

## **ANALISIS QUIMICOS**

## **ANALISIS QUIMICOS**

**INGEMMET**

MEMORANDUM N°/00-96-DGG/DL

*Al* : **ING. MANUEL PAZ MAIDANA**  
*Director de Prospección Minera*

*Asunto* : *Reporte de análisis químico*

*Referencia* : *Memorándum N° 331-95- DPM*  
*Cuadrángulo de Macusani*

*Fecha* : *Lima, 09 de abril de 1996*

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*Me dirijo a Usted, para adjuntar al presente los reportes de los análisis químicos de W y Sn efectuados sobre las muestras procedentes del cuadrángulo de Macusani, de acuerdo a lo solicitado en el documento de la referencia.*

*Atentamente,*

  
Ing° RUFO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



SECTOR ENERGIA Y MINAS

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Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 331-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROYECTO : CUADRANGULO DE MACUSANI  
ANALISIS POR : W, Sn  
FECHA : Lima, 03 de Abril de 1996

CODIGO DE MUESTRA	W ppm	Sn ppm
MAV 29171	2	12.5
MAV 29172	8	24.3
MAV 29173	3	21.0
MAV 29174	5	25.0
MAV 29175	3	13.2
MAV 29176	6	26.1
MAV 29180	<2	<10
MAV 29181	<2	46.7
MAV 29182	25	<10
MAV 29183	20	<10
MAV 29184	25	15.7
MAV 29185	25	7.8
MAV 29186	10	10.6
MAV 29187	2	<10
MAV 29188	10	<10
MAV 29189	15.0	11.5
MAV 29190	25.0	<10
MAV 29191	15	18.5
MAV 29192	18	<10
MAV 29193	10	<10

CODIGO DE MUESTRA	W ppm	Sn pmm
MAV 29194	8	<10
MAV 29195	120	17.8
MAV 29196	20	23.0
MAV 29197	12	<10
MAV 29198	5	40.5
MAV 29199	6	<10
MAV 29200	20	26.6
MAV 29201	10	12.9
MAV 29202	2	12.3
MAV 29203	20	19.6
MAV 29204	<2	<10
MAV 29205	35	<10
MAV 29206	8	16.0
MAV 29207	<2	31.0
MAV 29208	10	11.0
MAV 29209	10	20.0
MAV 29210	<2	32.0
MAV 29211	<2	27.3
MAV 29212	<2	<10
MAV 29213	<2	<10
MAV 29214	<2	<10
MAV 29215	<2	<10
MAV 29216	<2	<10
MAV 29217	<2	<10
MAV 29218	<2	23.9
MAV 29219	<2	13.0
MAV 29220	<2	<10
MAV 29221	<2	<10
MAV 29222	<2	<10
MAV 29223	<2	<10

CODIGO DE MUESTRA	W ppm	Sn ppm
MAV 29224	<2	<10
MAV 29225	<2	<10
MAV 29226	2	<10
MAV 29227	<2	<10
MAV 29228	<2	12.3
MAV 29229	<2	<10
MAV 29230	<2	<10
MAV 29231	22	<10
MAV 29232	<2	<10
MAV 29233	2	<10
MAV 29234	2	<10
MAV 29235	4	<10
MAV 29236	2	10.4
MAV 29237	20	<10
MAV 29238	2	<10
MAV 29239	<2	<10
MAV 29240	<2	<10
MAV 29241	<2	10.4
MAV 29242	2	<10
MAV 29243	<2	85.7
MAV 29244	<2	40.1
MAV 29245	<2	23.8
MAV 29246	<2	<10
MAV 29247	<2	10.0
MAV 29248	<2	20.8
MAV 29249	<2	40.2
MAV 29250	<2	45.9
MAV 29251	<2	21.6
MAV 29252	<2	16.4
MAV 29253	<2	<10

CODIGO DE MUESTRA	W ppm	Sn pmm
MAV 29254	<2	21.9
MAV 29255	<2	16.9
MAV 29256	<2	<10
MAV 29257	<2	14.7
MAV 29258	<2	32.9
MAV 29259	<2	<10
MAV 29260	<2	<10
MAV 29261	2	13.3
MAV 29262	<2	14.8
MAV 29263	<2	<10
MAV 29264	<2	12.7
MAV 29265	<2	<10
MAV 29266	<2	<10
MAV 29267	<2	27.8
MAV 29268	<2	<10
MAV 29269	2	<10
MAV 29270	<2	<10
MAV 29271	<2	12
MAV 29272	<2	13.3
MAV 29273	2	<10
MAV 29274	<2	<10
MAV 29275	<2	19.1
MAV 29276	<2	52.8
MAV 29277	<2	14.7
MAV 29278	<2	<10
MAV 29279	<2	19.1
MAV 29280	<2	24.4
MAV 29281	2	<10
MAV 29282	2	<10
MAV 29283	2	<10

CODIGO DE MUESTRA	W ppm	Sn pmm
MAV 29284	<2	<10
MAV 29285	<2	<10
MAV 29286	2	<10
MAV 29287	2	<10
MAV 29288	<2	<10
MAV 29289	<2	<10
MAV 29290	2	19.2
MAV 29291	2	13.3
MAV 29292	<2	<10
MAV 29293	<2	<10
MAV 29294	<2	<10
MAV 29295	<2	<10
MAV 29296	<2	<10
MAV 29297	<2	<10
MAV 29298	3	<10
MAV 29299	<2	15.5
MAV 29300	<2	<10
MAV 29301	<2	<10
MAV 29302	<2	<10
MAV 29303	<2	15.1
MAV 29304	<2	<10
MAV 29305	<2	<10
MAV 29306	<2	<10
MAV 29307	<2	<10
MAV 29308	2	<10
MAV 29309	<2	<10
MAV 29310	<2	<10
MAV 29311	<2	<10
MAV 29312	<2	<10
MAV 29313	<2	<10



CODIGO DE MUESTRA	W ppm	Sn pmm
MAV 29314	<2	10.7
MAV 29315	2	<10
MAV 29316	<2	<10
MAV 29317	<2	<10
MAV 29318	<2	<10
MAV 29319	<2	11.7
MAV 29320	<2	<10
MAV 29321	<2	<10
MAV 29322	<2	<10
MAV 29323	2	<10
MAV 29324	<2	<10
MAV 29325	<2	<10
MAV 29326	<2	<10
MAV 29327	<2	<10
MAV 29328	<2	<10
MAV 29329	<2	<10
MAV 29330	<2	<10
MAV 29331	<2	<10
MAV 29332	<2	<10
MAV 29333	<2	<10
MAV 29334	2	<10
MAV 29335	<2	<10
MAV 29336	<2	19.9
MAV 29337	<2	<10
MAV 29338	<2	<10
MAV 29339	2	<10
MAV 29340	<2	<10
MAV 29341	<2	<10
MAV 29342	<2	<10
MAV 29343	<2	<10

CODIGO DE MUESTRA	W ppm	Sr ppm
MAY 29344	2	<10
MAY 29345	<2	<10
MAY 29346	<2	<10
MAY 29347	<2	<10
MAY 29348	<2	<10
MAY 29349	<2	<10
MAY 29350	<2	<10
MAY 29351	<2	26.7
MAY 29352	<2	<10
MAY 29353	<2	10.1
MAY 29354	<2	<10
MAY 29355	2	<10
MAY 29356	<2	<10
MAY 29357	4	<10
MAY 29358	<2	<10
MAY 29359	<2	<10
MAY 29360	<2	<10
MAY 29361	<2	<10
MAY 29362	<2	<10
MAY 29363	<2	<10
MAY 29364	<2	<10

  
Ing. RUF0 PAREDES PACHECO  
Director de Laboratorio  
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MEMORANDUM Nº 78-96-DGG/DL

*Al* : **ING. MANUEL PAZ MAIDANA**  
*Director de Prospección Minera*

*Asunto* : *Reporte de análisis químico*

*Referencia* : *Memorándum Nº 331-95- DPM*

*Fecha* : *Lima, 19 de marzo de 1996*

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*Me dirijo a Usted, para adjuntar al presente los reportes de los análisis químicos efectuados sobre las muestras procedentes del cuadrángulo de Macusani, de acuerdo a lo solicitado en el documento de la referencia.*

*Los análisis por Au, Sn y W serán reportados próximamente.*

*Atentamente,*

  
Ing° RUF0 PAREDES PACHECO  
Director de Laboratorio  
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SECTOR ENERGIA Y MINAS

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**DIRECCION DE LABORATORIOS**  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 331-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROYECTO : CUADRANGULO DE MACUSANI  
ANALISIS POR : Ag, Pb, Cu, Zn, Mo, Sb, As.  
FECHA : Lima, 18 de Marzo de 1996

<b>CODIGO</b>	<b>Ag ppm</b>	<b>Pb ppm</b>	<b>Cu ppm</b>	<b>Zn ppm</b>	<b>Mo ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>
MAV-29171	0.11	21	7.5	80	< 10	< 10	< 10
MAV-29172	0.20	25.2	15	77.5	< 10	< 10	< 10
MAV-29173	0.26	23.4	12.5	57.5	< 10	< 10	< 10
MAV-29174	0.10	15	10	37.5	< 10	< 10	< 10
MAV-29175	0.24	20.4	10	75	< 10	< 10	< 10
MAV-29176	0.07	14.5	12.5	42.5	< 10	< 10	12
MAV-29180	0.16	6.6	22.5	325	< 10	10	< 10
MAV-29181	0.01	16.6	10	32.5	< 10	< 10	< 10
MAV-29182	0.12	16.9	7.5	22.5	< 10	< 10	< 10
MAV-29183	0.11	18	5	30	< 10	< 10	< 10
MAV-29184	0.03	15.5	5	20	< 10	< 10	< 10
MAV-29185	0.05	16.2	7.5	15	< 10	< 10	< 10
MAV-29186	0.05	14.6	5	17.5	< 10	< 10	< 10
MAV-29187	0.08	15.5	7.5	15	< 10	< 10	< 10
MAV-29188	0.05	23.8	7.5	17.5	< 10	< 10	< 10
MAV-29189	0.20	16.5	7.5	37.5	< 10	< 10	< 10
MAV-29190	0.13	11.5	5	27.5	< 10	< 10	< 10
MAV-29191	0.11	14.7	7.5	22.5	< 10	< 10	< 10
MAV-29192	0.18	15.4	5	27.5	< 10	< 10	< 10



