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Item 15

April 15, 1987

Dr. Joe Tingley
NEVADA BUREAU OF MINES AND GEOLOGY
University of Nevada, Reno
Reno, Nevada

Dear Dr. Tingley:

Re: South Monitor Project, Nye Co., Nevada

Cornucopia holds a large block of claims in Nye Co., Nevada, jointly with Nassau, Ltd., and these have been designated the South Monitor Project. The claims lie about 20 miles east of Tonopah, and the mineralization has received scant attention in the state literature. The claim block protects a large epithermal system, however, and a number of large firms have been attracted to it.

Cominco explored the ground in 1984 and 1985, relinquishing it in 1986. Noranda now has mineral rights for the project. It is apparent that your group would be interested in the exploration results on the project, and for this reason, I am including a summary report on the exploration to date. The report, by V.F. Hollister, is an internal document, but it provides a summary of the exploration conducted to the present.

Please feel free to retain the report for your files.

Yours sincerely,

CORNUCOPIA RESOURCES LTD.

Andrew F.B. Milligan
Chairman of the Board

AM:to
Enclosure

EXPLORATION POSSIBILITIES OF THE SOUTH MONITOR PROJECT,
T2N, AND 46 E., NYE CO., NEVADA

Victor Hollister
March 23, 1987

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Summary of Conclusions and Recommendations

The geologic, geochemical and exploration data accumulated and available to March 23, 1987, were reviewed for the South Monitor project in Nye Co., Nevada. The review was that for a typical mineralized bimodal volcanic center in existence from approximately 25 to about 10 m.y. ago. Near the end of volcanic activity, a major hot spring-epithermal system developed, and this is now exposed as an extensive outcropping sinter and silica cap.

The epithermal mineralization was tested by Cominco with 37 drill holes in 1984 and 1985. The holes drilled by Cominco bottomed in oxidized, altered volcanics that have logged geologic descriptions compatible with a typical silica cap that formed above the water table during and as a result of hot-spring processes. The distribution of gold in holes such as 84-4, 84-5, 84-6, 84-1 and a number of the 1985 holes is suggestive of a significant gold grade improvement with depth. Inasmuch as most holes did not penetrate the water table present during mineralization, the depth improvement of the gold grade exhibited in the part drilled can be construed as evidence for a larger grade improvement below the water table. Clearly deeper drilling, at least to 500 feet, is justified by this interpretation. The distribution of silver values in the Cominco holes is also typical of Ag distribution found above the water table in an active hot-spring system, supporting the contention that deeper drilling is warranted.

The Cominco surface rock chip geochem samples returned more distinctly discernable gold anomalies at the surface than did the earlier Cornucopia sampling. However, most of the Cominco drilling was outside of their geochem anomalies (Figures 5 and 6). The untested anomalies should be drilled with holes at least 500 feet deep.

The South Monitor project should be considered by Cornucopia eventually as its own exploration undertaking.

Introduction

The South Monitor project is jointly owned by Nassau Limited and Cornucopia Resources through 91 unpatented claims in Sections 1 and 12, T2N, R45E, and Sections 6, 7, 17, and 18, T2N, R46E, Nye Co., Nevada. Most claims were located in 1983, and the remainder in 1984. The land status is summarized in Appendix "A". A summary of the potential of the claim was requested by Ben Johnson, Chairman of Cornucopia's Board of Directors, and this report provides such an exploration outlook based on data available to March 23, 1987. The data used in this report are taken from studies by Armstrong (1968), Bonham and Garside (1974), Kral (1951), Enders (1986), Seklemian (1983), and Temkin and Dobak (1986).

The project area is located in Figure 1, and Figure 2 shows access from Tonapah, Nevada. The claims block superimposed on the geologic map is shown in Figure 3. Drill hole locations and the outline of silicified breccia are shown in Figure 4. Figures 5 and 6 show rock-chip gold geochem anomalism and the hole locations.

The South Monitor prospect is located in the southern portion of the Monitor Range, 21 miles east from Tonapah, via Highways 6 and 25. Access is by paved highway except for the final five miles on unimproved dirt road (Figure 2). The project area lies at about 6,000 feet, and it averages 5 inches rainfall annually. The climate is conducive to a year round operating season.

Historically, the district is new. Three small prospecting pits were dug in the past, and one claim preceded the 1983 Nassau - Cornucopia staking: the Painted Chief. It is believed to be still valid. Cornucopia conducted a surface geochem survey and contracted for a geologic map in 1983 (Seklemian, 1983). Cominco acquired the property in 1984 and relinquished it in 1986 (Tomkin and Dubak, 1986). Apparently Noranda has assumed an option as of early 1987. Cominco

completed 37 short drill holes and did extensive geologic and geochemical work. The Cominco geology (Temkin and Dobak, 1986) disagrees with the Seklemian (1983) geology in most important respects. Enders (1986) reviewed the past work and visited the project on January 16, 1986. He estimated a potential of 3.5 m.t. averaging .023 opt Au for the work done to that time and recommended optioning the ground out to a third party.

Regional Geological Setting

The Monitor Range is composed of Tertiary bimodal volcanic rocks variably covering Paleozoic marine sediments. The Tertiary volcanic cover is pervasive in the southern part of the range.

