

LOG NO: 17-01	RD.
ACTION:	
FILE NO:	

1990 GEOLOGICAL, GEOCHEMICAL,  
 GEOPHYSICAL AND DIAMOND DRILLING  
 REPORT ON THE  
 SPHALER CREEK PROJECT  
 VOLUME III - FIGURES

Located in the Galore Creek Area  
 Liard Mining Division  
 NTS 104B/13E, 14W  
 104G/3W, 4E  
 57° 00' North Latitude  
 131° 30' West Longitude

-prepared for-  
 CONSOLIDATED GOLDWEST RESOURCES LTD

-prepared by-  
 Bruno Kasper, Geologist

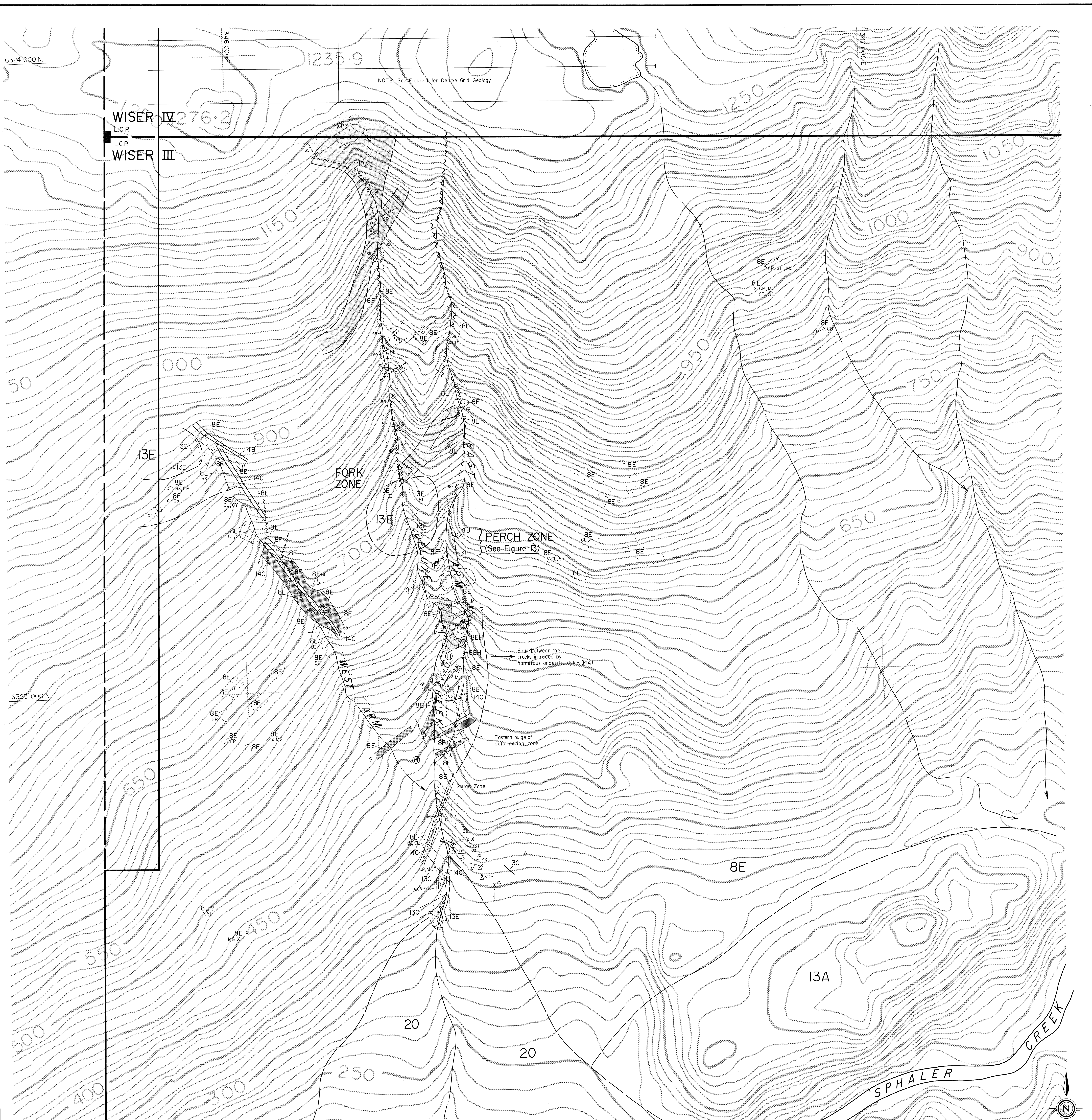
January, 1991

*Part 3 of 3*

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

20,820





NOTE: See Figure 11 for Deluxe Grid Geology

WISER IV 276.2  
L.C.P.  
WISER III

**FORK ZONE**

**PERCH ZONE**  
(See Figure 13)

**WEST ARM**

**SPHALER CREEK**

**SPHALER CREEK**

**20,820 Part 3 of 3**

m 0 50 100 200 m

Geology adapted in part from Logan and Koyangi (1989b), Kasper (1989) and Aomack and Yamamura (1998).

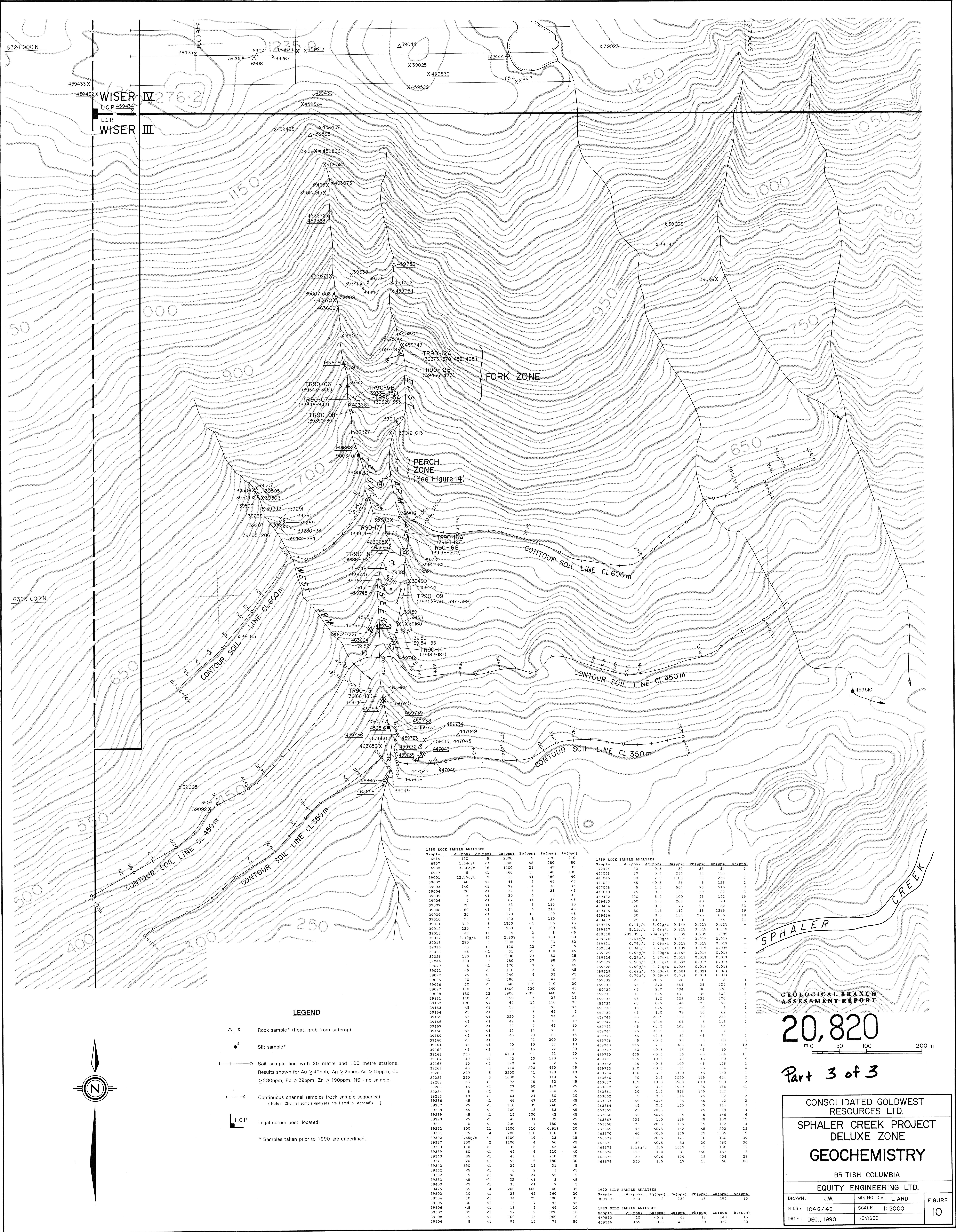
MINERALS AND ALTERATION TYPES					
AS	arsenopyrite	AZ	azurite	BI	biotite
BX	breccia	CA	calcite	CB	Fe-carbonate
CC	chalcocite	CL	chlorite	CP	chalcopyrite
CY	clay	EP	epidote	GL	galena
HE	hematite	H	hornfels	M	mylonite
MC	malachite	MG	magnetite	MO	molybdenite
MS	sericite	PO	pyrrhotite	PV	pyrite
QZ	quartz	SI	silica	SP	sphalerite

SYMBOLS	
	Rock outcrop
	Geological boundary (defined, approximate, inferred)
	Fault with dip (approximate, inferred)
	Bedding with dip (horizontal, inclined, vertical, overturned, dip unknown)
	Foliation with dip (inclined, vertical, dip unknown)
	Dyke with dip (inclined, vertical, unknown)
	Vein with dip (inclined, vertical, unknown) and true width in metres
	Joint with dip
	Rock sample* (float, grab from outcrop)
	Silt sample*
	Field-sieved stream sediment sample*
	Soil sample line with 25 metre and 100 metre stations. Results shown for Au >40ppb, Ag >2ppb, As >15ppm, Cu >230ppm, Pb >29ppm, Zn >190ppm.
	Continuous channel samples
	Diamond drill hole
	Alteration Zones: Intense chlorite + quartz + pyrite Intense sericite + pyrite + silica + chlorite
	Legal corner post (located, approximate)

LEGEND	
<b>QUATERNARY</b>	
20	Glacial and unconsolidated alluvial deposits.
<b>TERTIARY</b>	
Dykes and sills	
14A	Andesitic (abbroic).
14B	Basaltic (abbroic).
14C	Lasprophyre (biotite minette).
<b>EOCENE</b>	
13A	Biotite quartz monzonite to monzonite with granodiorite phases; equigranular, medium-grained, and leucocratic, associated with rhyolite and rhyolite dyking.
13C	Quartz monzonite to quartz syenite stocks and dykes; similar to 13A but biotite is not common.
13E	Plagioclase porphyritic diorite; chlorite-biotite altered hornblende also present.
<b>UPPER TRIASSIC</b>	
Stuhini Group	
8	Undivided Stuhini Group volcanics, volcanoclastics and sedimentary rocks.
8A	Interbedded wackes, siltstone, argillites; laminated to thin-bedded, includes carbonaceous argillites, generally dark green to maroon coloured, wacke may vary in composition from a greywacke to a quartz arenite.
8B	Sedimentary conglomerate; few volcanic clasts, sandy matrix, may be clast-supported locally, may contain greywacke beds.
8D	Augite porphyry; includes pyroxene-phyric flows, generally dark green to black, characterized by the presence of pyroxene phenocrysts which are larger than the feldspar phenocrysts, phenocrysts usually oriented subparallel to each other, flow breccias common.
8E	Andesite + andesite crystal tuffs; generally dark green to black, characterized by abundant subparallel feldspar phenocrysts and the lack of pyroxene phenocrysts, may have associated flow breccias.
8G	Tuffs/tuffaceous sediment; pyroclastic with fragments <2m, usually felsic in composition, well developed laminations, may be easily confused with unit 8A.
8H	Lapilli tuffs, pyroclastic breccia and agglomerate; pyroclastics with fragments >2m in a matrix of crystal to ash tuff, generally dark green to black, includes lithic lapilli crystal tuffs.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**





