PR - Willow Creek 80(1)A

DIAMOND DRILLING AND TRENCHING REPORT ON COAL LICENCES 3986 TO 3993 INCLUSIVE AND 6792

~~PINE RIVER AREA~~ WILLOW CREEK

LIARD MINING DIVISION

NTS 93 O/9

Latitude: 55°36' North

Longitude: 122°14' West

Owner of Licences: J.W. MacLeod, P.Eng.

Operator: Semper Resources Inc.

Consultant: G.A. Noel & Associates, Inc.

Authors: A.S. Marton, B.Sc.
Project Geologist

Harold M. Jones, P.Eng.

Date: May 31, 1981

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 689

G. A. NOEL AND ASSOCIATES
CONSULTING GEOLOGISTS
VANCOUVER, B.C.

PR-Willow Creek 80(1)A

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SUMMARY

From October, 1980 to March, 1981, G.A. Noel & Associates, Inc., on behalf of Semper Resources Inc., conducted an exploration program on their Willow Creek coal licences. Work consisted of backhoe trenching followed by diamond drilling. This exploration was concentrated on licence 3992 upon which significant coal seams were exposed during a preliminary program in July-August, 1980.

Seven trenches totalling 1835 metres were excavated. These exposed eight coal zones and traced 2 of them along a strike length of 500 metres.

Twelve HQ holes totalling 3008 m were diamond drilled to test the coal zones both along strike and at depth. Eight zones greater than 1.5 m were intersected within the upper part of the Gething Formation. From the limited data to date, the coal zones are inferred to lie within the east limb of the Willow Creek anticline upon which is superimposed a small gently dipping synclinal fold.

More detailed drilling is required before a coal reserve may be calculated. However, assuming continuity over 1900 m strike length of the eight significant seams, 18.4 million tonnes of coal resources are indicated within the drilling area. A further 33 million tonnes of resources are inferred down dip to the 700 m elevation and along strike to the north. Assay data indicates that of this total, approximately 4 million tonnes may be of metallurgical grade while the remainder is thermal coal.

It was concluded that additional diamond drilling is required to fully assess the potential of the coal licences.

It was recommended that the program of trenching and diamond drilling be continued. This program is estimated to cost $2 million.

INTRODUCTION

Semper Resources Inc. hold nine contiguous coal licences in the Willow Creek area of the Pine River Valley 49 km west of Chetwynd, B.C. (Fig. 1, 2).

G.A. Noel & Associates, Inc., on behalf of the company, conducted geological mapping and backhoe trenching programs on the licences during the months of July and August of both 1979 and 1980. The above work was successful in locating several significant coal seams on licence 3992.

When Semper Resources Inc. financing was finalized in late 1980, an additional program of backhoe trenching followed by diamond drilling was undertaken. This work was carried out between October 1, 1980 and March 8, 1981 and is documented in this report by the writer, under the supervision of H.M. Jones, P.Eng.

A temporary winter bridge was constructed across the Pine River to give ready access to the licences from Highway 97. This bridge was removed when the field work terminated.

Property

The property consists of nine coal licences (Figure 3, 5). They are:

Coal Licence	Hectares	Expiry Date
3986	293.0	August 8, 1981
3987	292.0	"
3988	292.6	"
3989	292.2	"
3990	292.6	"
3991	292.6	"
3992	292.6	"
3993	292.6	"
6792	293.0	December 5, 1981

Total area 2633.2 Hectares

Coal Licences 3986 - 3993 are owned by:

J.W. McLeod, P.Eng.
1220 Arbutus Street
Vancouver, B.C.

They are presently held under option by:

Semper Resources Inc.
1012 - 475 Howe Street
Vancouver, B.C.

Semper Resources Inc. is the owner of licence 6792.

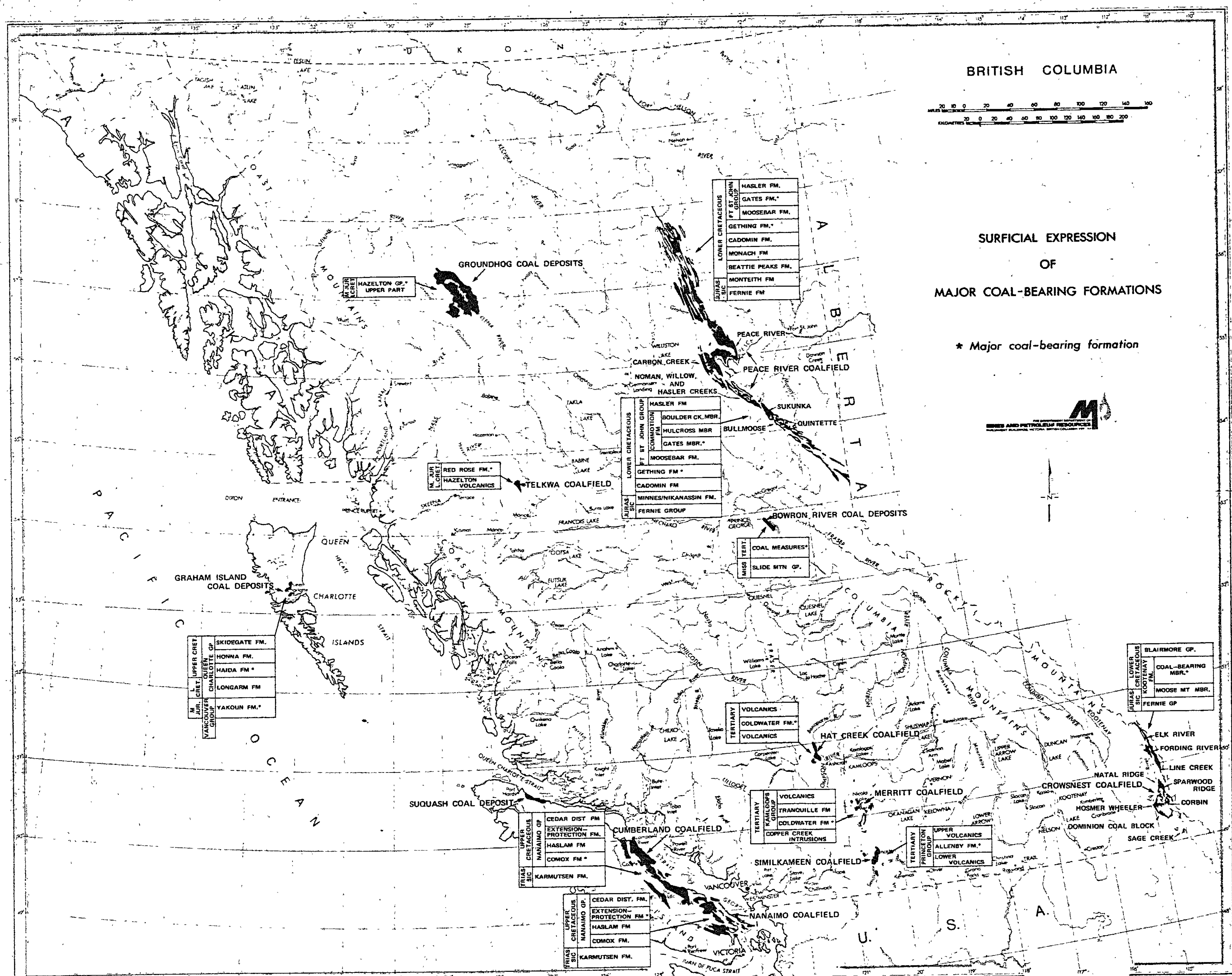
Topography and Vegetation

The coal licences are located on the eastern foothills of the Rocky Mountains. The area is characterized by relatively low, rounded, northwest-southeast trending ridges and valleys dissected by the northeast 1.5 km wide Pine River Valley. In the licences area there is a change in elevation relative to the Pine Valley of only 670 metres (Figure 4,5).

All coal licences are well forested by jackpine and minor spruce. Poplar stands are common in low areas, like Pine Valley, and in wet areas, such as creeks and seepages.

Most of the forested terrain may be classified as open forest, i.e. with little or no underbrush. The exception to this is in wet areas where willows and devil's club are common.


WILLOW CREEK
PROJECT



SEMPER RESOURCES INC.

WILLOW CREEK PROJECT

COAL LICENCES 3986-3993 & 6792

SURFICIAL EXPRESSION OF MAJOR COAL-BEARING FMS.

SCALE AS SHOWN	NTS BRITISH COLUMBIA	DWG. NO.	
DATE / REVISIONS APRIL 1981		DWG BY	WORK BY G.A NOEL & ASSOCIA.

Figure 1

Location and Access

The property is located at the following approximate co-ordinates $55^{\circ}36'$north latitude; $122^{\circ}14'$west longitude.

The coal licences are located in the Peace River district of northeast British Columbia (see Figure 1). They are situated adjacent to the Pine River, approximately 50 km west of Chetwynd and 190 km north-northwest of Prince George.

Access to the general area is via British Columbia highway 97, which is an all weather road connecting Prince George to Dawson Creek, and passes through the Pine Valley and Chetwynd. B.C Rail also passes through the Pine Valley (see Figure 2) with the highway on the north side and the railway on the south side of the river. B.C. Rail crosses the northwest corners of licences 3988 and 3993. The abandoned Falls railway siding is located on the northwest corner of licence 3988 (see Figure 3).

Dawson Creek and Fort St. John, approximately 100 km and 160 km respectively north of Chetwynd, are serviced with daily flights by commercial airlines. Rental vehicles are available at both airports.

The coal licences are accessible on a year round basis by helicopter from Chetwynd, where several operators offer a wide selection of turbine equipment. On a seasonal basis, the licences are accessible by several kilometres of seismic roads, which originate at highway 97. These require fording the Pine River with a 4x4 vehicle during periods of low water.

During the winter drilling program, extreme fluctuations in the water flow made fording impossible. For this reason a temporary wooden bridge was constructed.

Once across the river a good dirt road follows the east side of Willow Creek. It passes a capped gas well Hunt - Sands - Sun - Falls C-18-6 at 2.5 km from the river crossing. At 3 km along this road a winter seismic line access road branches off to the east and joins a northeast trending seismic line. Due to very wet ground, the winter road could not be used. A new road was constructed nearby on a portion of dry side hill and provided vehicle access to the drilling and trenching area (figure 4).

History

Coal in the Peace River district of northeastern British Columbia was known of for many years. The better known coal area was the Peace River Canyon coal field where coal was first noted along the canyon walls by Alexander Mackenzie in 1793. The first coal licences in the Peace River district were acquired in this area in 1908.

From 1908 to the late 1960's very limited tonnages of coal were mined intermittently from four mines, three of which were located in or near the Peace River Canyon and 15 km south of the Pine River.

Between 1946 and 1951 the Coal Division of the B.C. Department of Lands and Forests conducted a coal exploration program in the Peace River district adjacent to the proposed (at that time) right-of-way of the Pacific Great Eastern Railway (now B.C. Rail). This work was carried out in the Pine River area. The project area extended from several kilometres north-west of Pine River to approximately 25 km southeast of it.

Their program consisted of geological mapping, bulldozer trenching, diamond drilling and sampling (McKechnie, 1955). Eighty-one holes were diamond drilled totalling 14,829 metres of which coal seams 0.3 m or thicker accounted for 428 m of the total.

Their program tested three areas. These areas and their estimated tonnages are:

Hasler Creek	8	million short tons
Willow Creek	23.8	" " "
Noman Creek	9.0	" " "

The above estimates were made only using seams of 1.2 m. or greater in thickness.

Coal licences 3986 to 3993 inclusive fall mostly within the above Willow Creek area.

The Government work tested only parts of the above areas. It did not include the coal area at Crassier Creek (licence 3989) nor did it include coal in some of the structurally disturbed areas. No serious work was carried out after the government's program in the Pine River area until 1969 when Bremeda Resources Ltd. conducted a trenching and drilling program on the Noman Creek coal seams. They drilled 22 holes totalling 4567 metres and traced two main seams for approximately 3 km to the northwest of the highway. While the grade of the coal was high, tight folding and limited tonnage made the property unattractive.

Also, in 1969, Bremeda Resources Ltd. commenced work on the Sukunka deposit located approximately 55 km southeast of the Pine River area. Early work in this district quickly indicated the potential of the Bullmoose Mountain area as a major coal field. Three deposits are now proven in this area and will be brought into production when transportation facilities are arranged. They are the Sukunka, Bullmoose and Quinette deposits (see Figure 2).

In 1979 Semper Resources Inc. acquired coal licences 3986-3993 and conducted reconnaissance geological mapping on parts of the licences. Areas of interest located during the above were tested by backhoe trenching during July and August, 1980. (Figure 4).

1980-81 EXPLORATION

Fieldwork on the Willow Creek coal licences was conducted in two stages. The first stage consisted backhoe trenching, geological mapping of the trenches and sampling of tne coal seams exposed in the trenches. This work included digging four trenches on licence 3987 totalling 763 metres and one trench on licence 3992 totalling 297 metres. This work was reported by Jones (1980).

The work referred to above was successful in exposing three significant coal seams on licence 3992. As a result of this encouragement Semper Resources Inc. resumed backhoe trenching in October 1980, then followed up with a diamond drill program. The object of the additional exploration was to further expose, along strike, the significant coal seams on licence 3992, explore for additional seams, and to test the seams at depth by drilling.

Mobilization

The backhoe and drilling equipment were moved to the property via highway transport to the river crossing, then forded across and moved to coal licence 3992. A tent camp was originally set at the Pine River ford but was closed with the coming winter. The crews then commuted out of Chetwynd.

Road Construction

Access to the trenching area on licence 3992 was via a short, steep, wet section of winter cat road which branched off to the east from the gas well service road. This winter road was not passable by 4x4 vehicle. In order to service the backhoe and later the drilling program, a new road was constructed to by-pass the winter road. Approximately 2 km of new access road was constructed by P. Demeullemeister of Chetwynd, B.C. Drill site access roads, upgrading of property roads and drilling mobilization were achieved using a D-6 owned by W. & J. Schilling, also of Chetwynd, B.C. (See figure 6).

Grid Survey

A grid was laid out to cover the main area of interest on licences 3991 and 3992. The survey was made using a Brunton compass and nylon chain. A N45E baseline was run along the seismic line, with parallel grid lines laid out at 200 metre intervals. All trenches, roads, drill holes, etc., were tied to this grid.

Trenching

Trenching was carried out by a John Deere 450C Crawler-type combination front end loader-backhoe owned and operated by Stan Brewer of Vernon, B.C.

Trenches were laid out in the areas of interest by running a flagged compass line down the proposed center line of the trench. Then one man, equipped with a Homolite XL 12 chain saw with 16 inch bar, proceeded to fall all timber along the trench right-of-way and buck it into 2-3 metre lengths. He also fell any "leaners" in the trench area, whether caused by our program or not.

After all trees were fallen and bucked, the trench area was cleared to a width of 4-5 m using the front bucket on the loader as a blade. All debris was windrowed along one side. Trenching then commenced close to one edge of the clearing leaving ample room to store the excavated material.

Depth of overburden was variable from 0.2 metres to greater than 3.5 metres. Most trenches averaged 1.0-1.5 m in depth except in significant coal seams which were deepened to at least 2 m in search of fresher coal.

Each trench had sections where the overburden was too deep to permit exposing bedrock. Two trenches, which were intended to freshen up old government bulldozed trenches, failed to reach bedrock.

When bedrock was lost due to deep burial several step-out test pits were dug to approximately 4m, the limit of the equipment. If no bedrock was encountered trenching was terminated.

A total of seven trenches were dug. Two trenches were excavated along the bulldozed seismic line as continuations of trench 5 (from the previous program), three were step-outs from trench 5 to the northwest and two were attempts of re-opening old government trenches.

Geological Mapping

Geology was mapped and coal seams sampled as soon as sufficient trenching was completed to permit safeworking conditions. This was essential because water seeps in various parts of the trenches would cause sluffing of the walls soon after they were exposed.

Geology was mapped in notebook form, then plotted on a map on a scale of 1:500. Coal seams were later transferred to 1:2000 scale plans and cross sections (Figures 6, 7-12).

Diamond Drilling

Twelve HQ diamond drill holes were completed by Olympic Drilling Co., using a Longyear 38 drill (Table 3). The drill set-up was unitized and winterized. It was moved from site to site with a D-6 bulldozer which also prepared the sites and roads. Water for drilling was initially pumped up to 1200 m from a spring then fed down to the drill. Until temperatures dropped to $-10^{\circ}C$ one coil stove water heater was sufficient to keep the lines open. Below this temperature water lines were frozen.

When freezing lines made pumping water impossible, Gallant Trucking of Kamloops was contracted to haul water to the drill. They supplied a four-wheel drive tank truck and a 3000 gallon storage tank, both with built in heating units. Water was trucked 3 to 5 km from near the confluence of Willow Creek and the Pine River to the various drill sites.

Initially, core recovery in coal seams was not always acceptable. However, as the writer became familiar with the geology, he could predict the approximate location of the various seams. The drillers were then notified of these locations which, when approached in drilling, would be drilled at a slower rate. As soon as the seam was intersected, the core tube would be emptied, then drilling resumed up to a maximum of 5 feet (1.5 m) per run until the seam had been crossed. As soon as the footwall was entered, the tube would be emptied again. It was found that if hanging and footwall rocks as well as large partings were removed from the core tube, grinding of coal was kept to a minimum.

All drill core was geologically logged on the appropriate forms and plotted as both stratigraphic columns and as drill hole sections. (Figure 14).

Geophysical Surveys

Roke Oil Enterprises Limited of Calgary were contracted to conduct down hole geophysical surveys on each hole upon completion of drilling. Data recorded included Gamma-ray neutron, sidewall densilog, caliper, focused beam and directional surveys (see Appendix).

Data from these surveys aided the writer in interpreting the coal content of the seams, interpreting between seams, and the logs were also valuable in the interpretation of seams in which core losses have occurred.

Bridge Construction

Initially, access to the working area was from highway 97 via a ford across the Pine River. Fluctuations in the river level often made this crossing impossible to 4x4 vehicles, so a small boat was used to ferry the crew over the river. When the river began to freeze and temperatures dropped to $-20^{\circ}C$ to $-40^{\circ}C$ neither fording nor boat travel were possible.

A logging road type timber bridge was then constructed which permitted vehicle access to the property. A railroad crossing was constructed by B.C. Rail to enable safe crossing of their tracks.

The bridge was removed upon termination of the drilling program.

GEOLOGY

Regional Geology

The Rocky Mountains consist of a complex series of closely folded, faulted and thrusted blocks of sedimentary rocks ranging in age from Proterozoic to Lower Cretaceous. To the east of the Rockies the deformation decreases gradually, resulting in the formation of low amplitude simple folds.

Lower Cretaceous coal bearing beds outcrop extensively along the Foothills of Alberta and Northeast British Columbia. They occur in sediments assigned to the Blairmore, Bullhead, and Fort St. John groups. (Table 1).

Bullhead and Fort St. John Formations outcrop in the Pine River area on and in the vicinity of coal licence 3986-3993, 6792. (See Figure 13). In this area they occur in a broad anticlinorium near the eastern limit of the strong Foothills deformation. Considerable literature is available on the Foothills belt of northeast British Columbia. This includes:

a) Regional studies by the Geological Survey of Canada and published as Stott (1968) and Stott (1971).

b) Several localized stratigraphic and mapping projects have been completed within the area by both the British Columbia Department of Mines and the Geological Survey of Canada. These are documented by Hughes (1964), Hughes (1967), McLean and Kindle (1950), McKechnie (1955), and Spivak (1944).

Local Geology

The Semper Resources Inc. coal licences cover the northern part of the Willow Creek anticlinorium and are underlain mostly by rocks of the Lower Cretaceous Gething Formation, the coal

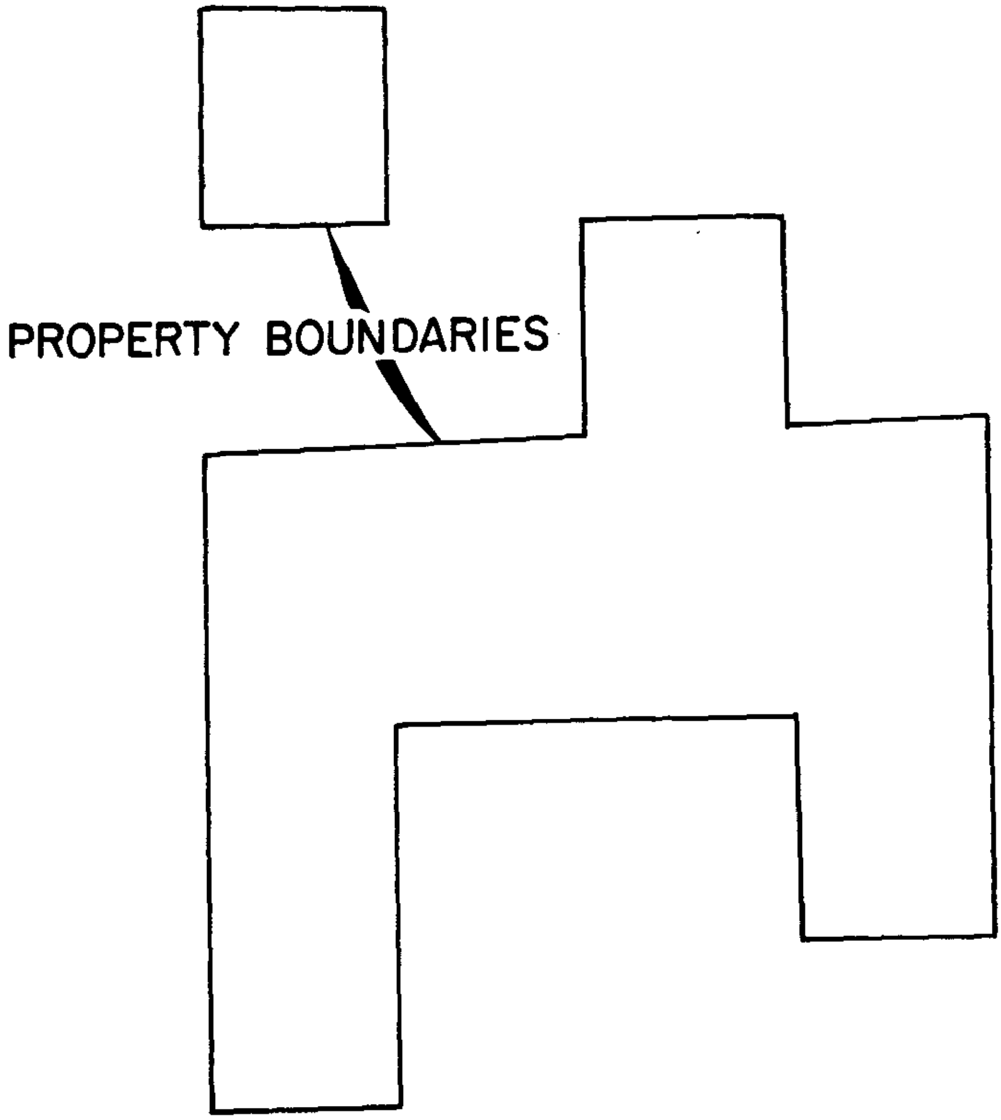

PROPERTY BOUNDARIES

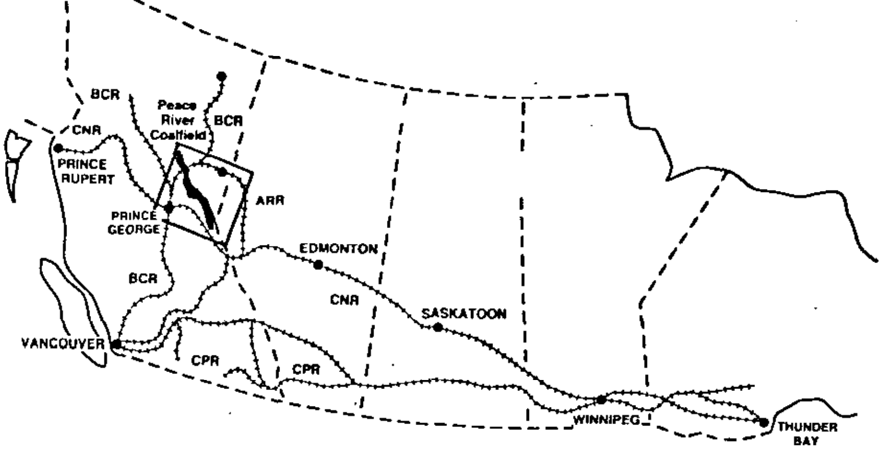
TABLE 1

TABLE OF FORMATIONS

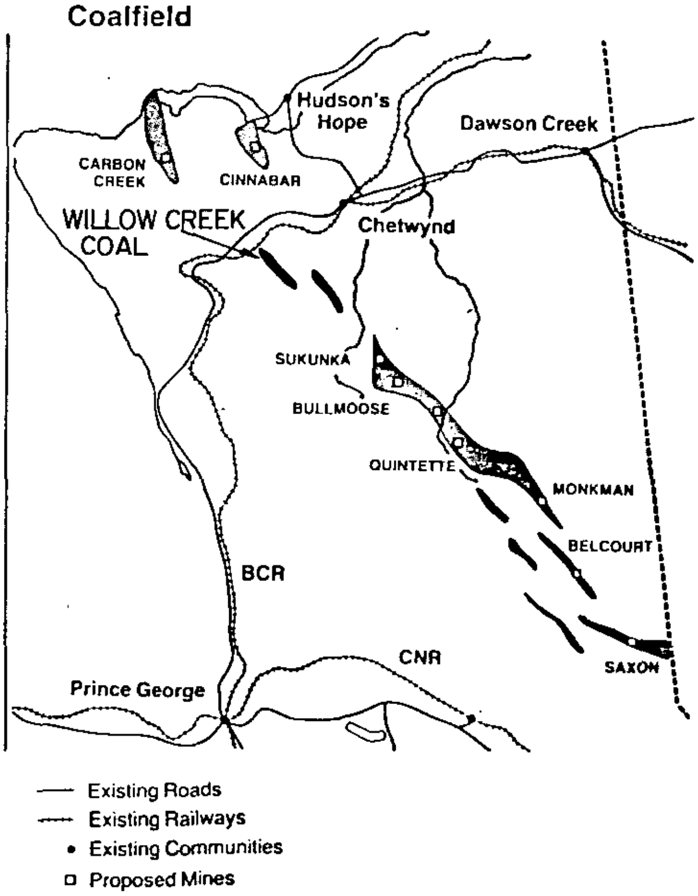
Series	Group		Formation / Member	Thickness	Lithology
Upper Cretaceous	Fort St. John		Dunvegan (350-1,200)		Fine- to coarse-grained sandstone, conglomerate; carbonaceous shale and coal
			Dunvegan	300-1200	Marine and non-marine sandstone and shale
		Shaftesbury 400-900'	Cruiser Fm.[1]	350-800	Dark grey marine shale with sideritic concretions; some sandstone
			Goodrich Fm.[1]	50-1350	Fine-grained, crossbedded sandstone; shale and mudstone
			Hasler Fm.[1]	500?-1500	Silty, dark grey marine shale with sideritic concretions; siltstone and sandstone in the lower part; minor conglomerate
Lower Cretaceous		Commotion 1080-1600'	Boulder Creek Member	240-560	Fine-grained, well sorted sandstone; massive conglomerate; non-marine sandstone and mudstone
			Hulcross Member	0-450	Dark grey marine shale with sideritic concretions
			Gates Member	220-900	Fine-grained, marine and non-marine sandstones; conglomerate; coal; shale and mudstone
			Moosebar	100-1000	Dark grey marine shale with sideritic concretions; glauconitic sandstone and pebbles at base
Lower Cretaceous	Bullhead Group 0-2,500 feet (0-750 m)		Gething Formation	0-1,800 feet (0-540 m)	Fine-grained, cherty to quartzose sandstone; rusty weathering shale; carbonaceous mudstone and coal seams; minor conglomerate
			Cadomin Formation	0-770 feet (0-230 m)	Massive chert conglomerate and coarse-grained sandstone; carbonaceous shale; minor coal

