and three Pakistani personnel. Both Japanese and Pakistani team each rented a house in Khuzdar, used them as camps and commuted by Jeep to the site.

(4) Transportation of equipment and material

Most of the equipment were transported from Japan by sea and landed at Karachi. From here, the equipment was transported overland to Khuzdar and the material dismounted. From Khuzdar to Gunga, for 16 km, the equipment was transported by truck using existing road. The six kilometers between Gunga and Surmai-I~M was negotiated by truck using a road newly constructed by GSP. Also during the monsoon season, the road was destroyed at several localities and the supply of water was hindered several times by heavy rain.

(5) Water for drilling

The water necessary for drilling was transported by trucks. During the earlier part of the operation, water was obtained from a river near the Khuzdar town. After the arrival of the monsoon season, water was available in the vicinity of the site.

After the completion of the operations, most of the equipment was stored at the drilling site. The cores were stored in the GSP camp in Khuzdar town.

2-1-1-2 Progress of drilling

The progress of each drilling was as follows. Various relevant data are laid out in tables and charts, namely working time analysis of the drilling operation (Table II -2-5), record of the drilling operation (Table II -2-6~11), summary of the drilling operation (Table II -2-12~17), chart of drilling progress (Fig. II -2-4~9).

(1) $MJP-1 = \frac{1}{2}$ MJP-1

HX diamond bit and bentonite mud were used for soil and weathered

horizon down to 4.10 m, the hole reamed by HX casing metal to 4.10 m and HX casing pipe inserted. For the bedrock, NQ wireline with bentonite mud and mud oil were used. Since the limestone in the shallower parts had fractures developed which often caused total loss of water, the hole was reamed by NX casing shoe every 3~6 m, and casing pipe inserted to 53.10 m. After attaining the depth of 111.4 m, five days from 16 May to 20 May were Islam Eid and the operation was suspended. When the work resumed after the five-day recess, the friable shale had collapsed at 69~73 m and it was difficult to clean. Therefore, the hole was reamed by NX casing shoe to 77.10 m and NX casing pipe extended to that depth. After that, NQ wireline was used down to 240.10 m and BX casing pipe inserted. Then, the remainder down to 401.00 m was drilled by BQ wireline with bentonite and mud oil. As measures countering the loss of fluid after inserting the casing pipe, Telstop and cement milk were injected.

(2). MJP ± 2 excess of the excess of parallel constants of the 2 excess ± 2 ± 2

HX diamond bit and bentonite mud were used for soil and weathered rocks down to 4.10 m, then the hole was reamed by HX casing metal to the same depth and casing pipe inserted. Reaming and extension by NX casing shoe were carried out simultaneously with drilling and NX casing pipe was set at 28.10 m. After attaining 210.10 m, BX casing pipe was inserted. Below that depth, BQ wirline with bentonite mud and mud oil was used down to 351.00 m. During limestone penetration, total fluid was often lost and Tel-stop and cement milk were injected at each loss.

the profile of the first service of the control of

(3) MJP-3

HX diamond bit and bentonite mud were used for soil and weathered rocks to the depth of 4.10 m. Then the hole was reamed by HX casing metal to 4.10 m and HX casing pipe set. Below that depth down to 22.10 m, NQ wireline with bentonite mud and mud oil were used, reamed by NX casing shoe and NX casing pipe was inserted. Down to 180.10 m, NQ wireline drilling method was used and BX casing pipe was set. Then BQ wireline with bentonite mud and oil was used to 300.80 m. Fluid was often lost, with total a loss below 290 m, Tel-stop and cement milk were injected at each occurrence.

(4) MJP-4

HX diamond bit and bentonite mud were used for soil and weathered rocks to the depth 4.10 m. The hole was reamed by HX casing metal to 1.60 m and HX casing pipe set. Below the depth down to 33.10 m, NQ wireline with bentonite mud and oil were used, reamed by NX casing set and NX casing pipe inserted. Down to 240.50 m, NQ wireline drilling method was used and BX casing pipe was set. Then BQ wireline with bentonite mud and mud oil was used to 401.00m. Fluid was often lost and Tel-stop, cement milk were injected at each occurrence. After the completion of drilling, recovery of BX casing pipe become difficult and it had to be cut at 210.00 m and the pipe above that depth was recovered.

(5) MJP-5

HX diamond bit and bentonite mud were used for soil and weathered rocks to the depth of 4.10 m. The hole was reamed by HX casing metal to 4.10 m and HX casing pipe set. Below that depth down to 54.10 m, NQ wireline with bentonite mud and mud oil were used, reamed by NX casing set and NX casing pipe inserted. After drilling down to 231.50 m, BX casing pipe was inserted. The BQ wireline with bentonite mud and mud oil was used to the depth of 401.00m. Tel-stop and cement milk were injected whenever fulid was lost. The loss of fulid at 126.90m could not be stopped by large amount of Tel-stop, cement milk and straw. It was stopped by dropping cement balls in plastic bags into the leaking parts and stabbing it with rod. In this hole, the recovery of NX casing pipe become difficult and the lower 30 m was abandoned together with diamond shoe.

(6) MJP-6

HX diamond bit and bentonite mud were used for soil and weathered rocks to the depth 4.10 m. The hole was reamed by HX casing metal to 3.10 m and HX casing pipe set. Below that depth down to 42.10 m NQ wireline with bentonite mud and mud oil were used, reamed by NX casing shoe and NX casing pipe was inserted. Wireline drilling continued below that depth, but the drill was often jammed between 180 to 200 m by collapse of the

mineralized fractured zone. Therefore, BX casing pipe was inserted at 210.50 m. After this, BQ wireline with bentonite milk and mud oil were used to the depth of 401.00 m. Tel-stop and cement milk were injected whenever loss of fluid occured. The recovery of the NX casing pipe become difficult in this hole and lower 39.00 m and daimond shoe were abandoned.

Table $\mathbb{II}-2-2$ Drilling Machine and Equipment Used

	and the second second second second second
Drilling Machine Model "L-38"	1 set
Specifications: Capacity Dimensions L x W x H Hoisting capacity Spindle speed Engine Model "F3L912"	700m (BQ-WL) 2,150mmx1,170mmx1,450mm 4,000kg Forward 211,438,803,1,000rpm 51ps/2,200rpm
Drilling Pump Mdel "WLMG-15h"	1 set
Specifications: Piston diameter Stroke Capacity Dimensions L x W x H Engine Model "NS-130C"	68mm 100mm discharge capacity 1000/min 2,350mmx720mmx1,120mm 13ps/2,200rpm
Wire line Hoist Model "SK-1-110"	1 set
Specifications: Rope capacity Hoisting speed Engine Model "NF-110"	500m 8~105m/min 11ps/2,200rpm
Mud mixer Mdel "HM-250"	1 set
Specifications: Capacity Engine Model "NS-65C"	2001/600rpm 7ps/2,400rpm
Generator Model "YSG-10E"	1 set
Specifications: Capacity	10KVA 8KW 100~200V
Generator Model "YSG3000B"	1 set
Specifications: Capacity	2.7KW 100V
Water supply pump Model "U-40KI"	2 set
Specifications: Capacity	discharge capacity 300ℓ/min
Derrick	1 set
Specifications: Height Max load capacity	9.5m 4,000KG
Drilling tools	
Drilling rod	NQ-WL 3m 80pcs BQ-WL 3m 134pcs
Casing pipe	BQ-WL 3m 134pcs HX 1m 1pc HX 1.5m 2pcs NX 1m 2pcs NX 3m 25pcs BX 3m 80pcs

Table II -2- 3 Drilling Meterage of Diamond Bits Used

				Drillir	g Meterag	e by Unit	: Meter		Total
ltem	Size	Bit No.	NJP-1	MJP-2	MJP-3	MJP-4	MJP-5	NJP-6	(n)
	нх	185674	4,10	4.10	4,10	4.10	4.10	4.10	24.60
		Total			length/bi	t (24.10	/1)		24.10
		NNZ-18		24.20	27.80				52.00
		NNZ-19	······································		46.10				46,1
		NNZ-20			59,20				59.20
		NNZ-21			42,90				42.90
		NNZ-22		44,20				36,20	80.40
14.	4 12	NNZ-23		60.20					60.20
	1	NNZ-24		55.80					55.80
		NNZ-25		21,60			44.00		65.00
:		NNZ-26	71.60						71.60
		NNZ-27	66.70			:			66.70
Diamond	NQ	NNP-1	73.00	7.5					73.00
bit		NNP-2	25,10			33.70		,	58.80
		NNP-3		:		76.30			76.30
		NNP-4				74.00		;	74.00
		NNP-5		:		52.40			52.40
		NNP-6		:			69.60		69.60
		NNP-7					63.90		63,90
		NNP-8			{ !		49.90		49.90
		NNP- 9						90.20	90,20
		NNP-10	***************************************	,				80.00	80.00
			236.40	206.00	176.00	236.40	227.40	206.40	1,288.60
* 1		Total		Drillir	g length/	bit (1,2	88,60/20)		64.43
		NS-301			34.60	46.90			81.50
		NS-302			53.50		31,40	············	84.90
		NS-303			32.60		50.20		82.80
1.		NS-304	:	69.80	·····				69.80
		NS-305	!	71.10					71.10
	BQ	NS-306	66.20				**************************************		. 66.20
:		NS-307	70.30	-				:	70.30
		NS-309	24.00					59.90	83.90
		NBP- 1	***************************************			78.60			78.60
	.	NBP- 2			1	35.00		53.50	88.50
		NBP- 3	·····				87.90		87.90
		NBP- 4				4 \$ _	and the Miles	77.10	77.10
			160.50	140.90	120.70	160.50	169.50	190.50	942.60
		Total		Drilling	length/b	it (942.	60/12)		78.55
		187869	73.00	24.00	18.00	Y	1		115.00
Diamond	NX	187870				29.00	50.00	38.00	117.00
shoe	;		73.00	24.00	18.00	29.00	50.00	38.00	232.00
		Total			g length/	bit (232	.00/2)		116.00

Table II -2-4 Eependable Items Used

					Quant	ity		į	
Description	Specifications	Unit	MJP-1	MJP-2	MJP-3	MJP-4	MJP-5	MJP-6	Total
Light oil		Q	2,520	1,755	2,400	1.725	2,280	2,305	12,985
Petrol	***************************************	Q	180	i de j e	-	120	180	160	640
Hydraulic oil		Q	—	12	36	10	12		70
Engine oil	***************************************	Q	18	28	48	18	30	36	178
Greas		kg	15	12	14	10	18	16	85
Bentonite		kg	2,250	1.450	2.575	1,500	1,675	3,425	12,875
CNC		kg	25	22	39	19	36	47	.188
Tel-stop	:	kg	39	48	69	36	96	112	400
Mud oil	***************************************	Q	90	96	72	108	474	234	1,074
Cement		kg	600	700	1,050	700	2,350	2,400	7,800
Diamond bit	IIX-SW	рc	<i></i> -	~	1	· · · · · · · · · · · · · · · · · · ·	-	-	1
Diamond bit	NQ-WL	рc	4	5	4	4	4	3	24
Diamond bit	BQ-WL	рc	3	2	3	3	3	3	17
Diamond reamer	NQ-VL	рс	2	ı	i	2	2	2	10
Diamond reamer	BQ-WL	pc	1	l	1	2	1	2	8
Casing diamond shoe	NX	· pc	1	1	1	1	1	1	6
Casing metal shoe	нх	рc	1	1	1	1:	, 1	1	6
Casing metal shoe	вх	рc	1	1	1	1	1	1	; 6
Core barrel Ass'y	NG-MT	set	. –		: 1	1	-	: 1	3
Core barrel Ass'y	BQ-WL	set		~	1	1		1	: 3
Inner tube	NQ-WL	pc	2	-	1	1		1	. 5
Inner tube	BQ-NT	рc	2		1	. 5	. 1		. 6
Core lifter case	NQ-WL	рс	4	4	4	4	. 4	4	24
Core lifter case	BQ-YL	рс	4	4	2	4	4	4	22
Core lifter	NQ-WL	pc	6	4	4	. 4	4	6	28
Core lifter	BQ-WL	ре	4	4	4	4	4	4	24
Thrust ball bearing	NQ-WL	рс	4	4	. 4	2	2	4	20
Thrust ball bearing	BQ-WL	рс	. 4	4	4	4	. 4	4	24
Innertube stabilizer	NQ-WL	рс	1	1	1	2	1	1	7
Innertube stabilizer	BQ-WL	р¢	1	1	1	2	1	1	7
Chack piece	ХQ-¥L	set	-	-	1	1	-	-	2
Chack piece	BQ-WL	set	-	_	1	1	_	-	2
Cylinder liner	NG-15h 68mm	pc	-	2	-	2	2	-	6
Piston rod	MG-15h	рe	-	2	. –	2	2	-	. 6
Piston rubber	MG-15h 68mm	рс	-	. 4		4	4	4	16
Yalve seat	MG-15h	рс	8		. 8	_		-	16
Steel ball	NG-15h	рc	8		8		-	8	24
Y-packing	MG-15h	рc	-	14	-	14	-	14	4 2
Yaste	<u> </u>	kg	15	15	10	15	20	10	85
Vire горе	6mm X 600m	roll	-		1	1		-	2
Core box	NQ-WL	рс	37	32	27	36	47	43	222
Core box	BQ-WL	pc	17	15	13	17	30	34	126

Table II - 2-5 Working Time Analysis of the Drilling Operation

		Drilling		Shi	ift	Working	ng man				Working	Time			
													Water	Road con-	
Hole	Bit	왕	Core	Drill-	Total	Engin-	Forker	Drilling	Other	Recover	Total	Removing	transpor-	struction	G. Total
o s	218	length	length	118		eer			working	ring			tation	and	
								•••						others	
		Ē	(E)	(shift)	(shift)	(man)	(man)	(F)	(l)	3	(h)	<u> </u>	(F)	(E)	(h)
.,,							:								
	HX	4.10	0.10	-1	2	4	1.2	1, 20,	5°10′	ľ	7 00′	.00_6		,	16°00′
MJP-1	Š	236.40	235.00	35	39	25	152	173°40′	129*50	9*30′	313*00	t		1	313°00′
	30	160,50	160.00	17	19	2.7	82	103 20	40°40′	ţ	144°00′	9°00′		1	153°00′
	Total	401.00	395.10	53	09	83	246	278" 50"	175*40	9.30	464"00	18°00′.	(149,00,)	4.	482 00
	×H	4.10	3.00	-	က	01	30	.08 .2	5,30	-	00.8	18,00			26°00′
MJP-2	O.	206.00	204.40	.28	. 82	37	109	156 30	67 30	1	224 00	ł		1	224 00
	80	140.90	139.60	18	20	28	82	102°20′	49*40	3,00	155°00'	6*00		1	161 00
	Total	351.00	347.00	47	51	7.5	221	261°20′	122*40	3,00,	387 00	24"00'	(210,00,)	1	411,000
	HX	4.10	1.80	1	7	28	69	. 2° 30′	5.30	1	,00,8	.08 .69		1	67°30′
MJP-3	œ	176.00	173.90	32	33	43	110	172°201	91,10		264*00			1	264"00′
	80	120.70	120.40	2.2	25	36	87	108 00,			192.00	9000			201,00
	Total	300.80	296.10	55	65	107	266	282, 20,	181.10	-	464.00,	68,30	(302,00,)	- 2	532,30
	HX	4 10	2.00	ĭ	က	10	30	200,		F	.00.5	18.00		1	23°00′
MJP-4	9	236.40	233 30	58	92	34	105	130,10,	75*20	5*30	211,00	.l	4.	1	211°00′
-,	BQ	160.50	. 158.80	18	20.	3.1	95	98°20′	:		159°00	7*00′		l	166°00′
	Total	401.00	394.10	4.5	49	7.5	230	230 30		5,30	375°00′	25,00	(91,00,)	1	400 000
	ΗX		09.0	-1	T	3	ű	1 30	2°30′	1	4 00	5 00		1	9,00,
MJP-5	NO.	227	220.10	32	34	46	136	145°20′		ı	274 00	1		1	274°00′
	80	169.50	169.40	21	. 92	4.2	125	114 40		Ĭ.	184°00′	27 00		1	211,00
	Total	401.00	390.10	54	61	9.1	270	261 30	200 30	1	462,00,	32,00	(121,00,)	_	494 00
	HX	4.10	0.20		9	2.2	99	2,30	3,00	-	,08,3	48 30		1	54°00′
MJP-6	ď	206.40	200.50	~7	32	4.2	121	126 00	134 30	7 3 ***	260°00′	1			260 30
	80	190.50	190.30	24	2.7	39	-117	110°50′	103°10′	1	214.00	4 00		1	218 00
	Total	401.00	391.00	54	65	103	304	239 20	240,40	_	480.00,	52,30	(234,00%)	.	532°30'
3	1000	: u	910	000	1 2 0	7 6 3	401		. 900, 10,			,000,000	(,000,011		1
drand lotar	10.21	00.662.2	6.410.40	900	700	904	-1	3	1,038	٥٢	7.032 00	00 077	L1, L16 UU	,	00 200.7

Table II-2-6 Record of the Drilling Operation on MJP-1

				-					
	Dril	ling lengt	h	Tot	al	: Shif	t	Working	man
	······································				Core		1:	1	1
	Shift 1	Shift 2	Shift 3	Drilling	length	Drilling	Total	Engineer	Vorker
May	m	n.	O.	fü	n	shift	shift	man	mai
10	Reassemb		7.00	7.00	3.00				
11	4.50	6.90	7.00	18.40	18.40				
12	6.20	5.50	5.40	17.10	17,10		:		**
13	6.30	7.10	8.60	22.00	22.00	<i>!</i>			
14	7.90	9.30	8.70	25.90	25.90	13	14	20	59
14	1.30	9.00	0.10	20.50	20.00	10	17	20	
1,5	8.20	7.90	4.90	21.00	21.00				
1,5 1.6	loli day	1.30	1.30	21.00	21.00				
17	Holi day								
18	Holi day	. : :						. :	:
19	Holi day								
	Holi day		1 .]
20 21	Reaming	Reaming	2,30	2.30	2.30	4	6	8	24
61	леантив	пеантив	2.30	2.30	2.00	4	-		
2.2	8.00	6.50	6,90	21.40	21.40				
23	7.30	6.50	7.50	21.30	20.50	7			
24	4.00	6.80	9.30	20.10	19.70			,	
2 4 2 5	5.80	5.50	6.20	17.50	17.40				
26	7.90	7.50	7.00	22.40	22.40		,		
27	7.70	4.70	4 60	17.00	16.90			11	
			Int-C.P	7.10	7.10	. 19	21	28	. 81
28	7.10	Int-C.P	1111-6.7	7.10	7.10	13	6.1	20	. 01
29	10.50	9.30	9.30	29.10	29.10			1	
	9.30	9.30	9.30 8.90	27.50	27.50				
30 31	8.50	9.30	9.10	26.90	26.60				
June 1	9.30	9.40	10.90	29.60	29.50				
јине 1 2	10.80	9.40	11.20	31.40	31.30				
3	10.60	5.40	0ut-C.P	16.00	16.00				
	Dismant	3.40	υμι-υ, Γ	10.00	10.00	17	19	27	82
4	vismant					11	13	61	0.2
Tatal	190.00	198 94	124 00	401.00	205 10	53	60	83	246
Total	139.90	126.30	134.80	401.00	395.10	. 33	טט	.00	240