**1990 ROCK SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppb)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)	
6314	110	5	2800	9	210	210	
6907	1.54g/t	23	3900	48	280	80	
6908	3.36g/t	16	1100	21	49	35	
6917	5	<1	400	15	140	130	
39001	12.25g/t	9	15	91	180	40	
39002	40	<1	41	7	66	<5	
39003	140	<1	72	4	38	<5	
39004	20	<1	32	5	21	<5	
39005	5	<1	20	4	6	<5	
39006	5	<1	82	<1	35	<5	
39007	20	<1	53	5	110	10	
39008	60	<1	74	4	210	45	
39009	20	<1	170	<1	120	<5	
39010	20	<1	120	6	190	45	
39011	310	6	1500	<1	96	<5	
39012	220	4	260	<1	100	<5	
39013	3.19g/t	57	2.83g	4	180	160	
39015	290	7	1300	7	33	60	
39016	35	<1	130	12	37	5	
39023	<5	<1	31	<1	170	<5	
39025	110	13	1600	23	80	15	
39044	160	7	780	37	98	35	
39049	5	<1	170	7	51	<5	
39091	<5	<1	100	3	10	<5	
39092	<5	<1	140	4	33	<5	
39095	10	<1	280	13	47	<5	
39096	10	<1	110	110	110	110	
39097	110	3	1500	320	240	45	
39098	180	22	3900	2700	460	50	
39151	110	<1	150	5	27	15	
39152	190	<1	64	14	110	70	
39153	<5	<1	58	6	92	<5	
39154	<5	<1	23	6	69	5	
39155	<5	<1	320	6	94	<5	
39156	<5	<1	42	4	78	10	
39157	<5	<1	39	7	65	10	
39158	<5	<1	37	14	73	<5	
39159	<5	<1	45	20	65	<5	
39160	<5	<1	37	22	100	10	
39161	<5	<1	40	10	57	<5	
39162	<5	<1	24	15	72	20	
39163	230	8	4100	<1	42	20	
39164	40	<1	53	110	53	110	
39165	10	<1	390	4	32	5	
39267	45	3	710	290	450	45	
39280	240	8	3200	4	190	10	
39281	250	3	1000	5	110	5	
39282	<5	<1	92	75	53	<5	
39283	<5	<1	77	60	190	<5	
39284	5	<1	75	80	250	35	
39285	10	<1	44	24	100	10	
39286	<5	<1	28	46	87	210	<5
39287	<5	<1	110	39	240	<5	
39288	<5	<1	13	13	53	<5	
39289	<5	<1	15	100	42	<5	
39290	<5	<1	45	31	99	<5	
39291	10	<1	230	7	180	<5	
39292	100	11	3100	210	0.91g	20	
39301	75	4	280	110	110	10	
39302	14.65g/t	51	1100	19	23	15	
39327	2	1100	4	66	<5	<5	
39338	110	<1	35	6	12	60	
39339	60	<1	44	6	110	40	
39340	85	<1	43	8	210	20	
39341	20	<1	55	6	180	30	
39342	590	<1	24	15	31	5	
39362	<5	<1	6	2	3	<5	
39363	5	<1	98	5	24	5	
39383	<5	<1	22	<1	3	<5	
39400	<5	<1	33	<1	7	5	
39425	55	4	200	460	40	35	
39503	10	<1	28	45	360	20	
39504	10	<1	24	29	180	35	
39505	30	<1	15	7	92	<5	
39506	<5	<1	13	5	46	10	
39507	35	<1	52	9	900	10	
39508	15	<1	100	15	960	10	
39506	5	<1	96	12	79	50	

**1990 ROCK SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppb)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
172444	30	0.5	39	35	34	5
447046	20	0.5	236	15	198	1
447047	<5	<0.5	86	5	128	1
447048	<5	1.5	564	75	516	9
447049	<5	0.5	123	30	82	3
459432	420	1.5	100	45	142	35
459433	360	4.0	205	40	70	35
459434	20	0.5	76	90	82	83
459435	80	1.5	112	15	1395	19
459436	30	0.5	134	225	666	10
459437	25	<0.5	50	20	164	11
459515	0.14g/t	3.09g/t	0.14g	0.01g	0.02g	-
459517	5.11g/t	5.49g/t	0.21g	0.01g	0.01g	-
459518	282.89g/t	704.25g/t	1.83g	0.23g	1.99g	-
459520	2.67g/t	3.20g/t	0.01g	0.01g	0.01g	-
459521	0.79g/t	3.09g/t	0.01g	0.01g	0.01g	-
459524	0.34g/t	3.77g/t	0.13g	0.01g	0.03g	-
459525	0.55g/t	2.40g/t	0.13g	0.01g	0.01g	-
459526	0.27g/t	1.37g/t	0.01g	0.01g	0.01g	-
459527	2.50g/t	30.51g/t	0.69g	0.01g	0.01g	-
459528	9.50g/t	1.71g/t	0.02g	0.01g	0.01g	-
459529	0.69g/t	45.60g/t	0.58g	0.02g	0.06g	-
459530	0.70g/t	4.69g/t	0.01g	0.01g	0.01g	-
459732	<5	<0.5	78	10	18	1
459735	<5	2.0	686	25	226	1
459734	<5	2.0	404	90	628	9
459735	<5	0.5	131	35	102	2
459736	<5	1.0	108	135	300	3
459737	<5	0.5	144	25	92	7
459738	<5	0.5	29	10	62	1
459739	<5	3.0	78	10	62	2
459741	<5	<0.5	116	50	228	2
459742	<5	<0.5	101	5	118	2
459743	<5	<0.5	108	10	94	3
459744	<5	<0.5	8	<5	4	3
459745	<5	<0.5	32	<5	74	1
459746	<5	<0.5	78	5	88	3
459748	215	2.5	385	<5	120	30
459749	50	<0.5	45	<5	90	7
459750	475	<0.5	36	<5	104	11
459751	255	<0.5	47	<5	80	4
459752	15	<0.5	109	<5	138	1
459753	240	<0.5	51	<5	164	4
459754	110	6.5	2360	<5	150	1
463656	70	3.5	2020	135	454	2
463657	115	13.0	3500	1810	550	2
463658	65	3.5	1520	135	154	<1
463661	20	1.5	819	145	332	1
463662	5	0.5	144	<5	92	2
463663	<5	<0.5	38	<5	72	2
463664	<5	<0.5	150	<5	114	3
463665	<5	<0.5	81	<5	218	4
463666	<5	<0.5	84	5	156	6
463667	335	1.0	195	<5	100	19
463668	25	<0.5	165	15	112	4
463669	45	<0.5	152	<5	202	23
463670	60	<0.5	175	25	1305	19
463671	110	<0.5	121	10	130	39
463672	30	<0.5	83	20	460	30
463673	2.19g/t	3.5	1025	5	138	12
463674	115	1.0	81	150	152	3
463675	30	<0.5	129	15	404	29
463676	350	1.5	17	15	68	100

**1990 SILT SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppb)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
90CS-01	340	2	230	15	190	10

**1989 SILT SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppb)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
459510	10	<0.2	68	12	140	15
459516	165	0.6	437	30	362	20

**LEGEND**

- Δ, X Rock sample\* (float, grab from outcrop)
- S Silt sample\*
- Soil sample line with 25 metre and 100 metre stations. Results shown for Au ≥ 40ppb, Ag ≥ 2ppm, As ≥ 15ppm, Cu ≥ 230ppm, Pb ≥ 29ppm, Zn ≥ 190ppm, NS - no sample.
- Continuous channel samples (rock sample sequence). (Note: Channel sample analyses are listed in Appendix)
- L.C.P. Legal corner post (located)

\* Samples taken prior to 1990 are underlined.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**20,820**

m 0 50 100 200 m

**Part 3 of 3**

**CONSOLIDATED GOLDWEST RESOURCES LTD.**

**SPHALER CREEK PROJECT DELUXE ZONE**

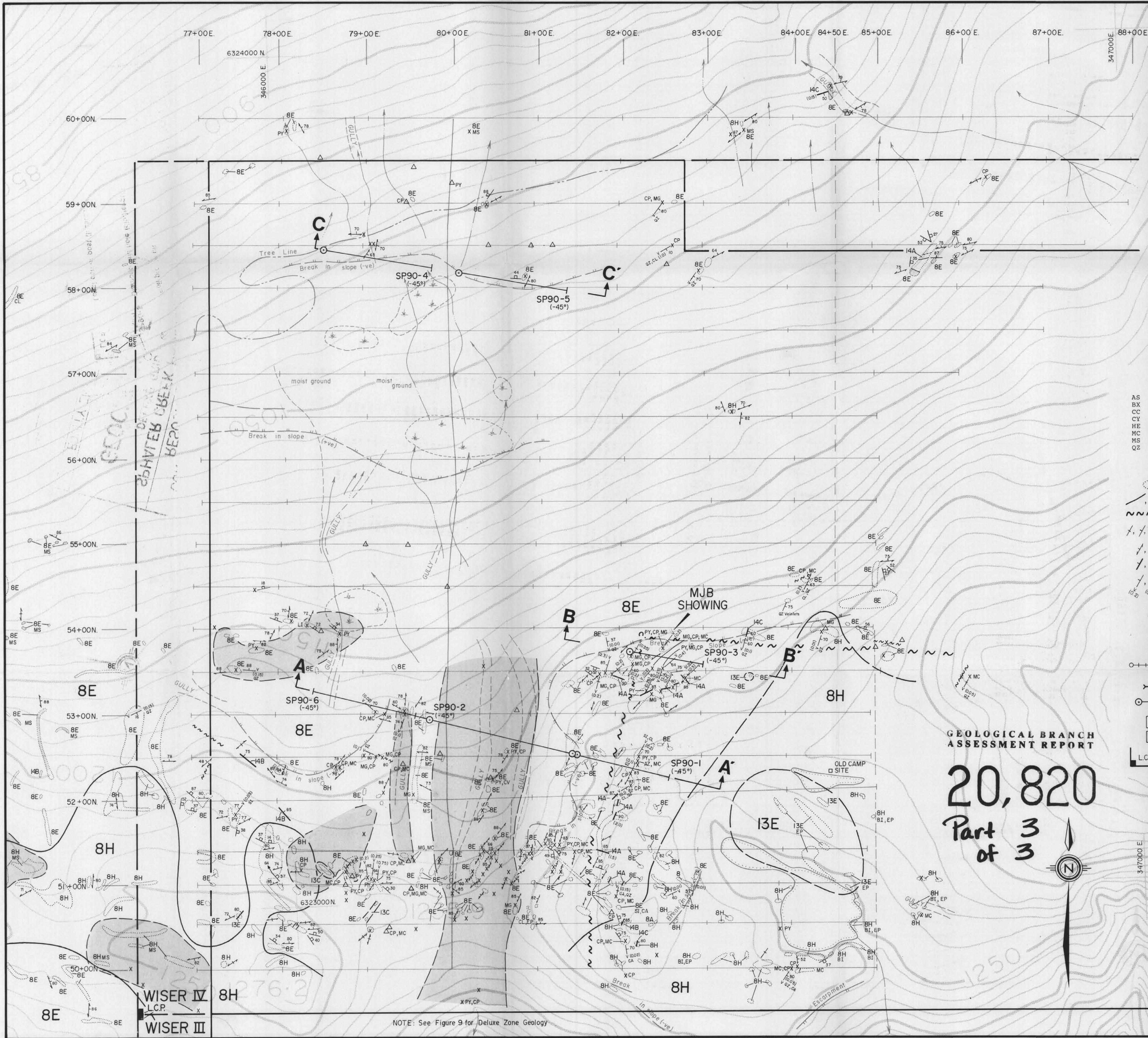
**GEOCHEMISTRY**

BRITISH COLUMBIA

**EQUITY ENGINEERING LTD.**

DRAWN: J.W.	MINING DIV. LIARD	FIGURE
N.T.S.: 1:04 G/4E	SCALE: 1:2000	10
DATE: DEC., 1990	REVISED:	





