which did not include secondary mineralization indicate an 8 foot thickness (20 foot length of cut) containing 0.53 ounces of gold and 3.8 ounces of silver ($28.00 per ton, calculated at $41.00 and $1.65 per ounce). Similarly calculated, a 67 foot thickness (160 foot length of cut) contains a weighted average value of $6.40 per ton. The gentle dip, locally favorable topography, continuity of the thickened breccia and ore shoot in the Pennsylvania Mine and a modest extension of the known 200 foot strike length of the visible high grade zone strongly suggest that an open pit ore body of at least 1 million tons can be developed by shallow drilling.

The Culverwell (Area "B"), Pennsylvania Mine and Charity (Area "D") areas of mineralization are less interesting, since they occur in thinner breccia inclined into an adverse slope, require underground, high cost mining and promise quite limited reserve tonnages.

The mineralization appears to be closely related in origin and structural control to that at Delamar, where $15 millions in metal value have been produced. Ore bodies of similar magnitude and values of similar recoverability may reasonably be anticipated.

RECOMMENDATIONS:

The Jumbo mineralization should be thoroughly appraised. The #1 cut should be resampled in bulk for assay, with part of the sample utilized for metallurgical testing. The quartz breccia down dip to the north and east should be tested by wagon drilling for thickness and attitude and cuttings should be collected for assay.

The Culverwell, Pennsylvania Mine and Charity area ownership should be ascertained and approached for options to explore and develop the mineralization of the northern part of the lode, for supplemental reserves.

The fault contact at the east margin of the diorite pluton should be carefully studied, not only for an extension or reemergence of the Pennsylvania lode but also for less silicified and more inconspicuous mineralization such as that in the main Delamar structure.

Geochemical sampling should be employed in drainages across the east margin as well as in the Cambrian sediments along the south edge of the pluton, assaying for silver, copper, and molybdenum. Rapid investigation of geochemically determined favorable areas might be assisted by panning for silver chloride and gold.

The area should be geologically mapped in conjunction with geochemical investigations in order to relate anomolies to rock type, structure, and the zones of hydrothermal alteration.

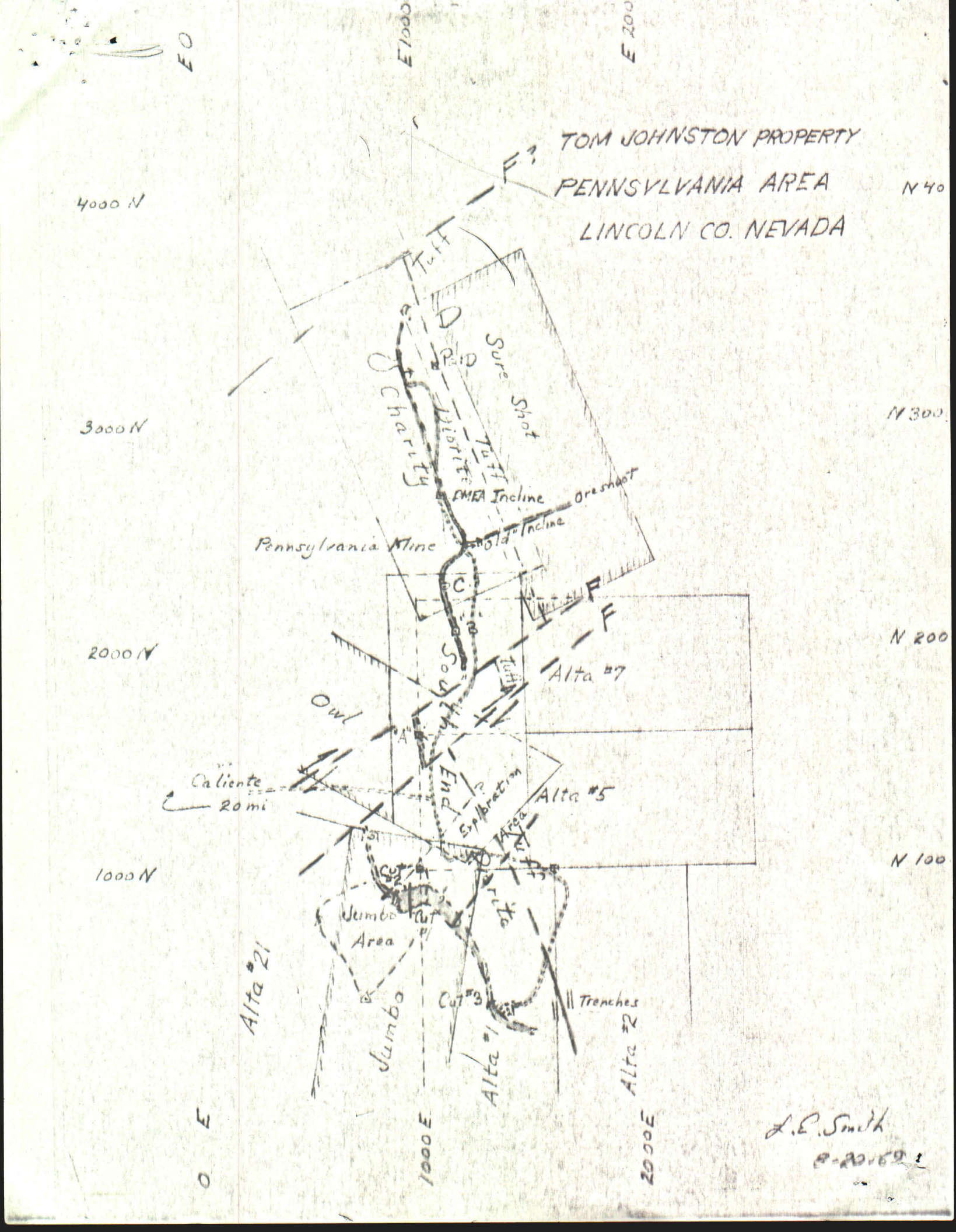
With the earliest presumption that the mineral deposit might constitute a mine, a mill site should be staked and the availability of water rights from Meadow Valley Wash should be ascertained.

L. E. Smith

September 10, 1969

Lawrence E. Smith

Consulting Geologist


TOM JOHNSTON PROPERTY
PENNSYLVANIA AREA
LINCOLN CO. NEVADA
E 0
E 1000
E 2000
4000 N
3000 N
2000 N
1000 N
N 400
N 300
N 200
N 100
0 E
1000 E
2000 E
Tuff
D
Sure Shot
Charity
Liberty
Tuff
AMEA Incline
Oresmoot
Old Incline
Pennsylvania Mine
C
F
F
Alta #7
Owl
Southern
Tuff
A
Caliente
20 mi
Exploration
Area
Alta #5
Cut
Jumbo Area
Alta #21
Jumbo
Cut #3
Trenches
Alta #1
Alta #2
L.E. Smith
8-20-69

Lincoln County
Item 1

LAWRENCE E. SMITH
CONSULTING GEOLOGIST
5049 COTTONWOOD LANE SALT LAKE CITY, UTAH 84117
PHONE (801) 277-2962

September 12, 1969

Mr. Irving F. Moore
Western Ventures, Inc.
575 Forest Street
Reno, Nevada 89502

Dear Irv:

Enclosed herewith is the report of the Tom Johnston Property evaluation with originals of the three sketch maps for duplication. You will notice that I made considerable use of the Pennsylvania Mine maps and data which you sent to me. This is the most promising area that I have worked on in a long time, having more to offer, I believe, than the Atlanta in that the Delamar is a close neighbor and the intrusive relationship is overt.

The largest caution sign is the dependence of the whole appraisal on the one 20 foot sample in #1 Cut. Obviously this must be checked, preferably in shorter and much bulkier sampling intervals with very close study of silver and gold visibility. However, the neat way that the rich sample interpolates itself between the surface showings of chloride silver is very comforting. I would not fear to call in a wagon drill in conjunction with the resampling in #1 Cut.

I have taken a very conservative position in assigning ownership to the mineral rights. The down-rake extension of the Jumbo "ore shoot" is shown on the 500-scale map to run out of the Johnston ownership. This is because Kennecott chose to recognize the Culverwell South End claim, even though it is of very recent date and overlaps the Owl claim of the Johnstons which otherwise would cover the down-rake extension. This might be clarified in negotiations for the Culverwell "ore shoot", see Area B.

I am sure that the report adequately conveys the idea that I believe some regional geologic study is advisable. For this purpose there should be a base map, but the district has not been mapped. It would be possible to plane table selected areas from a triangulation base net, but I believe that it would be far less expensive and time-consuming to have Intermountain Aerial Surveys or a similar outfit photograph the area. Stavros here in Salt Lake City says that the stereo photos could be presented at 1000 feet per inch covering an area 4 miles long (north-south) and two miles wide, covering the intrusive, for about $700.00. If desired a geologic-topographic map of all or any part of the area and at any scale could be provided at additional cost, using the same photos with geology inscribed.

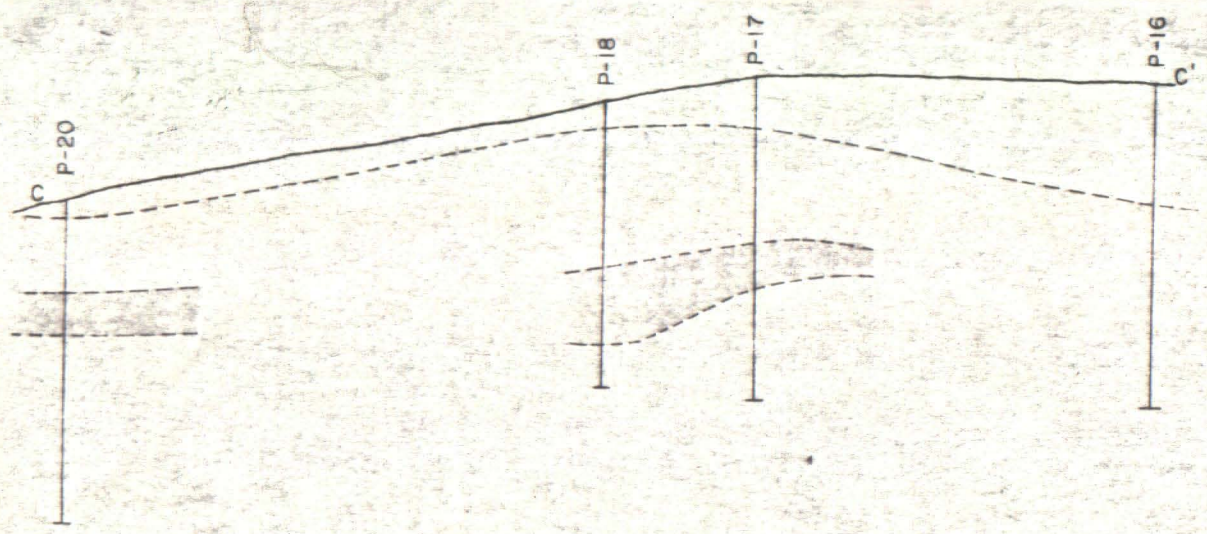
We are planning to attend the San Francisco Mining Congress, hoping also to see you and Warren there.