Regional erosional unconformity; bevels rocks of succeedingly older age northward and eastward

Peace River Coalfield
Coal Rail Routes and Ports



Northeast Region
Peace River Coalfield



Peace River Coalfield
Coal Resources

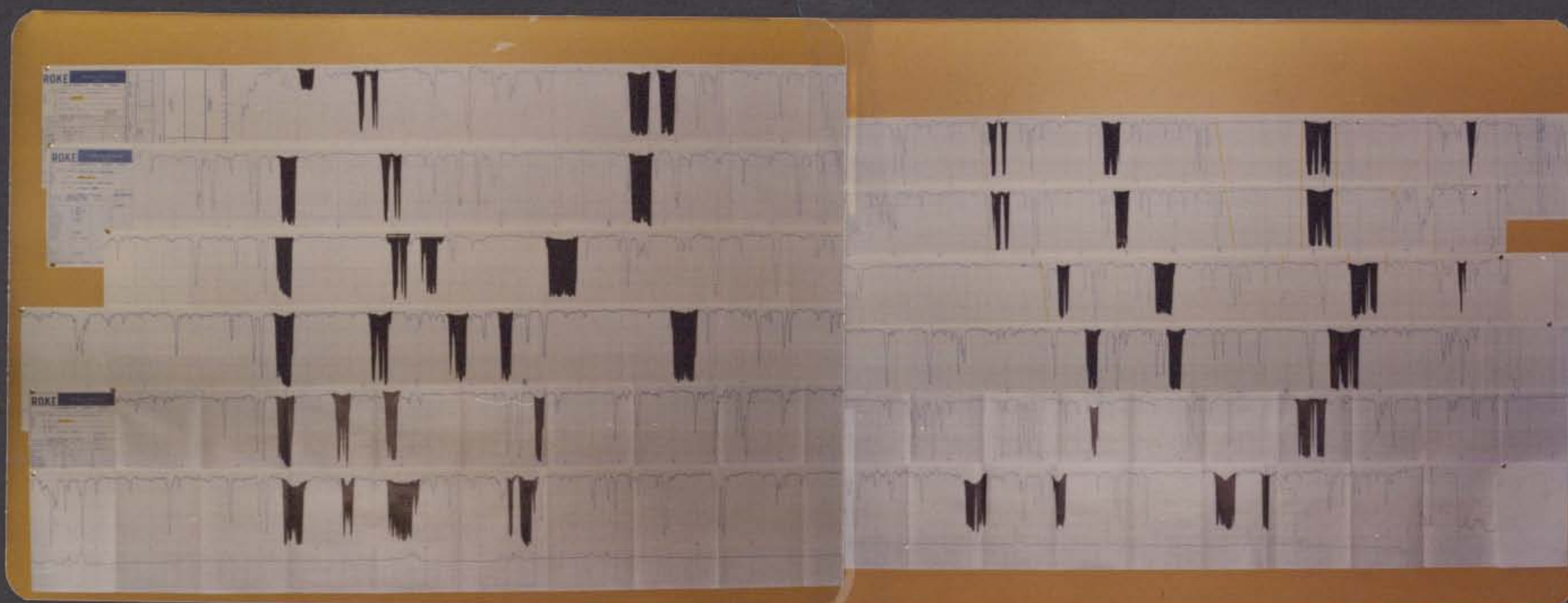
Resource	Millions of Tonnes
Measured	300
Indicated	285
Inferred	7,720

Metallurgical - 85% Thermal - 15%

Figure 2

BLUE SKY CONGLOMERATES

GEOPHYSICAL LOGS–CROSS SECTION 600E



bearing upper member of the Bullhead Group. (See Table 1). The anticlinorium is defined by rocks of the Bullhead and Fort St. John Groups. The contact between the Groups is marked by a thin bed of chert pebble conglomerate (Blue Sky Conglomerate) which is well exposed on licence 3987 in trench 3 (Jones, 1980) and on licence 3992 in outcrop and in DDH's 80-3, 81-6 and 81-10 (see photos, Fig.6). This conglomerate marker bed designates the top of the Gething Formation and was used in correlating coal seams in DDH's 81-5, 81-4, 80-3, 81-6, 81-9 and 81-10 (see Figure 14). Down hole geophysics enabled good correlation between seams (see photos).

Within the trenching and drilling area on licence 3992, outcrop is sparse. The most geologically tested area is in the vicinity of the bulldozed seismic line, section 00N. Work along this includes trenches 5, 5A and 5B, and diamond drill hole 80-1, 80-2, 80-3, 81-11 and 81-12. Interpretation of the geology from the above work indicates a small, gentle fold on the east limb of the much broader Willow Creek Anticline (see section 00N, Figure 9). The synclinal axis is marked by a fault visible in a road cut 20 m east of DDH 80-1. It is speculated that the fault correlates with one cut in DDH 80-2 at 100 m.

The bedrock appears sto be oxidized to an average of 11 m below the surface (Table 2).

Coal Development

Eight major coal zones (greater than/equal to 1.5 m) were found by trenching and drilling. The correlation chart summarizes the geology in the drilling area as well as illustrating the size and location of the major coal zones (Figure 14).

A summary of the size and recovery of the eight major coal zones is tabulated in Table 4.

The term coal zones was used to separate coal seams with waste partings from clean coal seams. (See Figures 7-12).

TABLE 2

LIMITS OF SURFACE WEATHERING

Diamond Drill Hole	Limit of Oxidation (from Geological Log)			Standing Water Level (from Gamma Ray/Neutron Log)
	Dip	Apparent Distance	True Distance from Surface	
DDH 80-1	-55°	10 m	8.2 m	?
80-2	-90° (vert)	N/D	–	34.5 m
80-3	-60°	17 m	14.7 m	?
81-4	-62°	12 m	10.6 m	?
81-5	-65°	16 m	14.5 m	3 m
81-6	-60°	17 m	14.7 m	?
81-7	-58°	14.5 m	12.3 m	54 m
81-8	-57°	9 m	7.5 m	13 m
81-9	-59°	16 m	13.7 m	31.5 m
81-10	-58°	10 m	8.5 m	10 m
81-11	-55°	9 m	7.37 m	1 m
81-12	-57°	10 m	8.4 m	11 m

COAL QUALITY

Sampling Procedure

Coal zone intervals were documented (geologic logging and photography) immediately after the drilling shift. The coal was sampled from the hanging wall to the footwall in its entirety if the coal seam was 1.5 to 2 m wide. If it was larger than 1.5 m it was sampled to the end of the first run length, the next sample to the end of the next run length, etc. Large partings > 10 cm were omitted from the sample but recorded in the geologic logs in either case. A 1.5 m sample of HQ core (with 100% recovery) made a convenient sample size for expediting.

From here samples were recorded, packaged and sent by Greyhound bus to Commercial Testing and Engineering Co. of North Vancouver. A sample result turnaround period for a single drill hole batch averaged 2-3 weeks.

From the assay data, coal zones 1, 2 and 3 include some coking coal. The remaining zones (4-8) are low to medium volatile bituminous coal with low Ash averaging 0.6% sulphur and 14,000 BTU (Table 3,4,5).

TABLE 3

DRILL HOLES SUMMARY

Hole Number	Coordinates N/S	Coordinates E	Coal Licence	Bearing	Inclin-ation	Collar Elev.	Total Depth	Date Started	Date Finished	Coal Zones Intersected
DDH 80-1	03N	125E	CL 3992	Gridwest	-55°	1092 m	248 m	Nov.19, 1980	Nov.24, 1980	#5,#6,#7,#8,#10?
80-2	00N	276E	CL 3992	Vert	Vert	1110 m	260 m	Nov.25, 1980	Nov.30, 1980	#5,#6,#7,#8
80-3	00N	699E	CL 3992	Gridwest	-60°	1130 m	346.5m	Jan. 8, 1981	Jan.17, 1981	#1,#2,#3,#4,#5, #6,#7
81-4	400N	671E	CL 3992	Gridwest	-62°	1090 m	295.5m	Jan.18, 1981	Jan.22, 1981	#1,#2,#4.#5.#6. #7.#8
81-5	600N	621E	CL 3992	Gridwest	-65°	1085 m	282.5m	Jan.23, 1981	Jan.28, 1981	#1.#2,#4.#5.#6. #7 #8
81.6	200S	700E	CL 3991	Gridwest	-60°	1130 m	323 m	Jan.29, 1981	Feb. 5, 1981	#1.#2.#3.#4.#5. #6,#7
81-7	400N	120E	CL 3992	Gridwest	-58°	1095 m	252 m	Feb. 6, 1981	Feb.13, 1981	#5.#6.#7.#8.#9. #10
81-8	600N	80E	CL 3992	Gridwest	-57°	1190 m	136 m	Feb.14, 1981	Feb.16, 1981	#5,#6,#7.#8
81-9	600S	630E	CL 3991	Gridwest	-59°	1165 m	328 m	Feb.18, 1981	Feb.23, 1981	#1 #2.#3.#4.#5. #6,#7
81-10	1000S	671E	CL 3991	Gridwest	-58°	1165 m	316 m	Feb.24, 1981	Mar. 2, 1981	#1.#2.#3.#4.#5. #6.#7
81-11	00N	605E	CL 3992	Gridwest	-55°	1115 m	154.5m	Mar. 3, 1981	Mar. 5, 1981	#1.#2.#4
81-12	02N	495E	CL 3992	Gridwest	-57°	1105 m	66 m	Mar. 6, 1981	Mar. 7, 1981	#4
							3008 m			

DDH'S 1980 → DDH 80-n
1981 → DDH 81-12

TABLE 4

SUMMARY OF COAL SEAM DIMENSIONS

Location D.D.H.	Observed Width (m)	Recovery %	Geophysical Log. Widths (m)	True Coal Zone (m)	Total Coal (m)
SEAM ONE					
80-5 ~~81-5~~	1.0	90	5.9	5.9	4.2
80-4 ~~81-4~~	2.3	87	2.7	2.7	2.7
80-3	2.25	76.5	2.6	2.6	2.6
81-11	3.1	55	2.5	2.5	2.5
80-6 ~~81-6~~	2.88	94	2.9	2.9	2.9
81-9	3.2	65	2.6	2.6	2.6
81-10	3.45	73.5	3.5	3.5	3.5
SEAM TWO					
80-5 ~~81-5~~(A)	1.0	73	3.6	3.6	2.3
(B)	Not sampled				
80-4 ~~81-4~~(A)	1.05	85	3.3	3.3	2.2
(B)	0.87				
80-3(A)	No Recovery		1.7	2.7	1.7
(B)	No Recovery		1.0		
81-11	2.6	90	2.9	2.9	2.0
80-6 ~~81-6~~	1.6	95	3.1	3.1	2.5
81-9	1.0	50	2.0	2.0	1.3
81-10	0.9	90	1.2	1.2	0.6
SEAM THREE					
80-3	1.85	68.5	2.0	2.0	2.0
81-11	2.2	84	3.0	3.0	1.8
80-6 ~~81-6~~	2.6	87	3.1	3.1	2.5
81-9	1.1	67	2.0	2.0	2.0
81-10	4.5	66	4.5	4.5	4.5
SEAM FOUR					
80-5 ~~81-5~~(A)	3.4	80	3.7	3.7	6.2
(B)	3.0	84	2.5	2.5	
80-4 ~~81-4~~	3.85	89	3.8	3.8	3.8
80-3	4.0	15	5.2	5.2	5.2
81-11	4.0	95	3.3	3.3	3.3
81-12	1.9	33	2.5	2.5	2.5
80-6 ~~81-6~~	3.7	73	4.0	4.0	4.0
81-9	No Recovery		2.6	2.6	1.3
81-10(A)	No Recovery		0.65	4.1	2.8
(B)	1.5	46	3.45		

SUMMARY OF COAL SEAM DIMENSIONS .. continued

Location D.D.H.	Observed Width (m)	Recovery %	Geophysical Log Widths (m)	True Coal Zone (m)	Total Coal (m)
SEAM FIVE					
81-5(A)	1.7	100	1.1	2.0	2.0
(B)	0.8	100	0.9		
81-8	-	0	3.5	3.5	2.9
81-4(A)	1.2	95	3.0	3.0	2.1
(B)	0.5	100	ND	ND	ND
81-7(A)	0.55	64	2.4	2.4	2.0
(B)	0.8	95			
80-3	1.9	90	2.2	2.2	1.9
80-2	3.0	90	2.9	2.9	2.3
80-1	-	0	2.4	2.4	2.1
81-6	2.4	97	2.1	2.1	1.9
81-9	0.7	93	ND	ND	ND
81-10	4.3	97	4.3	2.6	2.5
SEAM SIX					
81-5	3.45	87.5	2.9	2.9	2.7
81-8	3.1	93	2.8	2.8	2.4
81-4	2.45	95	2.6	2.6	2.6
81-7	3.0	93.5	2.9	2.9	2.9
80-3	3.5	95	3.5	3.5	3.5
80-2	3.2	95	3.0	3.0	3.0
80-1	2.4	67.5	2.7	2.7	2.7
81-6	2.5	100	2.6	2.6	2.6
81-9	1.8	90	1.5	1.1	1.1
81-10	2.2	98	2.1	1.3	1.3
SEAM SEVEN					
81-5	4.95	98	5.2	5.2	4.1
81-8(A)	1.6	100			
(B)	0.85	80	6.2	6.2	4.0
(C)	1.55	83			
81-4	4.95	91	5.0	5.0	4.2
81-7(A)	2.0	93			
(B)	0.4	67	5.6	5.6	4.3
(C)	2.0	77			
80-3	5.1	90	5.4	5.4	4.4
80-2	4.2	86.2	5.5	5.5	5.5
80-1	5.2	74.1	5.6	5.6	5.6
81-6	5.45	93	6.0	6.0	4.8
81-9	4.35	80	5.05	4.1	3.2
81-10(A)	3.6	53	4.05	2.3	3.2
(B)	1.35	93	1.4	.9	

SUMMARY OF COAL SEAM DIMENSIONS .. continued

Location D.D.H.	Observed Width (m)	Recovery %	Geophysical Log Widths (m)	True Coal Zone (m)	Total Coal (m)
			SEAM EIGHT		
81-5	1.1	100	1.1	1.1	0.7
81-4			1.5	1.5	0.7
81-8	0.6	75	1.6	1.6	1.2
81-7	1.3	90	1.7	1.7	1.7
80-3	1.5	98	0.9	0.9	0.4
80-2	2.6	100	2.7	2.7	1.8
80-1	2.9	83.3	1.9	1.9	1.6

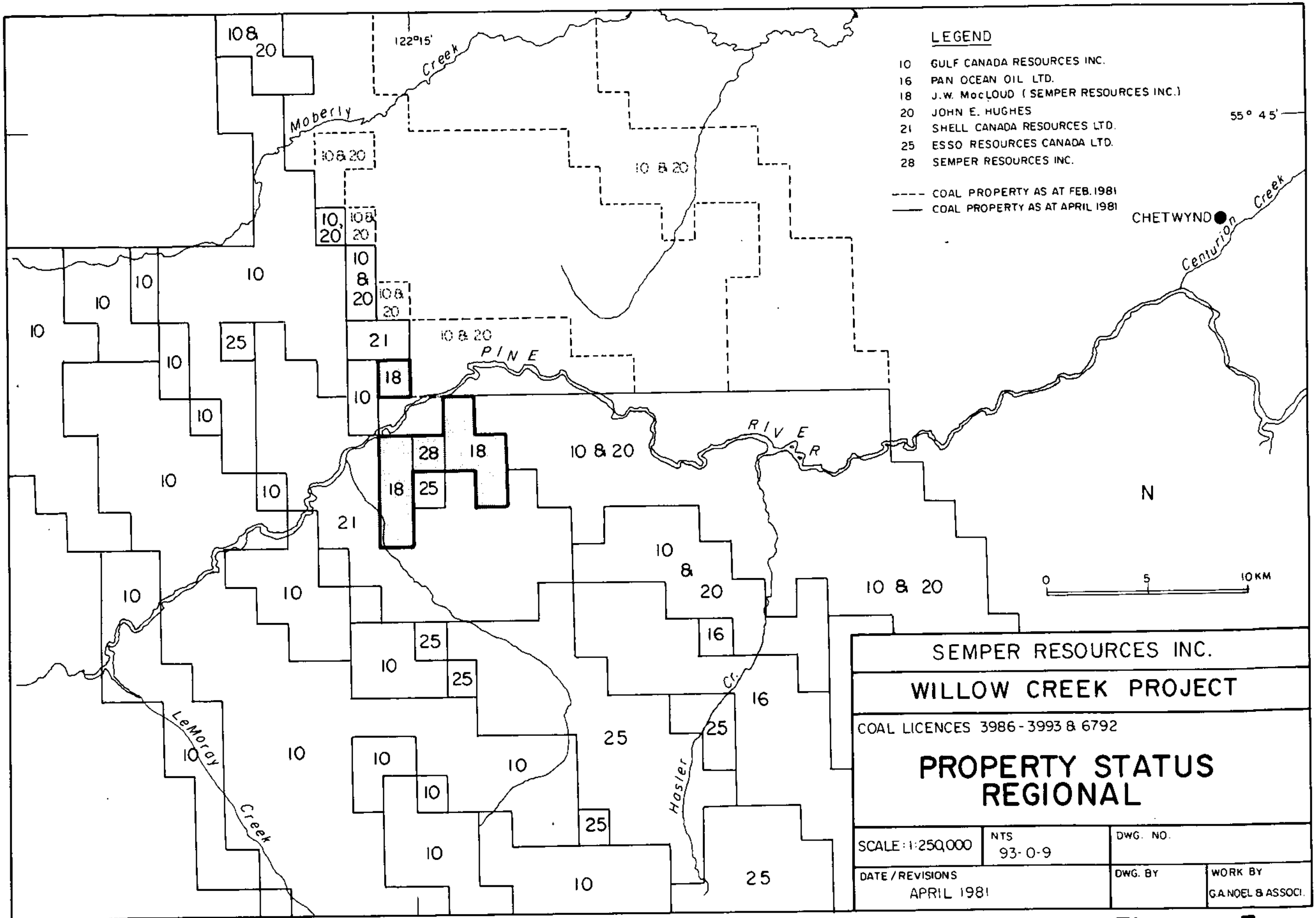
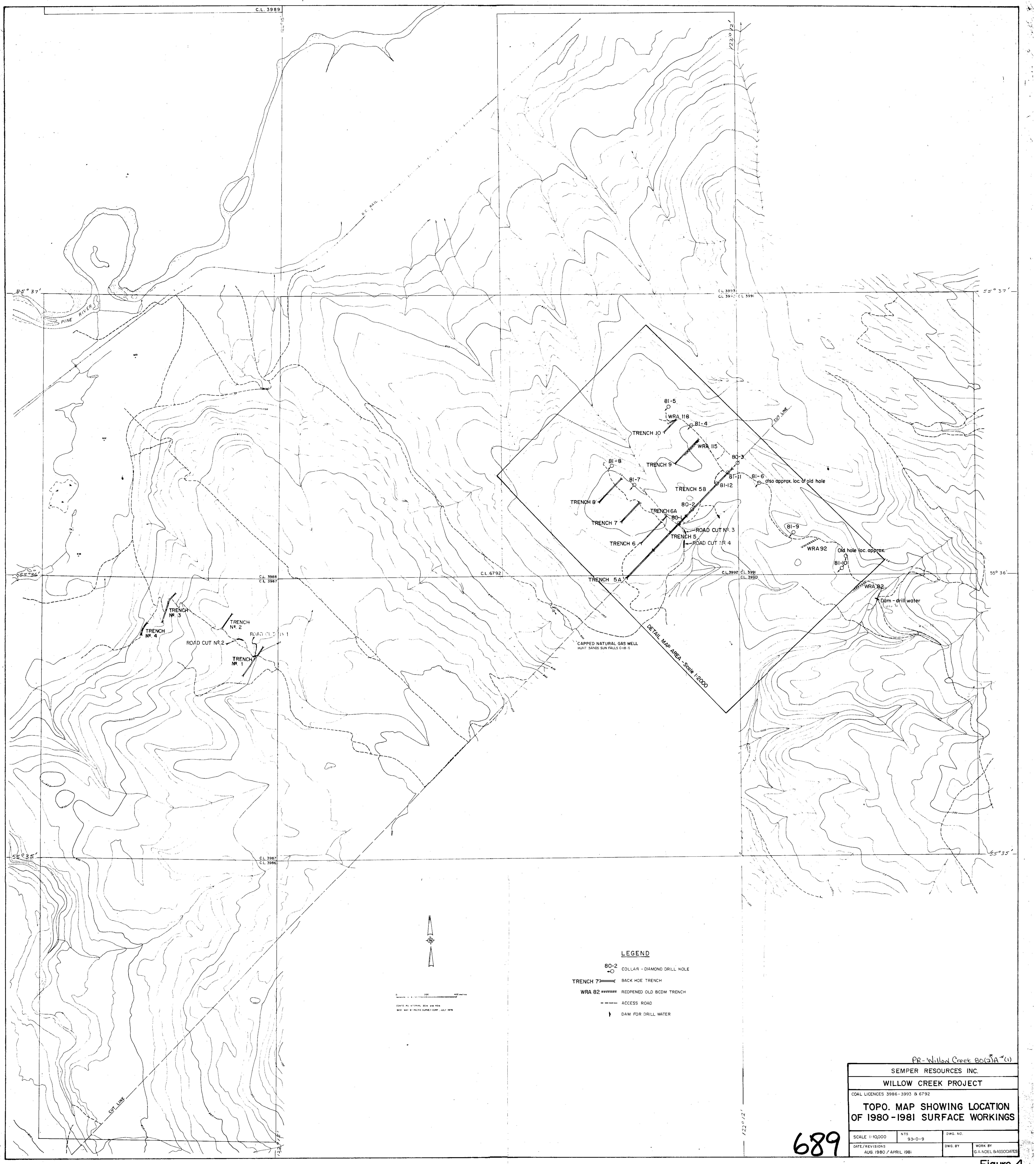

LEGEND
10 GULF CANADA RESOURCES INC.
16 PAN OCEAN OIL LTD.
18 J.W. MacLOUD (SEMPER RESOURCES INC.)
20 JOHN E. HUGHES
21 SHELL CANADA RESOURCES LTD.
25 ESSO RESOURCES CANADA LTD.
28 SEMPER RESOURCES INC.
COAL PROPERTY AS AT FEB. 1981
COAL PROPERTY AS AT APRIL 1981
122°15'
55° 45'
Moberly Creek
PINE RIVER
CHETWYND
Centurion Creek
LeMoray Creek
Hasler Cr.
N
0 5 10 KM
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986 - 3993 & 6792
PROPERTY STATUS REGIONAL
SCALE: 1:250,000
NTS 93-0-9
DWG. NO.
DATE / REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCI.