**LEGEND**

- LITHOLOGIES**
- QUATERNARY**  
20 Glacial and unconsolidated alluvial deposits.
- TERTIARY**  
Dykes and sills  
14A Andesitic.  
14B Basaltic (gabbroic).  
14C Lamprophyre (biotite minette).
- EOCENE**  
13A Biotite quartz monzonite to monzonite with granodiorite phases: equigranular, medium-grained and leucocratic, associated with rhyodacite and rhyolite dyking.  
13C Quartz monzonite to quartz syenite stocks and dykes: similar to 13A but biotite is not common.  
13E Plagioclase porphyritic diorite: chlorite-biotite altered hornblende also present.
- UPPER TRIASSIC**  
Stuhini Group  
8 Undivided Stuhini Group volcanics, volcanoclastics and sedimentary rocks.  
8A Interbedded wackes, siltstone, argillites: laminated to thin-bedded, includes carbonaceous argillites, generally dark green to maroon coloured, wacke may vary in composition from a greywacke to a quartz arenite.  
8B Sedimentary conglomerate: few volcanic clasts, sandy matrix, may be clast-supported locally, may contain greywacke beds.  
8D Augite porphyry: includes pyroxene-phyric flows, generally dark green to black, characterized by the presence of pyroxene phenocrysts which are larger than the feldspar phenocrysts, phenocrysts usually oriented subparallel to each other, flow breccias common.  
8E Andesite ± andesite crystal tuffs: generally dark green to black, characterized by abundant subparallel feldspar phenocrysts and the lack of pyroxene phenocrysts, may have associated flow breccias.  
8G Tufts/tuffaceous sediment: pyroclastic with fragments <2mm, usually felsic in composition, well developed laminations, may be easily confused with unit 8A.  
8H Lapilli tuffs, pyroclastic breccia and agglomerate: pyroclastics with fragments >2mm in a matrix of crystal to ash tuff, generally dark green to black, includes lithic lapilli crystal tuffs.

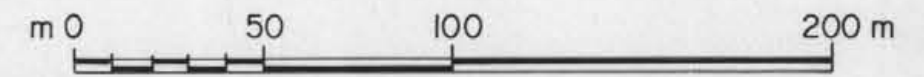
**MINERALS AND ALTERATION TYPES**

AS arsenopyrite	AZ azurite	BI biotite
BX breccia	CA calcite	CB Fe-carbonate
CC chalcocite	CL chlorite	CP chalcopyrite
CY clay	EP epidote	GL galena
HE hematite	H hornfels	M mylonite
MC malachite	MG magnetite	MO molybdenite
MS sericite	PO pyrrhotite	PY pyrite
QZ quartz	SI silica	SP sphalerite

- SYMBOLS**
- Rock outcrop
  - Geological boundary (defined, approximate, inferred)
  - Fault with dip (approximate, inferred)
  - Bedding with dip (horizontal, inclined, vertical, overturned, dip unknown)
  - Foliation with dip (inclined, vertical, dip unknown)
  - Dyke with dip (inclined, vertical, unknown)
  - Vein with dip (inclined, vertical, unknown) and true width in metres
  - Joint with dip
  - Rock sample\* (float, grab from outcrop)
  - Silt sample\*
  - Field-sieved stream sediment sample\*
  - Soil sample line with 25 metre and 100 metre stations: Results shown for Au >40ppb, Ag >2ppm, As >15ppm, Cu >30ppm, Pb >29ppm, Zn >190ppm.
  - Continuous channel samples
  - Diamond drill hole
  - Alteration Zones:  
Intense chlorite + quartz + pyrite  
Intense sericite + pyrite ± silica ± chlorite
  - L.C.P., L.C.P. Legal corner post (located, approximate)

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

20,820  
Part of 3

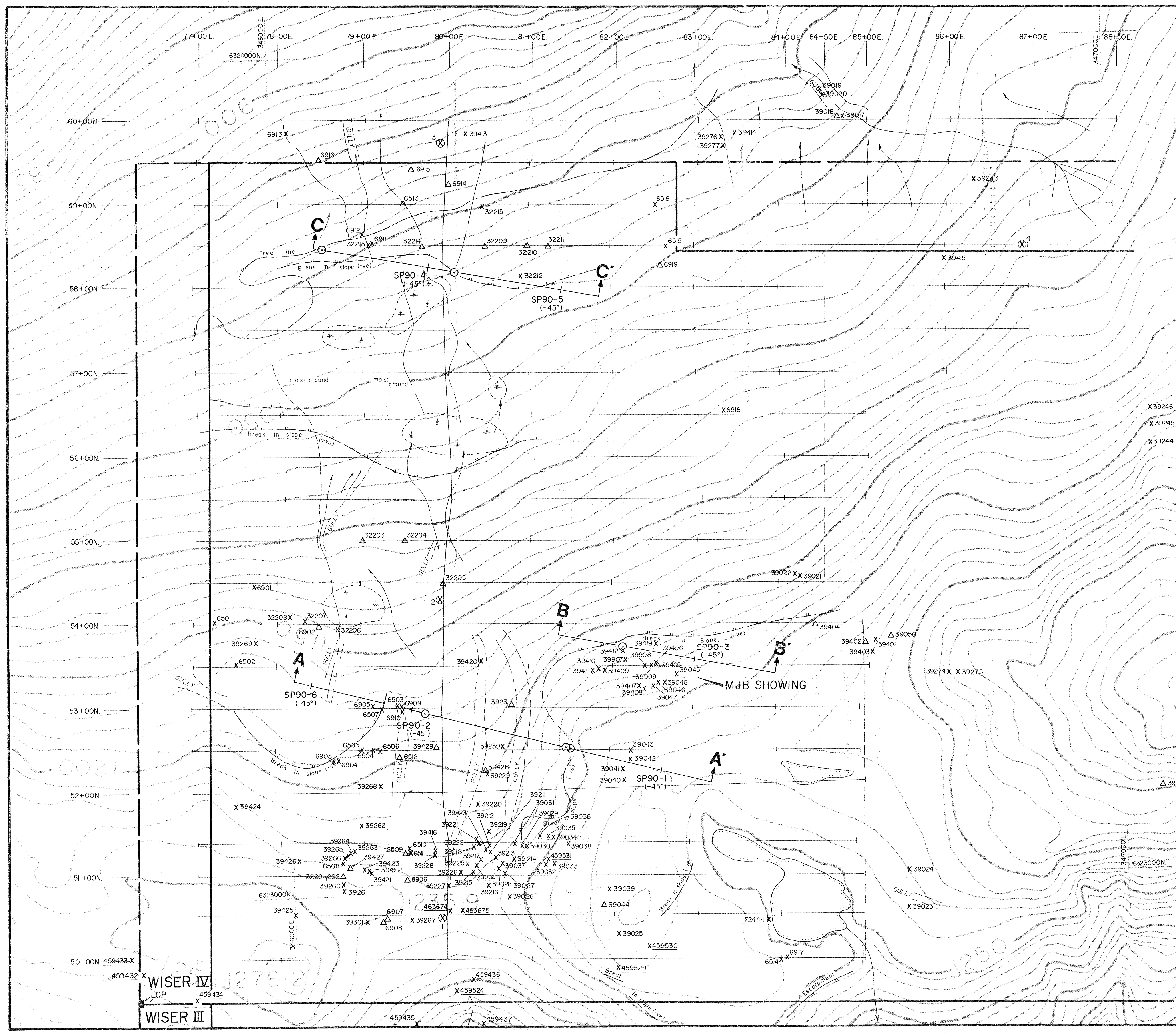


**CONSOLIDATED GOLDWEST RESOURCES LTD.**  
**SPHALER CREEK PROJECT**  
DELUXE GRID  
**GEOLOGY**  
BRITISH COLUMBIA  
EQUITY ENGINEERING LTD.

DRAWN. JW	MINING DIV. LIARD	FIGURE. 11
N.T.S. 1046/4 W.	SCALE. 1:2000	
DATE. DEC. 1990	REVISED.	

