

G E O L O G E D I T L I S T I N G

SYSTEMS ENGINEERING BY
INTERNATIONAL GEOSYSTEMS CORP.

PAK OCEAN OIL LTD.

JASIR PR-ZN-AG-BASITE DEPOSIT, Y.T.

FORMAT VERSION : 6802

DRILLHOLE/TRVERSE : 81-DH074	COLLAR ELEVATION: 1236.10	AZIMUTH(DEG) : 18.00	GEOLOGGED BY : HDG +
TOTAL DEPTH/LENGTH : 274.93	NORTHING(= IF S): 7902473.00	VERTICAL ANGLE : -69.00	DATE (YY/MM/DD): 810628
CORE/HOLE DIAMETER : HQ	EASTING (= IF W): 436718.37	CO-ORD SYSTEM : UTM	PROJECT NUMBER : J-MAIN

SEQ. NO OF SURVEY DATA	LENGTH FROM COLLAR TO SURVEY POINT	AZIMUTH (DEG)	VERT. ANGLE (DEG)
1	29.87	25.00	-63.50
2	44.56	25.00	-61.50
3	59.74	28.00	-60.00
4	74.98	30.00	-59.00
5	90.22	29.00	-59.00
6	105.46	30.00	-58.25
7	120.70	33.50	-58.00
8	135.94	32.00	-57.50
9	151.18	35.00	-56.50
10	166.42	35.00	-56.33
11	181.66	36.00	-56.00
12	196.90	38.00	-56.00
13	212.14	38.00	-54.50
14	227.38	39.50	-51.67
15	242.62	41.00	-51.00
16	257.86	39.50	-51.75
17	273.10	40.00	-51.75

R HED DRILL HOLE 81-DH074 WAS DIRECTED AT THE MAIN ORE ZONE, BENEATH

R HED 81-DH072. THE RESULTS FROM THIS INTERSECTION WOULD BE USED FOR

R HED GRADE AND TONNAGE CALCULATIONS, IN CONNECTION WITH THE MAIN

R HED ZONE.

R HED THE ORE INTERSECTION EXTENDED FROM 243.96 METRES TO 259.38

R HED METRES, WITH AVERAGE GRADES OF 10.45% ZN, 3.18% PB, 8.44% FE AND

R HED 0.05% BA. THE MAJORITY OF CU VALUES WERE BELOW DETECTION LIMITS,

R HED AND AG WAS LESS THAN 0.04% PER TON. THE CENTRE OF THE ORE ZONE

R HED INTERSECTION IS 721 METRES FROM THE ZERO BASELINE AT 1025 METRES

R HED ABOVE SEA LEVEL, BASED ON CORE TO BEDDING ANGLE MEASUREMENTS,

R HED THE TRUE THICKNESS OF THE INTERSECTION WAS ESTIMATED TO BE

R HED 10.0 METRES. CORE RECOVERY WAS CALCULATED AS BEING 69.6%.

R HED STRATIGRAPHIC CORRELATION WAS POSSIBLE WITH MARKER BEDS

R HED D, C, R, A AND O. THE ORE ZONE IS A SILICATE HOSTED, LAMINATED

R HED SULPHIDE WITH MINOR DEFORMATION AND BRECCIATION.

F - INTERVAL -		CORE	T- %	TYPI- NAL	TEX- GRAIN	PGI	STRUCTUR-1	ALTERATION MINS	ORE-TYPE MINS	SUMMARY
K L (UNITS = . DEC.PLACE) RECOV- P M ROCK FLYING MIN TURES CHARACS	E A (MT=METRIC FT=FOOTRIC) ERY	O I	TM TM MAT TX TX F C % M ARG	/RI T	ID STK DIP	A A A A A	MIN A A A MIN	ALT ORE		
Y G F R D N - T D - I N T (.)	O X TYPE	1 2 DM1	1 2 F F C A	1	AZM RT QZ FL CY CA BA XX PY CP GL YY	A 1 A 2				
K F	ROCK FM RT	TM DM2 TX TX S C O D CHT	T ID STK DIP	MG MU CL SD QS HA PR MT SL HA						
E L	DUAL AGE EN- Q LC- 3	3 4 0	/	2	AZM RT H H H H H H H H H H	1 1				
Y G	DESIG VIR COL	P C			STRUCTUR-2	A A A A A A A A A A	2 2			

R SVY 0.00 0.00 SPERRY-SUN MULTI-SHOT RESULTS.