Figure 3



C.L. 3989
PINE RIVER
55° 37'
55° 36'
55° 35'
122° 12'
C.L. 3993
C.L. 3992
C.L. 3991
C.L. 3990
C.L. 3988
C.L. 3987
C.L. 3986
C.L. 6792
81-5
WRA 118
81-4
TRENCH 10
CUT LINE
WRA 115
TRENCH 9
80-3
81-8
81-11
81-6
also approx. loc. of old hole
81-7
81-12
TRENCH 5B
TRENCH 8
80-2
TRENCH 6A
TRENCH 7
80-1
ROAD CUT No. 3
TRENCH 5
81-9
TRENCH 6
ROAD CUT No. 4
WRA 92
Old hole loc. approx.
81-10
TRENCH 5A
WRA 82
Dam - drill water
TRENCH No. 3
TRENCH No. 2
TRENCH No. 4
ROAD CUT No. 2
TRENCH No. 1
CAPPED NATURAL GAS WELL
DETAIL MAP AREA - Scale 1:2000
CUT LINE
LEGEND
80-2 COLLAR - DIAMOND DRILL HOLE
TRENCH 7 BACK HOE TRENCH
WRA 82 REOPENED OLD BCDM TRENCH
ACCESS ROAD
DAM FOR DRILL WATER
PR- Willow Creek 80(2)*A*(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
TOPO. MAP SHOWING LOCATION OF 1980-1981 SURFACE WORKINGS
SCALE 1:10,000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS AUG. 1980 / APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 4

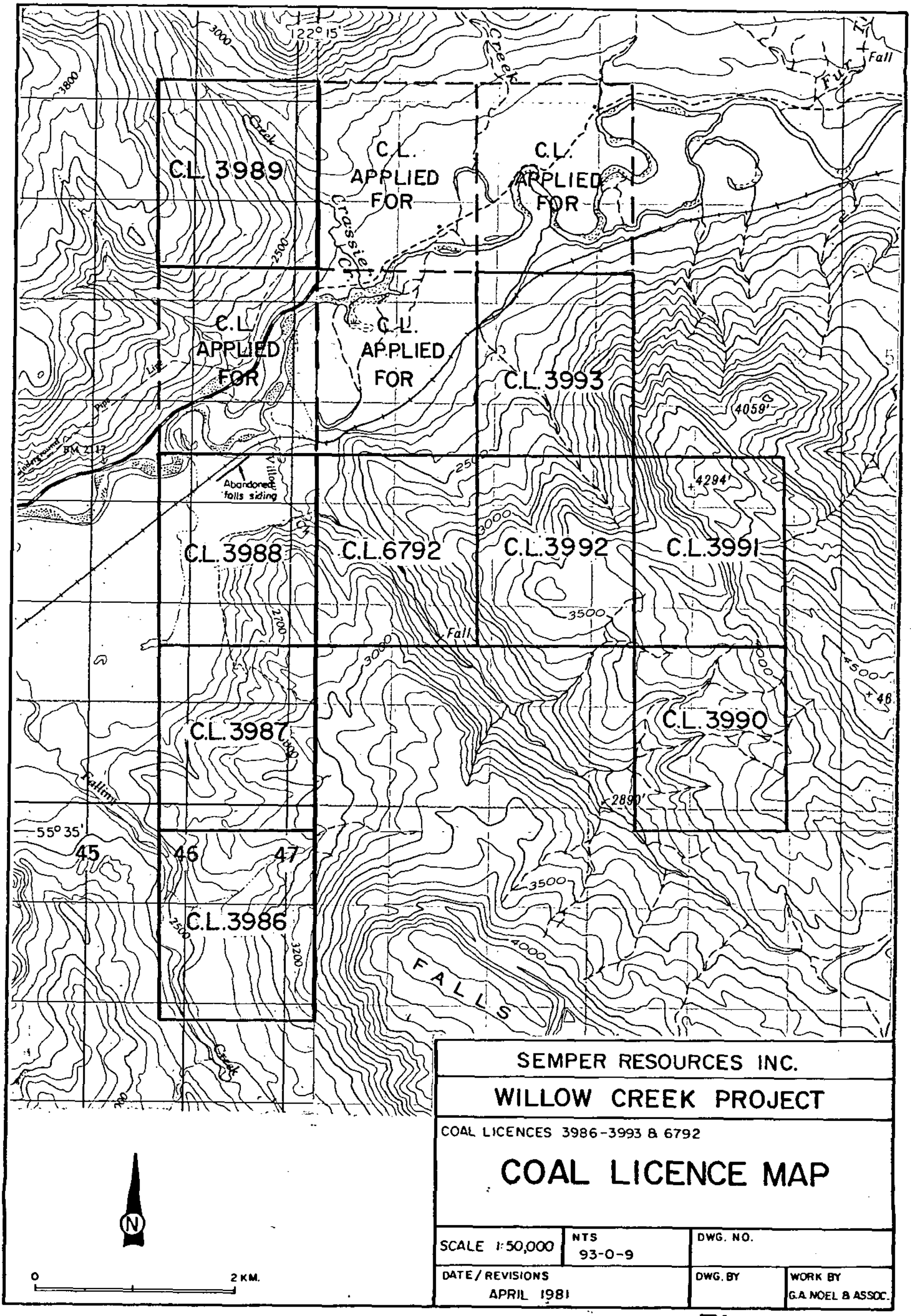

C.L. 3989
C.L. APPLIED FOR
C.L. APPLIED FOR
C.L. APPLIED FOR
C.L. APPLIED FOR
C.L. 3993
C.L. 3988
C.L. 6792
C.L. 3992
C.L. 3991
C.L. 3987
C.L. 3990
C.L. 3986
45
46
47
55° 35'
122° 15'
Crassie Cr.
Creek
Fur
Fall
4059'
4294'
2890'
Abandoned falls siding
FALLS
Falling
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
COAL LICENCE MAP
SCALE 1:50,000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOC.
0
2 KM.
N

Figure 5


400W
00E
1000 N
800E
1000
900
1100
1200
TR. 8
TR. 7
TR. 6
TRENCH 6A
TR.5A
TR.5
TR.5B
D.D.H. 81-8 (-57°)
D.D.H. 81-5 (-65°)
D.D.H. 81-7 (-58°)
D.D.H. 81-4 (-62°)
D.D.H. 80-1 (-55°)
D.D.H. 80-2 (-90°)
D.D.H. 81-12 (-57°)
D.D.H. 81-11 (-55°)
D.D.H. 80-3 (-60°)
D.D.H. 81-6 (-60°), D.D.H. 38 (approx. loc.)
D.D.H. 81-9 (-59°)
D.D.H. 81-10 (-58°)
X Drill water
500S
1000S
G.N.
T.N.
M.N.
45°
27°
To Dam for Drill Water
Metres
100
150
689
PR-Willow Creek 80(2)A *(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCE: 3986-3993 & 6792
DETAIL WORK AREA
1980-1981
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE / REVISIONS
APRIL 1981
DWG. BY
WORK BY
G.A. NOEL & ASSOCIATES

Figure 6

TABLE 5

SUMMARY OF COAL QUALITY

Location D.D.H.	Sample No.	Interval (m)	Width (m)	Ash	Volatile Matter	Fixed Carbon	Sulphur	F.S.I.	B.T.U. (Moist)	B.T.U. (Dry)	Type	Analysis Report No.
				% Values - Dry Assay								
						SEAM ONE						
81-5	97871	7.5 - 8.5	1.0	20.09	22.95	56.96	0.66	1½	11,240	11,830	Thermal	64-20010
81-4	97851	30.4 - 31.1	0.7	3.50	21.3	75.2	0.56	2	14,440	14,894	Thermal	64-19955
	97852	31.1 - 32.7	1.6	3.18	24.39	72.43	0.53	6	14,429	14,921	Coking	64-19956
80-3	438	71.6 - 72.2	0.6	19.29	27.21	53.5	0.42	1½	11,105	11,625	Thermal	64-19912
	439	72.2 - 73.85	1.65	2.5	21.14	76.36	0.31	1	14,413	15,083	Thermal	64-19913
81-11	97644	13.1 - 14.3	1.2	7.11	21.42	71.47	0.44	1	13,466	14,102	Thermal	64-20128
	97645	14.3 - 16.2	1.9	12.38	21.54	66.08	0.43	2	12,838	13,660	Thermal	64-20129
81-6	97887	55.47- 57.0	1.53	2.08	21.83	76.09	0.44	1½	14,516	15,089	Thermal	64-20045
	97888	57.0 - 58.35	1.35	25.41	21.18	53.41	0.51	8	10,832	11,125	Coking	64-20046
81-9	97619	38.1 - 41.3	3.2	6.55	22.36	71.09	0.44	3	13,794	14,357	Thermal	64-20097
81-10	97627	54.8 - 57.0	2.2	7.26	22.3	70.44	0.47	2½	13,544	14,281	Thermal	64-20111
	97628	57.0 - 58.25	1.25	6.39	26.21	67.4	0.50	9	13,758	14,636	Coking	64-20112
12												
						SEAM TWO						
81-5	97872	21.9 - 22.9	1.0	16.57	20.92	62.51	0.56	4½	12,168	12,498	Thermal	64-20011
81-4(2A)	97853	49.05- 50.1	1.05	19.2	21.91	58.89	0.63	7½	12,015	12,420	Coking	64-19957
(2B)	97854	51.0 - 51.55	0.55	6.83	20.61	72.56	0.62	1½	14,060	14,413	Thermal	64-19958
	97855	51.75- 52.07	0.32	7.66	24.57	67.77	0.76	7½	14,214	14,506	Coking	64-19959
81-11	97646	31.4 - 35.5	1.4	17.55	20.02	62.43	0.72	2½	12,292	12,847	Thermal	64-20130
	97647	35.7 - 36.9	1.2	15.12	21.23	63.65	0.5	3½	13,285	13,853	Thermal	64-20131
81-6	97889	73.4 - 75.0	1.6	47.64	14.65	37.71	4.53	1	6,660	6,986	Waste	64-20047
81-9	97620	48.9 - 50.9	1.0	27.79	20.51	51.7	0.41	2½	10,669	10,886	Thermal	64-20098
81-10	97629	65.8 - 66.7	0.9	46.52	18.48	35.0	0.37	6	7,074	7,359	Waste	64-20113
9												
						SEAM THREE						
80-3	440	98.4 -100.25	1.85	5.17	19.74	75.09	0.44	1½	13,941	14,454	Thermal	64-19914
81-11	97648	40.65- 41.15	0.5	34.7	17.72	47.58	0.51	3½	8,685	9,737	Thermal	64-20132
	97649	41.75- 43.9	2.15	13.29	25.56	61.15	0.47	2	12,527	13,358	Thermal	64-20133
81-6	97890	87.4 - 88.9	1.5	6.48	20.57	72.95	0.35	1	13,795	14,291	Thermal	64-20048
	97891	88.9 - 90.0	1.1	7.85	23.92	68.23	0.39	1	13,350	13,887	Thermal	64-20049
81-9	97621	57.8 - 59.85	1.1	11.98	24.26	63.76	0.47	1½	12,763	13,114	Thermal	64-20099
81-10	97630	73.8 - 75.3	1.5	18.01	19.39	62.6	0.4	1	11,309	12,451	Thermal	64-20114
	97631	75.3 - 76.8	1.5	9.61	24.22	66.17	0.41	1½	12,798	13,666	Thermal	64-20115
	97632	76.8 - 78.3	1.5	9.79	17.45	72.76	0.41	1½	12,310	13,859	Thermal	64-20116
9												
						SEAM FOUR						
81-5(A)	97874	71.6 - 73.8	2.2	2.1	19.54	78.36	0.46	1½	14,560	15,116	Thermal	64-20013
	97875	73.8 - 75.0	1.2	3.33	23.61	73.06	0.41	6	14,493	14,989	Coking	64-20014
(B)	97876	77.3 - 80.3	3.0	4.15	22.7	73.15	0.43	6½	14,037	14,756	Coking	64-20015
81-4	97857	94.75- 96.6	1.85	4.7	19.54	75.76	0.4	1½	13,807	14,745	Thermal	64-19961
	97858	96.6 - 98.6	2.0	13.87	20.73	65.4	0.48	5	12,545	13,261	Thermal	64-19962
80-3	441	122.3 -126.3	4.0	13.27	20.16	66.57	0.46	1	12,383	13,207	Thermal	64-19915
81-11	97650	69.2 - 70.7	1.5	3.18	20.23	76.59	0.48	1	13,998	15,027	Thermal	64-20134
	97651	70.7 - 73.2	2.5	4.6	20.56	74.84	0.55	3	14,075	14,807	Thermal	64-20135
81-12	97653	21.6 - 23.5	1.9	14.38	19.93	65.69	0.59	1	12,357	12,754	Thermal	64-20137
81-6	97893	128.4 -130.8	2.4	4.47	20.35	75.18	0.54	1	14,214	14,837	Thermal	64-20051
	97894	130.8 -132.1	1.3	2.2	20.8	77.0	0.58	2	14,674	15,101	Thermal	64-20052
81-10	97633	98.5 -100.0	1.5	9.11	21.88	69.01	0.59	7½	12,892	13,545	Coking	64-20117
12												
						SEAM FIVE						
81-5(A)	97878	168.9 -170.6	1.7	17.23	15.72	67.05	0.67	1	12,450	12,790	Thermal	64-20017
(B)	97879	171.4 -172.2	0.8	5.29	17.19	77.52	0.91	1	14,271	14,666	Thermal	64-20018
81-4(A)	97862	192.2 -193.4	1.2	3.53	17.95	78.52	0.73	1	14,666	15,027	Thermal	64-19966
(B)	97863	193.9 -194.4	0.5	12.89	17.05	70.06	0.75	1½	13,134	13,482	Thermal	64-19967
81-7(A)	97601	12.4 - 12.95	0.55	5.56	16.94	77.5	0.81	1½	14,010	14,490	Thermal	64-20064
(B)	97602	13.6 - 14.4	0.8	7.05	16.08	76.87	0.77	1	13,910	14,406	Thermal	64-20065
80-3	443	248.0 -249.0	1.0	11.46	17.28	71.26	0.64	1	12,973	13,603	Thermal	64-19917
	444	249.0 -249.9	0.9	10.48	18.01	71.51	0.7	1	13,953	14,390	Thermal	64-19918
80-2	416	42.2 - 43.0	0.8	50.98	10.72	28.3	0.26	½	4,540	4,809	Thermal	64-19890
	417	43.0 - 43.55	0.55	2.42	16.35	81.23	0.62	1	14,285	15,086	Thermal	64-19891
	418	43.55- 43.8	0.25	13.38	15.72	70.9	0.56	1	13,215	13,789	Thermal	64-19892
	419	43.8 - 44.1	0.3	5.65	18.64	75.71	0.68	3	14,260	14,653	Thermal	64-19893
	420	44.1 - 44.3	0.2	67.79	8.32	23.89	0.34	[illegible]	4,253	4,417	Waste	64-19894
	421	44.3 - 45.2	0.9	4.66	16.25	79.09	0.62	1	13,902	14,843	Thermal	64-19895
11												

TABLE 5

SUMMARY OF COAL QUALITY

Location D.D.H.	Sample No.	Interval (m)	Width (m)	Ash	Volatile Matter	Fixed Carbon	Sulphur	F.S.I.	B.T.U. (Moist)	B.T.U. (Dry)	Type	Analysis Report No.
				% Values	- Dry Assay							
						SEAM FIVE .. continued						
81-6	97895	237.7 -238.4	0.7	18.72	25.97	55.31	0.5	0	7,058	7,285	Waste	64-20053
	97896	238.4 -240.1	1.7	4.14	17.53	78.33	0.65	1	14,325	14,817	Thermal	64-20054
81-9	97622	209.5 -210.2	0.7	13.05	16.78	70.17	0.76	1	12,729	13,351	Thermal	64-20100
81-10	97637	210.0 -211.2	1.2	3.04	17.31	79.65	0.64	1	14,395	15,048	Thermal	64-20121
	97638	211.2 -213.1	1.9	25.87	15.15	58.98	0.47	1	10,754	11,103	Thermal	64-20122
	97639	213.1 -214.3	1.2	8.10	17.75	74.15	0.61	1	14,860	15,770	Thermal	64-20123
	20.											
						SEAM SIX						
81-5	97880	193.2 -194.1	0.9	3.52	15.48	81.0	0.63	½	14,334	14,786	Thermal	64-20019
	97881	194.1 -196.65	2.55	37.85	15.03	47.12	0.59	1	10,849	11,089	Thermal	64-20020
81-8	97611	28.6 - 29.6	1.0	2.58	15.24	82.18	0.57	0	14,314	15,060	Thermal	64-20089
	97612	29.6 - 31.1	1.5	8.12	15.34	76.56	0.5	0	13,039	13,775	Thermal	64-20090
	97613	31.1 - 31.7	0.6	4.68	18.04	77.28	0.6	0	13,833	14,491	Thermal	64-20091
81-4	97864	217.85-218.5	0.65	2.3	16.47	81.23	0.71	0	14,680	15,104	Thermal	64-19968
	97865	218.5 -220.3	1.8	3.49	18.27	78.24	0.64	1	14,368	14,752	Thermal	64-19969
81-7	97603	38.1 - 39.9	1.8	3.75	15.85	80.4	0.55	1½	14,339	14,957	Thermal	64-20066
	97604	39.9 - 41.1	1.2	4.03	16.07	79.9	0.67	1	14,386	14,975	Thermal	64-20067
80-3	446	268.8 -269.1	0.3	12.41	15.03	72.56	0.61	0	12,879	13,360	Thermal	64-19920
	447	269.1 -270.4	1.3	1.91	15.68	82.41	0.58	0	14,547	15,166	Thermal	64-19921
	448	270.4 -270.7	0.3	2.63	16.43	80.94	0.57	0	14,424	15,036	Thermal	64-19922
	449	270.7 -272.3	1.6	2.15	16.61	81.24	0.66	1	14,368	15,191	Thermal	64-19923
80-2	424	61.0 - 62.3	1.3	2.44	16.41	81.15	0.54	½	14,411	15,008	Thermal	64-19898
	425	62.3 - 63.9	1.6	1.7	16.67	81.63	0.57	1	14,573	15,239	Thermal	64-19899
	426	63.9 - 64.2	0.3	15.23	16.47	68.3	0.56	2	13,042	13,311	Thermal	64-19900
80-1	404	25.0 - 27.4	2.4	4.1	15.61	80.29	0.54	½	14,601	14,863	Thermal	64-19878
81-6	97898	255.7 -256.6	0.9	3.08	16.43	80.49	0.6	0	14,538	15,050	Thermal	64-20056
	97899	256.6 -258.2	1.6	2.17	17.29	80.54	0.67	1	14,790	15,247	Thermal	64-20057
81-9	97623	220.7 -222.5	1.8	16.92	24.21	58.87	0.53	1	11,435	12,555	Thermal	64-20101
81-10	97640	229.05-231.25	2.2	7.03	20.54	72.43	0.63	1	13,664	14,224	Thermal	64-20124
	21											
						SEAM SEVEN						
81-5	97882	236.75-238.4	1.65	38.72	14.83	46.45	0.4	1	9,022	9,178	Thermal	64-20021
	97883	238.4 -239.5	1.1	2.62	16.05	81.33	0.56	½	14,776	15,169	Thermal	64-20022
	97884	240.0 -241.4	1.4	13.37	16.32	70.31	0.66	1	12,983	13,464	Thermal	64-20023
	97885	241.4 -242.2	0.8	2.39	17.36	80.25	0.72	1½	14,501	15,242	Thermal	64-20024
81-8(A)	97614	63.2 - 64.8	1.6	8.31	15.98	75.71	0.62	1½	13,974	14,312	Thermal	64-20092
(B)	97615	65.3 - 66.15	0.85	5.42	15.67	78.91	0.67	1	14,260	14,644	Thermal	64-20093
(C)	97616	67.9 - 69.45	1.55	7.45	16.8	75.75	1.1	1	14,147	14,462	Thermal	64-20094
81-4	97866	259.1 -259.7	0.6	7.1	14.83	78.07	0.6	0	14,022	14,413	Thermal	64-19970
	97867	259.7 -261.2	1.5	5.56	15.84	78.6•	0.52	1	14,155	14,737	Thermal	64-19971
	97868	261.2 -262.7	1.5	2.14	15.9	81.96	0.53	0	14,725	15,195	Thermal	64-19972
	07869	262.7 -264.05	1.35	22.71	14.23	63.06	0.63	0	11,552	11,896	Thermal	64-19973
81-7(A)	97605	74.7 - 76.7	2.0	13.38	14.51	72.11	0.44	1	12,995	13,498	Thermal	64-20068
(B)	97606	76.9 - 77.3	0.4	25.54	13.95	60.51	0.58	0	11,074	11,209	Thermal	64-20069
(C)	97607	78.6 - 80.6	2.0	6.39	15.91	77.7	0.78	1	13,971	14,390	Thermal	64-20070
80-3	450	310.8 -311.5	0.7	5.11	14.82	80.07	0.5	0	13,786	14,575	Thermal	64-19924
	451	311.5 -312.2	0.7	2.38	15.07	82.55	0.42	0	14,190	15,096	Thermal	64-19925
	452	312.2 -313.0	0.8	2.41	16.25	81.34	0.39	1½	14,620	15,220	Thermal	64-19926
	453	313.0 -314.6	1.6	25.2	13.39	61.41	0.34	½	10,762	11,155	Thermal	64-19927
	454	315.0 -316.3	1.3	3.02	15.54	81.44	0.59	1	14,420	14,968	Thermal	64-19928
80-2	427	124.0 -124.7	0.7	7.33	17.05	75.62	0.7	1½	14,111	14,415	Thermal	64-19901
	428	127.2 -128.7	1.5	2.02	42.75	55.23	0.47	0	14,656	15,102	Thermal	64-19902
	429	128.7 -129.4	0.7	2.01	16.41	81.58	0.47	0	14,737	15,133	Thermal	64-19903
	430	129.5 -130.8	1.3	1.75	16.09	82.16	0.45	1	14,439	14,886	Thermal	64-19904
80-1	405	71.2 - 71.9	0.7	1.49	16.61	81.9	0.64	1	15,029	15,356	Thermal	64-19879
	406	72.5 - 74.1	1.6	4.53	16.59	78.88	0.49	1	14,212	14,783	Thermal	64-19880
	407	74.4 - 75.6	1.2	3.39	15.61	81.0	0.51	½	14,168	15,031	Thermal	64-19881
	408	77.0 - 78.4	1.4	2.96	16.63	80.41	0.72	1½	14,321	15,040	Thermal	64-19882
	409	74.1 - 74.2	0.3	62.55	9.96	27.49	0.25	½	4,178	4,368	Waste	64-19883
81-6	97901	290.2 -291.7	1.5	2.12	15.73	82.15	0.4	0	14,590	15,094	Thermal	64-20059
	97902	291.7 -293.2	1.5	20.05	15.53	64.42	0.37	1	10,653	11,648	Thermal	64-20060
	97903	293.2 -294.1	0.9	29.16	14.35	56.49	0.5	0	10,277	10,999	Thermal	64-20061
	97904	294.2 -294.8	0.6	9.39	23.25	67.36	0.64	1	13,662	14,150	Thermal	64-20062
	97905	294.95-295.9	0.95	4.4	15.97	79.63	0.48	1	13,906	14,811	Thermal	64-20063
81-9	97624	265.5 -267.5	2.0	6.03	16.84	77.13	0.38	1	13,593	14,389	Thermal	64-20102
	97625	267.7 -268.0	0.7	4.11	16.54	79.35	0.45	1	14,063	14,867	Thermal	64-20103
	97626	269.2 -270.85	1.65	2.07	16.33	81.6	0.57	1	14,849	15,315	Thermal	64-20104
81-10(A)	97641	263.6 -264.3	0.7	2.19	19.34	78.47	0.99	1½	14,904	15,193	Thermal	64-20125
	97642	264.3 -267.25	2.9	3.4	17.88	78.72	1.42	1	14,305	14,899	Thermal	64-20126
(B)	97643	273.4 -274.75	1.35	3.66	16.61	79.73	0.76	1	14,247	14,926	Thermal	64-20127