NOTE: See Figure 9 for Deluxe Zone Geology





**1990 ROCK SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
6601	<5	<1	24	14	70	25
6602	<5	<1	47	24	110	35
6603	160	14	110	2600	100	15
6504	210	45	1,934	67	61	5
6505	70	5	3200	27	190	<5
6506	85	5	2000	12	170	<5
6507	100	<1	700	12	130	<5
6508	20	2	830	13	210	<5
6509	30	3	1000	7	120	<5
6510	30	<1	1700	12	200	<5
6511	<5	<1	2100	23	200	<5
6512	20	2	1100	9	180	<5
6513	380	3	490	13	69	40
6514	130	5	2800	9	270	210
6515	<5	<1	220	2	29	20
6516	1,786g/t	3	420	15	51	70
6901	10	<1	140	13	37	5
6902	35	<1	370	97	27	10
6903	270	16	1900	34	84	15
6904	60	3	2400	10	270	15
6905	90	78	0,354	7	220	5
6906	5	3	1400	5	120	5
6907	1,54g/t	23	3900	48	280	80
6908	3,36g/t	16	1100	21	49	45
6909	1,20g/t	13	3100	43	350	60
6910	1,44g/t	74	1200	2300	230	90
6911	160	3	140	79	210	40
6912	480	9	280	48	110	55
6913	60	<1	42	15	45	55
6914	70	<1	94	13	61	15
6915	440	<1	580	11	32	30
6916	15	<1	31	5	46	15
6917	5	<1	460	15	140	130
6918	10	<1	72	15	120	15
6919	95	<1	520	11	79	20
32201	130	3	120	130	300	50
32202	750	11	29	130	33	50
32203	75	7	350	53	120	25
32204	260	<1	920	49	120	95
32205	300	5	450	33	100	20
32206	1,20g/t	17	900	130	110	30
32207	40	<1	60	49	59	<5
32208	85	7	320	10	49	20
32209	<5	<1	59	2	38	5
32210	1,06g/t	<1	82	7	44	10
32211	720	<1	30	13	55	25
32212	350	<1	30	10	27	100
32213	260	<1	190	10	42	120
32214	25	<1	27	6	32	15
32215	35	<1	97	7	57	10
39017	110	<1	69	12	23	25
39018	15	<1	34	3	41	10
39019	20	<1	29	7	49	10
39020	10	<1	21	7	45	10
39021	20	<1	39	11	230	20
39022	510	11	2600	160	160	45
39023	<5	<1	31	<1	170	<5
39024	5	<1	110	17	99	5
39025	130	13	1600	23	80	15
39026	30	2	1200	8	250	5
39027	30	1	70	140	130	10
39028	25	<1	64	18	100	15
39029	40	1	77	61	110	40
39030	130	8	550	590	590	65
39031	75	3	99	470	270	110
39032	<5	4	210	200	110	140
39033	100	2	150	400	330	70
39034	50	1	160	60	340	45
39035	320	11	1500	610	5500	80
39036	140	3	250	170	5800	75
39037	60	2	140	110	180	35
39038	420	19	6200	14	220	<5
39039	140	11	2600	160	1200	45
39040	900	30	2700	29	360	35
39041	420	8	620	42	160	110
39042	830	8	670	34	190	60
39043	47,66g/t	53	9400	51	400	100
39044	160	7	780	37	98	35
39045	1,99g/t	27	2600	170	150	75
39046	2,16g/t	23	1200	50	140	40
39047	70	2	160	51	150	5
39048	1,03g/t	18	740	150	37	85
39050	35	<1	150	5	14	10
39211	40	2	320	250	350	35
39212	85	2	190	170	350	60
39213	20	2	78	69	960	25
39214	20	1	97	57	380	50
39215	25	<1	40	140	130	15
39216	45	3	260	130	450	65
39217	55	2	300	71	520	65
39218	55	1	43	15	120	25
39219	70	2	130	100	280	75
39220	20	<1	46	90	180	25
39221	10	<1	81	56	230	5
39222	<5	<1	44	24	82	10
39223	25	1	110	50	210	40
39224	<5	2	96	270	110	50
39225	15	<1	51	55	220	10
39226	10	<1	58	6	260	15
39227	35	<1	94	12	120	25
39228	55	2	140	92	240	25
39229	130	6	110	190	220	60

**1989 ROCK SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
39230	340	15	1100	150	160	40
39231	25	<1	100	17	220	35
39241	<5	<1	47	3	20	10
39243	50	9	420	11	120	20
39244	60	<1	77	8	130	10
39245	<5	<1	30	6	110	<5
39246	<5	<1	8	2	120	<5
39260	35	<1	28	3	170	<5
39261	20	<1	36	43	140	5
39262	120	4	870	36	480	70
39263	160	9	95	380	120	70
39264	50	2	370	130	370	80
39265	35	2	42	110	53	25
39266	25	1	27	67	71	10
39267	45	3	710	290	450	45
39268	15	<1	600	120	360	35
39269	490	3	680	12	120	35
39274	<5	<1	12	23	11	<5
39275	90	<1	53	20	18	50
39276	200	<1	44	5	9	95
39277	75	<1	310	6	50	30
39301	75	4	280	110	110	10
39401	5	<1	26	7	190	<5
39402	<5	<1	8	3	16	<5
39403	15	<1	39	56	190	10
39404	100	1	75	37	170	95
39405	4,54g/t	55	1,374	40	540	130
39406	110	35	1,124	5	160	45
39407	840	16	1100	91	48	45
39408	440	12	710	92	110	45
39409	170	11	550	20	31	30
39410	440	16	1400	35	160	85
39411	270	7	670	21	80	55
39412	380	4	270	8	190	40
39413	15	<1	41	7	38	20
39414	1,30g/t	2	74	77	14	15
39415	70	<1	94	9	53	30
39416	110	3	270	100	180	35
39417	1,65g/t	32	6100	48	440	230
39420	300	9	1200	410	870	60
39421	260	90	760	5,724	660	120
39422	100	4	190	680	93	85
39423	710	33	2200	2400	320	150
39424	90	2	100	150	38	35
39425	55	4	200	460	40	35
39426	210	2	210	140	130	25
39427	75	1	63	250	250	140
39428	2,37g/t	30	710	270	500	45
39429	500	13	510	58	83	65
39907	50	1	390	320	570	20
39908	120	6	3200	18	460	5
39909	640	15	510	780	210	35

**1989 ROCK SAMPLE ANALYSES**

Sample	Au(ppb)	Ag(ppm)	Cu(ppm)	Pb(ppm)	Zn(ppm)	As(ppm)
459432	420	5.0	100	45	142	35
459433	360	4.0	205	40	70	35
459434	20	0.5	76	90	82	83
459435	85	1.5	112	15	135	18
459436	30	0.5	134	225	666	10
459437	25	<0.5	50	20	164	11
459524	0,34g/t	3,8g/t	0,134	0,014	0,034	-
459529	0,69g/t	45,6g/t	0,584	0,024	0,064	-
459530	0,07g/t	0,69g/t	0,034	0,014	0,034	-
459531	0,17g/t	7,5g/t	0,034	0,064	0,074	-
463674	115	1.0	81	150	152	3
463675	30	<0.5	129	15	404	29

NOTE: g/t denotes grams per tonne

- LEGEND**
- △, X Rock sample (float, grab from outcrop); samples taken prior to 1990 are underlined.
  - Silt sample
  - ⊗ Soil profile pit
  - SP90-3 (-45°) Diamond drill hole (dip, length)
  - L.C.P. Legal corner post (located)

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**20,820** Part 3 of 3

m 0 50 100 200

**CONSOLIDATED GOLDWEST RESOURCES LTD.**

**SPHALER CREEK PROJECT DELUXE GRID**

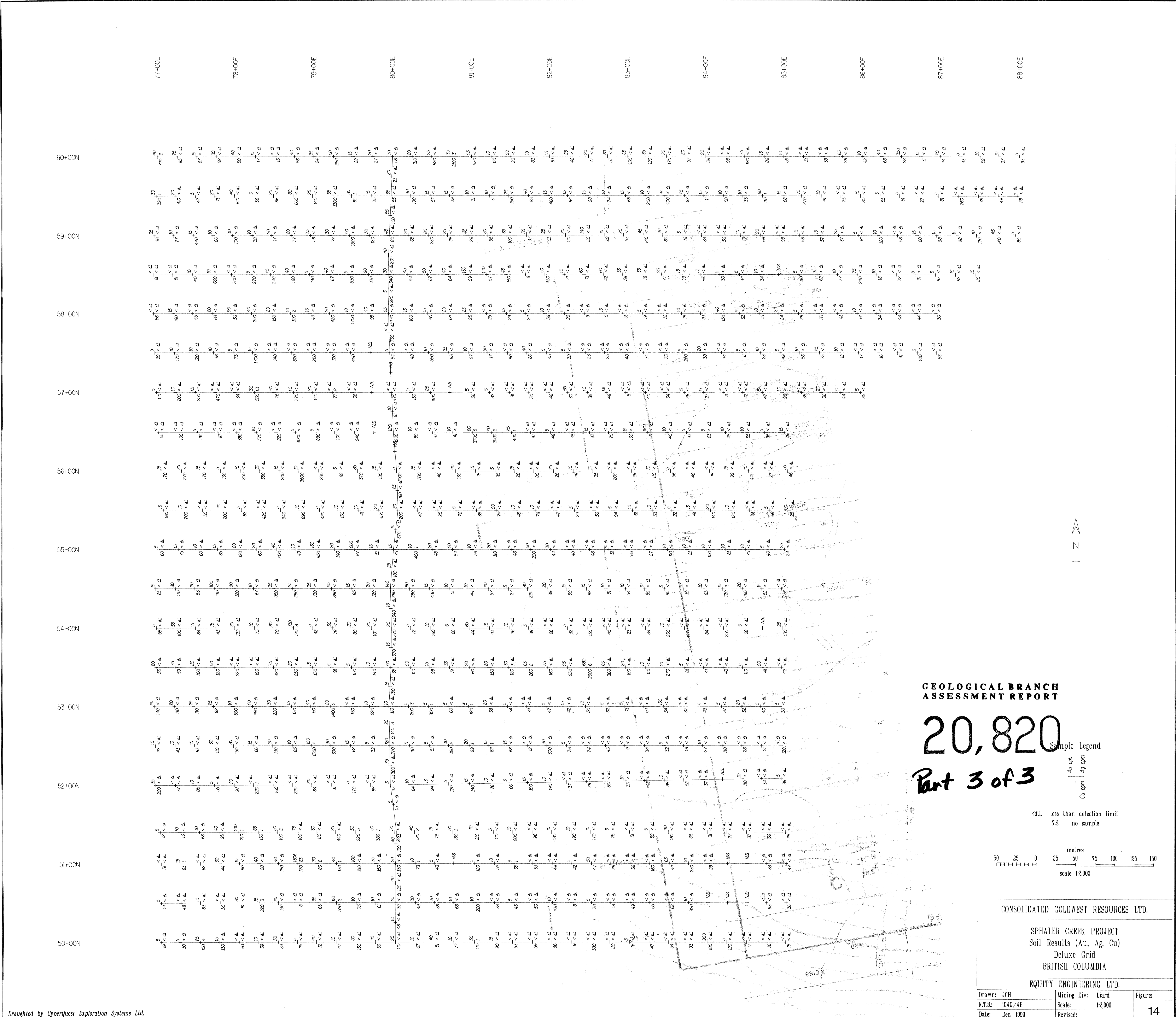
**GEOCHEMISTRY**

BRITISH COLUMBIA

**EQUITY ENGINEERING LTD.**

DRAWN: JW	MINING DIV. LIARD	FIGURE: 12
N.T.S. 104G/4W	SCALE: 1:2000	
DATE: DEC. 1990	REVISED:	





**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

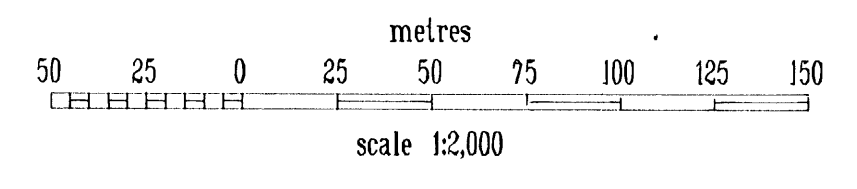
**20,820**

**Part 3 of 3**

Sample Legend

Au ppb  
Ag ppm  
Cu ppm

<math>\leq</math> d.l. less than detection limit  
N.S. no sample



CONSOLIDATED GOLDWEST RESOURCES LTD.		
SPHALER CREEK PROJECT Soil Results (Au, Ag, Cu) Deluxe Grid BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
Drawn: JCH	Mining Div: Liard	Figure:
N.T.S.: 1046/4E	Scale: 12,000	14
Date: Dec. 1990	Revised:	



