REPORT ON A RECONNAISSANCE GEOLOGIC MAPPING

AND

GEOCHEMICAL SURVEY

CONDUCTED ON THE J.K. 1-160 CLAIMS

August 14, 1981 - August 27, 1981

MAYO MINING DIVISION

YUKON TERRITORY

N.T.S. 105 - 0 - 1 NIDDERY LAKE

BETWEEN 63° 08' and 63° 11' North Latitude

130° 20' and 130° 27' West Longitude

OWNED AND OPERATED BY

PAN OCEAN OIL LTD.

Report By: John D. Kapusta

Under Supervision of:
G.F. McArthur

Report #39-81

This report has been examined by the Geological Evaluation Unit under Section 53(4) Yukon Quartz Mining Regulations as representing work to the amount of $ 13,000.

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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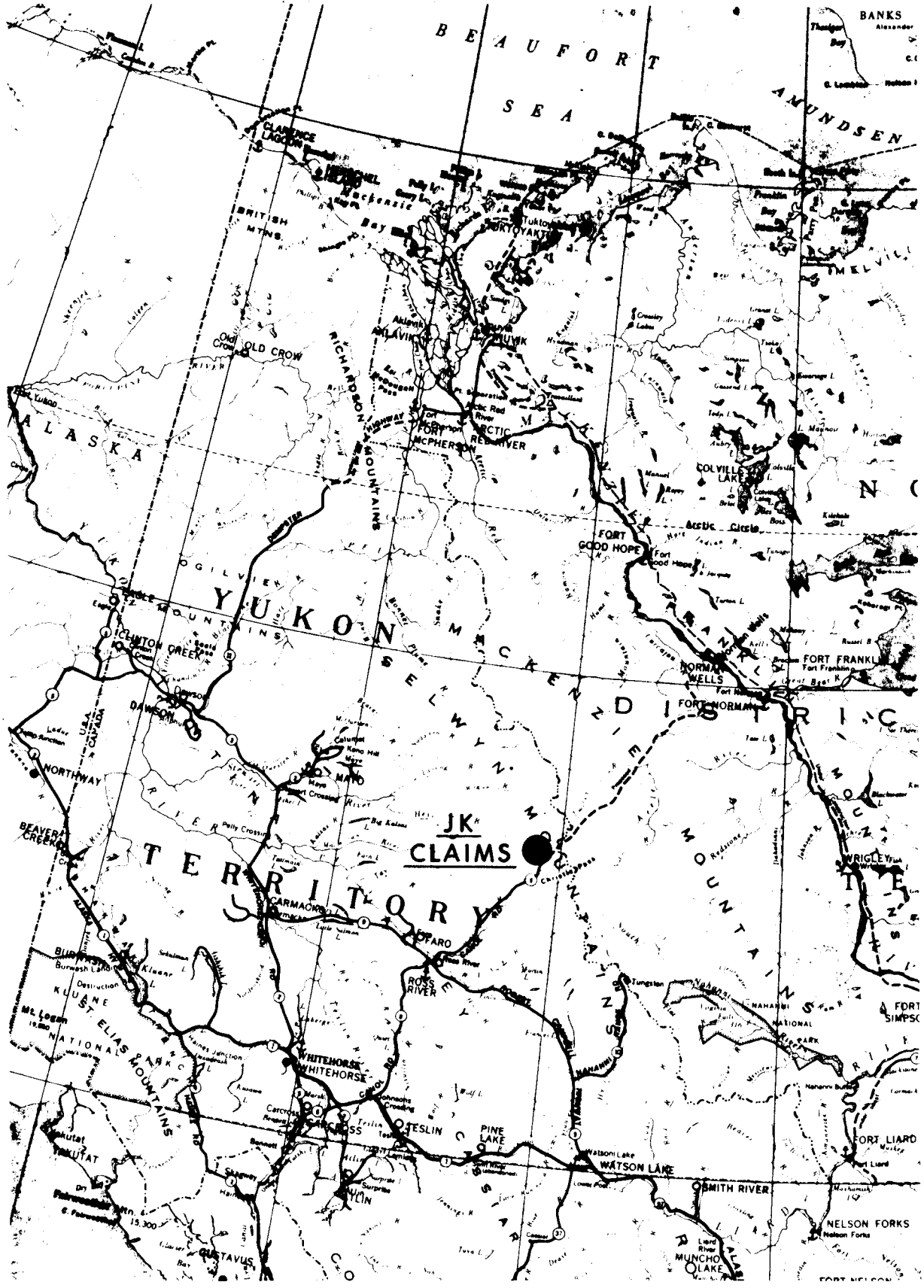
INTRODUCTION

The J.K. 1-160 mineral claims were staked adjacent to the Jason property to cover a newly discovered barite occurrance which may be related to massive sulphide mineralization similiar to that found on the Jason property.

The J.K. claims are located on Niddery Lake map sheet 105 O/1 at about 63° 08' N and 130° 23'W, 9 kilometres northwest of the Canol Road at MacMillan Pass, Yukon Territory (Figure 1). Access to the property is via the North Canol Road to MacMillan Pass. There are also regularly scheduled Twin Otter flights onto a gravel runway by Trans North Airlines, then via helicopter to the property.

The property rises from 610 metres elevation along Nidd Creek to 1829 metres elevation at the top of Mount Hoshi. The property runs from about treeline in the Nidd Creek area, with most of the property above treeline. Vegetation on the property is alpine fir in the valley bottom giving way to dwarf birch and stunted alpine fir to cariboo moss, and rapidly into barren talus slopes within 152 metres elevation above the valley floor.



TO ACCOMPANY REPORT NO. 39-81 BY J.D.K.

PAN OCEAN OIL LTD.
CALGARY ALBERTA

PROPERTY LOCATION

JK CLAIMS

LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO
DEC. 1981	1:1,584,000		A-1478

JCC

I. SUMMARY

During the course of the 1981 regional exploration program a barite horizon was discovered by prospecting northwest of the Jason Property (NTS 105 O/1). This resulted in the staking of the 1-160 J.K. Claims in June of 1981. An airphoto survey was conducted over the property in August of 1981 to produce photos for a topographic base map and to aid in further work on the claims. Line cutting on the property was conducted in June and August to establish base lines for a proposed geophysical grid to be cut in 1982. There were 20.35 Km of line cut during 1981,(Plate 3). Additional prospecting in conjunction with geological mapping was carried out in August by a crew of four geologists. This work resulted in the extension of the prospective barite horizon to over a kilometre of strike length.

It was concluded at the end of the 1981 field season that an extensive program including the following should be carried out:

1) linecutting to establish a geophysical grid
2) geophysical surveys including gravity, magnetometer, and EM
3) soil sampling along the established grid
4) prospecting and detailed geological mapping of the entire property
5) hand trenching over portion of showing covered by a recent conglomerate.

This work program would be carried out during 1982 to fully access the potential of the property.

II. CLAIMS

The J.K. property comprises 160 full claims staked and recorded on June 25, 1981, Mayo Mining District, Yukon Territory. J.K. 1-160 Tag No's are YA 62639-YA62798, respectively, (Figure 3,Table 1). The J.K. claims 1-160 are held by Pan Ocean Oil Ltd.

130° 20'

63° 10'

159 YA62797	160 YA62798	145 YA62783						
157 YA62795	158 YA62796	143 YA62781	144 YA62782	127 YA62765				
155 YA62793	156 YA62794	141 YA62779	142 YA62780	125 YA62763	126 YA62764	107 YA62745		
153 YA62791	154 YA62792	139 YA62777	140 YA62778	123 YA62761	124 YA62762	105 YA62743	106 YA62749	
151 YA62789	152 YA62790	137 YA62775	138 YA62776	121 YA62759	122 YA62760	103 YA62741	104 YA62742	85 YA62723
149 YA62787	150 YA62788	135 YA62773	136 YA62774	119 YA62757	120 YA62758	101 YA62739	102 YA62740	84 YA62722
147 YA62785	148 YA62786	133 YA62771	134 YA62772	117 YA62755	118 YA62756	99 YA62737	100 YA62738	83 YA62721
	146 YA62784	131 YA62769	132 YA62770	115 YA62753	116 YA62754	97 YA62735	98 YA62736	81 YA62719
		129 YA62767	130 YA62768	113 YA62751	114 YA62752	95 YA62733	96 YA62734	79 YA62717
			128 YA62766	111 YA62749	112 YA62750	93 YA62731	94 YA62732	77 YA62715
				109 YA62747	110 YA62748	91 YA62729	92 YA62730	75 YA62713
					108 YA62746	89 YA62727	90 YA62728	73 YA62711
						87 YA62725	88 YA62726	71 YA62709
							86 YA62724	69 YA62707
								67 YA62705

82 YA62720	65 YA62703	66 YA62704	44 YA62682						
80 YA62718	63 YA62701	64 YA62702	43 YA62681						
78 YA62716	61 YA62699	62 YA62700	42 YA62680						
76 YA62714	59 YA62697	60 YA62698	41 YA62679						12 YA62650
74 YA62712	57 YA62695	58 YA62696	39 YA62677	40 YA62678	25 YA62663	26 YA62664	11 YA62649		
72 YA62710	55 YA62693	56 YA62694	37 YA62675	38 YA62676	23 YA62661	24 YA62662	10 YA62648		
70 YA62708	53 YA62691	54 YA62692	35 YA62673	36 YA62674	21 YA62659	22 YA62660	9 YA62647		
68 YA62706	51 YA62689	52 YA62690	33 YA62671	34 YA62672	19 YA62657	20 YA62658	7 YA62645	8 YA62646	
50 YA62688	49 YA62687	50 YA62688	31 YA62669	32 YA62670	17 YA62655	18 YA62656	5 YA62643	6 YA62644	
	47 YA62685	48 YA62686	29 YA62667	30 YA62668	15 YA62653	16 YA62654	3 YA62641	4 YA62642	
	45 YA62683	46 YA62684	27 YA62665	28 YA62666	13 YA62651	14 YA62652	1 YA62639	2 YA62640	

J K

J K

mi. 1/2 1/4 0 1/2 1 mi.

TO ACCOMPANY REPORT NO. 39-81 BY J.D.K.