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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV-29193	0.17	14.4	5	30	< 10	< 10	< 10
MAV-29194	0.15	25.2	7.5	50	< 10	< 10	< 10
MAV-29195	0.15	18.9	15	37.5	< 10	< 10	< 10
MAV-29196	0.22	18.5	7.5	30	< 10	< 10	< 10
MAV-29197	0.25	34.3	7.5	35	< 10	< 10	< 10
MAV-29198	0.14	16.8	10	30	< 10	< 10	< 10
MAV-29199	0.23	20.9	5	47.5	< 10	< 10	< 10
MAV-29200	0.25	25.8	5	32.5	< 10	< 10	< 10
MAV-29201	0.27	23.9	7.5	82.5	< 10	< 10	< 10
MAV-29202	0.30	61.8	15	500	< 10	< 10	14
MAV-29203	0.18	28.8	7.5	35	< 10	< 10	36
MAV-29204	0.15	13.8	15	35	< 10	< 10	< 10
MAV-29205	0.31	42.3	10	47.5	< 10	< 10	< 10
MAV-29206	0.07	19.8	12.5	57.5	< 10	< 10	< 10
MAV-29207	0.38	82.3	10	180	< 10	< 10	< 10
MAV-29208	0.23	18.4	5	32.5	< 10	< 10	< 10
MAV-29209	0.20	15	7.5	37.5	< 10	< 10	< 10
MAV-29210	0.24	30.9	12.5	175	< 10	< 10	< 10
MAV-29211	0.26	8.2	12.5	17.5	< 10	< 10	< 10
MAV-29212	0.34	6.5	12.5	15	< 10	< 10	< 10
MAV-29213	0.29	6.5	12.5	75	< 10	11	< 10
MAV-29214	0.32	7	15	17.5	< 10	< 10	< 10
MAV-29215	0.26	13.9	25	77.5	< 10	< 10	< 10
MAV-29216	0.32	9.8	20	25	< 10	< 10	< 10
MAV-29217	0.69	29.1	30	105	< 10	< 10	11
MAV-29218	0.17	12.4	10	32.5	< 10	< 10	< 10
MAV-29219	0.18	16.8	12.5	25	< 10	< 10	< 10
MAV-29220	0.18	11.7	15	22.5	< 10	< 10	< 10
MAV-29221	0.31	71.9	7.5	227.5	< 10	17	< 10
MAV-29222	0.12	17.5	10	62.5	< 10	< 10	< 10
MAV-29223	0.18	18.4	10	75	< 10	< 10	< 10



SECTOR ENERGIA Y MINAS

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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV-29224	0.16	17.9	7.5	67.5	< 10	< 10	< 10
MAV-29225	0.27	15.8	10	50	< 10	< 10	< 10
MAV-29226	0.12	11.4	10	135	< 10	< 10	< 10
MAV-29227	0.12	17.1	10	137.5	< 10	< 10	< 10
MAV-29228	0.09	21.5	12.5	67.5	< 10	< 10	< 10
MAV-29229	0.04	10.2	10	32.5	< 10	< 10	< 10
MAV-29230	0.13	11.6	12.5	32.5	< 10	< 10	< 10
MAV-29231	0.23	52.3	30	40	< 10	165	< 10
MAV-29232	0.20	15.1	10	45	< 10	< 10	< 10
MAV-29233	0.06	18.1	20	90	< 10	< 10	22
MAV-29234	0.05	12	22.5	42.5	< 10	< 10	< 10
MAV-29235	0.03	26.9	25	85	12.5	< 10	16
MAV-29236	0.06	25.7	35	115	< 10	< 10	< 10
MAV-29237	0.07	17.7	12.5	35	< 10	< 10	< 10
MAV-29238	0.22	23.8	22.5	75	< 10	< 10	< 10
MAV-29239	0.04	22.9	30	97.5	< 10	< 10	< 10
MAV-29240	0.05	12.3	12.5	32.5	< 10	< 10	< 10
MAV-29241	0.08	11.8	10	45	< 10	< 10	< 10
MAV-29242	0.08	15	15	32.5	< 10	< 10	< 10
MAV-29243	0.05	15.9	10	105	< 10	< 10	< 10
MAV-29244	0.20	19.1	10	60	< 10	< 10	< 10
MAV-29245	0.30	16.6	12.5	50	< 10	< 10	< 10
MAV-29246	0.17	12.5	10	37.5	< 10	< 10	< 10
MAV-29247	0.25	10.1	7.5	17.5	< 10	< 10	< 10
MAV-29248	0.19	10.4	12.5	45	< 10	< 10	< 10
MAV-29249	0.24	13.6	12.5	30	< 10	< 10	< 10
MAV-29250	0.24	16.3	7.5	27.5	< 10	< 10	< 10
MAV-29251	0.24	12.6	10	22.5	< 10	< 10	< 10
MAV-29252	0.23	17.1	10	65	< 10	< 10	< 10
MAV-29253	0.27	13.6	10	45	< 10	< 10	< 10
MAV-29254	0.11	19.3	12.5	35	< 10	< 10	< 10



SECTOR ENERGIA Y MINAS

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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV- 29255	0.34	18.2	12.5	50	< 10	< 10	< 10
MAV- 29256	0.38	34.8	15	72.5	< 10	< 10	< 10
MAV- 29257	0.36	24.6	12.5	67.5	< 10	< 10	< 10
MAV- 29258	0.28	18.4	10	37.5	< 10	< 10	< 10
MAV- 29259	0.30	7.7	5	15	< 10	< 10	< 10
MAV- 29260	0.22	19.3	7.5	47.5	< 10	< 10	< 10
MAV- 29261	0.42	26.7	15	85	< 10	< 10	< 10
MAV- 29262	0.35	18.4	12.5	62.5	< 10	< 10	< 10
MAV- 29263	0.27	26.9	15	92.5	< 10	< 10	< 10
MAV- 29264	0.21	22.6	10	57.5	< 10	< 10	< 10
MAV- 29265	0.18	25.3	12.5	62.5	< 10	< 10	< 10
MAV- 29266	0.22	15	15	27.5	< 10	< 10	< 10
MAV- 29267	0.12	19.7	15	42.5	< 10	< 10	< 10
MAV- 29268	0.34	28.2	7.5	55	< 10	< 10	< 10
MAV- 29269	0.10	45	12.5	67.5	< 10	< 10	< 10
MAV- 29270	0.01	29.6	15	60	< 10	< 10	< 10
MAV- 29271	0.09	21	15	52.5	< 10	< 10	< 10
MAV- 29272	0.01	40	15	50	< 10	< 10	< 10
MAV- 29273	0.24	17.9	12.5	60	< 10	< 10	< 10
MAV- 29274	0.25	15.3	10	60	< 10	< 10	< 10
MAV- 29275	0.14	13.5	12.5	45	< 10	< 10	< 10
MAV- 29276	0.03	19.7	12.5	47.5	< 10	< 10	< 10
MAV- 29277	0.06	17.5	15	52.5	< 10	< 10	< 10
MAV- 29278	0.27	278	12.5	32.5	< 10	< 10	< 10
MAV- 29279	0.10	19.3	15	77.5	< 10	< 10	< 10
MAV- 29280	0.04	15.1	10	25	< 10	< 10	< 10
MAV- 29281	0.25	16.2	17.5	25	< 10	< 10	< 10
MAV- 29282	0.10	13.8	17.5	47.5	< 10	< 10	< 10
MAV- 29283	5.04	420	640	60	< 10	27	45
MAV- 29284	0.11	10.2	25	20	< 10	< 10	< 10
MAV- 29285	0.09	13.5	12.5	42.5	< 10	< 10	< 10



SECTOR ENERGIA Y MINAS

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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV- 29286	0.10	10.1	12.5	37.5	< 10	< 10	< 10
MAV- 29287	0.10	10.8	12.5	27.5	< 10	< 10	< 10
MAV- 29288	1.31	740	30	40	< 10	< 10	< 10
MAV- 29289	0.06	17.8	12.5	25	< 10	< 10	< 10
MAV- 29290	0.34	191.5	25	77.5	< 10	< 10	< 10
MAV- 29291	4.29	3709	35	80	< 10	29	< 10
MAV- 29292	0.00	9.5	10	20	< 10	< 10	14
MAV- 29293	0.05	14.5	10	30	< 10	< 10	< 10
MAV- 29294	0.24	17.6	15	40	< 10	< 10	< 10
MAV- 29295	0.06	11.7	15	60	< 10	< 10	< 10
MAV- 29296	0.00	14	17.5	77.5	< 10	< 10	< 10
MAV- 29297	0.07	26.2	10	32.5	< 10	< 10	< 10
MAV- 29298	0.25	64.3	7.5	42.5	< 10	< 10	< 10
MAV- 29299	0.11	19.4	12.5	60	< 10	< 10	< 10
MAV- 29300	0.60	55.1	17.5	240	< 10	< 10	14
MAV- 29301	0.14	13.3	15	50	< 10	< 10	< 10
MAV- 29302	0.23	55.6	15	100	< 10	< 10	< 10
MAV- 29303	0.27	29.4	12.5	152.5	< 10	< 10	< 10
MAV- 29304	0.27	13.9	10	55	< 10	< 10	< 10
MAV- 29305	0.18	13.7	15	32.5	< 10	< 10	< 10
MAV- 29306	0.09	17.2	10	62.5	< 10	< 10	< 10
MAV- 29307	0.13	38	30	97.5	< 10	< 10	< 10
MAV- 29308	0.11	40	15	97.5	< 10	< 10	< 10
MAV- 29309	0.00	33.9	17.5	100	< 10	< 10	< 10
MAV- 29310	0.05	211	15	512.5	< 10	< 10	< 10
MAV- 29311	0.00	68.9	15	220	< 10	< 10	< 10
MAV- 29312	0.00	104	20	475	< 10	< 10	< 10
MAV- 29313	0.04	229.1	17.5	276.5	< 10	< 10	< 10
MAV- 29314	0.22	108.8	10	167.5	< 10	< 10	< 10
MAV- 29315	0.11	64.8	17.5	187.5	< 10	< 10	< 10





