REPORT ON DIAMOND DRILLING

SHAG CLAIMS GOLDEN MINING DIVISION

N.T.S. 82-J-11 & 12 LATITUDE: 50°38'N; LONGITUDE: 115°30'W

OWNER: CHRIS GRAF VANCOUVER, BRITISH COLUMBIA

OPERATOR: ESSO RESOURCES CANADA LIMITED 237 - 4th AVENUE S.W. CALGARY, ALBERTA

> MARTIN H. LENTERS NOVEMBER, 1982

ESSO MINERALS CANADA 237 - 4th AVENUE S.W. CALGARY, ALBERTA

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GEOLOGICAL BRANCH ASSESSMENT REPORT

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SHAG CLAIMS Golden Mining Division N.T.S. 82-J-11 and 12

ESSO MINERALS CANADA M.H. Lenters December, 1982

SUMMARY

Seventeen small sphalerite-galena occurrences are known to exist within the Shag Claims along a 5 kilometre length of Shag Creek Valley. They consist of very fine to coarse grained, variably coloured sphalerite, together with minor galena, that occur in the upper parts of at least two separate Middle Cambrian dolostone units. The uppermost Eldon Formation dolostone hosts the B.M. horizon mineralization, while the upper part of the Waterfowl Formation dolostone hosts both the C-4 type and Red Bed horizon mineralization. These dolostone host rock units are both thick-bedded, supratidal to intertidal accumulations of dolomitized carbonate bank material that are each overlain by an accumulation of thin-bedded, subtidal limestone. Together this package of alternating dolostone and limestone forms part of a cyclic sequence of Cambrian strata deposited along the outer edge of a shallow-water carbonate platform, adjacent to a large deep-water shale basin. This type of geologic environment is basically similar to that of many large Mississippi Valley type deposits.

Most of the mineralized occurrences on the Shag Claims consist of coarse replacement sphalerite in either thin, discontinuous disseminated zones, or in very small pods, lenses or breccia zones. The characteristics of these isolated types of occurrences suggest that their host rocks are unlikely to contain zones of significant mineralization. Only the mineralized occurrences along the Red Bed horizon (Waterfowl dolostone - Sullivan limestone contact) presented themselves as having the character and continuity to indicate that they could be part of a larger "ore" trend. Further work along this trend resulted in the discovery of a 600 metre length of more or less continuous, weakly mineralized dolostone. One of three holes drilled through the downdip extension of the outcropping mineralization intersected an "ore-grade" hole (10.25% Zn over 3.3 metres).

Exploration work in 1982 included prospecting along the complete length of the Red Bed horizon, and the drilling of five additional holes in the downdip direction of Red Bed horizon mineralization. Prospecting did not significantly extend the limits of the 600 metre long, thinly mineralized outcrop zone that had been uncovered in 1981. Two of the five additional holes drilled intersected significant mineralization (10.15% Zn over 1.5 metres, and 3% Zn over 6.3 metres). Both these holes were drilled in close proximity to the previous "ore grade" hole. However, two other holes drilled between the three holes that encountered significant mineralization intersected only traces of sphalerite. The best mineralization, within the 3 significant holes, is associated with medium to dark grey, variably but generally finely crystalline, pyritic, argillaceous dolostone sections of the uppermost Waterfowl Formation. This mineralization includes very fine grained sphalerite that appears to be the product of very early diagenetic, stratigraphic replacement. It is not at all similar to the typical open space filling, Mississippi Valley type of mineralization. This fine grained replacement type of mineralization, if it were to be part of a large ore trend, would be expected to be more or less stratigraphically continuous. However, prospecting and the limited amount of diamond drilling tend to suggest that the mineralization along the Red Bed horizon is somewhat erratic in distribution and is of a limited areal extent. It is probably not part of a large "ore" trend. Even so, the downdip direction of the Red Bed horizon, which has yielded some significant mineralization, has not been fully tested and may warrant some additional diamond drilling in order to determine whether the grade and continuity of the sphalerite mineralization will continue to improve in this direction. However, no further large scale exploration program on the Shag Claims is recommended.

In 1977, Rio Tinto Canada Exploration Limited sponsored the Graf Lead-Zinc Reconnaissance Program in the southeastern Rocky Mountains. One result of that work was the discovery of two small lead-zinc showings, within Middle to Upper Cambrian carbonate strata, near a major carbonate-shale facies boundary. These showings, together with some associated stream silt anomalies, led to the staking of the Shag Claims.

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1.1 Location and Access (Figures 1 and 2)

The Shag Claims are located at latitude 50°38'N and longitude 115°30'W, in Albert River drainage, about 35 kilometres east of Radium Hot Springs, B.C. The western and northern parts of the claims are accessible via well maintained logging roads originating from Radium Hot Springs (60 km), and Canal Flats (65 km), B.C. Both these towns are located on a branch line of the Canadian Pacific Railway. The south-eastern parts, the higher elevations, and the main showings in the central part of the claim group are best approached by helicopter, available through Canwest Helicopters at Fairmont Hot Springs, B.C., situated 40 kilometres southwest of the claim group.

The terrain is rugged with surrounding peaks reaching 2,500 to 3,000 metres (8,000 to 10,000 feet) and valley floors at between 1,250 and 1,550 metres (4,000 to 5,000 feet). Snow cover between the peaks of the Royal Ranges, which occur along the eastern edge of the claim group, remains throughout the summer. Shag valley has very steep slopes that are heavily wooded below 2,150 metres (7,000 feet). Vertical cliffs are common and numerous deforested avalanche zones occur along sections of the steeper valley slopes. Above 2,150 metres, vegetation is scarce as outcrop peaks and cliffs, rock debris, and talus predominate. The topography of the claims is contained on N.T.S. map sheets 82-J-11W and 12E.





1.2 Description of the Claims

The Shag Claims consist of eight claim blocks comprising 127 claim units. They were staked in the summer of 1977 and recorded on August 15, 1977 as follows:

Claim	Name	No. of Units	Record No.	Recording Date		
Shag	1	20	158	August 15, 1977		
Shag	2	12	159	August 15, 1977		
Shag	3	20	160	August 15, 1977		
Shag	4	20	161	August 15, 1977		
Shag	5	12	162	August 15, 1977		
Shag	6	18	163	August 15, 1977		
Shag	7	15	164	August 15, 1977		
Shag	8	10	165	August 15, 1977		

Shag Claims 1 and 2 are grouped together as Shag Claim Group 725 (32 units) and Shag Claims 3, 4, 5, 6, 7 and 8 comprise Shag Claim Group 726 (95 units). These groups were recorded on February 10, 1982.

1.3 Previous Exploration Work

In the summer of 1978, Rio Tinto utilized a crew of five men for six weeks to perform prospecting, soil sampling and 1:10,000 scale geological mapping within the Shag Claims. This work located eight Pb-Zn showings, in addition to the two original showings discovered in 1977, and suggested that eight of the ten showings occurred along two main stratigraphic horizons. The upper one, consisting of six widely separated showings, was named the C-4 horizon, while the lower one, consisting of two showings, was named the B.M. horizon. The soil sampling survey detected several zinc anomalies and smaller lead anomalies associated with known showings, as well as a significant lead anomaly that has not been associated with any known mineralization to date.

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In September of 1978, three diamond drill holes totalling 160 metres (520 feet) were drilled to test the main B.M. showing. On surface this showing consists of several discontinuous outcrops along a 90 metre length, which, at best, contain 1 to 2 percent sphalerite across a mineralized zone that is 1 to 3 metres thick. Each of the three holes were spotted directly behind exposed mineralization and intersected mineralization that was as low grade and spotty in occurrence as that of the outcrops. Diamond drill hole 78-1 contained the best mineralized intersection, yielding an assay having 4 percent Zn over 0.5 metres.

During the summer of 1979, two Rio Tinto geologists spent 10 days remapping a number of mineralized horizon contacts, mapping the main C-4 showing, and performing follow up prospecting on a number of soil anomalies not yet associated with know mineralization. They located three new sphalerite occurrences; one on the B.M., and two along the C-4 mineralized horizon.

In the fall of 1979, six diamond drill holes totalling 460 metres (1,497 feet) were drilled to test the two major mineralized horizons. The first four holes were designed to intersect the C-4 mineralized horizon. These holes were spotted at different locations within 200 metres of known showings. Though each of the holes intersected the contact that should have been mineralized, only DDH 79-4 encountered weak mineralization. The fifth and sixth diamond drill holes tested the B.M. mineralized horizon. Diamond drill hole 79-5 encountered no mineralization and DDH 79-6 was abandoned due to deteriorating weather, which produced extreme freezing conditions, at a point where it was beginning to encounter weak mineralization. Two additional showings were discovered during the course of spotting and prospecting around these holes, bringing the total number of showings along Shag Creek to fifteen.

In 1980, Rio Tinto became disinterested in the Shag property and relinquished interest in it to Chris Graf. In the spring of 1981, Esso Resources Canada Limited optioned the Shag property from Chris Graf.

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During the summer of 1981, the writer, together with a second geologist, spent four weeks collecting stream sediment samples for heavy mineral analyses, mapping contacts near known lead-zinc occurrences, and mapping reported facies changes, structural complexities and stratigraphic horizons that appeared favourable for hosting additional mineralization. This work suggested that the lead-zinc mineralization had accumulated in dolomitized and early brecciated portions of a carbonate shoal complex along the edge of a shale basin. The dominant control over mineralization appeared to be stratigraphic as the showings occurred within the upper sections of two different dolostone horizons, in close proximity to an overlying argillaceous limestone. The lower one, or B.M. horizon, occurs in the upper part of the Eldon Formation dolostone, while the upper one occurs at the top of the Waterfowl Formation dolostone. The showings within the upper horizon were divided into two separate mineralization types. Those directly associated with the Waterfowl-Sullivan Formation contact were considered part of the Red Bed mineralized horizon, while those occurring at a stratigraphic level below that of the Sullivan Formation contact retained the name of C-4 type mineralization. In general, the known showings associated with each of the 3 mineralized horizons proved to be small, low grade, discontinuous pods and lenses that gave little promise of yielding significant mineralization. However, the work suggested that the area with the best potential for better mineralization lay along the east side of Shag Creek, within the uppermost dolostone of the Waterfowl along its contact with the Sullivan Formation Formation, argillaceous limestone. A short geological investigation of this contact (the Red Bed horizon), followed by a few short diamond drill holes to assess the downdip extensions of the best showings located along this trend, were recommended as further work.

In the fall of 1981, the writer together with an assistant spent 3 weeks investigating the Red Bed horizon, and supervising a short diamond drill hole program on the downdip extension of this mineralized trend. Prospecting along the horizon resulted in the discovery of two new showings, numerous smaller shows, and the identification of a 600 metre length of more or less continuous mineralization, albeit in discontinuous outcrop, termed the main Red Bed horizon. Four diamond drill holes totalling 152 metres were drilled from three locations to intersect the Red Bed horizon downdip from the main mineralized trend. Holes 81-1 and 81-4 encountered only traces of sphalerite. Hole 81-2 intersected sphalerite over a 15 metre interval, including a section that yielded assay values averaging 10.25 percent Zn and approximately 1 oz/ton Ag over 3.3 metres. Hole 81-3 was aborted, due to extremely poor drilling conditions, at a point where it was beginning to encounter some sphalerite. A continuation of both the drill program and prospecting in the vicinity of the Red Bed horizon were recommended as additional work.

1.4 1982 Exploration Work

In June of 1982, the writer was party chief of a crew of 4 who spent 3 weeks prospecting and supervising a short (459 metres) diamond drill hole program on the Shag claims. The prospecting traverses focused on investigating both the Waterfowl-Sullivan Formation contact, particularly on the east side of Shag Creek in close proximity to the Red Bed horizon trend, and the surface trace of No Name Fault. The objective of the prospecting was to determine whether the Red Bed mineralized horizon could be part of a larger ore trend. The drill programs purpose was to evaluate the significance of the mineralization that was encountered in hole 81-2, and to test for additional mineralization along the downdip extension of the main Red Bed horizon.

The drilling work was contracted to Globe Drilling (1981) Ltd., of Vancouver, B.C., who utilized 4 men in two shifts to complete the drilling in 18 days. Canwests' Bell 206B helicopter from Fairmont Hot Springs, B.C., was utilized for daily access to the drill sites and for all the drill moves. Drilling was done with a lightweight Hydro-Core 28 drill that yielded B.Q. core. Water for drilling was available from avalanche chute streams that were fed by the melting snow at higher elevations. The volume of water available from these streams decreased during the drilling operation, and would not have been sufficient to continue drilling into July. Drilling during the summer months would require pumping water up a vertical height of 250 metres from Shag Creek. Drilling personnel were accommodated in a tent camp, set up along the Albert River Road, in the northwest corner of the claim group.

In addition to the work on the Shag Claims, a further 3 weeks was spent collecting 254 stream sediment samples for heavy mineral analyses in a 10 km by 60 km belt adjacent to the Shag claims. Several prospecting traverses, along extensions of the Waterfowl-Sullivan Formation contact, were made in conjunction with the regional stream sediment sampling survey. The results of the regional exploration work are contained in a separate report (Lenters, 1982).

2. GEOLOGY

2.1 Regional Geology (Figures 3A, 3B, 4 and G.S.C. Open File 634)

The Shag Claims lie near the southern end of the Main Ranges Subprovince of the Rocky Mountain Fold and Thrust Belt, along a line that separates gently dipping, resistant Cambrian carbonates from recessive, cleaved and locally contorted Cambrian shales and argillaceous carbonates (Figures 3A and 3B).

These two packages of Middle to Upper Cambrian strata comprise two laterally equivalent facies that underly most of the Shag Claims. The eastern facies consists of an alternating sequence of thick-bedded or massive carbonates, and thin-bedded, argillaceous carbonates and shales. These alternating units are given a number of formational names as shown in the stratigraphic column of Figure 4. The western facies, comprising thin-bedded, cleaved, argillaceous carbonates and thick sections of calcareous shale and slate, are grouped together as the Chancellor Formation.

These two facies form part of the lower section of a Paleozoic miogeocline-platform sedimentary assemblege that accumulated as a continental terrace wedge, prograding into a transgressing ocean The western facies strata (Chancellor Formation shales) basin. accumulated in a deep water basin adjacent to the platformal shelf. The eastern facies strata accumulated on the outer edge of the platformal shelf along a raised bank margin or hinge line of carbonate deposition that was interrupted by cyclic incursions of muddy sediments. Inside the carbonate bank margin, the interior platformal shelf featured a sag or interior basin in which clastics and fine grained carbonates were deposited. Aitken (1971) named the Cambrian ridge or high along the edge of the platformal shelf the "Kicking Horse Rim". It is best developed near Field, B.C., but extends north and south for a total length of at least 120 km, localizing the eastern carbonate to western shale facies change to



Figure 3A. Generalized geological map of Southeastern British Columbia, (After Price, 1981).

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Figure 3B.

Legend for Figure 3A, (After Price, 1981); and a schematic cross-section of the wedge of supracrustal rocks lying on the Hudsonian basement, along a line from just east of Calgary to just east of Revelstoke. FIGURE STRATIGRAPHIC COLUMN AND CORRELATION CHART 4. FOR GEOLOGIC FORMATIONS IN THE SHAG CLAIMS AREA



a very narrow belt. The carbonate units of the eastern facies cannot be traced westward across the facies boundary, which is thought to represent a possible fault zone (active in late Proterozoic and earliest Paleozoic time), that formed a steep escarpment controlling deposition within the basin.

On a broad scale, the eastern facies carbonates are now part of the western edge of the Rocky Mountain Main Ranges, while the western facies shales lie within the Rocky Mountain Western Ranges.

The geology of the area surrounding the Shag Claims is shown on a recent reconnaissance scale (1:126,720) map, released by the Geological Survey of Canada as Open File Report 634 (Leech, 1979). The Middle to Upper Cambrian strata exposed over the Shag Claims occur on the eastern side, and near the southern end, of the broad, northwest-trending Porcupine Creek Anticlinorium. In a general way, the axis of this anticlinorium coincides with the facies boundary that separates the western facies Chancellor Formation shales from the eastern facies Cambrian carbonates. The shales are exposed on the west limb, while the carbonates occur along the east limb of the anticlinorium.

As seen on Leech's Open File Map, distinctions between the various Middle to Upper Cambrian Formations of the eastern facies becomes increasingly difficult south of Mount Assiniboine, since adjoining formations are lumped together for mapping purposes. This is particularly true for the area south of White Man Mountain (located 10 km north of the Shag Claims), as no distinction is made for most of the various Middle Cambrian strata. Aitken (1967), who has carried out extensive mapping in the Lower Paleozoics of the southern Rocky Mountains states that "the Upper Cambrian Formations are recognizable as far south as White Man Mountain, but immediately to the south and west of that point, the distinctive character of the Upper Cambrian sequence cannot be recognized at all. Even the easily recognizable Arctomys Formation disappears without structural cause, when traced from White Man Mountain down the Cross River". A change in the character of the sedimentary basin, possibly influenced by the Precambrian Montalta rise, inhibited the deposition of the strongly cyclic (shale to carbonate) sedimentation south of White Man Mountain. However, the main Cambrian Formations of the eastern facies can be recognized on the Shag Claims even though their relative thickness and character is different from that of the type sections to the north, and the contacts between these formations is less distinct.

Overlying both the western shale and eastern carbonate facies strata are younger Cambrio-Ordovician argillaceous strata of the McKay Group. In the Shag Claims area, this contact is generally sharp, well exposed and easily recognizable.

In the region surrounding the Shag Claims there are several carbonate-hosted Pb-Zn mineral occurrences of Cambrian age that are associated with the dolomitized portions of prominent biogeneticbioclastic carbonate complexes. Though most of these represent somewhat different styles of mineralization, they demonstrate the availability of metals and potential for concentration within this type of rock. In the Kicking Horse area, mines and occurrences are found in Middle Cambrian carbonates in close proximity to the carbonate-shale facies front along the Kicking Horse Rim. Along the Rocky Mountain Trench and westward, mines and showings occur in the Upper Cambrian Jubilee Formation. In the Lardeau area, and south along the Kootenay Arc through the Salmo area into the U.S., mines occur in the Lower Cambrian Badshot Formation and its correlatives.

2.2 Stratigraphy and Geology of the Shag Claims (Figures 4 and 5)

A schematic stratigraphic column of the Cambrian Formations occurring in the Shag Claims area is presented in Figure 4. The location of these formations over the Shag Claims, as mapped in 1981, together with the locations of all the known showings and diamond drill holes is presented on a 1:10,000 scale geological map (Figure 5). Complete descriptions of the Cambrian rock units, as encountered on the Shag Claims, is given in a previous report (Lenters, 1981a). For the purposes of this report a brief summary follows:

Western Facies Strata

Chancellor Formation (Middle and Upper Cambrian): Thin- to medium-bedded, strongly cleaved argillaceous limestone, calcareous shale and minor slate.