PAN OCEAN OIL LTD.
CALGARY ALBERTA

MINERAL CLAIMS

J K

LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO.
DEC., 1981	1" = 1/2 mi.	105 O/1	B-1480

JCC

TABLE I

LIST OF MINERAL CLAIMS

Name	Recording Date	Mining Divsion	Tag No.
J.K. 1	June 13	Mayo	YA 62639
J.K. 2	"	Mayo	YA 62640
J.K. 3	"	Mayo	YA 62641
J.K. 4	"	Mayo	TA 62642
J.K. 5	"	Mayo	YA 62643
J.K. 6	"	Mayo	YA 62644
J.K. 7	"	Mayo	YA 62645
J.K. 8	"	Mayo	YA 62646
J.K. 9	"	Mayo	YA 62647
J.K. 10	"	Mayo	YA 62648
J.K. 11	"	Mayo	YA 62649
J.K. 12	"	Mayo	YA 62650
J.K. 13	"	Mayo	YA 62651
J.K. 14	"	Mayo	YA 62652
J.K. 15	"	Mayo	YA 62653
J.K. 16	"	Mayo	YA 62654
J.K. 17	"	Mayo	YA 62655
J.K. 18	"	Mayo	YA 62656
J.K. 19	"	Mayo	YA 62657
J.K. 20	"	Mayo	YA 62658
J.K. 21	"	Mayo	YA 62659
J.K. 22	"	Mayo	YA 62660
J.K. 23	"	Mayo	YA 62661
J.K. 24	"	Mayo	YA 62662
J.K. 25	"	Mayo	YA 62663
J.K. 26	"	Mayo	YA 62664
J.K. 27	"	Mayo	YA 62665
J.K. 28	"	Mayo	YA 62666
J.K. 29	"	Mayo	YA 62667
J.K. 30	"	Mayo	YA 62668
J.K. 31	"	Mayo	YA 62669

Name	Recording Date	Mining Divsion	Tag No.
J.K. 32	"	Mayo	YA 62670
J.K. 33	"	Mayo	YA 62671
J.K. 34	"	Mayo	YA 62672
J.K. 35	"	Mayo	YA 62673
J.K. 36	"	Mayo	YA 62674
J.K. 37	"	Mayo	YA 62675
J.K. 38	"	Mayo	YA 62676
J.K. 39	"	Mayo	YA 62677
J.K. 40	"	Mayo	YA 62678
J.K. 41	"	Mayo	YA 62679
J.K. 42	"	Mayo	YA 62680
J.K. 43	"	Mayo	YA 62681
J.K. 44	"	Mayo	YA 62682
J.K. 45	"	Mayo	YA 62683
J.K. 46	"	Mayo	YA 62684
J.K. 47	"	Mayo	YA 62685
J.K. 48	"	Mayo	YA 62686
J.K. 49	"	Mayo	YA 62687
J.K. 50	"	Mayo	YA 62688
J.K. 51	"	Mayo	YA 62689
J.K. 52	"	Mayo	YA 62690
J.K. 53	"	Mayo	YA 62691
J.K. 54	"	Mayo	YA 62692
J.K. 55	"	Mayo	YA 62693
J.K. 56	"	Mayo	YA 62694
J.K. 57	"	Mayo	YA 62695
J.K. 58	"	Mayo	YA 62696
J.K. 59	"	Mayo	YA 62697
J.K. 60	"	Mayo	YA 62698
J.K. 61	"	Mayo	YA 62699

Name	Recording Date	Mining Divsion	Tag No.
J.K. 62	"	Mayo	YA 62700
J.K. 63	"	Mayo	YA 62701
J.K. 64	"	Mayo	YA 62702
J.K. 65	"	Mayo	YA 62703
J.K. 66	"	Mayo	YA 62704
J.K. 67	June 14	Mayo	YA 62705
J.K. 68	"	Mayo	YA 62706
J.K. 69	"	Mayo	YA 62707
J.K. 70	"	Mayo	YA 62708
J.K. 71	"	Mayo	YA 62709
J.K. 72	"	Mayo	YA 62710
J.K. 73	"	Mayo	YA 62711
J.K. 74	"	Mayo	YA 62712
J.K. 75	"	Mayo	YA 62713
J.K. 76	"	Mayo	YA 62714
J.K. 77	"	Mayo	YA 62715
J.K. 78	"	Mayo	YA 62716
J.K. 79	"	Mayo	YA 62717
J.K. 80	"	Mayo	YA 62718
J.K. 81	"	Mayo	YA 62719
J.K. 82	"	Mayo	YA 62720
J.K. 83	"	Mayo	YA 62721
J.K. 84	"	Mayo	YA 62722
J.K. 85	"	Mayo	YA 62723
J.K. 86	June 15	Mayo	YA 62724
J.K. 87	"	Mayo	YA 62725
J.K. 88	"	Mayo	YA 62726
J.K. 89	"	Mayo	YA 62727
J.K. 90	"	Mayo	YA 62728
J.K. 91	"	Mayo	YA 62729
J.K. 92	"	Mayo	YA 62730
J.K. 93	"	Mayo	YA 62731
J.K. 94	"	Mayo	YA 62732

Name	Recording Date	Mining Divsion	Tag No.
J.K. 95	June 15	Mayo	YA 62733
J.K. 96	"	Mayo	YA 62734
J.K. 97	"	Mayo	YA 62735
J.K. 98	"	Mayo	YA 62736
J.K. 99	"	Mayo	YA 62737
J.K. 100	"	Mayo	YA 62738
J.K. 101	"	Mayo	YA 62739
J.K. 102	"	Mayo	YA 62740
J.K. 103	"	Mayo	YA 62741
J.K. 104	"	Mayo	YA 62742
J.K. 105	"	Mayo	YA 62743
J.K. 106	"	Mayo	YA 62744
J.K. 107	"	Mayo	YA 62745
J.K. 108	"	Mayo	YA 62746
J.K. 109	"	Mayo	YA 62747
J.K. 110	"	Mayo	YA 62748
J.K. 111	"	Mayo	YA 62749
J.K. 112	"	Mayo	YA 62750
J.K. 113	"	Mayo	YA 62751
J.K. 114	"	Mayo	YA 62752
J.K. 115	"	Mayo	YA 62753
J.K. 116	"	Mayo	YA 62754
J.K. 117	"	Mayo	YA 62755
J.K. 118	"	Mayo	YA 62756
J.K. 119	"	Mayo	YA 62757
J.K. 120	"	Mayo	YA 62758
J.K. 121	"	Mayo	YA 62759
J.K. 122	"	Mayo	YA 62760
J.K. 123	"	Mayo	YA 62761
J.K. 124	"	Mayo	YA 62762
J.K. 125	"	Mayo	YA 62763
J.K. 126	"	Mayo	YA 62764
J.K. 127	"	Mayo	YA 62765

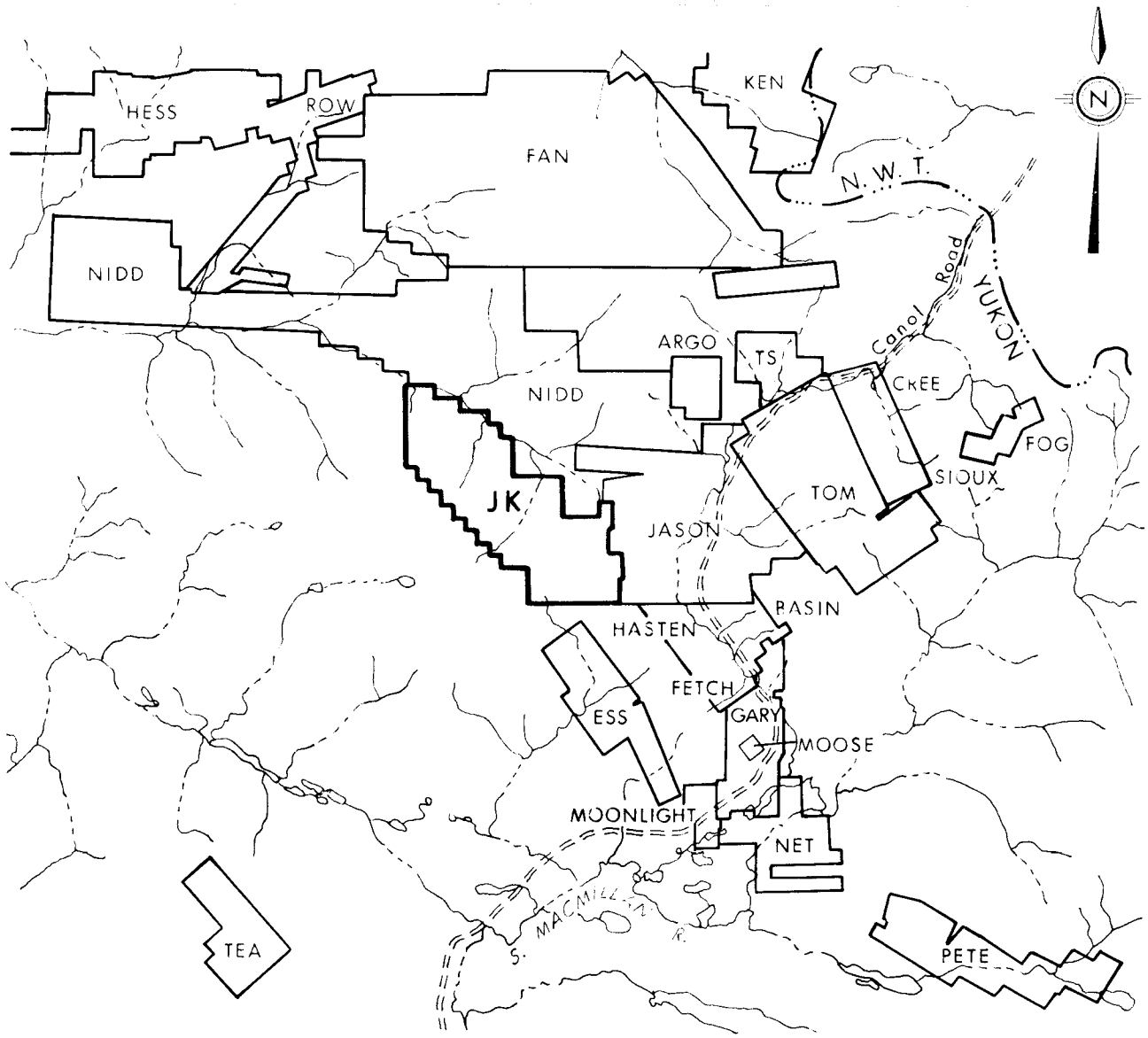
Name	Recording Date	Mining Divsion	Tag No.
J.K. 128	June 16	Mayo	YA 62766
J.K. 129	"	Mayo	YA 62767
J.K. 130	"	Mayo	YA 62768
J.K. 131	"	Mayo	YA 62769
J.K. 132	"	Mayo	YA 62770
J.K. 133	"	Mayo	YA 62771
J.K. 134	"	Mayo	YA 62772
J.K. 135	"	Mayo	YA 62773
J.K. 136	"	Mayo	YA 62774
J.K. 137	"	Mayo	YA 62775
J.K. 138	"	Mayo	YA 62776
J.K. 139	"	Mayo	YA 62777
J.K. 140	"	Mayo	YA 62778
J.K. 141	"	Mayo	YA 62779
J.K. 142	"	Mayo	YA 62780
J.K. 143	"	Mayo	YA 62781
J.K. 144	"	Mayo	YA 62782
J.K. 145	"	Mayo	YA 62783
J.K. 146	"	Mayo	YA 62784
J.K. 147	"	Mayo	YA 62785
J.K. 148	"	Mayo	YA 62786
J.K. 149	"	Mayo	YA 62787
J.K. 150	"	Mayo	YA 62788
J.K. 151	"	Mayo	YA 62789
J.K. 152	"	Mayo	YA 62790
J.K. 153	"	Mayo	YA 62791
J.K. 154	"	Mayo	YA 62792
J.K. 155	"	Mayo	YA 62793
J.K. 156	"	Mayo	YA 62794
J.K. 157	"	Mayo	YA 62795
J.K. 158	"	Mayo	YA 62796
J.K. 159	"	Mayo	YA 62797
J.K. 160	"	Mayo	YA 62798