Abbreviation

Abbreviation
Trans :Transportation

Reassemb : Reassemblage

Dismant :Dismantlement Ins-C.P : Inserting casing pipe

Tra-Reas :Transportation and Reassemblage Out-C.P :Taking out casing pipe

Reaming : Reaming for casing pipe

Stoping :Stoping for water leakage

Table II - 2-7 Record of the Drilling Operation on MJP-2

1	A STATE OF S	1 v			••		· .		
	Dril	ling lengt	h	Tot	al	Shif		Working	man
					Core				
	Shift 1	Shift 2	Shift 3	Drilling	length	Drilling	Total	Engineer	Worke
; }	. M	, m	m.	an,	m	shift	shift	мал	ma
April 21	Reassemb			. :					
2 2	Reassemb				ı				
23	4.60	5,80	4,90	15,30	13,60	3	5	12	36
2 4	5.20	3.20	4.60	13.00	12.20				
25	9.00	7.90	5.70	22.60	22.40				
26	6,90	9.70	6.90	23.50	23.50				
27	7.60	6.90	8.50	23.00	23.00		·		
2.8	9.10	8.40	8.80	26.30	26.30	1			
29	8.50	7.40	6.50	22.40	22.40	٠	:		
30	6.10	9,00	8.10	23,20	23,20	21	21	28	83
									•
Nay 1	9.50	8.90	9.00	27.40	27.40				
2	9.00	4.40	5.00	18.40	18.40	e se			
3	8.00	6.20	9.30	23.50	23.50				
4	11.90	9.50	7.20	28.60	28.40			•	
5	5.60	6.50	5.90	18.00	18.00				
6	6.80	7.50	8.10	22.40	21.40	·			
7	9.40	10.40	8.90	28.70	28.60	21	21	28	82
	· ———	:				* .	•		
8	8.90	5.80	Oul-C.P	14.70	14.70			•	
9	Dismant					2	4	7	20
			:						
Total	125.10	117.50	107.40	351.00	347.00	47	51	75	221

Table II -2-8 Record of the Drilling Operation on MJP-3

and the second law of the law of	<u> </u>					Γ			
	Dril	ling lengt	h	Tot	al	Shif	t	Working	man
:					Core				
	Shift 1	Shift 2	Shift 3	Drilling	length	Drilling	Total	Engineer	Forker
	(3)	m	m	m	m m	shift	shift	man	man
May 25	Transpor								
26	Tra-Reas						2	8	20
:				•	i			4 4	
. 27	Tra-Reas				•			:	
. 28	Tra-Reas								
29	Tra-Reas		:						
30	Tra-Reas]							
31	4.10			4.10	1.80	:			
April 1	6.50	4.40	3.60	14.50	13.70	:		177	
2	2.50	4.00	6.80	13.30	12.80	7	11	. 28	69
) 	10.00					
3	5.30	5.70	5.00	16.00	16.00				
4	6.10	4.00	6.20	16.30	16.30				
5	5.20	7.20	5.90	18.30	18.30				
6	5.20	7.00	5.80	18.00	17.60			·	
7	6.10	6.10	4.40	16.60	16.60				
8	4.90	6.70	5.10	16.70	16.70	0.1	0.1		70
9	6.00	6.00	4.70	16.70	16.70	21	21	28	70
10	6.70	5.00	5.20	16.90	16.90				
10	8.90	3.80	Ins-C.P	12.70	12.30				
11	1.90	7.70	8.40	18.00	18.00				
13	6.60	4.60	5.40	16.60	16.60				
14	7.30	7.30	6.20	20.80	20.80		·]	
15	4.30	6 20	6.20	16.70	16.70				
16	7.50	8.00	6.70	22.20	22.20	20	21	28	70
									························
17	4.80	3.50	5.70	14,00	13.70				
18	4.60	1.60	0.50	6.70	6.70				
19	5.70	Out-C.P	Out-C.P	5.70	5.70				
20	Dismant					7	10	15	37
Total	110.20	98.80	91.80	300.80	296.10	55	65	107	266

Table II -2-9 Record of the Drilling Operation on MJP-4

		n	ling lengt	h	Tot	a l	Shif	4	Working	m a n
	ş .	STATE :	TING TONGE	"	100		3111	• 	ROINING	18 A 1
						Core		- ,		
		shift 1	shift 2	shift 3	Drilling	length	Drilling	Total	Engineer	Worker
			· m	Ö	M.	19a 	shift	shift	man	man
June	5	Reassemb						. 8	*	
	6	Reassemb	:	` ;		-:		t :		
٠	7	7.00	3.70	8.50	19.20	15.30				
	8	7.60	3.30	7.70	18.60	18.60				
	9	11,20	12.90	12,30	36.40	35,10		:		
	10	11.00	1.60	8.40	21.00	21.00				-
	11	9.60	12.40	12.40	34.40	34.40	15	17	28	. 86
	:					1 1	1	:		
	12	11.20	9.40	10.20	30.80	30.80				
	13	10.70	8.20	8.80	27.70	27.70				
	14	9.50	10.60	8.40	28.50	28.50			:	
	15	9.30	9.30	5.30	23.90	23.90				
	16	1.60	9.60	10.90	22,10	22.10				
	17	10.10	8.80	5.90	24.80	23.70				
	18	8.70	9.30	8.60	26,60	26.10	21	21	28	85
				 -						
	19	8.70	9.30	10.40	28.40	28.40	1			
	20	11.30	10.30	11.50	33.10	33.00			1	
	21	10.30	9.30	5.90	25.50	25.50				
			3.00	0.50	20.00	50.00				
	22	Out-C.P	. "	·			n.	11	19	· 59
	23	Dismant	:				, 9	11	TA -	9.9
		. •		!		D0.4.4.5			75	:
Tot	al	137.80	128.00	135.20	401.00	394.10	45	49	75	230

Table II -2-10 Record of the Driffing Operation on MJP-5

					•				
	Dril	ling lengt	h .	Tot	Γ	Shif	t 	Working	man
	Shift 1	Shift 2	Shift 3	Drilling	Core length	Drilling	Total	Engineer	Worker
		扣	n	m	w	shift	shift	man	man
July	Reassemb				14.1 	- 1			
20	4.10	-	5.30	9.40	4.60		:		
21	6.00	5.30	5.40	16.70	12.40				. :
22	5.70	4.60	5.60	15.90	15.20				
23	6.10	6.10	6.00	18.20	17.40	11.	11	16	47
								:	
24	10.10	6.70	-	16.80	16.80		:		
25	Holi day			:					
26	0.50	11.00	12.70	24,20	24.10				
27	7.20	9.30	9.80	26.30	26.30				
28	Stoping	Stoping	4.00	4.00	4.00				
29	9.10	8.50	8.60	26.20	26.20			į	
30	8.90	9.20	5.80	23.90	23.80	15	17	23	68
								-	
31	7.80	8.20	8.10	24.10	24.10				
August 1	7.20	8.20	9.40	24.80	24.80	·			:
2	1.00	3.00	9.50	13.50	13.50	· ·			
3	8.30	10.60	2.60	21.50	21.50				
4	7.10	9.20	9.10	25.40	25.30			·	
5	4.60	8.30	9.30	22.20	22.20				
6	6.40	11.20	10.60	28.20	28.20	21	21	28	84
							1	:	
7	9.60	10.80	7.20	27.60	27.60			i	
8	8.00	9.30	9.10	26.40	26.40			:	:
9	5.70	Out-C.P	Out-C.P	5.70	5.70				
10	Dismant		·						
11	Dismant.			:				· ·	
12	Dismant			<u> </u>	· · · · · · · · · · · · · · · · · · ·	7	12	24	71
Total	123.40	139.50	138.10	401.00	390.10	54	61	91	270

Table II -2-11 Record of the Drilling Operation on MJP-6

			Total geometric and a section of con-17						
	Dril	ling lengt	h	Tot	al	Shif	t	Working	man
e di	Shift 1	Shift 2	Shift 3	Drilling	Core length	Drilling	Total	Engineer	Worker
	outt t	SHIIL Z	OHILL O	DITITING	i Guigetti	shift	shift	man	mar morker
June 24	Tra-Reas		· ·				0]
25	Tra-Reas		-				2	8	24
26	Tra-Reas			* -					
27	Tra-Reas							:	
28	Tra-Reas								20 T
29	7.10	6.00	5.20	18.30	11.60				
30	5.00	7.90	2.90	15.80	9 15.70				
July 1	6.20	4.70	10.60	21.50	21.20				
. 2	11.60	3.00	Stoping	14.60	14.20	. 11	15	. 28 .	82
		:							
3	2.20	7.10	8.00	17.30	17.20				
4	6.30	8.20	12.20	26.70	26.50				
. 5	8.70	10.10	8.00	26.80	26.80				
6	9.80	8.30	6.20	24.30	24.30			٠.	-
. 7	8.10	7.40	4.70	20.20	. 18.40		:	,	
8	7.30	5.80	5.8 0	18.90	18.70				
9	6.10	Int-C.P	Int-C.P	6.10	6.10	19	21	28	81
].				,			•	
10	8.00	10.50	6.60	25.10	25.10			1	1
g = 11	10.20	11.10	11.80.	33.10	33.10				
12	10.20	Stoping	8.00	18.20	18.20		:		
13	8.80	12.40	8.70	29.90	29.90			,	
14	7.10	9.10	9.90	26.10	26.10				-
15	2.80	0.80	5.60	9.20	9.20		·		
16	8.80	6,60	2.40	17.80	17.80	20	21	28	84
						,		·	
17	8.00	8.60	10.00	.26.60	26.40				
18	4.50	Out-C.P	-	4.50	4.50		•		
19	Dismant	-				4	6	11	33
Total	146.80	127.60	126.60	401.00	391.00	54	65	103	304

Table 11-2-12 Summary of the Drilling Operation on MJP-1

				Survey	Period				Tota	l ma	n day
			Peri	od	Days	Work day	Of	fday	Engine	er.	Worker
Ope	ration					da	YS	days		man	nan
	Preparatio	n 10.	5.1988 ~	-10.5.1988	. 0.5	0.5		0	. 3	- ;	9
						Drilling				- :	
	Drilling	10.	5.1988 ~	3.6.1988	24.5	19		5	74		218
						Recovering					
					. :	0.5		0	3		9
	Removing	4.	6.1988 ~	~ 4.6.1988	1	1		0	3		10
	Total	10.	5.1988 ~	4.6.1988	26	21		5	83		246
)ri	lling lengt	h				C	ore rec	overy	of 100 m	hol	e
	Length	400).00 m		1.10 m						ore
	planed			Overburden		Depth of ho	le	(ore		ecovery
. '	Increase		A		Ω				covery	ļ	umulated
:	or		:	_		(n)		(5)		(\$)
	Decrease			Core length	395.10			ļ .			
	in					0 ~ 10			7.0		97.0
	length			0		$100 \sim 20$ $200 \sim 30$		ļ	9.9		97.8
ļ	Length			Core	98.7	!		 			
	drilled	40	l.00 m	recovery	90.1	300 ~ 40	1		19.5	<u> </u>	99.0
QT 	king hours		ł	h , %							
	Drilling		278° 50′	60.1	57.8	Efficien	cy of l	711111	ıg		
	Other work	ing	175° 40′	37.9	36.4	Total m/wor	k	4	01.00 m/	19	days
i	Recovering		9°30′	2.0	2.0	period(m	/day)		(21.11	m/d	ay)
	Total		464°00′	100	96,2	Total m/tot	al	4	01.00 m/	53	shifts
	Reassembla	ge	9°00′		1.9	shift (m	/shift)	,	(1.57	m/s	hift)
	Dismantlem	ent	9.00,		1.9	Drilling le	ngth/bi	t (each	sized b	it)	
	Water					Bit size	нх		NQ	T	BQ
	transporta	tion	(149°00′)	* :	Drilled	· .			-	
į	Road const		· · · · · · · · · · · · · · · · · · ·	<u></u>		length	4.10	,	236.40		160.50
	and others]			Core					
	G. Total		482'00'		100	length	0.10	1	235.00		160,00
	ing pipe in	002100	1:02:00							L_	
/43	ING PIPE IN	361164	Meter	age							
	Size	Meteras	1 :	1	Recovery						
٠.	0120	mo cor az	lengt							Ė	
		(a)	i	 (%) .	(%)						
	HX	4.10		1.0	100						
	NX	77.10		19.2	100						
1		240,50		60.0	100					:	

Table II -2-13 Summary of the Drilling Operation on MJP-2

		T		······	Survey	Period	·····			Total	man day
	272 4			Peri	od	Days	Work day	0	ff day	Enginee	r Korker
0 p e	ration			1 425			da	ays	days	m	an man
	Preparati	on .	21.	4.1988 ^	22.4.1988	2	2		0	- 8	24
: .				i .			Drilling				
:	Drilling		23.	4.1988 ~	8.5.1988	16	16		0	64	189
		İ				2.5	Recovering				
	Removing		9.	5.1988 ~	9.5.1988	1	.1	7 .	0	3	8 ;
į.	Total		21.	4.1988 ~	9.5.1988	19	19		0	75	221
Dri	lling leng	t h						Core r	есочегу	of 100 m	hole
	Length		350	.00 m		0.90 m					Core
	planed				Overburden	er e e	Depth of h	ole	(Core	recovery
	Increase			a		n			re	covery	cumulated
	or	.					(m)		. (\$)	(\$)
	Decrease			;	Core length	347,00			•		
	in				4	٠	0 ~ 10	0 0		98.1	98.1
	length	, }	: ''		·	<u>.</u>	100 ~ 20	00	10	00	99.0
	Length		1		Соге	%	200 ~ 30	00		98.8	98.9
	drilled		351	.00 m	recovery	99.1	300 ~ 35	50		39.8	99.1
Гог	king hours		\neg	, , , , , , , , , , , , , , , , , , ,	h	*					
	Drilling			261°20′	67.5	63.6	: Efficie	ncy of	Drillig	าซี	-
	Other wor	king		122*40'	31.7	29.8	Total m/wor	r k		351.00 m/1	6 days
	Recovering	g		3,00,	0.8	0.7	period(m/day)		(21.93m	/day)
	Total	41		387.00	100	94.1	Total m/to	tal		351.00 m/4	7 shifts
:	Reassembla	age		18'00'		4.4	shift (a	a/shif	t)	(7.46m	/shift)
: -	Dismantle	ment		6°00′		1.5	Drilling le	ength/	bit(eacl	sized bi	t)
	Water						Bit size	ИX		NQ	ВQ
٠.	transport	ation		(210°00′	5		Drilled			:	
:	Road cons	truct	ion				length	4.	10	206.00	140.90
	and other:	s S					Core				
	G. Total		1	411°00′		100	length	3.	00 .	204.40	139.60
Cas	ing pipe in	nsert	ed								
-				Meter		, n					
:	Size	Mete:	rag	c drill lengt		Recovery	e la late	•	1.		
:	. [m)	1	" (%)	(%)		,			
	нх	1.		+	0.3	100		.*			
:	NX NX	28.			8.0	100			:		
	BX	210.		 	60.0	100			:		
		L10.				L	<u> </u>				· , · · · · · · · · · · · · · · · · · ·

Table II -2-14 Summary of the Drilling Operation on MJP-3

	معدد و معرف و معدد معدد و معرف المناطقة و معدد									Total man day				
	•		1		Period	<u> </u>	—т							
			Per	10	a	Days	Work day		Off day	Engine		Vorker		
(lpe	peration				90 9 1000	c		ays	days	24	man	nan co		
	Preparatio	on 23	1.3.1988		30.3.1988	6	6		0	24		59		
	Drilling		9 1689	~.	19.4.1988	20	Drilling 20		0	80		200		
	DITITIE	3,			13.4.1300	20	Recovering			- 00		200		
		ŧ					ROCOVOTING							
	Removing	20	.4.1988	~	20.4.1988	1	1		0	3		7		
	Total				20.4.1988	27	27		0	107		266		
Dri	lling lengt	h]-				Core	recovery	of 100 m	ho1	e.		
i	Length	30	0.00 m		·	1.00 m					C	ore		
	planed				Overburden		Depth of h	ole		Соге	r	ecovery		
:	Increase		m	T		<u> </u>			r	ecovery	Ċ	umulated		
	or						(m)			(%)		(%)		
	Decrease				Core length	296.10						·		
٠	in				٠.		0 ~ 100			96.9		96.9		
	length		·				100 ~ 2	00		99.6		98.2		
	Length				Core	. \$	200 ~ 3	8.00		99.7		98.7		
	drilled	30	0.80 na		recovery	98.7					w Too Williams			
Kor	Working hours h %					%								
,	Drilling		282°50	ı*	61.0	53,1	Efficie	псу о	f Drilli	ng	: 			
	Other work	ing	181*10	1	39.0	34.0	Total m/work period(m/day)			300.80 m/	2 0 d	ays		
	Recovering	! '								(15.04	(15.04m/day)			
	Total		464°00	,	100	87.1	Total m/total		300.80 m/55 shifts (5.47m/shift)					
	Reassembla	ge	59°30	· ·		11.2	shift (m/shift)							
	Dismantlem	en t	9°00) .		1.7	Drilling length/bit(each sized bit)							
	Water					-	Bit size	H	х	NQ		BQ		
	transporta	tion	(302°00	′)			Drilled					+ + 4		
	Road const	ructio	11				length	4	.10	176.00		120.70		
:	and others		1				Core							
	G. Total		532 30	,		100	length	1	.80	173,90		120,40		
Cas	ing pipe in	serted			<u></u>				L			1 144		
1		Meterage					•							
	Size Meterage drilling × 1		ng × 100	Recovery			: :							
		length (m) (%)												
				*)	(%)	·								
	HX	4.10			1.4	100				100				
	NX	22.10			7.3	100								
	ВХ	180.10			60.0	100					•			

Table II -2-15 Summary of the Drilling Operation on MJP-4

					Surve	Period	Total	Total man day					
		:	Period		Days	Work day		Off da	y Engine	Engineer			
Operation. 11.				. :	:	days		da	ys	man	nan		
	Preparation		5,	6.1988	- 6.6.1988	2	2		Ó	8		2.5	
							Drilling			:			
	Drilling		7.	6.1988 ~	22.6.1988	16	15		0	60	1	184	
		}		:	•		Recovering						
:							. 1		0	3		9	
	Removing		23.	6.1988 ^	- 23.6.1988	1	1		0	4		12	
	Total		5.	6.1988	~ 23.6.1988	19	19	· ·	0	75		230	
Ðri	lling leng	t h		4 *				Core	recove	ry of 100 r	n hol	e	
	Length		400	.00 m		0 ត					(оге	
	planed				Overburden		Depth of h	ole		Core	1	ecovery	
	Increase	. [E		m			•	recovery	٩	umulated	
	or .						(n)	•	•	(*) _:		(%)	
	Decrease	.			Core length	394.10			· .		ļ		
	in .	- 1			,		0 ~ 1			94.8	<u> </u>	94.8	
	length				·		100 ~ 2	 -		100	ļ	97.4	
. !	Length	·			Core	5	200 ~ 3			98.4		97.7	
	drilled		401	.00 m	recovery	98.2	300 ~ 4	01		99.9	<u> </u>	98.2	
Kor	king hours				h %	*			•				
	Drilling			530,30,	61.5	57.6	Efficie	ncy	of Dril	ling		·	
	Other wor	king		139.00,	37.0	34.7	Total m/work 401.00 m/15			/15 d	days		
	Recoverin	g		5°30′ 1.5		1.4	period(m/day)			(26.73m/day)			
	Total			375 00	100	93.7	Total m/total 4			401.00 m/	01.00 m/45 shifts		
	Reassembl	age		18.00		4 4	shift (m/shift) (8.91m/shift)					ift)	
	Dismantle	ment		7* 00'		1.8	Drilling length/bit(each sized bit)						
	Water						Bit size		нх	NQ		BQ	
	transport	ation	n	(97°00')		Drilled		1				
	Road cons	truci	tion				length		4.10	236.40		160.50	
	and other	ε		•			Core						
	G. Total			400°00′		100	length		2.00	233.30		158.80	
Cas	ing pipe i	nser	ted										
		Ketera		age	·								
	Size Meterage		e drill	ing × 100	Recovery				* . *		1.1		
			length				•						
ļ		(m)			(%)	(\$)	·		•				
	нх	1.	60		0.4	100							
	NX	33.	. 10		8.3	100		٠				• :	
	ВХ	240	50		60.0	87.5							