The oldest dated volcanic rocks are Miocene rhyolite tuffs dated by Silberman et al (1975) at 25 m.y. These are overlain by a younger rhyolite tuff dated at 21.6 m.y. Undated tuffaceous lake beds cover the 21.6 m.y. tuffs, and these are succeeded by younger domes and flows of andesitic to rhyolitic composition. The youngest dated volcanic rock is a basalt flow with a 10.9 m.y. date, (Armstrong et al, 1968). Mineralization could have accompanied any of the episodes of volcanism, but the late period of dome formation is most likely cogenic with mineralization. A guess of 11 m.y. is most logical for the age of ore deposition. The Monitor Range is bounded by normal faults, and it is tilted eastward. The tilting has inclined the 25 and 21.6 m.y. tuffs to the east, but the 10.9 m.y. basalt is still mostly flat lying.

Beyond this very general setting, Seklemian (1983) and Temkin and Dobak (1986) generally disagree. The description that follows for the project area is based on a reconnaissance visit to the property prior to the Seklemian (1983) mapping, and it generally supports neither interpretation.

Local Geological Setting

The South Monitor project is mostly underlain by rhyolite tuffs, flows, and domes that have been shattered, altered, and

mineralized in an extensive hot spring-epithermal system. Kaolinic argillization and silicification are widespread, and these alteration products partly mask the pre-ore rocks.

The volcanic rocks were shattered, brecciated, and disrupted during mineralization to the extent that Seklemian (1983) describes the claim block as being centered on a vent breccia with dimensions one mile north-south. Temkin and Dobak (1963) describe the Seklemian vent breccia as a sedimentary unit containing clasts of quartz veins, lithic tuff, lake beds, and exotic volcanic fragments, but cemented with clay, limonite, and various silica species.

Regardless of its origin, the breccia has been further disrupted by explosive hot spring activity. The shattering of the rocks by hot spring explosions was also probably accompanied by coincident fault movement along faults not yet clearly identified.

The hot spring-epithermal system developed within the claim block encompasses all of the vent breccia of Seklemian (1983) and more than the sedimentary breccia of Temkin and Dobak (1986). It consists of sinter and an exposed silica cap, and much of the silicified conglomerate unit in Figure 3 is composed of these two upper members of the typical epithermal system. The breccia outlined in Figure 4 is the outcropping portion of the sinter-silica cap in the area drilled by Cominco.

The Cominco exploration seems to have been almost entirely conducted above the water table present at the time of mineralization, although occasional pods of sulfide were encountered.

Mineralization

A complete epithermal system contains, above the water table, a sinter developed at the surface, and an extensive zone of silica replacement formed immediately below the sinter. Opaline and chalcedonic silica occur in each, and both are present in the breccia at South Monitor. Kaolin, alunite,

jarosite, and limonite also occur in the silica cap, and this group may persist to the water table. Crystalline jarosite was found in the drilling. The water table is significant because the highest gold and silver values always occur below the water table in existence when the hot spring was active. Precious metals deposit above the water table, but not with the grade found below.

The drilling by Cominco is consistent with a pilot testing of the sinter and silica cap of a hot spring system, but there is scant evidence that their holes significantly penetrated the paleo-water table present during the epithermal event. Still, there is clear evidence that gold values improved as depth was gained. The values near surface are nearly barren, but they pick up to assays on the order of 0.5 ppm Au near the hole bottom for holes such as 84-1, 84-4, 84-5, and 84-6.

Within the epithermal setting, it is clear that a bonanza zone may have formed below the paleo-water table at South Monitor and be still untested. Considering the size of the silica cap, the bonanza zone should be considered as a priority target.

Silver occurs erratically in most Cominco holes in the 0.5 to 3.0 ppm range. Silver values such as these are typical of silver traces found above the water table of forming epithermal deposits. The silver values support the contention that only the upper part; that is, the section superjacent to the bonanza zone or the paleo-water table, has thus far been tested.

Geochem Surveys

Cornucopia Results

Cornucopia conducted an extensive rock chip sampling of the heart of the silicified breccia in 1983. In essence, the Cornucopia sampling was negative. Few samples were found that contained significant gold. The survey was not believed

to be positive at that time, but it was not considered as taken within rocks exposed in the upper limits of an epithermal system. The Cominco drill results suggest gold deposition to be more significant as depth is gained.

Cominco Results

Cominco resampled the outcrops in much greater detail and did find some significant gold rock chip anomalies (Figure 5 and 6). They also found mercury and arsenic anomalism that is typical of such metal values occurring in the silica cap developed above the water table. The combination of and the levels of gold, mercury, and arsenic in the outcropping silica cap is consistent with the outcrops representing the upper reaches of an epithermal system.

The broad aerial extent of the anomalies is compatible with the very large development of the sinter - silica cap system.

The Cominco drilling does not broadly record the three dimensional changes in Hg and As behavior, but normally gold improves with depth as these metals weaken.

Drill Results

The Cominco drilling did not test gold geochem anomalies A, B, E, or most of the gold rock-chip anomalies C, D, or F on Figures 5 and 6. Nor did the Cominco drill holes adequately probe the water table in existence at the time of mineralization. However, the drilling did show some gold grade improvement for parts of the silica cap. The grades of gold are briefly summarized in Table 2 (after Enders, 1986), and this table clearly shows the preference for gold to occur in the lower portions of the drill holes.