III. PREVIOUS GEOLOGIC WORK AND EXPORATION ACTIVITY

The first recorded work in the MacMillan Pass region was by E.D. Kindle of the Geological Survey of Canada who carried out a reconnaissance survey of the Canol Road between 1944 and 1945. Regional mapping by S.L. Blusson of map sheet 105-0 was released on open file 205 by the Geological Survey of Canada in 1974, (Figure 2, for claim status, within the MacMillan Pass Area).

The Tom property located within MacMillan Pass was discovered in 1951 by prospectors for Hudson Bay Exploration and Development and consists of 144 claims and fractions. Between the years 1951-1953 work on the Tom claims consisted of 5436m of diamond drilling in 39 holes with exploration activity centered upon the West Zone. The drilling project outlined estimated reserves of 10,470,000 tons with an average grade of 5% zinc and minor lead. No further work was carried out until 1966 when additional geologic mapping, prospecting, geochemical soil sampling, and a magnetometer survey were undertaken. In 1967, Hudson Bay completed an additional 1,675m of diamond drilling, the results of which encouraged them to drill an additional 3,271m in 1968 which outlined the Tom East Zone. This second zone increased reserves to 5.1 million tons with an average grade of 8% zinc, and 8% lead,and 2.7 ounces per ton silver. These results prompted Hudson Bay to drive an adit downslope and to the west of the two mineralized zones in 1970. During 1970 and 1971,887m of underground development was completed with 2363m of underground diamond drilling also being carried out. By 1972, 11,853m of diamond drilling had been completed with current reserves quoted to be 9,000,000 tons with an average grade of 8.4% zinc, 8.6% lead, and 2.8 ounces of silver per ton. In 1977, additional soil sampling, trenching, and geophysical surveys were carried out. Hudson Bay in 1981, decided to resume underground work with the start of an decline for future mining purposes.

The Pete property is also located within the MacMillan Pass region, and consists of 94 claims. This claim group was staked in 1975 by the Ogilvie Joint Venture, and lies within a section of Devono-Mississipian black shales that are similar to the Tom deposit. In 1978, 589.49m of diamond drilling was completed in 5 holes, and 364.7m of overburden drilling in 55 holes.



mi. 3 1.5 0 3 6 mi.

TO ACCOMPANY REPORT No. 39-81 By J.D.K.

PAN OCEAN OIL LTD.
CALGARY ALBERTA

MACMILLAN PASS CLAIM STATUS

JK CLAIMS - LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO
DEC., 1981	1:250,000	105 L,O	A-1470

JCC

The Jason claims, also owned by the Ogilvie Joint Venture were staked in August 1974, and July 1975. In 1975, geologic mapping was carried out in addition to geochemical and gravity surveys. Also completed were seven diamond drill holes totalling 640m. Results from this initial program resulted in the drilling of 2,163m in 14 holes during 1976. The Jason claims are similiar to both the Tom and Pete groups in that they also are located within a section of Devono-Mississippian black shales, and have barite, lead-zinc mineralization.

B) GEOLOGY

I. GENERAL GEOLOGY AND STRATIGRAPHY

The J.K. claims lie within the eastern margin of the Selwyn Basin tectonic province located in the southern Selwyn Mountains, and appear to lie on the western margin of a synsedimentary graben structure. This graben structure formed during early Canol time (Upper Devonian) and is referred to as the MacMillan Pass Graben (Plate 1).

Stratigraphy on the property is comprised of a middle paleozoic succession of clastic sediments (Figure 4). The oldest rocks exposed on the property belonging to the transition facies of the Road River Formation.

The Road River Formation is comprised of a thick sequence of black carbonaceous graphitic shales, black limy shales, black to tan limestones and bedded chert. The black carbonaceous shales host the Howards Pass stratiform lead-zinc deposit. Deposition of this dformation is interpreted to have taken place slowly in a widespread, quiescent, deep marine basin. Within the uppermost part of the Road River Fm. is a sequence of non-calcareous argillites and siltstones. The appearance of these coarser clastics may be the first real evidence of any tectonic instability which may be related to the formation of the MacMillan Pass graben.

Also occuring within the Road River is a hydrothermal event which is represented by a bedded barite deposit occurring at the Canol Unit 1- Road River contact. This barite horizon is visable on the Moose property, MacMillan Pass. The Road River Formation is overlain by Unit 1 of the Canol Formation. Actual contact relationships between these two formations within the MacMillan Pass area have yet to be determined (Carne), but indications are that it is a depositional unconformity within the Jason property.

	ROCK UNITS		LITHOLOGY	FAULTING	VOLCANISM	MINERALIZATION
UPPER DEVONIAN - MISSISSIPPIAN	IMPERIAL FORMATION — UNIT 4		PROXIMAL TO DISTAL, SANDY, CLASSIC TURBIDITES DEPOSITED IN BROAD FAN. (TURBIDITE SYSTEM RE-ESTABLISHED)			MODERATE - LOW GRADE BARITE - HOSTED SULFIDES { TOM - WEST ZONE / JASON - MAIN ZONE } BEDDED BARITE (PETE)
	IMPERIAL FORMATION — UNIT 3B		BLACK, CARBONACEOUS, SILICEOS SHALES; LOCAL BEDDED CHERT. ARGILLITE CLAST BRECCIA DEPOSITED AS SLUMP BEDS. (SYSTEM RETROGRADES)			BEDDED BARITE J.K. ?
	CANOL FORMATION — UNIT 3A		DISTAL, SANDY AND SILTY, CLASSIC TURBIDITES , " FINING AND THINNING UPWARDS " (SUDDEN PROGRADATION OF SYSTEM)	MACMILLAN PASS GRABEN ACTIVE (DEEP BASIN CREATED) WEST BOUNDARY OF GRABEN ACTIVE (POSSIBLY EAST BOUNDARY ALSO)	BASALTIC VOLCANISM ?	HIGH GRADE MASSIVE SULFIDES { TOM - EAST ZONE / JASON - SOUTH ZONE }
	CANOL FORMATION — UNIT 1		PROXIMAL, SANDY, CLASSIC TURBIDITES IN MID - FAN. DISTAL, SILTY AND SHALEY, CLASSIC TURBIDITES IN LOWER FAN, " COARSENING AND THICKENING UPWARDS " (TURBIDITE SYSTEM ESTABLISHED)			
	ROAD RIVER GROUP — ROAD RIVER		BLACK, CARBONACEOUS, GRAPTOLITIC SHALES. LIMESTONE, CHERT.	MACMILLAN PASS GRABEN ESTABLISHED		BEDDED BARITE (MOOSE - CARY)

JCC

TO ACCOMPANY REPORT NO. 39-81 BY J.D.K.

PAN OCEAN OIL LTD.
CALGARY ALBERTA

TABLE OF PRINCIPAL GEOLOGICAL EVENTS

J.K. CLAIMS

DATE	SCALE	NTS	DRAWING NO.
DEC., 1981	——	——	B-1481

Unit 1 of the Canol Formation is composed of two very distinct facies assembleges. The majority of the unit is represented by a sand banded argillite facies made up of interbedded fine grained sandstones, siltstones and argillites. This is believed to represent a lower fan facies and has been identified on the J.K. claims. The second facies is a complex interbedding of chert pebble conglomerate, coarse massive sandstone and sand banded argillite in fining upwards sequences which represent turbidite channels. Unit 1 rocks found to date on the J.K. are most representative of a lower fan facies,and these have been identified at several locations on the property. The thickness of Unit 1 varies between 100-1000m within the MacMillan Pass graben. Also found within the upper portions of Unit 1 is a hydrothermal - volcanic event which is represented by high grade massive sulfide deposits on both the Tom and Jason properties. It is believed that these deposits represent the activation of the western margin of the MacMillan Pass graben.

The contact between Unit 1 and Unit 2 is a sharp lithologic change resulting from tectonic disruption within the basin. Unit 2 is composed of one facies: massive chert pebble conglomerate. The extent of Unit 2 conglomerate is defined by turbidite channels that are restricted within the confines of the graben structure. Unit 2 has not to date been located within the J.K. claims. Instead, there appears to be a gradational contact between Unit 1 and Unit 3a.

The contact between Unit 3a and Unit 2 is also a sharp lithologic contact believed to have been tectonic in origin. Unit 3a is approximately 200m thick within MacMillan Pass, and is composed predominately of sand banded argillite with graded sandstone, sandstone and argillite clast breccia, and a channel fill facies assemblage of chert-pebble conglomerate, graded sandstone, and sand banded argillite.

Unit 1 and 3a are identical and unseparable unless separated by Unit 2. Thus on Marmot Ridge (western edge of claims), Unit 1 and Unit 3a are represented by one thin unit of sand banded argillite. Unit 3a is well exposed on the J.K. claims in several areas and is a sand banded argillite which appear to grade into Unit 3b. The fining upward sequence of Unit 3a channel facies indicates either complete a withdrawl, or retrograding of the turbidite system.