Sincerely yours,

Lawrence E. Smith

Larry

Enclosure



Alluvium

Silicified Brecciated Marble

Diorite Stock

FIG. 2

PENNSYLVANIA DISTRICT DRILLHOLE CROSS SECTIONS

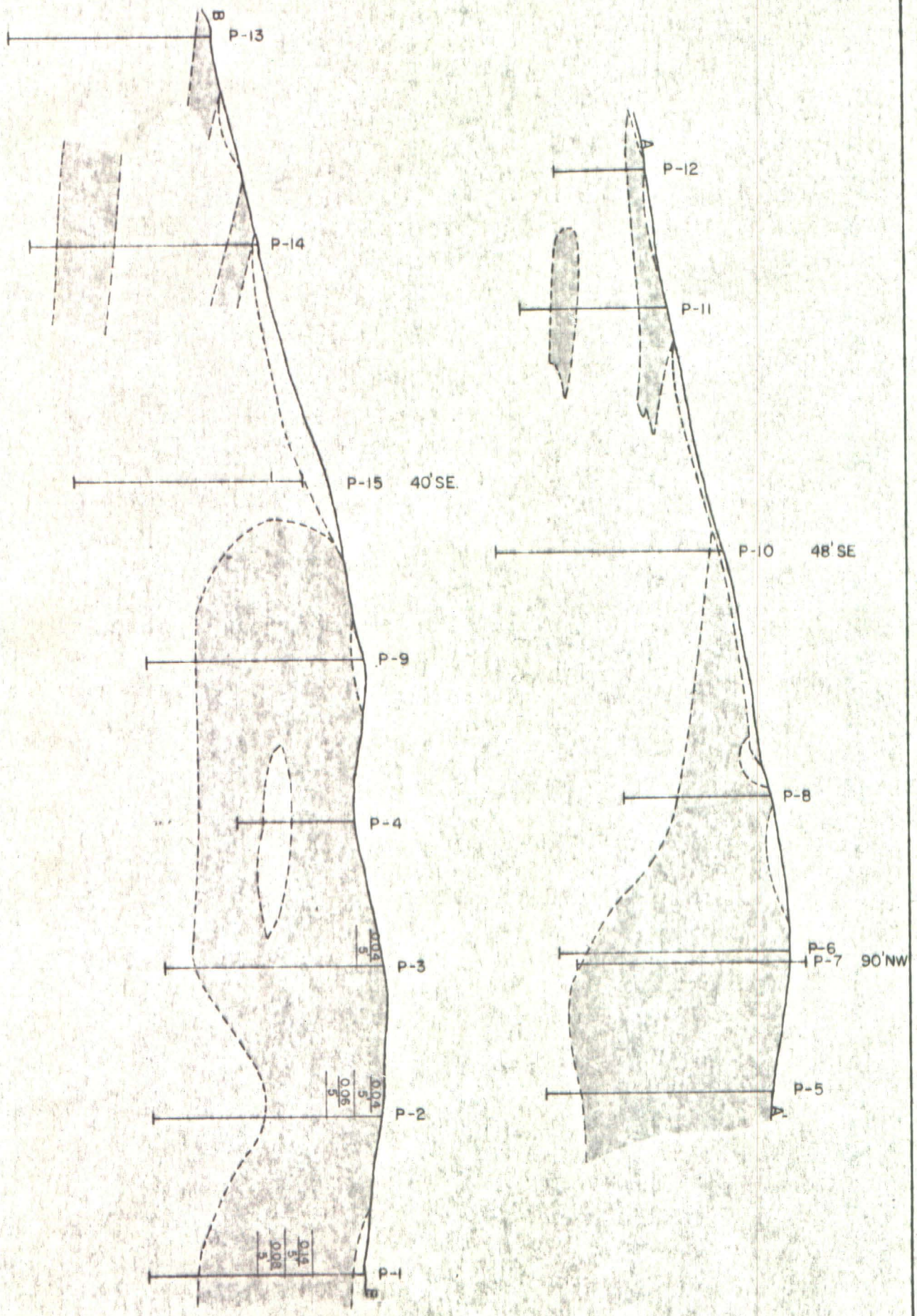
SECTIONS A–A', B–B', C–C'

HORIZONTAL SCALE 1"=100'

VERTICAL SCALE 1"=25'

Lincoln County

Item 1


P-13
P-14
P-15
40'SE.
P-9
P-4
P-3
P-2
P-1
P-12
P-11
P-10
48'SE
P-8
P-6
P-7
90'NW
P-5

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. RDH-3

PROPERTY Rowe STATE Nevada CO. Lincoln QUAD

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ HELPER ____ SAMPLER Calkins LOGGER Decker

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 150' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz %	SiO_2 % 1-3	~~Calc~~ Chl/Epi	Sulf	Rock Type	Geol	Assay	Au oz/T	Ag oz/T	Cu ppm	Remarks
1	5		good	Dry		Purple		-		3	XXX	80	-	/	-	Quartz Vein			.003	.29	1	minor altered diorite
2	10		"	"		tan		-		3	XXX	30	-	/	-	Altered Diorite			.009	.09	95	
3			"	"		purple tan		-		3	XX	10	-	1/1	-	"			-.003	.03	1	
4	20		"	"		mauve purple		-		3	XX	15	-	1/1	-	"			-.003	-.03	40	
5			"	"		purple		-		3	XX	5	-	1/1	-	"			-.003	-.03	1	
6	30		"	"		"		-		3	XX	2	-	1/1	-	"			-.003	-.03	15	
7			"	"		"		-		3	XX	2	-	1/1	-	"			-.003	-.03	1	
8	40		"	"		"		-		3	XX	2	-	1/1	-	"			-.003	-.03	20	
9			"	"		"		-		2	XX	5	-	1/1	-	"			-.003	.03	1	
10	50		"	"		gray		2		2	XX	2	-	/	-	Fresh Diorite						
11			"	"		"		3		2	X	-	-	/	-	"						
12	60		"	"		light gray		3		1	X	-	-	-/1	-	"						
13			"	"		"		3		1	-X	-	-	-/1	-	"						
14	70		"	"		"		3		2	-X	-	-	-/1	-	"						
15	75		"	"		"		3		2	X	-	-	/	-	"						

SHEET 2 OF 2

DRILL HOLE NO. RDH-3

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay % 1-3	$CaCO_3$% 1-3	FeOx % 1-3	Qtz %	SiO_2% 1-3	~~Calx~~ Chl / Epid	Sulf	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
16	80		good	Dry		purple gray		3		3	XXX	—	—	— / 1	—	Altered	Diorite		.003	.03	1	possible fault
17			"	"		purple		2		3	XX	—	—	— / 1	—	"			.003	.06	1	
18	90		"	"		light gray		3		2	X	—	—	— / 1	—	"			.003	.06	1	some fresh diorite fragments
19			"	"		"		3		2	X	1	—	1 / 2	—	"						
20	100		"	"		"		1		3	X	—	—	1 / 1	—	"						
21			"	"		purple gray		1		3	X	—	—	— / 1	—	Fresh	Diorite					
22	110		"	"		gray		2		3	-X	—	—	— / 2	—	"						
23			"	"		"		2		3	—	—	—	— / 1	—	"						
24	120		"	"		light gray		2		2	—	—	—	— / 1	—	"						
25			"	"		"		2		2	—	—	—	— / 1	—	"						
26	130		"	"		"		2		2	—	—	—	— / 1	—	"						
27			"	"		"		2		2	—	—	—	— / 1	—	"						
28	140		"	"		"		2		2	—	—	—	— / —	—	"			/	/	35	
29			"	"		"		3		2	—	—	—	— / —	—	"						
30	150		"	"		"		3		2	—	—	—	— / —	—	"			/	/	25	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JDH-8

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ HELPER ____ SAMPLER Calkins LOGGER Decker

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 120' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

Lincoln County

Item 1

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz % Veins	SiO_2 %	~~Calc~~ Chl Epid	Sulf %	Rock Type	Geol	Assay	Au oz/T	Ag oz/T	Cu ppm	Remarks
1	5		good	Dry		Reddish Brown								/		Qal						
2	10		"	"		"								/		Qal			.003	.03	25	
3			"	"		Red								/		Qal						
4	20		"	"		gray								/		Qal			.003	.03	/	
5			"	"		Brown gray		—		1	X	—	—	/		Altered	Diorite					
6	30		"	"		"		—		1	X	1	—	/		"			.003	.03	/	
7			"	"		"		—		+	X	1	—	/		"						
8	40		"	"		white gray					X	—		/		"			.003	.03	/	
9			"	"		"					X	—		/		"						
10	50		"	"		"					X	—		/		Fresh	Diorite		.003	.03	/	
11			"	"		"					—	—		/		"						
12	60		"	"		"					—	—		/		"			.003	.03	/	
13			"	"		gray					X	1		/		"						
14	70		"	"		"					—	—		/		"			.003	.03	/	
15	75		"	"		"					—	—		/		"						

SHEET 2 OF 2

DRILL HOLE NO. JDH-8

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz %	SiO_2 %	~~Calc~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	Au	Ag	Cu	Remarks
16	80		good	Dry		light Gray					–	–		/		Fresh	Diorite		.003	.03	/	
17			"	"		"					–	–	–	/		"						
18	90		"	"		"					–	–		/		"			.003	.03	/	
19			"	"		"					–	–		/		"						
20	100		"	"		"					–	–		/		"			.003	.03	35	
21			"	"		"					–	–		/		~~Andesite~~ Fresh	Diorite					
22	110		"	"		"					–	–	–	/		Andesite			.003	.03	/	
23			"	"		"					–	–		/		"						
24	120		"	"		"					–	–		/		"			.006	.03	/	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. RDH-1