SECTOR ENERGIA Y MINAS

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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV- 29316	0.00	28	15	100	< 10	< 10	< 10
MAV- 29317	0.06	37	15	72.5	< 10	< 10	< 10
MAV- 29318	0.15	15.2	10	35	< 10	< 10	< 10
MAV- 29319	0.09	16.5	12.5	50	< 10	< 10	< 10
MAV- 29320	0.12	21.7	10	132.5	< 10	< 10	< 10
MAV- 29321	0.30	59.5	10	142.5	< 10	< 10	< 10
MAV- 29322	0.11	5.2	5	17.5	< 10	< 10	< 10
MAV- 29323	0.07	13.4	7.5	50	< 10	< 10	< 10
MAV- 29324	0.11	9.2	42.5	22.5	< 10	< 10	< 10
MAV- 29325	0.16	25.3	25	105	< 10	< 10	< 10
MAV- 29326	0.12	51.2	25	195	< 10	< 10	14
MAV- 29327	0.08	28	15	85	< 10	< 10	< 10
MAV- 29328	0.08	25.7	27.5	47.5	< 10	< 10	< 10
MAV- 29329	0.17	11.2	12.5	37.5	< 10	< 10	< 10
MAV- 29330	0.09	9.7	12.5	25	< 10	< 10	< 10
MAV- 29331	0.07	11.6	10	32.5	< 10	< 10	< 10
MAV- 29332	0.12	8.7	15	30	< 10	< 10	< 10
MAV- 29333	0.07	24.9	15	27.5	< 10	< 10	< 10
MAV- 29334	0.02	63.1	15	135	< 10	< 10	< 10
MAV- 29335	0.05	23.5	12.5	77.5	< 10	< 10	< 10
MAV- 29336	0.02	19	12.5	175	< 10	< 10	< 10
MAV- 29337	0.02	13.3	15	57.5	< 10	< 10	< 10
MAV- 29338	0.04	22.5	17.5	32.5	< 10	< 10	< 10
MAV- 29339	0.05	15.8	12.5	45	< 10	< 10	< 10
MAV- 29340	0.07	15.2	10	47.5	< 10	< 10	< 10
MAV- 29341	0.11	9.5	7.5	27.5	< 10	< 10	< 10
MAV- 29342	0.19	11	7.5	27.5	< 10	< 10	< 10
MAV- 29343	0.25	14.5	12.5	52.5	< 10	< 10	< 10
MAV- 29344	0.27	11	7.5	37.5	< 10	< 10	< 10
MAV- 29345	0.17	6.1	7.5	10	< 10	< 10	< 10



SECTOR ENERGIA Y MINAS

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CODIGO	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	Sb ppm	As ppm
MAV- 29346	0.04	11.3	7.5	30	< 10	< 10	< 10
MAV- 29347	0.00	21.6	12.5	80	< 10	< 10	< 10
MAV- 29348	0.01	10.8	12.5	32.5	< 10	< 10	< 10
MAV- 29349	0.00	18.2	17.5	70	< 10	< 10	< 10
MAV- 29350	0.00	14.6	12.5	55	< 10	< 10	< 10
MAV- 29351	0.00	14.7	15	75	< 10	< 10	< 10
MAV- 29352	0.10	10.7	12.5	37.5	< 10	< 10	< 10
MAV- 29353	0.11	15.4	15	42.5	< 10	< 10	< 10
MAV- 29354	0.34	5.8	10	37.5	< 10	< 10	< 10
MAV- 29355	0.51	291	17.5	50	< 10	< 10	< 10
MAV- 29356	0.41	5.8	10	15	< 10	< 10	< 10
MAV- 29357	0.42	6.6	10	15	< 10	< 10	< 10
MAV- 29358	0.56	15.6	10	25	< 10	< 10	< 10
MAV- 29359	0.42	8.9	10	20	< 10	< 10	< 10
MAV- 29360	0.42	9.1	12.5	17.5	< 10	< 10	< 10
MAV- 29361	0.40	5.3	7.5	17.5	< 10	< 10	< 10
MAV- 29362	0.39	6.7	7.5	17.5	< 10	< 10	< 10
MAV- 29363	0.45	22.4	7.5	20	< 10	< 10	< 10
MAV- 29364	0.47	10.3	15	25	< 10	< 10	< 10

  
Ing. RUFÓ PAREDE P. HECO  
Director de Laboratorio  
INGEMMET

**INGEMMET**

MEMORANDUM N°063-96-DGG/DL

**AL** : *Ing. Manuel Paz Maidana*  
*Director de Prospección Minera*

**ASUNTO** : *RESULTADO DE ANALISIS QUIMICOS*  
*por (W y Sn)*

**REF.** : *Memorándum N° 200-95-DPM*

**FECHA** : *Lima, 29 de Febrero de 1996*

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*Tengo a bien dirigirme a Ud., a fin de hacerle llegar adjunto al presente los resultados de los análisis químicos de 103 muestras por W y Sn procedentes del cuadrángulo de SANDIA (Puno-Zona 29-y), remitidas con memorándum de la referencia.*

*Atentamente,*

  
Ing° **RUFO PAREDES PACHECO**  
Director de Laboratorio  
**INGEMMET**



SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 200-95-DPM  
SOLICITADO POR : Ing. Manuel Paz M.  
PROCEDENCIA : DEP. DE PUNO 29-y  
PROYECTO : CUADRANGULO "SANDIA"  
ANALISIS POR : W, Sn  
FECHA : Lima, 29 de Febrero de 1996

CODIGO DE MUESTRA	Sn ppm	W ppm
S195001	<10	2
S195002	<10	2
S195003	<10	2
S195004	<10	3
S195005	<10	2
S195006	<10	2
S195007	<10	2
S195008	<10	3
S195009	<10	2
S195010	<10	2
S195011	<10	2
S195012	<10	2
S195013	<10	3
S195014	<10	3
S195015	<10	<2
S195016	<10	3
S195017	<10	2
S195018	<10	2
S195019	<10	2

CODIGO DE MUESTRA	Sn ppm	W ppm
S195020	<10	2
S195021	<10	3
S195022	<10	12
S195023	<10	<2
S195024	<10	3
S195025	<10	3
S195026	<10	4
S195027	<10	4
S195028	<10	<2
S195029	<10	3
S195030	<10	<2
S195031	<10	<2
S195032	<10	2
S195033	<10	2
S195034	<10	2
S195035	<10	2
S195036	<10	<2
S195037	<10	<2
S195038	<10	<2
S195039	<10	<2
S195040	<10	<2
S195041	<10	<2
S195042	<10	2
S195043	<10	<2
S195044	<10	4
S195045	<10	2
S195046	<10	2
S195047	<10	<2
S195048	<10	<2
S195049	<10	<2
S195050	<10	<2

CODIGO DE MUESTRA	Sn ppm	W ppm
S195051	<10	<2
S195052	<10	<2
S195053	<10	<2
S195054	<10	2
S195055	<10	<2
S195056	<10	4
S195057	<10	<2
S195058	<10	<2
S195059	<10	2
S195060	<10	<2
S195061	<10	2
S195062	<10	2
S195063	<10	2
S195064	<10	2
S195065	<10	2
S195066	<10	<2
S195067	<10	2
S195068	<10	2
S195069	<10	2
S195070	<10	<2
S195071	<10	6
S195072	<10	<2
2195073	<10	2
S195074	<10	<2
S195075	<10	<2
S195076	<10	<2
S195077	<10	<2
S195078	<10	<2
S195079	<10	<2
S195080	<10	<2
S195081	<10	<2

CODIGO DE MUESTRA	Sn ppm	W ppm
S195082	<10	<2
S195083	<10	<2
S195084	<10	<2
S195085	<10	<2
S195086	<10	<2
S195087	<10	<2
S195088	<10	<2
S195089	<10	<2
S195090	<10	<2
S195091	<10	<2
S195092	<10	<2
S195093	<10	<2
S195094	<10	<2
S195095	<10	<2
S195096	<10	<2
S195097	<10	<2
S195098	<10	<2
S195099	<10	<2
S195100	<10	<2
S195101	<10	<2
S195102	<10	2
S195103	<10	2

  
Ing° RUF0 PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

**INGEMMET**

MEMORANDUM N°046-96-DGG/DL

**AL** : *Ing. Manuel Paz Maidana*  
*Director de Prospección Minera*

**ASUNTO** : *RESULTADO DE ANALISIS GEOQUIMICO*  
*POR Sn y W*

**REFER.** : *Memorándum N° 295-95-DPM*

**FECHA** : *Lima, 16 de Febrero de 1996*

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*Tengo a bien dirigirme a Ud., a fin de hacerle llegar adjunto al presente los resultados de los análisis químicos por Sn y W de 243 muestras procedentes del cuadrángulo de LIMBANI, remitidas con memorándum de la referencia.*

*Atentamente,*

  
**Ing. RUFO PAREDES PACHECO**  
Director de Laboratorio  
INGEMMET





SECTOR ENERGIA Y MINAS

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Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS****(LABORATORIO DE QUIMICA ANALITICA)**

**ORDEN DE TRABAJO** : **Memo. N° 295-95-DPM**  
**SOLICITADO POR** : **Ing. Manuel Paz Maidana**  
**PROCEDENCIA** : **Cuadrángulo de LIMBANI (29-x)**  
**ANALISIS POR** : **Sn, W**  
**FECHA** : **Lima, 15 de Febrero de 1996**

