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REPORT ON

GEOLOGICAL AND GEOCHEMICAL SURVEYS

UNDERTAKEN ON THE

PUCK #1 MINERAL CLAIM (15 UNITS)

Situated West of the Gataga River in the Liard Mining Division Northeastern British Columbia/NTS94K/4W 58°07'N, 125°55'W

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P. Boyle B.Sc. and P.C. Hubacheck B.Eng.

Owner/Operator

Texasgulf Canada Ltd./Texasgulf Inc.

Submitted September, 1979

Calgary, Alberta



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8d	Rock Chip Geochemistry - Zn in Soils (ppm)	1:5,000	in pocket
8e	Rock Chip Geochemistry - Ba in Soils (ppm or %)	1:5,000	in pocket

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INTRODUCTION

1) LOCATION, ACCESS AND TERRAIN

The Puck #1 mineral claim is located on Driftpile Creek in the vicinity of Driftpile Pass at Lat. 58[°]07'N, Long. 125[°]55'W, southwest of the Gataga River, in northeastern British Columbia (NTS94K/4W) (see Figure 2).

A camp on the east bank of Driftpile Creek was occupied by a two-man geological team between June 19 and June 24, 1979. Mobilization and demobilization was undertaken by fixed wing aircraft to and from Mayfield Lake. Fixed wing support originated in Watson Lake, YT, 240 km to the northwest. Transportation between Mayfield Lake and the Puck camp was provided by Trans North Turbo Air -- Hughes 500 helicopter.

The Gataga Range comprises a series of northwest trending ridges over 6,500 feet in elevation. They arise on the western side of the broad Gataga River valley floor and extend westward as far as the eastern boundary of the Rocky Mountain Trench. A well pronounced trellis drainage pattern is terminated by the highest limestone ridges flanking the Gataga River, with flowage westward to the Kechika River. These ridges are breached by Driftpile Pass near the headwaters of Driftpile Creek. Driftpile Creek drains southeast across the Puck mineral claim until level with the west end of the pass. At this point the creek abruptly turns westward and follows this direction until it encounters the Kechika River.

On the Puck mineral claim Driftpile Creek lies in a deep valley which transects the ground from northwest to southeast. Tributary streams on the east and west side of Driftpile Creek have been numbered from north to

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SCALE -	200 km		1	lexasgulf,	Inc.	
				LOCATION N	1AP	
			PUCK CLAIM			
		- 5 -	94K/4W	Figure 1	Proj. 922	
			WORK BY	DRAWN BY	DATE	
			P.C.H. P.J.S.B.		SEPTEMBER, 1979	



MAP SHEET 94 K - TUCHODI LAKES -	Texasgulf, Inc.
	DETAILED LOCATION MAP
	PUCK CLAIM
- 6 -	94K/4W Figure 2 Proj. 9
	WORK BY DRAWN BY DATE
	P.C.H. P.J.S.B. SEPTEMBER, 1975

south on the geology base map for identification purposes (e.g. Creek E/2A and Creek W/5C). The treeline lies at 5200' elevation in this area. Good outcrop exposures are limited to incised creek beds and steep slopes. The hillsides below the treeline are well forested with spruce and balsam. Lichen and moss ground cover are common. Frost heaved bedrock material is evident in most soil samples.

2) PROPERTY DEFINITION - HISTORY OF PREVIOUS WORK

This report reviews the first work to be reported on the Puck #1 mineral claim. There is no record of previous work having been done on this ground.

On the nearby DPP mineral claims (Tg) geological and geochemical surveys were filed for assessment purposes in 1977 (Boyle, P.J.S. 1977) and 1978 (Hubacheck, P.C. 1978).

On the adjoining DP mineral claims (Placer - Gataga Joint Venture Group) geological, geochemical and geophysical surveys, and trenching were reported in 1974 (Wise, H.M. 1974) and 1975 (Kowalchuck J.M. Rivera, R.A. 1975). Trenching and diamond drilling were reported there in 1978. Diamond drilling was being done on these claims during June, 1979.