/ OVR 0.00 3.66 3.66 OVER P

/ 3.66 8.23 4.57 BRPM *S* MP6 P D)

L 2 * KO=

/ 6.50 6.80 0.30 X BRPM CR *S* MP6 R D)

L 2 * KO=

/ 7.80 8.10 0.30 X SAND SNX (C 3 3 3 R D.

L 7 9

/ 8.23 20.24 12.01 BRPM CR NR9 P B)

L 3 4

/ 20.24 51.95 31.72 ARSI CR SN1 XB SC 1 3 1 3 P 2 BD 61 L)

L 3 ST+

/ 51.95 55.47 3.51 BRPM CR NR4 P B)

L 3 LO2

/ 55.47 57.62 2.15 BRHT SN1 G; NR3 P D)

L 4 *C= R* F* 4 MN4

R 55.47 57.62 THERE IS ONE NORMAL GRADED CYCLE OF CHERT WHICH INDICATES THAT
R 55.47 57.62 STRATIGRAPHIC TOPS ARE UPHOLE. SAND MAKES UP MOST OF THE MATRIX
R 55.47 57.62 BETWEEN CHERT CLASTS.

/ 57.62 59.93 2.31 CGCP *C1 F* NR1 P D)

L 8 R* 7 C LN6

R 57.62 59.93 THE LARGER CHERT FRAGMENTS ARE WELL ROUNDED WHEREAS THE SMALL
R 57.62 59.93 CHERT CLASTS ARE MORE ANGULAR.

K M/D 57.62 57.62 0.00

/ 57.62 58.29 0.67 9 SAND SN1 G; RD 2 3 9 6 R BD U45 D)

L 8

[illegible][illegible]

[illegible]

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/ FLT 154.20 156.06 1.86 CGAR CR GR= F* 4 LN1 P R+
/ 4 *C1 B* KN3

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1	154.20	154.30	0.10	8 BRPM CR	*C=	KIN=	R	R+
1				2	F*	JM2		

K N/A	156.06	156.06	0.00
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7	156.06	157.58	1.52	SAND	XB	1 3 9 3	P	B+
1				5		8		

7	156.06	156.62	0.56	3	ARSI	CR	SN3	BD	SS	1	3	3	3	R	2	BD	32	D)
1						4				8								

7	156.62	157.00	0.38	7	BRPM	*C (LO1	R	B+
1				4		E *	3		KN2		

R	156.62	157.00	THE MATRIX IS SANDSTONE IN THIS INTERVAL.
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157.58	170.08	12.50	BRRT CR	*S4	KS6	P	R+
			4	*C) F* R* 2 + +	K02		

R 157.58 170.08 PYRITE IS CONFINED TO CHERT FRAGMENTS AS A REPLACEMENT MINERAL.

7	FLT	158.02	159.01	0.59	X	BRT	GR	*S4		KS6	R	01
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7	168.12	170.08	1.96	7	FRHM CR	GG7		LN9	R		V2	D+
1					3							

7	170.00	172.00	1.92	SILT CR	1M	2	3	2	4	P	1	52	L+
1				2		8							

170.08	170.83	0.75	8 SAND	80	2 3 8 4	R 2	V1	D1
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7	171.52	172.00	0.38	X SILT PY	LM	2 3 2 4	R 1	52	L3
1				2		8			

1	172.00	173.95	1.95	ARSI CR	SI= LM (L 1 2 = 2	P 1	<*	D+
2				2	SM+	8		

1	172.00	173.95	1.95	1	RRPM	1	2	KM1	R	3	<*	0=
1								IM2				

172.00 173.95 INTERBEDDED BRPM INTERVALS ARE FROM .3 - 3 CM THICK.