PROPERTY Rowe STATE Nevada CO. Lincoln QUAD

SEC. T R CLAIM COORDINATES: (N) (S) (E) (W)

CONTRACTOR HELPER SAMPLER Calkins LOGGER Decker

TYPE DRILL TYPE DRILLING

COLLAR ELEVATION BEARING INCLINATION

TOTAL DEPTH 70' HOLE DIAMETER CASING

BOTTOM ELEVATION WATER LEVEL SAMPLE DISPOSITION

SUMMARY COST/HR. COST/FT

SHEET 1 OF 1

DATES: START COMP

TIME: START COMP

MOVING TIME: START COMP

STANDBY TIME: START COMP

TOTAL HOURS DRILLED

HOURS COST:

BIT COST:

TOTAL COST:

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Vein Qtz %	SiO_2%	~~Calc~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1	5		Good	Dry		purple tan		1		—	xxx	20	1	/	—	Altered	Diorite		.003	.09	/	some fresh Diorite
2	10		"	"		"		—		1	XX	50	1	—/1	—	"			.003	.03	105	
3	15		"	"		"		—		1	XX	50	1	—/1	—	"			.006	.38	/	
4	20		"	"		green-purple tan		—		1	X	2	1	—/1	—	"			.003	.06	120	Calcite in altered Diorite from plag
5			"	"		"		1		1	X	2	1	—/1	—	"			.003	0.03	/	
6	30		"	"		"		1		1	—X	2	1	—/1	—	"			.003	.03	80	
7			"	"		tan gray		1		1	—X	2	1	1/2	—	"			.003	.06	/	Epidote in veinlets
8	40		"	"		"		1		1	—X	1	1	2/3	—	"						"
9			"	"		tan		2		1	—X	1	1	2/3	—	"						
10	50		"	"		"		3		2	+X	—	1	2/3	—	"						
11			"	"		"		2		1	X	—	1	2/3	—	"						
12	60		"	"		light gray		2		1	X	—	1	2/3	—	"						
13			"	"		tan gray		1		1	X	—	1	—/3	—	"						
14	70		"	"		more gray		2		2	—X	1	1	1/2	—	"						30% fresh Diorite

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. RDH-2

PROPERTY Rowe STATE Nevada CO. Lincoln QUAD

SEC. T R CLAIM COORDINATES: (N) (S) (E) (W)

CONTRACTOR HELPER SAMPLER Calkins LOGGER Decker

TYPE DRILL TYPE DRILLING

COLLAR ELEVATION BEARING INCLINATION

TOTAL DEPTH 190' HOLE DIAMETER CASING

BOTTOM ELEVATION WATER LEVEL SAMPLE DISPOSITION

SUMMARY COST/HR. COST/FT

SHEET 1 OF 2

DATES: START COMP

TIME: START COMP

MOVING TIME: START COMP

STANDBY TIME: START COMP

TOTAL HOURS DRILLED

HOURS COST:

BIT COST:

TOTAL COST:

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx % 1-3	Qtz %	SiO_2%	~~Calc~~ Chlorite Epidote	Sulf	Rock Type	Geol	Assay	Au oz/T	Ag oz/T	Cu ppm	Remarks
1	5		good	Dry		Brown		1		2	X	0	–	–	–	Altered	Diorite					calcite after calcic plagioclase
2	10		"	"		"		0		2	X	–	–	–	–	"						
3			"	"		"		0		2	X	–	–	–	–	"						
4	20		"	"		tan Brown		1		2	X	1	–	–	–	"						
5			"	"		tan gray		1		2	X	–	–	–	–	"						minor altered andesite + fresh Diorite
6	30		"	"		Purple tan		1		2	-X	–	–	– / 1	–	"			.003	.03	10	Epid in veinlets
7			"	"		"		–		2	+X	80	–	–	–	Quartz	Vein		.035	.73	1	
8	40		"	"		lighter		–		2	+X	90	–	–	–	"			.086	.15	165	
9			"	"		"		–		2	+X	75	–	–	–	"			.006	.09	1	
10	50		"	"		green-gray		–		3	X	2	–	– / 2	–	Altered	Diorite					Epidote veinlets
11			"	"		"		–		2	X	2	–	– / 2	–	"			.003	.03	1	Epidote "
12	60		"	"		"		–		1	X	2	–	– / 1	–	"						
13			"	"		"		–		1	X	1	–	– / 1	–	"						
14	70		"	"		> gray		–		1	X	1	–	– / 1	–	"						
15	75		"	"		gray		–		2	-X	1	–	– / 1	–	Fresh	Diorite					minor altered Diorite Epidote in veins

SHEET 2 OF 2

DRILL HOLE NO. RD14-2

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Qtz %	SiO_2%	~~Calx~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
16	80		good	Dry		gray		2		2	-X	1	–	–/2	–	Fresh	Diorite					
17			"	"		"		3		2	X	1	–	–/1	–	Altered	Diorite					minor fresh diorite
18	90		"	"		"		3		1	-X	1	–	–	–	Fresh	Diorite					minor altered diorite
19			"	"		"		1		2	X	1	–	–/1	–	"						
20	100		"	"		lighter gray		2		2	XX	1	–	–	–	"						mixed altered + fresh diorite Fault zone?
21			"	"		light gray		1		2	X	2	–	–	–	"						
22	110		"	"		darker		2		2	X	1	–	–/1	–	"						minor epidote veinlets
23			"	"		gray		3		2	X	–	–	–	–	"						
24	120		"	"		"		3		2	+X	–	–	–	–	"						minor altered Diorite
25			"	"		"		3		2	X	–	–	–/1	–	"						minor epidote veinlets
26	130		"	"		"		3		2	X	–	–	–/1	–	"						minor epidote veinlets
27			"	"		"		3		2	X	–	–	–/1	–	"						less " "
28	140		"	"		more gray		3		2	-X	–	–	–/1	–	"						less " "
29			"	"		"		3		2	-X	–	–	–/1	–	"						slightly more " " (~1%)
30	150		"	"		"		3		2	-X	–	–	–/1	–	"						some epidote
31			"	"		"		3		2	-X	–	–	–/1	–	"						" "
32	160		"	"		"		3		2	-X	–	–	–/1	2	"						approx 2% pyrite in fresh diorite
33			"	"		"		3		2	+X	–	–	–/1	1	"						Not restricted to veinlets
34	170		"	"		lighter gray		3		2	X	–	–	–/1	2	"			1	1	25	
35			"	"		Darker gray		3		2	X	–	–	–/1	2	"						
36	180		"	"		"		3		2	X	–	–	–/1	2	"			1	1	25	
37			"	"		"		3		2	X	–	–	–/1	2	"						
38	190		"	"		"		3		2	-X	–	–	–/1	2	"			1	1	25	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JDH-5

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD

SEC. T R CLAIM COORDINATES: (N) (S) (E) (W)

CONTRACTOR HELPER SAMPLER Calkins LOGGER Decker

TYPE DRILL TYPE DRILLING

COLLAR ELEVATION BEARING INCLINATION

TOTAL DEPTH 260' HOLE DIAMETER CASING

BOTTOM ELEVATION WATER LEVEL SAMPLE DISPOSITION

SUMMARY COST/HR. COST/FT

SHEET 1 OF 3

DATES: START COMP

TIME: START COMP

MOVING TIME: START COMP

STANDBY TIME: START COMP

TOTAL HOURS DRILLED

HOURS COST:

BIT COST:

TOTAL COST:

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ ~~%~~	FeOx ~~%~~	Veins Qtz %	SiO_2 %	~~Calx~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T An	oz/T Ag	ppm Cu	Remarks
1	5		good	Some		Brown-gray	purple	1		3	XX	–	–	–	–	Fresh Andesite						some alteration of feldspars to
2	10		"	"		purple tan	"	1		3	XX	–	–	–	–	"						clays and $CaCO_3$
3			"	"		"	"	1		3	X	–	–	–	–	"						
4	20		"	"		"	"	1		3	X	–	–	–	–	"						
5			"	"		"	"	1		3	X	–	–	–	–	"						
6	30		"	"		lighter	"	1		3	X	–	–	–	–	"						
7			"	"		"	"	1		3	X	–	–	–	–	"						
8	40		"	"		"	"	1		3	X					"						
9			"	"		"	"	1		3	X					"						
10	50		"	"		gray	"	1		3	0	–	–	–	–	"						
11			"	"		minor purple	"	1		3	0	–	–	–	–	"						
12	60		"	"		light gray	"	1		3	0	1	–	–	–	"						
13			"	"		"	"	1		3	0	–	–	–	–	"						
14	70		"	"		"	"	1		3	0	–	–	–	–	"						
15			"	"		"	"	1		3	0	–	–	–	–	"						

SHEET 2 OF 3
DRILL HOLE NO. JDH-5

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ %	FeOx %	Qtz % (Vein)	SiO_2 %	~~Calc~~ chl/Epid	Sulf	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
16	80		good	Dry		purple ~~gray~~	purple ~~gray~~	1		3	0	–	–	–	–	Fresh Andesite						
17			"	"		"		–		3	–	–	–	–	–	"						
18	90		"	"		"		–		3	–	–	–	–	–	"						
19			"	Some		"		–		3	–	–	–	–	–	"						
20	100		"	"		gray		–		3	–	–	–	–	–	"						
21			"	"		"		–		3	–	–	–	–	–	"						
22	110		"	"		"		–		3	–	–	–	–	–	"						minor calcite veinlets (1%)
23			"	"		"		–		3	–	–	–	–	–	"						
24	120		"	Dry		"		–		3	–	–	–	1	–	"						minor Epidote
25			"	"		"		–		3	–	–	–	– / 1	–	"						
26	130		"	"		Brown gray		–		3	–	–	–	–	–	"						
27			"	"		Light Brown		–		3	–	1%	–	–	1%	"						
28	140		"	"		Gray		–		3	–	2	–	–	1	"						
29			"	"		Gray purple		–		3	–	5	–	– / 1	–	"						Epidote veinlets
30	150		"	"		"		–		3	–	1	–	– / 1	–	"			.003	.03	15	
31			"	"		more purple		–		3	–	–	–	– / 1	–	"						
32	160		"	"		"		–		3	–	1	–	–	–	"			.003	.03	40	
33			"	"		"		–		2	–	1	–	– / 1	–	"						
34	170		"	"		Reddish Brown		–		2	XX	60	–	– / 1	–	Quartz Vein			.003	.03	60	30% fresh andesite
35			"	Wet		"		–		2	X	8	–	– / 2	–	Altered Andesite (?)						some Calcite veinlets
36	180		"	"		"		–		3	X	8	–	– / 3	–	"			.003	.03	50	minor fresh diorite
37		½ tub	"	"		"		1		3	X	5	–	– / 3	–	"						mixed fresh diorite
38	190	½ tub	"	"		"		1		3	XX	15	–	– / 3	1	"			.005	.03	15	mixed fresh diorite