<b>CODIGO DE MUESTRA</b>	<b>Sn ppm</b>	<b>W ppm</b>
LIM-116	≤ 10	< 2
LIM-117	≤ 10	< 2
LIM-118	< 10	< 2
LIM-119	24	< 2
LIM-120	< 10	< 2
LIM-121	51	< 2
LIM-122	< 10	< 2
LIM-123	< 10	< 2
LIM-124	< 10	< 2
LIM-125	< 10	4
LIM-126	< 10	< 2
LIM-127	< 10	4
LIM-128	< 10	3
LIM-129	< 10	< 2
LIM-130	< 10	3
LIM-131	< 10	3
LIM-132	< 10	< 2
LIM-133	< 10	< 2

<b>CODIGO DE MUESTRA</b>	<b>Sn ppm</b>	<b>W ppm</b>
LIM-134	≤ 10	3
LIM-135	< 10	3
LIM-136	< 10	5
LIM-137	< 10	3
LIM-138	24	< 2
LIM-139	238	10
LIM-140	< 10	< 2
LIM-141	< 10	< 2
LIM-142	18	< 2
LIM-143	< 10	< 2
LIM-144	< 10	< 2
LIM-145	19	3
LIM-146	39	2
LIM-147	< 10	10
LIM-148	66	4
LIM-149	< 10	4
LIM-150	< 10	4
LIM-151	< 10	4
LIM-152	< 10	2
LIM-153	< 10	< 2
LIM-154	< 10	< 2
LIM-155	< 10	15
LIM-156	< 10	< 2
LIM-157	< 10	2
LIM-158	< 10	< 2
LIM-159	< 10	3

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-160	31	< 2
LIM-161	< 10	< 2
LIM-162	< 10	< 2
LIM-163	15	< 2
LIM-164	< 10	< 2
LIM-165	< 10	< 2
LIM-166	< 10	< 2
LIM-167	28	< 2
LIM-168	24	< 2
LIM-169	46	< 2
LIM-170	< 10	< 2
LIM-171	< 10	< 2
LIM-172	< 10	< 2
LIM-173	< 10	2
LIM-174	18	< 2
LIM-175	16	< 2
LIM-176	< 10	< 2
LIM-177	85	< 2
LIM-178	31	< 2
LIM-179	< 10	3
LIM-180	< 10	< 2
LIM-181	< 10	< 2
LIM-182	< 10	< 2
LIM-183	< 10	< 2
LIM-184	≤ 10	< 2
LIM-185	< 10	< 2
LIM-186	< 10	< 2

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-187	< 10	< 2
LIM-188	< 10	< 2
LIM-189	< 10	< 2
LIM-190	< 10	< 2
LIM-191	< 10	< 2
LIM-192	< 10	< 2
LIM-193	≤ 10	< 2
LIM-194	< 10	2
LIM-195	< 10	4
LIM-196	< 10	10
LIM-197	< 10	10
LIM-198	< 10	3
LIM-199	< 10	15
LIM-200	< 10	3
LIM-201	34	4
LIM-202	10	< 2
LIM-203	< 10	3
LIM-204	< 10	5
LIM-205	28	10
LIM-206	< 10	4
LIM-207	< 10	10
LIM-208	< 10	15
LIM-209	< 10	4
LIM-210	< 10	< 2
LIM-211	< 10	< 2
LIM-212	< 10	< 2
LIM-213	< 10	< 2

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-214	< 10	5
LIM-215	< 10	< 2
LIM-216	< 10	3
LIM-217	< 10	6
LIM-218	< 10	40
LIM-219	< 10	15
LIM-220	20	< 2
LIM-221	27	4
LIM-222	11.4	10
LIM-223	< 10	< 2
LIM-224	< 10	< 2
LIM-225	< 10	10
LIM-226	< 10	< 2
LIM-227	< 10	< 2
LIM-228	51	10
LIM-229	< 10	< 2
LIM-230	132	< 2
LIM-231	< 10	< 2
LIM-232	24	< 2
LIM-233	< 10	< 2
LIM-234	< 10	< 2
LIM-235	41	< 2
LIM-236	36	< 2
LIM-237	59	< 2
LIM-238	19	< 2
LIM-239	< 10	< 2

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-240	< 10	< 2
LIM-241	< 10	< 2
LIM-242	< 10	< 2
LIM-243	< 10	< 2
LIM-244	< 10	< 2
LIM-245	< 10	< 2
LIM-246	< 10	< 2
< 10247	< 10	2
LIM-248	< 10	< 2
LIM-249	< 10	< 2
LIM-250	< 10	< 2
LIM-251	48	< 2
LIM-252	< 10	< 2
LIM-253	< 10	< 2
LIM-254	< 10	< 2
LIM-255	< 10	< 2
LIM-256	< 10	< 2
LIM-257	< 10	< 2
LIM-258	< 10	3
LIM-259	32	12
LIM-260	< 10	< 2
LIM-261	48	5
LIM-262	< 10	10
LIM-263	< 10	15
LIM-264	< 10	5
LIM-265	217	5

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-266	106	< 2
LIM-267	24	3
LIM-268	48	4
LIM-269	28	< 2
LIM-270	< 10	< 2
LIM-271	48	< 2
LIM-272	< 10	< 2
LIM-273	< 10	< 2
LIM-274	< 10	4
LIM-275	< 10	< 2
LIM-276	< 10	< 2
LIM-277	< 10	< 2
LIM-278	< 10	< 2
LIM-279	< 10	< 2
LIM-280	< 10	< 2
LIM-281	< 10	< 2
LIM-282	< 10	< 2
LIM-283	< 10	< 2
LIM-284	40	< 2
LIM-285	< 10	< 2
LIM-286	< 10	4
LIM-287	< 10	< 2
LIM-288	< 10	< 2
LIM-289	< 10	< 10
LIM-290	< 10	5
LIM-291	22	< 2
LIM-292	< 10	< 2

CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-293	< 10	< 2
LIM-294	< 10	20
LIM-295	< 10	10
LIM-296	< 10	2
LIM-297	< 10	< 2
LIM-298	< 10	< 2
LIM-299	< 10	< 2
LIM-300	< 10	< 2
LIM-301	< 10	< 2
LIM-302	< 10	< 2
LIM-303	< 10	< 2
LIM-304	< 10	< 2
LIM-305	< 10	< 2
LIM-306	< 10	< 2
LIM-307	< 10	4
LIM-308	< 10	< 2
LIM-309	< 10	15
LIM-310	< 10	30
LIM-311	< 10	< 2
LIM-312	< 10	< 2
LIM-313	< 10	< 2
LIM-314	< 10	< 2
LIM-315	< 10	< 2
LIM-316	< 10	< 2
LIM-317	< 10	< 2
LIM-318	< 10	4



CODIGO DE MUESTRA	Sn ppm	W ppm
LIM-319	< 10	< 2
LIM-320	< 10	< 2
LIM-321	< 10	< 2
LIM-322	< 10	< 2
LIM-323	< 10	< 2
LIM-324	< 10	15
LIM-325	< 10	< 2
LIM-326	< 10	< 2
LIM-327	< 10	< 2
LIM-328	< 10	< 2
LIM-329	18	< 2
LIM-330	< 10	< 2
LIM-331	< 10	10
LIM-332	< 10	3
LIM-333	< 10	3
LIM-334	< 10	< 2
LIM-335	< 10	< 2
LIM-336	< 10	< 2
LIM-337	< 10	10
LIM-338	< 10	15
LIM-339	< 10	< 2
LIM-340	< 10	< 2
LIM-341	< 10	< 2
LIM-342	< 10	< 2
LIM-343	< 10	5
LIM-344	< 10	10
LIM-345	< 10	< 2

MEMORANDUM N°045-96-DGG/DL

**AL** : *Ing. Manuel Paz Maidana*  
*Director de Prospección Minera*

**ASUNTO** : *RESULTADO DE ANALISIS GEOQUIMICO*  
*POR Sn y W*

**REF.** : *Memorándum N° 344-96-DPM*

**FECHA** : *Lima, 16 de Febrero de 1996*

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*Tengo a bien dirigirme a Ud., a fin de hacerle llegar adjunto al presente el resultado de los análisis químicos por Sn y W de 21 muestras de la primera campaña y 08 de la segunda campaña 13, correspondientes al cuadrángulo de MACUSANI, remitidas con memorándum de la referencia.*

*Atentamente,*

  
Ing. RUF0 PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**

**(LABORATORIO DE QUIMICA ANALITICA)**

**ORDEN DE TRABAJO** : **Memo. N° 344-95-DPM**  
**SOLICITADO POR** : **Ing. Manuel Paz Maidana**  
**PROCEDENCIA** : **Cuadrángulo de MACUSANI (29-v)**  
**Primera Campaña**  
**ANALISIS POR** : **Sn, W**  
**FECHA** : **Lima, 15 de Febrero de 1996**

CODIGO DE MUESTRA	Sn ppm	W ppm
MAV 29002	< 10	4
MAV 29004	< 10	4
MAV 29012	< 10	< 2
MAV 29018	< 10	< 2
MAV 29024	< 10	< 2
MAV 29034	< 10	< 2
MAV 29081	< 10	< 2
MAV 29170	< 10	< 2

  
Ing. **ROBERTO PACHECO**  
Director de Laboratorio  
INGEMMET

  
Quím. **MARIA JARA F.**  
Laboratorio de Análisis Geoquímico  
INGEMMET



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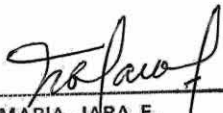
## DIRECCION DE LABORATORIOS

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 344-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROCEDENCIA : Cuadrángulo de MACUSANI (29-v)  
Segunda Campaña  
ANALISIS POR : ROCK CHIPS-Cu, Pb, Zn, Ag, Sb, As, Au, Mo  
FECHA : Lima, 15 de Febrero de 1996

CODIGO DE MUESTRA	Sn ppm	W ppm
MAV 29177	< 10	< 2
MAV 29178	31	15
MAV 29179	< 10	15
MAV 29365	< 10	< 2
MAV 29366	< 10	< 2
MAV 29367	< 10	< 2
MAV 29368	29	< 2
MAV 29369	68	< 2
MAV 29370	< 10	< 2
MAV 29371	< 10	< 2
MAV 29372	< 10	< 2
MAV 29373	< 10	< 2
MAV 29374	< 10	< 2