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TABLE 5

SUMMARY OF COAL QUALITY

Location D.D.H.	Sample No.	Interval (m)	Width (m)	Ash	Volatile Matter % Values	Fixed Carbon - Dry Assay	Sulphur	F.S.I.	B.T.U. (Moist)	B.T.U. (Dry)	Type	Analysis Report No.
						SEAM EIGHT						
81-5	97886	272.3 -273.4	1.1	27.51	14.45	58.04	0.74	1	10,771	11,017	Thermal	64-20025
81-8	97617	93.8 - 94.4	0.6	8.91	16.42	74.67	1.03	1½	13,741	13,999	Thermal	64-20095
81-7	97608	105.75-107.05	1.3	11.44	15.57	72.99	0.91	1	13,263	13,571	Thermal	64-20071
80-3	456	334.1 -334.9	0.8	4.29	15.92	79.79	0.79	1	14,494	14,889	Thermal	64-19953
	457	334.9 -335.6	0.7	69.6	9.12	21.28	0.37	½	3,701	3,820	Waste	64-19954
80-2	435	161.1 -162.0	0.9	3.6	16.1	80.3	0.75	1	14,498	14,897	Thermal	64-19909
	436	162.0 -163.7	1.7	25.38	14.64	59.98	0.65	1	10,820	11,119	Thermal	64-19910
80-1	410	115.0 -115.4	0.4	78.98	8.79	12.23	0.69	½	2,299	2,374	Waste	64-19884
	411	115.4 -116.4	1.0	26.03	12.54	61.43	0.7	½	10,711	11,064	Thermal	64-19885
	412	116.4 -117.0	0.6	33.11	14.54	52.35	1.42	1	9,371	9,740	Thermal	64-19886
	413	117.0 -117.9	0.9	76.75	8.73	14.52	1.47	½	2,856	2,943	Waste	64-19887

TABLE 6

TOTAL RESOURCES - CALCULATIONS

Coal Seam	Strike Length From	Strike Length To	Total	Dip-Length	Ave. Width	S.G.	Tonnes
1							
Indicated a	700N	1200S	1900m	250m	3.1m	1.3	1,914,250
Inferred b	"	"	1900m	600m	3.1m	1.3	4,594,200
Inferred c	700N	900N	200m	800m	3.1m	1.3	644,800
2							
Indicated a	700N	1200S	1900m	300m	2.0m	1.3	1,482,000
Inferred b	"	"	1900m	550m	2.0m	1.3	2,717,000
Inferred c	700N	1000N	300m	800m	2.0m	1.3	624,000
3							
Indicated a	200N	1200S	1400m	300m	3.2m	1.3	1,747,200
Inferred b	"	"	1400m	550m	3.2m	1.3	3,203,200
Inferred c	Nil	-	-	-	-	-	-
4							
Indicated a	700N	1200S	1900m	350m	3.6m	1.3	3,112,200
Inferred b	"	"	1900m	550m	3.6m	1.3	4,890,600
Inferred c	700N	1200N	500m	800m	3.6m	1.3	1,872,000
5							
Indicated a	700N	400S	1100m	650m	2.2m	1.3	2,044,900
Inferred b	"	"	1100m	400m	2.2m	1.3	1,258,400
Inferred c	700N	1400N	700m	900m	2.2m	1.3	1,801,800
6							
Indicated a	700N	400S	1100m	700m	2.3m	1.3	2,302,300
Inferred b	"	"	1100m	250m	2.3m	1.3	822,250
Inferred c	700N	1500N	800m	900m	2.3m	1.3	2,152,800
7							
Indicated a	700N	400S	1100m	850m	4.1m	1.3	4,983,550
Inferred b	"	"	1100m	150m	4.1m	1.3	879,450
Inferred c	700N	1600N	900m	900m	4.1m	1.3	4,317,300
8							
Indicated	700N	200S	900m	450m	1.5m	1.3	789,750
Inferred	-	-	-	-	-	-	-

Total Indicated	18.4 million tonnes
Total Inferred	33 " "

Coal Resources

The Bumines and U.S.G.S. definition and classification scheme for Total Resources was used for resource calculations (Appendix I). Table 6 illustrates the figures used to determine the indicated, inferred and hypothetical resources (Figure 16).

For each cross section the total quantity of coal was measured and recorded at each coal zone intersection (Table 4). The average width was then calculated from the various data points for that seam. The average width for the seam for that section was then averaged with the other section averages to get an overall average for one seam.

A specific gravity of 1.3 was used from sidewall densilog data.

Total Resources

Resources Indicated	18.4 million tonnes
Resources Inferred	33 million tonnes
Hypothetical Resources (untested)	24 million tonnes

CONCLUSIONS

From the trenching and diamond drilling completed to date, eight major coal zones have been identified. Sampling indicates the coal to be mainly of a low to moderate volatile bitumimous quality with a very low ash content and averages 14,000 BTU's and 0.6% sulphur.

The mapping of outcrops, roadcuts, trench exposures together with the limited diamond drill holes indicate 18.4 million tonnes of coal resources and infer 33 million tonnes as well.

Hypothetical untested seam project, suggests that there could be 24 million tonnes to the southern property limits as well.

Recommendations

A two-part second phase program is recommended. (Fig.17).

Part II (A)

1. Establish a permanent bridge crossing over the Pine River.
2. Establish a trailer camp on the property.
3. Contract McElhanney to fly the area and prepare good quality base maps.
4. Upgrade and extend the existing ground survey
   - North to the railroad tracks
   - East to 1500 East
   - South to the property boundary 2500S
5. Legal survey of property boundary
6. Diamond drill holes at 200 m spacings north from 81-5 to determine quality and extent of principal coal zones to the north.
7. Daylight principal seams for adit sites and bulk sampling with backhoe.

Part II (B)

1. Do additional infill drilling to improve geological confidence and spacing between the few holes drilled in the previous program.
2. Diamond drill deeper holes to the east to determine the character, quality and depth extent of the easterly dipping coal zones.
3. Drive adits and bulk sample the major coal seams.

A.S. Marton

Vancouver, B.C.
May 31, 1981

A.S. MARTON, B.Sc.

Cost Estimate

Phase II (A)

Bridge to cross Pine River	$ 100,000.00
McElhanney - Air & ground survey	35,000.00
Diamond Drilling - 5400 m HQ @ $130/m	702,000.00
Bulldozing - Road work, drill site prep., moving 2 rigs D7 @ $80/hr. 45 days	36,000.00
Backhoeing - Trenching, roadcuts, reclamation 4 weeks @ $50/hr.	15,500.00
Assaying - core samples shipping 300 x $50	15,000.00
Swampers - $110/day x 4 x 45 days	19,800.00
Cook - 2 mo. x $2,500/mo.	5,000.00
Roke Geophysical - $25,000/mo. x 1.5 mo.	37,500.00
Vehicles (2) - $2,000/mo. x 2 mo. x 2 vehicles	8,000.00
Helicopter	10,000.00
Geology, Engineering & Supervision - 1 @ $300/day; 1 @ $200/day x 2 mo.	31,000.00
Camp - $10,000/mo. x 2 mo.	20,000.00
Travel	3,000.00
Data compilation, reports, drafting	15,000.00
Shipping core to core library	5,000.00
	$1,057,800.00
Contingencies @ 15%	158,670.00
	$1,216,470.00

Phase II (B)

Diamond drilling - 3400 m HQ x $130/m	$ 442,000.00
Driving Sampling Adits 5 x 20 m = 100 m @ $600/m x 100 m	60,000.00
Bulldozing - Roadwork, drill site prep., moving 2 rigs D7 @ $80/hr. 45 days	36,000.00
Assaying - Core and bulk samples, includes shipping, 400 x $50	20,000.00
Swampers - $110/day x 2 x 45 days	9,900.00
Cook - 2 mo. x $2,500/mo.	5,000.00
Roke Geophysical - $25,000/mo. x 1 mo.	25,000.00
Vehicles (2) - $2000/mo. x 2 mo. x 2 vehicles	8,000.00
Helicopter	5,000.00
Geology, engineering & supervision - 1 @ $300/day; 1 @ $200/day x 2 mo.	31,000.00
Camp - $10,000/mo. x 2 mo.	20,000.00
Travel	3,000.00
Data compilation, report, drafting	10,000.00
Shipping core to core library	5,000.00
	$ 651,900.00
Contingencies @ 15%	97,785.00
	$ 749,685.00

Vancouver, B.C.
May 31, 1981

A.S. MARTON, B.Sc.

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS

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CERTIFICATE

I, A.S. Marton, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geologist with G.A. Noel & Associates, Inc., 622-510 West Hastings Street, Vancouver, B.C.

2. I am a graduate of the University of British Columbia and have been granted the degree of Bachelor of Science in Geology.

3. I have been practising my profession as an Exploration Geologist for 8 years in British Columbia, Yukon, Alaska, Washington, Idaho and Australia.

4. This report is based on six months of fieldwork, which I personally supervised, on the Willow Creek Coal property, during 1980-1981.

5. I have no interest, nor do I expect to receive any interest, direct or indirect in coal licences 3986-3993 and 6792 or in any securities of Semper Resources Inc.

6. Semper Resources Inc. is hereby given permission to reproduce this report, or any part of it, for financing purposes; provided, however, that no portion may be used out of context in such a manner as to convey a meaning differing materially from that set out in the whole.

Vancouver, B.C.
May 31, 1981

A.S. MARTON, B.Sc.

CERTIFICATE

I, Harold M. Jones, of the City of Vancouver, British Columbia, do hereby certify that:

1. I am a consulting geological engineer with G.A. Noel & Associates, Inc., 622-510 West Hastings Street, Vancouver, B.C.

2. I am a graduate of the University of British Columbia in Geological Engineering, 1956.

3. I have been practising my profession as a geological engineer for 25 years.

4. I am a member of the Association of Professional Engineers of British Columbia, Registration No.4681.

5. I am familiar with coal licences 3986-3993 and 6792 having conducted geological mapping and backhoe trenching programs on the licences during 1979 and 1980. I also consulted on the recently completed trenching and drilling program and reviewed all the data from this work.

6. I have no interest, nor do I expect to receive any interest, direct or indirect in coal licences 3986-3993 and 6792 or in any securities of Semper Resources Inc.

7. Semper Resources Inc. is hereby given permission to reproduce this report, or any part of it, for financing purposes; provided, however, that no portion may be used out of context in such a manner as to convey a meaning differing materially from that set out in the whole.

DATED at VANCOUVER, B.C. this 31st day of May, 1981.

Harold M. Jones

HAROLD M. JONES, P.Eng.

X-S
00689
PR-WILLOW CK.
80A
FIG. 7-12


200 W
0.0
500E
1000E
El 1200m
El 1000m
El 800m
El 600m
D.D.H. 81-8
1m
3m
5
2.9/3.5
No. 6
2.4/2.8
No. 7
4.0/6.2
No. 8
1.2/1.6
137m.
COAL ZONE
No. 1
D.D.H. 81-5
No. 2A
4.2/5.9
No. 2B
2.3/3.6
No. 4A
3.7
No. 4B
2.5
No. 5A
1.1
No. 5B
0.9
No. 6
2.7/2.9
No. 7
4.1/5.2
No. 8
.7/1.1
282.5m.
INDICATED RESOURCES
INFERRED RESOURCES
LEGEND
2.4 COAL SEAM, 2.4m CLEAN COAL
4.2/5.9 COAL ZONE, 4.2m COAL OUT OF 5.9m COAL ZONE
(Number given as true width)
NOTE: COAL ZONE LOCATION AND WIDTH APPROXIMATE FOLD STRUCTURE PROJECTED FROM SECTION 00 N.
Metres
50 0 50 100 150
PR-Willow Creek 80(2)A *(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 600N
SECTION FACING GRID NORTH
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 7


200 W.
00
500E
1000 E
El 1200m
El 1000m
El 800m
El 600m.
D.D.H. 81-7
D.D.H. 81-4
COAL ZONE
CONGLOMERATE
252m.
299m.
INDICATED RESOURCES
INFERRED RESOURCES
LEGEND
2.4 COAL SEAM, 2.4m CLEAN COAL
4.2/5.9 COAL ZONE , 4.2m COAL OUT OF 5.9m COAL ZONE
(Number given as true width)
NOTE: COAL ZONE LOCATION AND WIDTH APPROXIMATE FOLD STRUCTURE
PROJECTED FROM SECTION 00 N.
Metres
50 0 50 100 150
PR-Willow Creek 80(2*) A*(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 400 N
SECTION FACING GRID NORTH
SCALE 1:2000
NTS
93-0-9
DWG. NO.
DATE/REVISIONS
APRIL 1981
DWG. BY
WORK BY
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689

Figure 8

200 W
0.0
500 E
1000 E
122° 12'
El. 1200m
El. 1000m
El. 800m
El. 600m
TRENCH 5
TRENCH 5 B
D.D.H. 80-1
D.D.H. 80-2
D.D.H. 81-12
D.D.H. 81-11
D.D.H. 80-3
COAL ZONE
Nº 1
Nº 2
Nº 3
Nº 4
Nº 5
Nº 6
Nº 7
Nº 7A
Nº 7B
Nº 8
Nº 9
MOOSE BAR FORMATION
BLUE SKY CONGLOMERATE
GETHING FORMATION
FAULT ATTITUDE, DISPLACEMENT UNKNOWN ;
SPECULATED FROM TWO POINTS OF
OBSERVED OR END REGIONAL STRUCTURE
248m.
260 m
66m.
154.5m.
346.5m.
INDICATED RESOURCES
INFERRED RESOURCES
LEGEND
2.4 COAL SEAM, 2.4m CLEAN COAL
4.2/5.9 COAL ZONE , 4.2m COAL OUT OF 5.9m COAL ZONE
(Number given as true width)
Metres
50 0 50 100 150
PR-Willow Creek 80(2)A *(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 00 N
SECTION FACING GRID NORTH
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE / REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 9

200 W
0 0
500 E
1000 E
122° 12′
El 1200m
El 1000m
El 800m
El 600m
DDH 81-6
COAL ZONE
Nº 1
Nº 2
Nº 3
Nº 3A
Nº 4
29
25/31
25/31
20
40
BLUE SKY CONGLOMERATE
MOOSE - BAR FORMATION
GETHING FORMATION
Nº 5
Nº 6
Nº 7A
Nº 7B
19/21
26
48/60
323m
INDICATED RESOURCES
INFERRED RESOURCES
LEGEND
24 COAL SEAM, 24m CLEAN COAL
42/59 COAL ZONE , 42m COAL OUT OF 59m COAL ZONE (Number given as true width)
NOTE COAL ZONE LOCATION AND WIDTH APPROXIMATE FOLD STRUCTURE PROJECTED FROM SECTION 00 N
Metres
50 0 50 100 150
PR-Willow Creek 80(2)A(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 200S
SECTION FACING GRID NORTH
SCALE 1 2000
NTS 93-0-9
DWG NO.
DATE/REVISIONS APRIL 1981
DWG BY
WORK BY G A NOEL & ASSOCIATES
689

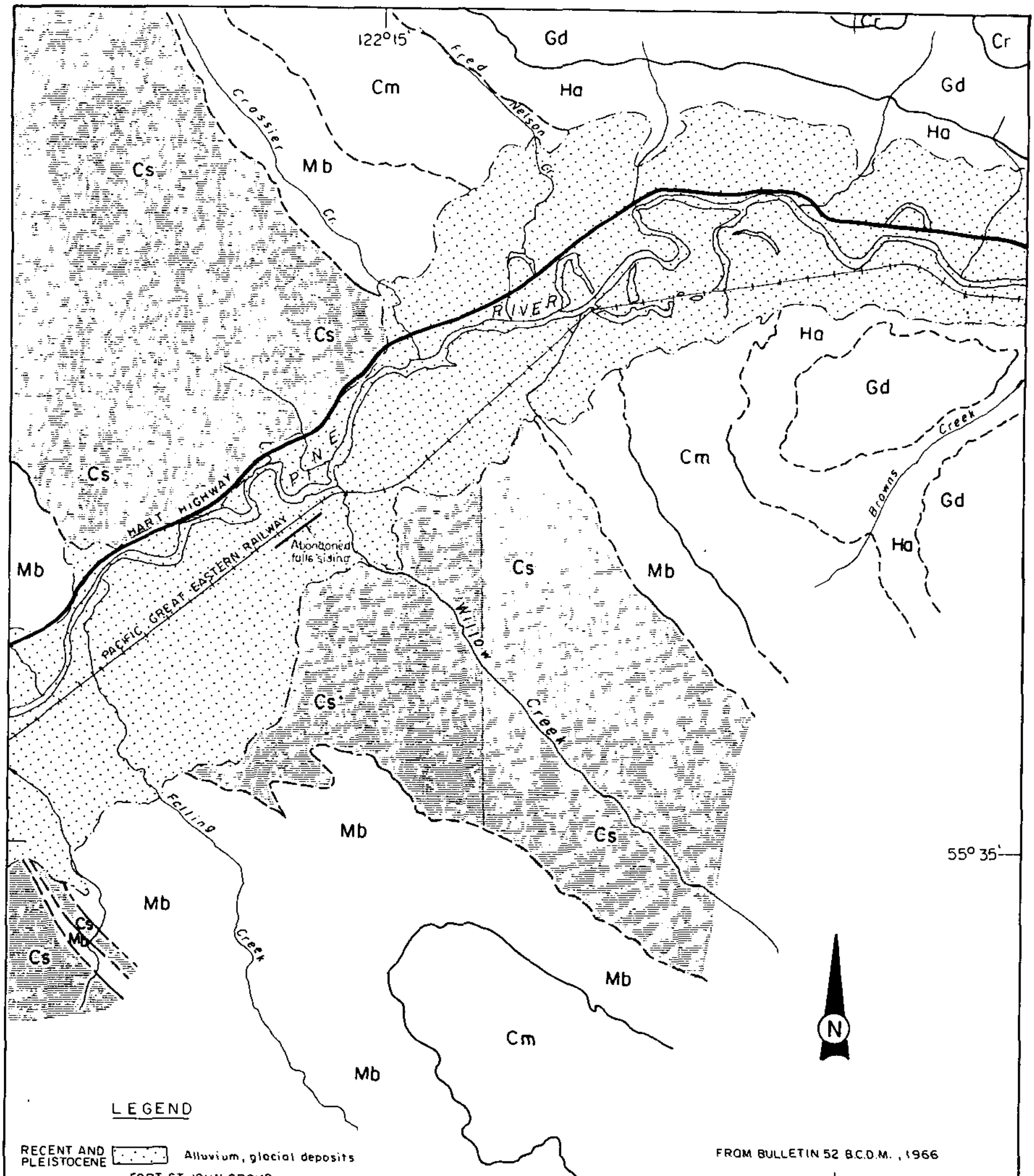
Figure 10


200 W
0.0
500 E
122° 12'
1000 E
El. 1200m
El. 1000m
El. 800m
El. 600m
D.D.H. 81-9
COAL ZONE
Nº 1
Nº 2
Nº 3
Nº 4
Nº 5
Nº 6
Nº 7
2.6
2.0
MOOSE BAR FORMATION
BLUE SKY CONGLOMERATE
GETHING FORMATION
?
STRUCTURE OF COAL ZONES MAY BE SIMILAR TO SECTION OON – INSUFFICIENT DATA
INDICATED RESOURCES
INFERRED RESOURCES
320m.
LEGEND
2.4 COAL SEAM, 2.4m CLEAN COAL
4.2/5.9 COAL ZONE, 4.2m COAL OUT OF 5.9m COAL ZONE (Number given as true width)
NOTE: COAL ZONE LOCATION AND WIDTH APPROXIMATE FOLD STRUCTURE PROJECTED FROM SECTION OON.
Metres
50 0 50 100 150
PR-Willow Creek 80(2)A
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 600S
SECTION FACING GRID NORTH
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 11


200 W
0.0
500E
1000 E
122°12'
El. 1200m
El. 1000m
El. 800m
El. 600m.
Road
D.D.H. 81-10
COAL ZONE
Nº. 1
Nº. 2
Nº. 3
Nº. 4
3.5
.6/1.2
4.5
2.8/4.1
MOOSE BAR FORMATION
BLUE SKY CONGLOMERATE
GETHING FORMATION
INSUFFICIENT DATA TO SPECULATE ON GEOLOGICAL STRUCTURE OF COAL ZONES, IF PRESENT
Nº. 5
Nº. 6
Nº. 7A
Nº. 7B
2.5/2.6
1.3
2.3
.9
316 m
INDICATED RESOURCES
INFERRED RESOURCES
LEGEND
2.4 COAL SEAM, 2.4m CLEAN COAL
4.2/5.9 COAL ZONE, 4.2m COAL OUT OF 5.9m COAL ZONE (Number given as true width)
NOTE: COAL ZONE LOCATION AND WIDTH APPROXIMATE FOLD STRUCTURE PROJECTED FROM SECTION 00 N.
Metres
50 0 50 100 150
PR- Willow Creek 80(2)A *01
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
CROSS SECTION — 1000S
SECTION FACING GRID NORTH
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 12



LEGEND

RECENT AND PLEISTOCENE	[. . .]	Alluvium, glacial deposits
CRETACEOUS	FORT ST. JOHN GROUP	
	Cr	Cruiser Formation
	Gd	Goodrich "
	Ha	Hasler "
	Cm	Commotion "
	Mb	Moosebar "
	CRASSIER GROUP	
	Cs	Gething Formation

0 1 2 3 KM

SEMPER RESOURCES INC.

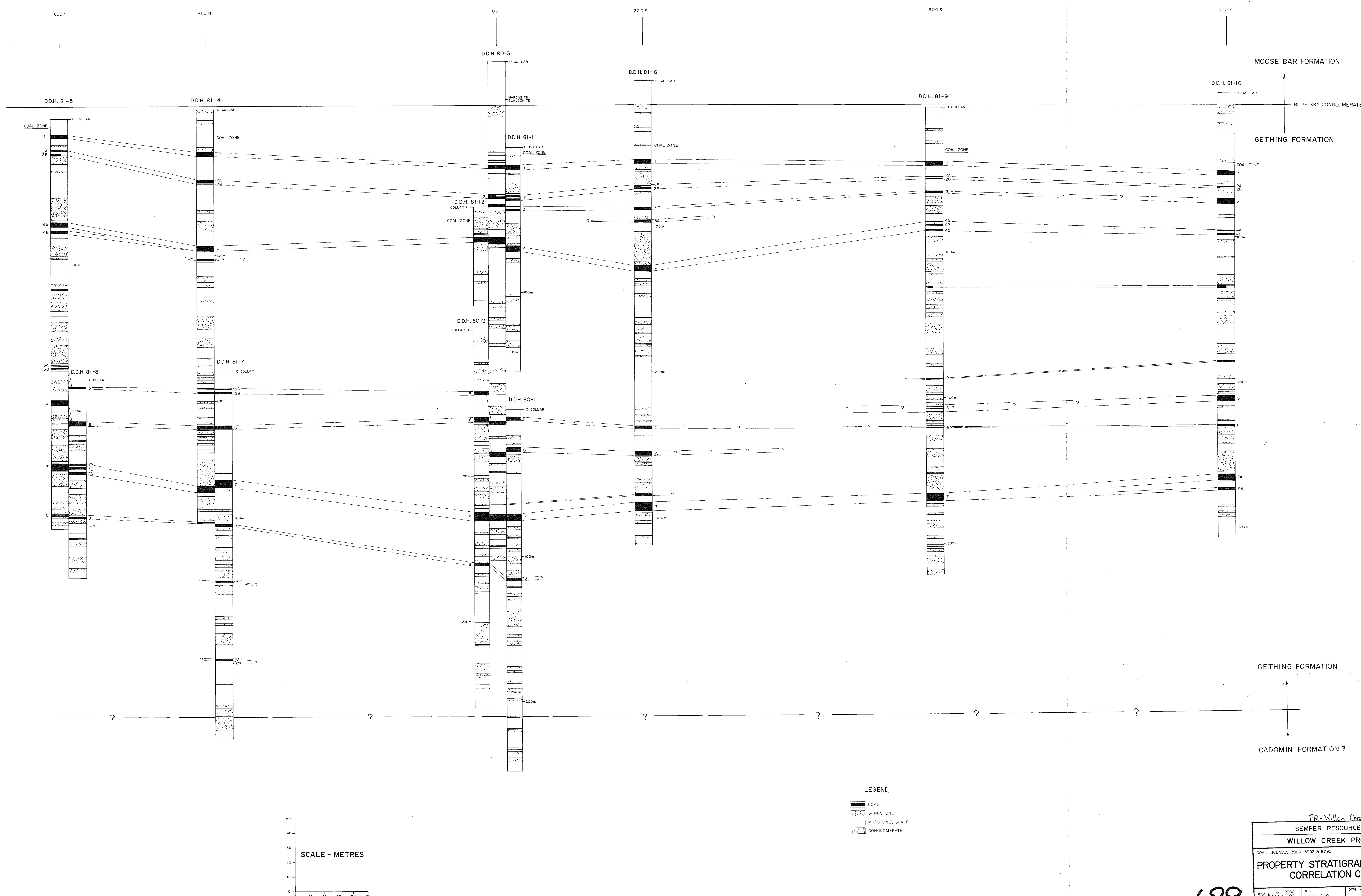
WILLOW CREEK PROJECT

COAL LICENCES 3986-3993 & 6792

REGIONAL GEOLOGY PINE VALLEY AREA

SCALE: 1:63,360	NTS 93-0-9	DWG. NO.	
DATE / REVISIONS APRIL 1981		DWG. BY	WORK BY G.A.NOEL & ASSOCIA.