Unit 3b indicates the complete withdrawl or retrograde of the turbidite system from the garben structure with the graben structure becoming filled by Unit 3b sediments which spread out to form a thin outer basin facies. Unit 3b is variable in thickness between 100 and 1000m within MacMillan Pass area, and is composed almost entirely of massive carbonaceous black argillites with rare intermittant distal turbidites. These turbidites occur in the top 250 metres and consist of detrial pyrite, micrite, shale fragments, quartz grains and organic debris including calcisphere and radiolaria fragments.

The lower 400m of Unit 3b is composed of uniformly fine grained carbonaceous black shales. Thick beds tend to be very carbonaceous and non-siliceous. Also found within the lower half Unit 3b are four black weathering dark grey feted limestone beds. These feted limestone beds have been identified on both the Pete and Moose claims and as talus at two locations on the J.K. claims. They were also intersected in drill hole DDH 8 on the Jason property.

The main mineralization in the MacMillan Pass area occurs near the 3a-3b contact, represented by the Jason Main Zone and Tom West Zone. The mineralization is in the form of bedded galena-sphalerite-barite, and is of sedimentry origin. The Pete is also reported to be of an equivalent nature, but to date no massive sulphides have been intersected here. The bedded, laminated barite located on the J.K. is believed to lie within Unit 3, but the exact stratigraphic location has yet to be determined.

Rocks of the Canol Formation are overlain by rock which is presently interpreted to be Upper Devonian to Mississipian in age, and represent the Imperial Formation. The Imperial Formation varies in thickness from 300m to 600m in the MacMillan Pass area. The upper 4b Unit of this formation is not exposed on the J.K. claims. Unit 4a, which is located on the J.K. is composed of thin bedded "classic" trubidites which grade upward into what appears to be a more proximal turbidite found in Unit 4b. Contact relationships with the Canol Formation within the J.K. claims appear to be conformable.

The entire Middle Paleozoic sedimentry succession has been intruded by a mega-crystalline biotite, hornblende, quartz monzonite of Cretaceous age. As a result, the sediments were complexly folded and faulted during the time of intrusive emplacement. Thermal alteration of the sediments near the intrusive contact is minimal, only extending out several hundred feet.

A recent iron rich conglomerate is found to coat most stream bottoms on the J.K. claims and is believed to be post glacial in origin.

II. STRUCTURE

The MacMillan Pass area is located within a broad belt of northwesterly trending open to isoclinally folded Paleozoic sediments. Folding on the J.K. claims is characteristic of this trend, with the folds plunging 10°-30° to the northwest, and axial trends at approximately 360°. Some of the folds are asymmetrical, and even overturned in a few cases. Faulting on the J.K. tends to be parallel to the axial planes of both anticlines and synclines. To date only one major fault has been found to cut across the axial planes of the folds, so nearly at a right angle. This cross cutting fault has terminated the barite horizon to the northwest. Movement on this fault is as yet undertermined.

It is believed that deformation in this region, including the J.K. claims, was produced during the Laramide orogeny with possible deformation also occurring during the Antler orogeny.

Centrally located on the claim group is a large anticlinal structure which has produced secondary parasitic folds on each limb,some of which are overturned. It is within the core of this anticline that the barite horizon occurs within the Canol Formation. A quartz monzonite pluton to the southwest side of the claim group is responsible for isoclinal folding close to the contact with the sedimentry package.

III. MINERALIZATION

Mineralization on the J.K. claims consists of laminated and nodular baritic sediments located stratigraphically within Unit 3 of the Canol Formation, and is the result of hydrothermal activity. To date barite has been found in one location on the property with a strike length of over one kilometre,and thickness varying from of 3 to 10 metres.

C) GEOCHEMISTRY

I. Heavy Mineral Sampling

Several heavy mineral stream sediment samples were collected from creeks draining the J.K. claims (Plate 2).

Heavy mineral stream sediment sampling is a technique whereby a bulk (20kg) stream sedimen sample is collected from an active drainage. Material is collected from a site where stream sediment material is being deposited at the first break in slope. Stream sediment is screened in the field to -20 mesh or -35 mesh with 20kg of -20 mesh or 10kg of -35 mesh being collected. This material is then shipped to a commercial lab for preparation and analysis. At the lab the sample is dried and screened to various size fractions, -35 to +80 mesh and -80 mesh. This material is then separated into various specific gravity fractions utilizing a heavy liquid separation technique. The heavy liquid separation gives three specific gravity fractions for each size fraction: light, intermediate and heavy. These fractions are then passed through an electromagnetic and magnetic seperation resulting in three fractions: non-magnetic, paramagnetic and magnetic.

The resulting mineral concentrations are then analyzed for eleven elements: copper, lead, zinc, silver, molybdenum and cobalt by atomic absorption, and tungsten, gold, arsenic, antimony and barite by neutron activation.

Only heavy non-magnetic and paramagnetic fractions are anlayzed for this program. The heavy non-magnetic fraction contains predominately unweathered monomineralic mineral species having a specific gravity greater than 3.3/2.8 sg. (gold, tungsten minerals, barite). The heavy paramagnetic fraction contains complex sulphide grains and weathered sulphides.

This technique is orientated to find stratiform synsedimentary massive sulphides of the Tom-Jason type and tungsten skarn mineralization of the MacTung-Cantung type.

II. HEAVY MINERAL SAMPLING RESULTS

Heavy Mineral Samples from the J.K. claims include: HSO 195
HSO 183

SJA 19
SJA 18

	PPM Cu	PPM Pb	PPM Zn	PPM Mo	PPM Ag	PPM Co	PPB Au	PPM As	PPM Sb	PPM W	Ba%
HSO 195											
35HP	144	33	2700	44	1.3	22	80	680	130	2	.6%
35HN	460	118	1720	29	2.6	26	200	1300	89	65	1.0
HSO 183											
35HP	156	94	810	47	0.0	19	—	—	—	—	—
35HN	55	16	760	138	.6	9	40	89	12	100	54.7
80HN	63	46	60	8	1.1	17	200	8	1	20	1.0
SJA 19											
35HP	101	23	610	20	.4	19	120	880	48	20	.8
35HN	82	10	370	18	.5	55	80	520	32	224	.8
80HP	68	25	300	10	1.0	22	—	—	-	—	-
80HN	69	38	127	16	.6	60	80	336	28	1160	3.2
SJA 18											
35HN	46	13	92	9	0.0	2	40	126	10	36	49.6
80HN	11	27	50	5	.6	3	40	68	6	400	50.8
35HP	158	58	920	74	1.0	17	—	—	--	--	--

III. Rock Sample Analysis

	Au oz	Ag oz	Pb%	Zn%	Ba%	Sr%
48549	.002	.05	.01	--	--	--
485501	--	.02	.01	.01	49.69	--
48551	--	--	--	--	.77	.007
48552	--	.02	.01	.01	45.93	
48526	--	.07	.01	.01	19.8	--
48527	--	.02	.01	.01	42.6	--
48528	--	.02	.01	.04	36.3	--
48529	--	.11	.01	.01	9.7	--
48530	--	.10	.01	.02	.72	--
48531	--	.09	.01	.01	.31	--

D) CONCLUSIONS:

The majority of work on the J.K. claims was carried out over a two week period, and consisted of a limited mapping and prospecting program. In order to truely evaluate this claim group, much more time will have to be spent carrying out detailed geologic mapping, and geochemical sampling of the entire claim group. This must be done before any definite conclusions can be drawn as to the economic significance of this barite horizon. To date the results of the heavy mineral sampling program are encouraging in that they may help us to decide whether this horizon could be related to massive sulphides (similar to Jason and the Tom Deposit), and where exploration should be directed in order to locate hydrothermal venting which created the barite horizon.

E) RECOMMENDATIONS:

In order to better define the economic potential of this property the following program is proposed to be carried out during the 1982 field season:

1) linecutting to establish a geophysical grid
2) geophysical surveys including gravity, magnetometer and E.M.
3) soil sampling along the established grid
4) prospecting and detailed geological mapping of the entire property
5) hand trenching over portion of the showing the covered by recent conglomerate

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Debris flows, Turbidites and Lead-Zinc Sulphides along a Devonian Submarine Fault SCARP, Jason Prospect Yukon Territory; 1979 Exploration results for Pan Ocean Oil Ltd, unpublished report.

APPENDIX "A"

STATEMENT OF EXPENDITURES

STATEMENT OF DIRECT EXPENDITURES - J.K. CLAIMS

A) Wages:

J. Kapusta	Winnipeg, Man	- 12 days at 72.40/day, Aug. 15 - Aug. 27	$868.80
D. Hume	Edmonton, Alta	- 12 days at 68.00/day, Aug. 14 - Aug. 27	816.00
P. Poscenti	Toronto, Ont.	- 12 days at 68.00/day, Aug. 14 - Aug. 27	816.00
P. Jackson	Toronto, Ont.	- 1 day at 64.00/day, Aug. 20	64.00
G. Fjetland	Vancouver, B.C.	- 1 day at 65.26/day, Aug. 16	65.26

SubTotal $2,630.06

B) Transportation

i) Helicopter - Hughes 500D- August 14-August 27 11.1 hrs at $375.00 an hour $4,162.50

- Fuel at 26 gal. an hour is 290.33 gal. at $2.16 a gal, less deposit on barrels ($50.00 per barrel) 277.11

$627.11 - $350.00

Subtotal $4,439.61

C) Heavy Mineral Seperation and Analysis Cost:

1) Analysis and seperation cost 50.75/per sample x 4 ..... $ 203.00
2) Analysis of rock samples (10 samples in total) 273.50

Subtotal 476.50

D) Linecutting:

June Ketza Enterprises Ltd. 2.1km at $300.00 a kilometre 630.00

September Ketza Enterprises Ltd. 18.25km at $340.00 a kilometre ..... $ 6,205.00

Mobilization and demobilization 280.00

Subtotal $ 7,115.00

TOTAL $14,661.17

E) Man Day Support Costs

$53.25 x 38 ..... $ 2,203.50

Subtotal 2,203.50

F) Other

Administrative Overhead ..... $ 1,432.63

Technical Information 130.80

Subtotal $ 1,563.43

Total Expenditures $18,248.10

BREAKDOWN OF SUPPORT COSTS

The work on the JK claims was carried out in conjunction with a regional project centered in the MacMillan Pass area. As a result, man days support costs are calculated with respect to this regional project since all camp facilities and personal were used, this figure will be calculated for 12 people who worked on the regional program.