OWNERSHIP

Texasgulf Canada Ltd. is the owner of the Puck #1 mineral claim. Texasgulf Inc. was the operator during the 1979 field season on behalf of Texasgulf Canada Ltd.

CLAIM STATUS

The Puck #1 mineral claim was staked on September 15, 1978 on behalf of Texasgulf Canada Ltd. (see Figure 3). The mineral claim recording anniversary date is September 20.

The status of the Puck #1 mineral claim as of September 20, 1979, after filing of assessment work credits (\$ **4,769.66**) is as follows: Puck #1 (15 units) mineral claim -- revised expiry date September 20, 1982.

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ECONOMIC ASSESSMENT OF PROPERTY

The barite lithofacies (Unit 3b) appears favourable as a host to galena/sphalerite mineralization. The geochemical results there are encouraging. The target of further explorations on this ground is sulphides associated with the barite lithofacies.

3) SUMMARY OF WORK COMPLETED

Geological Mapping

During the period June 19 to June 24, 1979, a two-man geological team completed five man-days work of geological mapping on the Puck #1 MC. The total area surveyed was 1500 meters x 2500 meters.

Geochemical Survey

A total of ten stream sediment samples, forty-four soil samples and seventeen rock chip samples were collected on the claim, involving six man-days work. All samples were analyzed for Cu, Pb, Zn and Ba. Seventeen samples containing greater than 20,000 ppm Ba were resubmitted for Ba assay.

Geological and Geochemical data were plotted on physiographic base maps (scale 1:5000) prepared from air photos.

Work Distribution

The work described in this report was restricted to the Puck #1 mineral claim.

REFERENCES

- Hubacheck, P.C. 1978 -- Report on geological and geochemical surveys on the Driftpile Pass Property (DPP#1 to #9 mineral claims). Report submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources for assessment work credit March 1979.
- Boyle, P.J.S. 1977 -- Report on geochemical surveys on the Driftpile Pass Property (DPP#1 to #7 mineral claims). Report submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources for assessment work credit December 1977.
- Kowalchuk, J.M. Rivera R.A. 1975 -- Report on geological, geochemical and geophysical surveys and trenching on the Driftpile Property (D, P, G and Goof mineral claims). Report submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources for assessment work credit January 1976.
- Wise, H.M. 1974 -- Report on the geology and geochemistry of the Driftpile Property (D, P, G and Goof mineral claims). Report submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources December 1974.
- Taylor, G.C. Stott D.F. 1973 -- Geology of the Tuchodi Lakes area (NTS 94K). GSC Memoir 373.

PROPERTY GEOLOGY

Stratigraphy and Structure

The Puck #1 MC is located in an area underlain by graptolitic shales of the Kechika Group (Taylor, G.C., Stott D.F. 1973 -- Map Unit Okg) (see Figure 4).

Determination of more detailed stratigraphic relationships was essential in unravelling the structural complexities on the claim. Striking similarities were observed between the lithologies seen on the claim and those located on the Driftpile Pass Property - DPP MC^S, lying 4 km to the southwest. There, the Kechika group graptolitic shales were subdivided into rock stratigraphic units. On the basis of lithological similarities the lower part of the Kechika Group was correlated with the Road River Formation (P.C. Hubacheck 1978). The upper part of the Kechika Group was correlated with the Gunsteel Formation. The type sections for these formations are found in the Yukon.

Based on this previous work, the following rock stratigraphic units are identified on the Puck #1 MC.

Gunsteel Formation

Unit 3c -- Silver grey weathering, black fissile shales Unit 3b -- Barite lithofacies -- barite/shale/sulphide interbeds Unit 3a -- Silver grey weathering, black fissile shales Unit 3 -- Silver grey weathering, black fissile shales, undivided

Road River Formation

Unit 2 -- Brown weathering, non calcareous graptolitic shales Unit 1 -- Dark shales, undivided.