Table II -2-16 Summary of the Drilling Operation on MJP-5

	4 - 14 - 14 - 14 - 14 - 14 - 14 - 14 - 			Survey	Period	autus s			Total man day		
			Period		Days	Work day	10	f day	Engine	er	Worker
Ope	Operation					d:	ays	days		man	
	Preparation	n 20.	7.1988	~ 20.7.1988	0.5	0.5		0	2		9
						Drilling					
	Drilling	20	7.1988 ^	9,8,1988	20.5	19.5		1 .	77	1 -	226
				*.		Recovering					
	Removing	10	8.1988	~ 12.8.1988	3	3		0	. 12	<u> </u>	35
	Total	20	7 1988 ~	- 12.8.1988	24	. 23		1	91		270
Dri	lling lengtl	h					Core re	covery	of 100 m	hol	е
	Length	401	m 00.0		0 ,m					C	ore
4	planed			Overburden		Depth of ho	ole		Core	ŗ	ecovery
	Increase		. מ		e			·r	ecovery		umulated
	0.0					(n)		(%)		(%)
	Decrease		-	Core length	390.10	<u> </u>					
	in			:		0 ~ 10		+	99.9		89.3
ļ	length					100 ~ 20					94.6
	Length			Core	*	!	200 ~ 300		99.9		96.3
	drilled	401	l.00 m	recovery	97.2	300 ~ 40	01	1	00.		97.2
Yor	forking hours h %				%		10 - E - E				
	Drilling 261		261,30,	56.6	59.9	Efficiency of Drilling					
	Other worki	ing	200° 30′ 43.4		40.6	Total m/work			401.00 m/19.5 days		
	Recovering	8			period(m/day)		(20.56m/day)				
1	Total		462°00′ 100		93.5	Total m/total		401.00 m/54 shifts			
	Reassemblas		5°00′		1.0	shift (m/shift)			(7.43m/shift)		
	Dismantleme				5.5	Drilling length/bit(each sized bit)					:
	Water					Bit size	нх		NQ		во
	transportat	tion	(121°00	′)		Drilled	·				
	Road const	ruction	1			length	4.1	0	227.40		169.50
	and others					Core	***************************************				
	G. Total		494°00′		100	length	0.6	0.60 220.10		•	169.40
Cas	Size Meterage drilling × 100 length				:						
									•	٠	
			e drill	ing × 100	Recovery			•		•	
					(%)						
	HX	4.10		1.0	100						
	ХX	54.10	.10 13.5		27						
	BX 2	231.50		57.7	100						

Table II -2-17 Summary of the Drilling Operation on MJP-6

					Donied				Talal	non deu	
			Do-		Period	Work day	000	dov		man day	
Ana	Operation *		Period		Days		110 ays	day	Enginee	r Yorker an man	
1	Preparation	n 24	6 1988 -	.1988 ~ 28.6.1988		5		0	20	60	
	Tropatatio	/ 41.	0.1000	20,0,1000	5	Drilling		<u> </u>			
	Drilling	29	6.1988	~ 18,7,1988	20	20	,	0	79	233	
		"				n .					
		1									
•	Removing	19.	7.1988	- 19,7,1988	1 .	. 1		0	4	.11	
	Total	24.	6.1988	~ 19.7.1988	26	26		0 .	103	304	
Dri	lling lengt	h				1	Соге гес	overy	of 100 m l	iole	
	Length	400).00 m	· :	3.10m					Coré	
	planed			Overburden		Depth of he	le	1		recovery	
į '	lncrease		IB.		m.	-				cumulated	
	or :					(a)	:-	(\$)	(\$)	
	Decrease			Core length	391.00						
	in				*	0 ~ 100				95.1	
	length					 	100 ~ 200		8.0	96.6	
	Length	İ		Core		200 ~ 300		100		97.7	
	drilled	401	.00 m	recovery	98.2	300 ~ 401 99.8			98.2		
¥or	king hours			h	%						
	Drilling		239*20' 49.9		44.9	Efficiency of Drilli			18		
	Other working		240°40′ 50.1		45.2	Total m/work		4	101.00 m/24) days	
:	Recovering	ţ				period(m/day)			(20.05m,	/day)	
1.6	Total	[otal		100	90.1	Total m/total		4	01.00 m/5	shifts	
	Reassembla	ige	48*30'		9.1	shift (m/shift)			(7.43m/shift)		
	Dismantles	ent	4°00′		0.8	Drilling length/bit(eac			h sized bit)		
	Water					Bit size	нх		NQ	BQ	
	transporta	tion	(234°00′)		Drilled					
ł	Road const	ruction	on			length	4.10		206.40	190.50	
	and others	ļ.				Core					
	G. Total		532 30'		100	length	0.20		200.50	190.30	
Cas	Casing pipe inserted						<u> </u>				
	Meterage		age	,							
	Size	Meterage drilling × 100		ing × 100	Recovery						
	(m)		length				•				
			(m) (%)			e e e e e e e e e e e e e e e e e e e					
	HX	3.10		0.8	100						
	NX	42.10		10.5	28.7						
Ì	ВХ	210.50		52.5	100				· · · · · · · · · · · · · · · · · · ·		

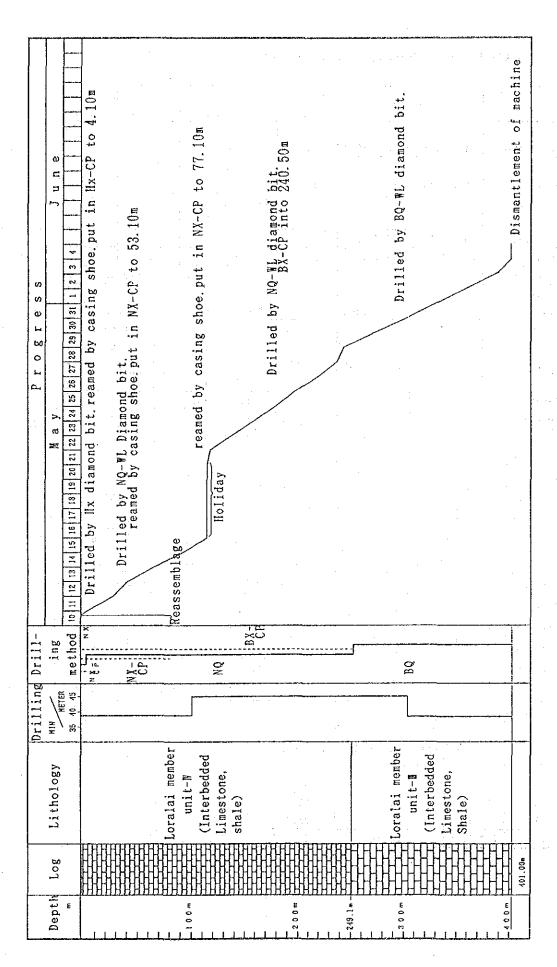


Fig. II -2-4 Drilling Progress of MJP-1

Fig. II-2-5 Drilling Progress of MJP-2

Fig. II -2-6 Drilling Progress of MJP-3

Fig. II-2-7 Drilling Progress of MJP-4

Fig. II-2-8 Drilling Progress of MJP-5

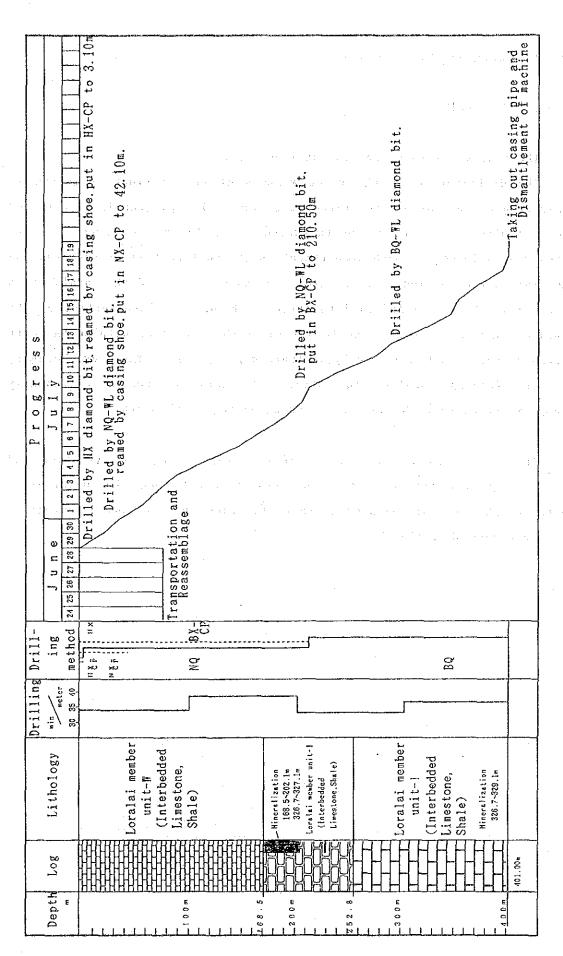


Fig. II-2-9 Drilling Progress of MJP-6

2-2 Geology and Mineralization

2-2-1 Geology

The geology of this area is outlined below.

The distribution of the three members of the Shirinab Formation in this area, can be largely described as follows. The Spingwar is distributed in a limited area in the northeastern part, Anjira in three separate occurrences in north-south arrangement in the western half of the area and Loralai in the remainder of the area. We have subdivided the Loralai into four units I \sim IV and Anjira into three I \sim IM by the charactertics of the strata. This area form the western limb of the anticline with north-south trending axis and has a largely westward dipping strata. There are however, intense folding locally. The strata of Surmai-IM has a particularly complex structure with two anticlines extending north-south.

The topography of this area reflects the geological structure and steep ridges are developed in north-south direction along the anticlines. Stratigraphic map of the area is shown in Figure II -2-10 and a geological map in Figure II $-2-11\sim 12$.

Geologic age		Group	_	Lithology	Thickness	Columnar	Mineralization
	Formation	Member	Unit		(m)	Section	
			Stream bed	boulder.cobble.pebble.samd.			
			deposits	silt.			
Quaternaly			Alluvial	sand,silt,clay,detritus.			
•			deposits				
			Terrace	boulder.pebble sand.silt clay			
			deposits				
·				Unconformity			
,			Ш	Limestone, thick bedded	+50		· Gu
		Anjira	11	Interbedded limestone and	100~		SII
				shale, contains ammonites.	180		
				Interbedded limestone and	30		
			I	shale Limestone thin to thick	í		
				bedded contains ammonite.	50		
				Limestone grey ,thick to massive,	80		
			ΙV	motteled with a zone of thin	វ		
Early				interbedded limestine and shale.	100		
			<u> </u>	Limestone and shale interbedded.	100		
Jurassic			Ш	Limestone dark grey thin to med	ş		sill
				bedded, motteled, fossiliferous,	150		
	Shirinab	Loralai		Limestone with very minor shale.	100		
			II	Limestone grey thick to massive	ş		
]			with some colitic bed.	120		
		·		Interbedded limestone and shale			
]			with minor marl.Limestone grey.	100		
]		ĵ	thin bedded.motteled and coloitic	ş		
	i			occaisionally.Shale of black	150		
				colour.			
		Spi	ngwar	interbedded sandostone and shale.	+200		
							s I

Note Gu:Gunga,SI:Surmai-I, SII:Surmai-II,SIII:Surmai-III

Mineralization

1: Large bedded type mineralization.

: Small mineralization in faults, fractures, joints and bedding planes.

Fig. II-2-10 Stratigraphy of Surmai Area

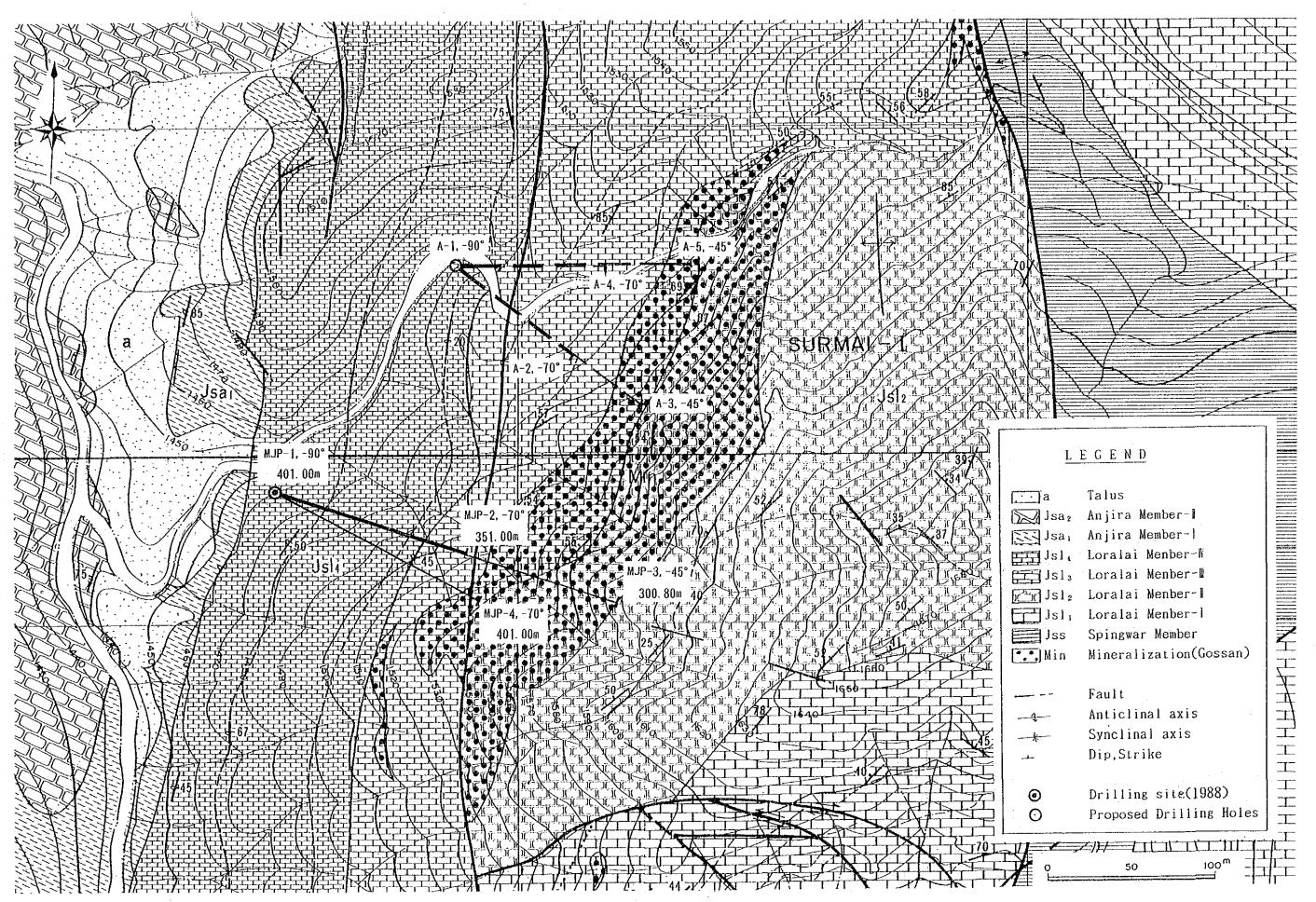


Fig. II -2-11 Geological Map of Surumai-I Area with Locations of Phase-II Drillings and Proposed Drillings for Phase-III (scale 1:2,000)

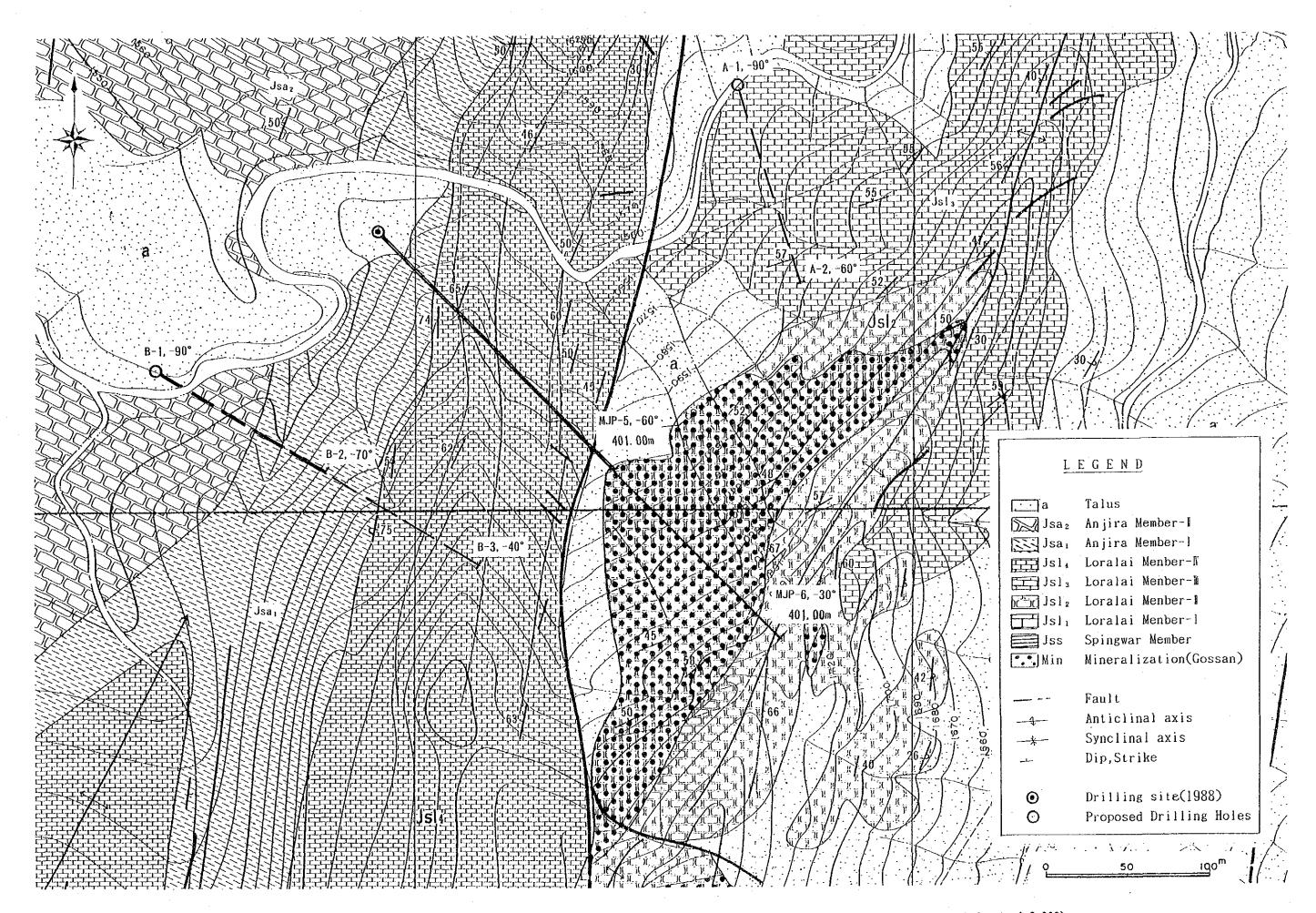


Fig. II-2-12 Geological Map of Surumai-II Area with Locations of Phase-II Drillings and Proposed Drillings for Phase-III (scale 1:2,000)

2-2-2 Mineralization

The surface manifestation of the mineralization of this area is described below.