Eastern Facies Strata

McKay Group (Ordovician and Upper Cambrian): Thin-bedded, grey-green and grey, somewhat phyllitic shales with thin interbedded calcarenite units. The basal unit consists of a thin, distinctive reddish shale unit.

Lyell Formation (Upper Cambrian):

Thick-bedded, massive, cliff-forming, light to medium grey, generally micritic dolostone with some limestone.

Sullivan Formation (Upper Cambrian):

Thin- to medium-bedded, medium grey, banded argillaceous and silty limestone, and minor calcareous shale. Characteristically shows sedimentary boundinage structures.

Waterfowl Formation (Middle and Upper Cambrian):

Medium- to thick-bedded, massive, light coloured, fine to medium grained, sucrosic dolostone with interbeds of dolomitic limestone and dark grey limestone. The upper part of this formation hosts the C-4 type and Red Bed horizon mineralization.

Arctomys-Pika Formations (Middle Cambrian):

Thin-bedded, calcareous and dolomitic, dark coloured shale, siltstone, argillaceous limestone, and minor dolostone.

Eldon Formation (Middle Cambrian):

Thick-bedded, massive, cliff-forming, white to light grey, fine to coarse grained, sucrosic dolostone, darker argillaceous dolostone and minor limestone. The upper part of this formation hosts the B.M. horizon mineralization.

Stephan Formation (Middle Cambrian):

Thin-bedded, medium grey, fine grained argillaceous limestone, dolomitic limestone as well as very thinly bedded to laminated grey shale.

Cathedral Formation (Middle Cambrian):

Thin- to thick-bedded, medium to dark grey, generally fine grained limestone and dolomitic limestone as well as massive, coarsely crystalline, light grey to white dolostone. The base of the Cathedral Formation is not exposed on the claim group.

3. MINERALIZATION (Figures 4, 5, 6 and 7)

Rio Tinto (Bending, 1979a and 1979b; Whiting, 1979) initiated work that lead to the discovery of fifteen small lead-zinc showings in the Shag Claims area. Esso Minerals (Lenters 1981a, and 1981b) uncovered two additional showings and a number of smaller shows along the known mineralized trends. Fifteen of these 17 Ph-Zn showings occur along a 5 kilometre length of Shag Creek in association with two main stratigraphic horizons.

These two zones of mineralization occur in the upper parts of the Eldon and Waterfowl Formation dolostones, at or near the contact with overlying argillaceous limestone. Those showings associated with the Eldon Formation are said to occur along the B.M. mineralized horizon. Those showings associated with the Waterfowl Formation dolostone are of two types. The Red Bed mineralized horizon, which occurs in the uppermost part of the Waterfowl Formation dolostone at its contact with the Sullivan Formation, and C-4 type mineralization, which appears to occur at a stratigraphic level within the Waterfowl Formation somewhat below that of the contact with the overlying Sullivan Formation. A summary of the main characteristics of each of these three mineralized horizons is given in Lenters (1981b). Complete descriptions of all the individual showings are given in Bending (1979a and 1979b), Whiting (1979), and Lenters (1981a and 1981b). For the purpose of this report, which concentrates on investigating the Red Bed horizon, a brief summary of the mineralization of this horizon will be given, together with a more complete description of the new mineralization that was discovered along this trend during the course of this work.

3.1 Red Bed Horizon Mineralization (Figures 5 and 6)

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The Red Bed horizon consists of numerous sphalerite-galena showings that constitute a thin, weakly mineralized band within the uppermost Waterfowl Formation dolostone. All of these showings occur along the east side of Shag Creek along a line that parallels the flow of the creek. Most of them occur in close proximity to one another along a 600 metre long length of the Waterfowl-Sullivan Formation contact, within the central part of the claim group. This section of closely spaced mineralization has been termed the main Red Bed horizon. Separated from this main zone, but still associated with the Waterfowl-Sullivan Formation contact, are the Christmas Showing (1500 metres to the northwest of the main horizon) and the Pieces Float Show (450 metres to the southeast of the main horizon). During the course of this work, the complete length of the Red Bed horizon was reprospected and some additional mineralization was uncovered in the vicinity of the Christmas showing, and at the southeast end of the main Red Bed horizon (the Vug Show).

3.1.1 Main Red Bed Horizon (Figure 6)

The main Red Bed horizon includes the Rush, South Rush, Kim, Crackle and Red Bed showings, as well as numerous smaller shows that constitute a 600 metre long zone of mineralization between the Vug and Rush showings. In fact, between these two showings, some sphalerite mineralization has been found at the top of the Waterfowl Formation dolostone at every location that its contact with the overlying Sullivan Formation limestone can be exposed. Red Bed horizon mineralization, along this contact is generally thin (< one metre), and very low grade (< 1 to 5 percent Zn over 1 metre). It consists of either thin bands of small (0.1 to 2 mm), reddish coloured, disseminated sphalerite together with some coarser grained pods that also contain galena, or of fine to coarse sphalerite along either fractures or associated with sparry white dolomite in brecciated and pseudobrecciated sections of darker grey dolostone. Four chip samples taken from various locations along the main Red Bed horizon gave assay values of between 2 and 9 percent Zn over thicknesses of just under one metre The best mineralization along this (Lenters 1981b).

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horizon occurs at the Red Bed and Kim showings. Here, mineralized widths of 0.5 to 1.5 metres are exposed in closely spaced, but discontinuous, outcrops and float blocks over lengths of 30 to 60 metres respectively. The mineralization is generally quite poor, but can contain intensely mineralized bands or pods that pinch and swell along exposed strike lengths. Some of these better zones are at least 1 to 3 metres long with visual estimates suggesting greater than 30 percent combined sphalerite and galena over thicknesses in the order of 10 to 30 cm.

In 1981, hole 81-2 drilled through the downdip extension of the main Red Bed horizon, at a location between the Red Bed and Kim showings, intersected 15 metres of mineralized including a section yielding assay values strata, indicating 10.25 percent Zn and 1 oz/ton Ag over 3.3 metres. The mineralization in this "ore grade" section consists of very finely disseminated red sphalerite that is associated with two separate, one metre thick, fine grained, dark grey, very argillaceous, pyritic dolostone horizons. These two mineralized bands are separated and surrounded by a medium grey, sucrosic, mottled or pseudobrecciated and sometimes brecciated dolostone containing much less, and coarser grained (0.1 to 2 mm) fracture associated sphalenite.

3.1.1.1 Vug Show (Figure 6)

The Vug show is located at the extreme southeast end of the main Red Bed horizon about 55 metres southeast of the Red Bed showing. It consists of two separate mineralized zones, 10 to 20 cm⁴ thick, that are each exposed over a length of a metre or two from beneath the overburden. They are separated by four metres of overburden. The showing is located on the north side of a main avalanche chute, and occurs at a stratigraphic

level about 6 or 7 metres below that of the Waterfowl-Sullivan Formation contact. Prospecting of the well exposed Waterfowl dolostones in the adjacent avalanche chute, yielded no additional sphalerite or galena The mineralization within the mineralization. Vug show consists of fine (0.1 to 1 mm) red sphalerite grains, together with some coarser (up to 1 cm) galena, that is associated with coarse white sparry dolomite in a vuggy, well brecciated dolostone. The surrounding dolostone is variably crystalline, light to medium grey, strongly pseudobrecciated and contains minor sphalerite, in a few places, where it is adjacent to mineralized breccia zones. The mineralization in the brecciated zone of the Vug show grades out into an unmineralized, pseudobrecciated dolostone towards the avalanche chute.

3.1.2 Christmas Showing (Figures 5 and 7)

The Christmas showing consists of a number of mineralized exposures within two side by side avalanche chutes on the west side of Citadel Peak. The northern stream channelway exposes two small mineralized zones, containing a minor amount of replacement sphalerite and galena, just below the Waterfowl-Sullivan Formation contact. The rest of the contact zone, though poorly exposed, is unmineralized. The southern channelway exposes an 8 metre length of a well mineralized dolostone bed containing abundant, fine grained, disseminated red and green coloured sphalerite. This mineralized bed is in the order of 30 to 35 cm thick.

On the northern edge of the exposed channelway the bed consists of approximately 50 percent very finely disseminated green sphalerite within a light coloured dolostone. Some darker (grey-brown), coarser (1 to 5 cm) sphalerite occurs as recrystallized grains within the massive sections of fine-grained green sphalerite. The mineralized bed also contains large vugs, many of which are lined or filled with sparry, white dolomite, that contain no sphalerite.

Along strike to the north, the mineralized bed grades through a thin zone containing yellow and orange sphalerite into dolostone with somewhat coarser, more typical, red replacement sphalerite before it becomes covered by overburden. To the south, the bed quickly loses its mineralization and passes into a typical, medium grey, variably crystalline, mottled Waterfowl dolostone.

The overlying bed contains some mineralization in a couple of basal portions, where it is directly in contact with massive sphalerite of the underlying bed. Below the main mineralized bed, sphalerite occurs as individual, granular (1 mm), replacement grains, or as coarser crystals together with calcite in small pockets and veins. A continuous chip sample taken across a well mineralized section of the Christmas showing returned assay values indicating 16.6% Zn across 0.5 metres (Figure 7).

3.1.3 Pieces Show

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The Pieces show consists of a number of dark grey, finely crystalline dolostone float blocks containing 3 to 5 percent extremely finely disseminated pyrite, and up to 30 percent fine to coarsely crystalline, flesh coloured, replacement sphalerite. These float pieces measure up to 0.5 x 0.25 x 0.25 metres in size. They are angular and do not appear to have been displaced a great distance. Although the Waterfowl-Sullivan Formation contact is poorly exposed directly above the float occurrence, exposures of the contact within 100 metres to either side contain no visible sphalerite mineralization.

FIGURE 7

SHAG CLAIMS

Christmas Showing Chip Sample

Sample	Sample	Sample	Width	Assay Value		
Number	Location	Description	Metres	Pb (%)	Zn (%)	Ag (oz./ton)
C-104	Upper Section	o red and green sphalerite in basal part of overlying bed	0.25	.01	10.72	0.89
C-103	Upper-Middle Section	o disseminated green sphalerite in coarse, vuggy dolostone	0.15	.01	8.85	0.66 1
C-102	Lower-Middle Section	o Massive, fine green sphalerite	0.15	.01	33,35	2,93
C-101	Lower Section	 Minor disseminated red sphalerite as small equant grains within sucrosic, light grey dolostone 	0.60	.01	0.67	1,58

PROSPECTING RESULTS

The prospecting traverses focused on examining the Red Bed horizon mineralized trend (the Waterfowl-Sullivan Formation contact) along the eastern side of Shag Creek. In addition, several prospecting traverses were made through vertical sections of Waterfowl strata, as well as along and across the surface trace of No Name Fault (Figure 5).

The Waterfowl Formation dolostones are resistant, cliff-forming rock units that are well exposed on the east side of Shag Creek. In general, it is thick bedded, light to medium grey, variably crystalline, mottled or pseudobrecciated and, in places, vuggy and brecciated. The Waterfowl Formation contains zones of well brecciated, coarse grained, vuggy dolostone that appear to be classic examples of typical stratabound, carbonate Pb-Zn host rock. However, traverses through numerous partial and complete sections of Waterfowl strata did not reveal any Pb-Zn mineralization, except for that associated with Red Bed horizon near its upper contact with the overlying limestone unit. In addition to lacking Pb-Zn mineralization below the contact zone, the Waterfowl Formation strata also lacked any significant zones of dark grey, pyritic, argillaceous dolostone that seemed to host the best mineralized sections within the Red Bed horizon (e.g., DDH 81-2).

Prospecting along the Red Bed horizon uncovered a minor amount of additional mineralization in the vincinity of the Christmas Showing and at the southern end of the main Red Bed horizon. This new mineralization is described in the previous section. No significant extensions or new zones of mineralization were uncovered. Much of the prospecting along the Sullivan-Waterfowl Formation contact centered on the area to both sides of No Name Creek, situated between the Christmas showing and the main Red Bed horizon. At this point, No Name Creek cuts through the sequence of Cambrian strata perpendicular to the exposed trace of the Red Bed mineralized horizon, and thus yields exposures within the third dimension, or downdip from this mineralized trend. However, outcrop exposures on the valley slopes of No Name Creek are quite scattered and

100.00

generally poor. Even so, in the places where the strata in the vicinity of the contact was examined, no Pb-Zn mineralization could be seen. No Name Creek also yielded low Pb and Zn metal values, on analyses from the heavy mineral separate concentrates of the coarse fraction of stream sediment samples, indicating a lack of significant mineralization in this direction.

Prospecting in the vicinity of No Name Fault suggests that it is a feature related to extensional tectonism within the very late stages of mountain building. The fault is a wide (several tens of metres), intensely fractured and brecciated zone that has been recemented by coarse, very clean, white calcite. Very little staining, no alteration, and no sulphide mineralization occurs in association with the fault zone. The trace of the fault dips very steeply to the southwest, and in the area directly behind the Red Bed horizon only involves in the order of several tens of metres of relative vertical displacement. The fault zone continues to the northwest, but to the southeast it passes into a folded zone in which there is no relative displacement across any zone. Though the trace of the fault parallels the direction of thrust faulting within the region, it appears to be a small normal fault in which the strata on the west are relatively lower than the strata on the east.

5. DIAMOND DRILLING RESULTS (Figures 5 and 6)

Six short diamond drill holes, totalling 458.1 metres (1503 feet), were drilled from six locations behind, or downdip from, the Red Bed mineralized horizon. One hole (82-1) tested for in place mineralization in the vicinity of the Pieces Float Show. Four holes (82-2, 3, 5 and 6) tested the main Red Bed horizon in the vicinity of last year's hole 81-2. The other hole (82-4), located at the extreme northern end of the main Red Bed horizon, failed to penetrate the overburden before being aborted due to poor drilling conditions. Specific information relating to the 1982 diamond drill holes, including the detailed drill hole logs, can be found in Appendix II of this report.

- 27 -

Diamond drill hole 82-1 was spotted approximately 60 metres behind, or in the downdip direction from the Pieces Float Show. This hole intersected the Waterfowl-Sullivan Formation contact at a depth of 33 metres. No sphalerite or galena was visible at the contact, or within the 22 metres of Waterfowl Formation dolostone drilled. The dolostone just below the contact is medium grey, variably crystalline, somewhat mottled and contains two very thin, pyritic, argillaceous zones similar to those that appeared to localize the sphalerite mineralization along the main Red Bed horizon. Below the contact zone, the Waterfowl Formation consists of a light coloured, pseudobrecciated dolostone that gradually grades into a coarser, white, vuggy dolostone.

Diamond drill holes 82-2 through 82-6 were spotted directly behind, or downdip from the main Red Bed mineralized horizon in order to evaluate the significance of the 3.3 metre section containing 10.25 percent zinc that was intersected in hole 81-2 the previous year.

Diamond drill hole 82-2 was spotted 56 metres behind the main mineralized outcrop zone at a point between holes 81-1 and 81-2, about 60 metres southeast of hole 81-2. This hole intersected the Waterfowl-Sullivan Formation contact at a depth of 46 metres and continued through 50 metres of Waterfowl Formation strata. The upper 10 metres of Waterfowl dolostone contains zones with minor sphalerite, including a 1.47 metre section (53.12 to 54.59 metres) that yielded an assay value of 10.15 percent Zn. The main mineralized zones consist of finely disseminated, red coloured sphalerite together with a few coarser (0.5 to 2 cm) recrystallized sphalerite grains. In places, the fine sphalerite appears to be orientated in bands paralleling the bedding direction. Above and below the main zones of sphalerite mineralization, only traces of sphalerite occur in association with late fracturing. No galena was visible within the section. The host dolostone is medium to dark grey, fine to medium grained and contains several argillaceous bands. Below the mineralized strata, the Waterfowl Formation dolostones are generally light coloured, coarsely crystalline, mottled or pseudobrecciated and well fractured or brecciated.

Diamond drill hole 82-3 was spotted 70 metres behind the main mineralized outcrop zone at a point between holes 81-2 and 81-4, about 90 metres northwest of hole 81-2. This hole intersected the Waterfowl-Sullivan Formation contact at a depth of 48 metres and continued through 28 metres of Waterfowl Formation strata. Minor sphalerite mineralization was encountered throughout the upper 11 metres of Waterfowl dolostone. The best intersection (between 51.7 and 58.0 metres) yielded assay values that averaged 3.07 percent zinc over 6.3 metres. Within this zone, sphalerite occurs as small (0.25 to 0.5 mm), equant, reddish coloured grains in 0.5 to 5 centimetre thick bands that parallel bedding. A minor amount of sphalerite, together with traces of smithsonite, also occurs in association with fracturing. The host dolostone is medium to dark grey, finely crystalline, argillaceous and contains approximately one percent very finely disseminated pyrite. Below the mineralized section, the Waterfowl Formation dolostone is light coloured, variably crystalline, strongly pseudobrecciated and somewhat brecciated. Traces of sphalerite, in association with fracturing, are found throughout the section of Waterfowl Formation dolostone that was drilled.

Diamond drill hole 82-4 was spotted at the extreme end of the main Red Bed mineralized horizon, at a point about 38 metres beyond the Rush Showing. This hole encountered difficult drilling conditions within the overburden and was aborted before encountering bedrock.

Diamond drill holes 82-5 and 82-6 were spotted between holes 82-2 and 82-3, directly downdip from hole 81-2. These two drill holes are both located approximately 80 metres downdip from the outcropping Red Bed mineralized horizon, and occur right between the three previously drilled holes that contained significant Pb-Zn mineralization. Both holes intersected the Waterfowl-Sullivan Formation contact approximately where anticipated, however, each encountered only traces of sphalerite mineralization within the section of Waterfowl Formation dolostone drilled. The upper few metres of Waterfowl dolostone in each hole contain a few zones where visual estimates suggest a zinc content of approximately 0.1 to 0.5 percent over sections of less than one metre. The Waterfowl Formation dolostone in both holes is again similar in lithology to that of the other holes drilled downdip from the main Red It progresses from a medium grey, fine grained, more Bed horizon. argillaceous dolostone near the Sullivan Formation contact, through a zone of lighter grey, variably crystalline, pseudobrecciated dolostone, to a light grey to white, coarse grained, vuggy and brecciated dolostone.

DISCUSSION AND CONCLUSIONS

Geological work by Esso Minerals in 1981, identified the Red Bed mineralized horizon (the Waterfowl dolostone - Sullivan limestone contact) as having some potential for being part of a larger "ore" trend. Follow-up work resulted in the discovery of a 600 metre long weakly mineralized outcrop zone that was termed the "main" Red Bed horizon. One of three holes drilled through the downdip extension of this horizon intersected a zone of sphalerite-galena mineralization that included a section where assay values averaged 10.25% Zn and 1 oz/ton Åg over 3.3 metres.

Additional prospecting and diamond drilling along the Red Bed horizon during 1982 did not significantly enhance the appearance of the prospect. However, this work was not completely negative.