Fault ZONE

SHEET 3 OF 3

DRILL HOLE NO. JDH-5

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Qtz % (Vein)	SiO_2%	~~Calc~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	Au	Ag	Cu	Remarks
39			good	Wet		Reddish Brown		2		3	X	5	—	—/3	1	Fresh Diorite						
40	200	1/2 tub	"	"		"		2		2	X	1	—	—/2	—	"			.003	.03	30	
41			"	Damp		"		2		2	—X	1	—	—/2	—	"						
42	210	Full tub	"	"		"		2		2	0	5	—	—/1	—	"			.003	.03	15	
43			"	"		more gray		2		2	X	5	—	—/2	—	"			[illegible]	[illegible]	[illegible]	mud balls
44	220		"	"		Reddish Brown		3		2	XX	10	—	—/2	—	"			.003	.03	15	rhyolite fragments ?
45			"	"		"		3		2	X	10	—	—/1	1	"						
46	230		"	"		"		2		2	X	—	—	—/—	—	"			.003	.03	25	
47			"	Some		"		1		2	X	1	—	—/2	—	"						
48	240		"	"		"		2		2	X	—	—	—/2	—	"			.003	.03	20	
49			"	"		Gray Brown		2		2	X	1	—	—/2	—	"						
50	250		"	"		"		2		2	—X	1	—	—/1	—	"			.003	.03	30	
51			"	"		"		2		2	—X	1		—/1	—	"						
52	260		"	"		"		2		2	—X	1		—/1	—	"			.003	.03	20	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JDH-6

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ HELPER ____ SAMPLER Colkins LOGGER Decker

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 170' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ mgt	Clay %	$CaCO_3$%	FeOx %	Qtz %	SiO_2%	~~Calx~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1			Good	Dry		Brown		1		—	—	—	—	—	—	Qal						
2	10		"	"		"		1		1	x	8	–	–	–	Altered	Diorite					
3			"	"		green		1		2	x	–	–	–	–	"						minor calcite in qtz veins
4	20		"	"		"		1		2	x	1	–	–	2	"						mgt, py.
5			"	"		"		1		2	x	–	–	–	–	"						
6	30		"	"		Light green		1		2	x	–	–	– / 2	–	"						
7			"	"		"		1		2	x	1	–	– / 1	–	"						
8	40		"	"		"		1		2	–x	–	–	– / 1	2	"						
9			"	"		green to Red		1		2	x	10	–	– / 2	1	"			.003	.03	1	red stain in altered diorite
10	50		"	"		mod. Red		1		2	x	15	2	– / 2	1	"			.003	.03	20	
11			"	"		gray		—		1	–x	90	–	–	2	Quartz	Vein		.012	.26	1	quartzite textured quartz
12	60		"	"		white to gray		–		1	x	80	–	–	2	"			.006	.12	85	2 stages of quartz quartzite + milky varieties 10% Alt. Dior.
13			"	"		"		–		1	x	75	–	–	2	"			.006	.23	1	20% altered Dior.
14	70		"	"		gray		–		2	x	50	–	–	1	"			.003	.06	105	50% altered Dior.
15	75		"	"		"		–		2	x	20	–	– / 1	–	Altered	Diorite		.003	.06	1	

SHEET 2 OF 2

DRILL HOLE NO. SDH-6

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Qtz %	SiO_2%	~~Calx~~ Chl/Epi	Sulf	Rock Type	Geol	Assay	Au (oz/t)	Ag (oz/t)	Cu (ppm)	Remarks
16	80		good	Dry		gray-red		—		2	X	2	—	—/1	—	Altered	Diorite		.005	.03	100	
17			"	"		gray		1		2	—	1	—	—/2	—	"						minor fresh diorite
18	90		"	"		gray green		1		2	X	2	1	—/2	—	"						
19			"	"		"		1		2	—	—	+	—/2	1	"						mgt, py
20	100		"	"		gray		2		1	—	—	+	—/1	1	Fresh	Diorite					
21			"	"		"		2		1	—	1	1	—/1	—	"						25% altered diorite
22	110		"	"		gray green		2		1	—	2	1	—/1	—	"						
23			"	"		gray		2		1	—	1	1	—/1	—	"						
24	120		"	"		"		2		2	X	10	1	—/2	—	Altered	Diorite		.003	.03	145	
25			"	"		"		2		2	X	1	1	—/1	—	Fresh	Diorite					
26	130		"	"		"		2		2	—	1	0	—/—	—	"			.003	.03	1	
27			"	"		"		2		2	—	1	—	—/—	—	"						
28	140		"	"		"		2		1	—	—	—	—/—	2	"			.003	.03	1	cpy ?
29			"	"		"		2		1	—	—	—	—/—	—	"						
30	150		"	"		"		2		2	X	—	—	1/1	—	"			.003	.03	1	40% altered Diorite
31			"	"		"		2		2	—	1	—	—/1	—	"						30% altered Diorite
32	160		"	"		"		2		2	X	2	—	—/1	—	"			.003	.03	1	
33			"	"		"		2		2	X	1	—	—/1	—	"						
34	170		"	"		"		2		2	—	0	—	—/1	—	"			.008	.03	1	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JDH-7

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ HELPER ____ SAMPLER Calkins LOGGER DECKER

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 100' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Qtz %	SiO_2%	~~Calx~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1	5		good	Dry		light purple		–		2	XX	80	–	/	–	Quartz	Vein		.064	.58	–	10% Altered Diorite
2	10		"	"		light Brown		–		2	X	70	–	/	–	"			.02	.93	–	10% " "
3	15		"	"		white gray		–		2	X	80	–	/	–	"			.018	.58	–	5% " "
4	20		"	"		white		–		2	X	90	–	/	–	"			.015	.53	–	5% " "
5			"	"		"		–		2	X	80	–	/	–	"			.038	.44	–	5% " "
6	30		"	"		"		–		2	X	70	–	/	–	"			.003	.15	–	20% " "
7			"	"		"		–		2	X	70	–	/	1	"			-.003	.09	–	20% " "
8	40		"	"		darker		–		2	X	60	–	/	1	"			-.003	.06	–	30% " "
9			"	"		Gray green		–		2	X	2	–	1/3	–	Altered	Diorite		-.003	.03	–	
10	50		"	"		"		–		2	X	2	–	1/2	–	"			~~.01~~	~~.01~~		
11			"	"		"		–		2	X	1	–	1/2	–	"						
12	60		"	"		"		–		2	X	1	–	1/2	–	"						
13			"	"		red gray		–		2	X	1	–	1/1	–	"						
14	70		"	"		> reddish		–		2	X	1	–	1/1	–	"						
15	75		"	"		< red		–		2	X	1	–	1/1	–	"						

SHEET 2 OF 2

DRILL HOLE NO. JDH-7

JDH-7

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz %	SiO_2 %	~~Calx~~ Chl/Epi %	Sulf %	Rock Type	Geol	Assay	Au oz/T	Ag oz/T	Cu ppm	Remarks
16	80		good	Dry		gray		1		2	—	—	—	1/2	—	Altered Diorite						minor fresh Diorite frags
17			"	"		green gray		3		2	—	—	—	1/1	—	Fresh Diorite						
18	90		"	"		gray		3		2	—	—	—	1/1	—	"						
19			"	"		green gray		3		2	—	—	—	1/1	—	"			—	—	80	
20	100		"	"		green gray		3		2	—	—	—	1/1	—	"			—	—	80	

Lincoln County
Item 1

APPENDIX III (February 1968)

Sample No.	Description	ANALYSIS (Gold @ $35.00/oz; Silver @ $1.99/oz)								
		Oz per Ton		Percent						
		Au	Ag	Cu	SiO_2	Fe	CaO	Al_2O_3	Pb*	Zn
1201	Sample at bottom of pit at Location 56	0.02	0.41	0.05	85.3	1.9	1.8	4.8	0.1	0.
1202	Grab sample at top of pit at Location 56	($19.60) 0.56	($9.65) 4.85	0.07	82.3	2.0	3.0	5.6	0.1	0.
1203	Grab sample at crusher	($22.05) 0.63	($15.26) 7.67	0.23	77.9	2.3	5.8	5.0	0.1	0.
1204	Crushed sample-west of crusher	($3.50) 0.10	($3.94) 1.98	0.31	81.7	2.1	2.8	5.7	0.2	0.
1205	Pit near south end of Bradshaw Claim	($6.30) 0.18	($5.21) 2.62	0.15	78.3	1.9	4.0	5.7	0.1	0.
1206	Grab sample - 400' south of pit at Location 56	($15.75) 0.45	0.52	0.08	88.7	2.1	1.2	4.3	0.1	0.
1207	Pit between #1205 and old stope south of Pennsylvania Mine	-0.01	0.08	0.04	86.5	2.5	0.6	4.9	0.1	0.
1208	Sample at old stope south of Pennsylvania Mine	0.01	0.22	0.05	86.3	2.1	2.0	3.3	0.1	0.
1209	Pennsylvania Mine - East Dump	. 0.01	($3.24) 1.63	0.53	73.9	2.8	2.4	8.9	0.3	3.
1210	Pennsylvania Mine - West Dump	-0.01	-0.03	0.04	65.3	3.3	4.0	14.0	0.1	0.
1211	Grab sample at shaft north end	0.02	($4.70) 2.36	0.36	82.5	2.2	5.2	2.8	0.3	1.
1212	Outcrop sample north end of area	0.08	0.45	0.06	91.3	1.6	1.0	3.2	-0.1	-0.
1213	Outcrop sample south end of area	0.01	0.22	0.03	86.7	1.4	4.2	2.7	-0.1	-0

PENNSYLVANIA DISTRICT, T6S, R67E- LINCOLN COUNTY, NEVADA
(From Report of John Welsh, March 31, 1967)