7	175.95	176.32	2.37	BRPM	*C+	F*	LM1	P	R+
1				2	B*	R* 2	LM2		

7	176.32	179.75	3.43	RRNT	*S+ G;	2	+	LR3	P	<	R+
1				4				IM3			

176.32	179.75	PYRITE OCCURS AS A REPLACEMENT MINERAL IN CHERT CLASTS.
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[illegible]

/	179.05	179.55	0.50	7 SAND	G; RD	2 3 7 4	R	2	U52	D+
L				5		7				
/	179.75	181.65	1.91	ARGL CR		1 3 = 4	P		53	L+
L				1		9				
/	179.75	181.65	1.91	2 BRHT CR			LO3	R		R)
L				1		2	JK+			
/	181.65	185.35	3.67	BRHT	G;		MR7	P		R+
L				3		2	K02			
/	185.33	186.65	1.32	SAND	RD G;	2 3 7 5	P	2	U45	D=
L				6		7				
R	185.33	186.65		EUBEDRAL PYRITE CRYSTALS ARE PREVALENT THROUGHOUT THE SANDSTONE						
R	185.33	186.65		INTERVAL INDICATING EPIGENETIC DEPOSITION.						
/	186.65	198.12	11.47	BRHT	*C+ I*		MVR	P		R+
L				4	9*	1	L01			
R	186.65	198.12		LARGE ARSN FRAGMENTS CONTAIN PYRITE LAMINATIONS WITHIN SANDSTONE						
R	186.65	198.12		LAYERS.						
/	198.12	201.82	3.70	ARGL CR	GG1	1 1 1	P			<)
L				1		9				
/	199.15	199.40	0.25	X ARGL CR	GG2	1 1 1	R			#7
L				1		9				
/	201.17	201.82	0.65	2 BRHT	*C+		JM2	R		*2
L				5	F* H* 5		JM3			
/	201.82	206.65	4.83	BRHT	*S*		LR3	P		**
L				5	*C) F*	3 *	K04			
R	201.82	206.65		PYRITE OCCURS AS A REPLACEMENT MINERAL IN CHERT FRAGMENTS.						
/	206.65	230.03	23.38	ARGL CR		1 3 + 4	P	0	41	L+
L				1		LM 9				
R	206.65	230.03		THE ARGL IS FAINTLY LAMINATED, WITH MOST LAMINATIONS PARTIALLY						
R	206.65	230.03		REPLACED BY PYRITE. MILD BRECCIATION OF THE ARGL OCCURS IN TWO						
R	206.65	230.03		10 CM SECTIONS, IN WHICH PYRITIZATION APPEARS TO BE STRONGEST						
/	218.24	218.57	0.33	8 SAND PY	XB RD	1 3 7 3	R	1 RD	45	D2
L				5		8				
/	221.80	222.00	0.20	5 SILT RD PY	SIS G; RD	1 3 4 3	R	RD	50	L1
L				3	SN4	8				
/	226.50	227.21	0.71	9 BRHT	*G) G;		KP4	R		D=
L				4	F*	3	K02			
/ FLT	230.03	231.60	1.57	ARGL CR LM	GG3	1 3) 3	P	1 LM	55	<+ <) #=
L				1		9				

G F O L O G

K	F	F	R	O	I	T	RECOV	NO	%	ROCK	TM	TM	RM1	TX	TX	F	C	%	M	ARG	RI	1	ID	AZM	DIP	OZ	FL	CY	CA	BA	XX	PY	CP	GL	YY	A	1	A	2
E	-L-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Y	G																					2	ID	AZM	DIP	MG	MU	CL	SD	QS	HA	PR	MT	SL	HA				

R 254.51 255.84 THIS HIGHLY CONVOLUTED, MILDLY BRECCIATED LMSX CONTAINS ARGILLITE
 R 254.51 255.84 FRAGMENTS THAT MAY HAVE ORIGINALLY BEEN BEDDED AND LATER
 R 254.51 255.84 DISRUPTED.

/ LSX 255.84 257.76 1.92 LMSX SF BA LM // P 1 LM 40 L5 L2 L1 L+ 8
 L 8 LC SS L2

R 255.84 257.76 ARGILLITE BEDS ARE 5% OF THE TOTAL VOLUME.