Figure 13



PR-Willow Creek 80(2)A * *(1)

SEMPER RESOURCES INC.

WILLOW CREEK PROJECT

COAL LICENCES 3986-3993 & 6792

PROPERTY STRATIGRAPHIC COLUMN CORRELATION CHART

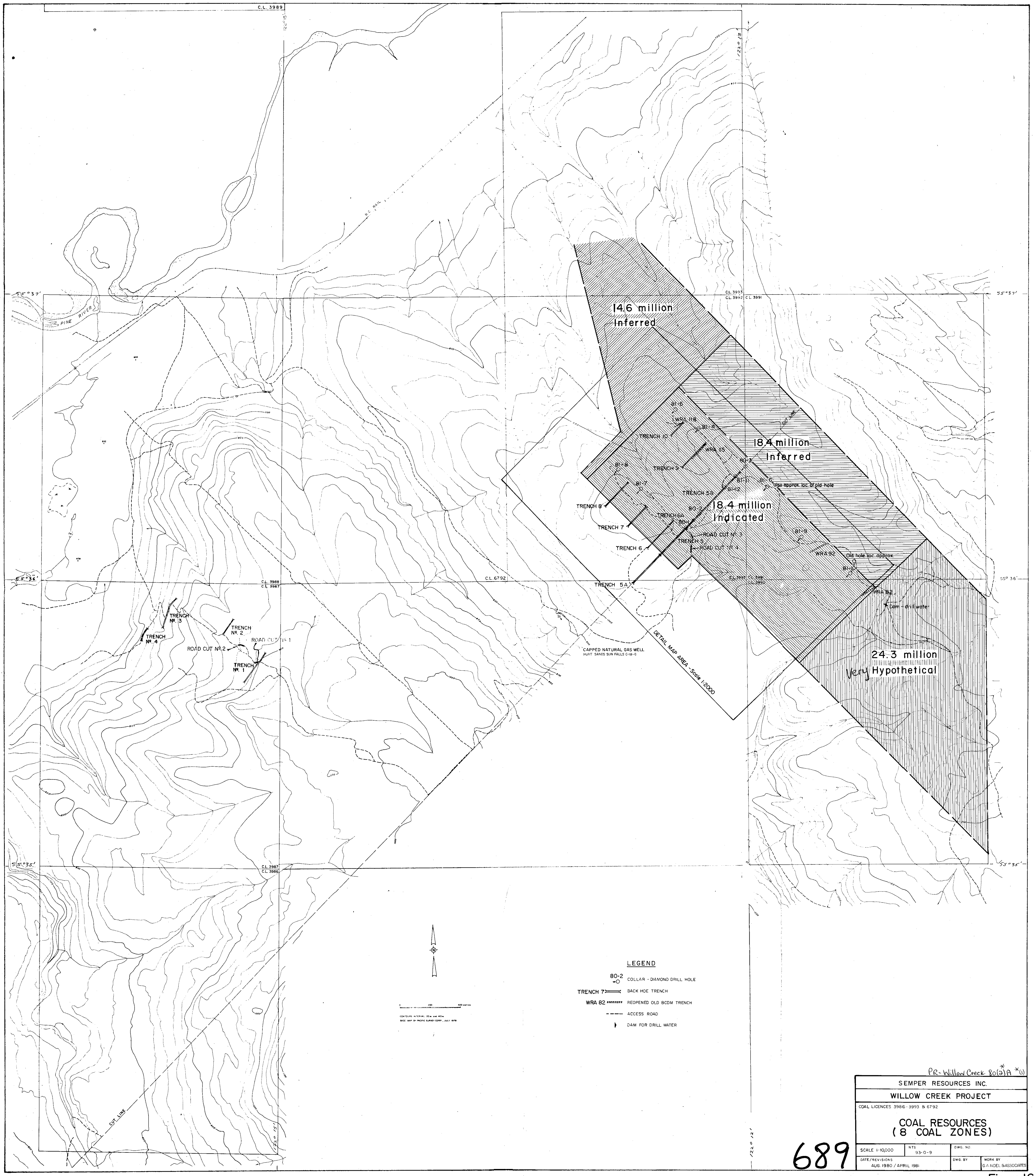
SCALE Hor 1 2000 Vert 1 1000	NTS 93-0-9	DWG NO
DATE / REVISIONS APRIL 1981	DWG BY	WORK BY G A NOEL & ASSOCIATES

689

Figure 14


COAL ZONE Nº 8
COAL ZONE Nº 4
COAL ZONE Nº 8
COAL ZONE Nº 2
COAL ZONE Nº 7
COAL ZONE Nº 1
COAL ZONE Nº 7
COAL ZONE Nº 6
COAL ZONE Nº 5
COAL ZONE Nº 6
D.D.H. 81-8 (-57°)
D.D.H. 81-5 (-65°)
COAL ZONE Nº 5
TR. 8
D.D.H. 81-7 (-58°)
D.D.H. 81-4 (-62°)
TR. 7
TR. 6
TRENCH 6A
TR. 5A
TR. 5
TR. 5 B
D.D.H. 80-1 (-55°)
D.D.H. 80-2 (-90°)
D.D.H. 81-12 (-57°)
D.D.H. 81-11 (-55°)
D.D.H. 80-3 (-60°)
X Drill water
D.D.H. 81-6 (-60°), D.D.H. 38 (approx. loc.)
D.D.H. 81-9 (-59°)
G.N.
T.N.
M.N.
45°
27°
COAL SURFACE TRACE
OUTCROP FROM TRENCH OR ROAD-CUT
DIAMOND DRILL HOLE PROJECTION
CONSTRUCTION ONLY
D.D.H. 81-10 (-58°)
To Dam for Drill Water
BLUESKY CONGLOMERATE
COAL ZONE Nº 8
COAL ZONE Nº 7
COAL ZONE Nº 5
COAL ZONE Nº 6
COAL ZONE Nº 4
COAL ZONE Nº 3
COAL ZONE Nº 2
COAL ZONE Nº 1
Metres
1000
1100
1200
400 W
00E
800 E
1000 N
500 N
00
500 S
1000 S
PR-Willow Creek 80(2)A *(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
COAL ZONES Nº 1-8
SURFACE TRACE : OBSERVED, PROJECTED
SCALE 1:2000
NTS 93-0-9
DWG. NO.
DATE / REVISIONS
APRIL 1981
DWG. BY
WORK BY
G.A. NOEL & ASSOCIATES
689

Figure 15



14.6 million Inferred
18.4 million Inferred
18.4 million Indicated
24.3 million Very Hypothetical
DETAIL MAP AREA - Scale 1/2000
CAPPED NATURAL GAS WELL
PINE RIVER
B.C. RAIL
CUT LINE
TRENCH No. 1
TRENCH No. 2
TRENCH No. 3
TRENCH No. 4
ROAD CUT No. 2
TRENCH 5A
TRENCH 6
TRENCH 7
TRENCH 8
TRENCH 9
TRENCH 10
TRENCH 5B
TRENCH 6A
ROAD CUT No. 3
ROAD CUT No. 4
Old hole loc. approx.
Dam - drill water
C.L. 3989
C.L. 3988
C.L. 3987
C.L. 3986
C.L. 6792
C.L. 3993
C.L. 3992
C.L. 3991
55°37'
55°36'
55°35'
122°15'
122°12'
LEGEND
80-2 COLLAR - DIAMOND DRILL HOLE
TRENCH 7 BACK HOE TRENCH
WRA 82 REOPENED OLD BCDM TRENCH
ACCESS ROAD
DAM FOR DRILL WATER
PR-Willow Creek 80(2)A
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
COAL RESOURCES
(8 COAL ZONES)
SCALE 1:10,000
NTS 93-O-9
DATE/REVISIONS AUG. 1980 / APRIL 1981
WORK BY G.A. NOEL & ASSOCIATES
689

Figure 16

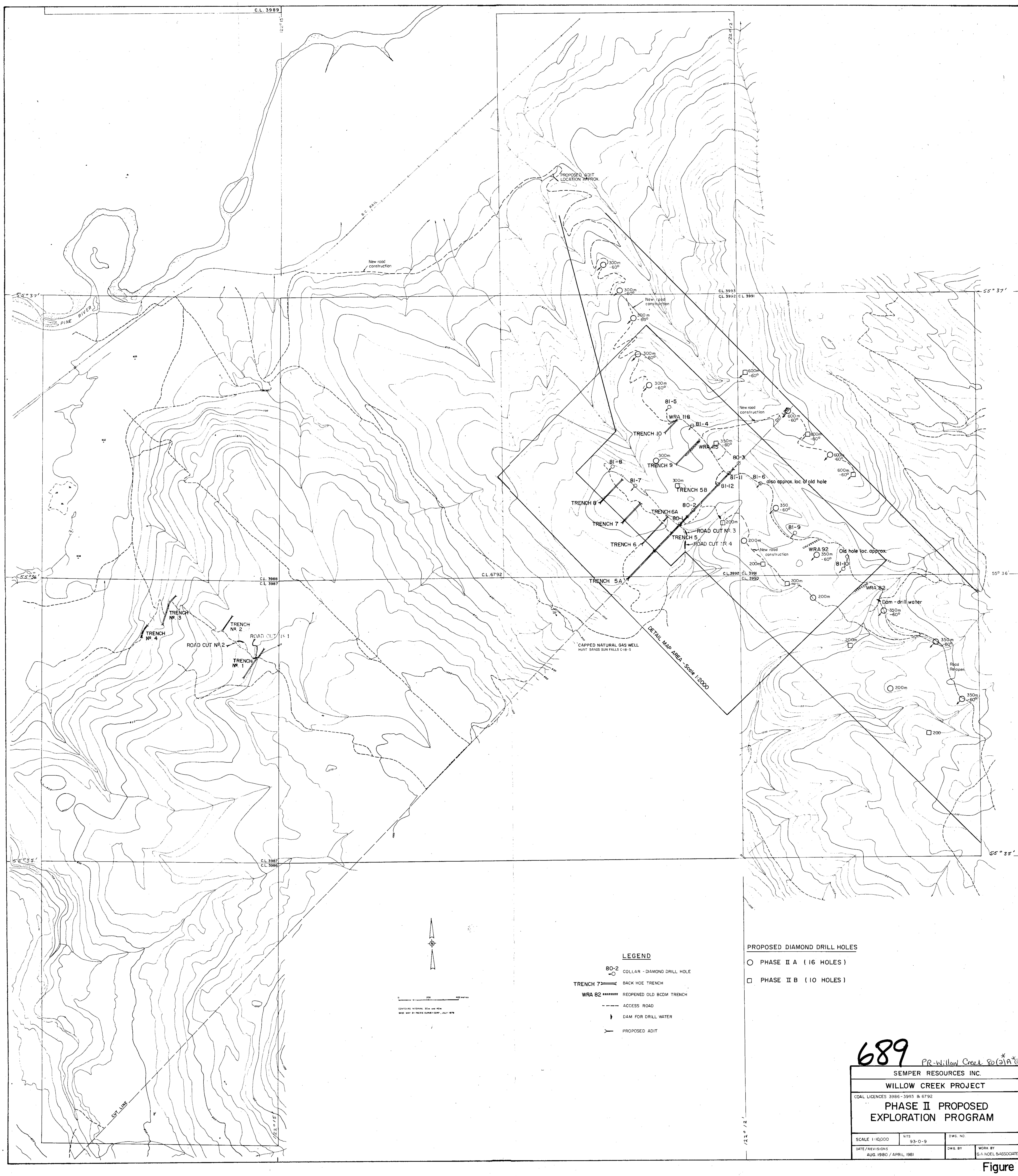

C.L. 3989
PINE RIVER
B.C. RAIL
New road construction
PROPOSED ADIT LOCATION APPROX.
TRENCH 10
TRENCH 9
TRENCH 8
TRENCH 7
TRENCH 6
TRENCH 6A
TRENCH 5
TRENCH 5A
TRENCH 5B
ROAD CUT Nº 3
ROAD CUT Nº 4
WRA 118
WRA 115
WRA 92
WRA 82
81-4
81-5
81-6
81-7
81-8
81-9
81-10
81-11
81-12
80-1
80-2
80-3
also approx. loc of old hole
Old hole loc. approx.
Dam - drill water
Road Reopen
TRENCH Nº 1
TRENCH Nº 2
TRENCH Nº 3
TRENCH Nº 4
ROAD CUT Nº 1
ROAD CUT Nº 2
CAPPED NATURAL GAS WELL
DETAIL MAP AREA - Scale 1:2000
C.L. 6792
CUT LINE
55° 37'
55° 36'
55° 35'
LEGEND
80-2 COLLAR - DIAMOND DRILL HOLE
TRENCH 7 BACK HOE TRENCH
WRA 82 REOPENED OLD BCDM TRENCH
ACCESS ROAD
DAM FOR DRILL WATER
PROPOSED ADIT
0 200 400 metres
CONTOURS INTERVAL 20m and 40m
BASE MAP BY PACIFIC SURVEY CORP., JULY 1979
PROPOSED DIAMOND DRILL HOLES
PHASE II A (16 HOLES)
PHASE II B (10 HOLES)
689
PR-Willow Creek 80(2)A*(1)
SEMPER RESOURCES INC.
WILLOW CREEK PROJECT
COAL LICENCES 3986-3993 & 6792
PHASE II PROPOSED
EXPLORATION PROGRAM
SCALE 1:10,000
NTS 93-0-9
DWG. NO.
DATE/REVISIONS AUG. 1980 / APRIL 1981
DWG. BY
WORK BY G.A. NOEL & ASSOCIATES

Figure 17

6 89

Tortor Trucking Ltd.

BOX 1359
CHETWYND, B.C. V0C 1J0

G.A. NOEL & ASSOCIATES INC.
622-510 WEST HASTINGS ST.
VANCOUVER, B.C.

DATE: OCTOBER 22, 1980

UNIT: 73 & 76

MACHINE:

No. 220

DATE	JOB	INVOICE #	INVOICE #	ACCESSORIES	RATE	TIME	AMOUNT
OCT. 16	HAUL D7G RIPPER CAT	1338		LOWBED	55.00	3½	192.50
OCT. 17	HAUL D7G WINCH CAT	1340		LOWBED	55.00	3½	192.50
OCT. 17	ONE (18" X 20' CULVERT)	1340					182.33

#1136

O.K. for payment

SUB TOTAL 567.33

TOTAL 567.33

OPERATOR: KARL FROSLEE

AUTHORIZATION

NO CLAIMS RECOGNIZED UNLESS REPORTED WITHIN 48 HOURS

Tortor Trucking Ltd.

BOX 1359
CHETWYND, B.C. V0C 1J0

G.H. NOEL & ASSOCIATES INC
622-510 W. HASTINGS ST.
VANCOUVER, B.C.

DATE: OCTOBER 15, 1980

UNIT: T3

MACHINE:

No. 209

ATTN. HAROLD H. JONES

DATE	JOB	INVOICE #	INVOICE #	ACCESSORIES	RATE	TIME	AMOUNT
Oct. 5+6	HAUL TWO D7G CATS	1274		LOWBED	55.00	7	385.00
						SUB TOTAL	385.00
						TOTAL	385.00

Approved by [illegible] 1291

OPERATOR KARL FROSLEE

AUTHORIZATION Laurie A. Kelly
[illegible signature]

NO CLAIMS RECOGNIZED UNLESS REPORTED WITHIN 48 HOURS

689

PAUL DEMEULEMEESTER

IN ACCOUNT WITH:

TELEPHONE: 788-2385

P.O. BOX 63, CHETWYND, B.C. V0C 1J0

DATE Oct. 16 19 80

Page Two.

DATE	DETAILS		
	D 7 G CAT		
Oct. 5	Invoice #575 8 Hrs.		
6	576 10		
7	577 10		
8	578 10		
10	579 10		
11	580 5		
12	581 10		
13	582 10		
15	583 10		
	83 Hrs. @70	.00	5,810.00
	D 7 G CAT		
Oct. 8	595 10 Hrs.		
Oct. 9	Invoice# 592 5 Hrs.		
6	591 9		
13	593 10		
15	594 127 16 10		
	44 Hrs. @70	.00	3,080.00
	SUPERVISION, CAMP EXPENSE, TRAVEL		
	Paul Demeulemeester 9 days @ $150.00 per day.		1,350.00
	FUEL & GAS		
	Fuel -500 gals. @.88¢ per gal.		440.00
	Gas -100 gals. @1.11 per gal.		111.00
	SUB TOTAL PAGE TWO.	$ 10,791.00	
	TOTAL OF BILLING		14,993.00

Cleaning of Building need Cool

ACCOUNTS DUE WHEN RENDERED.

1½% PER MONTH (18% PER ANNUM) CHARGED ON ALL OVERDUE ACCOUNTS.

INVOICE NUMBER № 000199

PAUL DEMEULEMEESTER

IN ACCOUNT WITH:

TELEPHONE: 788-2385

P.O. BOX 63, CHETWYND, B.C. V0C 1J0

G.A. Noel & Associated Inc.,
622-510 W. Hastings,
Vancouver, B.C.
V6B 1L8

DATE ~~Oct. 16~~ 19 ~~80~~

Willow Creek

Attn. Mr. Harold M. Jones.

DATE	DETAILS			
	SLASHING			
Oct. 7	Donald Davis	10 Hrs.		
9		5		
		15 Hrs. @22.00		330.00
6	Max Desjarlais	10 Hrs.		
7		10		
8		10		
9		10		
10		10		
11		9		
12		9		
13		10		
15		10		
		88 Hrs. @22.00		1,936.00
6	Elmer Davis	10 Hrs.		
7		10		
8	Slashing	10		
9		10		
10	approved by HMJ Pine Pass cuts	10		
11		9		
12		9		
13		10		
15		10		
	#1086	88 Hrs. @22.00		1,936.00
	Total for page one.			4,202.00

ACCOUNTS DUE WHEN RENDERED.
1½% PER MONTH (18% PER ANNUM) CHARGED ON ALL OVERDUE ACCOUNTS.

INVOICE NUMBER № 000198

689

STAN BREWER
LAKESHORE ROAD, R.R. 6 — VERNON, B.C.
V1T 6Y5
PHONE 545-0231

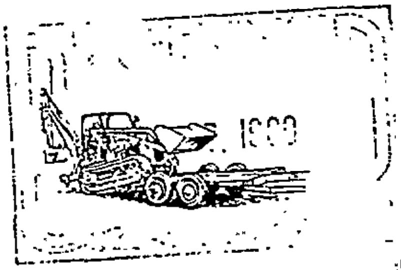
Dec 1st 1980

M Sempra Resources Inc
433-355 Burrard St
Vancouver B.C.

Nov 1st to Nov 24		450 John Deere Backhoe and operator at $35.00 a hr.	234 hr	$8590	00/xx
		Traveling from Chetwynd to Vernon	26 hrs	$985	00/xx
		Boats motor rental		4151	00/xx
		#1171			
		Total		$14630	00/xx
O.K. for Payment J.B.					
Re. trenching Chetwynd Coal C.				$14630.	00/xx

STAN BREWER

LAKESHORE ROAD, R.R. 6 — VERNON, B.C.
V1T 6Y5
PHONE 545-0231



Nov 2 1980

M Sempir Resources Inc.
Mr Jim Billingsley
433 - 355 Burrard St.
Vancouver. BC.

Oct 1st to Oct 3	Traveling from Vernon to Chetwynd BC. 26 hr	$988	00/xx
Oct 3 to Oct 31	450 John Deere Backhoe & operator at $38.00 a hr. 276½ hr	$10,507	00/xx
	Boat rental	150	00/xx
		$11645	00
	Trenching of Coal beds. Chetwynd, B.C. #1135		
	Total	$11,645	00/xx

STAN BREWER
Site #188 Comp. #1
LAKESHORE ROAD, R.R. 6 — VERNON, B.C.
V1T 6Y5
PHONE 545-0231

Aug 3 1980

M G.A. Noel & Associates
622 - 510 West Hastings St
Vancouver, B.C. V6B 1L8

July 3 to 6	Traveling from Vernon to Whitehorse 25 hrs	
Aug 3 to 6	Traveling from Whitehorse to Vernon 25 hr.	$1900.00
July 1 to Aug 2	450c John Deere backhoe & operator at $38.00 a hr. 265 hrs	$10,84.00
	Trenching & road building on Coal lease. Brake Motor rental 50% of parts as agreed to by Harold Jones	$750.00
	1036	
	Per diem received advanced 250.00	500.00
	Total	$12,234.00

689

GALLANT TRUCKING LTD.

221 O'Connor Road, Kamloops, B.C. V2C 5A5
Telephone 573-5355

№ 641

INVOICE TO

NAME G.A. Noel & Associates

DATE December 8, 1980

ADDRESS #622-510 West Hastings St.
Vancouver, B.C.

DESCRIPTION OF SERVICE:	TOTAL	
Supplied 4x4 water truck in Chetwynd, B.C. From		
December 5th to December 8th, 1980 inclusive		
4 days at $600.00/day	$2,400	00
RATE: $600.00/Day		
TERMS: NET 30 DAYS 1½% PER MONTH (18% PER ANNUM) ON OVERDUE ACCOUNTS.		
TOTAL	$2,400	00

D101

GALLANT TRUCKING LTD.

221 O'Connor Road, Kamloops, B.C. V2C 5A5
Telephone 573-5355

№ 660

INVOICE TO

NAME G.A. Noel & Associates

DATE January 31 1981

ADDRESS #620 - 510 West Hastings St.

Vancouver, B.C.

DESCRIPTION OF SERVICE:	TOTAL	
Supplied 4x4 water truck including storage tank in		
Chetwynd, B.C. From January 5th to January 31st, 1981		
excluding January 16th & January 28th, 1981		
25 days @ $600.00/day	$ 15,000	00
Jan. 16th & 28th, 1981 - 2 days @ $300.00/day	600	00
RATE: $600.00/day & $300.00/day (Standby) 1257		
TERMS: NET 30 DAYS 1½% PER MONTH (18% PER ANNUM) ON OVERDUE ACCOUNTS. — Field Copy # 20 & 30 — TOTAL	$ 15,600	00

Quintette Coal
Chetwynd Coal

GALLANT TRUCKING LTD.

221 O'Connor Road, Kamloops, B.C. V2C 5A5
Telephone 573-5355

№ 671

INVOICE TO

NAME G. A. Noel & Associates

DATE February 26 1981

ADDRESS #622 - 510 West Hastings St.

Vancouver, B.C.