The drill logs show limonite to occur from the collar to the bottom of most holes, and this is believed to be hydrothermal oxide. Although kaolin was not specifically listed, it is likely that the argillic alteration shown in the logs is

indeed kaolinization. Alunite may also be present, but it is not mentioned. Silica occurs as the species opaline (hydrated silica), chalcedony and quartz, all of which typify the silica cap and occur together above the paleo-water table. Clearly deeper drilling is warranted in selected areas.

Conclusions

The South Monitor project has been tested in a shallow drilling program. The known gold rock chip geochem anomalies appear to be inadequately explored, and the zone with the best expectable values (below the water table) has not been probed. Further drilling is justified to explore both target types.

V.F. Hollister

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- Bonham, H.F. and Garside, L.J., 1974, Guidebook to the geology of four Tertiary volcanic centers in central Nevada: Nevada Bur. Mines and Geol. Bull. 19, p. 42-48.
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- Kral, V.E., 1951, Mineral Resources of Nye Co., Nevada: Nev. bur. of Mines and Geol., Bull. 50.
- Seklemian, R., 1983, Geologic report, South Monitor Project, 7 p., Cornucopia Resources.
- Temkin, T.D., and Dobak, P.J., 1986, South Monitor, Nye Co., Nevada; year-end report, Cominco american 25 p.

Table 2
Drill-hole Intercept Summary

Hole #	Target	Depth	Mineralization		
SMR-84-1	North Knob	200	200'	<.005	
SMR-84-2	North Knob	200	200'	<.005	
SMR-84-3	North Knob	353	0-200 200-260	200' 60'	.012 .025
SMR-84-4	Central Saddle	295	220-225 275-290	5' 15'	.032 .010
SMR-84-5	Central Saddle	299	299'	<.005	
SMR-84-6	North Knob	240	155-220	65'	.014
SMR-84-7	Central Saddle	45	45'	<.005	
SMR-85-8	North Knob	300	5-25	20'	.016
SMR-85-9	North Knob	400	385-390	5'	.014
SMR-85-10	North Knob	420	5-15 75-80 130-135 185-190 200-205 235-240 305-310 385-390	10' 5' 5' 5' 5' 5' 5' 5'	.015 .015 .019 .015 .012 .012 .010 .010
SMR-85-11	North Knob	200	15-20 40-65 105-130 175-200	5' 25' 25' 25'	.012 .012 .020 .118
SMR-85-12	North Knob	340	barren		
SMR-85-13	Central Saddle	160	45-55 70-75	10' 5'	.018 .021
SMR-85-14	Central Saddle	400	barren		
SMR-85-15	Central Saddle	400 incl.	250-275 255-260	25' 5'	.034 .120
SMR-85-16	Sinter Ridge	200	65-80	15'	.014

Table 2 (Continued)
Drill-hole Intercept Summary

Hole #	Target	Depth	Mineralization		
SMR-85-17	East Trend	200	barren		
SMR-85-18	Sinter Ridge	320	60-65	5'	.014
			85-135	50'	.015
SMR-85-19	East Trend	240	barren		
SMR-85-20	East Trend	220	155-60	5'	.011
			170-180	10'	.021
SMR-85-21	East Trend	200	75-85	10'	.014
			95-100	5'	.011
			150-195	45'	.015
SMR-85-22	Central Saddle	200	barren		
SMR-85-23	Sinter Ridge	245	200-225	25'	.010
SMR-85-24	North Knob	300	270-275	5'	.013
SMR-85-25	North Knob	300	300	<.005	
SMR-85-26	North Knob	320	35-40	5'	.017
			55-105	50'	.016
			145-150	5'	.010
			160-190	30'	.013
			205-250	45'	.031
SMR-85-27	North Knob	300	40-45	5'	.020
SMR-85-28	North Knob	300	15-25	10'	.015
			60-65	5'	.016
			70-75	5'	.047
			150-155	5'	.042
			170-175	5'	.010
			195-200	5'	.017
			215-220	5'	.013
			230-235	5'	.010
			240-250	10'	.013
SMR-85-29	North Knob	100	barren		

Table 3
South Monitor Targets

Area	# Drill-holes	Mineralization		Potential		
1. North Knob	16	615'	.023 / 1205'	3MT	.023	3:1
2. Sinter Ridge	7	75'	.022 / 640'		fair	
3. Sinter Ridge	3	95'	.014 / 440'		fair	
4. West Ridge	0				unknown	
5. North Knob West	0				good	
6. East Trend	4	75'	.016 / 375'		deep	
7. North Ext.	0				unknown	