/ LSX 257.76 259.34 1.62 LMSX SF PY LM LC P L3 L2 B2 L1 8
 L 4

/ 259.34 260.60 1.22

LOST

P

K LM1 259.96 259.96 0.00

/ 260.60 261.73 1.13

SILT

LM 0 1 8 1

P 1 LM

50 V=

<)

L=

L=

/ 261.73 264.87 3.14

SILT

LM 0 1 8 1

P 1 LM

60 V)

<+

L+

/ 264.87 267.50 2.63

SILT

LC LM 0 1 8 1

P 1 LM

50 L1

<)

L=

R 264.87 267.50 THE SULPHIDE AND QUARTZ LAMINATIONS OCCUR IN DISCRETE 3-5 CM
 R 264.87 267.50 PACKAGES. THE SILTSTONE AND THE LAMINATIONS ARE CONVOLUTED AND
 R 264.87 267.50 MILDLY BRECCIATED.

/ CON 267.50 274.93 7.43

ARGL CR GR ST= LC RW

02=2

P

LM

60 V=

E=

R 267.50 274.93

THIS UNIT IS A CARBONACEOUS ARGL IN WHICH CONVOLUTED INTERVALS
 OF MORE SILICIFIED ARGILLITE ARE BORDERED BY PYRITIC ENVELOPES.
 THESE UNITS ARE LATER CROSSCUT BY SILICIOUS VEINS AND VEINLETS.
 OPEN SPACE FILLING BY QUARTZ AND PYRITE IS ALSO PRESENT. THE
 DISRUPTION OF BEDDING SEEMS TO BE ASSOCIATED WITH THE INTRODUCT-
 ION OF PYRITE AND SILICIFICATION OF THE ARGL.

R 267.50 274.93

R 267.50 274.93

R 267.50 274.93

R 267.50 274.93

R 267.50 274.93

G E O L O G

A UMM	RQD	SP.GR.
A TYP	CM	SG
A MTH	B-B	WEIGH
A LAB	FLD	FLD

R ASY 0.00 0.00 RCPV=RECOVERY(C17-20) IS MEASURED IN CM BLOCK TO BLOCK(R-B)

R ASY 0.00 0.00 RQD=ROCK QUALITY DESIGNATOR(C27-32) MEASURED IN CM BLOCK TO BLOCK

R ASY 0.00 0.00 RQD IS THE TOTAL LENGTH (BETWEEN BLOCKS) OF PIECES OF CORE

R ASY 0.00 0.00 AT LEAST 2-1/2 TIMES DIAMETER OF CORE TO NEAREST CM, DIVIDED

R ASY 0.00 0.00 BY LENGTH OF INTERVAL = BLOCK(10) MINUS BLOCK(FROM) TIMES 100

R ASY 0.00 0.00 CM INDICATES THAT MEASUREMENTS ARE IN CM'S WHICH ARE TO BE RIGHT

R ASY 0.00 0.00 JUSTIFIED AGAINST THE DOUBLE VERTICAL LINE AT RIGHT MARGIN

R ASY 0.00 0.00 OF EACH FIELD.

R ASY 0.00 0.00 B-B=BLOCK-TO-BLOCK (DRILLERS BLOCKS). ENTER METRAGE OF ONE BLOCK

R ASY 0.00 0.00 AS THE TO OF ANY INTERVAL AND THE METRAGE OF THE NEXT BLOCK.

R ASY 0.00 0.00 ADDITIONAL POINTS (FROM-TO'S) CAN BE ESTABLISHED BETWEEN

R ASY 0.00 0.00 BLOCKS TO BRACKET SPECIFIC INTERVALS OF LOCALIZED POOR

R ASY 0.00 0.00 RECOVERY. B-B IS ENTERED RIGHT JUSTIFIED IN EACH FIELD IN

R ASY 0.00 0.00 THE ARTH HEADER.

R ASY 0.00 0.00 THE FIRST INTERVAL, THROUGH THE OVERBURDEN, WITH ZERO RECOVERY,

R ASY 0.00 0.00 SHOULD BE ENTERED FIRST -- SEE BELOW.