  
Ing. ROBERTO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

**MEMORANDUM N°040-96-DGG/DL**

**AL** : **Ing. Manuel Paz Maidana**  
**Director de Prospección Minera**

**Asunto** : **RESULTADO DE ANALISIS GEOQUIMICO**

**Referencia** : **Memorándum N° 295-95-DPM**

**Fecha** : **Lima, 07 de Febrero de 1996**

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*Tengo a bien dirigirme a Ud., a fin de hacerle llegar adjunto al presente los resultados de los análisis químicos de 243 muestras (Cu, Pb, Zn, Ag, Sb, As, Au, Mo), procedentes del cuadrángulo de LIMBANI, remitidas con memorándum de la referencia.*

*Atentamente,*

  
**Ing. RUFO PAREDES PACHECO**  
**Director de Laboratorio**  
**INGEMMET**



SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS****(LABORATORIO DE QUIMICA ANALITICA)****ORDEN DE TRABAJO  
SOLICITADO POR  
PROCEDENCIA  
ANALISIS POR  
FECHA****: Memo. N° 295-95-DPM  
: Ing. Manuel Paz Maidana  
: Cuadrángulo de LIMBANI (29-x)  
: Cu, Pb, Zn, Ag, Sb, As, Au, Mo  
: Lima, 06 de Febrero de 1996**

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-116	20	30.5	82.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-117	65	45.2	170	< 0.5	< 10	< 10	< 0.01	< 10
LIM-118	40	31.8	172.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-119	15	32.9	115	< 0.5	< 10	< 10	< 0.01	< 10
LIM-120	12.5	30.7	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-121	15	31.9	130	< 0.5	< 10	< 10	< 0.01	< 10
LIM-122	12.5	31.1	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-123	12.5	15.1	37.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-124	15	21.7	67.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-125	20	20.1	50	< 0.5	< 10	< 10	< 0.01	< 10
LIM-126	27.5	37.7	107.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-127	35	20.4	67.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-128	35	48.3	105	< 0.5	< 10	< 10	< 0.01	< 10
LIM-129	25	26.1	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-130	30	26.1	90	< 0.5	< 10	< 10	< 0.01	< 10
LIM-131	40	38.1	62.5	< 0.5	< 10	11	< 0.01	< 10
LIM-132	7.5	30.7	60	< 0.5	< 10	< 10	< 0.01	< 10
LIM-133	15	21.6	47.5	< 0.5	< 10	< 10	< 0.01	< 10

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-134	7.5	172.9	320	0.5	≤ 10	≤ 10	< 0.01	< 10
LIM-135	20	33.6	80	< 0.5	< 10	21	< 0.01	< 10
LIM-136	25	34.0	72.5	< 0.5	< 10	34	< 0.01	< 10
LIM-137	47.5	72.8	135	< 0.5	< 10	< 10	< 0.01	< 10
LIM-138	12.5	27.5	75	< 0.5	< 10	< 10	< 0.01	< 10
LIM-139	15	92.8	100	< 0.5	< 10	46	< 0.01	< 10
LIM-140	15	44.0	42.5	< 0.5	< 10	21	< 0.01	< 10
LIM-141	17.5	29.8	110	< 0.5	< 10	35	< 0.01	< 10
LIM-142	10	29.3	50	< 0.5	< 10	< 10	< 0.01	< 10
LIM-143	25	29.4	77.5	< 0.5	< 10	13	< 0.01	< 10
LIM-144	15	27.6	97.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-145	30	21.2	92.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-146	7.5	21.8	17.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-147	30	23.6	110	< 0.5	< 10	< 10	< 0.01	< 10
LIM-148	22.5	19.4	67.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-149	27.5	22.4	80	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-150	30	50.1	72.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-151	32.5	28.3	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-152	40	28.3	90	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-153	40	26.5	110	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-154	22.5	22.6	87.5	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-155	35	15.3	60	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-156	30	27.8	120	< 0.5	< 10	< 10	< 0.01	< 10
LIM-157	22.5	24.5	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-158	12.5	28.0	150	< 0.5	11	< 10	< 0.01	< 10
LIM-159	10	34.3	75	< 0.5	< 10	< 10	< 0.01	< 10

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-160	20	54.4	167.5	< 0.5	41	10	< 0.01	< 10
LIM-161	20	430	994	1.7	94	24	< 0.01	< 10
LIM-162	37.5	1365	5438	6.5	293	228	< 0.01	< 10
LIM-163	17.5	103.4	233	≤ 0.5	37	< 10	< 0.01	< 10
LIM-164	15	29.4	90	< 0.5	< 10	< 10	< 0.01	< 10
LIM-165	7.5	16.3	35	< 0.5	< 10	< 10	< 0.01	< 10
LIM-166	15	22.1	52.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-167	17.5	26.3	100	< 0.5	< 10	< 10	< 0.01	< 10
LIM-168	15	22.9	65	< 0.5	< 10	< 10	< 0.01	< 10
LIM-169	10	12.6	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-170	40	25.5	95	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-171	20	25.5	80	< 0.5	< 10	< 10	< 0.01	< 10
LIM-172	25	40.1	85	< 0.5	< 10	< 10	< 0.01	< 10
LIM-173	17.5	30.3	55	< 0.5	37	28	< 0.01	< 10
LIM-174	12.5	16.2	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-175	7.5	17.1	35	< 0.5	< 10	< 10	< 0.01	< 10
LIM-176	10	11.0	27.5	< 0.5	< 10	< 10	0.01	< 10
LIM-177	10	14.6	62.5	< 0.5	< 10	< 10	≤ 0.01	< 10
LIM-178	10	21.6	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-179	27.5	15.1	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-180	10	12.5	27.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-181	10	10.9	17.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-182	10	22.4	40	< 0.5	< 10	< 10	< 0.01	< 10
LIM-183	7.5	15.6	37.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-184	10	19.6	40	< 0.5	< 10	< 10	< 0.01	< 10
LIM-185	10	26.7	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-186	10	25.4	47.5	< 0.5	< 10	< 10	< 0.01	< 10



<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-187	10	16.1	110	< 0.5	< 10	< 10	< 0.01	< 10
LIM-188	10	28.2	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-189	10	37.1	438	< 0.5	< 10	< 10	< 0.01	< 10
LIM-190	10	17.0	238	< 0.5	< 10	< 10	< 0.01	< 10
LIM-191	7.5	12.8	163	< 0.5	< 10	< 10	< 0.01	< 10
LIM-192	5.0	34.8	238	< 0.5	< 10	< 10	< 0.01	< 10
LIM-193	12.5	30.1	375	< 0.5	< 10	< 10	0.11	< 10
LIM-194	17.5	24.7	488	< 0.5	< 10	< 10	0.04	< 10
LIM-195	25	25.4	70	< 0.5	< 10	< 10	< 0.01	< 10
LIM-196	37.5	32.5	150	< 0.5	< 10	16	< 0.02	< 10
LIM-197	25	20.8	80	< 0.5	< 10	13	< 0.01	< 10
LIM-198	25	28.6	105	< 0.5	< 10	68	0.2	< 10
LIM-199	20	20.1	82.5	< 0.5	< 10	77	0.01	< 10
LIM-200	27.5	18.7	110	< 0.5	< 10	75	0.02	< 10
LIM-201	25	26.3	128	< 0.5	< 10	31	0.01	< 10
LIM-202	7.5	22.0	30	< 0.5	< 10	< 10	< 0.01	< 10
LIM-203	5.0	26.9	27.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-204	5.4	24.5	30	< 0.5	< 10	< 10	< 0.01	< 10
LIM-205	17.5	20.2	75	< 0.5	< 10	63	< 0.01	< 10
LIM-206	5.0	27.3	27.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-207	22.5	19.3	27.5	< 0.5	< 10	21	< 0.01	< 10
LIM-208	20	16.3	67.5	< 0.5	< 10	78	< 0.01	< 10
LIM-209	35	21.3	82.5	< 0.5	25	106	< 0.01	< 10
LIM-210	25	15.4	42.5	< 0.5	< 10	19	0.02	< 10
LIM-211	27.5	26.4	62.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-212	40	28.1	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-213	55	23.5	127.5	< 0.5	< 10	45	< 0.01	< 10

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-214	20	21.3	125	< 0.5	< 10	26	< 0.01	< 10
LIM-215	47.5	23.8	140	< 0.5	< 10	< 10	< 0.01	< 10
LIM-216	103	23.9	67.5	< 0.5	< 10	72	< 0.01	< 10
LIM-217	45	14.2	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-218	47.5	15.4	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-219	72.5	19.1	95	< 0.5	< 10	83	< 0.01	< 10
LIM-220	109	12.5	88.8	< 0.5	< 10	78	< 0.01	< 10
LIM-221	17.5	19.1	75	< 0.5	< 10	22	< 0.01	< 10
LIM-222	17.5	22.4	60	< 0.5	10	17	< 0.01	< 10
LIM-223	25	23.3	77.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-224	75	53.1	100	< 0.5	< 10	< 10	< 0.01	< 10
LIM-225	30	23.4	120	< 0.5	< 10	57	< 0.01	< 10
LIM-226	27.5	11.9	62.5	< 0.5	< 10	51	< 0.01	< 10
LIM-227	32.5	16.4	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-228	27.5	46.3	52.5	< 0.5	< 10	32	< 0.01	< 10
LIM-229	12.5	7.2	12.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-230	45	20.5	80	< 0.5	< 10	20	< 0.01	< 10
LIM-231	55	14.5	125	< 0.5	< 10	< 10	< 0.01	< 10
LIM-232	47.5	30.5	137.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-233	32.5	24.1	100	< 0.5	< 10	< 10	< 0.01	< 10
LIM-234	32.5	17.7	97.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-235	32.5	12.8	40	< 0.5	< 10	18	< 0.01	< 10
LIM-236	45	13.6	62.5	< 0.5	< 10	19	< 0.01	< 10
LIM-237	72.5	16.8	95	< 0.5	< 10	34	< 0.01	< 10
LIM-238	22.5	20.7	75	< 0.5	< 10	10	< 0.01	< 10
LIM-239	15	13.4	90	< 0.5	< 10	10	< 0.01	< 10