Prospecting along the complete length of the Red Bed horizon resulted in the discovery of only a minor amount of additional mineralization in the vicinity of previously known showings. The lack of outcropping mineralization along the Waterfowl-Sullivan contact between the Christmas and the main Red Bed horizon is most disappointing on two accounts. As well as not extending the length of the known mineralized trend, it tends to suggest a limit to any downdip extension of the mineralization, since the contact in this vicinity occurring along No Name Creek cuts into the third dimension of the Red Bed horizon perpendicular to the direction of the known outcropping mineralized trend.¹

Prospecting along the surface expression of No Name Fault failed to reveal any indication that might suggest that it could be a localizing phenomena for any significant mineralization. It appears to be a small, localized, low-temperature event related to the late stages of mountain building.

A continuation of the limited diamond drill program through the downdip extension of the Red Bed horizon, immediately behind outcropping mineralization, produced mixed results. The first hole was drilled at the southern most end of the Red Bed horizon, behind the Pieces Showing, and encountered no mineralization. The other four holes were all drilled in close proximity to one another, behind the main Red Bed horizon, each within a few hundred feet of the previous "ore grade" hole. Two of these holes encountered only traces of sphalerite, while the other two intersected significant mineralization (10.15% Zn over 1.5 metres and 3% Zn over 6.3 metres). The main mineralization in these two holes, as well as that of the previous mineralized hole, consists of very finely disseminated stratabound sphalerite, that occurs together with extremely fine pyrite (up to a few percent), within a medium to dary grey, fine to mineralization medium grained, argillaceous dolostone. The 15 stratigraphically controlled, showing a distinct relationship to the contact zone between diagenetic (probably penecontemporaneous or very early) dolostone and the overlying limestone, and in some instances the sphalerite has a syngenetic appearance. Early dolomitizing fluids probably played the major part in the introduction of the mineralization, and a smaller part in its localization. The localization of the fine grained sphalerite is poorly understood, and is of course the result of a complex interplay between the timing and availability of numerous factors, including source metals, dolomitizing fluids, pathways and fronts, and metal precipitating agents. Associated with the zones of fine grained mineralization in these holes, and occurring alone in the pods, stringers, veins and breccias of other showings on the Shag Claims, are coarser replacement sphalerite and sphalerite/galena mineralization that are the result of a later overprinting and/or redistribution of the original mineralization. Thus, the sphalerite and galena within the occurrences of the Shag Claims appear to be the result of early stratigraphic controlled replacement events, and are not at all similar to the classic open space filling Pb-Zn mineralization found in large Mississippi Valley type deposits.

The thin, discontinuous nature of the zones of exposed mineralization, the lack of mineralization adjacent to main zones of mineralization, and the type of Pb-Zn mineralization encountered in the main zones, suggest that even the sphalerite-galena found along the Red Bed horizon is probably not part of a large ore trend. However, three points must be noted:

- 1) The downdip extension of the Red Bed horizon has not been sufficiently drill tested to preclude the possibility of better and more continuous mineralization. Along the Red Bed horizon, the mineralization tends to be associated with bands of argillaceous, pyritic dolostone. This type of strata would be thicker and more common to the east, in the downdip direction, as one progresses off the carbonate bank toward the carbonate platform basin.
- 2) Three of seven short diamond drill holes passing through the Red Bed horizon downdip from fairly poor mineralization on the surface intersected significant sphalerite mineralization at depth. This includes at least one hole with "ore grade" mineralization.
- The persistant nature and large number of small sphalerite-galena 3) showings along two similar stratigraphic horizons suggest there is some potential that this mineralization is an expression or small scale replica of a nearby "completely" blind ore body that could occur in a similar geologic setting. Possible host rock situations for such mineralization include further downdip or lateral extensions of the upper parts of the Waterfowl and Eldon Formation dolostones, as well as that of the stratigraphically lower Cathedral Formation dolostone. The latter hosts, the Monarch and Kicking Horse lead-zinc deposits, occurring further to the north along the same carbonate-shale facies boundary that passes through the Shag Claims. Though significant mineralization in a "blind" setting is always a possibility, surface work on the Shag Claims resulted in no other zones warranting further prospecting or any other mineralization warranting diamond drilling, apart from that of the Red Bed mineralized horizon.

7.

No further large scale exploration program on the Shag claims is recommended.

A small grid of several 400 to 600 foot holes could be drilled in the downdip direction of the main Red Bed horizon, behind the previously drilled holes encountering significant mineralization, in order to fully test for a better and more continuous zone of stratabound sphalerite and galena in this direction.
- AITKEN, J.D., 1971, Control of Lower Paleozoic Sedimentary Facies by the Kicking Horse Rim, Southern Rocky Mountains, Canada; Bull. of Can. Petro. Geol., Vol. 19, No. 3, pp. 557-569.
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- BENDING, D., 1979a, Shag Prospect; unpublished Rio Tinto Canadian Report 547, 20 p.
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- LEECH, G., 1979, Geology of the Kananaskis Map area; Geol. Surv. Canada, File Report No. 634.
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- MCANDLES, P.M., 1979, Rock Project 1978 Summary Report; unpublished Standard Mines Report, 11 p.

PRICE, R.A. 1981, The Cordilleran Foreland Thrust and Fold Belt in the Southern Canadian Rocky Mountains, <u>in</u> Thrust and Nappe Tectonics, McClay, K.R., and Price, H.J., (eds.); Geol. Soc. of London, Special Pub. No. 9, pp. 427 - 448.

WHITING, B.H., 1979, Shag Report; unpublished Rio Tinto Canadian Report, 14 p.

APPENDIX I

Statement of Expenditures

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SHAG CLAIMS

DIAMOND DRILLING - JUNE 1982

STATEMENT OF EXPLORATION EXPENDITURES

1.	PERSONNEL: (Salaries - June 8 to June 30)	
	Martin Lenters 23 days @ \$200.00/day = 4,600.00 John Burton 23 days \$ \$120.00/day = 2,760.00	7,360.00
2.	ACCOMMODATION: (Fairmont Bungalows, Fairmont, B.C.)	
	23_days @ \$42.40/day =	975.20
3.	FOOD	
	46 man days @ \$20.00/manday =	920.00
4.	SUPPLIES	
	Sample bags, zinc zap, etc =	285.17
5.	DIAMOND DRILLING: (Globe Drilling (1981) Ltd)	
	Mobilization and demobilization = 2,500.00 Drilling - 143' overburden @ \$26.00/foot = 3,718.00 - 1383' rock core @ \$25.00/foot = 34,575.00	
	Extra Contract Charges: - labour (327 hrs @ 27.50/hour) = 8,992.50 - core boxes, mud, lost core rod, etc = <u>1,307.95</u>	51,093.45
6.	HELICOPTER: (Canwest 206B, Fairmont, B.C.)	
	Daily flights in and out for drill crew and 7 drill moves Rental: 47.2 hours @ 460.00/hour = 21,712.00 Fuel and Oil: 47.2 hours @ 50.00/hour = 2,360.00	24,072.00
7.	TRANSPORTATION: (Bow Mac Rentals, Calgary, Alta)	
	Pickup truck - 23/30 x 650.00/month = 498.33 Gasoline - 435 litres @ 45¢/litre = 195.75	694.08
8.	SHIPPING: (Greyhound Bus Lines)	
	Geochemical Samples (Fairmont/Vancouver) =	27.60
9.	GEOCHEMICAL ASSAYS:	
	Min-En Laboratories Ltd. (Vancouver, B.C.)	· •
	21 Drift Core Samples (PD, Zn, Ag) $@ 24.75 = 519.75$ 4 Chip Samples (Pb, Zn, Ag) $@ 24.75 = 99.00$	
	1 Drill Core Sample (Zn, Ag) @ 18.75 18.75	637.50

10. FIELD AND REPORT PREPARATION:

Martin Lenters 10 days @ \$200.00/day =	2,000.00	
Typing, drafting and reproduction =	435.00	2,435.00

\$88,500.00

ML/dmb

2

Martin Lenters

SHAG CLAIMS

Government Offices and Contacts

GOLD COMMISSIONER 1. Golden Mining Division Ministry of Energy Mines and Petroleum Resources Parliament Buildings VICTORIA, British Columbia V8V 1X4 Telephone: (604) 387-5975 Contact: R. Rutherford (Chief Gold Commissioner) Dave Wirtanen GOLD COMMISSIONER 2. Golden Mining Division Court House P.O. Box 39 GOLDEN, British Columbia VOA 1HO Telephone: (604) 344-5221 K.L. Jankovic (Acting Deputy Gold Commissioner) Contact: 3. MINING RECORDER Golden Mining Division Court House P.O. Box 39 GOLDEN, British Columbia VOA 1HO Telephone: (604) 344-5221 Contact: Bill Christie 4. MINING CLERK (Free Miners Certificate Renewals) Mineral Resource Branch 310 Ward Street NELSON, British Columbia V1L 5S4 Telephone: (604) 352-2211 Diane Mayrhofer Contact: DISTRICT INSPECTOR OF MINES (Notice of Work Forms) 5. Mineral Resource Branch 310 Ward Street NELSON, British Columbia V1L 5S4 Telephone: (604) 352-2211 Bruce Lang Contact:

SHAG CLAIMS

Government Offices and Contacts (Cont'd)

 FOREST SERVICE - DISTRICT OFFICE 406 - 7th Avenue P.O. Box 189 INVERMERE, British Columbia VOA 1KO

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Telephone: (604) 342-9257 Contact: Don Hendren (Forest Officer) Paul Cohen (Resource Assistant)

Shag Claims

Service Companies



"WE RENT MOST EVERYTHING" 342-3311

RENT IT - RENT IT - RENT IT - RENT IT

HOME

GARDEN

CONSTRUCTION

ICG CANADIAN PROPANE LTD DIVISION OF INTER-CITY GAS CORPORATION P.O. BOX 415 INVERMERE BRITISH COLUMBIA CANADA VOA 1K0 (604) 342-6931 (BUS.) (604) 342-6186 (RES.) APPENDIX II

Diamond Drill Logs

SHAG CLAIMS

HOLE		LOCATION		ELE	VATION	ATTITUDE	LEN	GTH
82-1	Approx.	4+50SE;	0+00	1,916m	(6,285')	Vertical	55.8m	(183')
82-2	0+88NW;	0+28NE	20 1	1,926m	(6,320')	Vertical	96.9m	(318')
82-3	2+17NW;	0+36NE		1,932m	(6,340')	Vertical	75.6m	(248')
82-4	5+65NW;	0+25SW		1,928m	(6,325')	Vertical	26.8m	(88')
82-5	1+75NW;	0+61NE		1,946m	(6,385')	Vertical	112.2m	(368')
82-6	1+25NW;	0+51NE		1,940m	(6,365')	Vertical	90.8m	(298')
					TOTAL LENG	TH DRILLED:	458.1m	(1,503')

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ML/gf 10/11/82

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4...

Footage Report-Surface



Globe Drilling Ltd.

HOLE NUMBER		то	0 B	817	ROCK	BUT .	CANING	
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12-2	0	13	13		1	BW		ч.
12-2	12	318		4	306	BQ		
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	-							
		TOTALS	39		466			-

Footage Report-Surface



Globe Drilling Ltd.

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NUMBER	-	10	10	8(1 5)21	ROCK	SIZE	CASING IT-SIZE	
12 - 3	0	23	23			BW		
12 - 3	22	248			226	89		
82-4	0	50	50			BW		
12-4	2523	88			65	BQ		
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	,I	TOTALS	7.3		291			÷
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	. *>		Foreman	91.t	P	Jaire		

Footage Report-Surface



Globe Drilling Ltd.

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NUMBER	HEGM	10	1647	5124	1007	SIZE	17-5-20	
5	0	11	11					
5	8	3.68			360			
6	0	20	20					
6	12	298			286			
						-		
								74
			_			-		
		TOTALS	31		646			
90 - A			Foreman	Y	Sim	ne	/	
	Sec			9Mc	t. D	Lic	-	

50°38' 82 - 1 Latitude Hole No. PROPERTY SHAG CLAIMS PROJECT MA 67 NTS 823-11412 115° 30' Co-ordinates opprox. 4+505E \$ 0+00 Longitude 1916 metres Datum Level BQ Core Size 8 Core Boxes - Stored at Fairmont B.C. Vertical Test for mineralization behind Pieces Floot Show Azimuth 90° Box 1. 7.40-12.81m. Box 5. 33.80-40.54 m. Dip . June 10, 1982 Box 6. 4054-47.11m. 55.78m (183 feet Box 2. 12.91 -20.00m. Total Length Completed June 12, 1982 Box 3. 20.00 - 26.98m. Box 7. 47.11 - 53.84m. -Drilled By Globe Drilling, Vancouver, B.C. Hor. Project Box B. 53-84 - 55.78 m. Box 4. 26.98-33.80m. ---1.00 0

Purpose

Started

DEPT	H (m)		a second	CORE			co	RE SAMPL	ES		
FROM	то	DESCRIPTION Minero	Mineralization RE		ASSAY NUMBER	FROM	TO	WIDTH	ASS	AY VALU	C
Surface	7.60	Overhurden	-	_			-				
Sell Joce		over burden				1					
7.60	8.25	Argillaceous limestone (Sullivan Formation):	Py< 1%	100%						_	
	-	- medium grey, fine grained argillaceous		_		-	-	-		-	_
	1000	limestone with approximately 20% dark grey,	-	_	1000	-	-			-	
		thin (hairline), discontinuous, wavy, shaly			1.0			-			
		partings (wispy microstyolites), and thicker		10		-	-	-		_	
		(1 to 5 mm), discontinuous, irregular	1	-		1.00	-			-	
		kinked or wavy zones of calcareous		-			_				
		mudstone. These darker bands give			0	1111		1			1.1
		the rock an irregular "mottly" banded									
		texture. Some of the dark grey									
		calcareous mudstone interbands have						1			
		been oxidized to an orange-brown color.									
		This oxidation generally occurs in 1 to									
		2 cm wide bands adjacent to fractures				· · · · ·		1			
		- bedding is generally at 50 to 60° to	1								
		the core axis.									
		-minor fracturing throughout section									1
-		generally paralleting bedding plane									
		breciks.	1			-					
		- minor purite as fine disseminations and as					-				
		small concentrations forming 1 to 3 mm.									
		blebs or wisos that ouralled hedding		43	2						
-		the set of									
8.25	14.13	Calcareous shale (Sullivan Formation):	R=1%	100%							
			17			-		1			

Page 1 of 8

PROPERTY SHAG CLAIMS PROJECT MAGT

NTS 82 J-11 \$ 12

Page 2 of B

DEP	TH (m)			CORE			CO	RE SAMPL	ES .		SAMPLE
EROM	10	DESCRIPTION Mineraliz	ation	REC.	ASSAY	FROM	то	WIDTH	A	SAY VALUE	FOR
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		think lowingted calconaus chale with	-			-		-			
		Thinky laminaled calcureous shale with		-							
		some very thin (1-5cm) interbeds of	-			-		-			
1.000		lighter grey argillaceous limestone.			-	-				+	_
		These inferbeds contain very thin	-	-				- 1		+	
		(hairling), subparallel, wavy, shaly		-		-	1.1				
		laminations spaced 1 to 3mm apart,			111111		-				_
		which are orientated somewhat	-	-		-		1	-		
		perpendicular to bedding and subparallel		6	10.000	0.001	7 .				82-100
		to the shall cleavage, and give the									(1.11-11.67
3		beds a crossbedded appearance.		2		1.1					
		However this feature is the result									
1		al a combination of soft sediment	-	-					-		
	-	and tectonic delocration		-			1				
-		- hadding and most of the lominations		-			-				
		- bedding and most of the idminiations		-			-				
		are orientated at 60 to 00 to the	-			-		1		+	_
		core axis. However there are a	-	-		-	-				
1000		number of zones with complex, small	-	-	-	-	-	-		+	
		scale open tolding.				-	-	-	14	+	
		- cleavage is more or less at right angles		-	-	-	-			+	
	-	to the bedding and at 80 to 85° to the	_	-	L	-	-	-			
		core axis. Very thin (hairline to Imm)									
		calcite veins occur along some					-				
		cleavage planes at 1 to 10cm. intervals				_		1			
		- later calcite in thin (hairline to Imm).									
		irregular tension gashes crosscut and									-
		affect cleavage plane calcite by a few									
		millimetres									
		1243 L. 1247 matrice - small intencely veined									
		and brancisted section with concer				-		1			
		and precchared section with course			1						
-		calcite intilling.									
		- moderate tracturing consisting ot		-	-		-				
		variably orientated open tradures	-		-		-	-			_
_	1 1	at approximately a 0.5 metre		<u> </u>			1				

Hole No. 82-1

PROPERTY SHAG CLAIMS PROJECT MAG NTS 823-11 412 Page 3 of 8

CORE SAMPLES DEPTH (m) CORE Mineralization ASSAY VALUE DESCRIPTION REC. ASSAY WIDTH FROM TO FROM TO spacing - minor pyrite as fine disseminations within the more argillaceous sections, or as small (1 to 2mm) concentrations of fine pyrite in blebs within the calcareous interbeds. - upper contact is transitional though a zone of sedimentary boudinaged argillaceous limestone within calcareous shale. -lower contact is sharp, but irregular as thin cuspid flames of shaled interfinger into and continue as very thin (hairline), shaly laminations within the limestone Argillaceous limestone (Sullivan Formation): Py-1% 100% 14.13 27.33 -light to medium grey, fine grained limestone containing 10 to 40 percent irregular, wavy or kinked bands of dark grey calcareous mudstone, giving the rock a mottled texture. The calcoreous mudstone is often oxidized to an orange-brown colour, particularly within a few centimetres of fractures. The angillaceous bands tend to contain and be separated from the limestone beds by wispy microstyolitic surfaces. The limestone contains some poorly developed styolites. - bedding is generally at 50 to 60° to the core axis, but is poorly preserved. - a poorly developed cleavage, at

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DERT	H (m)	NAME OF A DESCRIPTION OF A	Vin Marine	CORE		-	CO	RE SAMPL	ES		
CROM I	TO	DESCRIPTION Mineral	ization	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASS	SAY VALU	E
- nun			1								
		concoximately 85° to the core axis, occur	s	1							
		within the more ancillaceous zones.								_	
		- a minur amount of coarse calcite, in				1		-			-
		small (1 to 5mm wide) veins generally									
-		infilling tension pashes occurs									
-		the section									
		Throughout the sections.									
-		21.15 to 25.00	1			-	1				
		26.20 to 26.52 - two larger, calche	-					1.			
_		veined, almost precciated, sections	1								
		with course grained, white calcule		-		-					
		in 20 to 30cm long tapering weages	-		-	-	-				
		(tension gash intillings) developed	-	-		-	-				
		outward from large tractures.	-	-	-	-	-				
		- traces of tinely disseminated pyrite	-	-		-	-	-	-		
		visible with hand lens throughout		+	-		-				-
-		section.	-	-		-	-	-	-		
		- transitional contact into underlying unit	-	-		-	-	-	-	-	-
	1.1	as calcareous muditione content	-	-		-		-	-		
1		increases to form separate interbeds	-	+		-	+	-	-	-	
		within the limestone.	-	-		-	-	-	-	-	
				-		-	-	-	-		
7.33	29.47	Interbedded calcareous shale and argillaceous	Py=Tr	100%	6	-	-			-	
		limestone (Sullivan Formation):	1'	-	-	-	-		-	-	
		-light arey, fine grained limestone	-	-	-	-	-	-	-		
		forming thin (0.5 to 1 cm thick) boudins	_	1	-	-	-	-			
		within a very thinly laminated,		-	-	-	-	-			
-		pronge-brown to brownish grey oxidized				-	-	-	-	-	
-		colcoreous shale. Laminations within	1			-	-	-	-		
		the colcoreous shale are very regular			-	-	-	-		-	
		(even and parallel), but pinch and Swell						-	-	-	
-		around the limestone bouding	1000			_	-				
_		- hedding is at 50 to 60° to the core									
_											