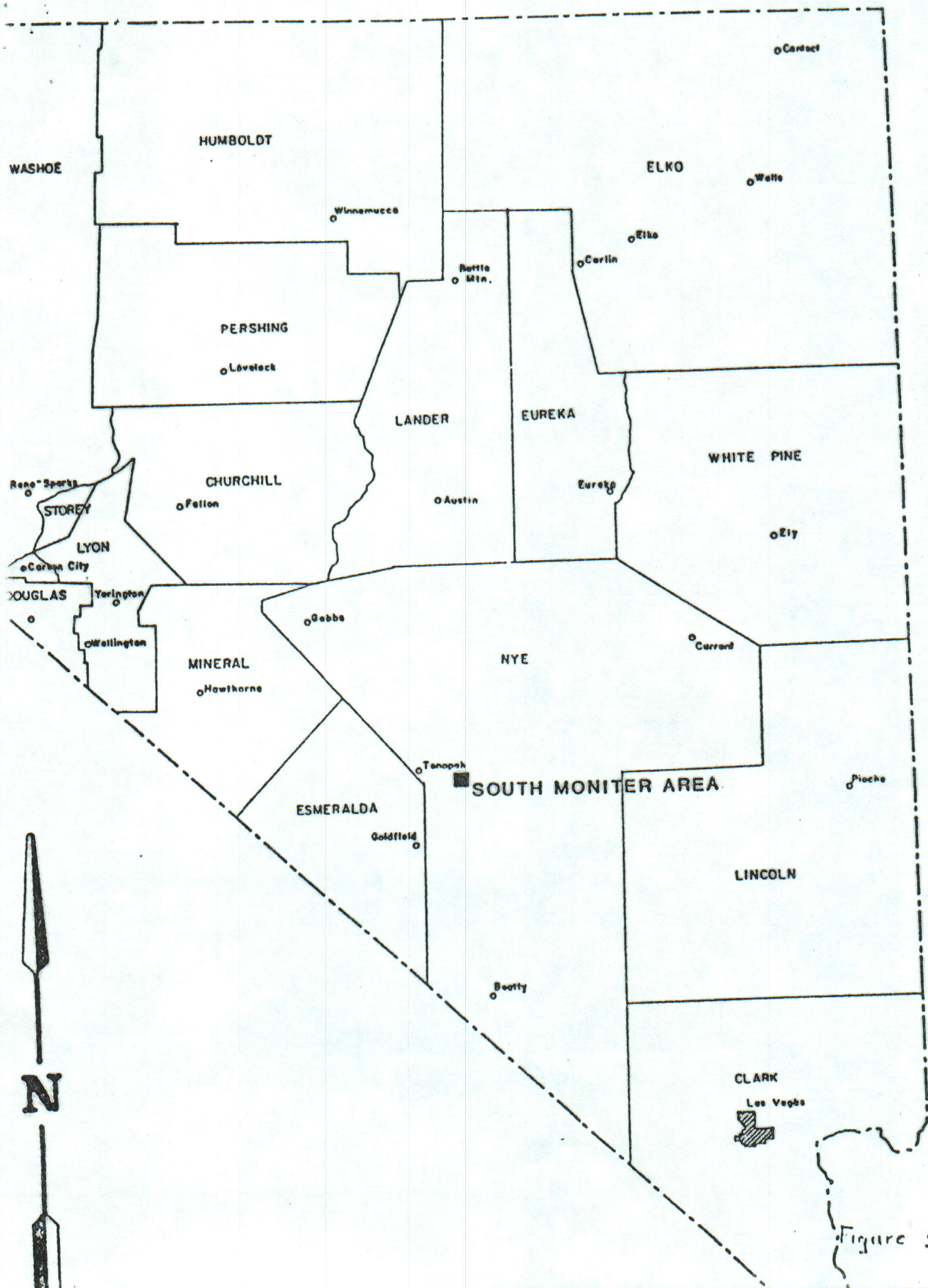


Figure 1