A 100 0.00 3.66 000 000

R ASY 0.00 3.66 OVERBURDEN

A 100 3.66 5.81 187 46 2.70

A 100 5.81 8.23 242 107

A 100 8.23 11.23 305 172

A 100 11.23 14.33 303 162

A 100 14.33 14.94 61 45

A 100 14.94 17.94 300 291

A 100 17.94 21.34 230 173

A 100 21.34 24.69 335 172 2.70

A 100 24.69 28.04 335 194

A 100 28.04 28.65 61 75

A 100 28.65 30.13 137 69

A 100 30.13 33.22 304 114

A 100 33.22 34.75 152 63

A 100 34.75 35.66 81 20

A 100 35.66 38.17 251 99 2.65

A 100 38.17 41.76 303 51

A UMM				RQD	SP. GR.	
A TYP				CV	SG	
A MTH				B-B	WEIGH	
A LAB				FLO	FLO	
A 100	41.76	44.81	201	122		
A 100	44.81	47.85	304	89	2.73	
A 100	47.85	49.85	124	69		
A 100	49.85	52.43	260	34		
A 100	52.43	55.47	255	77		
A 100	55.47	58.83	295	232	2.76	
A 100	58.83	62.13	313	305		
A 100	62.13	65.52	309	283	2.70	
A 100	65.52	68.53	290	195		
A 100	68.53	71.32	256	225		
A 100	71.32	72.24	92	92		
A 100	72.24	75.29	277	231	2.67	
A 100	75.29	78.33	283	256		
A 100	78.33	81.38	274	208	2.66	
A 100	81.38	84.48	288	236	2.68	
A 100	84.48	86.56	161	70		
A 100	86.56	89.61	255	209	2.66	
A 100	89.61	92.96	282	155	2.70	
A 100	92.96	96.32	217	18		
A 100	96.32	97.54	81	18		
A 100	97.54	99.67	131	87		
A 100	99.67	101.80	126	29		
A 100	101.80	102.72	77	39	2.74	
A 100	102.72	103.94	122	83	2.66	
A 100	103.94	107.29	281	163		
A 100	107.29	110.34	229	115	2.51	
A 100	110.34	111.86	152	16		
A 100	111.86	114.91	191	46	2.72	
A 100	114.91	117.96	138	00	2.73	
A 100	117.96	121.01	158	21		
A 100	121.01	124.05	57	17		
A 100	124.05	126.80	119	88	2.67	
A 100	126.80	128.32	152	66	2.65	
A 100	128.32	130.15	110	33		
A 100	130.15	132.28	152	48		
A 100	132.28	133.20	73	46		
A 100	133.20	136.25	241	137	2.67	
A 100	136.25	139.29	204	93	2.69	
A 100	139.29	142.34	198	76	2.66	
A 100	142.34	145.39	250	71	2.69	
A 100	145.39	146.51	86	17		
A 100	146.51	149.35	193	48		
A 100	149.35	150.57	89	00		
A 100	150.57	151.49	74	00		
A 100	151.49	152.70	88	39		
A 100	152.70	156.06	281	53	2.70	
A 100	156.06	157.58	99	36	2.66	
A 100	157.58	159.41	132	00		
A 100	159.41	160.63	119	00	2.69	
A 100	160.63	162.15	116	00		
A 100	162.15	163.63	83	00		