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CORE SAMPLES

SAMPLE FOR HIN SECTION CORE DEPTH (m) Mineralization ASSAY VALUE ASSAY NUMBER DESCRIPTION FROM TO WIDTH TO EROM -cleavage is well developed within the shaly units and is orientated somewhat perpendicular to the bedding at approximately 60° to the core axis. Thin (hairline to 2mm.) calcite veins about Icm. apart occur along some of these cleavage planes, but are discontinuous through the limestone interbeds which have no shally cleavage. Adjacent to fractures, the white calcite of these veins, as well as the shaly rock itself, take on a brownish orange oxidized colour. - a minor amount of later, thicker (1 to 2mm), irregular calcite veining brecciates both the limestone and shale interbeds as well as the earlier emplaced calcite along cleavage planes. 27.33 to 28.00 - well brecciated section with calcite infilling. - pyrile occurs as finely disseminated grains, thin wispy concentrations of Fine pyrite, and as larger (1 to 5mm) blebs - all of which tend to orientate themselves parallel to 1 bedding planes Argillaceous limestone (Sullivan Formation): Ry=Tr 100% - light to medium grey, fine grained limestone with up to 35 percent irregular mottly banded, dark grey or onange-brown this (1 to 10 mm) or cillaceous 29.47 33.13 82-1002 51.39 - 31.48m brown thin (1 to 10mm) orgillaceous interbeds and wispy microstyolitic

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DEPT	H (m)			CORE			COR	E SAMPI	.ES			
FROM	то	DESCRIPTION Mineraliz	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VAL	DE DO OZ	(m)
										and ref	3	
		laminations.										
		30.69 to 30.83 - interbedded section of						•				
		sedimentary boudinaged limestone					-					
1		within shale. (similar to the argillaceous										
		limestone between 14.13 and 27.33 metres).										
		- moderate development of styolites										
		with approximately a 5cm. spacing,										
		as well as the argillaceous										
		microstyplitic surfaces common							-			
		throughout the shaly sections.					_	2			_	
-	_	- a few thin (hairline to Imm thick)							1			
		calcite veins, at approximately 25 to								-		-
		30° to the core axis		÷					-			_
		-moderate fracturing (3 to 4 per metre).				-						
		Orange-brown oxidation colouring.									_	
		of the more argillaceous units	- Jane			-						
		occurs in bands up to locm wide -										
	1	adjacent to fractures.				-						_
		- pyrite occurs as fine disseminations,									-	
		and as small (0.1 to 1mm) individual				i same			-	-		
		grains within the more argillaceous				-	-		1			2
		Sections generally as concentrations							-	-		_
		paralleling bedding planes		_				÷				-
			-			-	-					
3.13	55.78	Dolostone (Waterfowl Formation):	Py 21%	100%								
		- light to medium grey, medium to coarse		-	1001	36.08	36.34	0.26	.01	12	11	-
		grained dolostone and slightly	in them			-			-	-		-
		- calcareous dolostone, containing some							-		-	-
		1 to 10 cm. zones with thin (1=3mm.)	-			-			-			-
		argillaceous laminations. These	-		-			-	-			-
		argillaceous zones occur throughout					-		-			-
		the section but are more common		-							-	-
	L.	near the contact with the overlying		-	1				1	-		

PROPERTY SHAG CLAIMS PROJECT MAGT

small wispy microstyolitic surfaces

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SAMPLE CORE SAMPLES CORE DEPTH (m) FOR Mineralization ASSAY VALUE REC. ASSAY NUMBER DESCRIPTION WIDTH FROM TO THIN-SECTION TO FROM argillaceous limestone. 82-1003 36.20 to 36.24 38.01-38.Rm 53.04 to 53.30 - two particularly well developed argillaceous zones with abundant thin, shaly laminations that have a high (1 to 3 %) pyrite content 82-1004 (as extremely fine grained disseminations). - much of the upper part of this 5307-53.B dolostone section exhibits a relict irregular wavy or mottled texture that is typical of the overlying argillaceous limestone. Where this texture is best preserved the rock is somewhat calcareous as dolomitization is not complete. However, the mottled texture is also evident in areas that have been completely dolomitized. - the lower part of the dolostone section is completely dolomitized with much of the original textures obliterated : leaving variably crystalline somewhat pseudobrecciated zones. Below 45m. pseudobrecciation is well developed and appears as coarse white dulomite, generally surrounding open vuggy porosity, within light grey, medium grained dolostone. - some moderately developed styplites occur throughout the more massive dolostone in the lower part of the section, while numerous

PROPERTY SHAG CLAIMS PROJECT MAGT

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EPTH (m)			CORE			CO	HE SAMPL	25		_
то	DESCRIPTION Mineralia	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VALUE	_
	in a state of with in the this	-	-		-	-		-		-
	are contained within the thin			-			1. 114	100		1.1.1.1
	argillaceous zones in the upper part		-		-					-
-	of the section.	-	-		-		-	-	+	
	- numerous small (hairline) tractures,	-	-				-	-		
-	healed with calcite, occur randomly		-		-					-
-	orientated throughout the dolostone	-	-			-		-		
	- thin (Ito 3 mm), "irregular, while calcite		-		-		-	-	++	-
	veins with diffuse contacts are	-	-		-		-			-
	common throughout the section.				_		-	-		-
	- late fracturing, having oxidized	-	-				-			-
	surfaces, is moderately developed	-			-		1.1.1			_
	(~2 fractures per metre) at an						1			_
	orientation of 20 to 400 to the core						-			_
	axis									
	-minor amount of fracture porosity.									_
	in addition to minor vugay porosity									
	associated with the coarser white									
	recrystallized dolomite in some									1.11
	oseudobreccipted zones.									
	- augite occurs as small agains (1 to 2 mm)									
	throughout the section with finer									
	disceminated pusite within shalv						1			
	laminated zones and coarser (3mm)						1.			
	avrite blobs along fractures									
-	pyrile blebs anding tractaries.		-							
55.70	End of hole		-	-			-			
33.10	End of hole.	1			-					
	-								1 1	
		-			1					
										_
1			-	-	-			-		_
		-		-	_			-		-
		1	1		1		1	1		

	Hole 1	ESSO RESOURCES CANADA LIMITED - I DIAMOND DRILL LO BEOREBETY SHAG CLAIMS PROJECT	MINERAL DG	s 67	NTS 82	J-11 4	12.	Latitude _	Pag 50°38	ne <u>1</u> of <u>12</u>
	Co-ord	inates OIBBNW; OTABNE.						Longitude	_115*30	».
	Core S	Size BQ 14 Core Boxes - Stored a	t Fairn	, troo	B.C.		1	Datum Lei	1926 m	
	Purpos	e Test mineralization along Red Bed horizon. Box 1 266- 10.79m. Box	8 52	.84 - 6				Azimuth _	Vertice	1
	Started	June 12, 1982 Box 2 10.79- 17.80 m. Box	9 60	81 -7	6.81 m.		1	Dip	900	
	Compl	eted June 15, 1982 Box 4 2445- 31.71 m. Box	11 73	.14 - 8	0.92 m.			Fotal Leng	nh 96.93.	n. (318 feet)
	Drilled	By Globe Drilling, Vancouver, B.C. Box 5 31.71 - 28.67 M. Box Box 6 38.67 - 48.50 m. Box	13 84	.51 - 9	3.35m.		1	for. Proje	rt ta	
222	Logged	By Martin Lenters Box 7 45.50-52.84m Box	14 93	.35 - 9	6.93 m		1	/ert. Proje	ct_96.93	n
DEP	TH (m)			CORE			CO	RE SAMPL	ES	
FROM	то	DESCRIPTION Mineral	Zation	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASSAY VAL	
Surface	3.66	Overburden		-			_			
			0 -	-				-		
3.66	6.11	Argillaceous limestone (Sullivan Formation):	ly= Tr.	100%						
		- medium grey, fine grained argillaceous		-		-		-		
		limestone with 10 to 25 percent dark grey,	-	-						
-		thin (1 to 5 mm.), irregular kinked or wavy	-			-		-		
		zones of calcareous mudstone, that			-	-		-		
		gives the rock a "mottly" banded appearance.		-			_	-		
		Some of the argillaceous zones are		_	-			-		
		oxidized to an orange-brown colour,	-	-			-	-		
		particularly in bands a few centimetres	-			-				
1		wide adjacent to fractures.	1. 1					-		
	-	- bedding is orientated at 55 to 60° to the				-	_			
1		cure axis.			_					
		- some hairline fracturing, much of it	-					-		
		healed with thin coatings of calcite.			-			1		
2		- larger fracturing occurs at 50 to 60°								
		to the core axis and more or less	1				(
		parallels bedding.								
		- pyrite occurs as a few small		-						
1	·	(<0.25mm) individual arains within								
		- the limestone particularly the more		1000			1	S. Leve		
_		shaly horizons.			2		-			
6.11	8.69	Interbedded argillaceous limestone and	Pv<1%	100%		-	-	-		
		calcareous shale (Sullivan Formation):	1							
2)		- similar to overlying section except					1			

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CORE SAMPLES DEPTH (m) Mineralization REC DESCRIPTION ASSAY ASSAY VALUE FROM WIDTH TO FROM то that the irregular kinked or wavy argillaceous zones, have become more shaly, more abundant and more regular, forming separate interbeds. Numerous hairtine to 5mm thick, even , discontinuous , dark grey shaly laminations and interbeds occur throughout the section -approximately 5 percent calcite veining throughout section, as 1 to 10mm veins along cleavage partings within the shale, or as thinker veinlets cutting across the more competant limestone perpendicular to bedding. In places, this veining is quite irregular and brecciates numerous parts of the section. -shaly cleavage is orientated at 70 to 75° to the core axis. - pyrite is very finely disseminated throughout the section but also occurs 1 as wispy concentrations of fine pyrite within the shale and as larger 1×5mm. grains within the calcile veins and limestone sections. Argillaceous limestone (Sullivan Formation): R=Tr. 100% --medium grey, fine to medium grained argillaceous limestone with 5 to 20 8.69 12.85 percent dark grey, thin (1 to 10mm) irregular wavy or kinked zones of very fine grained calcareous mudstone The latter contain numerous thin,

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DEPT	H (m)		101	CORE		1.11-11-	CO	RE SAMPL	ES			
	70	DESCRIPTION Mineraliz	zation	REC.	ASSAY	FROM	то	WIDTH	A	SAY VAL	UE	
FROM	10			-	HOMDEN							100 Ave. 1
11-55				-								
		discontinuous shaly surfaces (wispy			1							
		microstyolites). Some of the	-	-					-		+	
		darker grey argillaceous zones have		-		-4				-		
		been partially oxidized to an orange-		-								
		brown colour, particularly in thin	-	-				-		-		
		bands adjacent to fractures.		-						-		
		- cleavage and bedding at 60 to 70°							-	1		- 100.000
		to the core axis J				-			-			
		- approximately 2 fractures per metre		1								
		orientated at 30° to the core axis						-				
		and usually with calcife along the							1	in the second		
		curfaces										
-10-10-110	-F1	-traces of ourite as very fine grained						1				
		disseminations		2						-		-
-		disseminations,								-		
12 95	16 87	Colcoceaus shale (Sullivan Formation):	Pv <1%	6 100%								- and -
14.00	.0.01	- dark area were fine argined and	1									
		think down ated calcureous shale										
		mining laminated calculations shall	1000	1			-					
		with abandant calcine and	A				-					
		guartz-carbonate verning	1000	1	-	1	-			1		
		- in places the shalles are oxidized	-		-	-		:	1	-		
-		to a brownish colour, particularly	-		1	-				1		
-		in thin bands adjacent to tractures			1			1		-		
		- this section also contains a tew	-			1		-	il conse	-	+ +	
		very thin (0.5 to 5 cm.) interbeds of		-					-			
		lighter grey argillaceous limestone.		-		-	-					
de la		These interbeds have very thin (hair-		-		-		-	-	-	-	
		- line), parallel, wavy laminations	1				-					
		of shale that are orientated		-		-		-		-		i insta
S. 2.M.		somewhat perpendicular to bedding	-				-		-	1	1	
1		and parallel to cleavage.										is and
		- bedding is at 70 to 800 to the core						-			1	
		axis with some complex isoclinal	-		1	1						

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DEPTH IM DESCRIPTION Mineralization Rec. ASSAY NUMBER FROM TO WIDTH ASSAY VALUE FROM TO and open folding on a small scale. i i i i i i - - cleavage at 75 to 80° to the core i i i i i - - cleavage at 75 to 80° to the core i i i i - axis and somewhat perpendicular to i i i i i - - approximately 5 percent calcite veining i i i i - - - - i i i i - - - - - i i i - - - - - - i i - - - - - - - i - - - - - - - - - - - - - - - - - - - - - - - - - - - -	
and open folding on a small scale. - cleavage at 75 to 80° to the core axis and somewhat perpendicular to the bedding. - approximately 5 percent calcite veining throughout section as thin (< Imm) laminae along cleavage planes (generally accurate together in zones 2 to 3 cm wide	
and open folding on a small scale. - cleavage at 75 to 80° to the core axis and somewhat perpendicular to the bedding. - approximately 5 percent calcite veining throughout section as thin (<imm) laminae along cleavage planes (generally</imm) 	
- cleavage at 75 to 80° to the core axis and somewhat perpendicular to the bedding. - approximately 5 percent calcite veining throughout section as thin (<1mm) laminae along cleavage planes (generally	
axis and somewhat perpendicular to the bedding. -approximately 5 percent calcite veining throughout section as thin (<1mm) laminae along cleavage planes (generally	
the bedding. - approximately 5 percent calcite veining throughout section as thin (< 1mm) laminae along cleavage planes (generally around togethan in zone 2 to 3 cm wide	
- approximately 5 percent calcite veining throughout section as thin (<1mm) laminae along cleavage planes (generally aroused togethan in zone 2 to 3 cm wide	
throughout section as thin (<1mm) laminae along cleavage planes (generally	
laminae along cleavage planes (generally	
laminae along cleanage planes (generally	
with Et. 10 January and as Javaes	
(1) 20 m) mars increasing	
(1 to do cm.), more inregard	i-out "
calcine veins that also generally	
13.20 h 13.31	
13.47 to 13.51	
13.71 to 13.65 two orecented sections	
included shale fragmants	
1540 to 1545	
1600 to 1608 - two faulted (contacted	
zones with abundant calcite	
VPining	
- well developed late fracturing	
acoducing on extremely broken core	
section	
1697 1916 Anaillacence linestone (Sullivan Formation): R<18100%	
- medium acev fine to medium grained	
arcillaceous limestone with 5 to 10	
percent dark arey thin (1 to 5mm)	
irrender discontinuous wavy orgillaceous	
bands and wisey microstrolites. The	
availlaceous component is often oxidized	
to an orange-brown colour particularly	
adjacent to fractures.	

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DEPT	FH (m)	NA. 1-	1'	CORE			CO	WIDTH ASSAY VALUE				
FROM	то	DESCRIPTION	ZATION	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VAL	UE	
		- Lilling of Jr L and L the core axis						0.0				
		- bedding at 15 to to the core axis.	1			-	-		1.00			
ettine i		This section does not contain the	-	10000		-						
		calcine veining prevalent in the over-						-				
		and underlying units.	0 00		-	-		-	-			
		- tindy crystalline pyrite in small blebs						-	e			
		(0.25 to 2mm) scattered within Section.	-			u.s.	14	100-0	201-22	-		
			0.0	0.								
19.16	24.28	Calcareous shale (Sullivan Formation).	12 -12	100%						- Second State		
		- dark grey, very fine grained and thinly	1									
		laminated calcareous shale with an	-	-								
		abundance of calcite veining, and a						-				
		few interbeds of argillaceods limestone	,	-								
		which contain this (< mm) shaly	·	+:				-				
		laminations.										
		- bedding at 70 to 80° to cove axis	-	_		1						
		- cleavage at 75 to 80° to core axis and				1.11		1. 11				
		orientated somewhat perpendicular to				o						
		hedding	1									
		- calcite veining consists of 1 to 10mm								-		
-		thick increasible precipiting veins that										
		denerally filled the cleaned direction										
		generally show this chaining to Emer	,			1						
		toucing anch filling orientated		1		-	1			10000		
-	- BRILLER	server d'S las la dis closure de										
		perpendicular to the cleanade.	-	10000		1					-	1.
		- pyrite occurs as larger (0.5 to smm)	-	1		-		1		-		4000
		grains that concentrate in or are		-		1000	-	-	1000			-
4		found associated with calcite veins,	-			-						
		- or as wispy disseminations parallel		-		-						
-		to pedding within the calcareous shall.		-								
			0			-		-				Lapor
24.28	31.77	Argillaceous limestone (Sullivan tormation):	14212	607			-					
		~ medium grey, fine to medium grained,	-	1	-		-	-	-			
		argillaceous limestone containing 5 to	1	- 17				1	I			
											A DESCRIPTION OF A	the second second in

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DEPT	(H (m)			CORE			CO	RE SAMPL	ES			
FROM	то	DESCRIPTION Minerali	zation	REC.	ASSAY NUMBER	FROM	TO	WIDTH	AS	SAY VAL	UE	
1								1				
		10 percent dark arey (or oxidized to an										
		ocange brown colour adjacent to										
		fractures), 1 to 10mm irregular,								12		
	1	kinked argillaceous zones and thin								-		
		(hairline to Imm.), discontinuous,		_				-				
		shaly laminae, or wispy microstyplites		-								
		-bedding at 80 to 90° to core axis								-		
		24.53 10 25.56						-		-		
		24, 83 to 25,09					_	-	-	-		
		29.45 to 29.64 - three thin calcareous shale		_		-	-			-		
		interbeds that are brecciated with			-	4				-		
		calcite veining (description similar to	-					-	-	-		
		overlying unit?	-					-	_	-		
		- minor irregular microfracturing, many		-					-		-	
		of which have calcite coatings. J									-	
		-minor fracture porosity		-				-	-	-		
A		- pyrite as small (0.1/ to 5mm), individual						_		-		
1		subrounded grains of finely						-	-	-		
		crystalline pyrite.						-		-		
							1.					
31.77	34.10	Interbedded calcareous shale and argillaceous	Py <1%	100%				-		-		
		limestone (Sullivan Formation):	/					4		-		
		-dark grey, very fine grained and						1 m		-		
		thinly laminated calcateous shale,				-		-			-	
1		interbedded with light grey argillaceous		1		-	_	-		-		
		limestone. These interbeds have	-			-	1	-		-		
		very thin (hairling), parallel, wavy		_				-				
		- laminations of shale that are			-	-	-	-				
		orientated at an angle to the bedding						-		-		
		producing a cross bedded appearance. J				-				-		
		- bedding and cleavage orientated						-		-		
		at 75 to 80° to core axis	1									
		- well fractured					1					