A) Food and Accommodations:

Food	- May 20-September 1, 1981	$12,818.83
Camp Shelter	- May 20-September 1, 1981	8,988.18
Camp Equipment & shelter	May 20-September 1, 1981	6,230.00
Camp Fuel	- May 20-September 1, 1981	891.10
Camp Misc.	- May 20-September 1, 1981	761.25
Geologic Material & Supplies	- May 20-Sepeember 1, 1981	13,007.07
	Subtotal	$42,696.43

B) Other:

Fixed Wing Aviation	- May 20 - August 1	$10,299.67
Equipment Rental	- May 20 - August 1	1,398.76
Freight	- May 20 - August 1	12,704.41
Technical Information	- September (Direct Charge J.K.)	130.80
Administration	- August (Direct charge J.K.)	1,432.63
	Subtotal	$25,966.27
	Subtotal	$68,662.70
	Subtract Direct Charges to J.K.	$ 1,563.43
	TOTAL	$67,099.27

BREAKDOWN OF MAN DAYS SUPPORT COSTS

Camp Shelter:

May 20 - September 1 - Tents, Flys, lumber etc..... $8,988.18

Camp Equipment and supplies:

May 20 - September 1 - Applicances, freezer, griddle
misc. tools, plumbing and electrial equipment,
generator rental, equipment, misc. camp equipment etc.....$ 8,390.01

Camp Food:

May 20 - September 1.....$12,818.83

Camp Fuel:

May 20 - September 1 .....$ 891.01

Geologic Materials & Supplies

Back packs, hammers, altimeters, rainsuits
drafting equipment, clipboards, etc.....$ 13,007.07

Freight:

May 20 - September 1 .....$ 12,704.41

Fixed Wing Aviation:

May 20 - September 1 .....$ 10,299.67

Technical Information

August - Air photos .....$ 130.80

Man days:

The regional program contained 12 people for a period of 105 days.

Total Man days 105 x 12 = 1260

Total Support Costs $67,099.27

Man day Support Costs $\frac{\text{Total Support Costs}}{\text{Total Man days}} = \frac{\$67,099.27}{1260} = \$53.25$

Man day support cost with respect to persons working on JK Claims

J. Kapusta	August 15 to August 27, 1981	- 12 man	
D. Hume	August 14 to August 27, 1981	- 12 man	
P. Posenti	August 14 to August 27, 1981	- 12 man	38 man days
P Jackson	August 20	- 1 man	
G. Fjetland	August 16	- 1 man	

Direct charge to JK claims, is Administrative Overhead at $ 1,432.63 and Technical Information at $130.80

Total Support Costs Total = $1,563.43

Man Day Support Cost $53.25 x 38 = $2,023.50 Total = $2,023.50

ANALYTICAL COSTS

Heavy Mineral Analysis Costs:

Magnetic Seperations	$12.00
Samples to N.A.S.	.50
Cu, Pb, Zn, Mo, Ag, Co analysis	4.00
Preperation	24.00
Ba Preparation	2.50
Au, As, Sb, W, analysis	7.75
	$50.75

Analysis Cost for Rock Samples by element:

Ag	$ 8.00
Au	8.00
Ag + Au	11.00
Pb	6.00
Zn	6.50
Ba	9.50
Sr	10.00
As	10.00

BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110 TELEX: 053-4455

E 4464

INVOICE: E 4464

DATE: June 17, 1981

REPORT NO: A21 - 610

PROJECT: LANSING

W.O. No. D 9901

Pan Ocean Oil Ltd.
P.O. Bag 2533
Station "M"
Calgary, Alberta
T2P 2M7

6	Silver	Assays	@ $ 8.00	$ 48.00
6	Lead	Assays	@ $ 6.00	36.00
6	Zinc	Assays	@ $ 6.50	39.00
6	Barium	Assayeq	@ $ 9.00	54.00
				$ 177.00

J.K.

DUPLICATE

Approved
June 23/81

ddm

THIS IS A PROFESSIONAL SERVICE
ACCOUNTS DUE WHEN RENDERED

BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110 TELEX: 053-4455

6

Pan Ocean Oil Ltd.
300 - 5th Avenue SW
Calgary, Alberta T2P 3C4

RECEIVED
NOV 16 1981
PAN OCEAN OIL LTD.
MINERALS DIVISION

INVOICE: G 11294
DATE: November 6, 1981
REPORT NO: A21 - 1613
PROJECT: HANSING

W.O. No. E 7965

J.K. →	1	Gold, Silver	Assay	@ $ 11.00	$ 11.00
	2	Gold	Assays	@ $ 8.00	16.00
J.K →	2	Silver	Assays	@ $ 8.00	16.00
	1	Copper	Assay	@ $ 6.00	6.00
J.K. →	3	Lead	Assays	@ $ 6.00	18.00
J.K →	2	Zinc	Assays	@ $ 6.50	13.00
	2	Nickel	Assays	@ $ 7.50	15.00
	2	Cobalt	Assays	@ $ 6.50	13.00
	2	WO_3	Assays	@ $ 9.00	18.00
J.K. →	3	Barium	Assays	@ $ 9.50	28.50
J.K. →	1	Strontium	Assay	@ $ 10.00	10.00
					$ 164.50

J.K. $ 96.50

(Ppy to C McCutcheon
charged Lansing 047
Hawker Analysis

ear

THIS IS A PROFESSIONAL SERVICE
ACCOUNTS DUE WHEN RENDERED

KETZA ENTERPRISES LTD.

ROSS RIVER
YUKON, Y0B 1S0

BLAKE S. MACDONALD, Pres.

PHONE [403] 969-223

September 14th, 1981

INVOICE

TO: Pan Ocean Oil Ltd.,
P.O. Bag 2533, Stn. M,
Calgary, Alberta
T2P 2M7

Attention: Gerry McArthur, Mineral Exploration

RE: JK linecutting, Yukon. August/September 1981

Linecutting,	
18.25 km @ $340/km	$6,205.00
Mob/demob	280.00
TOTAL ...	$6,485.00

FILE NUMBER: K208-81

KETZA ENTERPRISES LTD.

ROSS RIVER
YUKON, Y0B 1S0

Phone (403) 969-223
Telex 036-8-317

...AKE S. MACDONALD, Pres.

June 27th, 1981

INVOICE

TO: Pan Ocean Oil Ltd.,
1050 - 355 - 4th Ave. S.W.
Calgary, Alberta

Attention: Gerry McArthur

RE: JK linecutting, Macmillan Pass area, Y.T.

2.1 km @ $300/km $630.00

invoice no: K181-81

APPENDIX "B"

GEOCHEMICAL ANALYTICAL RESULTS

[illegible]	USED:			METHOD:			

PROJECT	YR.	SAMPLE NUMBER FRAC. INT. #	LAB #	REPORT #	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Mn ppm	Fe %	Uw ppb	Ul ppm	LOI %
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19	20	26	30	35	40	45	50	55	60	65	70	75
[illegible]	81	80HNHS00177	3946	81310	[redacted]									
		80HPHS00177	3947		[redacted]									
		35HNHS00178	3948		[redacted]									
		35HPHS00178	3949		[redacted]									
		80HNHS00178	3950		[redacted]									
		80HPHS00178	3951		[redacted]									
		35HNHS00179	3952		[redacted]									
		35HPHS00179	3953		[redacted]									
		80HNHS00179	3954		[redacted]									
		80HPHS00179	3955		[redacted]									
		35HNHS00180	3956		[redacted]									
		35HPHS00180	3957		[redacted]									
		80HNHS00180	3958		[redacted]									
		80HPHS00180	3959		[redacted]									
		35HNHS00181	3960		[redacted]									
		35HPHS00181	3961		[redacted]									
		80HNHS00181	3962		[redacted]									
		80HPHS00181	3963		[redacted]									
		35HNHS00182	3964		[redacted]									
		35HPHS00182	3965		[redacted]									
		80HNHS00182	3966		[redacted]									
		80HPHS00182	3967		[redacted]									
		35HNHS00183	3968		55	16	760	[illegible]	0.6					
		35HPHS00183	3969		166	84	810	47	1.0					
		80HNHS00183	3970		63	46	160	8	1.0					
		80HPHS00183	3971						.					
		35HNHS00184	3972		[redacted]									
		35HPHS00184	3973		[redacted]									
		80HNHS00184	3974		[redacted]									
		80HPHS00184	3975		[redacted]									
		35HNHS00185	3976		[redacted]									
		35HPHS00185	3977		[redacted]									
		80HNHS00185	3978		[redacted]									
		80HPHS00185	3979		[redacted]									
		35HNHS00186	3980		[redacted]									
		35HPHS00186	3981		[redacted]									
		80HNHS00186	3982		[redacted]									
		80HPHS00186	3983		[redacted]									
		35HNHS00187	3984		[redacted]									
		35HPHS00187	3985		[redacted]									
		80HNHS00187	3986		[redacted]									
		80HPHS00187	3987		[redacted]									
		35HNHS00188	3988		[redacted]									
		35HPHS00188	3989		[redacted]									
		80HNHS00188	3990		[redacted]									
		80HPHS00188	3991		[redacted]									
		35HNHS00189	3992		[redacted]									
		35HPHS00189	3993		[redacted]									
		80HNHS00189	3994		[redacted]									
		80HPHS00189	3995		[redacted]									
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19	20	26	30	35	40	45	50	55	60	65	70	75

J.K

DATE: 16/10/81	LAB: TML	REPORT NO. 81-310	EXTRACTION:
PROJECT: LANSG	WT. USED:		METHOD:

PROJECT	YR.	SAMPLE NUMBER FRAC.	INT.	#	LAB #	Au ppb	As ppm	Sb ppm	W ppm	Ba ppm	Ba %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	QL
1 2 3 4 5	6 7	8 9 10 11 12	13 14 15 16 17	18 19 20		25	30	35	40	45	50	55	60	65	70	75	
IVNG	81	80HNHSQ01177			13946												
1111	1	80HBHSQ01177			13947												
1111	1	35HNHSQ01178			13948												
1111	1	35HBHSQ01178			13949												
1111	1	80HNHSQ01178			13950												
1111	1	80HBHSQ01178			13951												
1111	1	35HNHSQ01179			13952												
1111	1	35HBHSQ01179			13953												
1111	1	80HNHSQ01179			13954												
1111	1	80HBHSQ01179			13955												
1111	1	35HNHSQ01180			13956												
1111	1	35HBHSQ01180			13957												
1111	1	80HNHSQ01180			13958												
1111	1	80HBHSQ01180			13959												
1111	1	35HNHSQ01181			13960												
1111	1	35HBHSQ01181			13961												
1111	1	80HNHSQ01181			13962												
1111	1	80HBHSQ01181			13963												
1111	1	35HNHSQ01182			13964												
1111	1	35HBHSQ01182			13965												
1111	1	80HNHSQ01182			13966												
1111	1	80HBHSQ01182			13967												
1111	1	35HNHSQ01183			13968	FHD	58	12	100		64.7						C
1111	1	35HBHSQ01183			13969												C
1111	1	80HNHSQ01183			13970	4200	8	1	20		61.0						C
1111	1	80HBHSQ01183			13971												C
1111	1	35HNHSQ01184			13972												
1111	1	35HBHSQ01184			13973												
1111	1	80HNHSQ01184			13974												
1111	1	80HBHSQ01184			13975												
1111	1	35HNHSQ01185			13976												
1111	1	35HBHSQ01185			13977												
1111	1	80HNHSQ01185			13978												
1111	1	80HBHSQ01185			13979												
1111	1	35HNHSQ01186			13980												
1111	1	35HBHSQ01186			13981												
1111	1	80HNHSQ01186			13982												
1111	1	80HBHSQ01186			13983												
1111	1	35HNHSQ01187			13984												
1111	1	35HBHSQ01187			13985												
1111	1	80HNHSQ01187			13986												
1111	1	80HBHSQ01187			13987												
1111	1	35HNHSQ01188			13988												
1111	1	35HBHSQ01188			13989												
1111	1	80HNHSQ01188			13990												
1111	1	80HBHSQ01188			13991												
1111	1	35HNHSQ01189			13992												
1111	1	35HBHSQ01189			13993												
1111	1	80HNHSQ01189			13994												
1111	1	80HBHSQ01189			13995												
1 2 3 4 5	6 7	8 9 10 11 12	13 14 15 16 17	18 19 20		25	30	35	40	45	50	55	60	65	70	75	

S.K

DATE [illegible]

PROJECT: LANSG	WT. USED:	METHOD:

PROJECT	YR	SAMPLE NUMBER FRAC. / INT. / #	LAB #	Au ppb	As ppm	Sb ppm	W ppm	Be ppm	Ba %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	
[illegible]	81	804NHS00177	13946												C
		804BHS00177	13947												C
		354NHS00178	13948												C
		354BHS00178	13949												C
		804NHS00178	13950												C
		804BHS00178	13951												C
		354NHS00179	13952												C
		354BHS00179	13953												C
		804NHS00179	13954												C
		804BHS00179	13955												C
		354NHS00180	13956												C
		354BHS00180	13957												C
		804NHS00180	13958												C
		804BHS00180	13959												C
		354NHS00181	13960												C
		354BHS00181	13961												C
		804NHS00181	13962												C
		804BHS00181	13963												C
		354NHS00182	13964												C
		354BHS00182	13965												C
		804NHS00182	13966												C
		804BHS00182	13967												C
		354NHS00183	13968									9			C
		354BHS00183	13969									19			C
		804NHS00183	13970									17			C
		804BHS00183	13971												C
		354NHS00184	13972												C
		354BHS00184	13973												C
		804NHS00184	13974												C
		804BHS00184	13975												C
		354NHS00185	13976												C
		354BHS00185	13977												C
		804NHS00185	13978												C
		804BHS00185	13979												C
		354NHS00186	13980												C
		354BHS00186	13981												C
		804NHS00186	13982												C
		804BHS00186	13983												C
		354NHS00187	13984												C
		354BHS00187	13985												C
		804NHS00187	13986												C
		804BHS00187	13987												C
		354NHS00188	13988												C
		354BHS00188	13989												C
		804NHS00188	13990												C
		804BHS00188	13991												C
		354NHS00189	13992												C
		354BHS00189	13993												C
		804NHS00189	13994												C
		804BHS00189	13995												C

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PROJECT	YR.	SAMPLE NUMBER FRAC. | INT. | #	LAB. #	REPORT #	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Mn ppm	Fe %	U ppb	Ul ppm	LOI %	
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19 20		25	30	35	40	45	50	55	60	65	70	75	
[illegible]	81	135HNHSQ01190	13996												
	1	135HPHSQ01190	13997												
	1	80HNHSQ01190	13998												
	1	80HPHSQ01190	13999												
	1	135HNHSQ01191	14000												
	1	135HPHSQ01191	14001												
	1	80HNHSQ01191	14002												
	1	80HPHSQ01191	14003												
	1	135HNHSQ01192	14004												
	1	135HPHSQ01192	14005												
	1	80HNHSQ01192	14006												
	1	80HPHSQ01192	14007												
	1	135HNHSQ01193	14008												
	1	135HPHSQ01193	14009												
	1	80HNHSQ01193	14010												
	1	80HPHSQ01193	14011												
	1	135HNHSQ01194	14012												
	1	135HPHSQ01194	14013												
	1	80HNHSQ01194	14014												
	1	80HPHSQ01194	14015												
	1	135HNHSQ01195	14016		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						B
	1	135HPHSQ01195	14017		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						B
	1	80HNHSQ01195	14018												B
	1	80HPHSQ01195	14019												B
	1	135HNHSQ01196	14020												
	1	135HPHSQ01196	14021												
	1	80HNHSQ01196	14022												
	1	80HPHSQ01196	14023												
	1	135HNHSQ01197	14024												
	1	135HPHSQ01197	14025												
	1	80HNHSQ01197	14026												
	1	80HPHSQ01197	14027												
	1	135HNHSQ01198	14028												
	1	135HPHSQ01198	14029												
	1	80HNHSQ01198	14030												
	1	80HPHSQ01198	14031												
	1	135HNHSQ01199	14032												
	1	135HPHSQ01199	14033												
	1	80HNHSQ01199	14034												
	1	80HPHSQ01199	14035												
	1	135HNHSQ02200	14036												
	1	135HPHSQ02200	14037												
	1	80HNHSQ02200	14038												
	1	80HPHSQ02200	14039												
	1	135HNHSQ02201	14040												
	1	135HPHSQ02201	14041												
	1	80HNHSQ02201	14042												
	1	80HPHSQ02201	14043												
	1	135HNHSQ02202	14044												
	1	135HPHSQ02202	14046												
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19 20		25	30	35	40	45	50	55	60	65	70	75	

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PAN-OCEAN CLOUD — ANALYTICAL DATA FORM

DATE: 16/10/81 | LAB: TML | REPORT NO. 81-310 | EXTRACTION:

PROJECT: LANSG | WT USED: | METHOD:

PROJECT	YR	SAMPLE NUMBER FRAC	INT.	#	LAB #	Au ppb	As ppm	Sb ppm	W ppm	Ba ppm	Ba %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	LD
LANSG	81	35	HB	00100	3996												C
	1	35	HB	00100	3997												C
	1	80	HB	00100	3998												C
	1	80	HB	00100	3999												C
	1	35	HB	00101	4000												C
	1	35	HB	00101	4001												C
	1	80	HB	00101	4002												C
	1	80	HB	00101	4003												C
	1	35	HB	00102	4004												C
	1	35	HB	00102	4005												C
	1	80	HB	00102	4006												C
	1	80	HB	00102	4007												C
	1	35	HB	00103	4008												C
	1	35	HB	00103	4009												C
	1	80	HB	00103	4010												C
	1	80	HB	00103	4011												C
	1	35	HB	00104	4012												C
	1	35	HB	00104	4013												C
	1	80	HB	00104	4014												C
	1	80	HB	00104	4015												C
	1	35	HB	00105	4016									26			C
	1	35	HB	00105	4017									22			C
	1	80	HB	00105	4018												C
	1	80	HB	00105	4019												C
	1	35	HB	00106	4020												C
	1	35	HB	00106	4021												C
	1	80	HB	00106	4022												C
	1	80	HB	00106	4023												C
	1	35	HB	00107	4024												C
	1	35	HB	00107	4025												C
	1	80	HB	00107	4026												C
	1	80	HB	00107	4027												C
	1	35	HB	00108	4028												C
	1	35	HB	00108	4029												C
	1	80	HB	00108	4030												C
	1	80	HB	00108	4031												C
	1	35	HB	00109	4032												C
	1	35	HB	00109	4033												C
	1	80	HB	00109	4034												C
	1	80	HB	00109	4035												C
	1	35	HB	00200	4036												C
	1	35	HB	00200	4037												C
	1	80	HB	00200	4038												C
	1	80	HB	00200	4039												C
	1	35	HB	00201	4040												C
	1	35	HB	00201	4041												C
	1	80	HB	00201	4042												C
	1	80	HB	00201	4043												C
	1	35	HB	00202	4044												C
	1	35	HB	00202	4045												C

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16/10/81 | LAB TML | REPORT NO. 81-310 | EXTRACTION:

PROJECT: LANSG | WT. USED: | METHOD:

PROJECT	YR.	SAMPLE NUMBER FRAC.	INT.	#	LAB. #	Au ppb	As ppm	Sb ppm	W ppm	Be ppm	Ba %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	LD
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19	20			28	30	36	40	45	50	55	60	65	70	75	
LANSG	81	35HEHSQ01Q0			3996												
1111	1	35HEHSQ01Q0			3997												
1111	1	80HEHSQ01Q0			3998												
1111	1	80HBHSQ01Q0			3999												
1111	1	35HEHSQ01Q1			4000												
1111	1	35HBHSQ01Q1			4001												
1111	1	80HEHSQ01Q1			4002												
1111	1	80HBHSQ01Q1			4003												
1111	1	35HEHSQ01Q2			4004												
1111	1	35HBHSQ01Q2			4005												
1111	1	80HEHSQ01Q2			4006												
1111	1	80HBHSQ01Q2			4007												
1111	1	35HEHSQ01Q3			4008												
1111	1	35HBHSQ01Q3			4009												
1111	1	80HEHSQ01Q3			4010												
1111	1	80HBHSQ01Q3			4011												
1111	1	35HEHSQ01Q4			4012												
1111	1	35HBHSQ01Q4			4013												
1111	1	80HEHSQ01Q4			4014												
1111	1	80HBHSQ01Q4			4015												
1111	1	35HEHSQ01Q5			4016	2200	1300	59	145	1111	4.10	1111	1111	1111	1111	1111	C
1111	1	35HBHSQ01Q5			4017	680	680	130	62	1111	8.18	1111	1111	1111	1111	1111	C
1111	1	80HEHSQ01Q5			4018	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	C
1111	1	80HBHSQ01Q5			4019	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	1111	C
1111	1	35HEHSQ01Q6			4020												
1111	1	35HBHSQ01Q6			4021												
1111	1	80HEHSQ01Q6			4022												
1111	1	80HBHSQ01Q6			4023												
1111	1	35HEHSQ01Q7			4024												
1111	1	35HBHSQ01Q7			4025												
1111	1	80HEHSQ01Q7			4026												
1111	1	80HBHSQ01Q7			4027												
1111	1	35HEHSQ01Q8			4028												
1111	1	35HBHSQ01Q8			4029												
1111	1	80HEHSQ01Q8			4030												
1111	1	80HBHSQ01Q8			4031												
1111	1	35HEHSQ01Q9			4032												
1111	1	35HBHSQ01Q9			4033												
1111	1	80HEHSQ01Q9			4034												
1111	1	80HBHSQ01Q9			4035												
1111	1	35HEHSQ02Q0			4036												
1111	1	35HBHSQ02Q0			4037												
1111	1	80HEHSQ02Q0			4038												
1111	1	80HBHSQ02Q0			4039												
1111	1	35HEHSQ02Q1			4040												
1111	1	35HBHSQ02Q1			4041												
1111	1	80HEHSQ02Q1			4042												
1111	1	80HBHSQ02Q1			4043												
1111	1	35HEHSQ02Q2			4044												
1111	1	35HBHSQ02Q2			4045												
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19	20			28	30	36	40	45	50	55	60	65	70	75	

J.K.