Three mineral showings occur along a north-south trending zone which extends for 4k m. They are Surmai I, II, III. The showings consist of dark reddish brown gossan and they occur in all members of the Shirinab Formation except in Anjira-III (Figs. II -2-1, and 2). The gossans are considered to be the weathered and oxidized products of primary lead-zinc replacement deposits. They consist mostly of porous to massive limonite and other oxides. Large-scale gossan bodies occur along the bedding in thick beds replacing the host rock, these occur from the upper part of Unit-II to the lower part of Unit-III of Loralai. Small scale gossan bodies occur along faults in the Surmai-II area, but these are not promising.

In gossans, limonite, calcite, siderite and quartz are generally found and smaller amount of marcasite, pyrite and galena, together with white powdery material in small druses which could be smithonite are observed by the unaided eyes. Sphalerite was not found. By x-ray diffraction, a large amount of quartz, less but substantial amount of calcite and goethite, and minor amount of hematite and dolomite were detected. Also small to minor amount of hemimorphite was detected.

(1) Surmai-I

The gossan bodies are distributed within an area of 900 m north-south and 300 m east-west. In the northern half of the area, the gossan of the major ore body (henceforth; the Main Orebody) occur in a 450 m northsouth and 60~80 m east-west zone and the strike and dip are 30°E , $50^{\circ}\sim70^{\circ}\text{W}$, concordant with the host rocks. In the southern half, small gossan bodies occur along the bedding of the host rock and small faults, but these are not promising. The gossan of the Main Orebody occurs at the boundary of Units-II and III of Loralai along the bedding of both units and they form thick beds to massive bodies. The highest assay values of the gossan

samples from the Main Orebody collected during the first phase are Pb 0.23 and Zn 5.64 %.

(2) Surmai-M

The gossan bodies occur in an area of 1.5 km north-south and 0.6 km east-west. They are divided into the East Deposit and the West deposit. Both Deposit occur along the boundary of Units-II and III of Loralai along the bedding of both units and form thick beds to massive bodies. The West Deposit extends 1.5 km along the strike and is $50\sim60$ m thick. Its northern end is located at the western limb of the western anticline while other parts occur at the eastern limb of the same anticline. The East Deposit extends 1.1 km along the strike and is $30\sim50$ m thick. It is located at the eastern limb of the eastern anticline. Both Deposit are believed to be connected at the central part of the area covered by Quaternary formations with synclinal structure in conformity with the host rocks.

The northern half of the West Deposit shows the strongest mineralization in the area, and is grouped into the northernmost part dipping westward(henceforth; the Northwest Orebody) and the southern part with eastward dip. The northern part dips $40^{\circ} \sim 60^{\circ} \, \text{W}$, is $60 \sim 70 \, \text{m}$ thick and extends $400 \, \text{m}$ along the strike. The downward extension of the ores is anticipated. The other body dips $40^{\circ} \sim 50^{\circ} \, \text{E}$, is $30 \sim 40 \, \text{m}$ thick, extends $300 \, \text{m}$ along the strike and the assay show fairly high grade of Pb+Zn 5%. But the extension of the ore into the deeper parts cannot be expected. The southern half of the West Deposit is distributed over a large area, but the concentration and the grade is low.

The East Deposit is linearly exposed on the eastern slope of the north-south extending ridge with steep cliff with $50^{\circ} \sim 80^{\circ}$ E slope. The average assay of three samples of gossan collected during the first phase survey is Pb 0.52, Zn 1.02 %.

There are small gossan bodies along the fractures, bedding and faults of the host rocks in the vicinity of the above east and west orebodies,

but they show very small possibilities.

2-3 Objectives of Drill Holes

(1) Surmai-I

It was found during the first phase survey that the surface gossan of the Main Orebody of Surmai-I is strongly mineralized, and thus the existence of Mississippi Valley type lead-zinc sulfide deposits in the lower parts was anticipated. Also rank A anomaly was obtained by geochemical prospecting from the lower part of the body which is believed to be from sulfide concentration.

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Four holes were drilled (MJP-1 \sim 4) here in order to confirm the sulfide ores under the Main Orebody and to clarify the continuity, grade and the geochemical structure.

(2) Surmai-II

It was found by the first phase survey that the surface gossan of the Northwest Orebody of Surmai-III was strongly mineralized and thus the existence of Mississippi Valley type lead-zinc sulfide deposits in the lower parts was anticipated. Also rank A anomaly was obtained by geophysical prospecting from the lower parts of the body which is believed to be from sulfide concentration.

Two holes were drilled (MJP-5 \sim 6) here in order to confirm the sulfide ores in the lower parts and to clarify the continuity, grade and the geological structure.

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- 2-4 Results of the Survey.
- 2-4-1 Geology and Mineralization of the Drill Cores
- 2-4-1-1 Outline of geology.

The horizons confirmed by this drilling range are from Loralai Member Unit-I to Anjira Member Unit-I. The rocks of these units are basically limestone and shale. Marly shale forms alternations with the above two rocks and these are divided by lithology into alternation A and B. The four rock types are described below and the core sketches each of them are shown in Figures II-2-13. The columns (Scale 1:200) of each drill holes are shown in II-2-14 \sim 19.

- (1) Limestone: Usually grey, in same cases pale grey or dark gray. Compact and hard. Mostly micric, locally commicritic or biomicritic. Generally contains irregular 2~10 cm patches of shale~marly shale. The boundary between the patches and the limestone is clear for shale and gradual in case of marly shale. These patches selectively become reddish brown to orange by hematitization between the surface and 100 m depth. Also calcite veinlets occur through the limestone.
- (2) Shale: Dark grey to black, weakly argillic and soft. Lamination developed with 0.5~1 mm thick laminae and fissile. Partly marly, massive and grey to dark grey. Generally contains powdery or nodular (1 mm diameter) pyrite which is considered to be of primary origin and the nodules are concentration of powdery material. Often flat limestone nodules with 1~3 cm diameter (henceforth: limestone nodules) and trails of 1~3 mm diameter of tubular creatures (henceforth: tubular trails) occur in the shale immediately below the boundary with limestone.
- (3) Alternation A (henceforth:AA): Regular alternation of shale and marly shale, individual beds are $0.5\sim3$ mm thick. The shale is dark grey to black and the marly shale grey to dark grey.

(4) Alternation B (henceforth: AB): Alternation of limestone and marly shale with limestone predominant. Individual beds are 5~10 mm thick, marly shales are 1~2 mm. Limestone is grey and marly limestone dark grey.

2-4-1-2 Stratigraphy

The strata investigated by drilling are correlated to Loralai Unit-I to Anjira Unit-I. The correlation chart of the drill holes are shown in Figure II -2-20. In correlating the strata, the lithology, thickness, the angle between the bedding and the drill cores (henceforth: cross angle), distribution of limestone nodules, tubular trails and other factors were considered. The stratigraphic correlation chart (scale 1:200) is shown in PL.II -2-1. The stratigraphic correlation of the surface and of the drill holes were made and drilled geologic cross sections (scale 1:1,000) were prepared (PL.II $-2-2\sim4$). Then this was somewhat simplified to scale 1:2,000 cross section (Figs.II $-2-21\sim23$).

The characteristics of the individual units are as follows.

- (1) Loralai Unit-I; $120\sim150$ m thick. Alternation of limestone with AA or AB or shale. Limestone predominant in the upper and middle parts, AA predominant in lower part. Thickness of individual beds, limestone $1\sim7$ m, AA $1\sim10$ m, AB and shale $1\sim2$ m. They tend to become sandy in the lower parts.
- (2) Loralai Unit- Π ; $100\sim120$ m thick. The upper part, limestone and shale alternation with limestone predominant, thickness of individual beds, limestone $1\sim15$ m and shale $0.5\sim1$ m. The lower part, alternation of limestone and AA with AA predominant, thickness limestone $1\sim2$ m, AA $1\sim10$ m.
- (3) Loralai Unit-M; $100\sim150$ m thick, alternation of limestone and shale with shale predominant. Thickness of individual beds, limestone $0.5\sim2$ m, shale $1\sim7$ m.

- (4) Loralai Unit-IV; $100\sim130$ m thick, alternation of limestone and shale, upper part limestone predominat, lower part shale. Thickness individual beds, both limestone and shale $1\sim5$ m.
- (5) Anjira Unit-I; 50 m thick, limestone with shale intercalation. Limestone beds $1\sim 2$ m thick.

2-4-1-3 Geology and mineralization of the drill holes.

The geology and mineralization of the drill holes are described below. In describing the mineralization, only the concentrated parts are mentioned regarding calcite and pyrite. The true thickness is mentioned in this report with all available factors such as cross angle being considered.

(1) MJP-1

[Geology]

 $0\sim249.1$ m; Correlated to Loralai Unit-IV.Alternation of limestone and shale, limestone predominant between 85 m and 125 m, otherwise shale predominant. Thickness of individual beds, limestone $0.5\sim5$ m, shale $0.2\sim5$ m. Hematitization in limestone at $0\sim82$ m and $130\sim143$ m. Bivalve fossils occur throughout, often coquina beds $5\sim10$ cm thick formed in shale. Cross angle generally low,locally $0\sim10^\circ$.

 $249.1\sim401.0$ m; Correlated to Loralai Unit-M ,alternation of limestone and shale with shale predominant. Thickness of individual beds, limestone $0.5\sim5$ m, shale $0.2\sim5$ m.Shale at $260\sim300$ m contains coquina beds consisting of bivalve fossils. Tubular trails at the uppermost part of each shale bed at $354\sim385$ m.

[Mineralization]

Lead-zinc mineralization and siderite veinlets not observed in this hole. Limestone, and calcite veinlet concentration near 106 m and 235 m.

(2) MJP-2

[Geology]

 $0\sim144.7$ m; Correlated to Loralai Unit-IV, alternation of limestone and shale, limestone predominant near 40 m elsewhere shale major component. Individual beds, limestone $0.5\sim5$ m thick, shale $0.2\sim5$ m thick. Hematitization observed in limestone at $0\sim85$ m and $118.6\sim132$ m. Bivalve fossils present throughout and often forms coquina beds $5\sim10$ cm thick.

144.7~288.2 m; Correlated to Loralai Unit-IM, alternation of limestone and shale with shale predominant. Individual beds, limestone 0.5~5 m thick and shale 0.2~5 m thick. Two beds of AA occur at 239.6~254.1 m, as they are correlated to shale in MJP-4 and MJP-1, the AA is considered to be a local lithofacies change of the shale. In the shale at 145~175 m, coquina beds consisting of bivalve fossills are found. Tubular trails occur at the uppermost part of the shale beds at 228~241 m. Rocks at 265~288 m are fractured and accompated by clay, thus the existence of fault is inferred.

288.2~340.7 m; Correlated to Loralai Unit-II, limestone and shale at 288.2~294.2 m with limestone and shale bed 0.5~1 m thick, alternation of limestone, shale and AA with AA predominant. Limestone beds 0.5~2 m thick, AA mostly 1~3 m, but a thick bed correlated to other four holes occur at 303.4~314.9 m. The shale at 294.2~296.1 m gradually changes to the underlying AA.

 $340.7\sim351.0$ m; Correlated to Loralai Unit-1, alternation of limestone, shale and AA with limestone predominant. Individual beds limestone $2\sim4$ m thick, shale and AA $0.5\sim1$ m thick.

[Mineralization]

Lead-zinc sulfide mineralization occurs at 288.2~291.0 m and 323.2~328.6 m. Both occur in fractured limestone as dissemination of sphalerite and small amount of pyrite, there are also siderite and calcite veinlets cutting through. No mineralization observed in shale intercalated in limestone. Concentration of calcite veinlets in limestone near 70 m. Pyrite concentration in shale near 145,180 and 195 m.

(3) MJP-3

[Geology]

 $0\sim104.8$ m; Correlated to Loralai Unit-IV, alternation of limestone

and shale with the latter predominant. Individual beds, limestone 0.5~5 m thick and shale 0.2~5 m thick. Hematitization in limestone at 0~95 m. Gastropod and bivalve fossils occur in shale at 50~70 m. Limestone nodules occur at the uppermost part of individual shale beds at 70~90 m.

 $104.8 \sim 169.1$ m; Correlated to Loralai Unit-III, alternation of limestone and shale with the latter predominant. Individual beds, limestone $0.5 \sim 5$ m thick and shale $0.2 \sim 5$ m thick. Coquina beds consisting of bivalves occur in shale at $110 \sim 125$ m. Fractured and clayey zone at $167.8 \sim 169.1$ m and the existence of fault is inferred.

169.1~283.3 m; Correlated to Loralai Unit-II, limestone and shale alternation with the former predominant at 169.1~232.7 m. Individual beds, usually limestone 1~3 m thick, but fractured limestone continuous at 171.9~186.3 m. Shale beds 0.5~1 m thick. Alternation of limestone and AA with AA predominant at 232.7~283.3 m. Individual beds, limestone 0.5~2 m thick, AA normaly 1~3 m thick, but thick bed occurs at 251.5~262.3 m and this can be correlated to other four drill holes. Shale at 243.3~245.0 m gradually changes to the underlying AA. Bivalve fossils occur throughout.

 $288.3\sim300.8$ m; Correlated to Loralai Unit-I, alternation of limestone, shale and AA, limestone predominant. Individual beds, limestone $2\sim4$ m thick and shale, AA $0.5\sim1$ m thick.

[Mineralization]

Lead-zinc sulfide mineralization occurs at 169.1~191.7 m and 201.1~211.8 m. These mineralized zones are composed of sphalerite and minor galena disseminated in fractured limestone, with siderite and calcite veinlets cutting through. Mineralization is not observed in shale intercalated in limestone. Calcite veinlets are concentrated in the limestone near 26,80,104,131 and 166 m. Powdery pyrite occurs relatively abundantly in shale near 100~108,129 and 140~160 m. Also small amount of pyrite is associated with calcite veinlets in limestone.

(4) MJP-4

[Geology]

0~145.3 m; Correlated to Loralai Unit-IV, limestone and shale

alternation, former predominant at $0\sim50$ m and latter major component below. Individual beds, limestone $0.5\sim5$ m thick and shale $0.2\sim5$ m thick. Limestone hematitized at $0\sim85$ m and near $122.4\sim130.4$ m. Bivalves fossils form coquina beds in shale at $75\sim145$ m. Limestone nodules with tubular trails occur at the uppermost part of shale beds at $96.9\sim138.5$ m.

145,3~283.4 m; Correlated to Loralai Unit-M, limestone and shale alternation with shale predominant. Individual beds, limestone 0.5~3 m and shale 0.2~5 m thick, coquina beds consisting of bivalve fossils occur in shale at 151.9~176.9 m.

283.4~332.5 m; Correlated to Loralai Unit-II, limestone and shale alternation with individual limestone beds 1~2 m thick and shale beds 1m thick at 283.4~290.3 m, limestone, shale and AA form alternation with AA predominant at 290.3~332.5 m. At this depth, the thickness of individual beds are limestone 0.5~3 m, AA usually 1~3 m with a thick bed correlated to other four drill holes at 297.5~308.5 m. Shale at 289.6~290.3 m gradually changes to the underlying AA. Coquina beds consisting of bivalve fossils occur in shale at 321.3~324.3m.

 $332.5 \sim 401.0$ m; Correlated to Loralai Unit-I, alternation of limestone, shale and AA with limestone predominant. Individual beds, limestone $2\sim4$ m, shale and AA $0.5\sim1$ m thick. Shale and AA are transitional.

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[Mineralization] And Annual Company of the Company

Lead-zinc sulfide mineralization occur at 283.4~291.1 m, 308.5~310.4 m and 316.2~320.4 m. These zones are all composed of sphalerite and small amount of galena disseminated in the host rocks and siderite and calcite veinlets cutting through. At 283.4~291.1 m, the host rock is fractured and the mineralization extends into the shale intercalated in limestone. The mineralization occurs selectively in limestone in other two zones. Concentration of calcite veinlets in limestone is observed near 62 m and calcite film in shale near 192 m.

(5) MJP-5

[Geology]

 $0\sim58.7$ m; Correlated to Anjira Unit-I, mostly limestone, shale

occurs at $7.0\sim11.5$ m and weathered soily shale beds $10\sim20$ cm thick observed in several places. This unit consists of a succession of $1\sim2$ m thick limestone beds at the surface near this site. Hematitization occurs at $0\sim18$ m and near 53 m, but weaker than in Loralai.

 $58.7 \sim 193.0$ m; Correlated to Loralai Unit-IV, limestone and shale alternation with the latter predominant. Individual beds, limestone $0.5 \sim 5$ m and shale $0.2 \sim 5$ m thick. Hematitization in limestone occurs at 63 m to near 100 m. Bivalve fossils occur in limestone at $68.4 \sim 95$ m. At $140 \sim 190$ m, bivalve fossils occur and limestone nodules with tubular trails occur in the uppermost part of the shale beds.

 $193.0\sim210.4$ m; Fractured fault zone. Limestone and shale alternation, and individual beds are $0.5\sim2$ m thick. Most of the shale is fractured and accompanied by clay and the cross angle fluctuates between $10^\circ\sim80^\circ$, thus this part is concluded to be a fault fractured zone.

210.4~244.8 m; Correlated to Loralai Unit-II, limestone and shale alternation at 210.4~223.9 m with thickness of individual beds 0.3~2 m for both rocks. Alternation of limestone, shale, AA and AB with AA predominant at 223.9~244.8 m. Individual beds, limestone 0.2~1 m, shale 2 m, AA 1~3 m and AB 1~1.5 m thick. Shale, AA and AB are mutually transitional.

 $244.8 \sim 401.0$ m; Correlated to Loralai Unit-1, alternation of limestone, shale, AA and AB, limestone predominant at $244.8 \sim 281.9$ m, below which AA is the major unit. Thickness of individual beds are limestone $0.2 \sim 6$ m, shale $0.2 \sim 6$ m, AA $0.5 \sim 10$ m, and AB $0.2 \sim 2$ m. Shale, AA, AB are mutually transitional.

[Mineralization]

Lead-zinc sulfide mineralization occurs at 215.0~216.8 m. This is composed of shalerite and small amount of pyrite dissemination in the host rocks and siderite, calcite veinlets cutting through. Also, there are seven concentrations of siderite veinlets with thickness of 20~80 cm at 238.1~276.4 m.

(6) MJP-6

[Geology]

 $0\sim47.0$ m; Correlated to Anjira Unit-I, mostly limestone, $10\sim20$ cm thick weathered soily shale observed at several points. This unit is composed of a sequence of $1\sim2$ m thick limestone beds near this site at the surface. Hematitization observed at $0\sim47.0$ m, but weaker than in Loralai.

 $47.0\sim168.5$ m; Correlated to Loralai Unit-IV, limestone and shale alternation with latter predominant. Individual beds of both limestone and shale $0.2\sim5$ m thick. Hematitization observed in limestone from 47.0 m to 130 m. Bivalve fossils occur mainly in shale at $50\sim90$ m and $157\sim167$ m. At $90\sim150$ m, limestone nodules with tubular trails occur at the uppermost part of the shale beds.

 $168.5\sim252.8$ m; Correlated to Loralai Unit-II, limestone and shale alternation with limestone predominant at $168.5\sim206.6$ m. Individual beds of limestone $1\sim2$ m and shale $0.2\sim1$ m thick. Alternation of limestone and AA with the latter predominant at $206.6\sim252.8$ m. Individual beds here are limestone $0.2\sim2$ m and AA $1\sim12$ m thick.

 $252.8 \sim 401.0$ m; Correlated to Loralai Unit-1, alternation of limestone, shale, AA and AB, limestone predominant at $252.8 \sim 285.0$ m and $349.6 \sim 375.8$ m and AA predominant below 375 m. Individual beds are limestone $0.3 \sim 7$ m, shale $0.2 \sim 1$ m, AA $0.5 \sim 4$ m and AB $0.5 \sim 2$ m. Shale, AA and AB are mutually transitional.