Sample No	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	A
	SUBJECT: Geochemical samples of jasperoid, limonites, fracture fillings, and shear zones. High grade samples.						
1.	Ribbon vein quartz, calcite. Massive outcrop of vein minerals above chloritized diorite.	8	-1	35	13	-.6	[illegible]
2.	Ribbon quartz vein in diorite, 6-inch width.	16	-1	16	9	1.0	.1
3.	Quartz and calcite veins with banded and vuggy structures in diorite. Slight goethite and hematite.	12	-1	12	18	-.6	.1
4.	Ribbon open space veins of quartz and calcite, goethite, Cu oxides malachite and azurite, vuggy, in diorite.	1742	-1	117	169	48.0	1.2
5.	Quartz veins in diorite, goethite and manganese oxides.	77	-1	145	89	1.4	.2
6.	Quartz veins ribbon structure, copper oxides, manganese, goethite.	166	-1	124	202	27.5	4.8
7.	Fractures diorite, flat shear NS 18°E., 8-inch clay gouge with minor silicification, hematite, copper oxides.	867	-1	76	419	65.0	.1
8.	Shaft 30 feet in diorite, quartz calcite veining, copper oxides.	3630	-1	258	1420	147.0	2.2
9.	Quartz porphyry dike, silicified, pyrite, and trace copper oxides.	18	1	33	38	.6	.1
10.	Sandy limestone member of Pioche formation, goethite staining.	13	-1	17	53	.9	-.1
11.	Conglomerate NS 80°E dip, silicified, hematitic stain.	10	1	24	27	.6	-.1

Sample No	Description	Analysis(ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
12.	Diorite: aphanitic groundmass with plagioclase phenocrysts, disseminated magnetite.	10	-1	17	51	-.6	.20
13.	Rhyolite with quartz phenocrysts, argillic alteration, goethite staining.	29	3	22	81	-.6	-.10
14.	Rhyolite altered volcanics, argillic, goethite, hematite.	14	2	17	33	-.6	.13
15.	Welded tuff, hematite, argillic alteration.	6	-1	11	13	-.6	.16
16.	Quartz veinlets in mx quartz diorite.	11	-1	46	15	72.0	1.00
17.	Welded tuff silicified hematite stained above quartz diorite contact.	13	-1	17	68	-.6	.13
18.	Quartz porphyry fx dike, pyrite.	13	-1	24	33	-.6	-.10
19.	Quartz veining in light colored quartz diorite.	12	0	15	22	.7	.20
20.	Diorite with magnetite and goethite.	11	0	15	65	1.0	-.10
21.	Altered carbonate hornfels, epidote magnetite.	200	7	40	795	2.0	.13
22.	Altered carbonates vein of goethite and limonites near quartz aphanitic porphyry dike.	85	60	200	9550	1.5	.27
23.	Vein 3 feet wide in limestone of the Pioche formation. Magnetite, goethite, calcite, and siderite. Two prospect pits.	24	204	1700	2050	2.5	.30
24.	Chloritic altered mx diorite just below hematitic stained rhyolite.	34	0	20	70	1.5	.13
25.	Quartz veining in diorite at intrusive contact with rhyolite.	16	0	12	24	4.0	.10

Sample No.	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
26.	Bleached limestone skarn, copper oxides, copper carbonates.	9.70%	-1	55	151	20.0	5.0
27.	Prospect Mountain quartzite(?) or altered volcanics, slight veining with hematite and goethite.	80	4	50	20	1.3	.1
28.	Altered quartzite (?) or altered volcanics, slight veining with hematite and goethite.	65	8	40	14	1.0	-.10
29.	Adit and tunnel in carbonates limestones, skarn: magnetite copper carbonates and calc-silicate minerals with diorite on dump.	19.50%	5	400	850	16.5	.96
30.	Quartz vein with manganese oxides and goethite in altered diorite.	200	2	30	55	1.0	.16
31.	Quartzite, fault sliver of Prospect Mountain quartzite between carbonates and volcanics.	65	213	190	1440	3.5	.27
32.	Carbonates altered with quartz and goethite in veins.	75	56	45	166	4.5	.20

PENNSYLVANIA DISTRICT, T6S, R67E - LINCOLN COUNTY, NEVADA

(From report of John Welsh, December 20, 1967)

Sample No.	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
	SUBJECT: Geochemical Samples, low grade traverse samples of the stockworks and high grade samples of pits and prospects.						
33.	Chloritized diorite, no veinlets.	40	6	45	80	6	.10
34.	Unconsolidated diorite gruss with some soil.	30	6	30	80	1	.12
35.	Unconsolidated diorite gruss with some soil.	30	4	35	70	2	.15
36.	Unconsolidated diorite gruss with some soil.	30	6	40	70	2	-.10
37.	Unconsolidated diorite gruss with some soil.	40	3	45	75	3	.15
38.	Diorite, chloritized, inclusions of flow banded volcanics, fragmental structure, no veinlets.	30	3	35	75	2	.10
	Beginning of the Stockwork----------						
39.	Diorite with quartz, calcite veining, ribbon boxwork, goethite.	5	3	25	30	2	.20
40.	Quartz, calcite stockwork, ribbon veining, open space vugs, boxwork structure, goethite.	5	3	25	20	1	.25
41.	Quartz ribboned stockwork, goethite.	10	7	20	20	2	.27
42.	Quartz ribboned stockwork, goethite.	-5	1	30	25	2	.62
43.	Quartz, calcite stockwork, patches of marble probably of Cambrain limestone, goethite.	10	-1	40	30	2	.35
44.	Quartz, calcite stockwork, goethite, trace manganese oxides.	10	3	30	25	2	.60
45.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	20	-1	20	[illegible]	[illegible]	[illegible]

Sample No.	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
46.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	10	3	30	20	2	.55
47.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	15	-1	25	30	-1	.17
48.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	10	-1	30	25	-1	.20
49.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	25	3	30	30	2	.30
50.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	30	-1	25	45	2	.37
51.	Quartz, calcite, stockwork, goethite, trace manganese oxides.	30	-1	25	35	1	.25
52.	Diorite and quartz, calcite veining, at the crusher on top of the hill. Traverse continues toward cabin.	20	7	40	40	3	.15
53.	Quartz, calcite veins and stockwork, goethite, minor manganese oxides.	25	6	30	40	1	.35
54.	Quartz, calcite veins and stockwork, goethite, minor manganese oxides.	20	4	30	40	4	.25
55.	Quartz, calcite veins and stockwork, goethite, minor manganese oxides.	20	-1	25	25	2	.50
	End of the Low Grade Sampling Traverse----------						

Sample No	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
	High Grade Samples from pits and prospects---------						
56.	Channel Sample for new ten foot shaft on the Johnston claims. Quartz, calcite veins and stockwork. Some marble. Manganese oxides, traces of copper carbonates, and goethite near surface. Sulfides are very fine grained, not identified in hand specimen. Few quartz vugs. This is a representative average sample.	525	-1	120	55	188	23.
56b.	High Grade Sample from the pit at 56, the sample is a quartz calcite gangue with gray, finely disseminated sulfides. The two samples labeled 56b, are from the same pit and both are high graded. The ore is a massive rock and the mineralization is not restricted to veinlets.	7900	-1	1300	70	1350	307.
		8800	3	990	80	2300	375.
57.	Traverse sample of quartz, calcite stockwork. This is an average sample with manganese oxides, goethite.	200	-1	90	30	70	7.
58.	Traverse sample of the quartz, calcite stockwork. Mostly quartz veining with manganese oxides, traces of copper carbonates.	160	-1	50	50	6	.
59.	Quartz stockwork.	1000	-1	420	150	44	1.
60.	Several pits and small adits in diorite. Goethite, manganese oxides, hematite coatings. Some flat structures beneath the alluvium which maybe either in the diorite or in volcanics.	1050	1	190	305	260	12.
61.	Quartz vein stockwork in diorite. Goethite, manganese oxides, essentially no carbonate, in several pits.	175	-1	95	135	4	.
62.	High Grade sample from the east dump at the Pennsylvania mine. This apparently was an ore dump. Copper carbonates, chalcopyrite, manganese oxides, diorite, and quartz veining.	4.10%	3	1.04%	3900	1650	2.

Sample No	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	Au
	High Grade Samples from pits and prospects---------						
56.	Channel Sample for new ten foot shaft on the Johnston claims. Quartz, calcite veins and stockwork. Some marble. Manganese oxides, traces of copper carbonates, and goethite near surface. Sulfides are very fine grained, not identified in hand specimen. Few quartz vugs. This is a representative average sample.	525	-1	120	55	188	23.
56b.	High Grade Sample from the pit at 56, the sample is a quartz calcite gangue with gray, finely disseminated sulfides. The two samples labeled 56b, are from the same pit and both are high graded. The ore is a massive rock and the mineralization is not restricted to veinlets.	7900 8800	-1 3	1300 990	70 80	1350 2300	307. 375.
57.	Traverse sample of quartz, calcite stockwork. This is an average sample with manganese oxides, goethite.	200	-1	90	30	70	7.
58.	Traverse sample of the quartz, calcite stockwork. Mostly quartz veining with manganese oxides, traces of copper carbonates.	160	-1	50	50	6	.8
59.	Quartz stockwork.	1000	-1	420	150	44	1.
60.	Several pits and small adits in diorite. Goethite, manganese oxides, hematite coatings. Some flat structures beneath the alluvium which maybe either in the diorite or in volcanics.	1050	1	190	305	260	12. 8
61.	Quartz vein stockwork in diorite. Goethite, manganese oxides, essentially no carbonate, in several pits.	175	-1	95	135	4	.2
62.	High Grade sample from the east dump at the Pennsylvania mine. This apparently was an ore dump. Copper carbonates, chalcopyrite, manganese oxides, diorite, and quartz veining.	4. 10%	3	1. 04%	3900	1650	2. 0

Sample No.	Description	Analysis (ppm)					
		Cu	Mo	Pb	Zn	Ag	A
63.	Pits in quartz stockwork just east of the road to the Pennsylvania shaft. Copper carbonates, manganese oxides, probably neotocite.	3200	3	1600	810	168	6.

Pennsylvania Shaft: The incline shaft of the Pennsylvania mine is now caved. The incline dips eastward under the talus slope and toward the volcanic contact. The geological aspect of the intrusive diorite contact with the volcanics is indefinite. Some evidence within the district suggests that the contact is intrusive, other evidence suggests that the contact is a fault, and the possibility that the volcanics are unconformable upon the diorite cannot be disproved. The talus scree from the volcanics cover the critical outcrops.

The direction and nature of the workings within the Pennsylvania mine are unknown.