60+00N	50 240.4	100 200.11	77+00E	35 40.11	10 20	78+00E	35 40.11	10 20	79+00E	35 40.11	10 20	80+00E	35 40.11	10 20	81+00E	35 40.11	10 20	82+00E	35 40.11	10 20	83+00E	35 40.11	10 20	84+00E	35 40.11	10 20	85+00E	35 40.11	10 20	86+00E	35 40.11	10 20	87+00E	35 40.11	10 20	88+00E	35 40.11	10 20
--------	-------------	---------------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------	--------	-------------	----------

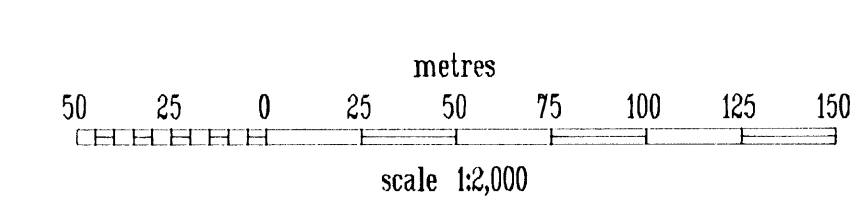
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

# 20,820

Part 3 of 3

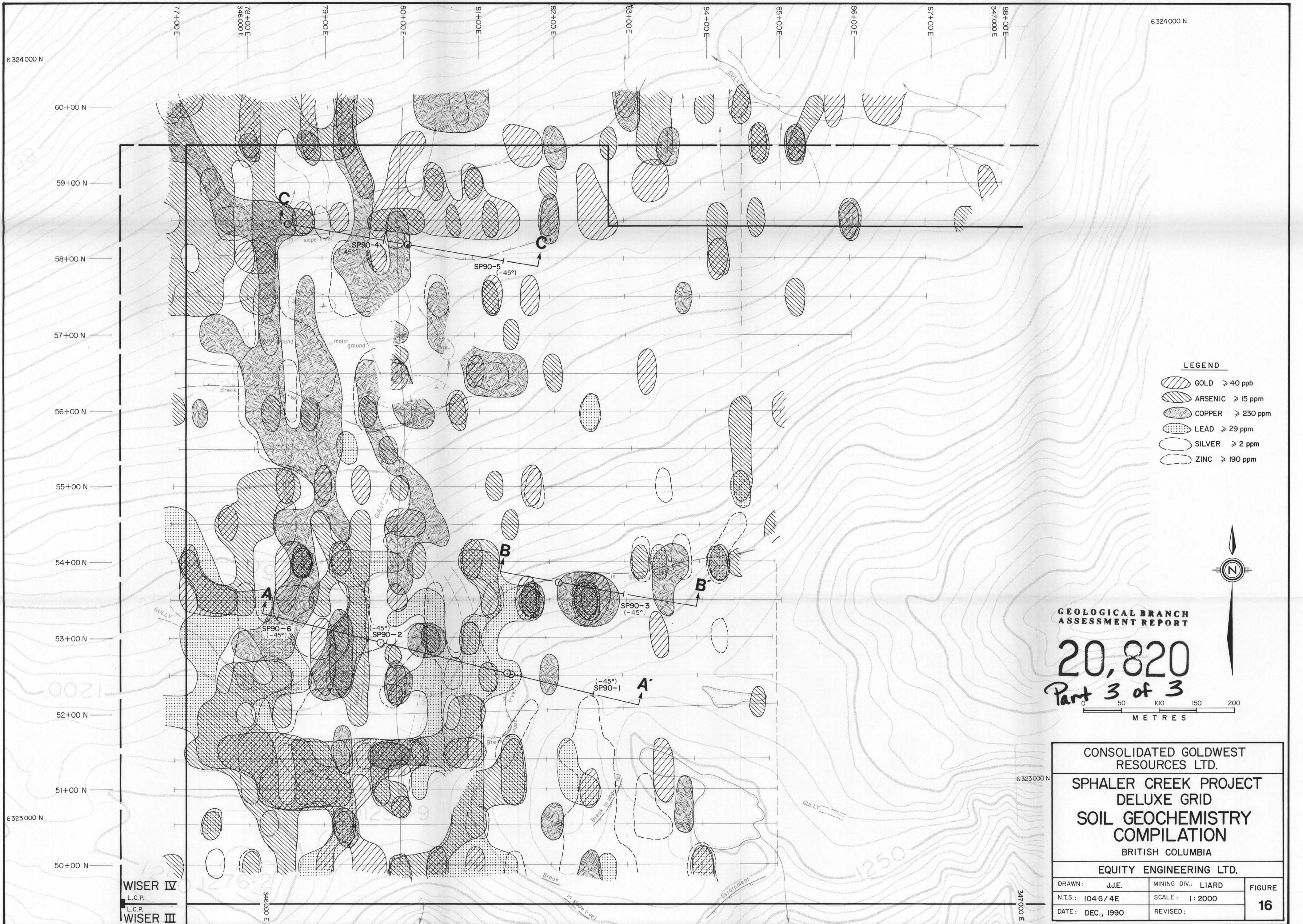
Sample Legend  
As ppm  
Pb ppm  
Zn ppm

<dl. less than detection limit  
N.S. no sample



CONSOLIDATED GOLDWEST RESOURCES LTD.		
SPHALER CREEK PROJECT Soil Results (As, Pb, Zn) Deluxe Grid BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
Drawn: JCH	Mining Div: Liard	Figure:
N.T.S.: 1046/4B	Scale: 1:2,000	
Date: Dec. 1990	Revised:	15





6 324 000 N

6 324 000 N

60+00 N

59+00 N

58+00 N

57+00 N

56+00 N

55+00 N

54+00 N

53+00 N

52+00 N

51+00 N

6 323 000 N

50+00 N

77+00 E

78+00 E

79+00 E

80+00 E

81+00 E

82+00 E

83+00 E

84+00 E

85+00 E

86+00 E

87+00 E

88+00 E

346 000 E

347 000 E

6 323 000 N

347 000 E

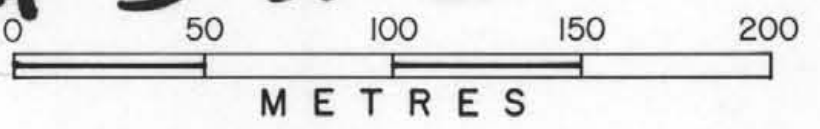
**LEGEND**

- GOLD ≥ 40 ppb
- ARSENIC ≥ 15 ppm
- COPPER ≥ 230 ppm
- LEAD ≥ 29 ppm
- SILVER ≥ 2 ppm
- ZINC ≥ 190 ppm



**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

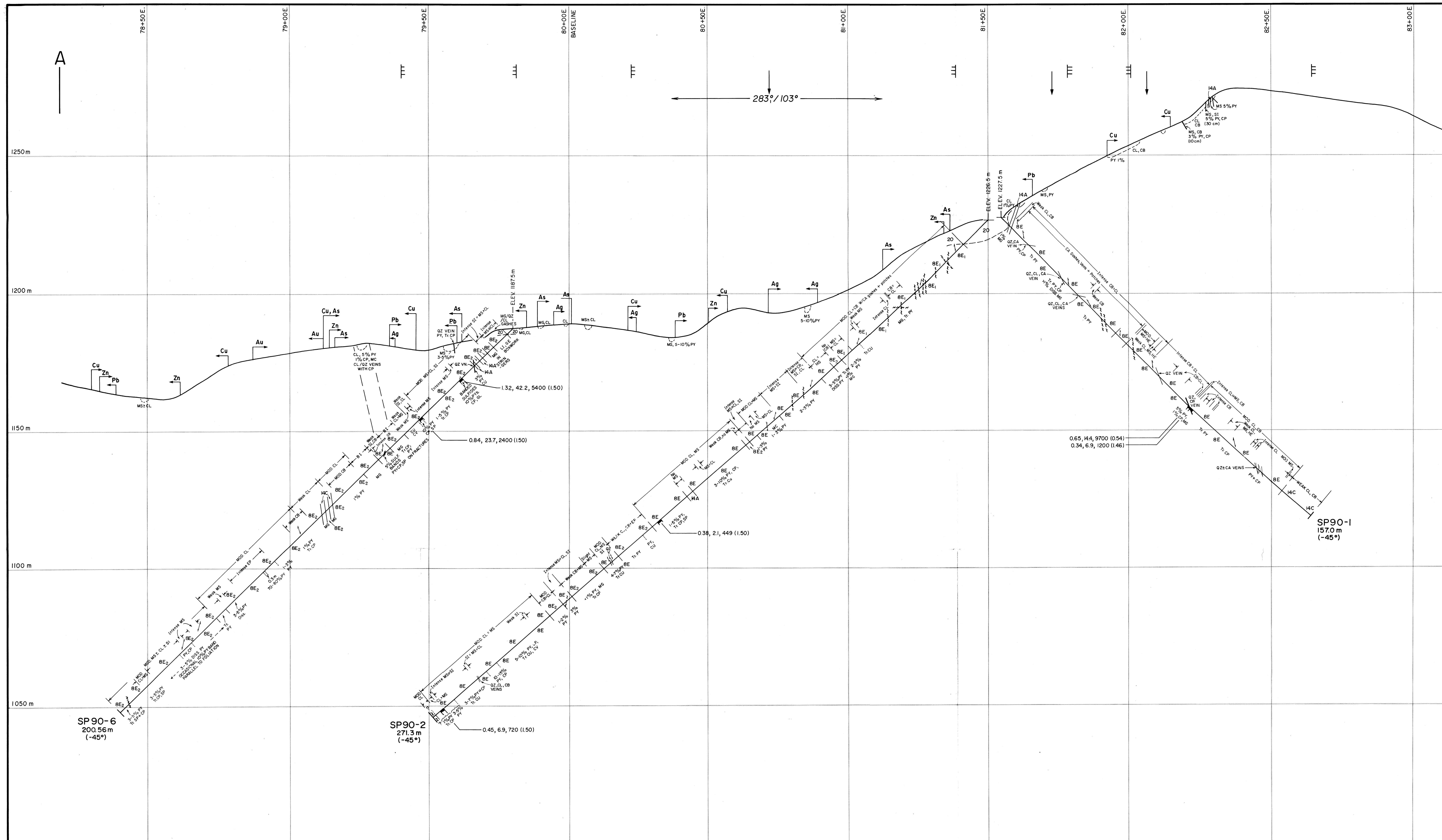
**20,820**  
*Part 3 of 3*



CONSOLIDATED GOLDWEST RESOURCES LTD.		
SPHALER CREEK PROJECT DELUXE GRID SOIL GEOCHEMISTRY COMPILATION BRITISH COLUMBIA		
EQUITY ENGINEERING LTD.		
DRAWN: J.J.E.	MINING DIV.: LIARD	FIGURE <b>16</b>
N.T.S.: 104 G/4E	SCALE: 1:2000	
DATE: DEC., 1990	REVISED:	

**WISER IV**  
L.C.P.  
L.C.P.  
**WISER III**





**LEGEND**

**LITHOLOGIES**

**QUATERNARY**  
20 Overburden.

**TERTIARY**  
**Dykes and sills**  
14A Andesitic.  
14B Basaltic (gabbroic).  
14C Lamprophyre (biotite minette).  
14E Rhyolitic.

**UPPER TRIASSIC**  
**Stuhini Group**  
8E Andesites: Undifferentiated porphyritic flows and crystal tuffs.  
8E<sub>1</sub> Andesite porphyritic flows.  
8E<sub>2</sub> Andesite crystal tuffs.  
8H Agglomerate.