<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-240	12.5	9.7	62.5	≤ 0.5	< 10	< 10	< 0.01	< 10
LIM-241	17.5	12.9	80	< 0.5	< 10	24	< 0.01	< 10
LIM-242	12.5	12.5	212.5	≤ 0.5	< 10	< 10	0.06	< 10
LIM-243	10	12.8	140	< 0.5	< 10	< 10	< 0.01	< 10
LIM-244	62.5	81.8	35	< 0.5	< 10	< 10	< 0.01	< 10
LIM-245	15	10.3	110	< 0.5	< 10	< 10	< 0.01	< 10
LIM-246	10	17.5	17.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-247	12.5	12.2	25	< 0.5	< 10	< 10	< 0.01	< 10
LIM-248	10	12.0	27.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-249	15	17.5	16	< 0.5	< 10	< 10	< 0.01	< 10
LIM-250	15	223.4	22.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-251	37.5	93.1	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-252	25	12.4	32.5	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-253	12.5	8.8	92.5	< 0.5	< 10	≤ 10	0.02	< 10
LIM-254	12.5	23.5	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-255	22.5	21.8	80	< 0.5	< 10	< 10	< 0.01	< 10
LIM-256	60	21.4	75	< 0.5	< 10	12	0.07	< 10
LIM-257	22.5	15.7	122.5	< 0.5	< 10	21	< 0.01	< 10
LIM-258	15	20.1	77.5	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-259	17.5	15.5	40	< 0.5	< 10	61	< 0.01	< 10
LIM-260	62.5	21.6	137.5	< 0.5	< 10	13	0.01	< 10
LIM-261	55	15.8	60	< 0.5	< 10	68	< 0.01	< 10
LIM-262	160	23.5	35	< 0.5	< 10	53	< 0.01	< 10
LIM-263	20	18.5	20	< 0.5	< 10	11	< 0.01	< 10
LIM-264	92.5	34.3	47.5	< 0.5	< 10	125	< 0.01	< 10
LIM-265	12.5	17.4	17.5	< 0.5	< 10	15	< 0.01	< 10

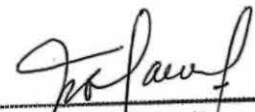
<b>CODIGO E MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-266	30	13.3	45	< 0.5	< 10	70	< 0.01	< 10
LIM-267	87.5	15.5	120	< 0.5	< 10	184	< 0.01	< 10
LIM-268	20	16.3	35	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-269	32.5	18.1	25	< 0.5	< 10	< 10	< 0.01	< 10
LIM-270	35	267.3	55	1.2	< 10	< 10	< 0.01	< 10
LIM-271	20	29.9	57.5	0.5	< 10	< 10	0.04	< 10
LIM-272	37.5	23.8	52.5	< 0.5	< 10	14	< 0.01	< 10
LIM-273	35	18.1	70	< 0.5	< 10	< 10	0.02	< 10
LIM-274	27.5	20.9	72.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-275	20	11.9	75	< 0.5	< 10	< 10	< 0.01	< 10
LIM-276	15	12.9	42.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-277	15	14.8	82.5	< 0.5	< 10	< 10	0.05	< 10
LIM-278	15	16.0	55	< 0.5	< 10	< 10	≤ 0.01	< 10
LIM-279	15	12.3	42.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-280	12.5	7.0	20	< 0.5	< 10	< 10	< 0.01	< 10
LIM-281	15	11.4	45	< 0.5	< 10	< 10	< 0.01	< 10
LIM-282	17.5	17.8	50	< 0.5	< 10	< 10	< 0.01	< 10
LIM-283	12.5	17.8	67.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-284	10	24.9	80	< 0.5	< 10	< 10	< 0.01	< 10
LIM-285	12.5	11.6	55	< 0.5	< 10	< 10	< 0.01	< 10
LIM-286	20	22.3	90	< 0.5	< 10	< 10	< 0.01	< 10
LIM-287	25	27.7	125	< 0.5	< 10	< 10	< 0.01	< 10
LIM-288	22.5	27.4	105	< 0.5	< 10	< 10	< 0.01	< 10
LIM-289	25	26.3	85	< 0.5	< 10	< 10	< 0.01	< 10
LIM-290	20	23.5	77.5	< 0.5	< 10	26	< 0.01	< 10
LIM-291	25	27.8	152.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-292	22.5	25.7	125	< 0.5	< 10	< 10	< 0.01	< 10

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-293	27.5	27.7	125	< 0.5	< 10	< 10	< 0.01	< 10
LIM-294	32.5	25.7	110	< 0.5	< 10	18	< 0.01	< 10
LIM-295	32.5	27.5	110	< 0.5	< 10	19	< 0.01	< 10
LIM-296	22.5	23.8	90	< 0.5	< 10	< 10	< 0.01	< 10
LIM-297	37.5	34.0	197.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-298	30	26.5	118	< 0.5	< 10	< 10	< 0.01	< 10
LIM-299	20	23.4	125	≤ 0.5	< 10	< 10	< 0.01	< 10
LIM-300	15	20.5	97.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-301	35	30	170	≤ 0.5	< 10	< 10	< 0.01	< 10
LIM-302	35	31.1	187.5	0.5	< 10	11	< 0.01	< 10
LIM-303	20	25	90	≤ 0.5	< 10	< 10	< 0.01	< 10
LIM-304	17.5	20.9	117.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-305	25	15.9	107.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-306	25	23.6	110	< 0.5	< 10	< 10	< 0.01	< 10
LIM-307	17.5	17.0	97.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-308	32.5	12.5	75	< 0.5	< 10	15	< 0.01	< 10
LIM-309	90	31.6	160	≤ 0.5	< 10	77	< 0.01	< 10
LIM-310	42.5	28.2	130	≤ 0.5	< 10	71	< 0.01	< 10
LIM-311	32.5	22.9	100	< 0.5	< 10	< 10	< 0.01	< 10
LIM-312	15	18.8	97.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-313	20	21.6	115	< 0.5	< 10	< 10	< 0.01	< 10
LIM-314	15	20.1	82.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-315	7.5	19.0	95	< 0.5	< 10	< 10	< 0.01	< 10
LIM-316	35	28.4	140	< 0.5	< 10	< 10	< 0.01	< 10
LIM-317	35	28.4	142.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-318	30	28.1	132.5	< 0.5	< 10	< 10	< 0.01	< 10

<b>CODIGO DE MUESTRA</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au ppm</b>	<b>Mo ppm</b>
LIM-319	30	29.5	132.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-320	20	25.5	132.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-321	27.5	31.5	87.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-322	17.5	24.9	92.5	< 0.5	< 10	< 10	0.01	< 10
LIM-323	12.5	20.1	90	< 0.5	< 10	< 10	0.06	< 10
LIM-324	52.5	102.7	145	0.5	< 10	127	3.05	< 10
LIM-325	15	19.0	60	< 0.5	< 10	< 10	< 0.01	< 10
LIM-326	7.5	11.4	17.5	0.5	< 10	< 10	0.04	< 10
LIM-327	25	22.9	50	< 0.5	< 10	< 10	0.05	< 10
LIM-328	45	29.6	47.5	< 0.5	< 10	< 10	0.03	27.5
LIM-329	45	26.6	122.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-330	20	20.5	107.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-331	22.5	23.9	90	< 0.5	< 10	< 10	< 0.01	< 10
LIM-332	20	22.8	115	< 0.5	< 10	< 10	< 0.01	< 10
LIM-333	22.5	20.8	177.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-334	35	26.8	275	< 0.5	< 10	< 10	< 0.01	< 10
LIM-335	62.5	38.1	233	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-336	17.5	17.6	125	< 0.5	< 10	< 10	< 0.01	< 10
LIM-337	7.5	18.4	20	< 0.5	< 10	< 10	< 0.01	< 10
LIM-338	30	24.0	125	< 0.5	< 10	66	< 0.01	< 10
LIM-339	10	18.5	80	< 0.5	< 10	< 10	0.04	< 10
LIM-340	12.5	21.8	85	< 0.5	< 10	< 10	0.08	< 10
LIM-341	35	23.5	147.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-342	30	20.5	147.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-343	17.5	15.5	82.5	< 0.5	< 10	13	< 0.01	< 10
LIM-344	20	26.4	80	< 0.5	< 10	< 10	0.07	< 10
LIM-345	7.5	20.7	45	< 0.5	< 10	< 10	< 0.01	< 10

CODIGO DE MUESTRA	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Au ppm	Mo ppm
LIM-346	32.5	33.4	155	< 0.5	< 10	16	< 0.01	< 10
LIM-347	12.5	22.3	67.5	< 0.5	< 10	19	0.10	< 10
LIM-348	12.5	16.1	62.5	< 0.5	< 10	25	< 0.01	< 10
LIM-349	17.5	26.8	82.5	< 0.5	< 10	≤ 10	< 0.01	< 10
LIM-350	12.5	26.6	55	< 0.5	< 10	≤ 10	0.05	< 10
LIM-351	40	19.2	150	< 0.5	< 10	< 10	0.15	< 10
LIM-352	15	21.2	80	< 0.5	< 10	11	0.04	< 10
LIM-353	15	7.4	12.5	< 0.5	< 10	≤ 10	0.04	< 10
LIM-354	15	19.6	37.5	< 0.5	< 10	< 10	0.07	< 10
LIM-355	12.5	12.4	37.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-356	12.5	7.6	20	< 0.5	< 10	< 10	0.01	< 10
LIM-357	17.5	34.0	77.5	< 0.5	< 10	< 10	< 0.01	< 10
LIM-358	5.0	6.5	10	< 0.5	< 10	< 10	< 0.01	< 10

  
Ing. RUFINO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

MEMORANDUM N°033-95-DGG/DL

*AL* : *Ing. Manuel Paz Maidana*  
*Director de Prospección Minera*

*Asunto* : *RESULTADO DE ANALISIS QUIMICOS*

*Referencia* : *Memorándum N° 07-96-DPM*

*Fecha* : *Lima, 01 de Febrero de 1996*

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Tengo a bien dirigirme a Ud., a fin de hacerle llegar adjunto al presente el resultado de los análisis químicos de 12 muestras procedentes de del cuadrángulo de LIMBANI 29-x, remitidas con memorándum de la referencia.