[Mineralization]

Lead-zinc sulfide mineralization occurs at 168.5~202.1 m. This zone is composed of dissemination of sphalerite and small amount of galena in the host rocks. Mineralization is not observed in shale intercalated in shale. There are siderite and calcite veinlets at 326.7~327.1 m. Calcite veinlets are concentrated in limestone at 38~45 m, 67~80 m and 111~118 m. Powderry pyrite is concentrated in shale at 146~151 m.

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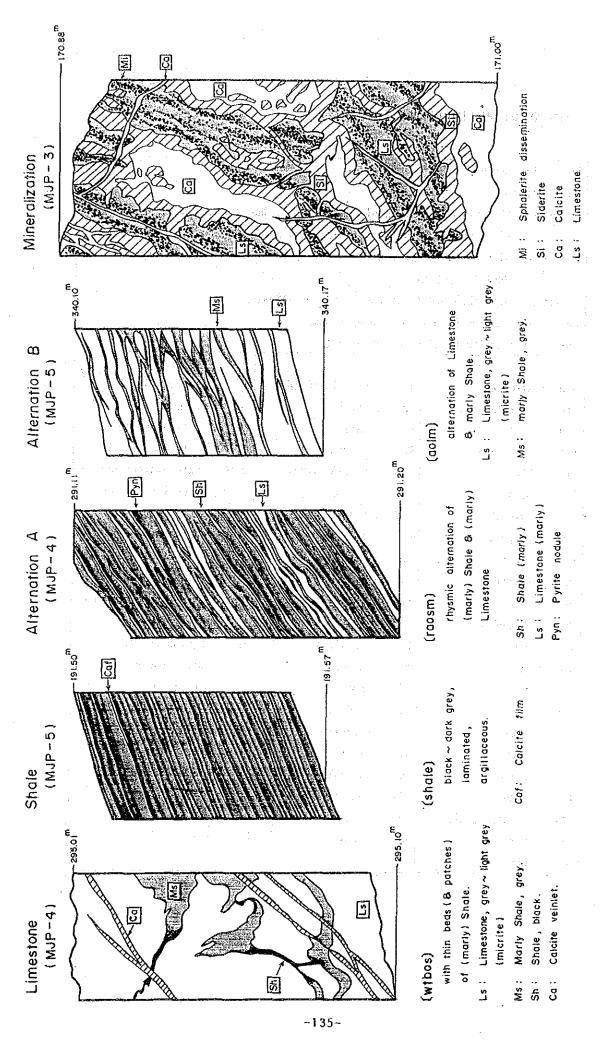


Fig. II-2-13 Sketch of Drilling Cores

Scale 1:1

LEGEND FOR DRILLING COLUMNS (MJP-1~6)

: Limestone Ls

: Shale

raosm: Rhythmic alternation of (marly,)black Shale & (marly,)light grey

Limestone. Thicknesses of each beds are 0, 1~3.0mm.

aolm : Alternation of grey Limestone(tk:2~10mm) & dark gery marly

Shale(tk:1~2mm).

wtbos: with thin beds(& patches) of (marly)Shale.

Sha : Alternation-A. Alternation by raosm.

Lsa: Alternation-B. Alternation by aolm.

aln : alternate

arg : argillaceous

bed : well bedded

brc : brecciated

: black bk

: brown

Ca : calcite

cmp : compact

cly : clayey

crs : coarse

: dark dk

dis : disseminated

dmt : dominate

fos : fossiliferous

flm : film

fis : fissile

fin : fine

gr : grey

Ga : galena

Hm : hematite

Hmz : hematitization

hrd: hard

hvy: heavy

lam : well lamnated

lgt : light

mly : marly

: marcasite

min : mineralization

ntwk: network

nod : nodule

olc : oolitic

peb : pebble

Рy : pyrite

: porous pos

rd. : red

: sphalerite

: strong sg

sft : soft

Si : siderite

: thickness

: vein νn

vnt : veinlet

whd : weathered

wh : with

: weak

IIIIII); limestone

: shale

: Alternation-B

∠45°: Angle between drilling direction and some

boundary plane.

245°: Angle between drill-

ing direction and bedd-

ing plane.

: Pb, Zn mineralization

o : fossiliferous

oo : coquina bed (cq)

X : core crushed

Δ : brecciated

1: nodule of Limestone

: : tubular trails

~: clay

mineralization etc

I : storong

I: medium

I: weak

Drill Hole No	:: ₩JР-1		,		
Location	: SURMAI-I	Elevation		: 1,461.01m	
Coordinate Point	: N=1,125,382 E=2,008,151	Inclination		: -90*	
Depth	: 401.0m	Core Recovery		: 98.53%	
Drilling Machine	:: L-38	Term	`	: MAY 10 '88	~ JUN 3 '88

				-		·						
			i.	ithology						Assay	Resul	
Depth	Geolog.				Mineralization	Sample	Depth	₩d :	РЬ	Zn	Ba	Λg
	Log	Group	Rock	Remarks	etc	No.	(n)	(m)	%	%	%	g/t
1.1		:	Ls	gr.cmp.	- 13mz	; ;						
5	×××××××	:	·	cmp,lgt bw.	Ų 35							"
15	×	it-W			Z15							
20	×××××××××××××××××××××××××××××××××××××××	Member-Unit-W	Sh	cmp,lgt bw~gr.		:						,
25		Loralai Me		cmp,dk gr.	70 - yq - sib							
30		I	·	:	Z30 II							
35	8			cmp.dk gr.fos.	730 Ca vn, vn t, flm 627	·					3	
40			Ls	gr,cmp,wtbos.	730 ES							

Fig. II-2-14 Drilling Columns of MJP-1

		*********	Lith	ology	andres a semicrologic description and semi-laborate description access and the		and the second section of the sectio			Assay	Resul	ts
1	Geolog.				Mineralization	Sample	Depth	Wd	Pb	Zn .	Ba	Åg
(m)	Log	Group	Rock	Remarks	etc	No.	(m)	(m)	*		*	g/t
			Ls	gr,cmp,wtbos.	Hmz vn.vnt.flm HPy dis							
45 			S h S h	cmp,dk gr~bk.	710 \$	1						
			Sh	dk gr,lam. gr,cmp,wtbos. dk gr,lam.	/40 II				a.			
50			le	gr.cmp.wtbos bk~dk gr.lam	210 I I I				·			-
_			S h		T :							
55		AI —	S h	emp,dk gr.	L 5		· , .					:
60		-Unit		gr.cmp.wtbos.								
		Member-	Ls								-	
65		l			·					·		
<u>.</u>		oralai		gr,cmp,wibos.								
70	ã	Lo		bk,lam,arg.	240							
 -	8			fos.	Z 10						-	
75 		-	Sh		Z10							
80				. '	1							
			<u>Ls</u>	gr,cmp.	170 I I							20
 85			\$ h	bk, arg.	1 5							
			L s S h	gr,cmp,hrd.				-				
90			Ls	bk,arg,fis. gr,cmp,hrd.	120			·	· • · · · ·			

			Lith	ology	Mineralization							y Res		
	Geolog.		Γ,	Para da	. Min		On	Sample	Depth	Nid (m)	Pb %	Zn	Ba %	Ag /
(m)	Log	Group	Rock	Remarks	-	etc		No.	(m)	(11)	70	1 10	À	g/t
-				gr.cmp.hrd.		E								
		i				<u>ب</u> +		,						
<u></u>						Ca vn, vnt, flm	,				:			
95			Ls			 								
-			:			ن	•							
		,		÷			dis							ļ
L i		į.							·			:		
100			Sh Ls	bk,arg. gr,cmp.	160	 -	H	•						1.2
-			Sh	bk, lam, arg.	2 5									
			:			-								
		,	L s Sh	gr,cmp,hrd.	270 410									
105			Ls	bk,lam,arg. gr,lam.	∠10 ∠5	7	-							. 6
<u></u>		- JV	L·s	gr, cmp, wtbos.	1	j	-		}					
		Ļ	—sh — L s	dk.gr.lam.		1	: =							
Ĺ.	ННЩ	n.	Ls.	gr.cmp.wtbos:										
110	000	1—	Ls	gr,cmp,fos.	-									
<u>-</u>		Θľ.		g1,0mp,10s.	L45	Į	-							
		пЪ		bk, lam, arg.	Z 15	:							-	
		Member-Uni	Sh				- 1							
115					<i>1</i> 30		: - <u>-</u>							·
-		ai		gr,cmp,hrd,fos.					·					
	ŏ	1 t	·Ls											
-	00000	oralai	2 3		20	<u>:</u>								
120		Ţ												
-		, ,	Sh	свр, dk gr.	Z30	7								
		-	Ls	gr.cmp.		;								
L.,	~ <u>~ ~ ~</u>		S h	dk gr.lam	£45	Ī	·{							
125	ЩЩЩ		Ls	gr, cmp.	280 280	1	:							
	XXX			bk,lam,arg.							Ì			
<u> </u>	×	* .	Sh											
130			- ••		∠ 30 ∠ 20	21								
130					£50	E T	- 🗓							
				gr,cmp,wtbos.			-							
<u> </u>			Ls				* -	•						
135					L45		_							
100	×			bk.cmp~lam.	240									
Ľ			Sh		£ 20									
<u> </u>	 	·				ΤT								
140			Ls	gr,cmp.	£40						:			
L140		<u></u>	-	BI, VISP.					1	!	I	<u> </u>	L	لـــــــــــــــــــــــــــــــــــــ

	n		Lit	hology			<u> </u>			Assay	Resul	ts
Depth	Geolog.	···	,		Mineralization	Sample	Depth	lid	Pb	Zn	Ва	Λg
(m)	Log	Group	Rock	Remarks	etc	No.	(m)	(m)	- 5	4	8	g/t
<u> </u>	Шо		Sh	dk gr.cmp~lam.	A dis		:					
-			Ls	gr,cmp,fos,wtbos.	730 + Vg		•					
j÷	0											
145	0			dk gr~bk.	Z30							
	Ĭ			emp~lam,fos.	240						: .	
	. 0		:				• •	i		* .		
-		·			Z 35							
150	00		Sh	bk.cmp~lam.fos.	Z 30							
-	oc ≈ x			:	Z35			-				
	o o				L 25							
_	o											
<u> </u>	: 0				Z15 = -							:
155	o			bk.lam.fos.	735					1.17		
<u> -</u>	×			, , , , , , , , , , , , , , , , , , ,	Z10 gi							
	×	M			1 20 ਲ		4.4					
		۲	T -		L35 T			:				
160		-Unit-W	Ls	gr.cmp.wtbos.								
 -		Ď.	S h	bk,cly.	<u></u>							
<u> - </u>	0	, H	Ls	gr, fos, wtbos	235.							
-	°	Member			180 : -							
165	o	TIL.	S h	dk gr.lam.arg.	100]						
<u> -</u>	.111.11	Me	3	gr, fos, wtbos.	<u> </u>							
 		'H	Sh	dk gr,arg.			¥.					
<u> </u>		, Ø	17 11	cmp~lam.			ı					
170	ر ا	T 6										
		Lora	Ls	gr, wtbos.	160 ÷							
<u> </u>		ř			Z40		•		 			
-	. 00		Sh	dk gr,cmp~lam.								
175	0		υH	dr Sijemp lam.]]						
		-			Z 5					. '		
_			-		Z 35							
-			Ls		140 ±							
180			Sh	gr,fos,wtbos. dk gr,cmp~lam.	140							
 ``	,,,,,,,,,			an stromp law.	130 + -							
			Ls	gr.cmp,fos.wtbos.	/30]: [
					∠50 - +							
- - -					400	1	ł					
185			Sh	dk gr,emp-lam.	Z 30						* 1	
-	. X				Z 30]						
-	×				15							
			Ls	gr.cmp,fos,wtbos.	T -							
190			_ "		<u>/40</u>			.]		·		

	***************************************	Colores Charles Colores Colores	L	ithology					<u></u>	Assay	Resul	ts
Depth	Geolog.	: :	•		Mineralization	Sample	Depth	Vid	Pb	Zn	Ba	Ag
(m)	Log	Group	Rock	Remarks	etc	lio.	(n)	(m)	%	Ş	\$	g/t
<u> </u>		:		dk gr.cmp~lam.	#n=				:			
-			Sh		£25							
-					y dis	} :				l i		}
195		:		· •	710 Vnt, flan	1				i		
		:	Ls	gr,cmp,hrd,fos.wtbos.	∠45 g							,
					පී	· 						
	≈×	!		dk gr.cmp~lam.	Z 30							
1	≋X				Z15		1					• •
200	≈ ×					}						
-	≈×				Z 5							
-	≈ ×		Sh		1 0							
										}		
205	≈×	IV										
L					Z0	1						
<u> </u>	≈ ×	٠ <u>+</u>	·	dk gr.cmp~lam.						1		
H	×	Un										
210	≈×	ا										
	lu uni	, h	<u> </u>		230 T]		
<u> </u>		Member	Ls	gr, wt bos.		 						
		Ü E		,								
L		Z			₹60 	}						
215		뱬			640							•
F		ଷ	Sh	dk gr,lam~cmp.	£40							
-		Ø.			Z40]					
-		Lorala		•	/20 — ÷	[
220		7	Sh	gr,cmp,wtbos.							·	
		:	311	·								
-	Δ				1 -							
-			Sh	bk,lam,arg.	/40							
225					£ 35							
		,	T	gr,cmp,hrd,fos.	T -		-					
-			Ls].		
			Sh	bk,lam]]		
	1				255 T -							
230			Ls	gr~lgt gr.wtbos.	<u> </u>							
<u> </u>	Δ		Sh	Ni. Janus	440							
-				bk,lam~cmp.	Z45 Z60 7 +							
-			Ls	gr,wtbos.	135						٠.	
235			Sh		250							
	××		υn	bk, lam, arg, fos.								
		·	Ls		T -			: -				
<u>_</u>	ШШ		Sh	gr, withos, brc.	/60 II _							
	ПППП		Ls	dk gr.cmp-lam.	/30 T				İ			
240			د د	gr, hrd, wtbos.			<u> </u>			<u> </u>		

***************************************		-	Lith	ology	AND PROPERTY OF STREET	ومتوطعت ويوسون ومساورته				**************************************	Assay	Resu	lts
Depth	Geolog.				Minera	lization	Sample	Depth	١٤d	Ръ	Zn	Ba	Åg
(n)	Log	Group	Rock	Remarks		etc	No.	(n)	(m)	%	\$. %	g/t
		PET.	L s_	gr, hrd, wtbos.	<i>L</i> 45	L S		į.			٠		
	1111111	i ţ	S h	dk gr~bk,cmp~fis.	∠45 <u>-</u>	{							
		η, L	_	gr.emp.wtbos.	Ę.	Py	i .		. [
L		ber	Ls		245 E JUN 5								
245		Wember-Unit-W		,, ,		:	1						
-	<u> </u>		_S h	bk.lam.cq. gr.emp.wtbos.	<u>.</u> 5	Si I							
-		Loralai	L s S h	bk.lam.cq.	Z50	_ I].						
249.1		Lo	L s	gr.cmp.	160							2	
250			L s	bk, eq.	470	i -				·			
<u> </u>	1	. '	\	gr,cmp,fos.	Z 50] .	'				·	
			Sh		170								
				bk,cmp,fos.									
					180	<u> </u>					*		
255		i	ļ .	gr.emp.wtbos.									
<u> </u>			Ls	-									
-	ШШЦ	•	·	bk,emp.	Z50	÷ -							
<u> </u> -			Sh	DK, emp.	Z 45	:			:				
260	00			gr,cmp,fos,wtbos.	240	<u>.</u>					*		
200		· i	Ls	B1,0mp,100,#2000.	250	-			.				
<u> </u>	00				Z40	į							
	00			dk gr~bk,fos,lam~cmp.	Z 40	:						-	
<u></u>					Z 60				.				
265		Ħ	Sh			;							
		1							ļ				
_		ہے.				;							
-		-Unit				;							
270	ШШ	P	Ls	gr,emp,fos,wtbos.	150	<u> </u>							
210	00			dk gr~bk,fos.lam~cmp.	£50 -								
F		5		un gr bk,103,14m cmp.				ì				,	
-		Member	C L		Z 40								
		Me	Sh										
275					L 35	;							
		. d			<i>[</i> 40			. :					
- 1		Loralai	Ls	gr,cmp,		T							
-	hmmîl	Ä			145	1 -							
000	×	2		bk,lam~cmp.fos.	1 40	:							
280		p=4	Sh										
 		•			<i>L</i> 45				.		. !		
-		•		gr.cmp.wtbos.	-70	<u> </u>							
			Ls	_ ,									
285					2 45	- -							
	00			bk,cmp~lam,fos.									
			Sh		2 40				ł				
		į							. [
_	•												
290			Ls		<u>/45</u>	. <u>.</u>							

		**************************************	I	ithology	1						Assa	y Kes	ults
Depth	Geolog.		., :		. ∫ Mir	neralization	Sample	Depth	lid	Pb	Zn	Ba	Λg
(n)	Log	Стоир	Rock	Remarks	ļ	etc	No.	(m)	(m)	.5	\$	80	g/t
 			Ls	gr, wtbos.	140	· ·				:	٠.		
		i	Sh	bk.cmp~lam.	Z 45	, 1				.		:	
 	 	; ;			240	-2-			 .	. !			
			Ls	gr, emp, wtbos.	245	Ela Ela	ļ				1 1		
295			Sh		140	#f; 							-
-			Ls	bk,cly,fos.	135 135	Ca vn, vnt, flm							
- '	×		Sh	gr,cmp,wtbos. dk gr,lam,fis.	460	N N							
		Ħ	Ls	gr.cmp.wtbos.	240	යී <u>;</u> ;							
300		ナー国	La	dk gr.lam.fis.	1 60		}			:		Ì	
300	×	iri	1	dy Bi'light'i io.	1200						i		
<u> </u>		Uni	Sh			- :					·		
_				dk gr,lam~cmp.			1 .						•
-		Ä						:					1
305		Мешье	Ls	gr,cmp,wtbos.	250	1 4	1						
		E	L S	·		7] [i			
<u> </u>		₩ ·		dk gr.lam.									
-			Sh	÷	Z 5	2 3 2 3 1 2]
-		 			130					-			
310		H	Sh	cmp,gr.	£30								
		Loral	3 11			<u> </u>							
-		Ö	Ls.	gr,emp,wtbos.		\$? !							
		1			250	<u>:</u>	[:						Ì
			C 1-	dk gr.cmp~lam.	Z 50	; ; ;							
315			Sh		Z 45		į						
			10	gr.cmp.wtbos.	L40	<u>د</u> . –				:			
			Ls Sh	bk,lam,fis.	145	I I Sp	ļ						
<u>.</u>			Ls	gr,cmp.		I T I		·		İ			1
\ <u>'</u> ,			Sh		760	1					•		ļ
320			2 11	dk gr.cmp~lam.	Z 5					İ			
_	1111111				Z 20	T -		1 1	İ		·] }
			Ls	gr.cmp.wtbos.	125		<u> </u>						Ì
			C 3		220	†							
205			Sh	dk gr.cmp.	170 145	<u>;</u>]
325		İ	Ls	gr,cmp,wtbos.	143	}							
- .			· · · · · · · · · · · · · · · · · · ·	DI, VIIIP, NEUCO.	250	1 -]
 		, i	Sh	cmp,gr~dk gr.		1	}						[
-	.		3 II		Z 40	1							
330			٠.			1	 						
		İ		gr, wtbos.	1	Ţ							
			Ls	:		1. !	}	**		į	:		
-						-							
-		·		cmp,gr~dk gr.								:	
335			Sh		Z15	1 i							
_					1	-							
- -					-	!				: • •			
		i	 	gr.cmp.wtbos.		T							
			Ls			- 1							
340			Śħ		<u> </u>	<u> </u>			·]	_			