Geological contacts between these units were generally obscured, although fault contact relationships were inferred at some locations. Outcrop exposures are generally poor. A geology map is included with this report (see Figure 5). The characteristics of the rock stratigraphic units are described below. No sulphides other than pyrite were found on the claim.

The purpose of this work was to locate the trace of Gunsteel Formation on the claim. Shale hosted barite/galena/sphalerite mineralization is associated with this formation in the region.

Unit 1

Unit 1 only outcrops in the northeast corner of the claim. It shows a strong west dipping foliation which largely obscures bedding and compositional banding. Massive, dark grey, argillaceous shales predominate. Light grey pyritic shales, argillaceous limestone beds and calcareous argillite beds are observed locally. Pods of massive white quartz and calcite also occur. No fossil traces were found.

The Road River Formation was sub-divided into six distinct rock stratigraphic units on the DPP claims (P.C. Hubacheck 1978). Unit 1 is comprised of the lower five Road River Formation rock stratigraphic units (Units Orr 1 to Orr 5) on the DPP claims.

Unit 2

Unit 2 outcrops on the east and west side of Driftpile Creek, on the claim. This unit consists of silty, black, non calcareous, graptolitic shales. It weathers a distinct brown colour. The strata weather in large booklike plates bounded by rough planar surfaces. The silty unit is generally resistant to weathering, forming ridges and small cliffs. Lenses of black micritic limestone also occur within this unit. The graptolites found were poorly preserved.

This unit corresponds with the uppermost unit of the Road River Formation (Unit Orrg) on the DPP claims.

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Unit 3

The silver grey weathering, black, fissile, shale outcropping on the Puck #1 MC lie stratigraphically in the lower part of Unit DMg. No fossils were found. Baritic sediments occur within the lower part of Unit 3. For mapping purposes, the silver grey weathering shales are located relative to the baritic sediments (i.e. Unit 3a, Unit 3b and Unit 3c). Where this relationship cannot be determined the silver weathering shales are mapped as Unit 3. The baritic sediments are referred to as the baritic lithofacies.

This unit is correlated with lower part of the Gunsteel Formation (Unit DMg) on the DPP claims.

<u>Unit 3a</u>

Silver grey weathering, black, fissile, shale (undivided) stratigraphically underlie the baritic lithofacies.

Unit 3b

Barite lithofacies - barite/shale/sulphide interbeds. The fine grained, green, siliceous, baritic mudstone shows barite rosettes and has a high density. It occurs as lenses, 2 - 30 cm thick and 1 - 5 meters long, intercalated with black, fissile, rusty shale. Locally carbonate lenses are present and some traces of pyrite are noted. Indistinct crossbeds and graded compositional banding indicate stratigraphic tops.

Unit 3c

Silver weathering, black, fissile, shale (undivided) stratigraphically overlie the barite lithofacies.

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In the southwest corner of the MC silver grey weathering shales are found. They occur in southeast trending isoclinal fold structures recumbent to the west. The most easterly of these structures is an anticline. The anticline is breached near its crest by a southeast trending normal fault. Unit 3 silver grey weathering shales are in fault contact with Unit 2 shales (see Creek W/3D) there.

Silver grey weathering shales also outcrop on the east side of Driftpile Creek. They lie in a synclinal structure recumbent to the east. Within the core of the structure, complex folding of the shales has occurred. To the west the structure is in fault contact with Unit 2. To the east, the overturned Unit 3 has a conformable contact with Unit 2. Green, siliceous, baritic mudstone outcrops at several locations.

The structure was not sufficiently detailed to permit any determination of true stratigraphic thickness of the units occurring on the Puck #1 mineral claim.

GEOCHEMISTRY

A limited geochemical survey was undertaken in order to evaluate the Puck #1 mineral claim.

Stream sediment samples were collected on the Driftpile Creek tributaries. The distribution of samples is shown on Figure 6a. A total of ten stream sediment silt samples were taken on the claim. Sample stations were flagged and numbered as shown on the sample location map.