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DEPTH (r)			CORE			co	RE SAMPL	ES		SAMPLE
FROM	·0	DESCRIPTION	Mineralization	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VALUE	THIN-SECTION
	33	3.50 to 34.10 - four small (< 5m	m), clav,								
		fault gouge seams that	are								
		orientated parallel to bed	iding and					-		20	
		occur within the argillaceon	is shale								
		unit, which has been come	pletely								
		oxidized to an orange-brow	un colour.								
		- pyrite occurs as large (0.5	itoscm)								
		elongate blebs or concentri	ations				2	-			
		of fine crystals, generally	within the					1			
		argillaceous limestone, and	as fine		1						
		disseminations within the s	haly								
		sections.									
				-	-						
34.10 40	.04 Ara	aillaceous limestone (Sulliva	n Formation)=Py=1	% 100%							
	. 0	- medium grey, fine to coarse	grained,			1					
		argillaceous limestone, Cc	ontains			-					
		approximately 10% dark	arey (or						-		
		oxidized to an orange-brow	in colour								
		adjacent to fractures), thin	(1 to 10mm)	-		_					
		irregular kinked argillaceous	laminations								
	0.000	and thin shaly wispy microst	volitic								
		laminations. This section	also contains			-		ĝ.			
		a number of 10 to 30 cm. th	ick zones								
		where more regular, thin (1 to 3 mm),		1						
		even and parattel shaly la	minations	-							The second se
		are interbedded with equally	, thin				-				
		limestone units.									
	-	- bedding and shaly cleavage	at			1					
		about 370° to the core axi	s.					-			
		- limestone is composed of a	grains	_			-				82-2001
		somewhat coarser than Uth	e overlying			-					44.79 10 44.89
		units, and shows a mottle	d or J								
		burrowed texture		-						1	

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DERTU	1-1			RE			COR	E SAMPL	.ES			
DEPIN	(m)	DESCRIPTION Mineraliza	tion RI	C. A	SSAY	FROM	то	WIDTH	AS	SAY VAL	UE	
NOF	то			NU	MBEN				Pb (%)	20(90)	Hg (oz.)	non)
	1	- sedimentury boudingains of the limetron										
		is evident within the shale.	•									
		42.30 to 42.35		_						-		-
		43.45 to 43.85 - very thinly interbedded lime-						-			_	-
		stone and shale zones with marked										-
		movement or slippage along cleavage			_						-	
		within shales. Contains a few thin		_					-			-
		gouge or thin fault seams, the		-		1	1					-
		largest being 5cm of broken shale		_	_			-			- RC	-
		and clay. J		-		-		-		-		-
		- small (0.1 to 3mm) pyrite grains	-				-			-		
		throughout, and small fine	and the second second		_				-			1
		disseminations within shally zones.		_	-			-	-	-	-	-
		- contact with the underlying		-					-	-		-
		dolostone occurs across a 2cm.							-		-	+
		wide calcife vein orientated at 45°		_	_	-			-	-		-
		to the core axis							-	-		
	_								-			-
6.04	52.14	Dolostone and calcareous dolostone	Py= 1% 9	5%		L				1 and		-
		(Waterfowl Formation) :	1		_				-		-	-
		-medium grey, medium grained, calcareous	-	2	005	47.94	48.73	0.43	0.01	0.03	0.07	-
	_	dolostone and dolostone. These are			_		-	ं				-
		dolomitized equivalents of the overlying					-				-	+
		argillaceous limestone and contain										-
		sections with a well preserved irregular					-			ing.		-
		wavy "mottled" texture that is common										1
		to the overlying units.	-			-			-	-	-	+
		a weaker mottling due to burrowing		_		-				-	-	-
		is evident throughout the section U				-	-	-	-	-		-
		- bedding is at 20 to 30° to the core axis				-	-		-		-	-
		- numerous small styplites parellel to									-	1
		bedding		_		-				-	-	-
		- conoral 1 to 5 mm wide white				-	1.1		-	1		

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PROPERTY SHAG CLAIMS PROJECT MAG7

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DEPTH (m) CORE SAMPLES CORE REC. Mineralization DESCRIPTION ASSAY ASSAY VALUE FROM FROM TO TO WIDTH Pb(96) Zn(96) Ay(02. (ton) dolomite veins and some zones with 2001 51.31 52.14 0.83 0.01 0.07 0.07 irregular birdseye-like white dolomite infillings. - section is strongly microfractured - minor late, larger fractures with calcile coatings, orientated at 30 to 40° to core axis. 52.21-52.31 - clay seam / fault zone (missing cover Dolostone (Waterfowl Formation): 52.14 52.36 Sphal=12 -dark grey, medium grained dolostone Py= 3-5% 2002 52.14 52.36 0.22 0.09 1.09 0.08 containing approximately 30 percent black shale in thin (hairline to Imm) 100% wavy laminations, and some zones with irregular birdseye-like inclusions of white dolomite - bedding at 70° to core axis - one larger while, irregular vein and a few smaller veinlets of white dolomite, more or less paralleling bedding. - pyrite as fine disseminations throughout section and as a few larger grains associated with the coarser white dolomite -sphalerite occurs as finely disseminated, pale wine red coloured grains (up to 0.5mm in size) in small bands paralleling bedding 52.27-52.31 - a 4 cm. band with approximately 50 percent sphalerite grains up to Imm. in size.

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DEPT	H (m)			CORE			COR	E SAMPL	ES			
FROM	то	DESCRIPTION Mineraliz	ation	REC.	ASSAY NUMBER	FROM	то	WDTH	AS Pb(%)	Zn(%)	Ag Loz	ten)
52.36	53.12	Dolostone (Waterfowl Formation):	Py 1-3%				-					
		- medium to dark arey fine to medium	Soh=Tr		2003	52.36	53.12	0.76	0.01	0.02	0.08	
0.00	-	crystalling mottled slightly calcurerys	1		-							
		deloctone containing small (1 to 2 mm)		-				-				
-		increaular hindreys the lucions of									1000	100
-		while dolowite		1								
		- mine colomite.	1			-						
-		minor fracturing with colomite	-			-						
-		to courings, ottentated at steep anyous	-	-		-		-				-
		to core ans				-						
		-traces of sphalerife along mactures	-	-		-	-		-			-
-		- pyrite as time disseminations	1			-	-				-	-
2 10	FARA	Dilator minartial haira (Materfaul	E. 1.109		1.7		-	-				-
2.12	57.54	JOIOSTONE - MINERALIZED HOPIZON (WATCH TOW)	Dare							-		
		Formation) &	y 3-54	1			EA 59	1.07	-	10.15	~ 17	-
		- meailing to dark grey, fine to meailing		-	Shag	33,14	0-1.91	1.41		10.15	0.17	
		crystalline doistone with minor black	-			-	-	-				
		shally zones and some very coarsely	-	-		-						
		crystalline dolomite intilling irregular	+	-	-	-	-	-		-		-
		vugs and tractures	-	-		-	-		-			-
		-shaly zones contain abundant pyrite		-		-	-	-		-	-	
		as time diseminations and concentration	s	-	-	-				-	-	-
		of time disseminations paralleling	-		-	-	-		-		-	-
		bedding, and some larger grains up	-	-	-		-		-			-
		to I cm. in size.	-	-	<u> </u>	-	-	-	-	-		-
		- sphalerite occurs as pale wine red	-	-	-	-	-	-	-	-		-
_		coloured very finely disseminated		-			-	-	-	-	-	-
		grains that concentrate into moscues	-		L		-			-		-
		of very sphalevile rich zones	-		1		-	-	-	-	-	-
		having up to 50% sphalevite. A	-			-			-		-	-
		few coarse (0.5 to 2cm), recrystallized		-	-	-				-		
		sphalerik crystals within the	-				-	-	-		-	-
		zones of abundant very fine	-	-	-				-		-	
		disseminations.										

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DEPT	TH (m)	4 1. 1.	11	CORE	1		COR	E SAMPI	LES			
FROM	то	DESCRIPTION Mineraliza	tion	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS DL/Q	SAY VAL	UE De (ca)	
				-		-		-	Y DL 70	Znizej	ingreen	1
		- sphalerik is concentrated in an										
_	-	upper and lower zone separated by										
		a shall purite rich dolostone			G							L
		section that contains a few coarse							£			
		sphalerite crystals.		2					-			
		53.12 to 53.50 -upper sphalerite zone				115.5						L
		54.17 to 54.59 - lower sphalerite zone										
		- bedding at about 80° to core axis					1		-			L
		- minor vugay porosity										L
		-minor fracturing; early fine fracturing										L
		containing while dolo nrite and J										L
		later open fracture with some										L
		calcile coaled surfaces.				-			-			┞
		Dist , (Where & French: 10	0.7.09	1409					-	0.04 0.0	-	┝
4.54	56.65	Dolostone (Watertowi Formation) :	11.2.24	10h	2004	EAEO	15 70	1 19	0.01	0.04	0.09	t
		dolostone. Exhibits a light and	Spa- II		2007	57.51	53,10		0.01	0.01	0.01	t
		medium arey mottling (burrowing							-			L
		structure) Ji J				-					_	L
		55.48 to 55.60 - pyritic argillaceous dolomitic							_	-	-	L
		zone similar to overlying unit.				-						L
		- pyrite as fine disseminations,										Ļ
		particularly in the argillaceous zones										L
		56.30 to 56.65 -very pyritic rich zone										╞
		-moderately fractured (hairline) with					-					
		much of it coated with a calcile				-					-	1
		lining or fine pyrite.					-		_	_		1
_	-	minor fracture porosity	-	-		-			-		-	╀
-		DII (WI-PIE-VI)	0.7	100	Y.,	-	-	-	-	-	-	ł
56.65	96.93	Dolostone (Waterfowl Formation).	yew	100%	1	-	-	-	-	-	-	t
		- white to medium grey, medium crystalline,	-	-	-	-	-		-		-	+
		sucrosic dolostone generally exhibiting	-	-	-	-	-	-	-	-	-	t
		a mottled or pseudo preceivated appearance				-	-	L		1		L

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EPTH D	m)		CORE			co	RE SAMPLE	ES		
	TO	DESCRIPTION Mineralization	REC.	ASSAY NUMBER	FROM	то	WIDTH	A55/	Y VALUE	
-	-		-		-				_	
-	-	69.5 to 70.5 - extremely well breccipted section								
		of coarse while dolostone with about					- (A)			-
	_	50% vuggy porosity. Vug cavities	-	-		-		-	_	
-		are lined with curved dolomite		-	-			-		
+		crystals and small (I to 2mm) pyrite	-			_		-		
-		cubes and pyritohedrans.			1 3	-		-		1000
		- minor amount of styolites; weakly	-	-	-	-		-		
-		- traces of ourite associated with		-	-					
-		styplific surfaces in upper part of								
	100	section, but below 71 metres the								
		dolostone is very clean, medium to	-	1.0	-			-		-
_		coarsely crystalline, pseudobreccicited	-		-		-	-		
-		and quite vuggy. Vugs in lower	-		-		-			-
-		section are lined with curved		-		-			-	
+		dolomite crystals, and extremely	-		-	-	-			-
	-	large, noney coloured, (dogstooth)		-	-				1	1
+		- vuccus prosity throughout section is		-		-				
-		denerally 2 to 3 percent with some								
		extremely vugay zones in the lower								
		part of the section					1			_
		56.65-63.00 - minor intergranular and	-	-	-		1	_		-
-		fracture porosity		-	-			-	_	-
-		- moderate fracturing (2 to 4 per metre)	-	-	-	-	-	-		-
-		with some associated calcite veining		+	-	-	-			
+		generally orientated at 30 to 40° to	-	-	-	-		-		-
-	-	(braccipted) certains within the very	-	1	1				-	
-		Viview ZONOS		1						
				1						
9	3,93	End of hole.								

1224	Hole No Co-ordinate Core Size Purpose Started Completed Drilled By Logged By	ESSO RESOURCES CANADA LIMITED- DIAMOND DRILL L DIAMOND DRILL L BQ Test mineralization along Red Bed horizon Box 1 6.70 - 13.58 Box June 16, 1982 Box 2 13.58 - 20.53 Box June 16, 1982 Box 3 20.53 - 27.10 Box June 18, 1982 Box 3 20.53 - 27.10 Box Martin Lenters Box 6 40.95 - 48.24 Box Box 6 40.95 - 48.24 Box	- MINEF .OG at Fai x7 4 x8 5 x9 6 x10 6 x11 7	TALS 1A 67 15.25 - 6 16.24 - 6 16.24 - 6 14.92 - 1 14.92 - 1	NTS B.C. 55.25 m. 2.44 m. 8.24 m. 14.92 m. 15.59 m.	832-11	412	Latitude _ Longitude Datum Le Azimuth _ Dip Total Len Hor, Proje Vert, Proj	50 115 wei19 Ver gth75 het1	Page _1 ° 38' ° 30' 32 metr rtical 90° 2.59m (2- 5.59m	01 <u>10</u> es 18 feet)
DEPT	TH (m)	DESCRIPTION M:	lizati	COR	ASSA	Y Louis		DRE SAMPI	LES AS	SAY VALUE	-
FROM	то	Filtero			NUMB	FROM	TO	WIDTH			
Sut	170	Qual day	-			-	-	-			1
Surrace	e. 10	Overpuraen	-		-		-	-			1
670	9.47	Accillaceous limestone (Sullivan Formation)	0.0	1% 100	9		1				-
0.10	1.11	inginaceous rimestone (suitivan in mation).	17-	100 100	4	-	-	-			1
		-medium grey, fine grained simestone	1	-		-		-			-
		with a to a autor grey (or bridinged ins			1		1	-			
1000		thick incention ways or kinked				-	1	1			-
		arcillaceous bands and very thin.		-			-				
		wison argillaceous microstrolites.									
		- bedding at about 55° to cure axis									
		-minor styplife development along		100							
		wispy microstyplitic surfaces	1			-					
		-minor porosity along styolitic and		_	1						
		fracture surfaces			1	-				1	
	-	- minor fracturing; most with calcife	1								
		along surfaces.						:			
		- pyrite as small (0.1 to 0.25 mm)									
		individual grains disseminated									
		throughout the section	-								
					-	-	-				
9,47	10.80	Interbedded calcareous shale and argillaceou limestone (Sullivan Formation)	SRyc	1% 100	70		-	-			
		- medium grey, fine grained, 1 to 10 mm									
		thick limestone beds with thin		-				1			
		argillaceous laminae, interbedded with	1	-		-	-				1.1
		dark grey, very fine grained, 1 to 5 mm.			-			1			
		thick collareous shall units							1999		1

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PROPERTY SHAG CLAIMS PROJECT MAGT

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/04	(-)			CORE	-		CO	RE SAMPL	ES		- 1085
EBOM	(m) TO	DESCRIPTION Mineraliz	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASS	AY VALUE	_
1110								1			
		- bedding at 70 to 75° to core axis									
		- the section is cut by numerous	19			-					
		1 to 20 mm wide irregular calcite and		-				_		1	
		dolomite/calcite veins generally					-				
		intruding along bedding on skaly									
		cleavage surfaces.									
		-numerous microfractures (tension				-		1			-
		gash) cut across bedding.				-	1	1			
		-minor late fracturing with some						ci			
		associated porosity and oxidation of									
_		dark grey shales to a brown-orange		-				-			
		colour,				-					-
		- pyrite as very small disseminated		-							
		grains, especially in the calcareous									- I tomania
		shale horizons, and large (0.1 to 2mm)		-		-		-			
		grains in bands parallel to bedding.				-	0-		-		
		<i>d i 0</i>			-	-	harmen	-			
10.80	19.10	Argillaceous limestone (Sullivan Formation):	Py= Tr	100%		-	<u> </u>	-			
		- medium grey, fine to medium grained	1	1	-		-	-			
		limestone with 20 to 30 percent irregular					-	-			
		medium to dark grey (or oxidized		-							
		orange-brown), wavy or kinked	-		-		-				
		argillaceous bands and argillaceous	0-0				-	27.			
		wispy microstyolitic surfaces. Together	-	-	-		0.000	-			
		with the compositional mottling,					-				
		a burrowed mottling is also evident.	200	-		-					
		Burrowed sections are composed of		-		-				-	-
		- medium grained composite aggregates		-		+	-	-			
		somewhat courser than the unchurned	-	-			-		-		·····
		limestone.	-	-				-			
		- bedding is at 65 to 75° to cure axis		-		-		-			1-1
		- a few 1 to 5 mm. calcite veins	-	-		-	-	-			
		paralleling bedding.		_		1	1	1	1		

Hole No. 82-3

4735

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PROPERTY SHAG CLAIMS PROJECT MAG7 NTS BAJILE A

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DEP	TH (m)			CORE	REC ASSAY FROM TO WIDTH ASSAY VA							
FROM	TO	DESCRIPTION Mineraliz	ation	REC.	ASSAY	FROM	то	WIDTH	AS	AY VAL	UE	
												-
-		have been in the				-						
-		-minor hairline tracturing in radom		-			_					
		orientations, and some larger		-		-	-					
-		tractures parallel to bedding		-		-	_	-	-			
		-pyrile as time disseminations	-	-					-			
				-								
19.10	23.35	Calcareous shale and shale (Sullivan tormation):	Ry=Ir	100%								
		-dark grey, fine grained shale with minor	1			_	-					
		medium grey argillaceous limestone		-			1					
_		containing thin (21mm) clark grey										
		availlaceous laminations. Some dark			-							
		any argillaceous zenes, particularly										
		in bands adjacent to fractures, are				C						
		altered to an orame-brown colour.		1					i			
		-bedding and shall cleavage are at					5.1					
		in the end of a core axis					-		-			
		- Light to open small scale soft		-								
		- Han to oppose strain sector solo	-						-			
		Sealment actor mation 1922 tolaing		-				-	-			-
_		VISIBLE IN SHOUL SECTIONS (05TO SCM	-	-		-	-					
		amplitude and wavelengths)		-		-	-					
-		- abundant calcie veining as thin (Imm),	-	-	-	-		-	-			
		even, and parallel lawithae between	-	-			-					
		cleavage surfaces, and larger		-	-	-	-		-			_
	-	(up to 10cm) irregular veing with		-	-	-			-	-		
		associated brectiation and minor		-	-	-	_	-				1100
		faulting that also tends to follow	_	-	-		-					
		bedding and cleavage breaks.	-	-								100
		- pyrite as very finely disseminated										_
		- grains,										
		9.0										_
23.3	24.37	Argillaceous limestone (Sullivan Formation):	B=Tr	100%								1.1.
		-medium arey, fine to medium arained	/		1	1						
		limestown with 20 to 25% dark oney		1		1		-				
		(oxidized to orange-brown) very fine										
-	1	(oxidized to orange-brown), very time	-	1			-				-	
Hole No. 82-3