		-	Lith	ology	T	**************************************	ف النظامة والمساطان والمساد				Assay	Resul	lts
Depth	Geolog.					Mineralization	Sample	Depth	¥d	Pb	Zn	Ba	1 1
(m)	Log	Group	Rock	Remarks		etc	No.	(m)	(n)	<u></u>	*	\$	g/t
-			Sh	emp,gr~dk gr.		Ca vn, vnt, flm							
-	hmml			gr.emp.wtbos.	1	mt, Tr.							
-		•	Ls			vn,	:					٠.	
345						g		ļ			: :		
-				i., .,									
-		E.		cmp.gr~dk gr.							: -		
-		† -											
350		Uni	Sh							-		:	
	[þ						٠					
-		Ļ							•				
-		Q,	Ls	gr,cmp,wtbos,fos.	145								
355	111111111	Member											. :
		Ř	:	cmp.gr~dk gr.	Z 45	1		* :					
_		H											
-		1 2	Sh		Z 55								
360		Ø											1 1
_		Lora				. 1							
		H				•							
-								-					
365			Ls	gr,cap,wtbos.	250	T -							
<u> </u>				- · ·	Ł3 5				. [ļ			
-			Sh	cmp.gr~dk gr.							·		
_			Ls		250	T :		·					
370	:			gr,cmp,fos.wtbos.		-].]
-			Sh	cmp,gr~dk gr.						İ			
			Ls	gr, cmp.	L50	$\mathbb{I}\stackrel{:}{\scriptscriptstyle\perp}$,	
-	:				/50								
375				cmp~lam.gr~dk gr.	£40 £45					·			
			Sh	.,									
					Z 40			·					
-													
380				fos.	Z 35								
355		:		1	Z 35	_ i		44					
			Ls	gr,cmp,fos,wtbos.	Z45	<u>.</u>							
<u> -</u>	<u> </u>					+ +			l				
385				dk gr~bk,cmp~lam.									
300		:	Sh						ļ				
				•			1			.			
Į.						T 🗓			.				
200		İ	Ls	gr, emp, wtbos.	<i>i</i> 40								
390			Sh										

epth	Geolog,		Lith	olosy	. 10:	ineralization	Sample	Depth	Kd:	Pb	Assay Zn	Resul Ba	ts.
(W)	Log	Group	Rock	Remarks	,,,,,	etc	Ko,	Doptii (m)	(m)		£11	, %	
95		Loralai Wember-Unit-I	S h	dk gr~bk,cmp~lam.	Z45	Ca vn, vnt. flm Py dis							
00 01.0		Loralai M	L s	gr,cmp,wtbos.	245		:						
٠		:	:		•	a ·					:		
-					:								
			1										
										-			
:													
				:		· 1							
	:							14 A					
				·									
		·											

2 - 1

Elevation	: 1.461.01m
Inclination	: -70*
Core Recovery	: 98.86%
Term	: APR 23 '88 ~ MAY 8 '88

[[. L	ithology	T						Assay	Resul	ts]
Depth	Geolog.				Mineral	lization	Sample	Depth	¥d	Рb	Zn	Ba	λg
(m)	Log	Group	Rock	Remarks		etc	No.	(m)	(m)	%	*	%	g/t
0.9				non core	Τ Τ	· T	ĺ	,					
5			Ls	gr, cmp.	IImz	Ca vn. vnt. flm.							
10		-Unit−W	S h	стр, gr.	2 5 1 10 2 5 1								
15 	**************************************	4	Ls	gr, cmp.	Z20	-							
20		Loralai	Sh	dk gr, arg, whd.	∠0 ∠0 ∠10 1 1 1								
25 .	0000	Lo										-	
30	Δ		Ls	gr, cmp, fos.	Z40								
_			Sh Ls Sh Sh	gr~dk gr, lam. gr, hrd. bk, cly gr, hrd. dk gr, cmp.		<u></u>							

Fig. II-2-15 Drilling Columns of MJP-2

				٠								2-2	
Depth	Geolog.	· · · · · · · · · · · · · · · · · · ·	Li	thology	И	ineralization	Sample	Depth	Wd.	Pb	Assay 2n	Resul Ba	ts Ag
(m)	Log	Group	Rock	Remarks		elc	lio.	(m)	(m)	\$	*	\$	8/
-			Sh Ls Sh Ls	Br.cmp. dk gr. gr.wtbos.	∠60 ∠60	Hinz 1111.							
45	×		S h	dk gr, lam.	∠45 ∠40	vn, vnt,	·					:	
			L s	gr, cmp.	/45	I T is	191		: .				
 50	<u> 8</u>		L s S h	gr, hrd, fos. cmp, dk gr~bk.	Z 50	I I va						:	
 	×	t-IV	S h	bk, lam.	∠ 35 ∠ 15	I							
 55		-Uni	S h	cmp, dk gr~bk. gr, cmp, fos.	Z40 Z30 Z20	-					·		
 	 \$ THTHI	Member	S h	dk gr~bk, fos. cmp, dk gr.	/40	_L			:				
- 60	 •	Men	Ls Ls	gr, wtbos.	L 40 L45							-	
-	00	lai	Sh	dk gr~bk, fos.		Т							
- - 65	<u> </u>	Loral	Ls	gr, hrd, fos.	L45 L55							-	
	≈		Sh	dk gr~bk, lam, fos			·	:		٧ .	-		
70	8 } }		L s S h	gr,cmp,fos. dk gr~bk,lam,fos									
			L s S h	gr, hrd. dk gr, arg.	<i>L</i> 45								
- - 75 .	 8		L s S h	gr, hrd, wtbos.	Z40 Z60							:	
	∞ ∞				Z 45				:				
- - 80	00		S h	dk gr~bk, fos. wh cq.	Z 45	F						• .	
 - -	0		. 1		∠ 55 ∠ 40								
- - 85			Ls	gr, cap.		I		·					
-	\$ \$ 		Sh	dk gr~bk, fos.	Z 40	Ţ.	*						
- - 90			Ls Sh Ls	gr, hrd, fos. dk gr, lam, fos. gr, hrd, fos.	Z45 Z40 Z30	; ; ; ;							

			Lith	ology		,					Assa	y Res	sults
	Geolog.		·		Mineralizat	ion	Sample	Depth	lid	Pb	Zn	Ba	Ag
(n)	Log	Group	Rock	Remarks	etc	-	No.	(m)	(n)	*	\$	*	g/t
	0				250 E	:						·	
	Ó		S-h	dk gr~bk, lam,	250 5			2.5	'				
<u>-</u>	0	: .		fos.	245	d18		•					
05			ls	gr, wtbos.	Z45 5.	. С .			11 + 4		1		
95		•		B11 11 0000.	روم الاطاق الاطاق	Py					7		
-				dk gr~bk, fos,	- 10			14 4			1 :		
	00		Sh	wh cq, lam~cmp.	Z 45								
_	0 0 0				Z 45					•	1		
100			-		∠ 45 ≧		11	et e e			-		
			Ls	gr, cmp.	Z45 2 H	J.							
_			Sh	dk gr, lam~cmp.		- T				ĺ		1	
	, <u> </u>		9 11	uk 81,12m.cmb.	∠40 ÷	+	•						
			L s	gr, cmp.	<u>.</u>	-							
105		×			•	T							
		VI —	Sh	dk gr, lam~emp.									
-		ľ.			/40 <u>.</u>	<u>:</u>		, .		'			
	ЩЩЩ	Ç	Ls	gr, cmp.	<i>1</i> 40	· -		- 11					ĺ
116	0	-Unit	C 1-	dh 1 f	Z 30								
			Sh	dk gr,lam,fos.	£40				1				
_		Member	LS	gr, emp.	∠45 <u>;</u>	+							
		H	Do	gr, cmp.	/30 [±]	:			1	.:	ŧ 		
_	co	≅				:				:			
115	0		Sh	dk gr, lam, fos.	Z 35								
-	0	e i	J II	un gr, ram, ros.	∠ 45 ∠ 60	:							
	0				Z 45	:					! 		
	0	Coral			265 →		·	e T					
120		0	Ls	gr. cmp.	T			٠.			į		
	ШШЦ	_			₂₅₀ 1 1							,	
-			0.1		₹ 60					}			
			Sh	cmp~lam, gr.									
_					.450 T T	- 그		15					
125		i	Ls	gr, cmp.						}			
	7111111						ļ	İ					
-			Sh	dk gr,lam.	Z 60								
		·	Ls	gr, cmp, wtbos.	ΙŢ	. +							
130	ШШ		<u></u>	gr~dk gr,	ļ			.* "					
	mund		Sh	lam~cmp.	T	- 🗓 [
			Ls	gr, cmp.	<i>1</i> 45								
_			L S	gr, cmp.	170 I	-							
_					170	7							
135			Sh	gr~dk gr, cmp~lam.									
	اسسط		т -]	∠ 85 ≟	· -				. '			
-	ΙШЩ		Ls	gr, cmp, wtbos.	∠60 ∠ 50	-1							
	ုိ		Sh	dk gr~bk,lam,fos	∠50 ∠50 <u>~</u>								
140			Ls	gr, cmp, wtbos.									
<u> </u>	чиш				-148-								L
•					140~								

	g af de Planis de la constan	Sample territories	Lit	hology	-	Y-73 4-0.1-2-4-4-4-4				Assay	Resul	ts
Depth	Geolog.		· ·	<u> </u>	Mineralization	Sample	Depth	¥d	Pb	Zn	Ba	Ag
(m)	Log	Group	Rock	Remarks	elc	No.	(m)	(n)	%	%	*	g/t
 		or or	Ls	gr, cmp, wtbos.	Z60							
		33 T	Sh	dk gr~bk, cq.	260 I							,
144.7	$ \overset{\widetilde{M}}{\otimes}$	121 0 0 D	Ls	gr, cmp, wtbos, fos, cq.								
145	00		* * .		750 ca dis dis dis					1		
	- 0		Sh	dk gr, lam, fos, cq.	760 å vi dis		-					
		,		100,104.	P							
150			_Ls	gr, cmp.	Z45						1	
100	: 00		Sh	dk gr, lam, cq.	Z 15	1						
	ш		Ls	gr, cmp.	/35							
-	00				2 40		٠.					
155	•		Sh	dk gr. lam.	Z45							
					Z 60							
-			Ls	gr, cmp.	∠55 ±		. :					
-			Sh	dk gr. lam,	255							
160			Ls	gr, cap.	1 ÷					Ì		
-		ا ب ا		81, Vmp.	\(\frac{145}{45} \)							
	88	Uni	Sh	co, dk gr, lam.	Z45 Z45							
					Z40		• .					
165		Member	Ls	gr, cmp, wtbos.				·				
-	<u> </u>	ın E	Sh	dk gr~bk, arg.	/ ₂₅₀							
	 	© ⊠			-							
	2005	•#		٠.	445							
170) C	ੋਹ	Lѕ	gr, cmp, wtbos,					,			
 		Loral		fos.	/45 I.			·				
F		Ő		cq.	<u> </u>							
175	00	ĭ		cq.	270 260							
			Ş h	dk gr, cmp~lam.	2 50		. ' .					
					† ;						,	
<u> </u>		:	Ls	gr, cmp, wtbos.	<u>140</u>							
180		· 			Z30							
			Sh	dk gr,lam.	25		·					
					Z 0 ± Z 45							
-					/60 <u> </u>		i					
185			Ls	gr, cmp, wtbos.							:	
-			Sh	dk gr~bk.								
-			Ls	gr, cmp, wtbos.	/10							
	111111		Sh	dk gr, lam.	/5 ±							
190			J 11	un gi, iam.	X30							

P-A-MOTOR INC.			Ĺ	ithology	and the second s	-	an ang ang ang ang ang ang ang ang ang a			Assay	Resul	ts
Depth	Geolog.		,	T	Mineralization	Sample	Depth	¥d	Pb	2n	Ba	Λg
(n)	Log	Group	Rock S h	Remarks dk gr, lam,	etc	No.	(m)	(m)	*	*	*	g/t
-	ШЩ		Ls	gr, cmp, wtbos.	230 - 1	•	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1					
 	×××				130		1 1					
		-	Sh	dk gr~bk, cmp.	125 SID					· «.		**
195					Lo Fy di							1.7
					Ca vn, vnt, flm.			٠.				
			Ls	gr, hrd.	250 ET							
		i	LS	gr, m.u.	vn,		14. 4.				:	
200			٥,	1 11		**						
-			Sh	cmp~lam,dk gr.	Z 55 Z 60							
-		•		· ·	170		17. 7					
			Ls	gr, cmp.								
205		H	Sh	cmp, gr~dk gr.			i					
-	111110	Ħ l	Ls	gr, cmp, fos.	L45							
-	ПШЯ	ㅂ	гэ	gr, cap, ros.	T			. *				
)))) × × × ×	Unit-	-S h	cmp~lam,			i i to				;	
210		l i		gr~dk gr	1 25		:					
<u> </u>) 0 0 1	0	Ls	gr, cmp,	Z50 I -						·	
-		E C	LS	wtbos, fos.	145 T.					İ		
		Member	Sh	cmp~lam, dk gr,								
215			5 11	cmp lam, uk gi,	2 55							
		a i	Ls	gr, cmp, fos.	<u></u>							
-	111111111111			gr, cmp, 103.							:	
		ora			£ 45							
220		Ţ						:			100	
-			Sh	cmp~lam, dk gr.	Z 50						. :	
-												
225]]]]]0		Ls	gr, cmp, fos.	145 ÷			,			:	
-			Sh		145							
	ПШО			cmp, dk gr.	L45							
L	11110		Ls Sh	gr, cmp, fos. cmp, dk gr.	Z60				İ			
230	 		Ls	gr, fos.	175							
-	:		:		175							
-	,	•	Sh	cmp, dk gr.								
	•			-						:		
235]]]]] <u>o</u>		Ls	gr, fos.	270 I							
-	•			5-,	1							
-	:		Sh	cmp, dk gr.							:	
				or foe	ļ						- '	
240	mió		Ls Sha	gr, fos. raosm.	∠ 60 I ÷							

			Lith	ology		<u></u>			and the same to	Assay	Resu	ilts
Depth	Geolog.	· · · · · · · · · · · · · · · · · · ·			Mineralization	Sample	Depth	ned .	Pb	2n	Ba	λġ
(m)	Log •	Group	Rock	Remarks	etc	No.	(m)	(m)	*	*	%	g/t
	: :		Sha	raosm, gr~dk gr.	£55				:			
245			Ls	gr, cmp, wtbos, fos.	∠50 ∠50				l -			
250			Sha	raosm, gr~dk gr.	Ca vn, vnt, flm.							
255			L.s	gr, cmp, wtbos.	265 + ip							
260				·	170 140 120			. "				
265	××		Sh	dk gr, lam, fis.	2 0							
270	××××××××××××××××××××××××××××××××××××××											
		. :	Sh —L s—	gr, cmp, fos.								
275	××××××××××××××××××××××××××××××××××××××		Sh	cmp, dk gr. bk, fis. gr.ios.	T	i.	. :					
280			S h	bk. cmp, gr~dk gr.	, 1. 1. H							
285			Ls Sh Ls Sh	gr, cmp. dk gr, lam. gr, hrd, fos. bk.	si vn, vnt, dis = p+Ca vn, vnt, flm +Py dis	,	n en en en en en en en en en en en en en					
290	∭.xx	1-1	Ls	gr. min:Ca+Si,vnt.		DH2-1 DH2-2	286.2~289.7 289.7~	1.5	0.01	0.05	<0.01	(0.5

-			1.	ithology	Taliff Shift printer	######################################			China de La Carta		Assa	y Res	ults
Depth	Geolog.			·	Min	neralization	Sample	Depth	¥d	Pb	Zn	Ba	AB
(m)	Log	Сгоир	Rock	Remarks	VILLY 40000	etc	No.	(m)	(m)		*	%	g/t
291.0	шш		Sh Ls	bk.lam. gr.bed. min:Sp.Ga,Si,Py dis.	750		DH2-2 DH2-3	289.7~290.4 290.4~291.0	0.7	0.01	<0.01 5.74	<0.01 <0.01	<0.5 3.9
			Sh	bk,law. bk,law. min:Sp,Ga,Si wk dis.	£50		Dh2-4	291.0-292.3	1.3	0.01	0.09	(0.0)	
292.3			Ls	gr, olc.	160	S S S		11 1					~
	ПППП	į	Ls Ls	bk.lam. gr.olc.	<i>L</i> 50	dis.	DH2-1-4	288.2-292.3	4.1	0.04	0.89	<0.01	1.0
295			Sh	lam, dk gr~bk.	250	Sp Ga Vnt,							
				Tam, or gr Dr.		۷'n,							
<u></u>			Sha	raosm,		Si							
			Sila	gr~dk gr,	Z60	0,							
300	himid	•	Sha .	gr, hrd.	Z55	T							
300	hininid	Ħ	Olla	raosm,		Ţ							
-			Ls	lgt gr~gr, cmp,	*								
-		1 t		wtbos.									
<u> </u>	liitiii (Uni		ļ	£55	ļ <u>.</u>	ļ					1	i
305		_ر									:	1	*
		i.										:	
_		Member	, ,										
	: : : : :	m			2 55								
		ΜG	Sha	raosm. gr~dk gr.		<u> </u>							
310				gr un gri			1						
		a i			Z 55 ·		ŀ		*				
_		rH.				;							
_	:::::	Ø				dis							
		Lor			Z55	Py c							
315	ning	,			£55	·							
-	သုဂ္		Ls	gr, hrd, fos, cq.	2 65 2 60	<u>.</u>		[· i	
-			0.	raosm, Ls dmt,	200	flm:							
-			Sha	lgt gr~gr.	£ 55	:	1	į	i				
320					Z 50	_ ~ :					· ·		
			Sha	raosm, Sh dmt, gr~dk gr.	£ 65	vnt vnt							
				gr un gr.		dis. vn, vnt	}						
323.2	[ō		Ls	gr, cmp, wtbos, fos		Si Si				-	. An		
			Sh.	min:Si dis along bed bk.lsm.	3	11 1	DH2-5	323,2~323.4 323,4~323.9	0.2	0.01	0.03	<0.01 <0.01	<0.5 <0.5
325			-	gr, cmp, wtbos.	<i>L</i> 40		DH2-7	323.9-326.0	2.1	0.01	0.56	<0.01	
			T ~	min:Si>Ca>Sp.Ga, Py dis along bed.	-								
_			Ls	1) ale along see.			D.1.5. 5	000 0 000 0					
]]]]						DH2~8	326.0~328.6	2.6	0.08	1.54	<0.01	V.8
328.6				gr,cmp.wibos.	145 -	 							
330	·		0.1	11 11 7	£70		DH2-5~8	323.2~328.6	5.4	0.03	1.00	<0.01	0.6
<u> </u>			Sh	dk gr~bk, lam.	∠60 ∡50								
<u> </u>				·	∠ 50 ∠50								
 		,	τ -	as one with-	160	÷							}
335	ШШ		Ls	gr, cmp, wtbos.	Z50	ΙŢ	1						
	:::::				<i>L</i> 70		[•
-	: :::i				£70							1, 11	}
-	<u> </u>		Sha	raosm, gr~dk gr.	Z 70								
<u> </u>	$ \cdot,\cdot,\cdot $				2 55					,			
340				·	Z 60				·		i i		
	الثبيب					150		·		لبجيحت			أسسب