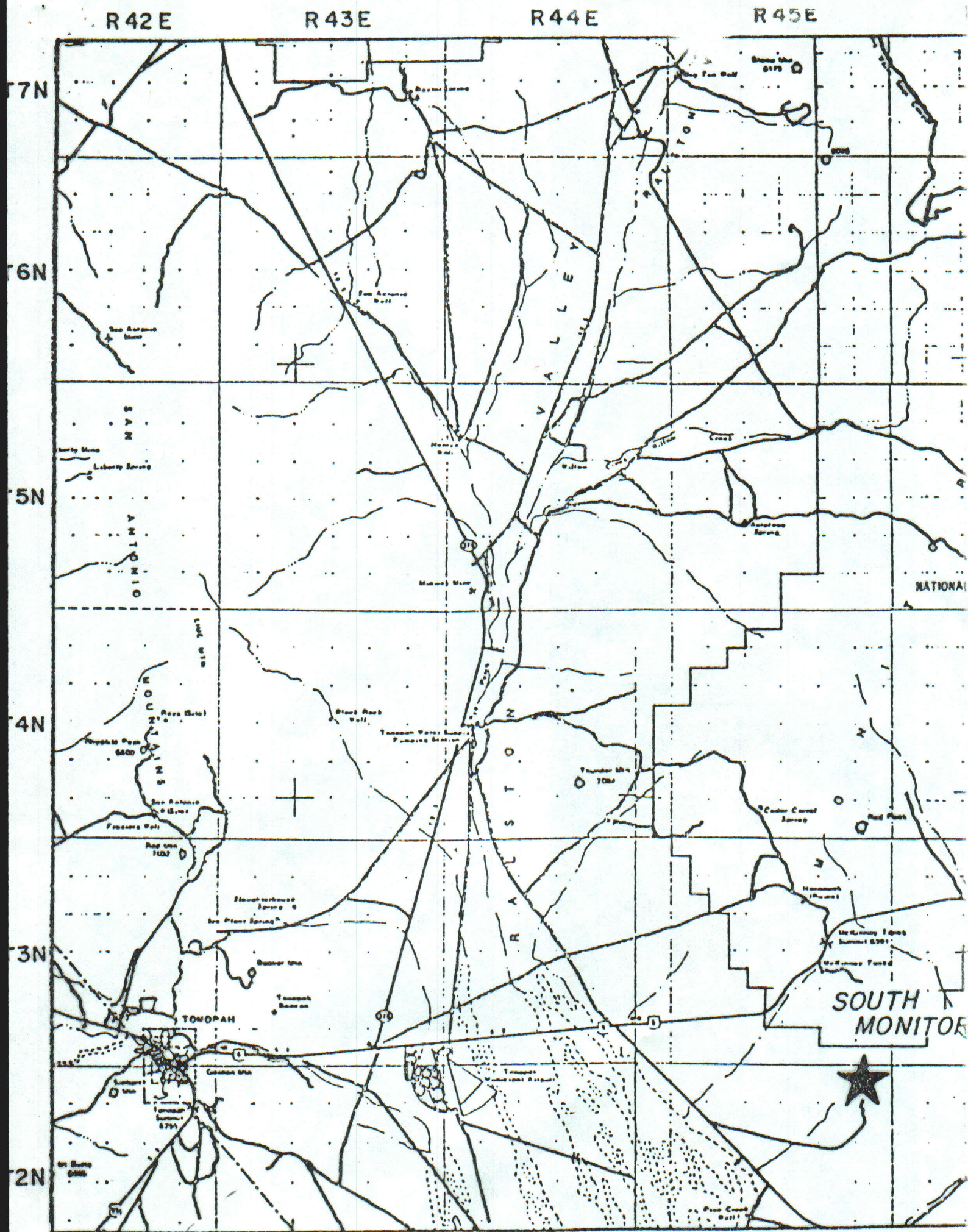
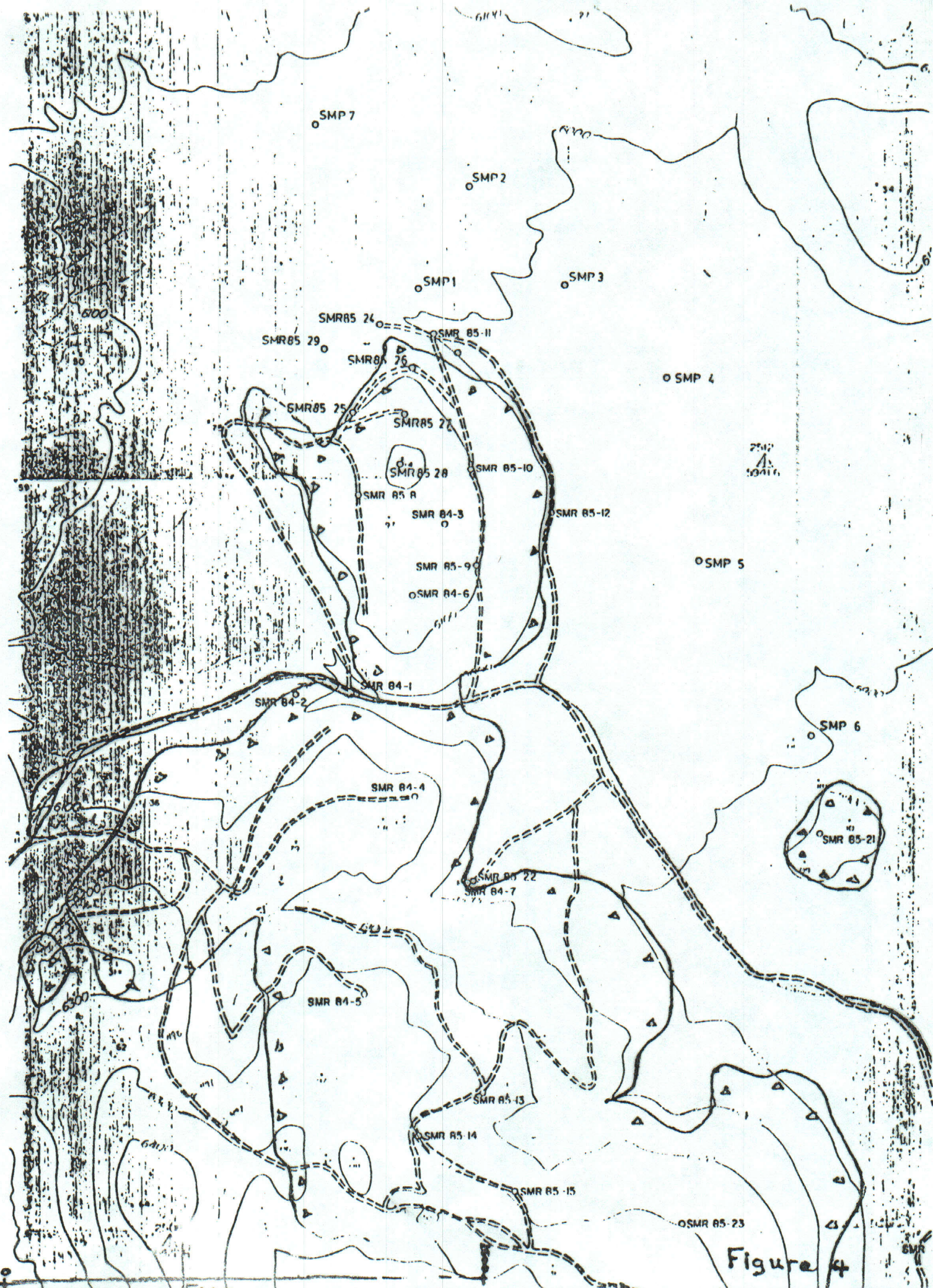