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JD1-1

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ HELPER ____ SAMPLER Calkins LOGGER Decker

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 200' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 3

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz %	SiO_2 %	~~Calc~~ Chl / Epid	Sulf %	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
1	5		gail	Dry		tan				1	–	90		– / 1	2	Quartz	Vein		.023	0.38	–	Free Au in pan
2	10		"	"		rokitish				3	–	60		– / 2	2	"			.018	.29	225	py in quartz; Epid + Chl in Diorite
3			"	"		"				3	–	50		– / 3	1	"			.018	0.20	–	calcite rhombs
4	20		"	"		"				3	X	50		– / 3	2	"			.003	.09	135	minor epidote in quartz
5			"	"		"				2	X	40		– / 3	2	Altered	Diorite		.003	0.09	–	2 stages of Quartz veins.
6	30		"	"		green-gray				3	–	30	3	– / 3	2	"			.003	.06	15	Diorite is silicified
7			"	"		"				3	X	25		– / 3	2	"			.003	0.12	–	
8	40		"	"		light gray				3	–	25		– / 2	2	"			.006	.09	50	Epidote in Diorite only
9			"	"		"				3	–	15		– / 3	1	"			.003	0.06	/	
10	50		"	"		"				3	–	10		– / 3	2	"						
11			"	"		"				3	–	10		– / 3	2	"						
12	60		"	"		"				3	–	10		– / 3	2	"						
13			"	"		"				3	X	5		– / 3	2	"						chlorite + Epid veinlets
14	70		"	"		"				3	–	5		– / 3	–	"						
15	75		"	"		"				2	X	10		– / 3	–	Fresh Diorite						

SHEET 2 OF 3

DRILL HOLE NO. JDH-1

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ % 1-3	FeOx % 1-3	Qtz % Veins	SiO_2 %	~~Calc~~ Epid	Sulf %	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
16	80		good	Damp		Cement gray				2	XX	5		3	2	Fresh Diorite						Rhyolite fragments ?
17			"	wet		"				2	XX	10		2	2	"						
18	90		"	"		tan gray				1	X	3		2	2	"						silicified diorite w/ mgt
19			"	"		"				1	X	5		2	2	"						
20	100		"	"		"				2	XX	3		2	2	Altered Diorite						Fault zone
21			"	"		"				2	XX	3		2	3	Fresh Diorite						
22	110		"	"		"				2	X	5		—	2	"						2 ages of qtz ; some vuggy
23			"	"		gray				2	X	5		—	2	"						2 " "
24	120		"	"		"				2	—	3		—	2	"						
25			"	"		"				1	X	3		—	2	"						
26	130		"	"		"				1	—	2		—	2	"						
27			"	"		"				2	—	3		—	2	"						
28	140		"	"		"				2	—	3		—	—	"						
29			"	"		tan gray				2	XX	5		1	2	"						
30	150		"	"		"				3	X	5		—	2	"						CuOx
31			"	"		"				3	X	3		—	2	"			.003	.03	/	
32	160		"	"		"				3	X	2			2	Altered Diorite			.003	.03	/	
33			"	"		"				3	X	5		—	—	"			.003	.03	/	
34	170		"	"		"				2	X	3		—	—	Fresh Diorite			.003	.03	/	
35			"	"		gray				2	X	2		—	—	"						
36	180		"	"		"				2	X	2		—	—	"			/	/	25	
37			"	"		"				2	—	1		—	—	"						
38	190		"	"		"				1		1		—	—	"			/	/	20	

SHEET 3 OF 3

DRILL HOLE NO. JDH-1

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ ~~%~~ 1-3	FeOx ~~%~~ X-X	Qtz %	SiO_2 %	~~Calx~~ Chl/Epi	Sulf %	Rock Type	Geol	Assay	Au	Ag	Cu	Remarks
39	195		good	Wet		gray				1	–	1		–	–	Fresh	Diorite					
40	200		"	"		"				1	–	1		–	–	"			1	1	25	

CORDILLERAN EXPLORATIONS Pennsylvania DRILL LOG DRILL HOLE NO. JDH-4

PROPERTY Johnson STATE Nevada CO. Lincoln QUAD Caliente (Ams)

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR Ecklund HELPER ____ SAMPLER Calkins LOGGER Decker

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 160' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ %	FeOx %	Qtz %	Vein	SiO_2 %	~~Calc~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1	5		good	Dry	–	–																	NO RECOVERY
2	10		"	"	–	–																	"
3	15		"	"		–																	"
4	20		"	"		tan											Qal						
5	25		"	"		tan											Qal						
6	30		"	"		Gray tan		–		–	XXX	–	–	–	–	–	Altered	Diorite					FeOx due to Qal cover
7	35		"	"		Gray		–		–	XX	–	–	–	–	–	"						
8	40		"	"		"		–		–	XX	–	–	–	–	–	"						
9	45		"	"		"		–		1	X	–	–	–	1	–	"						
10	50		"	"		less tan-gray		–		1	X	–	–	1	1	–	"						
11	55		"	"		gray		–		1	X	1	–	1	1	–	"						
12	60		"	"		"		–		1	X	–	–	1	1	–	"						
13	65		"	"		"		–		2	X	1	–	1	1	–	"			.003	.03	/	
14	70		"	"		tan		–		2	X	1	–	1	1	–	"			.003	.03	/	
15	75		"	"		"		–		2	–X	1	1	1	1	–	"			.003	.03	/	silicification in diorite

SHEET 2 OF 2
DRILL HOLE NO. JDH-4

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$ %	FeOx %	Vein Qtz %	SiO_2 %	~~Calx~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
16	80		Good	Dry		purple		–		2	x	1	1	1/1	–	Altered	Diorite		.009	.09	90	silicification in Diorite
17	85		"	"		pink-purple		–		3	xx	50	2	–/–	1	Quart.	Vein		.053	.18	–	Calcite in altered diorite. 30% Altered + silicified diorite
18	90		"	"		purple		–		1	x	80	–	–/–	2	"			.012	.06	65	"
19	95		"	"		"		–		1	x	85	–	–/–	2	"			.003	.06	/	"
20	100		"	"		light purple		–		1	x	90	–	–/–	2	"			.003	.03	30	"
21	105		"	"		purple-pink		–		1	x	90	–	–/–	2	"			.003	.03	/	"
22	110		"	"		"		–		1	x	80	–	–/–	2	"			.003	.03	20	"
23	115		"	"		tan purple		–		1	x	80	–	–/–	2	"						"
24	120		"	"		"		–		1	x	80	–	–/–	2	"						"
25	125		"	"		more gray		3		2	–x	20	–	–/–	1	fresh	Diorite					Most $CaCO_3$ is in veins; minor in Diorite
26	130		"	"		gray		3		1	–x	2	–	–/–	1	"						"
27	135		"	"		"		3		1	–x	2	–	–/–	1	"			.003	.03	/	"
28	140		"	"		"		3		1	–x	1	–	–/1	1	"			.003	.03	/	"
29	145		"	"		tan gray		3		1	x	2	–	–/1	1	"						"
30	150		"	"		purple gray		3		2	+x	1	–	–/1	1	"			/	/	25	possible fault zone (> FeOx and Qtz)
31	155		"	"		"		3		2	xx	3	–	–/1	1	"						" "
32	160		"	"		gray		3		1	–x	1	–	–/–	–	"			/	/	25	
33	165		"	"		"		3		1	–x	0	–	–/–	–	"						
34	170		"	"		"		3		2	–x	1	–	–/–	–	"						
35	175		"	"		"		3		1	–x	0	–	–/–	–	"						

CORDILLERAN EXPLORATIONS — Pennsylvania — DRILL LOG — DRILL HOLE NO. JDH-3

PROPERTY Johnson — STATE Nevada — CO. Lincoln — QUAD

SEC. ____ T ____ R ____ — CLAIM ____ — COORDINATES: (N) (S) ____ (E) (W) ____

CONTRACTOR ____ — HELPER ____ — SAMPLER Calkins — LOGGER Decker

TYPE DRILL ____ — TYPE DRILLING ____

COLLAR ELEVATION ____ — BEARING ____ — INCLINATION ____

TOTAL DEPTH ____ — HOLE DIAMETER ____ — CASING ____

BOTTOM ELEVATION ____ — WATER LEVEL ____ — SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Hash Rec~~ Mgt	Clay %	$CaCO_3$%	FeOx %	Vein Qtz %	SiO_2%	~~Calc~~ Chl/Epid	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1	5		good	Dry		orange tan		—		—	XXX	90	-	- / -	2	Quartz	Vein		.018	.12	/	Quartz with abund mud balls
2	10		"	"		"		—		—	XX	10	1	+ / +	1	Altered	Diorite		-.003	.09	170	greenish altered Diorite silicified Diorite w/ 10% Quartz veins
3	15		"	"		lighter tan		—		-	XX	20	1	+ / +	2	"			.018	.20	/	
4	20		"	"		tan		-		1	XX	15	1	1 / 1	2	"			.018	.20	235	
5	25		"	"		"		—		1	XX	30	1	1 / 1	3	"			.026	.18	/	Abundant Vein quartz
6	30		"	"		purple tan		—		—	+X	20	1	1 / 1	2	"						2 ages of Quartz veins Sulfides in first stage
7	35		"	"		gray purple		—		—	X	20	1	1 / 1	2	"						mixed altered and quartz veined diorite w/ fresh diorite
8	40		"	"		gray		2		—	X	5	1	1 / 1	1	"						
9	45		"	"		"		3		1	0	1	—	- / -	—	Fresh Diorite						minor altered diorite
10	50		"	"		"		3		1	X	—	—	- / -	—	"						"
11	55		"	"		"		3		3	X	—	—	- / -	—	"						
12	60		"	"		"		3		3	-X	—	—	- / -	—	"						minor Epidote veinlets
13	65		"	"		"		3		3	-X	—	—	- / 1	—	"						"
14	70		"	XX		"		3		2	-X	—	—	- / 1	—	"						calcite and pyrite veinlet calcite and Epidote veinlets
15	75		"	"		"		3		3	-X	—	—	- / 2	—	"						magnetite in blebs .05 inch diameter calcite and epidote veinlets