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DEPTH (m)	M	. 1.	CORE			col	RE SAMPL	ES		-
FROM TO	DESCRIPTION Mineral	zation	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASS	VALUE	
							-	_		
	grained, irregular wavy to kinked thin		-		-					
	argillaceous bands, and thin,	1. A.			-		+			-
	discontinuous, wispy microstyolific									
	surfaces.				-	-	-			
	- a textural mottling within the limestone				-					
	caused by burrowind is prominent.	-								
	Burrowed zones consist of larger						-			
	grains of composite particles			-					-	
	somewhat coarser than the unchurned				-		-			1000
	limestone.	-	-				len d			
	- bedding is at 70° to core axis					-	-			_
	- purite as fine, disseminated grains.		-		-	(a)				
						-	-			
1.37 27.56	Calcareous shale (Sullivan Formation):	Py=Tr	100%	,		-	-			
	- dark grey, fine grained shale and	1			1	-				
	calcareous shale with some medium									
	arey argillaceous limestone interbeds			-	-	-	-	_		-
	- abundant hairline to some thick									-
	veins of calcile and some dolomite.			1.000						
	Thin veinlets occur astension gash		-							
	fillings perpendicular to bedding on	1		<u> </u>	-	1	-	-		
	as thin laminae between cleavage		-		-			-		-
	surfaces. Thicker bands cut	-		-	-			-		
	irregularly more or less parallel to				-		-	-	1	-
	bedding		-							
	-bedding and cleanage are more		-			-		-		
	or less parallel at about 60 to 80°					-				
	- to core axis	-	-			-				
	- some microfracturing and moderate	-	-	-		-	-			-
	late fractures, offsetting calcite	-	-		-		-			
	veining, and allowing for oxidation			-	-					
	of shall units from grey to brownish		-		-		-			
	aren U/						1			

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DEPT	H (m)		ē., 2	CORE			CO	RE SAMPL	ES		
POM		DESCRIPTION Minerali	zation	REC.	ASSAY	FROM	то	WIDTH	ASS	SAY VALUE	
HOM					1						
P		- ourile as very fine grains disseminated									
		throughout the section						•			
		Intolugious instantion									
E/	רר רא	Aprillaceous limestone (Sullivan Formation):	Py <1%	100%							
. 36		medium area fine argined containing	/								
_		- medium grey, fine grander, containing									
	22 - 12 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	10 to ask, clark grey, very the grande		-		1					-
		shall in 1 to smin, into these					-				
		- wispy microstrolitic algunations		-							
		partings developed throughout, but				-					
	-	prominant as surfaces separating		-		1	-				
	ien inte	the more shally from less argulaceous		-			-	-	1		-
		zones.	1-392	1			-				
		28.50 to 28.80									68.
		37.28 to 39.16		-		1	0.0		-		
		40,40 to 40.75				-		1			1
		44.72 to 45.03 - main interbedded shall		-							
_		and limestone zones, Upper three		-	-				1 100 - 1 5 - 170 - 1	1	
		consist of 0.5 to 2 cm. interbeds of		-			-	-			-
		lighter grey limestone in darker			-	-	-				-
		grey shall with an abundance of		-		-	-	-			-
		calcile veining, much like other		-		-	-		-		
		calcareous shale horizons. The	-	-				-			-
		latter consists of sedimentary				-	-		-		-
		boudinaged 0.5 to 1 cm. limestone									
		hods within 0.5 to Icm, thick shale			-		1				
ti,		bode with no calcile veining	1					-			-
		through the zone		1				-			-
11.		hadding and shally cleavage at 60 to									
		ano to the core axis									1
-		- shall havisans share minor soft									Lores
		and wount deformations induced foldings		1							
<u> </u>		Sectionen unoveraling manual	1		1						
		- moderare lare microrructuring and		-	1	1					

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DEPTH (m)			CORE			COR	E SAMPL	.ES			
FROM TO	description Mineraliza	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS Pb(%)	Zn(%)	NE (02/	ton
										5	
	to core axis. Some with calcile										
	coatings Most with some fracture	+					*				
	porosity allowing for alteration of										
	ovrile to limonite and oxidation al										
	dark grey shall sections to an		3								
	orange brown colour.										í.
	- purite as fine grains disceminated	1.5									
	throughout or as larger grains (0.1 to										
	2mmt along surfaces separating									in and	
	shald and limestone beds on J	1									
	associated with the calcile veining.						- La comu				
	J										
7.77 49.45	Dolostone (Waterfow) Formation):	Py <1%	100%								
	- medium grey, coarsely crystalline (0.25	/		3001	47.77	49.45	1.68	0.01	0.11	0.08	
	to 0.5mml, sucrosic dolostone										
	-minor irregular argillaceous and									-	
	studitic surfaces generally orientated										_
	perpendicular to the core axis.	-					-				
	- a few 1 to 3 cm. calcite veins and										
	a 1 cm. dolomite vein orientated									-	
	perpendicular to the core axis.										
	- pyrik as small grains within										
	intergranular porosity of dolomite						*				
	rhomous.				-				-	-	
						Cardegood					-
19.45 51.69	Dolostone (Waterfowl formation):	Py <1%	95%	3002	49.45	49.90	0.45	0.01	0.23	0.08	-
	- medium grey, medium to coarsely	Joh= Ir	-	3003	49,90	51.69	1.79	0.02	0.23	0.10	⊢
	- crystalline, sucrosic dolostone	to 1%	-		-			-			-
	with some 0.5 cm dark grey, wavy		-		-						-
	argillaceous bands		-					-			-
	- bedding at 20 to 30° to the core		-	-	-			-		11.00	1
	axis, J		-								1
	- pyrite as fine grains disseminated						1				L

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weight and the second second

DEPT	H (m)		23.32	CORE	1000 Page 1000	3 m	COR	E SAMPL	ES			
DEIT		DESCRIPTION Minerali	zation	REC.	ASSAY	FROM	то	WIDTH	AS	SAY VAL	UE	
FROM	10				NUMBER				10(70)	Zn (%)	ng (oz./h	<u>on)</u>
		throughout section particularly the shall units										
		-sphalerife as wine red, individual										
		grains about 0.25 mm in size in			1							
		thin irregular bands more or less										
		paralleling bedding.							1			
												_
1.69	56.19	Argillaceous dolostone (Waterfoul Formation)?	Sph=1-3%	95%			15			-		
		-medium to dark grey, finely crystalline	1/= 1%		3004	51.69	52.30	0.61	0.02	5.48	0.48	
		argillaceous dolostorie with up to	1						1			-
		50 percent grey shale in thin wavy			3005	52.30	52.81	0.51	0.01	0.37	6.09	
		bands throughout section										
		-bedding at 55 to 75° to core axis			3006	52.81	53.07	0.26	0.01	1.09	0.10	
		- well fractured section in which		L								_
		argillaceous zones have a weathered			3007	53.07	53.76	0.69	0.01	0.14	0.06	
		look in places and some sphalevite								_		
		grains are weathered out leaving			3008	53.76	54.09	0.33	0.02	3.67	0.12	_
		behind porosity pits.	_	-								_
		- sphalerife as red, equant, 0.25 to 0.5			3009	54.04	54.44	0.35	0.02	2.09	0.27	
		mm, individual grains in 0.5 to 5 cm.										
		bands more or tess paralleling			3010	59.44	55.60	1.16	0.03	2.38	0.13	
		bedding.										
		- pyrile as fine grains disseminated			3011	55.60	56.19	0.59	0.01	1.76	0.23	
		throughout, but concentrated in the									-	
		shalf zones, and larger grains								-		_
		up to 3mm in size scattered										
		throughout.							Constraint.		1.1	11100
		53.96 to 54.02 - clay in fault gouge zone							-			
		55.30 to 55.60 - rubbly faulted section	Sec.									
-												
6.19	57.00	Dolostone + Waterfowl Formation):	Sal=10%	75%	,							
		- medium grey, fine grained rotton or	Py 21%		3012	56.19	57.00	0.62	0.01	1.77	0.59	
		precciated dolostone	/	Long Long						-		
	and the second second	- abundant fine (0.1 to 0.25 mm), red, equant.		1								

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(

/04			CORE	1997 N		CORE	SAMPL	ES			
DEPTH (m)	DESCRIPTION Mineraliz	zation	REC.	ASSAY	FROM	то	WIDTH	ASS	AY VALL	JE Ag (oz.	(ton)
FROM TO			2				-	101.00	2.10.101	3.0	
	the internet of a state of the second										
	individual sphalerite grains iniough										
	out darker dolostone and associated										
	with tractures in direcciated										
	dolostone.	-									
	56.19 to 56.39 - weathered or rotton,			-							
	argillaceous dolostone zone in							-			
	which most of the sphalerule has		-			:					
	been weathered out leaving small					-					
	pits resulting in very time backwork										
	structured or scintery dolostone.										125.00
	56.39 to 57.00 - brecciated and pseudo-		-					-	-		a lini dan da kasar
	brecciated dolostone section. Imm							-	-		
	to Icm. subangular pieces of							1			
	fine grained, while dolostone within		-		-		-				
	a medium to dark grey, medium				-		-				
	grained dolastone matrix			-							-
	- minor fracturing (late)					-				100	100
	- moderate development of styolites	-	-		-						-
	(2 to 5 cm spacing)				-			-	-		
	- pyrite finely disseminated throughout	-	-		-			-			Carry or
	section.	-	_					-		-	
	• • • • • • • • • • • • • • • • • • •	-			-			-			
57.00 58.93	Dolostone (Waterfowl Formation)	Sph=<19	6100%		-			The second se			-
	- light to medium grey, fine grained,	Py=Tr		3013	57.00	57.84	0.84	0.01	0.17	0.09	-
	partly pseudobrecciated dolostone.	/						-		10.00	-
	Some sections show burrowed		-	3014	57.84	57,96	0.12	0.01	26.10	2.62	
	mottling and in the lower part				-			-	-	-	
	of this section these burrowed			3015	57.96	58,93	0.97	0.01	10.77	0.12	-
	molds contain white calcite.						-	-	1	-	-
	- minor fracturing, but intense in					-	-			-	-
	small zines Calite coated.				-	-			-	-	
	- few large fractures running Darallel										
	to the core axis with calcile and						-				

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\$7.33 79/10

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DEPT	H (m)			CORE			co	RE SAMPL	ES			
FROM	TO	DESCRIPTION Minerali	zation	HEC.	ASSAY	FROM	то	WIDTH	A	SSAY VAL	UE	
90,0740				-				-		-		
		smithsonile along fracture surfaces										
		5784 to 5796 - this zone of scintral						16				
		availlacence delastrase with scholarite		-								
		minoralization Much althe fine										
		graine al schalenile have been										
		weathered out producing a very										
		fine boxwork-like structure Schelerik							-			
		occurs as prance-red of to 0.25 mm	1									
		sized individual equant crystals.										
		Zone also contains vellow to										
		creamy coloured smithsonite										
		- pyrite as fine disseminations and					-			1000		
		shall grains.										
		0										_
58.93	75.59	Dolostone (Waterfowl Formation):	Ry=Tr	100%								
		- very light to medium grey, generally	Sph: Tr			_						
		medium grained, well pseudobrecciated	-	-		_	_			-		
		and brecciated dolostone				-	_					
		- well mottled pseudo brecciated		-		-		-		-		_
à	-	dolustone having pockets of ruggy,	-	-		-	-	-	-			
		extremely coarse, while dolomite		-		-	_	-		-		
		connected by networks of coarse		-		-	-	1	-	-		_
		white dolomite surrounding			-			-	-	-		_
		medium grained, grey dolostane	-	-		-		-				
		- a tew, Marge, irregular calcile	-	-				-	-			
		veins brecciating small zones	-	-		-	-	-	-	-		
		- pseudo-breccicited zones generally	-	-	-	-	-	-		-		
		- intensely microtractured	-	-		-	-	-		-		
		-moderate large tracturing (2 to 3 per	-	-		-	-	-	-	-		
		metre) generally at 30-40 450		-				-	-		-	-
		to core axis with calcile coatings	-	-	-	-	-		-			
		-moderate vuggy and tracture	in line	-					-	-	-	
		porosity		_			5					-

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DEP	TH (m)		1.	CORE			co	RE SAMPL	ES	
FROM	то	description Mineraliz	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASSAY VALU	£
					6				.x. (****	
		-minor styolike development, generally				-				
_		separating somewhat different				-		1		
		dolostane (e.g. more pseudobrecciated	_	-		-	-			
		from somewhat less so). Developed	-			-		- 1		
_		at about 75 to 80° to core axis.			-	-	_			
		- pyrite as fine disseminations	-			-				
_		throughout, and as larger visible		_		-	-			
		grains along styplite surfaces	-	-	in i	-	•			
		and within some vugs.					-	-		
		- traces of sphalerite and/or				-		-		
		smithsonife within some vugs		_		-	-	-		
		and along some tracture		-		-				
		surfaces	-		-		-			
							-	-		
_	75.59	End of Hole.			-					
_				-		-				
-			-	-	-	-	-			
				-	-	-	-	-		
			-	-				-		
								1		
								14		
			1							
-										
	-									
				-						
			0							

733	Hole No. 82-4 DTAMOND DRTLL LOG Hole No. 82-4 PROPERTY_SHAG CLAIMS PROJECT_MA67_NTS 82J-11€12 Latitude 50°38' Co-ordinates 5+65 N.W.; 0+25 SW. PROPERTY_SHAG CLAIMS PROJECT_MA67_NTS 82J-11€12 Latitude 10°30' Core Size BQ 2 Core Boxes - Stored in Fairmont, B.C. Datum Level 1928 metres Purpose Jest mineralization along Red Bed Horizon. 2 Core Boxes - Stored in Fairmont, B.C. Datum Level 1928 metres Started June 18, 1982 Box 1 700 to 23.50 m. Total Length 26.82 m. (8B Drilled By Globe Drilling, Vancouver, B.C. Box 2 23.50 to 24.82 m. Hor. Project Logged By Martin Lenters Mineralization Rec CORE SAMPLES PTH (m) Description Mineralization Rec ASSAY FROM TO WIDTH ASSAY VALUE										
DEPT	'H (m)	DESCRIPTION Mineralization	CORE REC.	ASSAY	FROM	CO	RE SAMPL	ASS	AY VALUE	-	
FROM	то		-	NUMBER	FROM	10	WIDTH				
			-			_					
Surface	17.68	Overburden - includes one small ground piece						-		-	
-		of dolomitic core with minor small,	-			5					
-		réd sphalerik grains.	-								
		· · · · · · · · · · · · · · · · · · ·	1.01								
7.68	18.23	Clay seam - 20cm of core retrieved from	40%								
		this section, but it appears compressed.	-	-	-	-					
		Extremely pure and time grained; no				-	-				
		included 'silt, sand or rock trayments	+								
		of any size.	-								
			9 11-01			-					
1825	22.25	Argillaceous Limestone (Sullivan tormation): 12-13	6 45%		-	-	1994 - 198	-			
		- possibly overburden but probably	-			-					
		a displaced block more or less	-		-	-					
		Insitu. High degree of broken and losi core.					-				
		- light to medium grey time grained	-	1							
		lumestone with 10 to au percent		1		-					
		irregular wavy kinked bands and	-				-	-			
-		thin wavy, ascontinuous wispy	-	1		1				-	
-		microstyphitic argillaceous suitaces,	-			-	-				
	-	Much of the darker grey argunaceous		-			-				
		Danos wave been oxiaized to an	-					-			
		- Orange-brown or yellow-green colour.			1			1000			
		- Degaine at 15 to 25 to the cove axu	-				1				
		- moderately tractured with calcite along	-		1						
		surfaces	-		1						
				1	1	1	1		10 000.100	18.10 TV	

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PROPERTY SHAG CLAIMS PROJECT MAGT

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222				leane	-		co	TE SAMPLE	\$		1
DEPT	(m (m)	DESCRIPTION Mineraliz	ation	REC.	ASSAY	EROM	то	WIDTH	ASS	AY VALUE	
FROM	то				NUMBER	Thom					
		out leaving smooth voids	-								
		- some argitlaceous zones have been						1 7			
		altered to secondary clays.		-			_	-	-		
22.25	23.47	Broken fragments of limestone and dolostone		70%	_						
		-includes one ground up piece of core identified as McKay Group									
		suggesting that this section and	_						_		-
		overlying meterage to be overburden.			-					-	
23.47	24.08	Argillaceous limestone (Sullivan Formation):	R×1%	100%	1010	1					
		- overburden block, probably not far	1.								-
		from original insitu position.							_		
		-medium grey, fine grained limestone									
		with dark grey, wispy, argillaceous							-		
		microstyplific laminations		_							
		- bedding at about 80° to core axis				-					
		-pyrite as small grains, generally		-					-		-
		along microstyplitic surfaces.									
	-	/			-		-		-		-
24.08	26.76	Sand and blocks of limestone	Py=1%	10%		-					
		-small blocks of limestone cove within	'	-		_	-		-		1.000
		sands. Fairly neathered linestone with				-			-		
		pyrile alleved to limonite.		_			_		_		-
		10		-	-						
2676	26.82	Clay seam - cream coloured clay with		-		-					
	P	silly and sandy included fragments.				_				_	
				-		-			-		
	26.82	End of hole - (Jammed rads and lost cure	-	-					-		
		barrel; hole stopped due to excessive	-	-		-		-			
-		blocking and caving.)	_	-					-		
-		5 0'	-	-		-			-	-	
10						-					