DATE:	LAB TML	REPORT NO. 81165	EXTRACTION:
PROJECT: LANSG	WT. USED:		METHOD:

PROJECT	YR.	SAMPLE NUMBER FRAC.	INT.	#	LAB. #	REPORT #	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Mn ppm	Fe %	U ppb	Ul ppm	LOI %	LO
LANSG	81	80	HNSJA	0013	2051	81165											
		80	HPSJA	0013	2052												
		35	HNSJA	0014	2053												
		35	HPSJA	0014	2054												
		80	HNSJA	0014	2055												
		80	HPSJA	0014	2056												
		35	HNSJA	0015	2057												
		35	HPSJA	0015	2058												
		80	HNSJA	0015	2059												
		80	HPSJA	0015	2060												
		35	HNSJA	0016	2061												
		35	HPSJA	0016	2062												
		80	HNSJA	0016	2063												
		80	HPSJA	0016	2064												
		35	HNSJA	0017	2065												
		35	HPSJA	0017	2066												
		80	HNSJA	0017	2067												
		80	HPSJA	0017	2068												
		35	HNSJA	0018	2069		46	13	92	9	0.8						
		35	HPSJA	0018	2070		158	58	920	74	1.0						
		80	HNSJA	0018	2071		11	27	50	5	0.6						
		80	HPSJA	0018	2072												
		35	HNSJA	0019	2073		82	10	370	18	0.5						
		35	HPSJA	0019	2074		101	23	610	20	0.4						
		80	HNSJA	0019	2075		69	38	127	16	0.6						
		80	HPSJA	0019	2076		68	25	300	10	1.0						
		35	HNSJA	0020	2077												
		35	HPSJA	0020	2078												
		80	HNSJA	0020	2079												
		80	HPSJA	0020	2080												
		35	HNSJA	0021	2081												
		35	HPSJA	0021	2082												
		80	HNSJA	0021	2083												
		80	HPSJA	0021	2084												
		35	HNSJA	0022	2085												
		35	HPSJA	0022	2086												
		80	HNSJA	0022	2087												
		80	HPSJA	0022	2088												
		35	HNSJA	0023	2089												
		35	HPSJA	0023	2090												
		80	HNSJA	0023	2091												
		80	HPSJA	0023	2092												
		35	HNSJA	0024	2093												
		35	HPSJA	0024	2094												
		80	HNSJA	0024	2095												
		80	HPSJA	0024	2096												
		35	HNSJA	0025	2097												
		35	HPSJA	0025	2098												
		80	HNSJA	0025	2099												
		80	HPSJA	0025	2100												

J.K

DATE: JUNE 1981 REPORT NO. 81165 EXPLORATION:

PROJECT: LANSG | WT. USED: | METHOD:

PROJECT	YR.	SAMPLE NUMBER FRAC.	INT.	#	LAB #	Au ppb	As ppm	Sb ppm	W ppm	Be ppm	Be %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19 20				25	30	35	40	45	50	55	60	65	70	75	
LANSG	81	80	HNS	JA0013	2051												
		80	HPS	JA0013	2052												
		35	HNS	JA0014	2053												
		35	HPS	JA0014	2054												
		80	HNS	JA0014	2055												
		80	HPS	JA0014	2056												
		35	HNS	JA0015	2057												
		35	HPS	JA0015	2058												
		80	HNS	JA0015	2059												
		80	HPS	JA0015	2060												
		35	HNS	JA0016	2061												
		35	HPS	JA0016	2062												
		80	HNS	JA0016	2063												
		80	HPS	JA0016	2064												
		35	HNS	JA0017	2065												
		35	HPS	JA0017	2066												
		80	HNS	JA0017	2067												
		80	HPS	JA0017	2068												
		35	HNS	JA0018	2069	<40	126	10	36		49.6						C
		35	HPS	JA0018	2070												C
		80	HNS	JA0018	2071	<40	68	6	[illegible]		50.8						C
		80	HPS	JA0018	2072												C
		35	HNS	JA0019	2073	<80	520	32	224		19.8						C
		35	HPS	JA0019	2074	120	[illegible]	48	20		60.8						C
		80	HNS	JA0019	2075	<80	336	28	[illegible]		3.2						C
		80	HPS	JA0019	2076												C
		35	HNS	JA0020	2077												
		35	HPS	JA0020	2078												
		80	HNS	JA0020	2079												
		80	HPS	JA0020	2080												
		35	HNS	JA0021	2081												
		35	HPS	JA0021	2082												
		80	HNS	JA0021	2083												
		80	HPS	JA0021	2084												
		35	HNS	JA0022	2085												
		35	HPS	JA0022	2086												
		80	HNS	JA0022	2087												
		80	HPS	JA0022	2088												
		35	HNS	JA0023	2089												
		35	HPS	JA0023	2090												
		80	HNS	JA0023	2091												
		80	HPS	JA0023	2092												
		35	HNS	JA0024	2093												
		35	HPS	JA0024	2094												
		80	HNS	JA0024	2095												
		80	HPS	JA0024	2096												
		35	HNS	JA0025	2097												
		35	HPS	JA0025	2098												
		80	HNS	JA0025	2099												
		80	HPS	JA0025	2100												
1 2 3 4 5	6 7	8 9 10 11 12 13 14 15 16 17 18 19 20				25	30	35	40	45	50	55	60	65	70	75	

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AUG 27 1981

PANOCEAN OIL
MINERALS DIVISION

PROJECT	YR.	SAMPLE NUMBER FRAC.	INT.	#	LAB #	Au ppb	As ppm	Sb ppm	W ppm	Be ppm	Be %	Sn ppm	Ni ppm	Co ppm	Bi ppm	Hg ppb	LD
						5	20	25	30	35	40	45	50	55	70	75	
ANSC	81	8	OH	NSJA0013	2051												C
		8	OH	PSJA0013	2052												C
		3	5H	NSJA0014	2053												C
		3	5H	PSJA0014	2054												C
		8	OH	NSJA0014	2055												C
		8	OH	PSJA0014	2056												C
		3	5H	NSJA0015	2057												C
		3	5H	PSJA0015	2058												C
		8	OH	NSJA0015	2059												C
		8	OH	PSJA0015	2060												C
		3	5H	NSJA0016	2061												C
		3	5H	PSJA0016	2062												C
		8	OH	NSJA0016	2063												C
		8	OH	PSJA0016	2064												C
		3	5H	NSJA0017	2065												C
		3	5H	PSJA0017	2066												C
		8	OH	NSJA0017	2067												C
		8	OH	PSJA0017	2068												C
		3	5H	NSJA0018	2069									10			C
		3	5H	PSJA0018	2070									11			C
		8	OH	NSJA0018	2071									3			C
		8	OH	PSJA0018	2072												C
		3	5H	NSJA0019	2073									55			C
		3	5H	PSJA0019	2074									19			C
		8	OH	NSJA0019	2075									60			C
		8	OH	PSJA0019	2076									22			C
		3	5H	NSJA0020	2077												C
		3	5H	PSJA0020	2078												C
		8	OH	NSJA0020	2079												C
		8	OH	PSJA0020	2080												C
		3	5H	NSJA0021	2081												C
		3	5H	PSJA0021	2082												C
		8	OH	NSJA0021	2083												C
		8	OH	PSJA0021	2084												C
		3	5H	NSJA0022	2085												C
		3	5H	PSJA0022	2086												C
		8	OH	NSJA0022	2087												C
		8	OH	PSJA0022	2088												C
		3	5H	NSJA0023	2089												C
		3	5H	PSJA0023	2090												C
		8	OH	NSJA0023	2091												C
		8	OH	PSJA0023	2092												C
		3	5H	NSJA0024	2093												C
		3	5H	PSJA0024	2094												C
		8	OH	NSJA0024	2095												C
		8	OH	PSJA0024	2096												C
		3	5H	NSJA0025	2097												C
		3	5H	PSJA0025	2098												C
		8	OH	NSJA0025	2099												C
		8	OH	PSJA0025	2100												C
						5	20	25	30	35	40	45	50	55	70	75	

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MINERALS DIVISION

I hereby certify that the following are the results of assays made by us upon the herein described ~~rock~~ sample

MARKED	GOLD		SILVER		Pb	Zn	Ba					
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
48526			0.07		<0.01	<0.01	19.80					
48527			<0.02		<0.01	0.01	42.60					
48528			0.02		<0.01	0.04	36.30					
48529			0.11		<0.01	<0.01	9.70					
48530			0.10		<0.01	0.02	0.72					
48531			0.09		<0.01	<0.01	0.31					
cc Mr. C. McArthur												

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

CERTIFICATE OF ASSAY

Samples submitted: October 6, 19[illegible]
Results completed: November 6, 1981

PROJECT: LANSING

I hereby certify that the following are the results of assays made by us upon the herein described rock samples.

MARKED	GOLD		SILVER		Cu	Pb	Zn	Ni	Co	WO_3	Ba	Sr
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
[redacted]												
JK Claims 48549	<0.002		0.05		-	<0.01	-	-	-	-	-	-
48550	-		0.02		-	<0.01	<0.01	-	-	-	49.69	-
48551	-		-		-	-	-	-	-	-	0.77	0.007
48552	-		0.02		-	<0.01	<0.01	-	-	-	45.93	-

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

AUTHOR'S QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

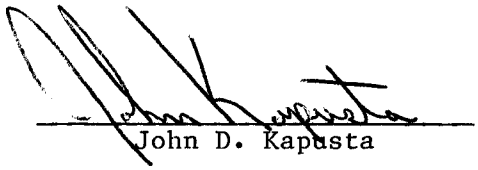
J.D. Kapusta

I, John D. kapusta of Calgary, Alberta Hereby certify that:

1) I am a geologist presently residing at 302, 1902 11th Ave., S.W. Calgary Alberta, and am currently employed by Pan Ocean Oil Ltd., of 300 Fifth Ave., S.E. Calgary, Alberta.