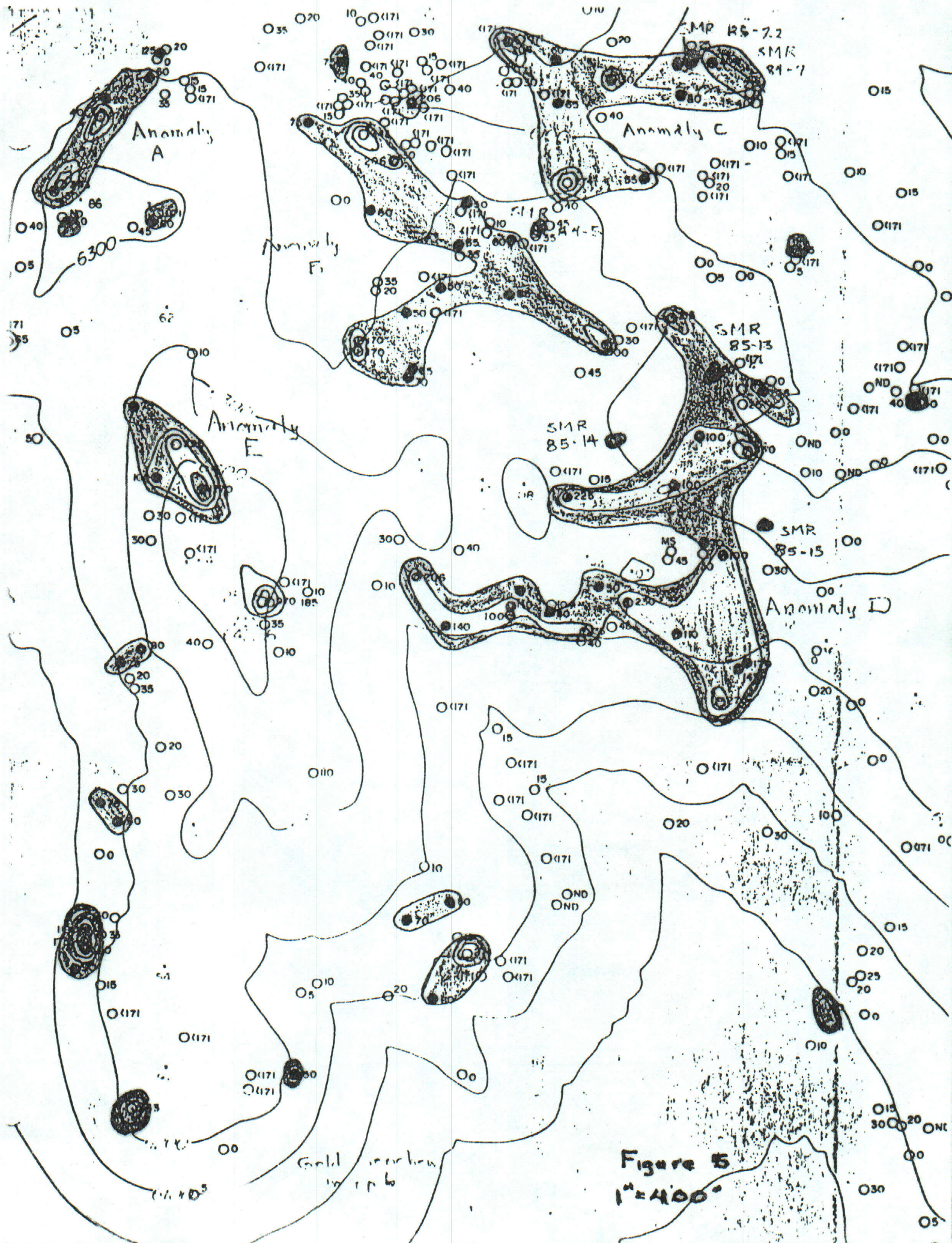
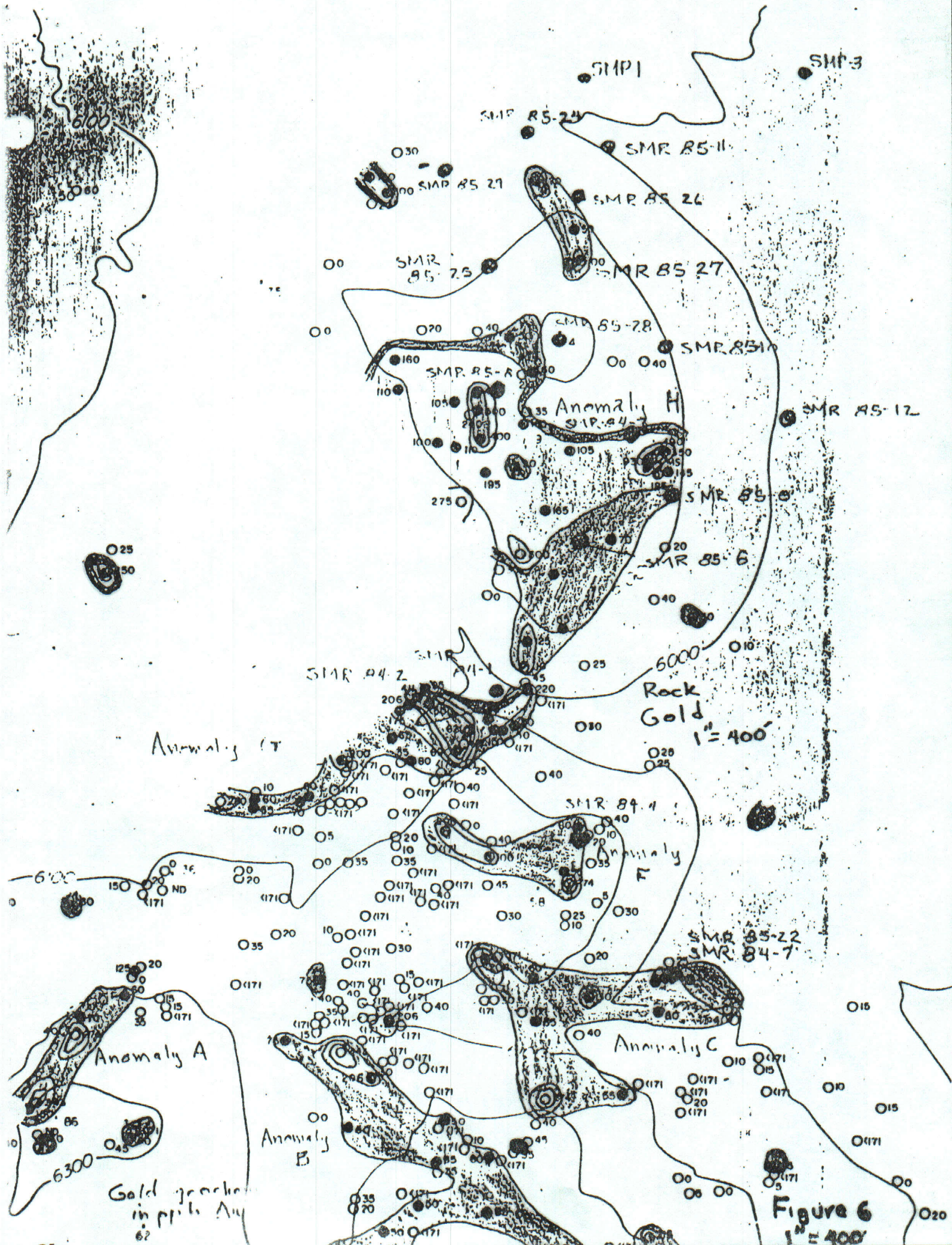