											و عدور من رساعه د	2 - 8	-
<u></u>		والمستخدم والمراجع وا		Lithology							Assay	Resul	ts
Depth	Geolog.				Mineraliz	ation	Sample	Depth	lid	Рb	2n	Ba	Ag
(m)	Log	Group	Rock	Remarks		tc	No.	(n)	(m)	*	*	*	. g/
340.7		alai Member -Unit-1	Sha L s S h	gr, cmp, wtbos. bk, lam. gr, cmp, wtbos.	∠60 ∠55 ∠60	Ca vn. vnt, flm.	· · · · ·						
350		0.1	Sha	raosm, gr~dk gr.	∠ 55								
351.0		7_	Ls	gr, cmp, wtbos.	<u> </u>								
		• .							٠.		٠		
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						•							
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Drill Hole No. : MJP-3		
Location : SURMAI-I	Elevation .	: 1,461,01m
Coordinate Point : N=1,125,382 E=2.008,151	Inclination	: -45'
Depth : 300.8m	Core Recovery	: 98.44%
Drilling Machine : L-38	Term	: MAR 31 '88 ~ APR 19 '88

	T7			ithology			2-P-E-W	**************************************	<u> </u>		Assay	Resul	t c
Depth	Geolog.	ļ <u>:</u> .	L	Ttilo10g)	Hinar	alization	Sample	Depth	₩ď	Рь	Zn	Ba	Ág
(a)	Log	Group	Roek	Remarks	MILLON	etc	No.	(m)	(n)	ź.	*	Da V	g/t
1.0				non core				27g 1 3				-	
		:	Ls Ls	gr, cmp. ers bw.ers.fis. gr, cmp.	∠ 50 ∠30	vnt, flm.							
- -	××××××××××××××××××××××××××××××××××××××		Sh	grs bw, arg, lam, fis.	Z 30	dis Ca	# * .		:	!	. e. i	<u></u>	
10	0	N	L s	gr, cmp, crs. ers bu.arg.fis.		Py					:		-
_		Unit-I	S'h	cmp, dk gr~bk, fos.	L 45								
15 —		1 1	L s S h	gr, CMP, CrS.	Z30 Z60								
20		i Member	Ls	gr~lgt gr,cmp.	Z 80					-			
_ _ _		Loralai	L s	gr~bk.ely. gr~lgt gr, cmp.	<i>L</i> 45								
		$\Gamma_{\rm C}$	Ls Ls Sh Ls Sh Ls Sh	emp.dk ar. gr-lat gr.emp. emp.dk ar. emp.dk ar. emp.dk ar. gr.emp. emp.dk ar.	270 240 230	I I						-	
		- 	Ls Sh	grolgt gr.cmp. cmp~lam, dk gr~br bk.lam.arg.fis.		I							
30			Sh Ls	emp.dk gr. gr~lgt gr, cmp.	260	Ţ		•					
35			Sh Sh Ls Sh	cmp, gr. bk, lam, arg, fis. gr~lgt gr, cmp. bk, lam, arg, fis.	∠60 ∠70 ∠60	III							
_		-	S h	cmp, grs br~br. bk, lam, arg, fis.	120								
40			Ls	gr~grs br, bed.	<i>L</i> 50	I							

Fig. II-2-16 Drilling Columns of MJP-3

: :			Li	thology	A CONTRACTOR OF THE PROPERTY O	Cardin September				Assay	Resul	ts
Depth	Geolog.	19-		V	Kineralization	Sample	Depth	Wd	Pb	Zn	Ba	Ag
(M)	Log	Group	Rock	Remarks	etc	No.	(m)	(m)	*	5	*	g/t
- -			S h	dk gr ~bk,lam, arg. gr,cmp.	Hmz Py dis							
45	<u> </u>	• 1	S h	dk gr~bk,lam, arg.	245 gi	. "						
		:	Ls Ls	gr, cmp. dk sr.ars. gr, cmp.	245 I I I			:	·			
50	0		S h	dk gr~bk, lam, arg, fos:Bp, ø0.5~1.0c	∠ 60 m	: :			<u>-</u>			
55		– IÝ	L s S h	gr~dk gr,cmp,fos dk gr~bk,arg, lam,fos.		. 1						
60		-Unit	L s	gr, cmp. bk.lam.arg. gr.emp.	170 I I	. * .						
_	0 0	Member-	S h	dk gr~bk,lam, arg, fos:Bp,∮0.5~1.0c	Z 55							
65 —		ai	Ls Sh Ls	gr, cmp. dk gr~bk, arg. gr, cmp.				:				
70		Loral	S h	dk gr~bk, lam, arg, fos. gr, cmp. dk gr, arg.	L 50 L70 I	*****			:			
-			Ls	gr, cmp.	260 I							
75			S h	gr~bk, lam, arg.	1 55 1 60	. 4.		-			:	
80			Ls	gr, cmp.	L70 ± 1				A			
_			S h	dk gr,lam∼cmp.								
			L s	gr, cmp.	270	\$ +				-		10 di
- :	- 		S h	bk, arg, sft. gr, cmp.	160							
90			\$ h	dk gr~bk,lam.	255 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						,	

			Lith	ology	and the second s		THE PERSON NAMED IN	and the second s	-	ALFANCE RAF	Assa	y Res	ults
	Geolog.	· · · · · · · · · · · · · · · · · · ·	:		Mineralization		Sample	Depth	₩d	Pb	Zn	Ba	Åβ
(n)	Log	Group	Rock	Remarks	etc		No.	(n)	(n)	*	%	*	g/t
-			Ls	gr, cmp, fos, wtbos.		L							. :
-			Sh	dk gr~bk.	dis								
<u> </u>	 	N			Py di	r	į		: 2				
95		Unit—	Ls	gr, cmp, wtbos.	250 E S 245 I I								
		· Um.	Sh	cmp, gr.	•	Ī			:				
-		er l	Ls	gr, cmp, wtbos.	L40								
-	×	Мембег	Sh	dk gr~bk, lam,	Z 45							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
100	X		·····	arg.		г							
		Loralai	L s	gr, cmp. bk, lam, arg.	LOU Hd 2 ca, -	ļ.							
		Lor	Ls	gr~dk gr, cmp,	Z80 Wh Cave								
ļ_ :			Sh	wtbos. dk gr, arg.	Z45 -								
104.8			Ls	gr, cmp, wtbos.					٠.				
1.53.0					'						,		
			S'h	dk gr~bk,						1.			
				1аш~сшр.							:		
_			Ls	gr, cmp, wtbos.	270								
110					∠ 60 ∠ 50								
-	0		Sh	dk gr, lam~cmp, fos.	230								
-			Ls	gr, cmp, wtbos.	<u>1</u>								
	000		-		2 50								
115	000		Sh	gr~dk gr,lam~cmp fos:113.8~114.1									
-	0	=		Cqb, Bp,	1 55								
-		ٺ	L s	¢0.5~1.0cm gr, cmp, wtbos.	<u>:</u>	[
-		Uni	Sh	dk gr~bk, lam,	Z50								
120			L s	Cqb.	445				:			:	
		, r		gr, emp. dk er, Cab.	<i>L</i> 50	<u> </u>							
 -		Member	Ls	gr, cmp, wtbos.			ļ					. 1	
-	ЩЩ	m e			Z60 T								
125	ô	M	Sh	dk gr~bk, fos.	Z45		.						
	×	ਾਜ਼		_ · ·	<u>:</u> 1			į					
		l a	L s:	gr, cmp, wtbos.	£ 40								
L	1111111	Lorala			T								
120	جَ	or	Sh	dk gr~bk, arg.	Z 45								
130		7	וויי	un gi un, dig,	<i>L</i> 10								
 -		•	Ls	gr, cmp, wtbos.						'		,	
<u> </u>				g_,, ",,	40.	-							
L				dk gr~bk,lam,	Z 40								
135	×××		Sh	ok gr~bk, lam, arg.								4 - A	
 -		i			Z40					<u>'</u>			
-		"			Z80							,	
-	ШШЩ	. 1	Ls	gr, cmp, wtbos.				: %				:	
140			Sh	dk gr~bk, lam.	14 5								

	•		Lit	hology					L	Assay	Resul	lts
Depth	Geolog.			<u> </u>	Mineralization	Sample	Depth	Жd	Pb	Zn	Ва	Y8
(n)	Log .	Group	Rock	Remarks	etc	No.	(m)	(n)	*	9	1 %	8/
_			Sh Ls	dk gr~bk, lam.	E					1 1		
:				gr, cmp, wtbos.	/10 Fi					1 %:		
					int.							
_					vn, vi							
 145			Sh	dk gr~bk, lam,								
	·	3 (. 5 11	arg, fis	22 E A		1					
- :			! :		Z 30		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			<u> </u>		1
- :		÷					1	1	1			1
- '		iri			Z20			2				
- :		Un			1 . 11.		1 4					.
150		Ī	Ls	gr, cmp, wtbos.	150	<u> </u>						
	E101123	ř			/50 T	1.						
		əq			V30	ľ						
		m										
		0		11 1	∠ 30		1		ļ			
155		Z	Sh	dk gr, lam~cmp.			- **					
		·H										
-	×	₫ .			1 40							ļ
		ام د										
		ra										
_ 160		Loi	L		160							
	ШШ	\dashv	L _s	gr, cmp.	Z80 I							
			Sh	dk gr, lam~cmp,	Z40						1 : .	
- `				fis.	260 T						_	1
	шші		Ls	gr, cmp, wtbos.	1 1 1							
}			Sh	dk gr.lam, fis.	240							
165	\overline{m}		Ls	gr, cmp, wtbos.	dis 697]					1	
_	⊼×		Sh	dk gr, wh Ls nod	Z60 ± + -	·						
	()		Ls	gr, cmp, wtbos.	s s i	1 -1				}		1
_	ШŰ				45年45年				i .	1		
169.1	8		S h	dk gr, cly.	Sp Ga Si							ļ
170	THĄ 🖁			gr, wtbos, brc.	Z30 T T T	DH3-1	169.1~171.5	2.4	0.02	4.26	<0.01	3.
			Ls	min:Sp>Ga dis,		ו-ניות	105.1-171.5	2.4	0.02	4.20	10.01	3.
-			Sh	wh CatSi vn. dk gr.aln wh Ls.	₂₅₀	DH3-2	171.5~171.9	0.4	0.59	0.15	<0.01	8.9
_ 172.9	一	Ħ	Ls	gr, brc, hvy, min.		DH3-3	171.9~172.9	1.0	1.17	7.68	<0.01	17
=					1 11 1 7 7 7							
 175		<u>ب</u>	: 7 D	au ann wthan		DH3-1-3	169.1~172.9	3.8	0.38	4.73	<0.01	7.
		Uni	Ls	gr, cmp, wtbos.	1.	-						Ħ
		Þ								<u> </u>		<u> </u>
110.3	Δ 	L	L s	gr, cmp, brc, min.		<u> </u>	176.3-177.1	8.0	0.20	8.86	<0.01	15
_	.	0	Ls 	gr, cmp.		L	177.1~178.0 178.0~178.3	0.9	0.15	0.96	<0.01 <0.01	5.º
_	Á	empe	Ls	gr, cmp, brc, min.			178.3-179.4	1.1	0.34	0.01	<0.01	1
180		∺	Ls			DH3-8	179.4~180.1	0.7	0.16	0.01	<0.01	
_ {		×	L.s.	gr, cmp, wtbos.	ттипт	DH3-9	180.1~180.9	0.8	0.02	0.01	<0.01	<0
		•		gr, cmp, brc,		DH3-10	180.9~183.7	2.8	0.24	0.37	<0.01	3.
_	🖓	a i	Ls	min:Sp>Ga dis,								"
_ }	. .	-		wh CatSi vn		DH3-11	183.7~184.2	0.5	0.01	0.01	<0.01	(0
185		ଶ	Ls	gr, cmp, wtbos.								
		h O	Ls	gr, olc, brc,		DH3-12	184.2~186.3	2.1	0.43	0.01	<0.01	5.
-		H :	lŝ	min. gr,ċ≞p.	720 平平 十十二	DH3-13	186.3~187.3	1.0	0.10	0.01	<0.01	-
ļ			S h	bk, lam, arg, fis.	1	1 - 11 - 13	1.00.0-101.0	* * *	0.10	J V.VI	10.01	2.3
-]	1111 - 28 ¹	į			7 11 11 7	-					-	i i
- 	Δ Δ		Ls	gr, olc, brc.		DH3-14	187.3~189.1	1.8	0.50	0.07	<0.01	7.4

			Lith	ology		MANAGEMENT OF THE PARTY OF THE	BLEVFLAR!					Assa	y Res	ults
Depth	Geolog.				l Mi	neralizati	ion	Sample	Depth	lid	Pb.	Zn	Ba	Ag
(m)	Log	Group	Rock	Remarks		etc		No.	(m)	(n)	%	*	*	g/t
	77777.0		Sh	bk, lam, arg.	Z 50	יור ידי ידי	r ;	DH3-15	-191.0	1.9	0.02	0.01	<0.01	<0.5
191.7	∤		Ls	gr, brc, min.	170	I I I	# +	DH3-16	191.0~191.7	0.7	0.63	4.52	<0.01	15.3
ļ			Ls	lgt gr, wtbos,		is is		DH3-4-16	176.3~191.7	15.4	0.25	0.80	<0.01	4.9
_			LS	wh ole parts,		7 d d	Ŋ							
195				:	,,,	Sp dis Ga dis vn, vnt,	diss				·			
-	1131111		Sh	bk, lam, fis.	270 245	Si	Py		·					
-	ШШП		Ls	gr, cmp.	Z70	٠	- :÷						ļ .	
-	ППО		S h	bk, lam, fis.	170	:	т ^і				٠.			
200			Ls	lgt gr, wtbos. fos, ocl.	270	i .				-				
	111111111		-			. 44 44	L	* 1		;	1			
			Sh	bk, lam, arg.	L 70	A D								
				lgt gr, wtbos.	Z80	ي	Ī							i
L			Ls	igt gr, willos. wh olc, mly parts	ļ		.							
205	ЩЩ		S h	bk, lam, arg, fis.	270	*^	Ι ;							
-		П —		Dii, 10m, 618, 110.		dis	ŢŹ	:				-		
-		ų	Ls	lgt gr,wtbos.		dis dis vn, vnt,	Ť							
-		Uni			-	dis dis vn, v	:							
	ЩЩЩ		Cha		175	Si c	:							-1.
		Member-	Sha	raosm. gr, wtbos.min:			T T	,						
211.8		0	Ls	Sp>Ga dis, Ca+Si	ygr			DH3-17	210.1-211.8	1.7	0.54	2.02	<0.01	5.7
		m	Ls Sh	lgt gr, wtbos. cmp, gr.	260		ī .ī							
	1111111	M @	Sh	bk, lam, arg, fis.	270		<u>,</u> i							
215		F-4	Ls	lgt gr, cmp, olc.	Z80		1.							
ļ 		.ਜ ਰ	Sh	bk, lam, arg, fis.	Z 75		<u>.</u>		1 7		! -			
-		a 1 :	Ls	lgt gr, cmp, wtbo:	ļ \$.			14				j 		
-		r O	S h	olc. cmp, gr.	/ 1 / 80		<u>:</u> _						:	
220		or	Ls	lgt gr.cmp.wtbos.	Z60		T -							
220		—	. Sh	dk gr~bk,lam.ars.	710		7 7		1					
-			Ls	lgt gr.cmp,										
-				wtbos.				, .						
			Sh	gr-bk.lam.arg.	175	•						-	1	
225			Ls	lgt gr, cmp, wtbo	.		-							Ì
			Sh	bk, lam, arg, fis.	1		Ŧ						1.	
_	1		O II	DA, 10H, 018, 115.	2 70		<u>.</u> [
-			Ls	lgt gr. cmp, wtbo	175	•			·					ļ
230			~ b	YOU BY I OWN'S HEDO!	270 270									
230	0		Sh	bk, lam, arg, fos.	270		 						·	
-	MILL				710			. 4					1 1	
-			Ls	lgt gr, cmp, fos.	<i>L</i> 70		·r :							
Γ.	$[\cdot,\cdot,\cdot]$		Sha	raosm,	Z 75	- 1								·]
235	शांगां।		Ls	lgt gr.cmp, wtbo			<u> </u>	- 1				i i i Zga		.
	بببلبنا	,	Sha	fos.	Z 70		-					, f 14	* :	.
	mini		Ls	raosm. lgt gr,wtbos.	:		•							.
	111111		Sha	raosm.	<u>,</u> 270	.* %	•		. **: *	,				.
L !	Hiiii		Ls	lgt gr, wtbos.	Z 75	1	~· !	·						
240			Sha	raosm.	760		1							

			l.it	hology	A STATE OF THE PARTY OF THE PAR	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Party washing	W7-4004-03-40-	Assay	Resul	ls
Depth	Geolog.		;: ; :		Mineralization	Sample	Depth	¥d	Рь	Zn	Ba	Ag
(n)	Log	Group	Rock Ls:	Remarks Igt gr, olç, fos.	etc	No.	(n)	(¹⁰)	8. 16	#;	5	g/t
-			Sh	bk, lam, arg, fis.	275							
	þ		Ls	lgt gr, olc, fos.	180							
				11. 1	175	. •1	,					
245			Sh	bk, lam, arg.					:	11		
1			Sha	raosm, fos.	vn, vnt, flm. 							
-	******			lgt gr, fos,	710 917 918 Py. dis							
-	1111111		Ls Sha	raosm.	170 N - 1		4.47				:	
250			Ls	lgt gr,cmp.wtbos								
		Ħ							. ,			
-	1111111	ب			175							
+		Unit			L 715				i			
255		n-			2 70							
		L.										
-		Member	Sha	raosm.								
		0 0			4 1 4 1 1 1							
260		Z		,	270		·					
		aj.			<u> </u>							
		าย	į									
	IIII	ದ	Ls	lgt gr, olc, fos.	∠70 ÷							
265		Loral	Sha	raosm, ml, dmt.			·					}
200	: : : :	—	Slia	raosm, mr, dmr.								
<u> </u>			Sha	raosm, sh dmt:	-							
			Ls	 gt gr,wtbos,fos	<u> </u>							
_	О		Sh	lam, bk, fos.	170 ÷							
270	<u>်</u> 				∠ 75 ±							
-			Ls	lgt gr, olc, fos.	· •							
-					<i>1</i> 70 ₹ _							
			Sh	bk, lam, fis, fos.	1	:			·			
275	0		0 11	νν, ταπ, 1x9, 105,	Z 65							
-			Ls	lgt gr,wtbos.								-
-				150 81 11000.	<u>.</u> + +							
 	- : : : :				Z 65							
280	0		Sha	raosm,		•						
_			Ulla .	partly fos.	Z70							
-												
<u>283.3</u>	[.·.·]				<i>L</i> 70 †							
285		er	Ls	lgt gr, wtbos.								
	ЩЩ	√emt -i			T =							
	 	aj A	Sh	bk, lam, arg, fis,	Z70 T							
-		Loralai Member Unit-I	Ls	lgt gr,cmp,wtbos	270 T							
290		ro	ە بىر	LEC EL, CHIP, WILDOS				,				
220						,,						لــــا

										antinature,	3 – 1	7
		Lit	hology					***************************************	, 	Assa	y Res	ults
	Geolog.			⊣ !	lization	Sample	Depth	¥d	Pb.	Zn	Ba	Ag
(m)	Log	Group Rock	Remarks		elc	No.	. (m)	(n)	5	1 5	%	g/1
295		T Sha Sha Sha Sha Sha Sha Sha Sha Sha Sha	raosm. lgt gr, wtbos. raosm. lgt gr, cmp, wtbos. raosm. gr, cmp, wtbos.	280 270 265 270 270 270	Ca vn, vnt, flm.							200
								. 1				
-					*				•			
	-					5 S.						•