DESCRIPTION OF SERVICE:	TOTAL	
Supplied 4x4 water truck including storage tank in -		
Chetwynd, B.C. For February 5th, 6th & 7th 1981		
3 days @ $600.00/day	$1,800	00
Less Credit for containers direct to Gallant	92	-
H. Martin Pay	1708	-
RATE: $600.00/day		
TERMS: NET 30 DAYS 1½% PER MONTH (18% PER ANNUM) ON OVERDUE ACCOUNTS. — Field Copy #29631 — TOTAL	~~$1,800~~	~~00~~

#1331

PACIFIC 66

STATEMENT

CHETWYND PETROLEUMS LTD.

Telephone 788-2288

P.O. BOX 6, CHETWYND, B.C.
V0C 1J0

Gallant Trucking,
Suite # 622,
510 - West Hasting,
Vancouver,B.C.m

1½% interest per month charged on overdue accounts

DATE	PARTICULARS	DEBIT	CREDIT	BALANCE
	PREVIOUS BALANCE FORWARD			-0-
Jan.19/81	73419	471.01		471.01
Jan.19/81	73421	98.96		569.97
Jan.19/81	73465	65.30		635.27
Jan.26/81	73592	65.59		700.86
Jan.27/81	73660	64.13		764.99
Jan.27/81	73621	560.67		1,325.66

O.K. for payment
#1259

STATEMENT

CHETWYND PETROLEUMS LTD.

Telephone 788-2288

P.O. BOX 6, CHETWYND, B.C.
VOC 1J0

Gallant Trucking,
Suite # 622,
510 - West Hasting,
Vancouver, B.C.m

1½% interest per month charged on overdue accounts

DATE	PARTICULARS	DEBIT	CREDIT	BALANCE
	PREVIOUS BALANCE FORWARD			-0-
Jan.19/81	73419	471.01		471.01
Jan.19/81	73421	98.96	These	569.97
Jan.19/81	73465	65.30	must	635.27
Jan.26/81	73592	65.59	been	700.86
Jan.27/81	73660	64.13	pd. see invoice	764.99
Jan.27/81	73621	560.67		1,325.66
Feb.2/81	73828	139.30	These	1,464.96
Feb.9/81	73975	65.30	ok for	1,530.26
Feb.12/81	11893	477.75	payment Amount	2,008.01
Feb.17/81	11405	70.23	To be	2,078.24
Feb.25/81	11797	55.14	paid by [illegible]	2,133.38
Mar.2/81	12209		1,325.66	807.72
Jim				- 125.37
	This amount is ok for →			682.35 [redacted]
	payment by Semper			
OK'd [illegible]	[illegible signature]		#	1293
9/10/-1		S-10-1		

Please pay last amount... IN THIS COLUMN

689

F. Ollenberger

Box 66, Rolla, B.C. V0C2G0
Phone 759-4545

TIME SLIP

JOB DESCRIPTION WILLOW CREEK COAL PROJECT.

NAME SEMPER RESOURCES INC. DATE FEB 17

HOURS	WORKING ON	RATE
	5 1/2 DAYS @ $600/DAY	3300.00
	O.K.	/
	5101	
	#1274	

Employee's Signature	Foreman's Signature	Total	$3300.00
F. Ollenberger			

VISA

TRUCK RENTALS (1976) LTD.

11410-100 ST., GRANDE PRAIRIE, ALTA. PHONE 532-0636

INVOICE TO SCHIPCH RESOURCES LTD.
475 HOWE STREET
ADDRESS Vancouver, B.C.

DATE FEB 23/81

ORDER No. 689

Owning City CHETWYND.	Miles In 5609	Date and Time In March 23/81	
Unit Number 7171	Miles Out 1485	Date and Time Out FEB 23/81.	
Make & Style Dodge C/C.	Total Miles 4124	Days Utilized 30	
License Number & Province	Miles Driven 4124	@ 20¢	824.80
Weight Limit G.V.W.	Days Utilized	@	
Optional Equipment	Week Utilized	@	
Date Vehicle to be Returned	Month Utilized 1	@ $800.00	800 00
Person to Contact	Total Time And Mileage		1624.80

EQUIPMENT	Spare	Chains	Jackall	W.W.R.	Misc.
OUT	—		—	—	
IN					

DAMAGE CHARGES	
WASH JOB.	20 00

Name MARTIN ALBERT DELASTEINOW.
Address 303/1056 W13 AVE. VANCOUVER B.C.
Age 06/07/51 License 1538200
Exp. Date 1/82. Prov. B.C

Additional Charges $4.00 Extra Insurance	120 00
Fuel Charges Gals	25 00
B.C. Tax (If Applicable)	97 41
TOTAL	1887 21

I HAVE READ THE TERMS AND CONDITIONS ON BOTH SIDES OF THIS RENTAL AGREEMENT AND AGREE THERETO. CUSTOMER IS RESPONSIBLE FOR ALL DAMAGES AND TRAFFIC VIOLATIONS. CUSTOMER SUPPLIES GAS AND OIL. INSURANCE IS SUPPLIED AT NO ADDITIONAL COST BASED ON ~~$500.00~~ $1000.00 DEDUCTIBLE. TERMS ARE NET 30 DAYS. THERE IS A SERVICE CHARGE OF 2% PER MONTH ON ALL OVERDUE ACCOUNTS.

Signature X

Coding (Visa Use Only)

TERMS: NET 30 DAYS, 2% PER MONTH CHARGED ON ALL OVERDUE ACCOUNTS.

VEHICLE CONDITION

	OUT		IN	
Front	Gas Full.			
Left	1/4 Full			
Right				
Rear				
Top				
Interior				
Tires Front	L.F.	R.F	L.F.	R.F.
Tires Rear	L.R.	R.R.	L.R.	R.R.
Person Releasing Unit				
Person Accepting Unit				

MAKE VISA YOUR ONE STOP RENTAL CALL AT ANY OF THESE LOCATIONS IN THE NORTH

NORTHERN METALIC SALES (ALBERTA) LTD.
11410 - 100 ST. GRANDE PRAIRIE 532-8863

MERV'S CYCLE & MARINE
FAIRVIEW 835-2520

NORTHERN METALIC SALES
ALASKA ROAD, FORT ST. JOHN, B.C. 785-6655

NORTHERN METALIC SALES
BOX 448, CHETWYND, B.C. 788-9162

NORTHERN METALIC SALES
9729 - 17 ST., DAWSON CREEK, B.C. 782-5595

G.D. AUTO & INDUSTRIAL SUPPLIES LTD.
MANNING, ALTA. 836-3266

operating & maintenance supplies

689

STATEMENT

F. GERZEY CONSTRUCTION LTD.
BOX 505
DAWSON CREEK, B.C.

DATE Feb 11 19 81

SEMPER RESOURCES
Chetwynd, B. C.

DATE	DETAILS	DEBIT	CREDIT	BALANCE
Re:	Explosives - Firing Line			
	and special delivery			1,070.00
	BLASTING CAPS		110	
	POWDER		105	
	FIRING LINE	1000	350	
	DELIVERY [illegible]		505	
	843 Kms [illegible]	60¢/km		
	OK for Payment		#	1332
	Coal Supplies [illegible signature]			
			80-3	
	For Accounting			

REDIFORM - SM101

PY
/OICE

PHONE: 433-5141

E. G. WHALLEY & SON LT.

"Serving the Drilling Industry"

5791 Beresford Street, Burnaby 1, B.C.

DIAMOND DRILL
REPAIRS & SERVICE
CORE BOXES
WIRE-LINE HOISTS

Feb. 26/81

SOLD TO Semper Resources Inc.,
#433 - 355 Burrard St.,
VANCOUVER, B.C.
V6C 2G8

COPY OF OUR
INVOICE #10203

TERMS: NET 15th OF MONTH FOLLOWING

SALES TAX LIC. No. EXEMPT

S.S.M.A. TAX No. EXTRA

CUSTOMER'S ORDER No. A. Martin

SHIP TO
Above, Chetwynd, B.C.

ORDER DATE Feb. 11/81

SHIPPING DATE Feb. 16,23/81

VIA Canadian Freightways

OUR ORDER No. 4704

P.P.D.

COLL. X

QTY. ORDERED	BACK O.	DESCRIPTION	UNIT PRICE	QTY. SHIPPED	AMOUNT
~~435 only~~		~~HQ100 Core Boxes, c/w Covers~~	~~3.85~~	~~441~~	~~$ 1,697.85~~
		4% PST			67.91
					$ 1,765.76

O.K. for payment

#1361

5101-1.

RECEIVED

No. Copy of #10203

TOTAL $ 1,765.76

REMARKS:

689

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

May 6, 1981

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE

Re: Pine River Coal Project, April 1-30, 1981

Wages:	A. Marton, geologist: 21 days @ $250/day		$5,250.00
	H. Jones, geologist : 1½ days @ $300/day		450.00
	M. Simson, casual drafting: 16 days @ $50/day		800.00
Disbursements:			
Apr.22	L.D. telephone (Jan.29-Apr.16)	$109.36	
Apr.30	Secretarial	44.00	
Apr.30	Xerox	40.32	
Apr.30	Drafting - Van Cal	19.38	
	Coal Map	1.00	214.06
			$6,714.06

1378

APPROVED: [signature]
CODE No: 5/1/-1
DATE: June 15/81
(Coal Report)

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

April 20, 1981

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE

Re: Examination of Coal Licences, Clinton Area

Services: H.M. Jones, P.Eng.

April 11, 12 - field examinations & travel .... 2 days
April 15 - Letter report - 3 hrs.

Total ... 2 days, 3 hrs.		$ 720.00
Expenses:		
Car rental	$ 73.48	
Room	25.44	
Meals	20.90	
Gasoline	18.40	
Photo printing	16.12	
Film replacement	3.50	
Secretarial	12.00	169.84
		$ 889.84

1231

O.K. for payment
JHB.

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

April 6, 1981

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE
March 1-31, 1981

Re: Pine River Coal Project

Wages: A. Marton - geologist - 29 days @ $250/day		$7,250.00	7250.00
J. Pereira- chainsaw operator 14 @ $110/day		2,540.00	1540 -
Disbursements:			
Feb. 27 - Downtown Secretarial	$ 9.10		
Feb. 27 - Nova Courier	7.45		
March 5 - Nova Courier	11.05		
March 20 - B.C. Tel-long distance	138.15	165.75	
		$9,955.75	8955.75

1335

O.K. for payment
JMB.

S 101-1

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

February 27, 1981

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE

Eng.	7600.48
Wages	3410.00
Camp	448.25
Supp	69.63
EO	998.63
	12526.99

Wages:

A. Marton, geologist - 28 days @ $250/day	Eng	$7,000.00	
W. Howes, chain saw operator: 15 days @ $110/day	wages	1,650.00	
J. Pereira, chain saw operator: 16 days @ $110/day	wages	1,760.00	
H.M. Jones - Jan. 5: Progress Report - 1 day	Eng	300.00	
- Feb.27: Accounts, etc. - ½ day	Eng	150.00	$10,860.00

Disbursements:

Jan. 31/81 - B.C. Telephone		$ 4.99	Eng	
Feb. 9/81 - Pine Cone Motor Inn	Gallant	448.25	Camp	
11/81 - Van Cal Reproductions		22.40	Eng	
11/81 - Postage		2.35	Eng	
19/81 - Neville Crosbie		69.63	Sup	
19/81 - Canuk Truck Rental	Marton	998.63	EO	
28/81 - B.C. Telephone		120.74	Eng	1,666.99

Total Due $12,526.99

1253

O.K. for payment
JB.

5101-1

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

February 5, 1981

Semper Resources Inc.
475 Howe Street
Vancouver, B.C.

INVOICE

Wages:	A. Martin - geologist 16 days @ $250.00			$4,000.00
	W. Howes - chainsaw operator 16 days @ $110.00			1,760.00
Disbursements:				
Jan. 26	Maple Leaf Helicopters	$316.92		
27	B.C. Telephone - Long Distance	134.48		
30	Chong - drafting	570.00		
Feb. 3	Downtown Secretarial - Jan. billing	29.50		
" "	" " - " "	2.70		
Dec. 31	Late arriving bill B.C. Tel. L.D.	11.47		1,065.07
				6,825.07
	Billing for January 1 - 15			~~5,185.90~~
				~~$12,010.97~~

#1241

O.K. for payment

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B.C.
V6B 1L8

TELEPHONE: (604) 689-5533

January 22, 1981

Wages 990.00
Camp 1448.52
Eng. 2747.38
5185.90

Semper Resources Inc.
475 Howe Street
Vancouver, B.C.

INVOICE

To Jan. 1 - Jan. 15, 1981

Wages,	A. Marton - geologist 10 days @ $250/day	$2,500.00	
	W. Hawes - chainsaw operator 9 days @ $110.00/day	990.00	$3,490.00

Disbursements

December 31, 1980	Van-Cal invoices	83174	$ 23.02	
		19637	42.80	
		83200	52.60	
		83217	9.86	
		83229	78.89	
December 31, 1980	Cana-rentals, statement		1,241.35	
" " "	Multiple B.S. xeroxing		.90	
January 5th, 1981	Neville-Crosby invoice	14931	246.48	1,695.90
				$5,185.90

O.K. for Payment

#1312

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

January 5, 1981

Semper Resources Inc.
475 Howe Street
Vancouver, B.C.

INVOICE - December

Consulting fee:	Harold Jones - 2 days total		$ 600.00	
Wages :	A. Marton -	geologist - 19 days @ $250/day	4,750.00	
	W. Howes -	chainsaw operator- 7½ days @ $85/day	637.50	
	N. Nagel -	chainsaw operator- 3 days @ $100/day	300.00	6,287.50

Disbursements

Dec. 5 - Neville Crosbie	164.60	Supp	
Dec.19 - B.C. Telephone-L.D. Calls	139.89		
Dec.19 - D. Nagel - expenses	84.10	EC	
Dec.24 - Pine Cone Motel	1,026.78		1,415.37

TOTAL DUE $7,702.87

Engineering 5350.-
Wages 937.50
Camp 1226.78
EC 248.70

#1211

O.K. for payment

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B. C.
V6B 1L8

TELEPHONE: (604) 689-5533

December 1, 1980

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE

Re: Pine River Coal Project

Services: A. Marton, geologist - Pine River Coal Property
November 1-30: 30 days @ $250/day — $ 7,500.00

B. Dent - chainsaw operator
November 1: 1 days @ $100/day — 100.00

Disbursements:

Oct.22 - B.C. Tel account - charges omitted on last invoice	$ 27.70	
Oct.31 - Multiple Business Services - secretarial	8.00	
Nov.20 - B.C. Tel account	171.35	
Nov.28 - Multiple Business Services - secretarial	3.50	
Nov.30 - Cana Rentals Ltd. - vehicle	850.80	1,061.35
Total Due		$ 8,661.35

O.K. for payment

#1174

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B.C.
V6B 1L8

TELEPHONE: (604) 689-5533

November 18, 1980

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, BC.

INVOICE

Re: Pine River Coal Project

Services: H.M. Jones, P.Eng.
1½ Sept. 27, Oct.7-travel Bralorne-Vancouver return
@ 6 hrs/trip - 1½ days
Sept. 28,29 - review coal project with A Marton, assemble camp equipment, etc. - 6 hrs.
Sept. 30, Oct. 1-3 - trip to Chetwynd to start up project, organize road construction, visit working areas with B.C. Dept.of Mines and B.C. Forest Service Total 6¼ days @ $300/day — $1,875.00 ✓

A.Marton, geologist - Pine River Coal property
Sept. 24.25 - office - 2 days
Sept. 29,30,Oct. 1-12, 16-31 - 30 days
Total 32 days @ $200/day — $6,400.00 ✓

B. Dent - chain saw operator
Sept. 30, Oct. 1-31 - 32 days
@ $100/day = 3,200.00
Employer share U.I.C, CPP, WCB = 67.87 plst — $3,267.87

Sub total -	11,542.87
Disbursements: (See attached summary)	2,908.84
Total Due	$14,451.71

#1165

SUMMARY
DISBURSEMENTS & EXPENSES

Date	Description	Amount	
October 6 -	Nova messengers	6.95	
October 22 -	B.C. Tel account - L.D. Calls	67.28	
October 31 -	Cana Rentals - Truck Rental Sept. 26 - Oct. 31/80	1,021.00	
Nov. 1 -	Westgate Supermarket Ltd.	441.34	
Nov. 13 -	Maple Leaf Helicopters Ltd.	755.76	
			$2,292.33

H.M. Jones - Expenses - Trip to Chetwynd

Sept.27-Oct. 7 -	Bralorne-Vancouver return, by car 548miles @ 20¢/mile	109.60	
Sept. 30 -	air fare Vancouver-Dawson Creek return	205.00	
Sept. 30 -	Tilden Car Rental	224.46	
Sept.30,Oct. 3 -	Taxis - 2	12.45	
Sept.30-Oct. 3 -	Meals	65.00	
			616.51
		Total	$2,908.84

ED
1021.-

Camp
[illegible]34
65.00
506.34

T+T
755.76
616.51
1372.27

540
x 3
1620.-
205.-
1825.-

G. A. NOEL & ASSOCIATES INC.

CONSULTING GEOLOGISTS

622-510 W. HASTINGS ST.

VANCOUVER, B. C.

V6B 1L8

TELEPHONE: (604) 689-5533

October 16, 1980

travel E0
66.55

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.
V6C 2B3

INVOICE

Disbursements - July, August & September, 1980

Sept. 24	Vancal Reproductions	$ 4.53	1
Aug. 18	Iota Messengers	10.00	2
Aug. 8	Western Reproducers Ltd. Inv.H57908	26.17	3
July 14	Imperial Oil, Chetwynd (less barrel deposit) E	66.55	4
Sept. 24	Neville Crosby Inc. Inv.#13666	44.93	
Sept. 30	M.B.S. Inv.#1395	6.40	
Aug. 29	Commercial Testing Co. Inv.#641020	680.00	7
Aug. 31	M.B.S. Inv. #1357	244.15	8
July 22	B.C. Telephone	90.70	9
Aug. 18	Vancal Reproductions Inv.#80688	4.53	10
Aug. 14	" " Inv.#80647	21.22	11
Aug. 20	B.C. Telephone	46.96	12
July 31	M.B.S. Inv. #1323	3.50	13
Oct. 8	Maple Leaf Helicopter Inv.#0477	1,026.32	14
	Total	$2,275.96	

#1051

O.K. for payment

Coal.

G. A. NOEL & ASSOCIATES INC.
CONSULTING GEOLOGISTS
622-510 W. HASTINGS ST.
VANCOUVER, B.C.
V6B 1L8

TELEPHONE: (604) 689-5533

August 15, 1980

ED
318.76
46.90
1141.71
1507.17

Semper Resources Inc.
1010 - 475 Howe Street
Vancouver, B.C.

INVOICE

Re: Pine River Coal Project

Services: H.M. Jones, P.Eng.		
Field work & travel -		
July 1-8, 12-31, Aug. 1-3 .. 30½ days	$ 7,625.00	
Office -		
Aug. 5, 6 - assemble all data for assessment work, filled out forms, filed work .. 2 days 250 each	500.00	
Aug. 7-15 - report & map preparation .. 7½ days	1,875.00	$ 10,000.00
C. Patterson, faller		
July 2-31, Aug. 1-3 .. 33 days @ $100/day	$ 3,300.00	
Employer costs: UIC, CPP, WCB, etc.	172.61	3,472.61
		$ 13,472.61

Disbursements

July 2 -	Vancal Reproductions	$ 5.60	
July 2 -	F. Chong: drafting base map	w 256.00	
July 3 -	Chain Saw Sales: chain saw	E 318.76	
July 3 -	Deakin Equipment: camp supplies	C 164.90	
July 10 -	Humdinger Marine: propeller	E 46.90	
July 22 -	B.C. Tel: long distance charges	87.71	
July 31 -	Multiple Business Services: typing	3.50	
Aug. 8 -	Westgate's Supermarket: groceries	C 846.09	
Aug. 8 -	Chieftain-Rent-A-Truck	E 1,141.71	
Aug. 14 -	F. Chong: drafting all maps	w 354.50	
July 3 - Aug. 7 -	H.M. Jones Expenses (see attached summary)	1,083.79	4,309.46
			$17,782.07
	Less Advance		5,000.00
	Total Due		$12,782.07

1037

INVOICE

689

0141

W. & J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

G. A. Noel Associates Inc.
510 West Hastings
Vancouver, B. C.

Job

Date May 4,1981

DATE			
April 22	Hauled D6D from Chetwynd to Willow Flats	82.50	
23	Hauled D6D from Willow Flats to Chetwynd	82.50	
22	Time Report - 10 HRS @ 55.00 per Hour	550.00	$715.00
	Reclamation by sidge [illegible]		
			$715.00
	[illegible]		#1381
	[illegible]		
	5-21-[illegible]		
	O.K. for payment		
	JMB.		

SPEE-DEE PRINTERS

W. & J. Schilling

Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

INVOICE

0132

G. A. Noel Associates Inc
510 West Hastings

Job Willow Creek
Date march 28, 1981

DATE			
	D6D		
March 16	Time Report Unit # 0089 - Standby		
17	90 - 7 HRS		
18	91 - 8		
19	92 - 10		
20	93 - Standby		
21	94 - Standby		
22	95 - 10		
	35 HRS @ 55.00	1925.00	
	3 days on Standby @ 200.00		
	per day	600.00	
	Hauled D6D from Willow Flats to Chetwynd	110.00	
	Jim Hernstedt		
march 19	pulled bridge 10 hrs @ 10.00	100.00	
	Walter Schilling		
March19	pulled bridge 10 hrs @ 10.00	100.00	2835.00
	Built Import		
			2835.00
		#1339	

SPEE-DEE PRINTERS

W. & J. Schilling

INVOICE

Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0131

G. A. Noel Associates Inc

Job Willow Creek

Date March 18, 1981

DATE			
	D6D		
March 1	Time Report Unit # 0074 - Standby		
2	75 - Standby		
3	76 - Standby		
4	77 - Standby		
5	78 - Standby		
6	79 - 6 HRS		
7	80 - Standby		
8	81 - Standby		
9	82 - 11 HRS		
10	83 - 5 HRS		
11	84 - Standby		
12	85 - Standby		
13	86 - Standby		
14	87 - Standby		
15	88 - Standby		
	Standby for 13 days @ 200.00 per day	$ 2600.00	
	22 hrs @ 55 .00 per hr	1210.00	
	5101-1		$ 3810.00
	O.K.		
	JMB. Appr. # 1315		3810.00

SPEE-DEE PRINTERS

INVOICE

~~W. &~~ J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0127

G.A. Noel Associates Inc
510 West Hastings

Job Willow Creek
Date March 3, 1981

DATE			
	D6D		
Feb 16	Time Report Unit # 000846 - 8 HRS		
17	47 - 9		
18	48 - 200.00		
19	49 - 200.00		
20	50 - 7		
21	51 - 200.00		
22	52 - 200.00		
23	53 - 8		
24	54 - 10		
25	55 - 200.00		
26	56 - 200.00		
27	57 - 200.00		
28	58 - 6		
	Cat. 1 7 days @ 200.00	1400.00	
	48 hrs @ 55.00	2640.00	4040.00
	O.K. for Payment		
			4040.00
	S101-1		
		# 1292	

SPEE-DEE PRINTERS

INVOICE

W. & J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0125

G. A. Noel Associates Inc
510 West Hastings

Job Willow Creek
Date Feb 25, 1981

DATE			
	D6D		
Feb 1	Time Report Unit # 000348 - Standby		
2	49 - 10 HRS		
3	50 - Standby		
4	000834 - Standby		
5	35 - Standby		
6	36 - 11		
7	10 out of 15 Standby 37 - Standby		
8	38 - 6		
9	39 - Standby		
10	40 - Standby		
11	41 - Standby		
12	42 - Standby		
13	43 - 8		
14	44 - 9		
15	45 - Standby		
	10 days @ 200.00	2000.00	
	44 HRS @ 55.00	2420.00	4420.00
	O.K. for payment		
	[signature]		# 1270
	5-10-1		

W. & J. Schilling

Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

INVOICE

0122

~~G.A. Noel Associates Inc~~
510 West Hastings
Suite 622

Job Willow Creek
Date Feb 2, 1981

DATE			
	D6D		
Jan 4	Time Report Unit # 000828 - 8 HRS		
5	29 - 8		
6	30 - 10		
7	31 - 10		
8	32 - 10		
9	33 - 5		
10	000326 - 10		
11	27 - Standby		
12	28 - Standby		
13	29 - 10		
14	30 - 10		
15	31 - 10		
	91 HRS @ 55.00	5005.00	
	2 days @ 200.00	400.00	
	Jim Hernstedt #1242		
4	Bridge building 8 HRS		
5	" " 8		
	16 HRS @ 12.00	192. 00	
	Jim Schilling		
4	Bridge Building 8 HRS		
5	" " 8		
	16 HRS @ 12.00	192.00	5789.00

SPEE-DEE PRINTERS

W. & J. Schilling

Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

INVOICE

0123

G.A. Noel Associates Inc

510 West Hastings

Job Willow Creek

Date Feb 2, 1981

For. D-6 Cat - General roadwork, move drill, plow snow.