Figure 2







APPENDIX A²
LAND STATUS SHEETS

PROPERTY NAME: South Monitor County Uye State WV
 Type of Claim: Lode X Placer Project # 3105

Page 1 of 6

Claim Name & Number	Section	T	R	Date Located	Date Recorded (County)	County Recorder File #	Book	Page	Date Recorded BLM	NMC/BLM Number
					Location	Amendment		Recordation		
SM 1	12	2N	4SE	2-2-83	3-10-83		368	378		262902
					12-21-83		372	264		—
SM 2	12	2N	4SE	2-2-83	3-10-83		368	379		262903
					12-21-83		372	265		—
SM 3	12	2N	4SE	2-2-83	3-10-83		368	380		262904
							372	266		—
SM 4	12	2N	4SE	2-2-83	3-10-83		368	381		262905
					12-21-83		372	267		—
SM 5	12	2N	4SE	2-2-83	3-10-83		368	382		262906
					12-21-83		372	268		—
SM 6	12	2N	4SE	2-2-83	3-10-83		368	383		262907
					12-21-83		372	269		—
SM 7	12	2N	4SE	2-2-83	3-10-83		368	384		262908
					12-21-83		372	270		—
SM 8	7	2N	46E	2-2-83	3-10-83		368	385		262909
							372	271		—
SM 9	7	2N	46E	2-2-83	3-10-83		368	386		262910
							372	272		—
SM 10	7	2N	46E	2-2-83	3-10-83		368	387		262911
							372	273		—
SM 11	7	2N	46E	3-6-83	3-12-83		372	274		262912
										—
SM 12	7	2N	46E	3-6-83	3-12-83		372	275		262913
										—
SM 13	7	2N	46E	3-6-83	3-12-83		372	276		262914
										—
SM 14	7	2N	46E	3-6-83	3-12-83		372	277		262915
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SM 15	7	2N	46E	3-6-83	3-12-83		372	278		262916
										—
SM 16	7	2N	46E	3-6-83	3-12-83		372	279		262917
										—
		711		3-6-83	3-12-83		372	280		262918

PROPERTY NAME: South Monitor County Eye State NV

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Type of Claim: Lode X Placer Project # 3105