Drill Hole No · · : MJP-4 · · · · · · · · · · · · · · · · · · ·		
Location : SURMAI-1	Elevation	: 1.461.01m
Coordinate Point : N=1,125,382 E=2,008,151	Inclination	: -70*
Depth : 401.0m	Core Recovery	: 98,28%
Drilling Machine : L-38	Term	: JUN 7 '88 ~ JUN 21 '88

				ithology							Assay	Resul	ts
Depth	Geolog.			:	Mineralizatio	on	Sample	Depth	ìid	Pb	Zn	Ва	Λg
(m)	Log	Group	Rock	Remarks	elc		No.	(m)	(m)	5,	%	%	g/t
5			Ls	gr, cmp, wtbos.	Hmz Ca vn, vnt, flm					,			27
10	(11111111 Š	VI —	S _. h	gr, lam, fis.			v* .		,		: '		
15		-Unit-W	Ls	gr, pos, wtbos.		: :	· -						-:
_	 	Member-	S h	dk gr,lam,fis.	Z10 1 1	sib ydr-							
20			S h	cmp~lam, dk gr.	L 25	,							
25		Loralai	Ls	gr, cmp, wtbos.	260								
35	× ×		S h	cmp∼lam, dk gr.	- 270	. :							-
40			Ls	gr, cmp, wtbos.									-

Fig. II-2-17 Drilling Columns of MJP-4 -161-

		A Stantin ann	Li	thology		The Halve of State of			Å	ssay	Result	s
1	Geolog.				Mineralization	Sample	Depth	Td	Pb	Zn	Ba	Ag
(m)	Log	Group	Rock	Remarks	etc	No.	(m)	(n)	*	*	*	g/t
			Ls Ls	gr, cmp, wtbos, dk gr, fis, gr, cmp, wtbos.	Į į		·					
45	muñ	٠.	S h	dk gr. lam, fos. gr, emp.	/20 /20				• •			
F	X X	÷ •	S h	cmp~lam, dk gr~bk						; - • ₁		5.
			Ls	gr, cmp.	29 297 297 297 297 297 297 297 297 297 2							
50			Sh	cmp, gr.		*			-		- 1	
			S h	lam, arg, dk gr∼bk	230 225 125							
55	<u> </u>		Ls	gr, cmp.		÷						
 - -		t-IV	S h L s	lam~cmp, bk~gr. gr, cmp, wtbos.	145 130							
60		Uni.	S h	cmp, gr. lam, bk, fis.	160 145				**			
_	× 	Member-		gr, cmp, wtbos, fos		\$					•	
65	×	Mem	S h S h	сmp, gr. lam. dk gr~bk, fis	1 -							
		alai	Sh Ls	cmp, gr~dk gr. gr, cmp. lam, dk gr~bk.	∠50 II							
70		Lor	Sh Ls sh	cmp, gr. gr, cmp. lam, dk gr, cly.	1 I							
 	TIIII Š		Ls	gr, cmp, wtbos.	145 170 E			:				
_	00			cmp~lam,dk gr~bk fos.	Ca vn, vnt,							
80	. 0				L 45				· [
-		ļ	Ls	gr, cmp.	260			:	:			
<u>85</u>	 		Sh	lam, bk~dk gr, fos	∠50 1 ∠ 45							
90	o		Ls	gr, cmp.	150							

		A-32	Lith	ology						Assa	y Res	ults
1	Geolog.				Mineralization	Sample	Depth	¥d	Pb	Zn	Ba	Ag
(n)	Log	Group	Rock	Remarks	etc	No.	(m)	: (m)	\$	%	5	g/l
95	0		L s	gr, cmp, fos. cmp~lam, dk gr,	dis							
			Ls	fos. gr, wtbos.	Py							
100	00	:	S h	cmp~lam, dk gr, fos.	vn, vnt, flm							
105		-	Ls Sh Ls	gr, wtbos, fos. cmp~lam, dk gr. gr, cmp, fos.	Ca vn,							
		Unit-W	S h	cmp~lam, dk gr. gr, cmp, wtbos, fos	. 1			-				
110		7	S h	cmp~lam, dk gr. gr, wtbos.	1 -				١.			
115	: △	ai Membe		cmp~lam,dk gr~bk								•
120		Loral	Ls	gr, cmp, wtbos.	7							
			S h	lam, dk gr~bk. gr, cmp, wtbos. fos	Imz Py dis			÷.				-
<u>125</u> 	: Δ			lam~cmp, bk~dk gr gr, cmp, wtbos.								
138			S h	lam, bk~dk gr. gr, cmp, wtbos, fos			71					-
135			Sh	cmp∼lam, dk gr~bk	T							
			L s	gr, cmp, wtbos. cmp~lam, gr~bk.								
140			Ls	gr, cmp, wtbos.	-163-							

			Lit	hology				CATE VOLUM		Assay	Resul	ts
Depth	Geolog.		<u> </u>	ı — <u>. </u>	Mineralization	Sample	Depth	¥d .	Pb	Zn	Ba	Ag - /4
(m)	Log	Group E	Rock	Remarks	etc	No.	. (m)	(m)	%	%	'n	g/t
		Member IV	Ls	gr, cmp, wtbos.	vn.vnt, flm							
			Sh Ls	lam, bk, cq. gr, cmp, wtbos	I Tark					:		:
145.3		Loralai - Unit-	Ls Ls	gr, cmp, wtbos, lam.bk.eq. Br.cmp. lam.bk.eq.	v., vv							
130.0		Ž l	Sh Ls	gr,cmp,wthos.	S.A.							, i
			S h	lam~cmp, dk gr~bk		:						
			O II.	iam cmp, ak gi bh			· ·					
150					<u> </u>	. :						
		,	Ls	gr, cmp, wtbos.			1		,			
_					<u> </u>							
_			Sh	cmp~lam, dk gr.								
155	1111111		Ls	cq. gr, cmp.	Į į]						
_								1				
_			Sh	lam~cmp, dk gr~bk								
_							4	. :				
160] .		
H			<u>Ls</u>	gr, cmp, wtbos.	1	•	1 -					
<u> </u>		i t										
	00 00	Un	S h	cmp~lam, dk gr~bk	dis.							
165]	O II	cq.	Py. dis.					•		
-		000			<u>.</u>							
	0	Member		cmp, dk gr, fos.	vnt, flm.							
170	ШШ	Me	Ls	gr, cmp, wtbos.	1							
		뼑	Sh	cmp~lam, dk gr~bk	· vn,							
	 	1.0			r i				:			
-		ra	L s	gr, cmp.	·							
175		Loral	Sh Ls Sh	gr.cmp. lam.bk.fos.	Ţı				:			
-	IIIIIIII ×		Ls Sh	gr.emp. lam~cmp, dk gr~bk	1						·	
_	× 00 111111111 2:		is	cq.	İ							
-	*			gr, cmp.			,					
180	. 0		Sh	cmp~lam, dk gr, fo	s.		1					
_			:								·	
-					1 1	;						
			Ls	gr, cmp, wtbos.	ī							
185	×		Sh	lam~cmp, bk~dk gr	, · · · · · · · · · · · · · · · · · · ·							
-				cly.								
	 				T ¹							
 - -			Ls	gr, cmp, wtbos, fos								
190	шш			Sh] ,					Ĺ		

			Lith	ology		****		/ 2. J. W. W. W		Assa	y Res	ults
1	Geolog.		D	h	Mineralization etc	Sample No.	Depth (m)	Nd (m)	Pb ≴	Zn %	Ba	Ag g/t
(A)	Log	Group	Rock	Remarks	etc	no.	(m)	(M)	78	78	-	8/1
	, Š					ŧ	41 + 41			:		
	XX	:	Sh	lam, bk. cly.			. ':					
195		·		CIY.			· -				:	
	ШЩ		Ls	gr, cmp.	1		:					
_	×		Sh	lam, bk, fis, cly.	.						·	
<u>⊢</u>	шш		S h	cmp~lam,dk gr. gr,wtbos.	ΙŢ					:		
200			Sh	cmp~lam,dk gr~bk	dis							
_			0 11	Cmp lam, ax gr ox	Py		·		,			
_	צוווו				, T							
205			Ls	gr, wtbos, fos.	1 1							
F :	77777	Ħ	\$ h	cmp~lam,dk gr.	T. ±							-
-		ıt-	Ls	gr, wtbos.			·	. ;				
-		Uni	Sh	cmp~lam, dk gr~bk								
210	ППП				T 1		1 1 1 1.11			1		
	!	p Q	Ls	gr, wtbos, fos.] -							
-		Member	Sh	cmp~lam,dk gr~bk								
215		M		fis.			7 :					
_	Шİ	a i	Ls	gr, cmp, wtbos, fos	<u> </u>							
_					n, vnt, flut-							
_		oral			, vnt		: .					
220		7	Sh	cmp~lam,gr~dk gr	Ca vn							
	•											
-					Py dis					·		
225	шш		L s	gr, cmp, wtbos.	-					ĺ		
-			Sh	cmp, dk gr~gr.	; k l		:					
_			Ls	gr, wtbos, fos.	-	:						
	7777777		S h	cmp~lam, dk gr~bk gr, cmp, wtbos.				, *			`	
230	4		د بـ	լ Էւ, շար, աւսօՏ.	•							
<u> </u>	:		Sh	cmp~lam, bk~dk gr								
-				fos.								
			Ls	gr, cmp, wtbos, fos	÷							: .
			Sh	cmp∼lam,dk gr.	4 B						,	
- :			L s	gr, cmp.	I -							
	: .		Sh	cmp~lam, dk gr.						1		
240					165							

		ATT - A A A A A A A A A A A A A A A A A	Lit	hology						Assay	Resul	
Depth (m)	Geolog.	Group	Rock	Remarks	Mineralization etc	Sample No.	Depth (m)	Nd (n)	Pb %	Zn %	Ba %	Ag g/t
(III)	LVS	ar out	S h	cmp~lam, dk gr.	erc	nu.	(III)	(41)	*	- A		6/1
			211	ошр. так, ик Кг.	250							
-			Ls	gr, emp, wtbos.	dis			, , ⁵				
245			_	_ , , , , , , , , , , , , , , , , , , ,	A d							
-					155					١		
-	×											
	XX			·								
250			Sh	cmp~lam, gr~dk gr								
			;	: '	m T							
-					Z45 F							
255					ν τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ τ	: 1				:		
		Ħ			Ca v	:	÷					
-		r. t	Lв	gr, cmp, wtbos.	/50 ± 1							
		Uni	Sh	cmp~lam,gr~dk gr								
260] L	Ls Sh	gr, cmp. cmp~lam, gr~dk gr	260 T T							
		ည်မ	Ls	gr, cmp, fos.	Z60 I			,				
		Member-			Ţ						•	
265		ž	Sh	cmp~lam, gr~dk gr	Z45		. 1					
_		ខារ										
-	·				Z 50							
	1111111	oral	Ls	gr, cmp.	1 ‡							
270		L	S h	cmp~lam, gr.	240			:				
 	XXX				Z45 T							
			Ls	gr, wtbos.	140 ±							
275			Sh	cmp~lam,gr~dk gr	Z35			. :		Ī		
				·								
-	111166	:	L s	gr, fos. lam, dk gr.	240							
-			L s	gr, wtbos, fos.								
280				_	dis dis dis vi, vnt, dis vn, vnt, flm							
-			S h	cmp~lam,dk gr.	dis dis dis vn, vn vn, vn		1 - 1 - 1 - 1					
					Cp di Sp d Ga d Si vr	1.						
283.4 285	XX XX AX	<u>.</u>	Sh	emp.brc.sil. min:Cp wk dis.	730 S	DH4-1	283.4~284.6	1.2	<0.11	0.19	<0.01	<0.5
200		Member II	Ls	cmp.wtbos.sil. min:a few Sp peb,Ga dis.		DH4-2	284.8~285.6	1.0	0.02	0.18	<0.01	<0.5
	₹ <u>₹</u> ₹4∏	ai M t — I	Sh	cmp.dk grage. min:Py>Ga dis.		DH4-3	285.6~286.9	1.3	0.36	0.06	<0.01	2.5
-	∆ X X X X X X X X X X X X X X X X X X X	Loralai Unit—	Ls	gr,brc. min:Sp>Cp,Ga dis		DH4-4 DH4-5	286.9~289.0 289.0~289.6	0.6	0.75	0.54	<0.01	7.4
290		<u>ٽ</u>	Ls Sl:	gr,olc.min:Sp)Ga dis. lam.bk.min:Si,Ca vnt.	440	DH4-6	289.6~290.1	0.5	0.16	4.11 0.05	<0.01 <0.01	2.8 <0.5

-			Lith	ology		****	:ALMandi					Assa	y Res	ults
1	Geolog.		: :		Miner	alizatio	n	Sample	Depth	Wd	Pb	Zn	Ba	Ag
(n)	Log	Group	Rock	Remarks Sh. lam.bk.	***	etc	··········	No.	(m)	(m)	- %	%	%	g/t
<u> </u>			CI	\	1 60			DH4-1-6	283.4~290.1	6.7	0.33	0.62	<0.01	3.3
-	:::::	,	Sha	raosm, gr~dk gr.	270	ور	•		and the second					
-	ज्याम	1 1	Ls	gr, lam, fos.	270	vn, vnt, film								
295	mini		Sha	raosm, gr~dk gr.	170	स्र				:				
		:	Ls	gr, wtbos, lam.	<i>L</i> 75	2,1			:			1		
		:		:	27 0	Siv						1 :::	. :	
	1111111				Z60	ωŢ	• •	. :						
_		*			Z60				1811 /					
300					2 60							:		-
					∠ 60			.*	*					
			Sha	raosm, gr~dk gr.	200								:	
-						5			:					
305	:·:·:		.		. Z 65	ن الم		·	· .:					
	[•]					'nt,		ļ					: , .	·
		, •	,	:	£ 70	Ca vn, vnt, flm							;	
		п				`ά	<i>3</i>							
	गांग्रं!	1	Ls	gr, lam, fos.		ŢΪ	Ť	DH4-7	308.5-309.6	1.1	0.01.	0.03	<0.01	<0.5
310		. T	Ls	gr.lam.min:Ca,Si vnt.			7	DH4-8	309.6~310.4	0.8	0.01	0.03	<0.01	<0.5
-		Ħ	61	raosm, gr~dk gr,	270 275									
-		n –	Sha	ml dom.	Z70	di.		DH4-7~8	308.5~310.4	1.9	0.01	0.03	<0.01	<0.5
-		١.		raosm, gr~dk gr,	2 65	vn, vnt, dis								
315		ه م	Sha	sh dom.	260 ·	'n, '	dis							
		臣	Ls	lgt gr, cmp, wtbos	. 270 . E								2.7	
		W e	SE Ls	bk.lam. wtbos.win:Si\$Py dis	Sp	5 T	1 Py	DH4-9	316.2-317.1	0.9	0.01	<0.01	<0.01	(0.5
			L s	min:Ca vn>Si≱Sp dis.	7 5	<u> </u>	_	DH4-10	317.1-318.1	1.0	0.01	0.02	<0.01	<0.5
			Ls	wtbos.min:Si dis~vn. >Ca vn}Sp dis>Ca dis.				DH4-11	318.1~319.9 319.9~320.2	0.3	0.05	0.72	(0.0)	0.5
320			fs	min:Si}Sp}Ga dis. min:Si dis>Py.Ca.	<u>.</u> 		Ι	DH 4-12 DH 4-13	320.2~320.4	0.2	0.05	0.12	<0.01	5.6 0.5
-		r- .cs	Ls	lgt gr-gr.cmp.utbos.	210		7	DH4-9~13	316.2~320.4	4.2	0.04	1.11	<0.01	Α 0
-	: 00	0	Sh	bk, lam, arg, fos.	Z 75		;	NH 3-10	0,0.2 -020.4	7.4	V.V4	1.11		V.3
	00	H	O 11	υπ, 1αm, α1 g, 105,	- -									
325	TIIII o					Ţ	i							
			Ls	lgt gr~gr, cmp,				. :				:		
	HHH	}		wtbos, fos.	260	Ī								
<u> </u>						T.			+ .*					
L	. : : : .	:	Sha	raosm, gr~dk gr.	#30	<u>ئ</u>					:			
330			Olia	ruvom, gran gr.	Z 70	., Ca vn, vnt,		.				: :		
<u> </u>					Z 70	1 42			111					
332.5	1111111				-14	S								
<u> </u>			, ,	lgt gr~gr,cmp,			S		. :			1 .		
335		Member t-1	Ls	wtbos.			y dis	.]						
				13. 15		į	- Py							
 		lai Unj	Sh	bk~dk gr,lam, arg.	<i>1</i> 75	т	;			.		:		
<u> </u>		Loralai Uni	Ls	lgt gr~gr, cmp,		1	•							
<u> </u>			רצ	wtbos.					1 (*) 1 (*)					
340						167.								

			Lit	hology	and the second control of the second control	Taking telepanta anggeta, ang	y i dipinipa ing Sarah punimbang mayang ng paga ¹ 46 (Pip Sir	₩d		Assay	Resul	
Depth	Geolog.		r	r	Mineralization	Sample	Depth		Pb	Zn	Bai	Ag
(n)	Log	Group	Rock	Remarks lgt gr~gr, cmp,	etc	No.	(m)	(m)	\$	*	%	8/1
-	ЩЩ		Ls	wtbos.	170							
-	iiiiiii		Sha	raosm, gr~dk gr.	¥ / 5							
				·	•							
345			Ls	lgt gr~gr,cmp, wtbos,							1	· .
				H L DOS,	170					1		
-	!!!!!!		Sha	raosm, gr-dk gr.	270							-
	iiiiiii		Ls	lgt gr~gr, cmp,	£70							
350	ШШ			wtbos.	175							
F			Sha	raosm, gr~dk gr.	175 180							
-				·	200							
 			Ls	lgt gr~gr,cmp, wtbos.								
355				1 1 2 3 3 1			*- *					
-				·	270 270						0 - 5 - 5	
-		اب. ب	Sha	raosm, gr.	175							
		un	Ls	lgt gr~gr, cmp,							:	
360		1.		wtbos.	170						, .	
-	111111	er	Sha	raosm, gr. gr, wtbos:	275 E	 						
-		J III	Sha	raosm, gr.	Z70 %		`				.,	
		Member	Sh	bk~dk gr,lam.	775							
365			Ls Sha	er.fos. raosm, gr~dk gr.	S							
-		a i			<u> </u>							
		oral	Ls	lgt gr~gr, cmp,								
		<u>ن</u> (LS	wtbos.						ļ		
370		ソ			270 S					-		
<u> </u>	11111111		Sha	raosm, gr~dk gr.	170 ≥ 2 170 ≥ 2							
-	• • • • •		 		170							
			S h L s	bk, lam. gr, cmp, wtbos.	170 i				,			
375			Sha	raosm,lgt gr~gr.	160							
-	ППП		Sh	bk, lam, fis, arg.	170 I		٠.					
_	ЩЩ		Ls	lgt gr~gr,cmp, wtbos,fos.	160							
	1111111		Sh	bk, lam, fis, arg.	270			·				
380			Ls	lgt gr~gr, cmp,	180	,						
-			ப	wtbos.							:	
_			S h	bk, lam, fis.	170							
F			Ls	lgt gr~gr, cmp,	175	·						
385			LS	wtbos,	£70 <u> </u>							
-			Chr	room anulat as	160	٠.		'				
-			Sha	raosm, gr~lgt gr. lgt gr~gr, cmp,	260							
	HIIII		Ls	wtbos.	<i>L</i> 70			:		1.1		
390			Sha	raosm, gr~lgt gr.	Z70		·	·		L		

Depth	Geolog.	Lithology												AND STREET	Assay		Resul	Results	
							Mineralization				Sample	Depth		Nd	Pb	Zn	Ba	Λg	
(m)	Log	Group	Rock	R	emarks						No.		(m)	(a)	*	â	*	g	
95		Member t-I	Ls Sh Ls	bk, land lgt grand with the state of the sta	n, fis. r~gr, co n, fis. r~gr, co	ap,	175 165 170 170 170 170												
00	* <u>\$</u>	Loralai -Uni	S h	bk, lan	r~gr, ci	np,	∠ 70 .		Ca										
01									- : .							<u> </u>			
-																			
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