DATE			
	D6D		
Jan 16	Time Report Unit # 000332 - .6 HRS		
17	33 - 8		
18	34 - 7		
19	35 - Standby		
20	36 - 8		
21	37 - Standby		
22	38 - Standby		
23	39 - 10		
24	40 - Standby		
25	41 - Standby		
26	42 - Standby		
27	43 - 10		
28	44 - 10		
29	45 - 13		
30	46 - Standby		
31	47 - 7		
	79 HRS @ 55.00	4345.00	
	7 days @ 200.00	1400.00	
Nov 14	Diesel Fuel check?	1104.00	
Jan 12	" "	1051.75	7900.75
	O.K. for Payment #1255		7900.75

SPEE-DEE PRINTERS

INVOICE

W. & J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0119

G. A Noel Associates Inc

Job Willow Creek

Date Dec 20, 1980

DATE			
	D6D		
Dec 1	Time Report: Unit # 266 - Standby	200.00	
2	67 - Standby	200.00	
3	68 - Standby	200.00	
4	69 - 10 HRS @ 55.00	550.00	
5	70 - 10 HRS @ 55.00	550.00	
6	71 - 10 HRS @ 55.00	550.00	
7	72 - 10 HRS @ 55.00	550.00	
8	73 - 10 HRS @ 55.00	550.00	
9	74 - 10 HRS @ 55.00	550.00	
10	75 - 10 HRS @ 55.00	550.00	
11	827 - 10 HRS @ 55.00	550.00	5000.00
	Jim Schilling Labour		
6	12 HRS		
8	10		
9	Roads 11		
10	12		
11	11		
12	10		
	66 HRS @ 12.00	792.00	792.00
			5792.00
	A Martin Invoice #0120		1044.00
	#0121		1750.04
	Cheq #	1218	8586.04

INVOICE

J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0120

G. A. Noel Associates Inc

Job Willow Creek

Date Dec 20, 1980

DATE			
	Jim Hernstedt Labour		
Dec 5	11 HRS		
6	12		
7	10		
8	10		
9	11		
10	12		
11	11		
12	10		
	87 HRS @ 12,00	1044.00	

Job Willow Creek

Date Dec 20, 1980

DATE			
Dec 5, 1980	Bridge Supplies	440.13	
	Lumber	1051.65	
	Hauling	195.00	
	Building Supplies	38.26	
	Wedges	25.00	1750.04
			1750.04

SPEE-DEE PRINTERS

Signature of customer's duly authorized representative

Rake Engineer

INVOICE

W. & J. Schilling
Box 325
Chetwynd, B.C. V0C 1J0
Phone 788-2645

0116

G. A. Noel Associates Inc.
510 West Hastings
Suite 622

Job Willow Creek
Date Nov 30, 1980

DATE			
	D6C		
Nov 15	Time Report Unit # - 252 - 11 HRS		
16	53 - 10		
18	54 - 12		
19	55 - 11		
	44 HRS @ 50.00	2200.00	
	D6D		
20	Time Report Unit #- 256 - 10 HRS		
21	57 - 11		
23	58 - 9		
24	59 - 12		
25	60 - 11		
26	61 - 10 # 1176		
27	62 - 8		
28	StandBy 63 - 200.00		
29	StandBy 64 - 200.00		
30	StandBy 65 - 200.00		
	71 HRS @ 55.00	3905.00	
	StandBy 600.00	600.00	
	Bulldozer for drilling		
			6705.00
	O.K.		

SPEE-DEE PRINTERS

Invoice #703

April 2/81

689

G.A. Noel & Associates,
#620, 510-West Hastings,
Vancouver, B.C.

Kosick Holdings Ltd.,
Box 6924,
Fort St John, B.C.
V1J 4J3

#595 Mar. 17/81	$864.00
#596 Mar. 18/81	864.00
	$1728.00

#1334

OK for Payment

BILL OF [illegible]ING - NON-NEGOTIABLE SHIPPING R[illegible]IPT

KOSICK HOLDINGS LTD.

596

Box 6924, Fort St. John, B.C.

Ph. 785-2604—787-7247

CHARGE TO [illegible] Associates

ADDRESS #620 - 510 W. Hastings DATE March 18 19 81

RIG NO. LOCATION Grassier Creek

PARTICULARS	HOURS	MILEAGE	RATE	AMOUNT
Travel from F.S.J. to Grassier creek some 20 odd miles west of Kitwanga & load pellets of rock core on Hiboy and haul 13 pellet loads to F.S. John & unload at Dept of mines Charlie Lake.	12		57.00	684.00
(for Sempor Res)				
Swamper	12	@	15.00	180.00
				$864.00

Permit No.:

Pilot Car: (Yes) (No.)

Total

Last Amount Shown is Total

Ordered By:

Truck Number 55

Trailer No. 55-A

Purchase Order No.

Received in Good Order [signature]

Driver's Signature [signature]

Swamper R. Smathers

BILL OF L[illegible]NG - NON-NEGOTIABLE SHIPPING RE[illegible]IPT

KOSICK HOLDINGS LTD.

Box 6924, Fort St. John, B.C.

Ph. 785-2604—787-7247

595

- RM 111

CHARGE TO G. A. NOEL & ASSOCIATES · HETROYND # 35 33/1

ADDRESS #620 - 510 W HASTINGS DATE March 17 1981

RIG NO. LOCATION

PARTICULARS	HOURS	MILEAGE	RATE	AMOUNT
Travel from F.S.J. to Kramer Creek 20 some miles west of Chetwynd to loaded 13 pallets of rock Core & hauled same to F.S. John to Dept Mines & unload	12		57.00	684.00
(for Semper Res)				
Swamper	12		15.00	180.00
				$864.00

Permit No.:

Pilot Car: (Yes) (No.)

OK for payment Al Morton

Total

Last Amount Shown is Total

Ordered By: Al Morton

Truck Number 55

Trailer No. 55-A

Purchase Order No.

Driver's Signature L. Kosick

Received in Good Order [illegible]

Swamper R. Smithspears

689

ROKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates Inc.,
Suite 662-510 West Hastings Street,
Vancouver, B.C.

INVOICE № 2211

DATE April 14, 1981

SERVICES RENDERED Re: Willow Creek Field - Service Orders #5055 & #5056 - Dated March 2, 1981

Total Logging Charges	6,214.10	
Mileage: 1350 km @ .60/km	810.00	
Meals: 4 days @ $20.00/day	80.00	
Motel: 5 days @ $30.45/day	152.25	
		$ 7,256.35
		# 1364

O.K. for payment

5101-1

INVOICE

0 • C *

4 130 • 91	+
4 152 • 45	+
4 862 • 44	+
5 853 • 10	+
4 514 • 15	+
23 513 • 05	*

1377

ROKE OIL ENTERPRISES LTD.

ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

INVOICE № 2136

iates, Inc.

Street,

DATE January 23, 1981

ervice Order No. 4722 January 12, 1981

Total Logging Charges:	$3,106.51
Meals: 4 days @ $20.00 :	80.00
Motel: 4 days @ $33.60 :	134.40
Mileage: 1350 km @ $0.60 :	810.00
	$4,130.91

TOTAL $ 4,130.91

INVOICE

HOKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates Inc.,
Suite 622,
510 West Hastings,
VANCOUVER B.C.

INVOICE № 2164

DATE February 26, 1981

SERVICES RENDERED Re: Willow Creek - Service Order #5001 - Dated Jan.22, 1981

Total Logging Charges	$ 3,215.25	
Mileage: 1350 km	810.00	
Motel:	67.20	
Meals:	60.00	
		$ 4,152.45

INVOICE

	CAL ✓		294	1.10/m.	323.40
1	FBL ✓		279	2.20/m	613.80
	DEPTH.		15	0.85/m.	12.75
	DIR		285	2.85/m.	812.25
	MOTEL @	COST			67.20
	MEAL @ COST	3 DAYS.			60.00

PAGE TOTAL ~~1899.35~~
4152.45

The Service(s) and equipment covered by this Service order have been performed or received.

C..OKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates,
Suite 622,
510 West Hastings St.,
Vancouver, B.C.

INVOICE № 2168

DATE February 26, 1981

SERVICES RENDERED Re. Willow Creek Field - Service Order #5003

Total Logging Charges		$ 2,705.94	
Service Charges		300.00	
		3,005.94	
Standby Time: 29.2 Hrs. @ 50.00/hr	1,460.00		
½ price only charged due to failure			
of directional too	730.00	730.00	$3,735.94
Mileage: 1350 km @.60/km			810.00
Meals: 6 days @ 20.00/day			120.00
Motel: at cost			196.50
			$4,862.44

INVOICE

	FSL [illegible]		[illegible]	[illegible]	[illegible]	
	LIENS	81-6	1.65	321 m /500	13.86	
	CAL		1.10	321 m /500	15.64	
	FSL		2.[illegible]	312 m /500	~~495.00~~	
	LENTH		.65	10 m	350.00 ~~[illegible]~~ 330.00	
	EXPANDED FSL		2.00	104	8.50	
	DEPTH		.85	218	225.30	
	T. [illegible] LOG [illegible]		1.[illegible]	48	185.30	
	DEPTH				[illegible]	
	~~[illegible]~~ 4R[illegible]	R# 2	~~1.15~~	~~[illegible]~~	~~[illegible]~~	
	~~[illegible] @ COST~~		2.85	100	285.00	
	DEPTH		.85	220	187.00	
	MEAL @ COST				120.00	
	MOTEL @ COST				196.50	

PAGE TOTAL ~~5552.88~~

$4,862.44

The Service(s) and equipment covered by this Service order have been performed or received.

HOKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates Inc.,
Suite 622,
510 West Hastings,
Vancouver, B.C.

INVOICE № 2159

DATE February 26, 1981

SERVICES RENDERED Re: Willow Creek Field - Service Orders #5008 & #5009

Total Logging Charges	$ 4,915.90	
Meals:	60.00	
Mileage: 1850 km	810.00	
Motel:	67.20	$ 5,853.10

INVOICE

PAGE TOTAL 5853.10

The Service(s) and equipment covered by this Service order have been performed or received.

...OKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

INVOICE № 2176

TO:

G.A. Noel & Associates Inc.,
Suite 662 - 510 West Hastings Street,
Vancouver, B.C.

DATE March 11, 1981

SERVICES RENDERED Re: Willow Creek Field - Service Order #5053 - Dated February 24, 1981

Total Logging Charges	$ 3,630.55	
Mileage: 1350 km @ .60/km	810.00	
Meals: 2 days @ $20.00/day	40.00	
Motel: 1 day	33.60	$ 4,514.15

INVOICE

	Depth Datum		28	0.85	23.80
	Detail		38	2.20	83.60
	PIR		300 / 20	2.85 / 1.71	889.20
			Total	Logging Charges	3630.55
		MILEAGE	1350 KM	0.60/KM	810.00
		Meals	2 Days	@ 20/Day	40.00
		Motel	1 Day	@ 33.60	33.60

PAGE TOTAL 4514.15

The Service(s) and equipment covered by this Service order have been performed or

CROKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates,
Suite 662 - 510 West Hastings Street,
Vancouver, B.C.

INVOICE № 2150

DATE February 5, 1981

SERVICES RENDERED Re: Willow Creek Field - Service Order #4796 - Dated January 23, 1981

Total Logging Charges	$ 3,278.25	
Accommodation: 2 days	63.00	
Meals: 3 days @ $20.00/day	60.00	
Mileage: 1350 km @ .60/km	810.00	$ 4,211.25

#1282

INVOICE

.OKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates Inc.,
Suite 622 - 510 West Hastings Street,
Vancouver, B.C.

INVOICE № 2120

DATE December 30, 1980

SERVICES RENDERED Re:Willow Creek Field - Service Order #4580 - Dated December 1, 1980

Total Logging Charges	$ 1,288.05

Geophysical -

#1219

INVOICE

ROKE OIL ENTERPRISES LTD.

516 MORAINE ROAD N.E., CALGARY, ALBERTA T2A 2P2 • TELEPHONE 273-5553

TO: G.A. Noel & Associates Inc.,
Suite 622 - 510 West Hastings Street,
Vancouver, B.C.

INVOICE № 2107

DATE December 15, 1980

SERVICES RENDERED Re: Willow Creek Field - Service Order #4578 - Dated November 24, 1980

Survey Noel 1/10/C

Total Logging Charges	$ 1,902.60

PAID - Cheque Received December 16, 1980 #1175

INVOICE

ORIGINAL INVOICE

CON ERCIAL TESTING & ENGINEERI - CO.

ES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

D-U-N-S 04•702•6935

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288•00 +
1 044•00 +
576•00 +
1 908•00 *

1327

PAGE 1

CES
WE ST

V6C2B3

INVOICE NO. 6403-012
DATE 03-25-81
REQN. NO.
CUST. P.O. NO.

CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS

TERMS NET 30 DAYS

T NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
00	4236			8.00	36.00	288.00
			64-20089 TO 20096			

O.K. for Payment
MB
5.10.1

CDN

PLEASE PAY THIS AMOUNT 288.00

4100 INSPECTION PLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
s Test at/Sink pth Flotation pection mpling mpling & Inspection een Test her Services	20-Apparent Specific Gravity 21-Amu Dilatometer 22-Alkalies 23-Ash Analysis 24-Ash, Btu & Sulfur 25-Ash, Dry Basis 26-Ash & Sulfur 27-Carbon Dioxide 28-Equilibrium Moisture	29-Free Swelling Index 30-Fusion, 4 Point 31-Fusion, 8 Point 32-Gieseler Plastometer 33-Grindability 34-Loss on Ignition 35-Moisture 36-Proximate 37-Proximate, Dry	38-Proximate & Fusion 39-Proximate & Ultimate 40-Proximate, Ultimate & Fusion 41-Short Proximate 42-Short Proximate & Fusion 43-Sulfur Forms 44-Trace Elements 45-Ultimate 46-Water Soluble Alkalie 47-Other Coal Tests	60-Air Analysis 61-Air Sampling 62-Water Analysis 63-Water Sampling 64-Miscellaneous	70-Atomic Absorption 71-Gas Analysis 72-Spark Source 73-Water Analysis 74-Petrographic Analysis 79-Miscellaneous	90-Lab Supplies 91-Freight 92-Mileage 93-Pick up Charge 94-Telephone 95-Travel Expense 96-Postage 99-Misc. 97.

HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS

ORIGINAL INVOICE

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

SINCE 1908

D-U-N-S 04•702•6935

PAGE 1

SOLD TO SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN. MR. CROOME

INVOICE NO. 6403-011
DATE 03-25-81
REQN. NO.
CUST. P.O. NO.

CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN 10 DAYS — TERMS NET 30 DAYS

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4236		PROXIMATE ANALYSIS	29.00	36.00	1,044.00
			64-20045 TO 20073			

O.K. for payment
MB.
5-10-1

PLEASE PAY THIS AMOUNT CDN 1,044.00

4100 COAL INSPECTION SAMPLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
0-Bias Test 1-Float/Sink 2-Froth Flotation 3-Inspection 4-Sampling 5-Sampling & Inspection 6-Screen Test 7-Other Services	20-Apparent Specific Gravity 21-Arnu Dilatometer 22-Alkalies 23-Ash Analysis 24-Ash, Btu & Sulfur 25-Ash, Dry Basis 26-Ash & Sulfur 27-Carbon Dioxide 28-Equilibrium Moisture	29-Free Swelling Index 30-Fusion, 4 Point 31-Fusion, 8 Point 32-Gieseler Plastometer 33-Grindability 34-Loss on Ignition 35-Moisture 36-Proximate 37-Proximate, Dry	38-Proximate & Fusion 39-Proximate & Ultimate 40-Proximate, Ultimate & Fusion 41-Short Proximate 42-Short Proximate & Fusion 43-Sulfur Forms 44-Trace Elements 45-Ultimate 46-Water Soluble Alkalie 47-Other Coal Tests	60-Air Analysis 61-Air Sampling 62-Water Analysis 63-Water Sampling 64-Miscellaneous	70-Atomic Absorption 71-Gas Analysis 72-Spark Source 73-Water Analysis 74-Petrographic Analysis 79-Miscellaneous	90-Lab Supplies 91-Freight 92-Mileage 93-Pick up Charge 94-Telephone 95-Travel Expense 96-Postage 99-Misc. 97-

I HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE ...

COMMERCIAL TESTING & ENGINEERING CO.

SINCE 1908

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

D-U-N-S 04•702•6935

PAGE 1

SOLD TO	SEMPER RESOURCES 1012 - 475 HOWE ST VANCOUVER BC CANADA V6C2B3	**INVOICE NO.**	6403-005
		DATE	03-25-81
		REQN. NO.	
		CUST. P.O. NO.	
ATTN.	MR. CROOME	**CUST. NO.**	641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS TERMS ~~NET 30 DAYS~~

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4236		PROXIMATE ANALYSIS #97871-97886	16.00	36.00	576.00
			64-20010 TO 20025			

O.K. for payment
M.B.
5101-1

PLEASE PAY THIS AMOUNT CDN 576.00

4100 COAL INSPECTION SAMPLING/TESTS
10-Bras Test
11-Float/Sink
12-Froth Flotation
13-Inspection
14-Sampling
15-Sampling & Inspection
16-Screen Test
17-Other Services

4200 COAL ANALYSIS
20-Apparent Specific Gravity
21-Arnu Dilatometer
22-Alkalies
23-Ash Analysis
24-Ash, Btu & Sulfur
25-Ash, Dry Basis
26-Ash & Sulfur
27-Carbon Dioxide
28-Equilibrium Moisture
29-Free Swelling Index
30-Fusion, 4 Point
31-Fusion, 8 Point
32-Gieseler Plastometer
33-Grindability
34-Loss on Ignition
35-Moisture
36-Proximate
37-Proximate, Dry
38-Proximate & Fusion
39-Proximate & Ultimate
40-Proximate, Ultimate & Fusion
41-Short Proximate
42-Short Proximate & Fusion
43-Sulfur Forms
44-Trace Elements
45-Ultimate
46-Water Soluble Alkalis
47-Other Coal Tests

4300 ENVIRONMENTAL
60-Air Analysis
61-Air Sampling
62-Water Analysis
63-Water Sampling
64-Miscellaneous

4400 INSTRUMENTAL ANALYSIS
70-Atomic Absorption
71-Gas Analysis
72-Spark Source
73-Water Analysis
74-Petrographic Analysis
79-Miscellaneous

4900 OTHER
90-Lab Supplies
91-Freight
92-Mileage
93-Pick up Charge
94-Telephone
95-Travel Expense
96-Postage
99-Misc.
97-

WE HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR STANDARDS ACT, AS AMENDED, AND OF REGULATIONS AND ORDERS OF THE UNITED STATES DEPARTMENT OF LABOR ISSUED UNDER SECTION 14 THEREOF.

ORIGINAL INVOICE

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

SINCE 1908

D-U-N-S 04•702•6935

PAGE 1

SOLD TO SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN. MR. CROOME

INVOICE NO.. 6402-012
DATE 02-27-81
REQN. NO.
CUST. P.O. NO.
CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS

TERMS ~~NET 30 DAYS 1%~~ MM

IPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4991		FRIEIGHT CHARGE ON SAMPLES 404-455	1.00	39.01	39.01
6400	4991		FREIGHT CHARGE ON SAMPLES 456,457, & 97851-97870	1.00	24.56	24.56
6400	4991		FREIGHT CHARGE ON SAMPLES 97871-97886	1.00	15.17	15.17

FROM CHETWYND, BC, TO VANCOUVER

64-19878 TO 19929,19953 TO 19974,
64-20010 TO 20025

Semper Resources
3-10-81

PLEASE PAY THIS AMOUNT CDN 78.74

4100 ...AL INSPECTION ...MPLING/TESTS: Bias Test; Float/Sink; Froth Flotation; Inspection; Sampling; Sampling & Inspection; Screen Test; Other Services

4200 COAL ANALYSIS: 20-Apparent Specific Gravity; 21-Arnu Dilatometer; 22-Alkalies; 23-Ash Analysis; 24-Ash, Btu & Sulfur; 25-Ash, Dry Basis; 26-Ash & Sulfur; 27-Carbon Dioxide; 28-Equilibrium Moisture; 29-Free Swelling Index; 30-Fusion, 4 Point; 31-Fusion, 8 Point; 32-Gieseler Plastometer; 33-Grindability; 34-Loss on Ignition; 35-Moisture; 36-Proximate; 37-Proximate, Dry; 38-Proximate & Fusion; 39-Proximate & Ultimate; 40-Proximate, Ultimate & Fusion; 41-Short Proximate; 42-Short Proximate & Fusion; 43-Sulfur Forms; 44-Trace Elements; 45-Ultimate; 46-Water Soluble Alkalie; 47-Other Coal Tests

4300 ENVIRONMENTAL: 60-Air Analysis; 61-Air Sampling; 62-Water Analysis; 63-Water Sampling; 64-Miscellaneous

4400 INSTRUMENTAL ANALYSIS: 70-Atomic Absorption; 71-Gas Analysis; 72-Spark Source; 73-Water Analysis; 74-Petrographic Analysis; 79-Miscellaneous

4900 OTHER: 90-Lab Supplies; 91-Freight; 92-Mileage; 93-Pick up Charge; 94-Telephone; 95-Travel Expense; 96-Postage; 99-Misc.; 97-

...E HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR ...ANDARDS ACT, AS AMENDED, AND OF REGULATIONS AND ORDERS ...

COMMERCIAL TESTING & ENGINEERING CO.

SINCE 1908

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

D-U-N-S 04•702•6935

PAGE 1

SOLD TO SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN. MR CROOME

INVOICE NO. 6402-011
DATE 02-27-81
REQN. NO.
CUST. P.O. NO.

CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS

TERMS NET 30 DAYS

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4236		PROX ANALYSIS	52.00	36.00	1,872.00
			64-19878 TO 19929			

Semper Resources 5-10-81

CDN

PLEASE PAY THIS AMOUNT 1,872.00

4100 COAL INSPECTION SAMPLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
10-Bias Test 11-Float/Sink 12-Froth Flotation 13-Inspection 14-Sampling 15-Sampling & Inspection 16-Screen Test 17-Other Services	20-Apparent Specific Gravity 21-Arnu Dilatometer 22-Alkalies 23-Ash Analysis 24-Ash, Btu & Sulfur 25-Ash, Dry Basis 26-Ash & Sulfur 27-Carbon Dioxide 28-Equilibrium Moisture	29-Free Swelling Index 30-Fusion, 4 Point 31-Fusion, 8 Point 32-Gieseler Plastometer 33-Grindability 34-Loss on Ignition 35-Moisture 36-Proximate 37-Proximate, Dry	38-Proximate & Fusion 39-Proximate & Ultimate 40-Proximate, Ultimate & Fusion 41-Short Proximate 42-Short Proximate & Fusion 43-Sulfur Forms 44-Trace Elements 45-Ultimate 46-Water Soluble Alkalie 47-Other Coal Tests	60-Air Analysis 61-Air Sampling 62-Water Analysis 63-Water Sampling 64-Miscellaneous	70-Atomic Absorption 71-Gas Analysis 72-Spark Source 73-Water Analysis 74-Petrographic Analysis 79-Miscellaneous	90-Lab Supplies 91-Freight 92-Mileage 93-Pick up Charge 94-Telephone 95-Travel Expense 96-Postage 99-Misc. 97.

WE HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR STANDARDS ACT, AS AMENDED, AND OF REGULATIONS AND ORDERS OF THE UNITED STATES DEPARTMENT OF LABOR ISSUED UNDER SECTION 14.