**MINERALS AND ALTERATION TYPES**

BI biotite	CA calcite	CB Fe-carbonate
CL chlorite	CP chalcopyrite	CU copper
CV covellite	CY clay	EP epidote
GE goethite	GL galena	HE hematite
LI limonite	MC malachite	MG magnetite
MN Mn-oxides	MS sericite	PO pyrrhotite
PY pyrite	QZ quartz	SI silica
SP sphalerite		

**SYMBOLS**

Rock outcrop

Geological boundary: defined, inferred.

Fault: approximate, inferred.

Foliation

Soil Geochemical Anomalies: Au>40ppb, Cu>230ppm, Pb>29ppm, Zn>190ppm, As>15ppm.

Ground VLF-EM: weak anomaly.

Ground Magnetics: boundary between high and low anomalies, notches indicate low side.

Diamond drill hole: dip, depth.

Alteration  
Lithology  
Mineralization

Assay interval: Au (g/tonne), Ag (g/tonne), Cu (ppm), (Sample interval in metres).  
Note: Only assay intervals greater than or equal to 0.34 g/tonne gold have been shown.

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**20,820** Part 3 of 3

m 5 10 20 30 40 50

**CONSOLIDATED GOLDWEST RESOURCES LTD.**

**SPHALER CREEK PROJECT**

**DELUXE GRID**

**SECTION A-A'**

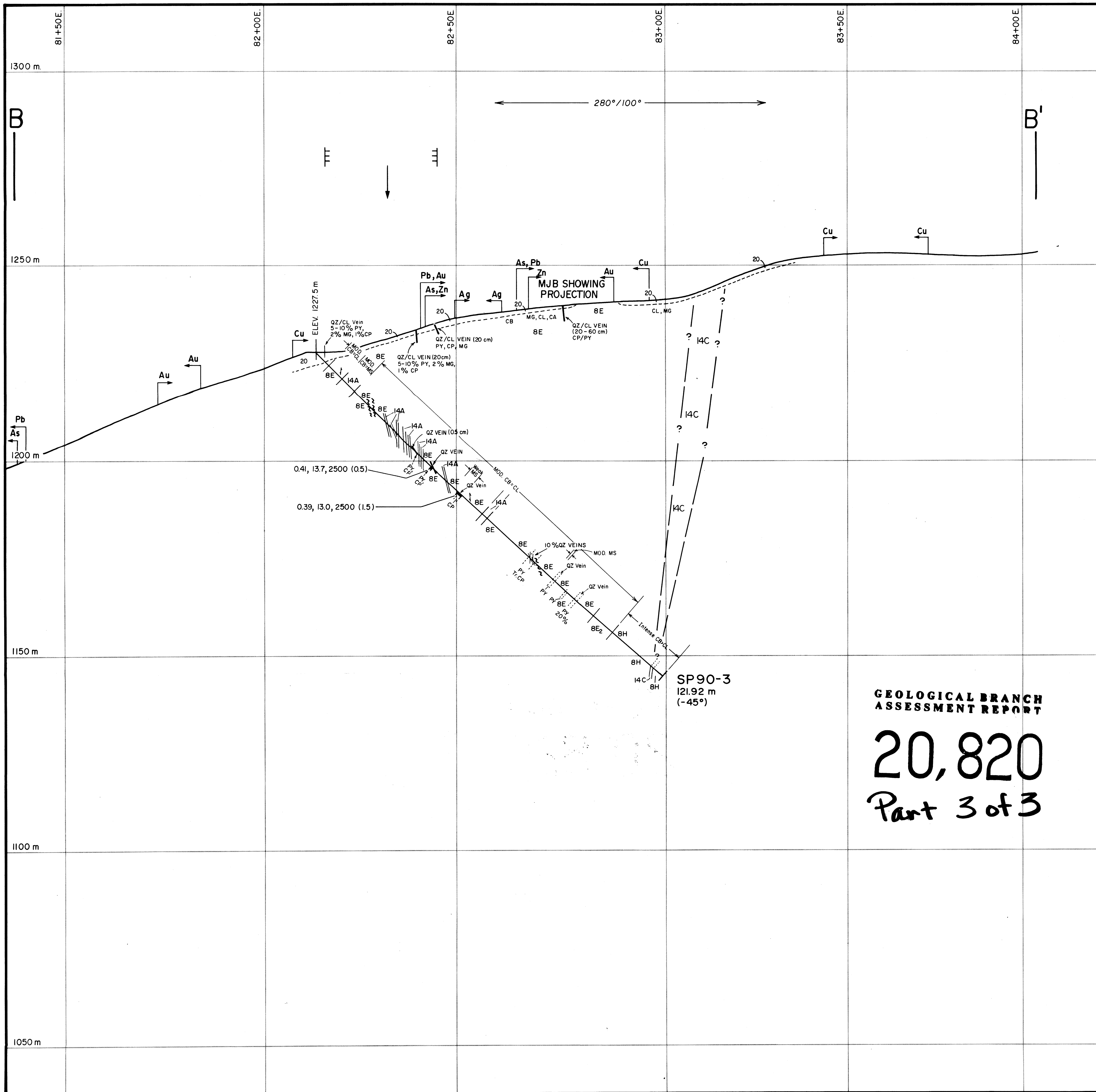
LOOKING TOWARDS 013°

BRITISH COLUMBIA

**EQUITY ENGINEERING LTD.**

DRAWN: J.W.	MINING DIV: LIARD	FIGURE: 17
N.T.S. 1046/4E	SCALE: 1:500	
DATE: DEC. 1990	REVISED:	





**LEGEND**  
LITHOLOGIES

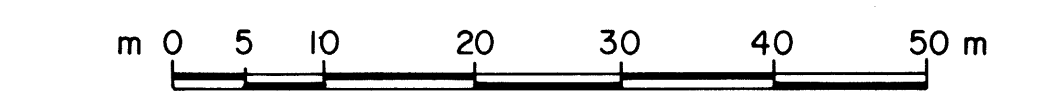
- QUATERNARY**  
20 Overburden.
- TERTIARY**  
**Dykes and sills**  
14A Andesitic.  
14B Basaltic (gabbroic).  
14C Lamprophyre (biotite minette).  
14E Rhyolitic.
- UPPER TRIASSIC**  
**Stuhini Group**  
8E Andesites: Undifferentiated porphyritic flows and crystal tuffs.  
8E<sub>1</sub> Andesite porphyritic flows.  
8E<sub>2</sub> Andesite crystal tuffs.  
8H Agglomerate.

- MINERALS AND ALTERATION TYPES**
- |               |                  |                 |
|---------------|------------------|-----------------|
| BI biotite    | CA calcite       | CB Fe-carbonate |
| CL chlorite   | CP chalcopryrite | CU copper       |
| CV covellite  | CY clay          | EP epidote      |
| GE goethite   | CL galena        | HE hematite     |
| LI limonite   | MC malachite     | MG magnetite    |
| MN Mn-oxides  | MS sericite      | PO pyrrhotite   |
| PY pyrite     | QZ quartz        | SI silica       |
| SP sphalerite |                  |                 |

- SYMBOLS**
- Rock outcrop
  - Geological boundary: defined, inferred.
  - Fault: approximate, inferred.
  - Foliation
  - Soil Geochemical Anomalies: Au>40ppb, Cu>230ppm, Pb>29ppm, Zn>190ppm, As>15ppm.
  - Ground VLF-EM: weak anomaly.
  - Ground Magnetics: boundary between high and low anomalies, notches indicate low side.
  - Diamond drill hole: dip, depth.
  - Alteration
  - Lithology
  - Mineralization
- Assay interval: Au (g/tonne), Ag (g/tonne), Cu (ppm), (Sample interval in metres).  
Note: Only assay intervals greater than or equal to 0.34 g/tonne gold have been shown.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**20,820**  
*Part 3 of 3*



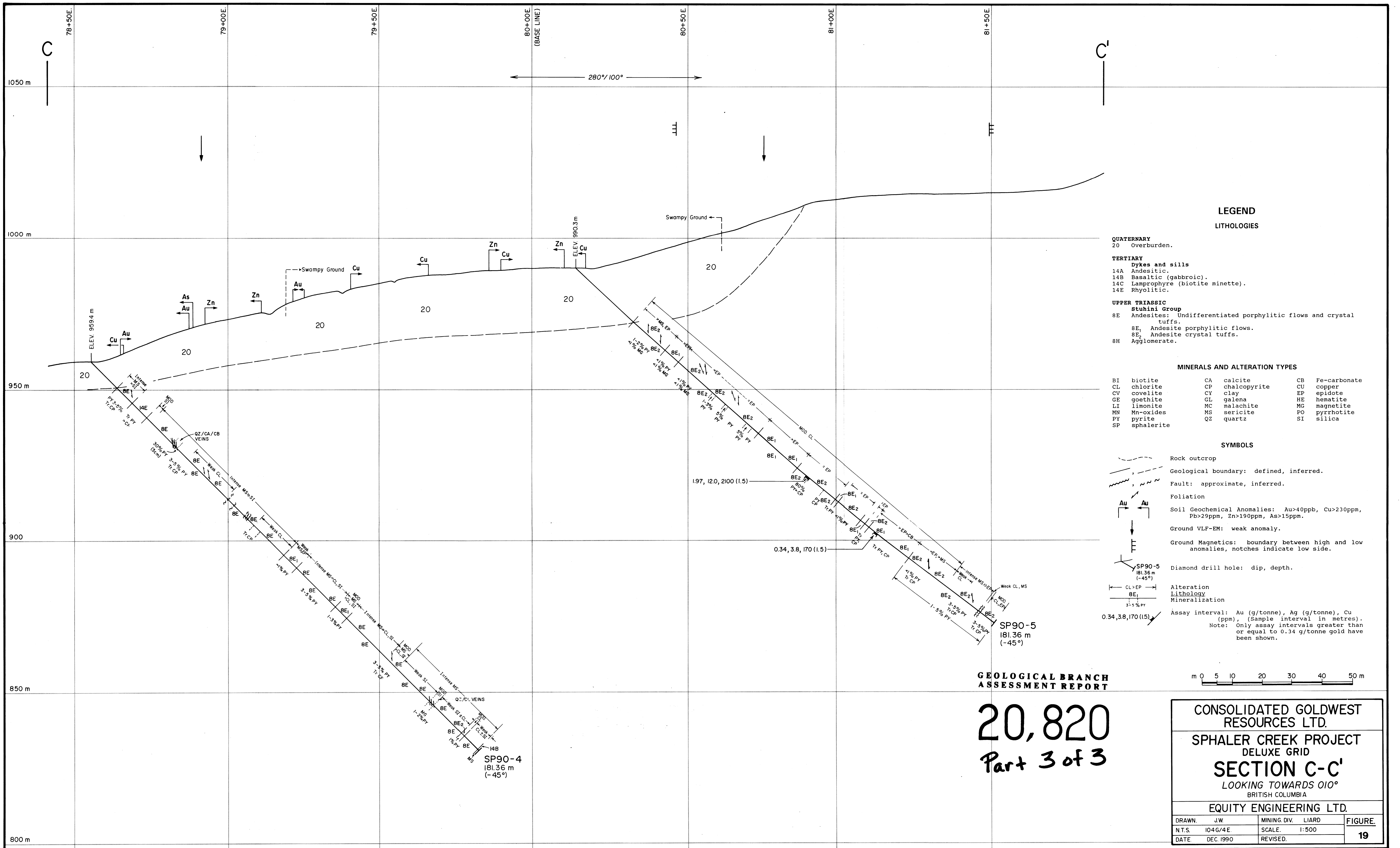
**CONSOLIDATED GOLDWEST  
RESOURCES LTD.**

**SPHALER CREEK PROJECT  
DELUXE GRID  
SECTION B-B'  
LOOKING TOWARDS 010°  
BRITISH COLUMBIA**

**EQUITY ENGINEERING LTD.**

DRAWN.	J.W.	MINING DIV.	LIARD	<b>FIGURE. 18</b>
N.T.S.	104 G/4E	SCALE.	1:500	
DATE.	DEC. 1990	REVISED.		