Claim Name & Number	Section	T	R	Date Located	Date Recorded (County)	County Recorder File #	Book	Page	Date Recorded BLM	NMC/BLM Number
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SM19	7	2N	46E	3-6-83	3-12-83		372	282		269920
SM20	7	2N	46E	3-6-83	3-12-83		372	283		269921
SM21	1	2N	45E	3-6-83	3-12-83		372	284		269922
SM22	6	2N	46E	3-6-83	3-12-83		372	285		269923
SM23	1	2N	45E	3-6-83	3-12-83		372	286		269924
SM24	12	2N	45E	3-6-83	3-12-83		372	287		269925
SM25	12	2N	45E	3-6-83	3-12-83		372	288		269926
SM26	12	2N	45E	3-6-83	3-12-83		372	289		269927
SM27	12	2N	45E	3-6-83	3-12-83		372	290		269928
SM28	12	2N	45E	3-6-83	3-12-83		372	291		269929
SM29	12	2N	45E	3-6-83	3-12-83		372	292		269930
SM30	12	2N	45E	3-6-83	3-12-83		372	293		269931
SM31	12	2N	45E	8-1-83	9-12-83		399	463		280693
SM32	6	2N	46E	8-1-83	9-12-83		399	464		280694
SM33	6	2N	46E	8-1-83	9-12-83		399	465		280695
SM34	6	2N	46E	8-1-83	9-12-83		399	466		280696

PROPERTY NAME: South Monitor County Nye State NVPage 3 of 4Type of Claim: Lode X Placer _____ Project # 3105

Claim Name & Number	Section	T	R	Date Located	Date Recorded (County)	County Recorder File #	Book	Page	Date Recorded BLM	NMC/BLM Number
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SM37	6	2N	46E	8-1-83	9-12-83		399	469		280699
SM38	6	2N	46E	8-1-83	9-12-83		399	470		280700
SM39	6	2N	46E	8-1-83	9-12-83		399	471		280701
SM40	6	2N	46E	8-1-83	9-12-83		399	472		280702
SM41	6	2N	46E	8-1-83	9-12-83		399	473		280703
SM42	6	2N	46E		12-1-83		412	326		290500
SM43	6	2N	46E		12-1-83		412	327		290501
SM44	6	2N	46E		12-1-83		412	328		290502
SM45	7	2N	46E		12-1-83		412	329		290503
SM46	7	2N	46E		12-1-83		412	330		290504
SM47					12-1-83		412	331		290505
SM48	7	2N	46E		12-1-83		412	332		290506
SM49	7,8	2N	46E		12-1-83		412	333		290507
SM50	7	2N	46E		12-1-83		412	334		290508
SM51	7,8	2N	46E		12-1-83		412	335		290509

PROPERTY NAME: South Monitor County Nye State NV

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Type of Claim: Lode X Placer Project # 3105

Claim Name & Number	Section	T	R	Date Located	Date Recorded (County)	County Recorder File #	Book	Page	Date Recorded BLM	NMC/BLM Number
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SM55	7,8	2N	46E		12-1-83		412	339		290513
SM56	7	2N	46E		12-1-83		412	340		290514
SM57	7,8	2N	46E		12-1-83		412	341		290515
SM58	7	2N	46E		12-1-83		412	342		290516
SM59	7,8	2N	46E		12-1-83		412	343		290517
SM60	7,18	2N	46E		12-1-83		412	344		290518
SM61	7,8,17,18	2N	46E		12-1-83		412	345		290519
SM62	12	2N	45E	7-18-84	8-6-84		455	147		312401
SM63	12	2N	45E	7-18-84	8-6-84		455	148		312402
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SM65	12,13	2N	45E	7-18-84	8-6-84		455	150		312404
SM66	13	2N	45E	7-18-84	8-6-84		455	151		312405
SM67	13	2N	45E	7-18-84	8-6-84		455	152		312406
SM68			45E	7-18-84	8-6-84		455	153		312407

PROPERTY NAME: South Monitor County Nye State NV

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Type of Claim: Lode X Placer Project # 3105

Claim Name & Number	Section	T	R	Date Located	Date Recorded (County)	County Recorder File #	Book	Page	Date Recorded BLM	NMC/BLM Number
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SM71	18	2N	46E	7-18-84	8-6-84		455	156		312410
SM72	18	2N	46E	7-18-84	8-6-84		455	157		312411
SM73	18	2N	46E	7-18-84	8-6-84		455	158		312412
SM74	18	2N	46E	7-18-84	8-6-84		455	159		312413
SM75	17,18	2N	46E	7-18-84	8-6-84		455	160		312414
SM76	18	2N	46E	7-18-84	8-6-84		455	161		312415
SM77	17,18	2N	46E	7-18-84	8-6-84		455	162		312416
SM78	18	2N	46E	7-18-84	8-6-84		455	163		312417
SM79	17,18	2N	46E	7-18-84	8-6-84		455	164		312418
SM80	18	2N	46E	7-18-84	8-6-84		455	165		312419
SM81	7,8	2N	46E	7-18-84	8-6-84		455	166		312420
SM82	7,8	2N	46E	7-19-84	8-6-84		455	167		312421
SM83	5,6	2N	46E	7-17-84	8-6-84		455	168		312422
SM84	5,6	2N	46E	7-19-84	8-6-84		455	169		312423
SM85	6	2N	46E	7-20-84	8-6-84		455	170		312424

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Type of Claim: Lode X Placer Project # 3105

[illegible]