31 //	Hole N Co-ordi Core S Purposi Started Comple Drilled Logged	BQ-5 H75NW; O+61NE BQ St mineralization along Red Bethorizon. June 20, 1982 June 23, 1982 Globe Drilling, Vancouver, B.C. Box 8, 10,61 to 17,30m. Box 1, 400 to 10,61m. Box 1, 400 to 10,61m. Box 1, 400 to 10,61m. Box 2, 10,61 to 17,30m. Box 1, 400 to 10,61m. Box 2, 10,61 to 17,30m. Box 1, 400 to 10,61m. Box 2, 10,61 to 17,30m. Box 1, 400 to 2507m. Box 1, 2507 to 33,43m. Box 2, 14,43m. Box 1, 2507 to 33,43m. Box 1, 2				NTS 8 3.50m. 5.49m. 4.52m. 0.83m. 7.455n. 0.85n. 2.17m.	2] \$	B L D A D T H V	atitude ongitude katum Lev kzimuth hip otal Leng kor, Projec fert. Projec RE SAMPL	50 _11 el_19 Ve th_11 et_11 et_11	0°38 5°30 46m 7tic 90° 2.17	31 21 etres al m. (3) m.	68feet)
EROM	TO	DESCRIPTION	Mineraliz	ation	REC.	ASSAY NUMBER	FROM	TO	WIDTH	AS	SAY VA	LUE	
		in str								-		-	
Succus	400	Overhurden											
an to be	1.00	Over builden											
9.00	31.40	Arcillaceous limestons and i	nterbedded shale	Ry 41%	95%								
	JII. IV	and argillaceous limestone (Si	Illivan Formations	/									
		- extremely broken section				-							
		- light to medium arey	fine argined										
		limestone in Zones 40	to 25m thick										
-		separated by I or 2 mg	we thick zones					-	1				
		of interbedded shall and	argillaceous										
		linectone	0										
		- the limestrone contains	irregular dark										
		arey or exidized orange	-brown wary										
		to kinked discontinuou	s microstrolites										
		and availlaceurs laming	itions	0									
		- bedding at 65 to 80° t	o cove and		1								
		and somewhat perpendi	cular to						1				
		cleavage that is at 50	to 70° to core						S				1122
		axis.			1		and.	-			-		
	776	- interbedding of shall a	nd limestone		£								
		consists of bolds of fe	w centimetres							2			· · · · · · · · ·
- 01		thick.											
		shalv section has extr	emely broken										
		cove, shows slickensli	le suffaces							1			
		and is intensely veined	by lake										
		calcite	9										
		- calcile occurs as coo	itings on										
		a configurationer and:	1 Jto 2 cm									1	

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DEPTH (m)		14	CORE			CO	RE SAMP	LES			
	DESCRIPTION Minerali	zation	REC.	ASSAY	FROM	то	WIDTH	A	SSAY VA	LUE	
PROM TO		1	-	NUMBER	-	-	-	-	+		-
	the second second second second	-	-	-	-		1000	-	-	1	
	defonite.	1.1									
	3910 to 39.40 - farge calcite-dolomite veined							_			
	preccipted section			1	1.2				-		
	-moderate to intense microfracturing				-			-			
	with moderale later, larger fractures						-	_	-		
	generally paralleling the cleavage	-			-	-	-	-	-	-	_
	direction J 0	-		S		4	-	-	-		
	-pyrite as fine disseminations and	-			1.1.1.1		-	-	-		
	small grains throughout.	-			-		-	-	-		
		0	-				-		-		
31.40 44.72	Argillaceous limestone (Sullivan tormation):	14/12	100%	4					+	-	
	-medium grey, fine grained, burrowed	1	-		-	-	-		+		_
	limestone with 10 to 20 percent dark	-	-		-	-		 		+ +	
	grey (or altered to an orange brown	-	-					+	+		
	colour) Irrequiarly wavy to kinked,		-			-	-	1	+		
	argillaceous bands or rargillaceous	-		<u> </u>		-	****	1	-		
	25.00 1 2/ 27		-					-	-		
	32,49 to 36.11				-			-	1		
	the and lingthing sections with								-		
	interes calcile using Shalo units	-			-		1				
	are showed						1.1				
	- microstralitic surfaces at 60 to 70°										
	to core axis										
	- intensely microfractured										
	- moderately fractured - large fractures								-		
	- (3 to 9 per metre) generally at 30 to								1	1	
	45° to the core axis								1		
	- pyrite as fine disseminations that		-	-	-				-		
	also concentrate in wisps that parallel		-	-	-	-	1	-	_	-	
	bedding.	-	-	-	-	-	-	-	-		
	<i>U</i>	1.000		-	1			-	_		

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0/04							_					
DEPT	H (m)	Minard	ind.	CORE			col	RE SAMPL	ES	CAN VAL	UE	
FROM	то	DESCRIPTION	1 zation	HEG.	NUMBER	FROM	то	WIDTH	AS	SAY VAL	UE	
										(m. 11)		
44.72	48.27	Calcareous shale (Sullivan Formation):	Py < 18	100%							11-11	
		- dark grey, very fine grained, thinly	-	-				•	-		1	
		laminated calcaneous shale, with	-			-		-	5			
ŝ		minor noncalcareous shall and	1									
		a few interbeds of argillaceous						1		1		_
		limestone Much of the section										
		has been oxidized, altering the						-	_			
		colour of the shale from above to					-				1	
		brown										
		- bedding at 50 to 70° to core axis										
	Diversion of the second	in limitione bods Shales show										
		minor small scale folding.	•					÷				
		- cleavage at 70 to 800 to core axis										
		and somewhat perpendicular to								Se ante		
1		bedding										
		-moderate veining. Generally as 1 to			_				1000			
		10 cm wide extremely coarse somewhat										
		irregular calcile calcile-auartz and				-		1				
		colcile-dolomite weins more than										
		less breaking along the cleanage				-			-			
-		direction				1000 C						
-		-moderate to intense microfracturing										
		with colorib coaled surfaces.								-		
- Janes		4812-4813 - small intensely charved shall										
		and clay gauge fruit seam.		1.22								
200	10.000	- and the ac uprof fine arching discerning ted						1				
		throughout the soction										
		Mittughour the adectore.				E		1				Nu Vii
40 17	50.09	Accillageous limestone (Sullivan Formation):	R <1%	5 100%								
10.4	00.01	-medium mer fine accined burrand	17									
		limestano with miner medium and										
		this availlaceous bands and minercus										
		(En maint dark may haiding										

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1.1.9

DEPTI	t (m)			CORE			CO	RE SAMPL	ES		
FROM	то	DESCRIPTION Mineraliz	ation	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VAL	UE
		discontinuous, wavy, argillaceous					-				
		laminations	+					•			
		-argillaceous laminations at 75 to 80°			-		-			l	
		to cove axis									
		48.85 to 48.92 - calcite veined, brecciated							1		
		section									
		-moderate fracturing									
		40.27 - large fracture at 60° to core								5	
		axis with 2 cm wide band where									
		adjacent availlarecus material has									
		audized from a med grey to an									
		oringe - brown colour.									
		- pyrite in small grains (0.1 to 0.5mm)									
		throughout section								-	
0.09	52.83	Calcareous shale (Sullivan Formation):	Py=1%	100%							1
		-medium to dark arey, very fine grained.	/							-	
		very thinly laminated calcareous								1	
		shale that is mildly sheared and		(1)							
		moderately calcite veined.									
		- cleavage well developed at BO to 85° to									
		core axis.									
		- calcile veins as thin (hairline to 2mm.)									
		even planar laminae between					1000			_	
ð		cleavage surfaces as thicker (1 to 2									
_		cm.) irregular weins that more or less				-					
		parallel cleavage and in very irregula	ł.								
		- preciated and contorted sections 1 to	r			-					
		five mm. wide along faulted somes				1					
-		- much of the shall have a sheared						1			
		appearanto									
		- moderale microfracturing									
		- several this (1 to 5 mm) clay secure						1			

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DEPT	'H (m)	and a second		CORE			CO	RE SAMPL	ES	20.00	
FROM	TO	DESCRIPTION Minerali	zation	REC.	ASSAY NUMBER	FROM	TO	WIDTH	A	SAY VALUE	-
									1		
		(laminae)									
		- core in this section is quite broken.									
		- ovribe as finely disseminated arains							1		
		throughout the shale							1.1		
					1						
52.83	65.37	Argillaceous limestone (Sullivan Formation):	Ry < 1%	100%		-					
		-medium grey, fine grained, burrowed,	1		-			1.5-0			
		orgillaceous limestone with up to 20%,									
		dark grey (or altered to an orange-brown					_	1	5.2		-4
		colourt, irregular wavy to kinked									
		araillaceous bands and thin wavy.									
		discontinuous argillaceous laminations.									
		- argillaceous laminations at 65 to 80°						-	_		
		to core axis.									
		- moderately developed styolites at 60 to 70°									_
	and the second	to core axis									_
		- moderale fracturing			· · · · · · · ·						
		55.06 to 55.09 } - coarsely crystalline calcile in									_
0		55,30 to 55.32) veins at 45° to core axis.				-	-		-		
		57.30 to 58.75 - intensely veined calcile veins.								-	
		58,69 to 58.75 - clay seam at 60° to core axis			1				-		
		- pyrile as small (0.1 to 0.25) grains						1.1			
		throughout section.									
		0		_							
65.37	67.10	Calcareous shale (Sullivan Formation):	Py 41%	100%				1			
		-dark grey, very fine grained thinky	1	1.000							_
		laminated calcareous shall with some									
		- 1 cm thick argillaceous limestone						-			_
	·	interbeds J							C		
		- moderately fractured and calcile			1			·			
	h.	veined	1								
		-pyrile finely disseminated throughout	1								
		section			-						

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DEPT	'H (m)			CORE			co	RE SAMPLE	S	
FROM	то	DESCRIPTION Mineraliz	ation	REC.	ASSAY	FROM	то	WIDTH	ASSAY VA	ALUE
			1					++		
7.10	84.52	Araillaceous limestone and calcareous	Py=Tr.	100%						
		shale (Sullivan Formation):	1.							
		- medium area fine arained limestone								
		with this irregular wave to kinked								
		availlaceous laminations interbedded		1						
		with some scresp of dark arey								
-		cleaved calcareous shall.								
		- bedding and cleavage at 65 to 80°								
		to core arxis								
		- moderately fractured with calcile	-							
		veining within shale interbeds.								
		-pyrile finely disseminated throughout							-	
		the more shally sections with		10						
		some grains in limestone sections.								
		<i>U</i>		1						
1.52	112.17	Dolostone (Waterfowl Formation):	Ry=Tr	100%	-					4
		-very light to medium grey, fine to	Sole=Tr				-			
		medium grained with some very		-			-			
		coarse sucrosic sections. The								
		dolostone is generally well pseudo-	_	1						-
		precciated and well precciated.								-
		-much of the lower part of this	-		-				-	
-		have is a white medium to coarse								
		dolostone with good ungay porosity			Contraction To		_	1		-
		where the rugs are lined with -				-				
		dolomite crystals.						and the second second		
		- moderately well developed styplites				-			_	
		- throughout section generally				-				
		separating somewhat different		-						
		dolostone Junits								
		- well fractured (2 to 3 fractures	-							-
		per metre) at steep (30 to 40°) angles	-			-				
		to the core axis Fractures are								

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DEPT	(H (m)	10 10 10 10 10 10 10 10 10 10 10 10 10 1	00			co	RE SAMPL	ES		
FROM	TO	DESCRIPTION Mineralization	REC	ASSAY NUMBER	FROM	то	WIDTH	ASSAY V	ALUE	
				1.000						
		lined or could with calito and								
		wat deliverte		1						
		trans of avila of swall (025 t	-		1		-			
		- mades of put the us smood (Dias to	+		-				-	
		discount grains with days and		-						
		bisseminated through duo stone.	-			-	1			
-		- traces of sphatchike or smithsonite	-							
		along some tractures.				1				
	112 12	End of Halo	-	-						
	114.17	End of now	-	1		-	-			
			-						1	
			-	1	-		-		1	
-							-		1	
			-		-	-				
				-	-					
							1			
				1						
-										
									1000	
-										1
		· · · · · · · · · · · · · · · · · · ·					1			
										1
								1		
-										
1				Sec.						

		ESSO RESOURCES CANADA LIMITED - DIAMOND DRILL L	MINERA O G	LS					Page	<u>_1_ot_q_</u>
	Hole No.	BODERTY SHAG (LAIMS PROJE	T MA	57	NTS 8	2.7-114	12	Latitude	60-38	
	Co-ordina	1+25 NW; 0+51 NE		-	110 2			Longitude	115° 30'	nieros
	Core Size	BQ 13 Core Boxes - Store	ed in F	airmo	nt, B.C.			Datum Lev	rel 1940 met	res
	Purpose	Test mineralization along Red Bed horizon Box 1 3.96 to 10.76m. Box	8 513	to 51	8.51m.		0.0	Azimuth	Vertica	
	Started	June 23,1982 Box2 10.76 to 17.43m. Box	9 58.5	1 10 66	.46 m.		1	Dip	400	
	Complete	d_ June: 26, 1982 Box4 24.26 b 31.30m Box	11 72.8	9 to 8	.83 m.		1	Total Leng	th 90.83m.	(298 feet)
	Drilled B	Globe Drilling, Vancouver, B.C. Box5 31.30 to 38.05m. Box	12 81.8	3 40 80	8.63 m		- 0	Hor. Projec	et	
1713	Logged E	W Martin Lenters Box7 49.97 to 61.33 n.						Vert, Proje	0.83 me	tres
DEP	TH (m)			CORE			co	RE SAMPL	ES	
FROM	то	DESCRIPTION Mineral	ization	HEC.	ASSAY NUMBER	FROM	то	WIDTH	ASSAY VALU	E
			1	1						
c. t.	201	Quarterilas	-	-	12.9	-		-		
Surrace	5.46	Overourden	-	-		1	-			
2.04	0.20	Detter that a low East 10	0 19	1		· ·	-			
5.46	4.52	rigillaceous limestone (sullivan formation).	yein	1006		-		-		
	-	- medium grey, very time grained limeston	2	-		-	-			
		with very thin, dark grey, wavy, shaly	-	-		-	-			_
-		laminations (wispy microstyplites)	-	-	-		-		-	
		and some irregularly mothled, dark	_	1.		-	-			
		grey shaly interbanding. The latter	_							
		are often oxidized to Jan orange-	_	-			_			
	10 m	brown colour in thin bands adjacent	6				- C	1.1		-
	1	to fractures U	1							
		- bedding at 70 to 90° to core axis								
		5.65 to 5.72 - 7 cm. thick calcite vein								
		within a more shalv section								
		9.29 to 9.32 - 3 cm. thick calcile vein								
		-minor fracturing paralleling bedding						1		
		with adjacent houds of arithting J						1		
		- avcile as lover acaine wether low								
		in size and and the discourse				-	-			1.00
		ordinated in the man and larger		-			-			
		Lastic warry in the more orginaceous	-	-				-		
		SECTIONS . /					-			
0.20	10.40	Charles le le un Carlina	0		-	-	-	-		_
1.52	10,40	calcareous shale (Sullivan Formation):	17412	100%			-	-		
		- dark grey, very tine grained calcareous					-	-		
		shale with some interbands of	_	-	-					
		medium grey limestone.		-			-			
		- bedding and cleavage at 70 to 90°		1	in the second se			1	and the second s	

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144.6

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DEPTH (m)	M	1100	CORE			col	RE SAMPL	ES		
FROM TO	DESCRIPTION MINERALIZA	Tion	REC.	ASSAY NUMBER	FROM	то	WIDTH	AS	SAY VALU	E
						-				
	to core axis, with bedding nonparallel									_
	and varying over short distances				-		•			
	to give a crossbedded appearance.	-								
	- moderately fractured		-							
	-minor calcite veining as thin (<1cm)									
	veins orientated both subparallel				-			-		
	and subperpendicular to bedding.									
	-pyrile occurs as very fine grained									
	crystals disseminated throughout and		1							
	as some wispy concentrations or									
	blebs of fine pyrite paralleling bedding	-					100			
0.40 12.42	Argillaceous limestone (Sullivan Formation):	Ry=Tr.	100%							
	-medium arey, very fine grained	/								
	limestone with numerous, thin (1 to	-					-			
	5mm), irregular wavy to kinked				1					
	shaly laminations. The darker									
	grey shall laminations tend to									
	oxiclize to an orange-brown colour				1					
	within bands, a few centimetres					ç.				
	from fractures.					1				
	- moderate fracturing generally at				1	<u> </u>			-	
	steep (10 to 45°) anotes to core axis.							-		
	- pyrife as very fine crystally disseminated	1								
	throughout.					1				
					1.000					-
242 21.54	Calcareous shale (Sullivan Formation):	Py=Tr	100%							
	dark grey, very fine grained calcareous	/								
	shale interbedded with some (1 to 3 cm)									
	medium arey, non parallel argillaceous		-				1			
	limestone.									
	-bedding at 65 to 80° to core axis				-					-
	- cleavade at 10 to 70° to core axis and									1

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DEPTH (m)			CORE		-	co	RE SAMPL	ES		
SPOM TO	DESCRIPTION Mine	ralization	REC.	ASSAY	FROM	то	WIDTH	A	SAY VAL	UE
FROM		1	-	NOMBER		AR 2.		11	-	
	the doubt of in shell continue		-			11-000			1	
	strongly developed in shally sections			1					1	1
	- soft seament deformation and some		-						+	
	tolding and slumping evident in shall	25.	1-		-	-			Acres 1	
	- moderately veined with calcile and		-							<u> </u>
	some quartz as coursely intergrown	<u> </u>	-	1	in.			-		
	crystals in 0.5 to 4 cm. pregular		1	-	-					
	bands that tend to follow cleanage			- ·		4				
	directions.					τ.				
	- pyrite as five crystals and blebs									
	generally concentrated in more									-
	shaly sociens									
	Shurg sectors.			1						
2154 314	Acaillaceous limestone (Sullivan Formation	on 1: R=Tr	100%							
a	medium anout fine arguined limpatone	11								
	with dark arey this (harding to 3 cm					and the second		_		
100 C	irregularly ways or kinked calcareon	2								
	shally lowing tions producing an									
	inegular mottled texture							130		
	- same mottling due to burrowing									
	- bedding is mertially deferring the									
	allow his changed his appears		10000		Contraction of the second					
	appropriate to the second the second			1		NI.	4		1	
	arientation at 10 10 00 proceedicule			1						
	axis and somewhat perpendicuse									
-	to cleanage	ie	-	1	1	-	1		-	
	- cleanage at 60 to bo to cove an		-			-	1	-	-	
	- minor tracturing, generally at		1		-		-		-	
	20 to bo to core axis. The		+	-	-		-		-	
	- dark grey calcareous shales are		-			-				
and a state of the	oxidized to an orange brown colo	our,	-	-	-	100000	+	-		-
	up to a few centimetres adjacent	to	-					-		
	fractures		-		1 - 200	-				
	25.10 to 25.80 - 5 to 10 percent calcile					-				
	veining subparallel to bedding a	nd								