**LEGEND**  
**LITHOLOGIES**

- QUATERNARY**  
20 Overburden.
- TERTIARY**  
Dykes and sills  
14A Andesitic.  
14B Basaltic (gabbroic).  
14C Lamprophyre (biotite minette).  
14E Rhyolitic.
- UPPER TRIASSIC**  
Stuhini Group  
8E Andesites: Undifferentiated porphyritic flows and crystal tuffs.  
8E<sub>1</sub> Andesite porphyritic flows.  
8E<sub>2</sub> Andesite crystal tuffs.  
8H Agglomerate.

**MINERALS AND ALTERATION TYPES**

- |               |                   |                 |
|---------------|-------------------|-----------------|
| BI biotite    | CA calcite        | CB Fe-carbonate |
| CL chlorite   | CP chalcocopyrite | CU copper       |
| CV covellite  | CY clay           | EP epidote      |
| GE goethite   | GL galena         | HE hematite     |
| LI limonite   | MC malachite      | MG magnetite    |
| MN Mn-oxides  | MS sericite       | PO pyrrhotite   |
| PY pyrite     | QZ quartz         | SI silica       |
| SP sphalerite |                   |                 |

**SYMBOLS**

- Rock outcrop
- Geological boundary: defined, inferred.
- Fault: approximate, inferred.
- Foliation
- Soil Geochemical Anomalies: Au>40ppb, Cu>230ppm, Pb>29ppm, Zn>190ppm, As>15ppm.
- Ground VLF-EM: weak anomaly.
- Ground Magnetics: boundary between high and low anomalies, notches indicate low side.
- Diamond drill hole: dip, depth.
- Alteration  
Lithology  
Mineralization
- Assay interval: Au (g/tonne), Ag (g/tonne), Cu (ppm), (Sample interval in metres).  
Note: Only assay intervals greater than or equal to 0.34 g/tonne gold have been shown.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**20,820**  
**Part 3 of 3**

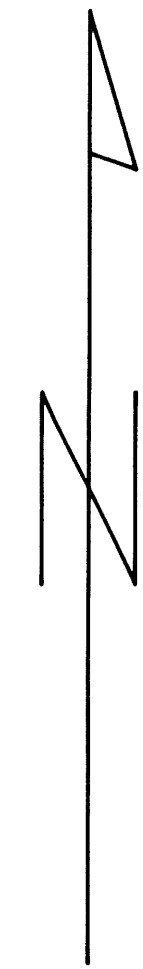
**CONSOLIDATED GOLDWEST  
RESOURCES LTD.**

**SPHALER CREEK PROJECT  
DELUXE GRID  
SECTION C-C'  
LOOKING TOWARDS O10°  
BRITISH COLUMBIA**

**EQUITY ENGINEERING LTD.**

DRAWN. J.W.	MINING DIV. LIARD	FIGURE. <b>19</b>
N.T.S. 104G/4E	SCALE. 1:500	
DATE DEC. 1990	REVISED.	





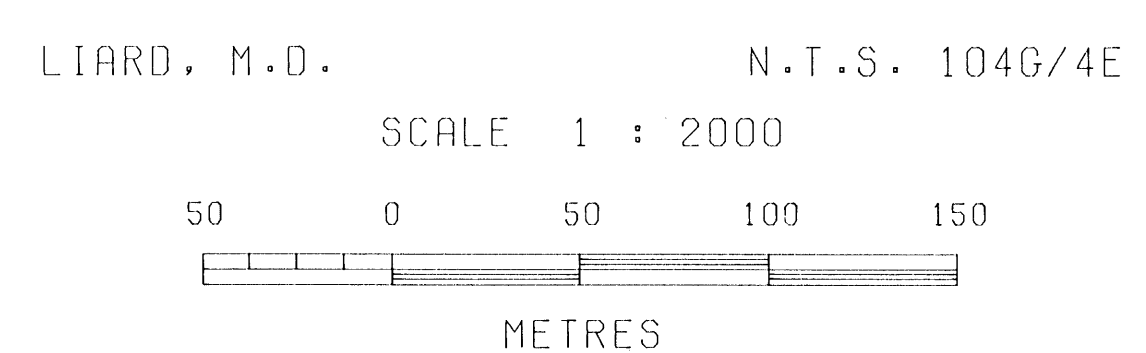
**LEGEND**

CONTOUR INTERVAL: 100 NT  
 LABELLED INTERVAL: 500 NT  
 MINIMUM VALUE: 56,768 NT  
 MAXIMUM VALUE: 60,105 NT  
 INSTRUMENTATION:  
 FIELD UNIT: EDA OMNI PLUS  
 PROTON PRECESSION MAGNETOMETER  
 BASE STATION: EDA OMNI IV  
 PROTON PRECESSION MAGNETOMETER

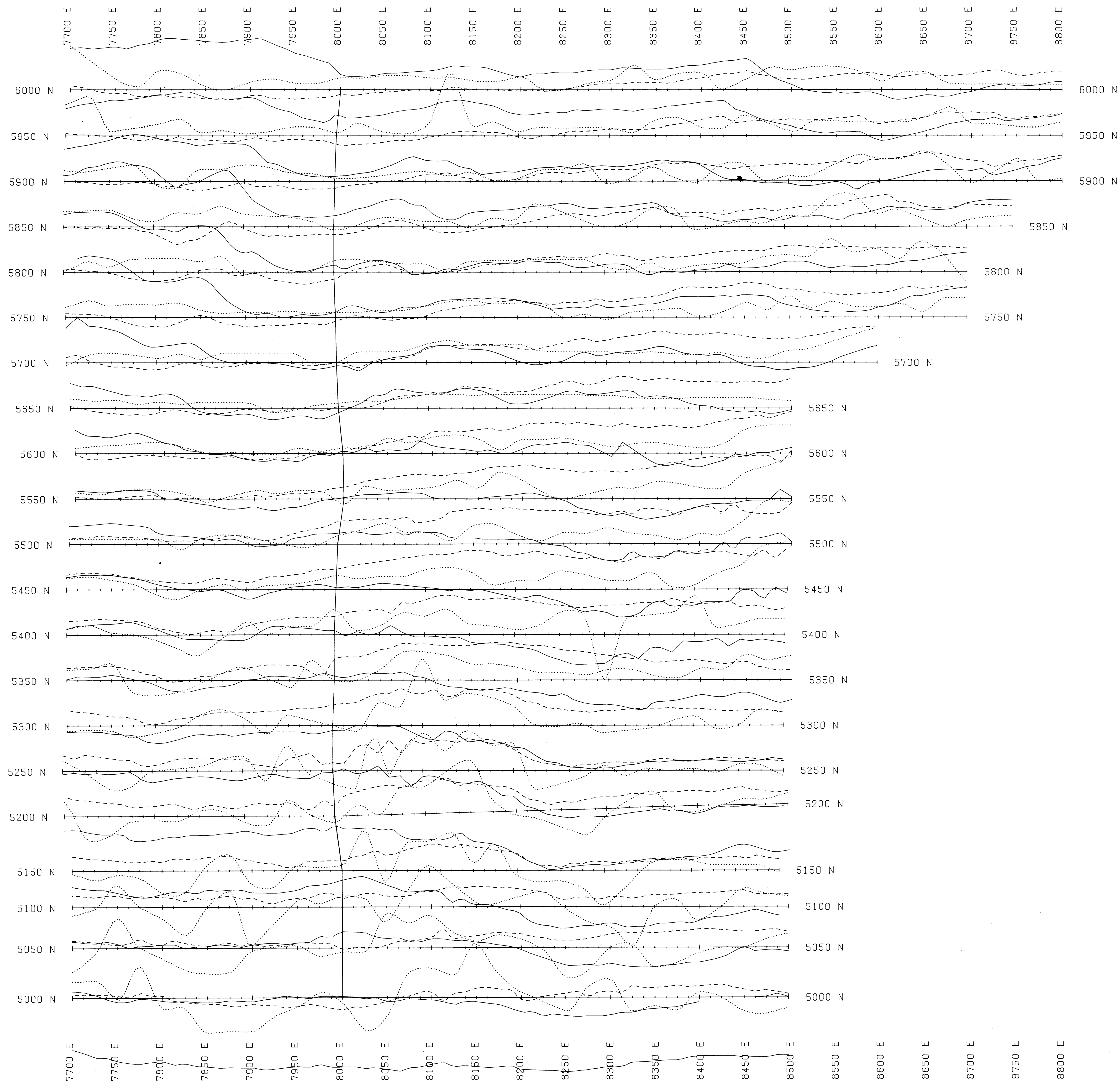
**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**20,820** *Part 3  
 of 3*

CONSOLIDATED GOLDWEST RESOURCES LTD.  
 SPHALER CREEK PROJECT  
 DELUXE GRID  
 MAGNETOMETER SURVEY  
 CONTOURED TOTAL FIELD