The distribution of soil samples is shown on Figure 7a. A total of forty-four samples were taken at regular intervals. B-zone material was sampled. Many samples contained frozen material. The traverses were controlled by pace and compass, and tied to physiographic features identified on airphotos of the area. Samples were taken at a depth of 5 - 15 cm.

Rock chip samples were taken at outcrop locations identified on the geological base map. Rock chip sample locations are identified on Figure 8a. A total of seventeen samples were taken. The rock chip samples were comprised of a number of rock fragments and grab samples representative of a sample location.

The samples were air dried and shipped to Bondar Clegg and Company Ltd. in North Vancouver. There the minus eighty mesh portions of the stream sediment and soil samples were prepared for analysis. After crushing the minus one hundred mesh portion of the rock chip samples was also prepared for analysis.

Details of the extraction techniques and analytical methods

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are as follows:

for Cu, Pb and Zn -- hot aqua regia; atomic absorption for Ba -- XRF

Five stream sediment, three soil and nine rock chip samples containing greater than 20,000 ppm Ba were resubmitted for Ba assay. The Ba assay procedure involves basic fusion, filtration, acidification and gravimetric analysis.

The Cu, Pb, Zn and Ba results of the analysis are shown as ppm (or percent where resubmitted for Ba assay) on Figures 6b - e, 7b - e, and 8b - e.

Stream Sediment Results

Samples 922-010-79 and 922-011-79 show highly anamalous Cu, Pb and Zn values. Also the lead content of sample 922-013-79, 922-006-79, sample 922-014-79 and sample 922-015-79 are highly anamalous. These values are listed below:

		Cu	РЪ	Zn	Ва
sample	922-010-79	700 ppm	1900 ppm	9010 ppm	12060 ppm
sample	922-010-79	140 ppm	800 ppm	6580 ppm	6.21%
sample	922-013-79	63 ppm	152 ppm	1480 ppm	3.37%

	Cu	РЪ	Zn	Ba
sample 922-006-79	56 ppm	154 ppm	905 ppm	2.12%
sample 922-014-79	52 ppm	110 ppm	1010 ppm	20000 ppm
sample 922-015-79	59 ppm	<u>125 ppm</u>	960 ppm	3.42%

Soil Sample Results

The following soil samples show highly anomalous lead values:

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		Cu	Pb	Zn	Ba
sample	922-335-79	19 ppm	140 ppm	112 ppm	8350 ppm
sample	922-339-79	22 ppm	<u>600 ppm</u>	171 ppm	4230 ppm
sample	922-340-79	14 ppm	300 ppm	100 ppm	5160 ppm
sample	922-341-79	15 ppm	<u>380 ppm</u>	126 ppm	5910 ppm
sample	922-100-79	54 ppm	94 ppm	349 ppm	3.25%

Rock Chip Sample Results

The following rock chip samples have an anomalous Pb and Cu content:

	Cu	Pb	Zn	Ba
sample 922-121-79	<u>65 ppm</u>	280 ppm	130 ppm	2760 ppm
sample 922-112-79	<u>42 ppm</u>	<u>1170 ppm</u>	41 ppm	13850 ppm

INTERPRETATION OF FIELD DATA

High Pb values in stream sediment samples taken at the side of Creek W/3A and Creek W/4A indicate that the barite lithofacies (Unit 3b) has an anomalous lead content in this area. Rock chip samples 922-121-79 and 922-112-79 obtained from Unit 3b outcrop do show very high copper and lead values. The trace of the baritic lithofacies between Creek W/3A and W/4A is indicated by high lead in soil values.

The baritic lithofacies also outcrops east of Driftpile Creek on the claim.

CONCLUSIONS

The high Pb values indicate the presence of subcropping galena mineralization associated with the barite lithofacies (Unit 3b) which is hosted within the Gunsteel Formation.

These geochemical results indicate that the ground underlying the Puck #1 MC is favourable for shale hosted Ba/Pb/Zn mineralization, similar to that currently being evaluated on the adjoining claims to the south (DP claims -- Placer, Gataga Joint Venture Group).