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DEP				CORE			CO	RE SAMPL	ES			
FROM	TO	DESCRIPTION Mineraliz	eation	REC.	ASSAY NUMBER	FROM	то	WIDTH	A	SSAY VAL	UE	
FROM			T	-								
		- Decument										
		Prila a fair and (a) to 2mm)	1					+				
		- pyrite as a few small (
		and occasionally as larger (up to smm)										
		grains generally associated with the		-								
		more shally sections. Pyrik has been	-	1							1	
	the second	oxiclized to limonite.		-		-	1	-		1		- 14
			0	1000						-		
31.48	37.19	Calcareous shale (Sullivan formation):	17-11-	10010		-	1. 1.0	-				
		-dark grey, very time grained calcareous	-			1		-	-	-		
		shale interbedded (cm. scale) with		0			1000	1000	-	-		
_		medium grey limestone containing	1.4			-	-			-	<u> </u>	- chi
		thin (hairline), shaly laminations					-	-	-	1		
		orientated at an angle to the				1	-		-	-	-	÷
		bedding.	-	-	-	-	-	1	-	-	+	
		- the shally sections tend to be oxidized					-	-	-	4	+	
		to an Grange-brown colour adjacent	-	-		-						
		to fracturing.		-		-	-		-	19 - 15 B		
		-soft sediment deformation apparent					-			_	1	RE
		as small scale open folding in shaly			-					-	-	
		sections		-		-					-	
- E		-several bedding blocks have been					-	-	-	_		
		rotated due to early slippage parallel			1						+ +	
		to cleavage directions.	1			1		-		-		
		-bedding generally at 70° to core	1.					_				
		axis a sixo						-	-			14
1. 19. T		- cleavage at 60 to 80° to core axis				1						
		and somewhat perpendicular to										
1		- bedding		1.				-	-			
		this (bairling to 5cm), irregular veine										211
		of colorile with some augusts that								-		
	1	land to order orientations subparallel										
		and subconcendiculors to the come								34063		
		and subperpendicular to the core										
		WNS.	and the second				. 71		1111	All the	200 - 20 - 200	

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DEPTI	H (m)			CORE			co	RE SAMPLE	\$		
FROM	то	DESCRIPTION Mineraliz	ation	REC	ASSAY NUMBER	FROM	то	WIDTH	ASSAY	VALUE	
		-moderale fracturing facilitating									
		the exidention of much of the	1.13								
		shale to an orange-brane colour									
		- ourite as very find disseminated									
		oroine									
		giving:							_		
210	29.25	Amillocome linestone (Sulling Eventing).	Date	95%	-	-					
114	51.55	Highlaceous innestone Countrals to manorie	7-1.	15/0							
-	-	- meailing grey, very tine grained									
-		availaceous limestone containing		-					-		
-		40-percens (srange- brown oxidized)			-					-	
-		shall zones in a mottled texture.		-				+ +			-
-		- bedding at about 70° to core axis	-	-	-					-	
		-minor calcite veining					-	1 1		-	-
		- moderate tracturing, generally at	-	-	-		-				-
	-	30 to 40° to core axis, producing		-	-	-	-				-
-		some rubbly core sections and		-	-		_		-		
-		allowing for an alteration of the				-	_		-		-
		shale to an orange-brown colour.				-	_		_	-	
		-minor fracture porosity		-					-		-
	-	- pyrile as very fine grains disseminated	-	-				-	-	-	-
		throughout section.		-		_				-	
		U								-	-
1.35	44.78	Calcareous shale (Sullivan Formation):	Py=Ir	100%		_		1		_	
		-dark grey, very fine arained calcareous	1								
		shall interbedded (on a centimetre									
		scale) with medium grey limestone									
		containing thin (hairling) shally									
		- laminations orientated at an angle					6				
		to bedding.									
		- much of the shally sections has been									
		axidized to an orange-brown colour					1.				
		porticulously in the wall fractured									
-	_	Porticularly in the west traditived									

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DEPTH (m)	· · · · · · · · · · · · · · · · · · ·	cor	RE	-	co	RE SAMPL	ES	
FROM TO	DESCRIPTION Mineralizatio	A RE	C. ASSAY NUMBER	FROM	то	WIDTH	ASSAY	VALUE
				1 I				
	-bedding at 75 to 90° to core axis.							
	- cleavage at 60 to 80° to core axis and							
	somewhat perpendicular to bedding.					-		
	-moderate calcite and guartz-callite	_						
	weining as thin very regular	_	_	-	-			
	laminare between cleanage planes							
	and thicker (up to local irregular							
	veins which also tend to follow		_					
	the cleavage direction							
126	-moderate Stracturing				-			
	- purite as fine arains disseminated	_						
	throughout the section.					-		
4.78 52.78	Argillaceous limestone (Sullivan Formation) & A.	4%100	%					
	-medium arey, fine grained limestone.			_	1 car			
	with approximately 30 percent, orange-			_				
	brown coloured (oxidized) more shall		-					Contract of the second
	component in an irregular wavy or	-						
	kinked mottled texture					1		
	- bedding has been somewhat allset							
	but appears to be at 70 to 800 to							
	the core axis					1		
	- cleavage at 60 to 80° to cove axis and							
	somewhat perpendicular to bedding.							
	-minor calrite veining in irregular.			2.4 million				
	centimetre sized withs breaking along						1	
	cleuvacio				-			
	well fractured with a preferred							
	orientation of 30 to 50° to core axis							1
	Minor fracture porosity and fractures							
	coated with calcite							
	- purite as very finaly disseminated							

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				CORE			co	RE SAMPL	EŞ	Second Second Second	
DEPT	TO TO	DESCRIPTION Mineraliz	eation	REC	ASSAY NUMBER	FROM	то	WIDTH	ASSA	Y VALUE	
FROM	10			-							
50 70	54 07	Calcoreous shale (Sullivan Formation):	Py 41%	100%							
24.10	07.01	-dark area year fine around calcareous	1					-			
		shall interpedded (cm scale) with	-								
	-	medium arey linestrup containing							2	_	
		this (hairling) shall laminations									
		orientated at an angle to bedding.							1.		
		- much al the dayly grey shall material	-	0.1			-	1		_	
		has been exidized to an orange -brown			-	-				-	
		colour within faulted sections and					_				
8		in bands a few cms wide									_
1		adjacent to fractures									
		- bedding at 70 to 90° to core axis							-		
		- cleavade subparallel to bedding and					-				
		at to to so to core axis				_	_	-			
		-minor calcite veining as thin (1.to		-		-	-	-	-		-
11		2 mm) laminar between cleavage		_		-	-	-			
		plane surfaces.		-			-	-			- and
		- moderate fracturing, which together		-	-	-	-	-			-
		with a well developed cleavage		-	-	-	-	-			-
	1	produces a well broken section of	-	-	-		-	-		_	
		Co18	-	-	-	-	-				
1000		- pyrite as very finely disseminated	-	-	-	-	-				
1		grains throughout section		-	-	-	-	-			
		3 0.	0	-	-		-		-		
54.87	61.53	Argillaceous limestone (Sullivan Formation):	Py<19	2 100%		-	-	-			
		J - medium grey, very fine grained	1	-	-	-	-	-			
2-10-		limestone with some inregular wavy	-	-	-	-	-	-			-
	Sec. 20	- to kinked bands of dark grey more	-	-		-	-	-			
		shaly interbands producing a mottled	-	-		-	-	-			
		texture. Some of the latter are oxidized	-	-	-	1	-	-			
		to an orange-brown colour	-	-		-	-				
		- bedding at about 70° to core axis	-	-	-	-	-		-		
		- moderately fracture as irregular			1	_	_				

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DEP	TH (m)			CORE			co	RE SAMPL	(S			
FROM	TO	DESCRIPTION Mineraliza	tion	REC	ASSAY	FROM	то	WIDTH	ASS	AY VAL	JE	
	-		1	-		-	-	- 1	-		-	_
		surfaces that assessed by follow	-			-	-					- 54.555
		the bodding plane direction Fracture	1.1									
		surfaces stowy slickenslide surfaces										
		and development of sericite.										
		-minor fracture porosity										
		- pyrite as small individual arains		-								
		scattered throughout section		-								
		otorie in organia decision										
61.53	90.83	Dolustone (Waterfowl Formation):	Pv 49	100%								
		- while to medium arey medium	Soh=Tr	1							1.14	
		arained completely delomitized	10 <1%									
		argillaceous limestone. A relict										
		irregular wavy to kinked mottled										
		texture tracal of the overlying		1								
		argillaceous limestone is well										
		preterved in places down to a										
		depth of about 77 metres										
		- generally well osendobrecciated										_
-		Between 77 and 89 metres with									1	
		networks and pockets of coavsely		1						1		
		crystalline while dolomile within					_					_
0		médium aver, finer dolostone.						:				
	-	- below 84 method the dolostone is	-								Surger St.	
		pure white, coarse and vuggy,							-			
		- minor styplific development 00 particular	ty									
		well developed deeper in hole.	ł				-					
		- well fractured										
		numerous thin fault gouge zones	-									
		along some well developed fractures	-									
_	-	74.54 to 74.78 - clay seam (fault gouge)			-							
		-moderate porosity as fracture, a	-									
		intercrystalling and vugay porosity										
		-minor calcite veining UV							-			

Hole No. 82-6

PROPERTY SHAG CLAIMS PROJECT MA 67 NTS 82 J-11 \$12 Page 9 of 9

DEPTH (m)			CORE		-	CO	RE SAMPL	15		
FROM TO	DESCRIPTION Mineraliz	tation	REC.	ASSAY NUMBER	FROM	то	WIDTH	ASSAY	VALUE	_
							-		_	
	- pyrile findy disseminated throughout	1							_	
	section and as a few small				-		-			
	grains		_						_	
	- traces of sphalerike throughout								_	
	section, denerally as very small								_	
	(40,1 mm) XIS within vugs.									
	along fractures and within						_			
	some more avgillaceous dolomite				_		_		_	
	zones. (Best grades as estimated						_		_	
	visually would run about 6.1 to 0.2		-		-					-
	percent Zn over a foot on two.)	1								
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90.83	End of Hole.	-			-	-	-			1.1
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APPENDIX III

Assay Analyses

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SHAG CLAIMS

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Chip Samples Assayed

SAMPLE	SAMPLE		WIDTH	1000	ASSAY VA	LUE
NUMBER	LOCATION		METRES	Pb (%)	<u>Zn (%)</u>	Ag (oz/ton)
C-101	Christmas Showing part)	(lower	0.60	0.01	0.67	1.58
C-102	Christmas Showing middle part)	(lower-	0.15	0.01	33.35	2.93
C-103	Christmas Showing middle part)	(upper-	0.15	0.01	8.85	0.66
c-104	Christmas Showing part)	(upper	0.23	0.01	10.72	0.89

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SHAG CLAIMS

Split Core Samples Assayed

						ASSAY N	ALUE
SAMPLE NUMBER	DRILL	FROM	TO	WIDTH	Pb (%)	Zn (%)	Ag (oz./ton)
1001	82-1	36.08	36.34	0.26	0.01	0.12	0.17
2001	82-2	51.31	52.14	0.83	0.01	0.07	0.07
2002	82-2	52.14	53.36	0.22	0.09	1.09	0.08
2003	82-2	52.36	53.12	0.76	0.01	0.02	0.08
Shag #1	82-2	53.12	54.59	1.47	· +)	10.15	0.17
2004	82-2	54.59	55.78	1.19	0.01	0.04	0.09
2005	82-2	47.94	48.37	0.43	0.01	0.03	0.07
3001	82-3	47.77	49.45	1.68	0.01	0.11	0.08
3002	82-3	49.45	49.90	0.45	0.01	0.23	0.08
3003	82-3	49.90	51.69	1.79	0.02	0.23	0.10
3004	82-3	51.69	52.30	0.61	0.02	5.48	0.48
3005	82-3	52.30	52.81	0.51	0.01	0.37	0.09
3006	82-3	52.81	53.07	0.26	0.01	1.09	0.10
3007	82-3	53.07	53.76	0.69	0.01	0.14	0.06
3008	82-3	53.76	54.09	0.33	0.02	3.67	0.12
3009	82-3	54.09	54.44	0.35	0.02	2.09	0.27
3010	82-3	54.44	55.60	1.16	0.03	2.38	0.13
3011	82-3	55.60	56.19	0.59	0.01	1.76	0.23
3012	82-3	56.19	57.00	0.81	0.01	7.77	0.59
3013	82-3	57.00	57.84	0.84	0.01	0.17	0.09
3014	82-3	57.84	57.96	0.12	0.01	26.10	2.62
3015	82-3	57.96	58.93	0.97	0.01	0.77	0.12

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ML/gf 10/11/82

MIN-EN Laboratories Ltd.

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705 WEST 15th STREET, NORTH VANCOUVER, B.C., CANADA V7M 1T2 TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project		Shag		Date of report .	July	27/82.
File No.	2 -	387		Date samples rea	eived	July 22/82.
Samples su	ubmitted by:	M. Len	ters			
Company:		Esso.1	Minerals			
Report on:			+			Geochem sample:
)						Assay samples
Copies sen	nt to: 1	EssoMin	erals, Ca	lgary, Alt	a.	
	2 3					
Samples:	Sieved to r	nesh		Ground to mesh	-100	manno municemonio
Prepared	samples	stored 🕱	discarded 🔲			
	rejects	stored 🕱	discarded 🔲			
Methods o	of analysis: .	Acid di	gestion-c	hemical an	alysis	•
Remarks:		•				
: `			************************			

MIN-EN LABORATORIES LTD. 705 WEST 15TH STREET, NORTH VANCOUVER, B.C. V7M 1T2

PHONE: (604) 980-5814 OR (604) 988-4524

Certificate of Assay

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237-4th Ave. S.W.

PROJECT No. Shag

Calgary, Alta.

File No. 2-387

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MIN-EN Laboratories Ltd.

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705 WEST 15th STREET, NORTH VANCOUVER, B.C., CANADA V7M 1T2 TELEPHONE (604) 980-5814

ANALYTICAL REPORT

	Shag	Date of report	July 8/82.
File No.	2 - 2 5 0		ceived June 29/82.
Samples subm	nitted by: M. Ler	nters	
Company:	Esso 1	Minerals Canada	
Report on:	*		Geochem samples
) }		20	Assay samples
Copies sent to	>:	3	
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	2 Esso Mine	erals Canada, Foirm	ont Hot Springs, B.C
		and an	
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File	No.	
Date		June 24, 1982
Sam	ples	Core

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	.17 J Hereby Certify that th Assays made by Me upon the here	.17 10.15 I Hereby Certify that the above results are those assays made by me upon the herein described samples

ned one month.

Pulps Retained one month unless specific arrangements made in advance.

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Assayer

APPENDIX IV

Shag Claims Information

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NORK SHEET APPLICATION OF WORK ON MINERAL CLAIMS AND 2 POST CLAIMS Mining Division									Vork t Phy D Dril Leg Geo R Pro S Leg	ype code: isical ling al Survey (s logical Survey specting al Survey (F	Standing of claim as a result of this recording				
-tu	(2)) (3) 5e C/L in 1k \$	(4)	(5) No. of Units	(6) Record No.(s)	(7) Month of Record	(B) Penalty Fee(s) S	Approved work being spi as per statement (include		ing applied	Credits in PRIOF	nmediately R to this	(14)	Claim now ha	
Work No.(1)	of Work		Name(s) of Claim(s)					(9) Value In \$	(10) No. Yrs./ Claim	(11) Fee Paid	(12) WORK	(13) RENT in S	of Expiry.	(15) WORK in \$	
22480/22559	G		SHAG 1	20	1.58	AUG		8,000	2	400	_		1984	24.2	
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(1) (1) Work No.(s)	(2)	(3) •• C/L in rk \$	(4) Name(s) of Claim(s)	(5) No. of Units	(6) Record No.(s)	(7) Month P of Record	(8) Penalty Fee(s) S	Approved work being applied as per statement (includes work to be credited)			Credits immediately PRIOR to this recording:		(14) Year	Claim now has credits of:	
	of Work							(9) Value In S	(10) No. Yrs./	(11) Fee Paid	(12) WORK in S	(13) RENT in \$	of Expiry	(15) WORK in \$	(16) RENT In \$
22608/2268	G	-	SHAG 3	20	160	Aug		8,000	.2	4:00			1084	1 A.	
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22768/22815	G		SHAG 5	12	162	Aug		4,800	.2	240			1984	1.00	
22816/22887	G	2	SHAG 6	18	163	Aug		7,200	.2	360			1984		-
22888/22947	G		SHAG 7	15	164	Aug		6,000	.2	300			1984	- A.	1
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APPENDIX V

Statement of Qualifications

CERTIFICATION

I, Martin H. Lenters of 1433 - 27th Street S.W., Calgary, Alberta, do thereby certify and declare that:

- 1. I am a graduate of the University of Toronto (1976) with a B.Sc. in Geology (Specialist Degree), and that I have taken three years of Graduate Studies at the University of Toronto.
- 2. Since 1976, I have worked as a geologist in Nova Scotia, New Brunswick, Saskatchewan, British Columbia, the Yukon and Northwest Ontario, Territories, and that I have been employed by Esso Resources Canada Ltd., in their Minerals Exploration department since April, 1979.
- 3. The information included in this report is based on literature research, field mapping, geological prospecting and an examination of diamond drill core.
- 4. I hold no direct or indirect interest in the property reported herein, nor do I expect to receive any.

Martin H. Lenters

February 25,1983



GEOLOGY LEGEND EASTERN FACIES LOWER ORDOVICIAN AND UPPER CAMBRIAN EOM MCKAY GROUP Red-green shales, thin interbedded limestones UPPER CAMBRIAN UCI LYELL FORMATION Dolostones and limestones -0)-UES SULLIVAN FORMATION Argillaceous limestones, calcareous shales, limestones, minor dolostones, dolomitic limestone. MIDDLE CAMBRIAN MEW WATERFOWL FORMATION Dolostone and limestone; minor argillaceous limestone. MEAD ARCTOMYS - PIKA FORMATION calcareous and dolomitic shale, siltstones argillaceous limestone, thin bedded dolostones. -50°39 MEE ELDON FORMATION Massive dolostones, limestones, argillaceous mes STEPHEN FORMATION Thin bedded, argillaceous limestones and shales MEC CATHEDRAL FORMATION Massive dolostones, dolomitic limestones, limestones WESTERN FACIES -----UPPER AND MIDDLE CAMBRIAN Ech CHANCELLOR FORMATION m (Cleaved argillaceous limestone, calcareous shales, slates GEOLOGICAL SYMBOLS GEOLOGICAL BOUNDARY (defined , approximate , assumed) X OUTCROP BOUNDARY ···· (some isolated outcrops delineated, but many of the streams and sections have almost continual exposure) 15° BEDDING ست (inclined) CLEAVAGE the the 100 (inclined, vertical) ----- FAULT (defined, approximate, assumed) ANTICLINE $\xrightarrow{\uparrow}$ (showing direction of plunge) SYNCLINE $\rightarrow \rightarrow$ (showing direction of plunge) FACIES BOUNDARY LEAD - ZINC OCCURRENCE 🛠 PAD (name of showing) DIAMOND DRILL HOLE ⊙₇₉₋₁ (year and hole number) FOSSIL LOCALITY **(**7) LEGEND ROAD TRACK BRIDGE RIVER, CREEK OR STREAM and the summary of the summer of the -50°37 INTERMITTANT STREAM LAKE OR POND CONTOUR (interval 500 feet) ----- 7000 -----CLAIM UNIT BOUNDARY ------LEGAL CORNER POST SHAG 4 ESSO MINERALS CANADA A DIVISION OF ESSO RESOURCES CANADA LIMITED SHAG CLAIMS 1-8 GEOLOGY, MAP Project No. SHAG Mining Division GOLDEN Latitude 50°38' Longitude 115°30' NTS 82 J 11,12 Scale 1: 10,000 To Accompany A Report By M.LENTERS Dated AUG. 1982 Мар No. _5____