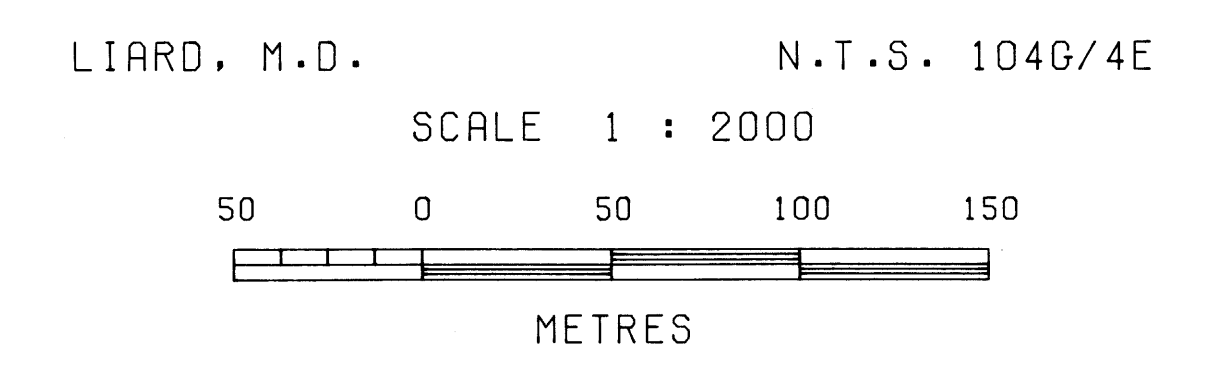


**LEGEND**

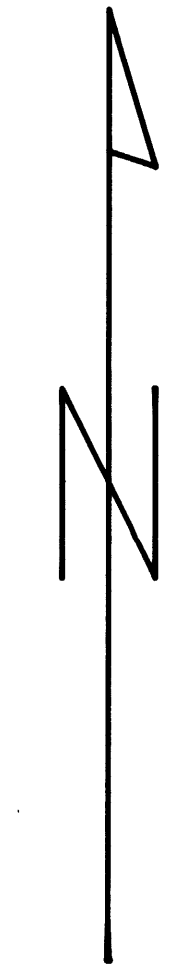
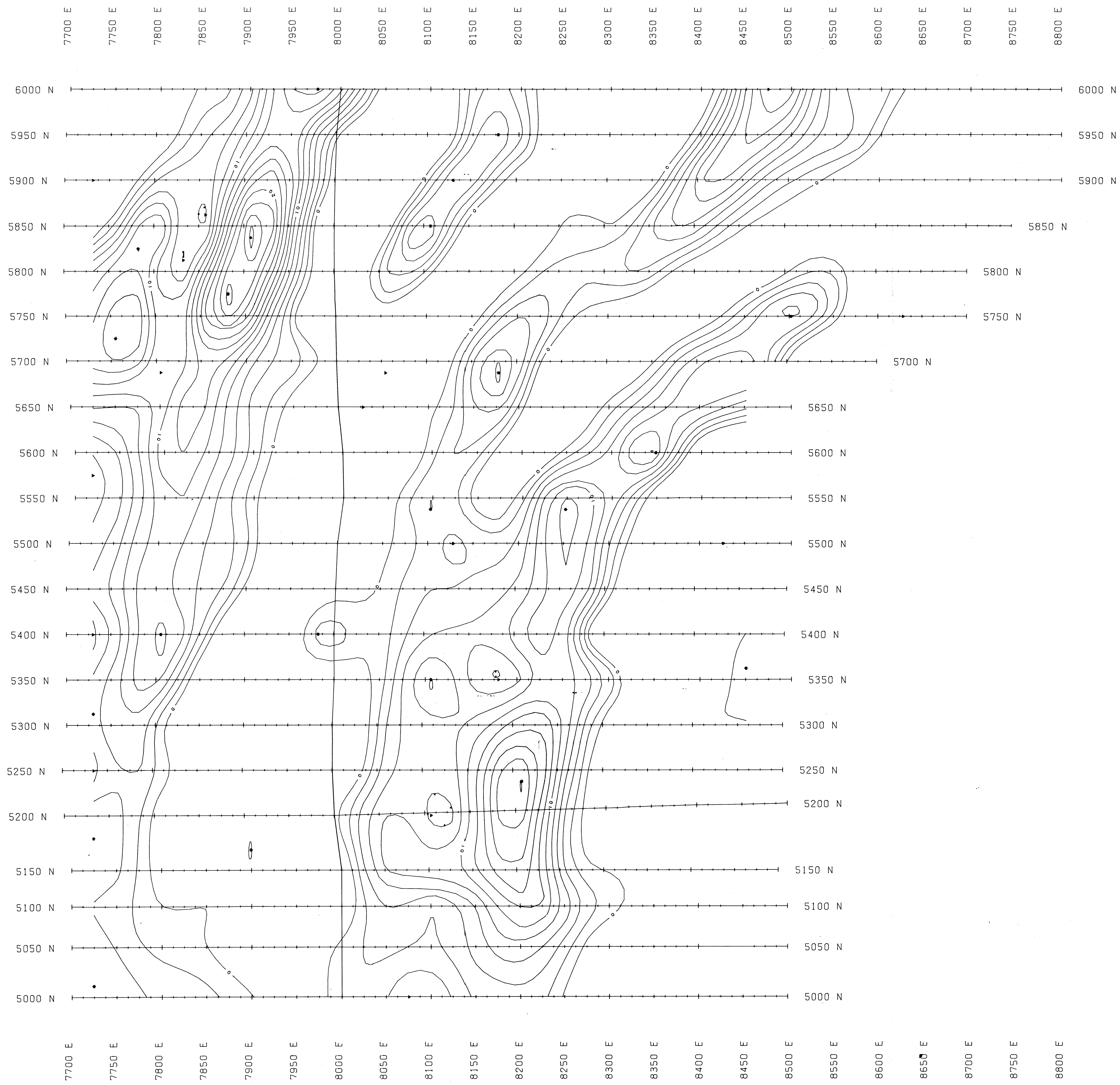
SURVEY DIRECTION FACING EAST  
 PROFILES POSITIVE UP  
 DIP ANGLE - SOLID LINES  
 PROFILE SCALE: 10% / CM  
 BASE VALUE: 20%  
 QUADRATURE - DASHED LINES  
 PROFILE SCALE: 10% / CM  
 BASE VALUE: 20%  
 SLOPE - DOTTED LINES  
 PROFILE SCALE: 30% / CM  
 BASE VALUE: 0%  
 INSTRUMENTATION: EDA OMNI PLUS  
 VLF-EM SYSTEM  
 STATION: NPM, 23.4 KHZ (HAWAII)

**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**  
**20,820** *Part 3*  
*of 3*

CONSOLIDATED GOLDWEST RESOURCES LTD.  
 SPHALER CREEK PROJECT  
 DELUXE GRID  
 VLF-EM SURVEY  
 DIP ANGLE, QUADRATURE, SLOPE







**LEGEND**

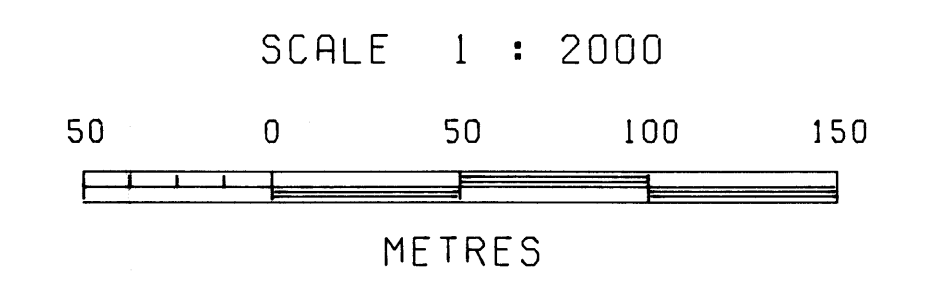
SURVEY DIRECTION FACING EAST  
 CONTOUR INTERVAL: 2%  
 LABELLED INTERVAL: 10%  
 MINIMUM VALUE: 0%  
 MAXIMUM VALUE: 36%  
 INSTRUMENTATION:  
 EDA OMNI PLUS VLF-EM SYSTEM  
 STATION: NPM, 23.4 KHZ (HAWAII)

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

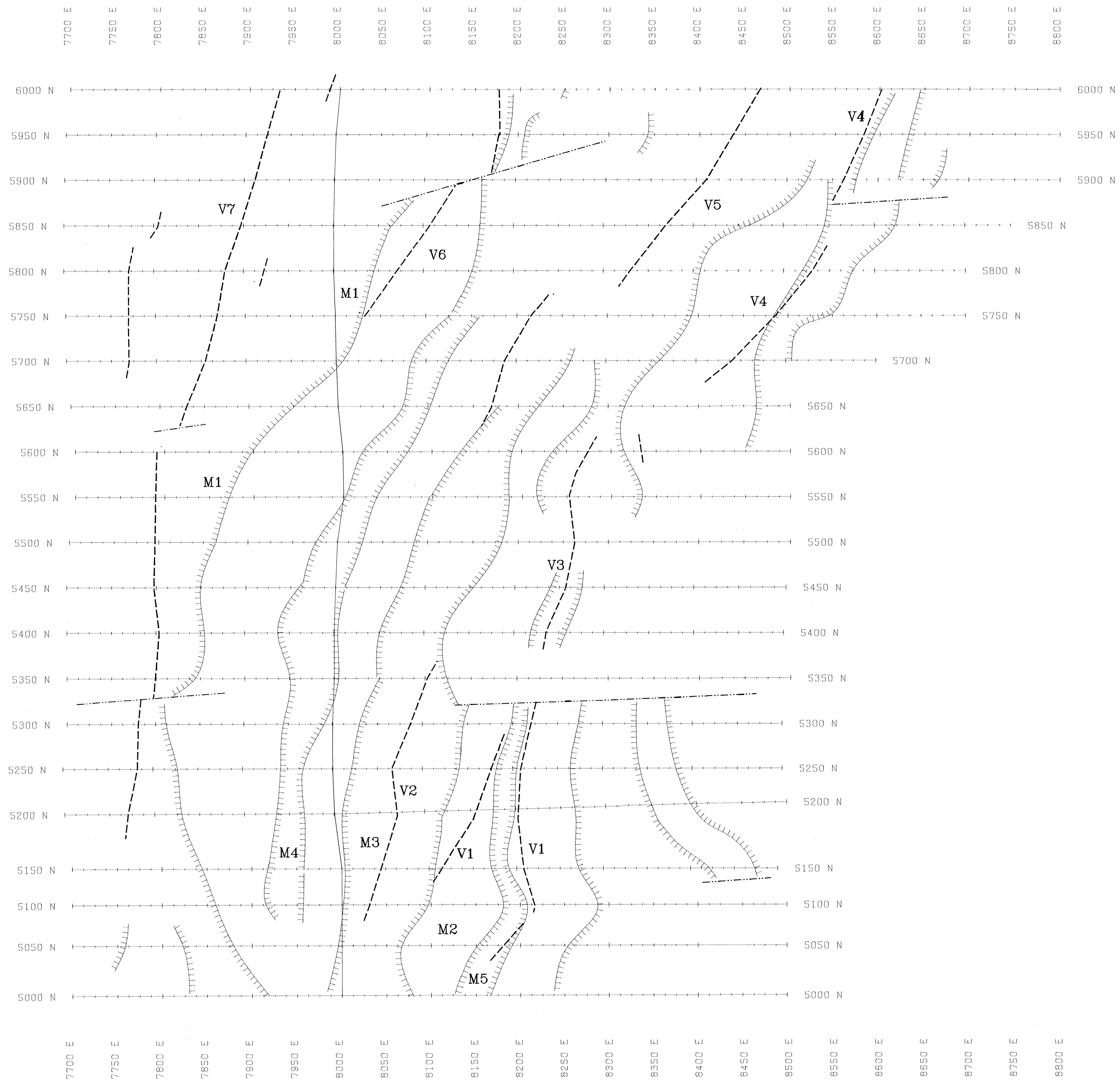
**20,820** *Part 3  
 of 3*

CONSOLIDATED GOLDWEST RESOURCES LTD.  
 SPHALER CREEK PROJECT  
 DELUXE GRID  
 VLF-EM SURVEY - CONTOURS  
 FRASER FILTERED DIP ANGLE

LIARD, M.D. N.T.S. 104G/4E







**LEGEND**

- VLF-EM CONDUCTOR AXIS
  - STRONG
  - WEAK
- MAGNETIC ANOMALY SHOWING WIDTH
  - HIGH
  - LOW
- POSSIBLE CROSS-STRUCTURE
  -

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**20,820**

*Part 3  
of 3*

CONSOLIDATED GOLDWEST RESOURCES LTD.  
SPHALER CREEK PROJECT  
DELUXE GRID  
MAGNETOMETER AND VLF-EM SURVEY  
COMPILATION MAP