SHEET 2 OF 2
DRILL HOLE NO. JD14-3

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	Mgt ~~Wash Rec~~	Clay %	$CaCO_3$ %	FeOx %	Veins Qtz %	SiO_2 %	Chl/Epid ~~Cat%~~	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
16	80		good	XX		gray		3		2	- x	—	—	1/2	—	Fresh Diorite						
17	85		"	XX		"		3		3	0	—	—	—/1	—	"						
18	90		"	XX		"		3		3	0	—	—	—/1	—	"						less epidote
19	95		"	XX		"		3		3	X	—	—	—/—	—	"						
20	100		"	Dry		"		3		3	X	—	—	—/—	—	"						
21	105		"	"		"		3		3	0	—	—	—/—	—	"						
22	110		"	"		"		3		3	0	—	—	—/1	—	"						minor epidote veinlets
23	115		"	"		"		3		3	0	—	—	—/—	—	"						
24	120		"	"		"		3		3	0	—	—	—/—	—	"						calcite appears to be in groundmass of unaltered diorite – but probably is from altered plagioclase
25	125		"	"		"		3		3	0	—	—	—/1	—	"						
26	130		"	"		"		3		3	0	—	—	—/—	—	"			/	/	25	
27	135		"	"		"		3		3	0	—	—	—/—	—	"						
28	140		"	"		"		3		3	0	—	—	—/—	—	"			/	/	30	
29	145		"	"		"		3		3	0	—	—	—/1	—	"						minor epidote
30	150		"	"		"		3		3	0	—	—	—/1	—	"			/	/	30	minor epidote – calcite veinlets

CORDILLERAN EXPLORATIONS

PROPERTY _____ STATE _____ CO. _____ DRILL LOG DRILL HOLE NO. IDH-2

SEC. ____ T ____ R ____ CLAIM ____ COORDINATES: (N) (S) ____ (E) (W) ____ QUAD ____

CONTRACTOR ____ HELPER ____ SAMPLER ____ LOGGER ____

TYPE DRILL ____ TYPE DRILLING ____

COLLAR ELEVATION ____ BEARING ____ INCLINATION ____

TOTAL DEPTH 155' HOLE DIAMETER ____ CASING ____

BOTTOM ELEVATION ____ WATER LEVEL ____ SAMPLE DISPOSITION ____

SUMMARY ____ COST/HR. ____ COST/FT ____

SHEET 1 OF 2

DATES: START ____ COMP ____

TIME: START ____ COMP ____

MOVING TIME: START ____ COMP ____

STANDBY TIME: START ____ COMP ____

TOTAL HOURS DRILLED ____

HOURS COST: ____

BIT COST: ____

TOTAL COST: ____

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Alt	Clay %	1-3 $CaCO_3$%	1-3 FeOx %	Veins Qtz %	1-3 SiO_2%	chl / Epid	~~Calc~~	Sulf	Rock Type	Geol	Assay	oz/T Au	oz/T Ag	ppm Cu	Remarks
1	5		good	Dry		purple tan								/			Qal						
2	10		"	"		"								/			Qal			.020	.12	/	
3			"	"		tan								/			Qal			.009	.15	55	
4	20		"	"		gray tan		—		1	XX	50	3	2 / 2		1	Quartz	Vein		.009	.09	/	
5			"	"		tan		—		—	XX	60	3	1 / 1		2	"			.076	.58	320	
6	30		"	"		"		—		1	X	70	3	/		+	"			.038	.79	/	minor vuggy quartz
7			"	"		"		—		1	X	50	3	/		1	"			.029	.47	180	pink mineral in quartz (what is it?)
8	40		"	"		Darker tan		—		1	X	20	2	/		2	Altered	Diorite		.006	.17	/	2 ages of quartz veins
9			"	"		"		—		—	X	10	2	/		2	"			.003	.03	25	
10	50		"	"		"		—		—	X	5	2	/		2	"						
11			"	"		tan		—		—	X	10	1	/		2	"						
12	60		"	"		"		—		—	X	5	1	/		1	"						
13			"	"		gray tan		—		—	X	3	1	/		1	"						
14	70		"	"		"		—		—	X	3	+	/		1	"						
15	75		"	"		"		—		—	—	2	1	/		1	"						

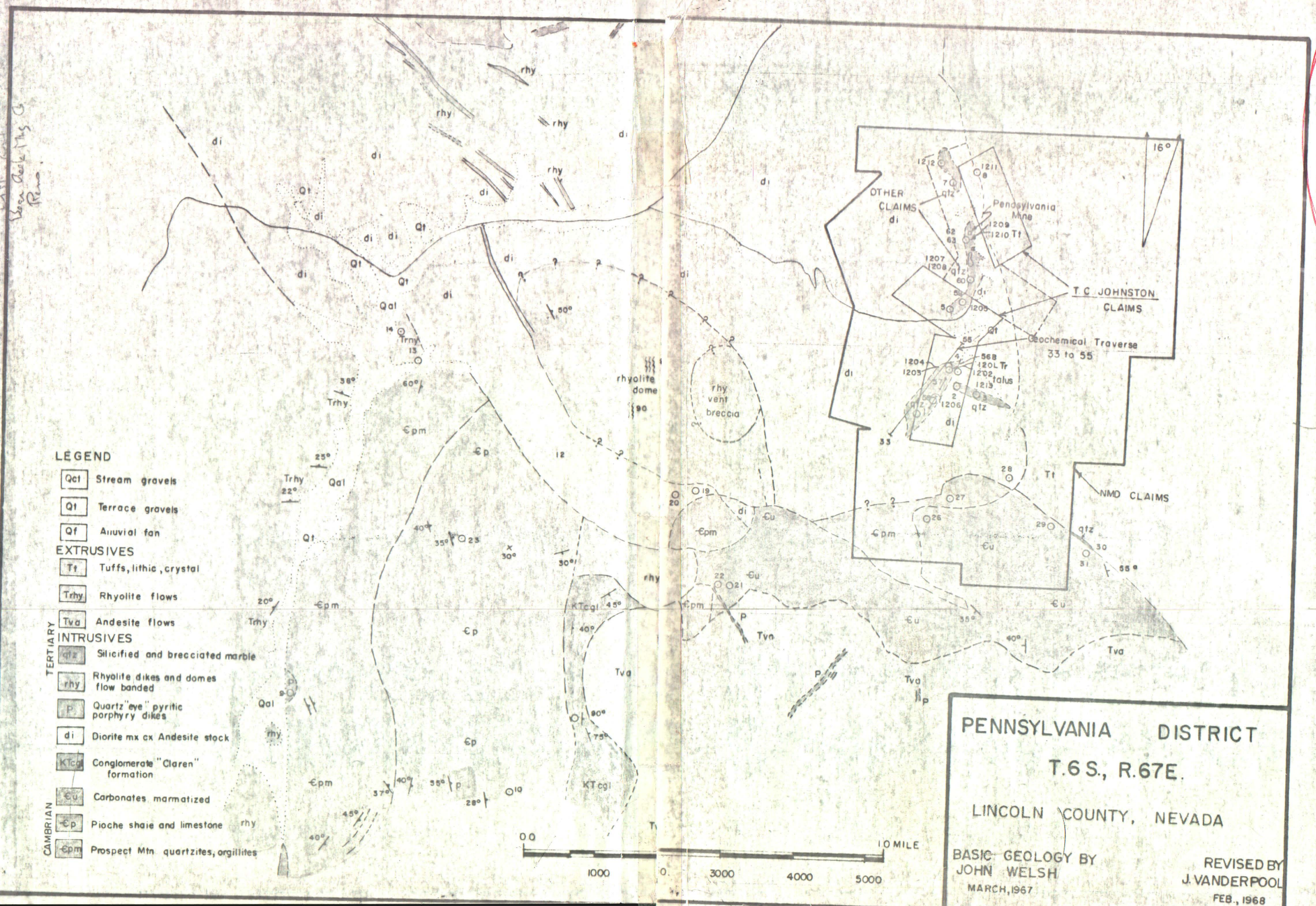
SHEET 2 OF 2

DRILL HOLE NO. JDH-2

No.	Footage	Drill Rec	Walls	Wetness	Min.	Color Dry	Color Washed	~~Wash Rec~~ Mgt	Clay %	$CaCO_3$% (1-3)	FeOx % (1-3)	Qtz % (veins)	SiO_2%	~~Calc~~ Chl/Epi	Sulf %	Rock Type	Geol	Assay	Au (oz/T)	Ag (oz/T)	Cu (ppm)	Remarks
16			good	Dry		Tan		—		—	—	2	1	—	1	Altered	Diorite					
17			"	"		"		—		—	—	1	—	—	1	"						
18			"	"		"		—		—	—	1	—	—	1	"						
19			"	"		gray tan		—		—	—	1	—	—	1	"						
20			"	"		gray		—		—	—	—	—	—	1	"						
21			"	"		"		—		—	—	2	—	—	—	"						
22			"	"		"		1		—	X	1	1	—	—	Fresh	Diorite					
23			"	"		"		2		+	X	2	1	—	—	"						
24			"	"		tan		2		—	—	2	—	—	—	"			.003	.03	1	
25			"	"		"		3		—	—	—	1	—	—	"			.003	.03	1	
26			"	"		gray		3		—	—	—	1	—	—	"			.003	.03	1	40% Altered Diorite — Possibly fault.
27			"	"		"		3		—	—	—	—	—	—	"						
28			"	"		"		3		—	—	—	—	—	—	"						
29			"	"		"		3		—	—	—	—	—	—	"						
30			"	"		"		3		—	—	—	—	—	—	"			1	1	30	
31			"	"		"		3		—	—	—	—	—	—	"			1	1	35	

Lincoln County
Item 1

Loca Rock Ths G
Pene.



PENNSYLVANIA DISTRICT

T.6 S., R.67E.