A UMM	RDD	SP.GR.
A TYP	CM	SG
A MTH	R-H	WEIGH
A LAB	FLD	FLD

A 100	163.68	164.29	41	00	
A 100	164.29	166.73	139	34	
A 100	166.73	168.86	146	23	
A 100	168.86	170.08	62	00	
A 100	170.08	171.30	73	17	2.54
A 100	171.30	172.52	116	31	2.63
A 100	172.52	173.74	89	18	
A 100	173.74	176.78	153	48	
A 100	176.78	177.70	69	00	
A 100	177.70	178.92	21	00	2.71
A 100	178.92	179.53	11	00	
A 100	179.53	180.14	54	17	
A 100	180.14	181.66	112	00	
A 100	181.66	183.18	144	41	
A 100	183.18	184.71	121	76	
A 100	184.71	186.23	114	31	2.41
A 100	186.23	187.76	114	57	
A 100	187.76	189.28	104	47	
A 100	189.28	190.20	59	00	
A 100	190.20	191.41	94	00	
A 100	191.41	192.33	63	18	
A 100	192.33	193.85	108	74	
A 100	193.85	194.77	66	39	
A 100	194.77	195.38	43	21	
A 100	195.38	196.90	98	19	
A 100	196.90	198.42	104	24	
A 100	198.42	199.03	61	00	
A 100	199.03	199.95	39	00	
A 100	199.95	201.17	53	00	
A 100	201.17	202.69	114	00	
A 100	202.69	203.91	70	00	
A 100	203.91	205.44	108	44	2.64
A 100	205.44	206.65	94	51	
A 100	206.65	207.57	44	00	
A 100	207.57	208.48	52	00	
A 100	208.48	209.70	51	00	
A 100	209.70	210.62	38	00	
A 100	210.62	212.14	67	19	
A 100	212.14	213.36	84	43	
A 100	213.36	214.58	88	19	
A 100	214.58	216.10	99	00	
A 100	216.10	217.63	112	36	
A 100	217.63	219.15	121	25	2.64
A 100	219.15	220.68	89	24	
A 100	220.68	222.20	119	21	
A 100	222.20	223.11	84	00	
A 100	223.11	224.33	37	00	
A 100	224.33	225.25	81	13	
A 100	225.25	225.55	30	11	
A 100	225.55	226.77	77	00	
A 100	226.77	227.99	95	28	

A IUM				RDD	SP.GR.
A IYP				CM	SG
A MTH				R-B	WEIGH
A LAB				FLD	FLD
A 100	227.99	229.51	118	21	
A 100	229.51	230.43	50	00	
A 100	230.43	231.34	61	14	
A 100	231.34	232.87	141	51	
A 100	232.87	234.39	86	00	
A 100	234.39	235.92	112	24	
A 100	235.92	237.44	125	00	
A 100	237.44	238.96	120	22	
A 100	238.96	240.32	118	15	2.47
A 100	240.32	241.71	132	00	
A 100	241.71	243.96	225	00	
A 100	243.96	245.63	157	00	
A 100	245.63	247.19	145	00	
A 100	247.19	247.90	70	00	
A 100	247.90	248.66	74	00	
A 100	248.66	250.93	151	00	
A 100	250.93	252.55	152	00	
A 100	252.55	252.98	40	00	
A 100	252.98	254.51	00	00	
A 100	254.51	255.84	69	00	
A 100	255.84	257.76	158	00	
A 100	257.76	259.38	57	00	
A 100	259.38	260.60	00	00	
A 100	260.60	261.73	113	00	
A 100	261.73	264.87	220	00	
A 100	264.87	266.09	89	00	2.90
A 100	266.09	267.00	68	00	
A 100	267.00	268.83	169	00	
A 100	268.83	269.75	59	00	
A 100	269.75	272.19	155	43	
A 100	272.19	273.71	73	00	
A 100	273.71	274.02	20	00	
A 100	274.02	274.50	29	00	
A 100	274.50	274.93	38	00	
R SUM	NORMAL GRADING OF SANDSTONE AND CHERT PARTICLES INDICATES THAT				
R SUM	TOPS ARE IN AN UPHOLE DIRECTION (I.E. SOUTH). MARKER BEDS D,C,B,				
R SUM	A AND G WERE USED TO CORRELATE THE STRATIGRAPHIC POSITION OF				
R SUM	THE DRILL HOLE.				
R SUM	THE SPHALERITE WITHIN THE ORE HORIZON IS COLOURED LIGHT PINK,				
R SUM	CANARY YELLOW AND WHITE, MAKING GRADE ESTIMATES DIFFICULT. THE				
R SUM	MARCASITE AND PYRITE RICH AREAS. SULPHIDE BRECCIATION AND DEFOR-				
R SUM	MATION APPEAR TO RESULT FROM SOFT SEDIMENT SLUMP RELATING TO				
R SUM	MOVEMENT ASSOCIATED WITH HYDROTHERMAL ACTIVITY.				