The area of primary interest is defined by the trace of the barite lithofacies. This prospective zone is approximately 1100 m long, 400 m wide, and dips at 65° w. It lies between the mouth of Creek W/3C and Creek W/4D near the southwestern corner of the claim.

The significance of the outcropping barite lithofacies east of Driftpile Creek has not been determined.

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APPENDIX A

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STATEMENT OF EXPENDITURES

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STATEMENT OF EXPENDITURES

Puck #1 Mineral Claim

(Geological Mapping and Geochemical Sampling)

SALARIES AND FRINGE BENEFITS - TEXASGULF INC.						
P.J.S. Boyle - B.Sc. Period June 19 - 24, 1979.						
- Geological Mapping -	3 days \$85.00	@	\$	255.00		
- Geochemical Sampling -	3 days \$85.00	@	\$	255.00		
P.C. Hubacheck - B.Eng. Period June 19 - 24, 1979						
- Geological Mapping -	2 days \$85.00	@	\$	170.00		
- Geochemical Sampling -	3 days \$85.00	@	\$	255.00		
			\$	935.00	\$	935.00
CAMP EXPENSE						
11 man days @ \$30.00/day				330.00		
Mob Demob (Fixed wing, etc.)				745.00		
			\$1	,075.00	\$1	,075.00
HELICOPTER SUPPORT					•	
Trans North Turbo Air Hughs 500 1.9 hr. @ \$340.00/hr					\$	646.00
ANALYTICAL COSTS						
10 stream sediment samples @ \$6.65/sample			\$	66.50		
44 soil samples @ \$6.65/sample				292,60		
17 rock chip samples @ \$7.95/sample				135.15		
(All samples were analyzed for Cu,Pb, Zn and Ba)			\$	494.25	\$	494.25
ASSAY COSTS						
17 samples @ \$9.00/sample					\$	153.00
(17 samples were resubmitted for Ba assay only)						
MISCELLANEOUS						
Shipping (geochem samples)			\$	100.00		
Report Preparation P. Boyle 4 days @ \$85.00/day		=	\$	340.00		
Drafting Services (Contract) 31½ hrs @ \$18/hr		=	\$	567.00		
Printing Services		=	\$	404.41		
Typing		=	<u></u>	55.00		
			\$1	,466.41	<u>\$1</u>	,466.41
				TOTAL	\$4	,769.66

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APPENDIX B

PERSONNEL

STATEMENT OF QUALIFICATIONS

P. Boyle, Geologist, B.Sc.

I obtained my B.Sc. Advanced (Geology) at the University of Saskatchewan (Saskatoon) in 1972. Since 1972 I have been engaged in mineral exploration in British Columbia. I have been employed by Texasgulf since 1974.

I personally supervised and participated in the field work and have assessed and interpreted all the data resulting from the work.

P. Hubacheck, Geologist, B.Eng.

P. Hubacheck has been employed as a Geologist by Texasgulf Inc. since 1977. He obtained his degree from the South Dakota School of Mines in May, 1977. This is his sixth field season of employment with Texasgulf Inc.





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		Creek W/6B	Creek W/6C			Claim posts and boundaries located by pace and compass traverse on airphotos	
	·			<i>i</i>	6,564,000 N	Scale 1: 5 ,000	
						To accompany August,1979 Assessment Report on geological an surveys on the Puck *1 MC	ıd geochemical
						Figure 7e	
						Texasgulf In	C.
	+	+	-		+	PUCK CLAIM	······································
I	·	. '		l I		SOIL GEOCHEMIST	RY
· .				•	B horizon material sampled Analytical Procedure	Ba in SOILS (ppm a	or %)
					- OU mesh / XKF	NTS 94 K / 4W	Proj. 922
					Basic fusion, filtration, acidification, gravimetric analysis	WORK BY DRAWN BY DATE	DRW,G NO.
						P.C.H., P.J.S.B. SEPT. 1979	
						100 0 100 200 3	00 400
			· · · · · · · · · · · · · · · · · · ·			Scale in Metres	

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