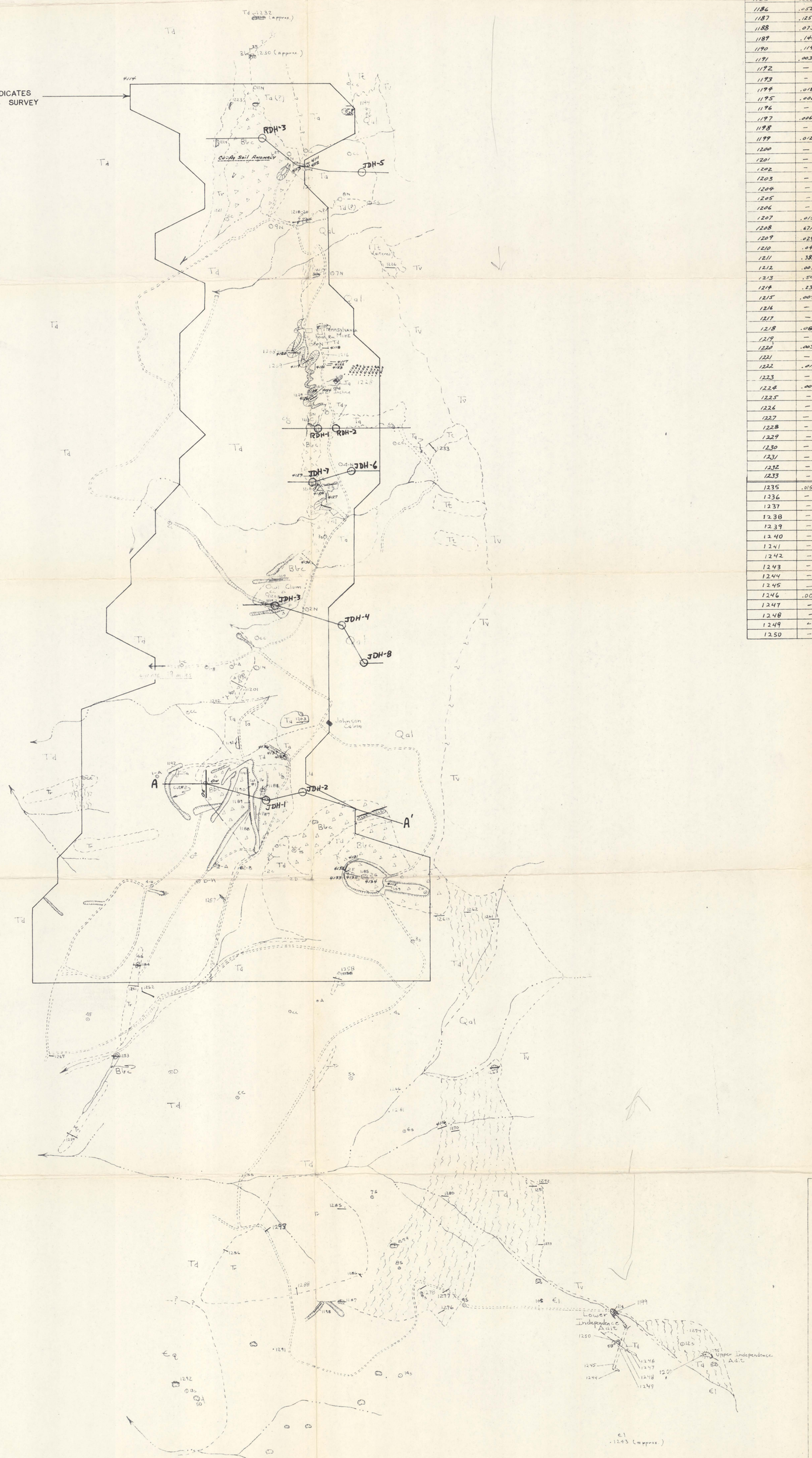
LINCOLN COUNTY, NEVADA

BASIC GEOLOGY BY
JOHN WELSH
MARCH, 1967

REVISED BY
J. VANDERPOOL
FEB., 1968

Lincoln County
Item 1

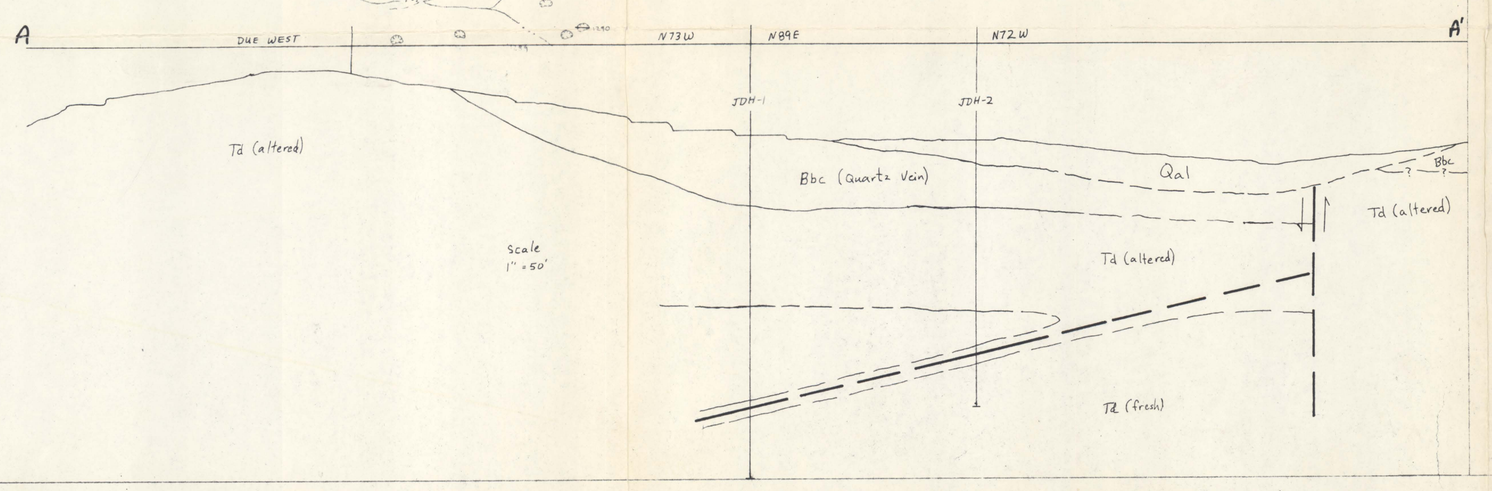
OUTLINED AREA INDICATES EXTENT OF MAGNETIC SURVEY



Sample No	Au oz/ton	Ag oz/ton	Cu % or ppm
1184	.009	–	15
1185	.003	–	15
1186	.058	.85	110
1187	.125	1.55	155
1188	.073	.88	120
1189	.146	1.14	150
1190	.114	2.40	175
1191	.003	.03	75
1192	–	.03	30
1193	–	–	45
1194	.018	3.50	.38%
1195	.006	1.11	.13%
1196	–	–	30
1197	.006	2.57	.29%
1198	–	.03	350
1199	.012	.32	.59%
1200	–	.03	55
1201	–	.06	55
1202	–	–	55
1203	–	–	35
1204	–	–	35
1205	–	–	40
1206	–	–	5
1207	.015	.35	160
1208	.671	9.33	.80%
1209	.029	.18	170
1210	.047	1.14	.11%
1211	.385	7.29	985
1212	.003	.15	120
1213	.508	9.23	.47%
1214	.236	29.20	2.15%
1215	.009	6.56	1.25%
1216	–	–	40
1217	–	–	50
1218	.068	2.68	.26%
1219	–	.03	135
1220	.003	1.58	.14%
1221	–	–	15
1222	.015	4.81	.37%
1223	–	.26	160
1224	.009	.41	370
1225	–	–	5
1226	–	–	-5
1227	–	.15	335
1228	–	–	35
1229	–	–	35
1230	–	1.66	.11%
1231	–	–	15
1232	–	–	55
1233	–	.03	20
1235	.015	.03	30
1236	–	–	10
1237	–	–	20
1238	–	–	5
1239	–	–	100
1240	–	–	30
1241	–	.06	45
1242	–	–	35
1243	–	.03	5
1244	–	–	255
1245	–	–	260
1246	.006	.09	.32%
1247	–	.06	950
1248	–	.03	1000
1249	–	–	235
1250	–	.12	.36%

Sample No.	Au oz/ton	Ag oz/ton	Cu %/ppm
1234	–	.03	25
1251	.088	.03	15
1252	.003	–	25
1253	.003	–	15
1254	–	–	-5
1255	–	–	35
1256	–	–	15
1257	–	–	40
1258	–	–	-5
1259	.026	.09	30
1260	–	–	5
1261	–	–	50
1262	.003	–	25
1263	–	.09	15
1264	.041	.13	65
1265	.015	.18	20
1266	–	–	20
1267	–	–	35
1268	–	.32	450
1269	.003	2.33	.59%
1270	–	–	15
1271	.003	.03	10
1272	–	–	-5
1273	–	–	25
1274	–	–	80
1275	.003	.03	95
1276	.006	–	30
1277	–	–	60
1278	–	–	15
1279	–	–	30
1280	.018	.12	20
1281	–	–	5
1282	–	–	5
1283	–	–	-5
1284	–	–	5
1285	–	–	10
1286	.029	.18	35
1287	–	–	285
1288	–	–	15
1289	–	.06	5
1290	–	.03	5
1291	–	–	510
1292	–	.03	200
1293	–	–	35
4101	–	–	5
4102	–	–	25
4103	.012	12.29	1.55%
4104	.018	1.58	.13%
4105	–	.03	180
4106	.003	.76	.22%

Sample No	Au oz/ton	Ag oz/ton	Cu %
4107	–	.03	110
4108	.058	1.05	.11%
4109	.196	.38	515
4110	–	–	30
4111	–	.06	225
4112	.026	2.19	.23%
4113	.015	3.15	.44%
4114	.018	.76	375
4115	.003	–	35
4116	–	–	135
4117	.02	1.20	860
4118	–	–	65
4119	.009	2.00	.65%
4120	–	.26	505
4121	.012	5.98	.46%
4122	.105	7.70	.40%
4123	.006	1.28	935
4124	–	.20	265
4125	–	.18	155
4126	.009	.20	195
4127	.236	4.52	305
4128	.230	4.23	660
4129	.035	1.02	720
4130	.020	.29	190
4131	–	.03	30
4132	–	.03	65
4133	–	–	65
4134	–	–	15
4135	–	.03	20
4136	–	–	40
4137	–	–	50
4138	–	–	95



CORDILLERAN EXPLORATIONS

Pennsylvania District

Lincoln County, Nevada

- Qal — Alluvium
- Ty/Tt — Ty– Younger volcanic flows; Tt– Lower tuff unit
- Tr — Rhyolite
- Bbc — Breccia
- Td — Diorite
- Ta — Andesite
- Єl — Limestone
- Єq — Quartzite

⊙ Rotary drill holes
☐ Au Values > 0.15 oz
☐ Ag Values > 1.0 oz

Contacts – dashed where approx.
Roads
Streams (dry)
Strike & dip of bedding
Pit, trench, dump, shaft, incline
Fault
Shearing in diorite
Traverse stations
Sample location

SCALE: 1" = 200'

GEOLOGY BY: Don Decker
Ken Puchlik

JULY 8, 1971

3570 0001

Lincoln County
Item 1