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

SINCE 1908

D-U-N-S 04•702•6935

PAGE 1

SOLD TO: SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN. MR. CROOME

INVOICE NO. 6402-014
DATE 02-27-81
REQN. NO.
CUST. P.O. NO.
CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS

TERMS: NET 30 DAYS

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4247		VANADIUM	32.00	6.50	208.00
6400	4247		GERMANIUM	32.00	6.50	208.00

64-19836 TO 19867

Semper Resources 3-10-81

PLEASE PAY THIS AMOUNT CDN 416.00

4100 ...AL INSPECTION ...MPLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
Bias Test Float/Sink Froth Flotation Inspection Sampling Sampling & Inspection Screen Test Other Services	20-Apparent Specific Gravity 21-Arnu Dilatometer 22-Alkalies 23-Ash Analysis 24-Ash, Btu & Sulfur 25-Ash, Dry Basis 26-Ash & Sulfur 27-Carbon Dioxide 28-Equilibrium Moisture	29-Free Swelling Index 30-Fusion, 4 Point 31-Fusion, 8 Point 32-Gieseler Plastometer 33-Grindability 34-Loss on Ignition 35-Moisture 36-Proximate 37-Proximate, Dry	38-Proximate & Fusion 39-Proximate & Ultimate 40-Proximate, Ultimate & Fusion 41-Short Proximate 42-Short Proximate & Fusion 43-Sulfur Forms 44-Trace Elements 45-Ultimate 46-Water Soluble Alkalie 47-Other Coal Tests	60-Air Analysis 61-Air Sampling 62-Water Analysis 63-Water Sampling 64-Miscellaneous	70-Atomic Absorption 71-Gas Analysis 72-Spark Source 73-Water Analysis 74-Petrographic Analysis 79-Miscellaneous	90-Lab Supplies 91-Freight 92-Mileage 93-Pick up Charge 94-Telephone 95-Travel Expense 96-Postage 99-Misc. 97-

...E HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR ...ANDARDS ACT, AS AMENDED, AND OF REGULATIONS AND ORDERS OF THE UNITED STATES DEPARTMENT OF LABOR ISSUED UNDER SECTION 14 THEREOF.

ORIGINAL INVOICE

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

SINCE 1908

D-U-N-S 04•702•6935

PAGE 1

SOLD TO
SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN. MR. CROOME

INVOICE NO. 6402-015
DATE 02-27-81
REQN. NO.
CUST. P.O. NO.
CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN ~~U.S. FUNDS ONLY~~ NET 10 DAYS

TERMS ~~NET 30 DAYS~~

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4236		PROX ANALYSIS	22.00	36.00	792.00
			64-19953 TO 19974			

Attn Semper Resources
5-10-81

PLEASE PAY THIS AMOUNT CDN 792.00

4100 COAL INSPECTION SAMPLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
10-Bias Test 11-Float/Sink 12-Froth Flotation 13-Inspection 14-Sampling 15-Sampling & Inspection 16-Screen Test 17-Other Services	20-Apparent Specific Gravity 21-Arnu Dilatometer 22-Alkalies 23-Ash Analysis 24-Ash, Btu & Sulfur 25-Ash, Dry Basis 26-Ash & Sulfur 27-Carbon Dioxide 28-Equilibrium Moisture	29-Free Swelling Index 30-Fusion, 4 Point 31-Fusion, 8 Point 32-Gieseler Plastometer 33-Grindability 34-Loss on Ignition 35-Moisture 36-Proximate 37-Proximate, Dry	38-Proximate & Fusion 39-Proximate & Ultimate 40-Proximate, Ultimate & Fusion 41-Short Proximate 42-Short Proximate & Fusion 43-Sulfur Forms 44-Trace Elements 45-Ultimate 46-Water Soluble Alkalie 47-Other Coal Tests	60-Air Analysis 61-Air Sampling 62-Water Analysis 63-Water Sampling 64-Miscellaneous	70-Atomic Absorption 71-Gas Analysis 72-Spark Source 73-Water Analysis 74-Petrographic Analysis 79-Miscellaneous	90-Lab Supplies 91-Freight 92-Mileage 93-Pick up Charge 94-Telephone 95-Travel Expense 96-Postage 99-Misc. 97-

WE HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR

ORIGINAL INVOICE

COMMERC - TESTING & ENGINEERING C

GENERAL OFFICES: 228 NORTH LA SALLE STREET. CHICAGO, ILLINOIS 60601 AREA CODE 312 726-8434

SINCE 1908

D-U-N-S 04•702•6935

PAGE 1

SOLD TO SEMPER RESOURCES
1012 - 475 HOWE ST
VANCOUVER
BC CANADA V6C2B3

ATTN MR. BILLINGSLY

INVOICE NO. 6412-005
DATE 12-23-80
REQN. NO.
CUST. P.O. NO.
CUST. NO. 641383

CANADIAN FUNDS ONLY

PLEASE REMIT TO 228 N. LA SALLE ST. CHICAGO, ILL. 60601 PAYABLE IN 10 DAYS

TERMS NET 30 DAYS

DEPT NO.	SERV. CODE	DATE	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
6400	4236		PROXIMATE ANALYSIS	32.00	36.00	1,152.00
			64-19758-89			

o.k. for payment

#1209

PLEASE PAY THIS AMOUNT CDN 1,152.00

4100 COAL INSPECTION SAMPLING/TESTS	4200 COAL ANALYSIS			4300 ENVIRONMENTAL	4400 INSTRUMENTAL ANALYSIS	4900 OTHER
10-Bias Test	20-Apparent Specific Gravity	29-Free Swelling Index	38-Proximate & Fusion	60-Air Analysis	70-Atomic Absorption	90-Lab Supplies
11-Float/Sink	21-Arnu Dilatometer	30-Fusion, 4 Point	39-Proximate & Ultimate	61-Air Sampling	71-Gas Analysis	91-Freight
12-Froth Flotation	22-Alkalies	31-Fusion, 8 Point	40-Proximate, Ultimate & Fusion	62-Water Analysis	72-Spark Source	92-Mileage
13-Inspection	23-Ash Analysis	32-Gieseler Plastometer	41-Short Proximate	63-Water Sampling	73-Water Analysis	93-Pick up Charge
14-Sampling	24-Ash, Btu & Sulfur	33-Grindability	42-Short Proximate & Fusion	64-Miscellaneous	74-Petrographic Analysis	94-Telephone
15-Sampling & Inspection	25-Ash, Dry Basis	34-Loss on Ignition	43-Sulfur Forms		79-Miscellaneous	95-Travel Expense
16-Screen Test	26-Ash & Sulfur	35-Moisture	44-Trace Elements			96-Postage
17-Other Services	27-Carbon Dioxide	36-Proximate	45-Ultimate			99-Misc.
	28-Equilibrium Moisture	37-Proximate, Dry	46-Water Soluble Alkalie			
			47-Other Coal Tests			97-

WE HEREBY CERTIFY THAT THESE GOODS WERE PRODUCED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF SECTIONS 6, 7 AND 12 OF THE FAIR LABOR

689

OLYMPIC DRILLING & CONSULTING LTD.

#200 - 2695 Granville Street
Vancouver, B.C. V6H 3H4

INVOICE

TO Semper Resources Inc.
1020 - 475 Howe Street,
Vancouver, B.C. V6C 2B3

March 19, 1981

FOR: Diamond Drilling
March 1-12, 1981

Drilling	$ 24,012.00 ✓
Field Cost Charges	5,037.00 ✓
Materials	~~2,987.72~~ 2944.66
Transport	3,414.66 ✓
	$ 35,451.38
Less	43.06 (36.00 + 7.06 tax & overhead adj)
PAY	$ 35,408.32

#1336

Per Mr. LB Donaldson
Mar. 27/81

Semper Resources Inc. - Willow Creek
Project # S-101-1

O.K. P W Richardson
S-101-1

O.K. for payment
JMD.

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 - 1695 Granville St.
Vancouver, B.C. V6H 3H4

MAR 11 1981

INVOICE

TO: Semper Resources Inc.,
1020 - 475 Howe Street,
Vancouver, B.C. V6C 2B3

FOR: Diamond Drilling
February 16-28, 1981

Drilling	$ 56,227.50 ✓
Field Cost Charges	5,369.35 ✓
Materials	1,010.08 ✓
Transport	49.75 ✓
	$ 62,656.68 ✓ #1291

Semper Resources Willow Creek
Project S-101-1

O.K.

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 - 2695 Granville St.
Vancouver, B.C. V6H 3H4

INVOICE

February 18, 1981

TO: Semper Resources Inc.
1020 - 475 Howe Street,
Vancouver, B.C.
V6C 2B3

FOR: Diamond Drilling
February 1-15, 1981

Drilling	$ 46,645.50 ✓
Field Cost Charges	9,055.68 ✓
Materials	3,670.34 ✓
Transport	66.93 ✓
	$ 59,438.45 ✓

#1224.

Semper Resources - Willow Creek
S-101-1

OK P.W. Richardson

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 - 2695 Granville St.
Vancouver, B.C. V6H 3H4

INVOICE

February 9, 1981

TO: Semper Resources Inc.
1020 - 475 Howe Street,
Vancouver, B.C.
V6C 2B3

FOR: Diamond Drilling
January 16 - 31, 1981

Drilling	$ 65,146.00 ✓
Field Cost Charges	10,055.02 ✓
Materials	15,509.73 ✓
Transport	575.15 ✓
	$ 91,285.90 ✓

#1243

P. Richardson

OK. P.W. Richardson
Semper Resources - Willow Creek
S-101-1

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 - 2695 Granville St.
Vancouver, B.C. V6H 3H4

INVOICE

January 21, 1981

TO: Semper Resources Inc.
1020 - 475 Howe Street,
Vancouver, B.C.
V6C 2B3

FOR: Diamond Drilling
January 1-15, 1981

Drilling	$ 31,291.50
Field Cost Charges	$ 6,879.88
	$ 38,171.38

[illegible] Project 1229

33.5[illegible]

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 - 2695 Granville St.
Vancouver, B.C. V6H 3H4

INVOICE

January 8, 1981

TO: Semper Resources Inc.
1020 - 475 Howe Street
Vancouver, B.C.
V6C 2B3

FOR: Diamond Drilling
December 1-9, 1980

Field Cost Charges	$	8,401.00
Materials supplied		1,365.46
Transport		568.97
	$	10,335.43

1221

O.K.
JB

OLYMPIC DRILLING & CONSULTING LTD.

c/o #200 2695 Granville Street,
Vancouver, B.C. V6H 3H4

INVOICE

December 11, 1980

TO: Semper Resources Inc.
1020 - 475 Howe Street
Vancouver, B.C.
V6C 2B3

FOR: Diamond Drilling
November 16-30, 1980

Drilling Detail	$ 45,260.00
Field Cost Charges	9,602.50
Materials supplied	2,442.14
Transport	3,431.92
	$ 60,736.56

689

CANUCK TRUCK RENTAL LTD.

A CANADIAN COMPANY

P.O. Box 1299, 198 George Street, Prince George, B.C. V2L 4V3 Phone 563-3675

Semper Resources

A.S. Marton,
G.A. Noel & Assoc.,
672 - 510 W. Hastings St.,
Vancouver, B.C.

Re: Unit No. 598

Date March 17/81

DETAILS	CODE	
		$
Insurance deductible		500.00
O.K. for payment		#1305
	TOTAL	$ 500.00

CUSTOMER INVOICE

Customer No. 5101-1

4508

CANUCK TRUCK RENTAL LTD.

A CANADIAN COMPANY

P.O. Box 1299, 198 George Street, Prince George, B.C. V2L 4V3 Phone 563-3675

8765

A.S. Marton,
G.A. Noel & Assoc.,
672 - 510 W. Hastings St.,
Vancouver, B.C.

Re: Rental Agreement
39343

Unit No.
598

Licence No.
5441 HN

P.O. No.

Station
Ft. St. John

For the Month of Feb./81

KM IN				
KM OUT 1753 est.				
KM DRIVEN 2000 free	@ .20 ¢ over	470	$	⊟
RATE PER MONTH		4518	790.00	⊟
OPTIONAL EQUIPMENT	Canopy 7078 - Winch 17274	4618	90.00 90.00	⊟
	Sub Total		970.00	
	Tax 4%	3240	38.80	⊟
Cust. No. ⊡	Insurance	4619	70.00	⊟
	TOTAL	2200	1078.80	⊞

Paid by Semper #1288

Customer Invoice

O.K. for Payment 5/01-1
[illegible]

689

WABI TRUCKING

BOX 124, CHETWYND, B.C. V0C 1J0
PHONE: 788-9535 MOBILE 6R107

UNIT NO. 3 DATE: March 17/81

SOLD TO: SEMPER RESOURCES

ADDRESS: G.A. NOEL & ASSOC'S
#622 - 510 W. HASTINGS ST. V6B 1L8.

SHIP TO: Chetwynd — Semper Lease.

	Supply crane truck and driver to load and haul core boxes from property to Hart Hiway site.		
	12 hours @ $39/hr.	468	—
	[illegible signature]		
	TOTAL AMOUNT	468	00

№ 000858

#1341

Thank You

BRITISH COLUMBIA RAILWAY

1095 WEST PENDER STREET
VANCOUVER, B.C. V6E 2N6

PHONE 683-1381 • TELEX 04-53340

INVOICE NUMBER 16272

Semper Resources

689

TO: Noel, G.A. Associates Inc.
622 - 510 W. Hastings St.
Vancouver, B.C.
V6B 1J6

DATE
81/03/16
CUSTOMER ACCOUNT NO.
3107
SOURCE CODE NO.
15

QUANTITY	DESCRIPTION	AMOUNT	A/C CODE
	To: Cost of installation of crossing and removal of ice.		
	Labour $619.24		
	Material 165.96		
	Total	$785.20	
		# 1204	
	O.K. for payment		
	[signature]		
	5101-1		

INVOICE NO. 16272 PLEASE REFERENCE THIS INVOICE NUMBER ON YOUR CHEQUE

TERMS PAYMENT ON RECEIPT OF INVOICE

FORM 9 (REV. 1/79)

CUSTOMER'S COPY

689

nited

0 · C *

315·96 +
104·66 +
420·62 *

1287

RECAP OF FREIGHT INVOICES

1	INVOICES TOTALLING	$ 315.96	FOR FREIGHT CHARGES	

BE RECEIVED WITHIN THIRTY
NG DATE.

PTION TO ANY OF THE ATTACHED INVOICES
COUNTING DEPT. AT 782-3311 IMMEDIATELY.

Semper Resources Ltd.
433 - 355 Burrard St.
Vancouver, B.C.

CANADIAN FREIGHTWAYS LTD.
P.O. BOX 210
DAWSON CREEK, B.C.
V1G 4G3

PLEASE REMIT TO

FORM 329

Limited

RECAP OF FREIGHT INVOICES

DATE ▷ Feb 27/81

PLEASE FIND ATTACHED	1	INVOICES TOTALLING	$ 104.66	FOR FREIGHT CHARGES

YOUR REMITTANCE MUST BE RECEIVED WITHIN THIRTY
DAYS OF THE ABOVE BILLING DATE.

IN THE EVENT OF AN EXCEPTION TO ANY OF THE ATTACHED INVOICES
PLEASE CONTACT OUR ACCOUNTING DEPT. AT 782-3311 IMMEDIATELY.

Semper Resources Ltd.
433 - 355 Burrard Street
Vancouver, B.C.

MAR -2 1981

CANADIAN FREIGHTWAYS LTD.
P.O. BOX 210
DAWSON CREEK, B.C.
V1G 4G3

PLEASE REMIT TO

FORM 329

CANADIAN FREIGHTWAYS
Limited

RECAP OF FREIGHT INVOICES

DATE ▷ Nov 28/80

PLEASE FIND ATTACHED	2	INVOICES TOTALLING	$ 561.05	FOR FREIGHT CHARGES

IN THE EVENT OF AN EXCEPTION TO ANY OF THE ATTACHED INVOICES
PLEASE CONTACT OUR ACCOUNTING DEPT. AT 782-3311 IMMEDIATELY. m. m.

YOUR REMITTANCE MUST BE RECEIVED WITHIN THIRTY
DAYS OF THE ABOVE BILLING DATE. ▶ Dec 28/80

Semper Resources
433 - 355 Burrard Street
Vancouver, B.C.

CANADIAN FREIGHTWAYS LTD.
P.O. BOX 210
DAWSON CREEK, B.C.
V1G 4G3

#1172

PLEASE REMIT TO

FORM 329

EXPENSE ACCOUNT PINE RIVER - WILLOW CREEK PROJECT (No # S-101-1) 689

FOR THE PERIOD. 1/2/81 TO 28/2/81.

DATE	MISCELLANEOUS	1 MISC AMT	2 FUEL	3 ACCOM'	4 FOOD.	5 WAGES.	6	7	8	9	10 GROSS TOTAL
·2·81					10.85						10.85
	Hardware, Film	84.24	28.00		162.74						274.98
	Batteries	2.40			4.65						7.05
4.	Film Production	33.75									35.75
5.	Stationary	8.25			69.28						77.53
·2·81	Stationary Film w/ Production	46.40			19.00						65.40
					8.03						8.03
	Photocopying	2.25	33.00		19.20						54.45
	Stationary (pens)	6.59	24.08								30.67
	Flagging, Oil Heater, Film, Stationary	259.67	13.00		25.54						298.21
2·2·81	Hardware, Film Production	32.66	69.23		49.43						151.32
3.			24.30								24.30
4.	Hardware	30.86									30.86
	Hardware	8.83	23.50		22.45						54.78
7:	Film w/ Production	76.56	27.00		97.90						201.46
8·2·81	Hardware	3.00			11.55						14.55
9:	Hardware	3.74	23.95	1260.15							27.69
	Film & Hardware	25.11	23.00	2293.50	64.08	100.00					1472.34 ~~2593.60~~
1.	Vehicle Tow Stationary	99.14			41.35						140.49
3.	Hardware	13.07	13.00	604.80							630.87
24·2·81	Shipment, Photocopying	19.15			28.90						48.05
5:			20.00								20.00
6	Film	27.14			52.62						79.76
7.	Film, Hardware Photocopying	18.10									18.10
8.					13.43 ~~14.40~~	1,080.00					1093.40 ~~1094.40~~
				1864.95	700.97						4868.89
		800.41	322.06	~~2898.30~~	~~701.97~~	1180.00					$ ~~5963.24~~

S - 101 - 1 MARCH 11.81

EXPENSE ACCOUNT PINE RIVER - WILLOW CREEK PROJECT

FOR THE PERIOD 6/1/81 TO 31/1/81.

Prepared By:

Approved By:

DATE	MISCELLANEOUS	MISC AMT	FUEL	ACCOMM'	FOOD	WAGES.	CROSS TOTALS
.1.81	Cab Air Ticket.	224.00			11.55		235.55
1.	Stationery, Hardware.	78.05	21.00		149.20		248.25
;							
1.	Hardware Building Supplies	31.55	12.69		52.02		96.26
0.			11.00		13.67		24.67
1.1.81.			21.00		4.95		25.95
2	Cab Ticket,	270.88	21.00		23.80		315.68
3.			11.00				11.00
4.					25.12		25.12
5.					11.55		11.55
6.1.81.					94.22		94.22
7.							
8.					21.15		21.15
9.	Typewriter, Building Supplies.	395.75	30.00		15.78		441.53
0.	Building Supplies.	19.54			13.41		32.95
1.1.81.	Film, Building & Saw Supplies	87.17			80.74		167.91
2.	Stationery	51.39	30.00				81.39
3.	Film reproduction	52.28	19.00		44.97		116.25
4.	Film, Tire chains.	88.90	30.00		8.87		127.77
5.					95.60		95.60
6.1.81	Stationery	9.98	31.00		33.82		74.80
7.							
8.	Film, Stationery	49.27			69.66		118.93
9.	Film	51.24	34.00	1,849.77			1935.01
0.							
1.1.81.	Film.	3.24	22.00		42.26	1,620.00	1,687.50
	ITEM TOTALS	1,413.24	298.69	1,849.77	812.34	1,620.00	$5989.04

O.K.

PINE CREEK - WILLOW FLAT PROJECT

EXPENSE ACCOUNT FROM 2/12/80 TO 15/12/80.

Prepared By	
Approved By	

DATE	MISCELLANEOUS	MISC AMT	FUEL	ACCOMM	FOOD	WAGES	TOTALS
/12/80	Stationary	2.67	3.33		18.09	464.00	488.09
/					13.55		13.55
/	Truck Repair, Film.	209.89			14.86		224.75
/	Extension Cord, Fuel Switch	64.55	31.30		88.48		184.33
/	Stationary	2.46	16.90		9.15		28.51
/12/80			16.00				16.00
/					5.42	144.00	149.42
/							
/	Converter	30.11			196.64		226.75
/	Hardware	15.80	28.85		59.46		104.11
/12/80	Truck Rental	439.36	1.66		41.15		482.17
3/			52.25				52.25
4/			40.95		25.00		65.95
5/	Vehicle Rental	1,000.00	14.45				1,014.45
	SUB TOTALS	1,764.84	199.69		471.80	608.00	$3,044.33
							1,537.74
		513					£[illegible]2.07
		1,259.71					

Al Morton

Prepared By

Approved By

EXPENSE ACCOUNT PINE RIVER – WILLOW CREEK PROJECT

FOR THE PERIOD 13/11/80 TO 1/12/80.

DATE	MISCELLANEOUS	MISC AMT	FUEL	ACCOMM'	FOOD	WAGES	TOTAL
13/11/80	Stationary	11.15	52.95		127.19		191.29
14/11	Stationary, Hardware, Postage	14.71			81.69		96.40
15/11	Building Supplies	340.27	16.00		25.69		381.96
16/11					17.05		17.05
17/11	Building Supplies	6.65	11.30		48.14		66.09
18/11/80	Building Supplies, Truck Repairs	778.71			47.01		825.72
19/11	Hardware	1.64			96.47		98.11
20/11	Hardware	41.50	29.02		111.12		181.64
21/11			15.50		113.37		128.87
22/11	Building Supplies	46.01			31.51		77.52
23/11/80			18.00		21.40		39.40
24/11	Building & Saw Supplies, Lamp.	155.96	31.00	1,027.32	80.68		1,294.96
25/11			25.00		54.10	856.00	935.10
26/11	Hardware, Saw Supplies.	8.22			36.99		45.21
27/11							
28/11/80	Film, Hardware, Stationary	13.26	25.15		59.13	696.00	793.54
29/11	Building Supplies	91.42	19.00				110.42
30/11							
1/12/80	Building Supplies, Hardware	125.66	22.01		6.79		154.46
	TOTALS	1635.16	264.93	1,027.32	958.33	1,552.00	$5,437.74

Simpson

Wayne Howes $180.

Darrell ? 180

Dale Wood 336.00

696.

EXPENSE ACCOUNT FOR THE PERIOD 27/10/80 TO 12/11/80

PINE RIVER - WILLOW CREEK PROJECT.

Prepared By

Approved By

DATE	MISCELLANEOUS	MISC AMT	FUEL	ACCOMM'	FOOD	DAY TOTAL
27/10/80	Stationery	2.36			20.65	23.01
28/10			35.00		26.48	61.48
29/10			31.00			31.00
30/10	Stationery	0.88	92.88		95.33	189.09
31/10					21.50	21.50
1/11/80	Stationery	12.36	30.00		51.01	93.37
2/11					41.45	41.45
3/11					68.90	68.90
4/11			30.50		63.88	94.38
5/11	Oil Filter, Winch Repair	49.95			23.00	72.95
6/11/80.	Oil	17.99			57.68	75.67
7/11					19.50	19.50
8/11	Transmission Fluid.	27.39			81.07	108.46
9/11			10.70		23.90	34.60
10/11.	Vehicle Tyres	158.91		1,489.25	32.35	1,680.51
11/11/80			9.81		36.95	46.76
12/11.	Oil, Funnel, Stationery.	42.30	800.63		87.22	930.15
	SUB TOTALS / TOTALS	312.14	1,040.52	1,489.25	750.57	3,592.78

All invoices attached

Submitted NOV. 13/80 [signature]

(2)

EXPENSE ACCOUNT CONTINUED
SEPT 25/80 - OCT 25/80

DATE	FOOD	LODGING	FUEL	MISC		TOTAL
10/24/80	69.87			STATIONARY C	2.27	72.14
10/25/80	79.94		64.00	HARDWARE S	8.60	152.54
SUBTOTAL	149.81		64.00		10.87	~~350.1.70~~ 224.68
TOTAL	1219.33	1,058.19	806.22	GRAND TOTAL	421.76	3504.90

L Mat. [illegible]

PINE RIVER - WILLOW CREEK PROJECT
EXPENSE ACCT SEPT 25 - OCT 25/80

B.U.A. [illegible]

Date	Camp FOOD	Camp LODGING	E O TOLL	MISC.		TOTAL
9/25/80				GSC - MAPS, BOOKS 30	S 30	30 . 30
9/29/80	18 70	19 95	22 00			.60
9/30/80	10 10		28 00	HARDWARE CAMP SUPPLIES	e 1.[illegible]	1.67
10/1/80	2 06			cheque confirmation	3.50	
10/2/80				safety equipment	S 27 76	
10/4/80	2 05	394 49	452 25	HARDWARE	S	
10/5/80	197 90			Cool[illegible]		
10/6/80	20 00					
10/7/80						
10/8/80						
10/9/80	10 20					
10/14/80	45 00					
10/12/80	6[illegible]					