2) I graduated from the University of Manitoba in 1981 with a BSc Degree in Geology

3) The entire program was conducted under the supervision of G.F. McArthur, senior geologist for Pan Ocean Oil Ltd.



John D. Kapusta

STATEMENT OF QUALIFICATIONS

G.F. McArthur

I, Gerald F. McArthur of Calgary, Alberta, hereby certify that:

1) I am a geologist residing at 111 Chelsea St., N.W., Calgary, Alberta and am currently employed by Pan Ocean Oil Ltd. of 300 Fifth Ave., S.W. Calgary, Albarta.

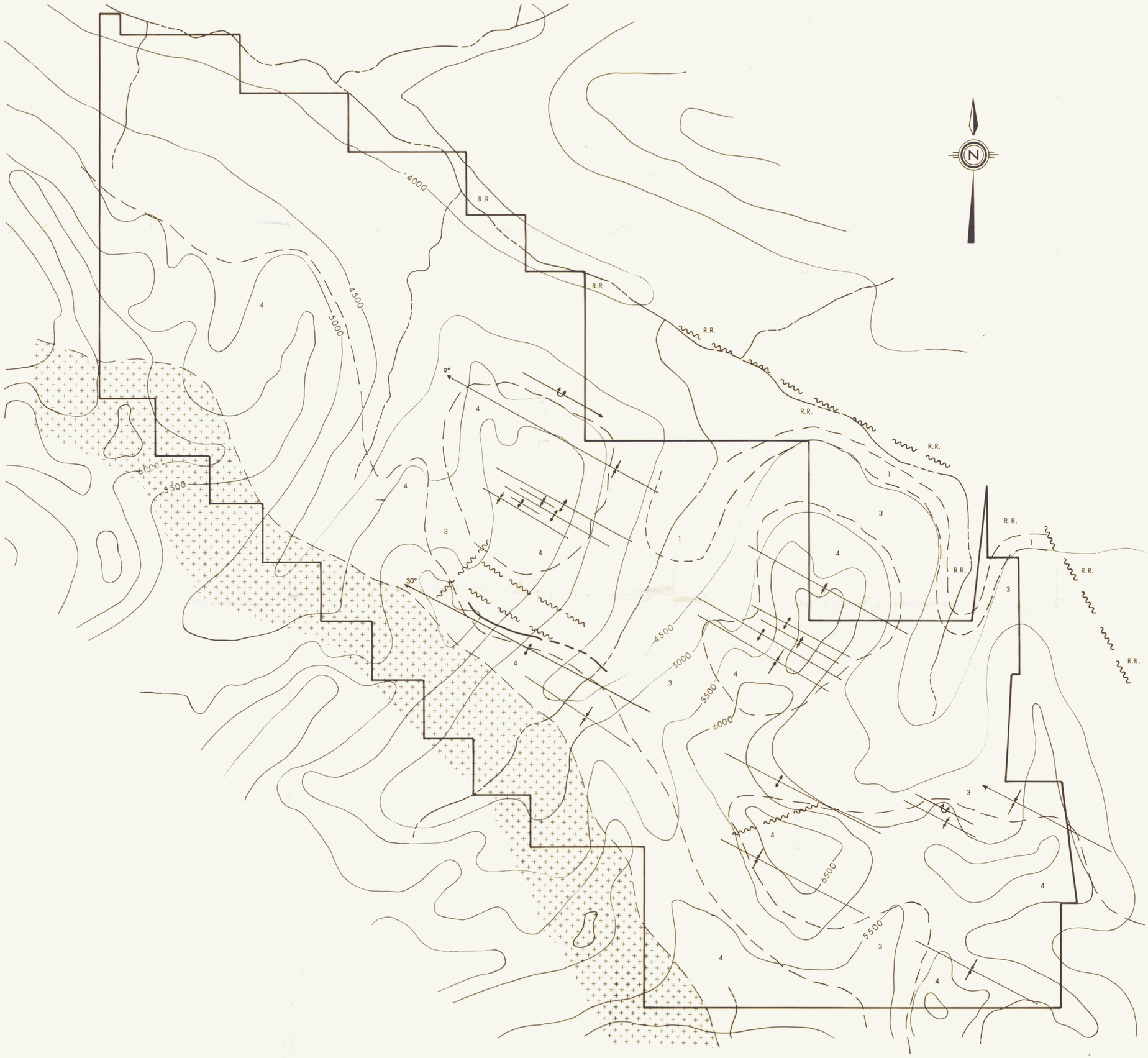
2) I graduated from the University of British Columbia, in 1973 with a BSc. in Geology and have practiced my profession since that time.

3) I am a professional geologist registered in the province of Alberta.

4) I supervised the 1981 field work carried out by John D. Kapusta for Pan Ocean Oil Ltd., which forms the basis of this report.

G.F. McArthur

DRAWING NO. D-1482



LEGEND

ROAD RIVER FORMATION

R.R. — BLACK CARBONACEOUS GRAPTOLITIC SHALES, BLACK LIMY SHALES, ARGILLACEOUS LIMESTONE CALCAREOUS ARGILLITE

UNIT 1 CANOL FORMATION

1 — SAND BANDED ARGILLITES, THIN BEDDED TURBIDITES

UNIT 2 CANOL FORMATION

2 — CHERT PEBBLE CONGLOMERATE

UNIT 3 CANOL FORMATION

3A — SAND BANDED ARGILLITE, SANDSTONE, ARGILLITE - CLAST BRECCIA

3B — BLACK ARGILLITE, CHERTY BLACK ARGILLITE

UNIT 4 IMPERIAL FORMATION

4 — TURBIDITES

INTRUSIVES

SYMBOLS

FAULT

GEOLOGICAL BOUNDARY DEFINED, ASSUMED

ANTICLINE

SYNCLINE

ANTICLINE AND SYNCLINE OVERTURNED

BEDDED BARITE

MILE 0 1/4 1/2 1 MILE

TO ACCOMPANY REPORT NO 39-81 BY J.D.K

090913

PAN OCEAN OIL LTD.
CALGARY ALBERTA

GEOLOGY

JK CLAIMS

LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO.
DEC., 1981	1" = 1/4 MILE	105 O/1	D-1482

DP555 A1 1000

K.B.B. / R.F.

DRAWING NO. D-1484

130° 20'

63° 10'

4000

4500

5000

5500

6000

6500

SJA 19

460 / 118 / 1720 / 29 / 2.6 / 35 HN
<200 / 1300 / 89 / 65 / <1.0 / 26

144 / 33 / 2700 / 44 / 1.3 / 35 HP
<80 / 680 / 130 / <2.0 / .6 / 22

48526 | 19.8 | <.01 | <.01
- | - | .07

48527 | 42.6 | .01 | <.01
- | - | <.02

48528 | 36.3 | .04 | <.01
- | - | .02

48529 | 9.7 | <.01 | <.01
- | - | .11

48530 | .72 | .02 | <.01
- | - | .1

48531 | .31 | <.01 | <.01
- | - | .09

48551 | .77 | - | -
.007 | - | -

48552 | 45.93 | <.01 | <.01
- | - | .02

HSO 183

55 / 16 / 760 / 138 / .6 / 35 HN
<40 / 89 / 12 / 100 / 547 / 9

156 / 94 / 810 / 47 / 0 / 35 HP
- / - / - / - / - / 19

63 / 46 / 60 / 8 / 1.1 / 80 HN
<200 / 8 / 1 / 20 / <1.0 / 17

<.01 / <.01 / 4969 / 48550
.02 / - / -

<.01 / - / -
.05 / <002 / - / 48549

SJA 18

46 / 13 / 92 / 9 / 0.0 / 35 HN
< 40 / 126 / 10 / 36 / 49.6 / 2

158 / 58 / 920 / 74 / 1.0 / 35 HP
- / - / - / - / - / 17

11 / 27 / 50 / 5 / .6 / 80 HN
< 40 / 68 / 6 / 400 / 50.8 / 3

HSO 195

460 / 118 / 1720 / 29 / 2.6 / 35 HN
<200 / 1300 / 89 / 65 / <1.0 / 26

144 / 33 / 2700 / 44 / 1.3 / 35 HP
< 80 / 680 / 130 / < 2 / .6 / 22

LEGEND

HEAVY METAL STREAM SEDIMENT ANALYSIS

SAMPLE NUMBER

Cu / Pb / Zn / Mo / Ag / 35 HN
Au / As / Sb / W / Ba / Co

Cu / Pb / Zn / Mo / Ag / 35 HP
Au / As / Sb / W / Ba / Co

Cu / Pb / Zn / Mo / Ag / 80 HN
Au / As / Sb / W / Ba / Co

Cu / Pb / Zn / Mo / Ag / 80 HP
Au / As / Sb / W / Ba / Co

NOTE - ALL RESULTS ARE IN PPM, EXCEPT Ba, WHICH IS A % MEASURE.

ROCK GEOCHEMISTRY

Pb / Zn / Ba / SAMPLE NUMBER
Ag / Au / Sr

NOTE - ALL VALUES ARE A % MEASURE, EXCEPT Ag, REPRESENTING OUNCES / TON (NON METRIC)

mi. 1/4 1/8 0 1/4 1/2 3/4 mi.

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CALGARY ALBERTA

GEOCHEMICAL SAMPLING

JK CLAIMS

LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO.
DEC., 1981	1" = 1/4 mi.	105 O/1	D-1484

DP555 A1 P00

JCC
KBB

DRAWING NO. D-1483

130° 20'

63° 10'

N

4000
4500
5000
5500
6000
6500

mi. 1/4 1/8 0 1/4 1/2 3/4 mi.

TO ACCOMPANY REPORT NO 39-81 BY J.D.K.

090913

PAN OCEAN OIL LTD.
CALGARY ALBERTA

LINECUTTING

JK CLAIMS

LANSING PROJECT, 1981

DATE	SCALE	NTS	DRAWING NO.
DEC., 1981	1"= 1/4 mi.	105 O/1	D-1483

DP555 A1 PRO

JCC
K.B.B.