Atentamente,

  
Ing. RUF0 PAREDES PACHECO  
Director de Laboratorio  
INGEMMET





SECTOR ENERGIA Y MINAS  
**INGEMMET**

Instituto Geológico Minero y Metalúrgico

## DIRECCION DE LABORATORIOS

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 07-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROCEDENCIA : Cuadrángulo de LIMBANI (29-X)  
ANALISIS POR : Au, Ag, Cu, Pb, Zn  
FECHA : Lima, 01 de Febrero de 1996

CODIGO	Au g/TM	Ag ppm	Cu %	Pb %	Zn ppm
LI-R01	0.03	710	2.10	18.0	150
LI-R02	<0.01	240	1.15	7.75	280
LI-R03	<0.01	115	7.63	0.012	21250
LI-R04	<0.01	7.5	2.20	0.006	125
LI-R05	<0.01	8.5	0.014	6.50	3850
LI-R06	<0.01	310	0.07	12.5	50000
LI-R07	0.03	67	7.38	0.24	7000
LI-R08	17.9	1.0	0.005	0.007	45
LI-R09	0.15	1.0	0.007	0.012	35
LI-R10	<0.01	0.5	0.013	0.005	75
LI-R11	0.03	1.5	0.085	0.010	85
LI-R12	<0.01	0.5	0.004	0.007	70

  
Ing. RUF0 PAREDES-PACHECO  
Director de Laboratorio  
INGEMMET

  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

**INGEMMET**

MEMORANDUM N° 030-96-DGG/DL

*Al* : Ing. MANUEL PAZ MAIDANA  
Director prospección Minera

*Asunto* : Informe de reporte de análisis químico  
Cuadrángulo Nuñoa

*Referencia* : Memo N°296-95-DPM

*Fecha* : Lima, 31 de Enero de 1996

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*Me dirijo a Ud. para adjuntar al presente el reporte de los análisis químicos realizados en el laboratorio de química, de acuerdo a lo solicitado en el memorándum de la referencia, las muestras son procedentes del cuadrángulo de Nuñoa.*

*Atentamente,*

  
Ing. RUFO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

## DIRECCION DE LABORATORIOS

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 296-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz Maidana.

PROCEDENCIA : Cuadrángulo de NUÑO A  
 ANALISIS POR : Au, Ag, Pb, Cu, Zn, Sb, Mo,  
 Sn, As, W

FECHA : Lima, 17 de Enero de 1996

CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-102	< 0.01	<0.5	8.4	5.0	10	< 10	< 10	<10	< 10	< 2
Nu-103	< 0.01	<0.5	9.2	17.5	17.5	< 10	< 10	<10	< 10	< 2
Nu-104	< 0.01	<0.5	8.0	7.5	17.5	< 10	< 10	<10	< 10	< 2
Nu-106	< 0.01	<0.5	15.1	15	37.5	< 10	< 10	<10	< 10	< 2
Nu-107	< 0.01	<0.5	14.3	5.0	35	< 10	< 10	<10	< 10	< 2
Nu-108	< 0.01	< 0.5	7.9	5.0	12.5	< 10	< 10	<10	< 10	< 2
Nu-109	< 0.01	< 0.5	7.7	5.0	17.5	< 10	< 10	<10	< 10	< 2
Nu-110	< 0.01	< 0.5	10.6	2.5	27.5	< 10	< 10	<10	< 10	< 2
Nu-112	< 0.01	< 0.5	18.9	5.0	40	< 10	< 10	<10	< 10	< 2
Nu-113	< 0.01	< 0.5	21.6	25	97.5	< 10	< 10	<10	< 10	< 2
Nu-114	< 0.01	< 0.5	14.4	7.5	30	< 10	< 10	<10	< 10	< 2
Nu-115	< 0.01	< 0.5	19.3	17.5	50	< 10	< 10	<10	< 10	< 2
Nu-116	< 0.01	< 0.5	14.6	7.5	27.5	< 10	< 10	<10	< 10	< 2
Nu-118	< 0.01	< 0.5	18	10	40	< 10	< 10	<10	< 10	2
Nu-119	< 0.01	< 0.5	17.2	17.5	47.5	< 10	< 10	<10	< 10	< 2
Nu-121	< 0.01	< 0.5	14.1	12.5	32.5	< 10	< 10	<10	< 10	3
Nu-122	< 0.01	< 0.5	16.8	7.5	37.5	< 10	< 10	<10	< 10	2
Nu-123	< 0.01	< 0.5	17	10	102.5	< 10	< 10	<10	< 10	2
Nu-124	< 0.01	< 0.5	20.2	7.5	65	< 10	< 10	<10	< 10	< 2

CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-125	< 0.01	< 0.5	13.4	15	55	< 10	< 10	<10	< 10	< 2
Nu-126	< 0.01	< 0.5	36.6	72.5	62.5	< 10	< 10	<10	< 10	4
Nu-127	< 0.01	< 0.5	25.4	20	90	< 10	< 10	13	< 10	3
Nu-128	< 0.01	< 0.5	35.7	170	67.5	< 10	< 10	<10	13	< 2
Nu-129	< 0.01	< 0.5	32.4	20	75	< 10	< 10	<10	< 10	2
Nu-130	< 0.01	< 0.5	41.1	17.5	62.5	< 10	< 10	<10	<10	2
Nu-131	< 0.01	< 0.5	12.6	15	52.5	< 10	< 10	<10	< 10	2
Nu-132	< 0.01	< 0.5	47.8	27.5	100	< 10	< 10	<10	< 10	4
Nu-133	< 0.01	< 0.5	53.5	10	110	< 10	< 10	<10	17	6
Nu-134	< 0.01	< 0.5	49.4	5.0	62.5	< 10	< 10	<10	15	4
Nu-135	< 0.01	< 0.5	52	20	77.5	< 10	< 10	<10	29	5
Nu-136	< 0.01	< 0.5	69.3	7.5	60	< 10	< 10	<10	55	6
Nu-137	< 0.01	< 0.5	57	7.5	67.5	14	< 10	<10	21	4
Nu-137 A	< 0.01	≤ 0.5	51.3	7.5	52.5	30	< 10	<10	44	7
Nu-138	< 0.01	< 0.5	69.3	10	97.5	15	< 10	<10	83	6
Nu-138 A	< 0.01	< 0.5	62.2	7.5	57.5	37	< 10	<10	63	6
Nu-139	< 0.01	< 0.5	49.1	5.0	52.5	< 10	< 10	<10	< 10	< 2
Nu-140	< 0.01	< 0.5	74.9	5.0	57.5	< 10	< 10	<10	< 10	2
Nu-141	< 0.01	< 0.5	66.8	5.0	57.5	< 10	< 10	<10	33	2
Nu-142	< 0.01	< 0.5	64.7	5.0	72.5	< 10	< 10	<10	≤ 10	5
Nu-142 A	< 0.01	< 0.5	48.5	2.5	60	< 10	< 10	<10	16	6
Nu-143	< 0.01	5.0	553	67.5	137.5	1280	< 10	<10	446	8
Nu-145	< 0.01	7.3	1094	82.5	1153	218	< 10	26	237	20
Nu-146	< 0.01	< 0.5	42.3	12.5	47.5	10	< 10	41	241	28
Nu-147	< 0.01	< 0.5	41.9	7.5	65	< 10	< 10	<10	13	10
Nu-148	< 0.01	≤ 0.5	63.4	5.0	90	204	< 10	66	22	8
Nu-149	< 0.01	< 0.5	30.6	2.5	42.5	< 10	<10	<10	< 10	4
Nu-150	< 0.01	< 0.5	48.9	5.0	77.5	< 10	< 10	<10	< 10	4
Nu-150 A	< 0.01	< 0.5	48.7	5.0	62.5	< 10	< 10	<10	< 10	4
Nu-151	< 0.01	< 0.5	4.4	5.0	30	< 10	< 10	<10	< 10	6
Nu-152	< 0.01	< 0.5	54.7	7.5	47.5	< 10	< 10	<10	< 10	4

CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-153	< 0.01	< 0.5	49.6	5.0	67.5	< 10	< 10	< 10	< 10	4
Nu-154	< 0.01	< 0.5	3.5	2.5	50	< 10	< 10	17	< 10	4
Nu-155	< 0.01	< 0.5	44.1	5.0	80	< 10	< 10	13	23	5
Nu-156	< 0.01	< 0.5	42	10	52.5	< 10	< 10	< 10	< 10	< 2
Nu-157	< 0.01	< 0.5	47	5.0	65	< 10	< 10	< 10	< 10	7
Nu-158	< 0.01	< 0.5	74.6	35	85	< 10	< 10	< 10	170	3
Nu-159	< 0.01	< 0.5	68.7	10	80	< 10	< 10	< 10	161	4
Nu-160	< 0.01	< 0.5	63	10	62.5	< 10	< 10	< 10	46	6
Nu-161	< 0.01	< 0.5	61.7	12.5	85	43	< 10	< 10	54	6
Nu-163	< 0.01	< 0.5	39.8	5.0	122.5	< 10	< 10	15	< 10	5
Nu-164	< 0.01	< 0.5	31.3	17.5	67.5	< 10	< 10	< 10	16	3
Nu-164 A	< 0.01	< 0.5	61.7	12.5	50	< 10	< 10	< 10	< 10	3
Nu-165	< 0.01	< 0.5	58.5	7.5	55	< 10	< 10	< 10	12	< 2
Nu-168	< 0.01	< 0.5	53.6	7.5	85	< 10	< 10	< 10	< 10	8
Nu-170	< 0.01	< 0.5	46	5.0	192.5	< 10	< 10	< 10	< 10	8
Nu-171	< 0.01	< 0.5	49.3	5.0	77.5	< 10	< 10	< 10	< 10	6
Nu-172	< 0.01	< 0.5	51.8	2.5	77.5	< 10	< 10	< 10	< 10	7
Nu-173	< 0.01	< 0.5	44	5.0	60	< 10	< 10	< 10	< 10	15
Nu-174	< 0.01	< 0.5	49.2	22.5	85	< 10	< 10	< 10	< 10	2
Nu-175	< 0.01	< 0.5	49.6	7.5	102.5	< 10	< 10	< 10	18	2
Nu-176	< 0.01	< 0.5	21.5	15	95	< 10	< 10	< 10	≤ 10	2
Nu-177	< 0.01	< 0.5	63.2	17.5	87.5	21	< 10	< 10	45	4
Nu-178	< 0.01	< 0.5	43.8	2.5	72.5	< 10	< 10	< 10	< 10	2
Nu-179	< 0.01	< 0.5	59.8	10	75	< 10	< 10	< 10	< 10	< 2
Nu-180	< 0.01	< 0.5	36	15	117.5	< 10	< 10	< 10	< 10	3
Nu-181	< 0.01	< 0.5	43.8	7.5	132.5	< 10	< 10	< 10	< 10	2
Nu-182	< 0.01	< 0.5	54.9	5.0	152.5	< 10	< 10	< 10	≤ 10	2
Nu-183	< 0.01	< 0.5	65.5	7.5	180	< 10	< 10	< 10	17	3
Nu-183 A	< 0.01	≤ 0.5	158.8	12.5	87.5	≤ 10	< 10	< 10	80	2
Nu-184	< 0.01	< 0.5	68.4	5.0	47.5	< 10	< 10	< 10	< 10	2
Nu-185	< 0.01	< 0.5	73	5.0	65	< 10	< 10	< 10	< 10	4
Nu-186	< 0.01	< 0.5	39	35	57.5	< 10	< 10	< 10	12	< 2
Nu-187	< 0.01	< 0.5	28.4	27.5	77.5	< 10	< 10	< 10	< 10	< 2


CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-188	< 0.01	< 0.5	26.4	12.5	65	< 10	< 10	<10	< 10	< 2
Nu-191	< 0.01	< 0.5	59.7	2.5	47.5	< 10	< 10	<10	11	5
Nu-192	< 0.01	< 0.5	51.2	2.5	32.5	< 10	< 10	<10	< 10	2
Nu-193	< 0.01	< 0.5	20.3	5.0	22.5	< 10	< 10	<10	< 10	< 2
Nu-195	< 0.01	< 0.5	28.5	15	57.5	< 10	< 10	<10	< 10	2
Nu-196	< 0.01	< 0.5	19.8	30	50	< 10	< 10	<10	14	< 2
Nu-199	< 0.01	< 0.5	72.2	20	82.5	< 10	< 10	<10	14	6
Nu-201	< 0.01	< 0.5	15.9	7.5	27.5	< 10	< 10	34	11	3
Nu-207	< 0.01	< 0.5	20.6	7.5	87.5	< 10	< 10	<10	28	4
Nu-208	< 0.01	< 0.5	11.8	12.5	27.5	< 10	< 10	<10	< 10	< 2
Nu-210	< 0.01	< 0.5	12.4	5.0	27.5	< 10	< 10	<10	< 10	< 2
Nu-211	< 0.01	< 0.5	11.3	7.5	25	< 10	< 10	<10	< 10	< 2
Nu-212	< 0.01	< 0.5	7.9	5.0	22.5	< 10	< 10	<10	< 10	< 2
Nu-213	< 0.01	< 0.5	10.6	10	40	< 10	< 10	<10	< 10	< 2
Nu-214	< 0.01	< 0.5	6.9	7.5	25	< 10	< 10	<10	12	3
Nu-215	< 0.01	< 0.5	8.6	17.5	30	< 10	< 10	<10	< 10	< 2
Nu-216	< 0.01	< 0.5	15.7	20	55	< 10	< 10	<10	< 10	3
Nu-217	< 0.01	< 0.5	16.7	22.5	70	< 10	< 10	<10	< 10	< 2
Nu-218	< 0.01	< 0.5	15.4	20	67.5	< 10	< 10	<10	< 10	< 2
Nu-219	< 0.01	< 0.5	8.6	12.5	37.5	< 10	< 10	<10	< 10	< 2
Nu-220	< 0.01	< 0.5	6.7	10	30	< 10	< 10	<10	< 10	< 2
Nu-221	< 0.01	< 0.5	21.9	27.5	67.5	< 10	< 10	<10	< 10	< 2
Nu-222	< 0.01	< 0.5	19.2	22.5	72.5	< 10	< 10	<10	< 10	3
Nu-223	< 0.01	< 0.5	144	27.5	95	< 10	< 10	<10	< 10	< 2
Nu-224	< 0.01	< 0.5	17.9	22.5	67.5	< 10	< 10	<10	< 10	< 2
Nu-224 A	< 0.01	< 0.5	17.3	32.5	80	< 10	< 10	<10	< 10	3
Nu-225	< 0.01	< 0.5	10	15	35	< 10	< 10	<10	< 10	< 2
Nu-226	< 0.01	0.5	4.6	10	17.5	< 10	< 10	<10	18	4
Nu-227	< 0.01	< 0.5	12.1	10	32.5	11.0	< 10	<10	18	3
Nu-228	< 0.01	< 0.5	9.8	7.5	35	< 10	< 10	<10	49	3
Nu-229	< 0.01	< 0.5	6.9	10	35	< 10	< 10	<10	< 10	< 2
Nu-231	< 0.01	< 0.5	18.6	22.5	77.5	< 10	< 10	<10	< 10	< 2
Nu-232	< 0.01	< 0.5	11.6	17.5	50	< 10	< 10	<10	< 10	< 2
Nu-233	< 0.01	< 0.5	29.6	32.5	62.5	< 10	< 10	<10	< 10	2

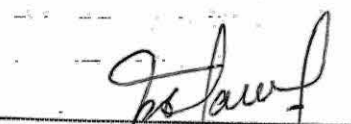
CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-235	< 0.01	< 0.5	2.6	5.0	62.5	< 10	< 10	<10	< 10	< 2
Nu-236	< 0.01	< 0.5	4.2	7.5	27.5	< 10	< 10	<10	< 10	< 2
Nu-237	< 0.01	< 0.5	7.9	7.5	45	< 10	< 10	<10	< 10	< 2
Nu-238	< 0.01	< 0.5	3.7	7.5	20	< 10	< 10	<10	< 10	< 2
Nu-239	< 0.01	< 0.5	15.9	27.5	85	< 10	<10	<10	< 10	< 2
Nu-240	< 0.01	< 0.5	11.8	25	55	< 10	< 10	<10	< 10	< 2
Nu-241	< 0.01	< 0.5	21.9	32.5	110	< 10	< 10	<10	< 10	< 2
Nu-242	< 0.01	< 0.5	11.3	22.5	57.5	< 10	< 10	<10	< 10	< 2
Nu-243	< 0.01	< 0.5	7.8	10	30	< 10	< 10	<10	19	< 2
Nu-244	< 0.01	< 0.5	13.9	22.5	52.5	< 10	< 10	<10	< 10	< 2
Nu-246	< 0.01	< 0.5	15.8	15	77.5	< 10	< 10	<10	< 10	< 2
Nu-248	< 0.01	< 0.5	26.7	32.5	132.5	< 10	< 10	<10	< 10	3
Nu-248 A	< 0.01	< 0.5	30.6	20	125	< 10	< 10	<10	< 10	3
Nu-248 B	< 0.01	< 0.5	38	35	197.5	< 10	< 10	<10	42	3
Nu-249	< 0.01	< 0.5	30.8	30	132.5	< 10	< 10	<10	43	2
Nu-250	< 0.01	< 0.5	23.8	40	87.5	< 10	< 10	<10	< 10	4
Nu-251	< 0.01	< 0.5	15.8	17.5	75	< 10	< 10	<10	< 10	< 2
Nu-252	< 0.01	< 0.5	23.4	20	105	< 10	< 10	<10	< 10	< 2
Nu-253	< 0.01	< 0.5	30.5	40	150	< 10	< 10	<10	< 10	< 2
Nu-254	< 0.01	< 0.5	45.2	25	145	28	< 10	<10	< 10	4
Nu-255	< 0.01	< 0.5	37	40	90	88	< 10	<10	< 10	3
Nu-256	< 0.01	< 0.5	33.8	40	147.5	< 10	< 10	<10	< 10	< 2
Nu-257	< 0.01	< 0.5	25.2	22.5	105	< 10	< 10	<10	< 10	< 2
Nu-259	< 0.01	< 0.5	28.2	35	122.5	< 10	< 10	<10	21	2
Nu-264 A	< 0.01	< 0.5	39.7	57.5	200	< 10	< 10	<10	21	3
Nu-265	< 0.01	< 0.5	36	35	369	< 10	< 10	<10	27	< 2
Nu-265 A	< 0.01	< 0.5	58.8	70	250	< 10	< 10	<10	144	< 2
Nu-266 A	< 0.01	< 0.5	40.4	52.5	205	< 10	< 10	<10	< 10	3
Nu-267	< 0.01	< 0.5	33.7	37.5	145	< 10	< 10	<10	20	< 2
Nu-268	< 0.01	< 0.5	72.4	32.5	569	< 10	< 10	33	26	4
Nu-269	< 0.01	< 0.5	49.8	45	180	86	< 10	<10	11	4
Nu-270	< 0.01	< 0.5	37.3	17.5	195	< 10	< 10	<10	11	6
Nu-271	< 0.01	< 0.5	31.3	42.5	170	< 10	< 10	<10	< 10	< 2

CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-272	< 0.01	< 0.5	20.5	10	80	< 10	< 10	< 10	< 10	4
Nu-273	< 0.01	< 0.5	34.6	35	150	< 10	< 10	< 10	37	3
Nu-274	< 0.01	< 0.5	114.6	25	257.5	102	< 10	16	70	10
Nu-277	< 0.01	< 0.5	29.9	27.5	130	< 10	< 10	< 10	< 10	< 2
Nu-280	< 0.01	< 0.5	4.4	5.0	17.5	< 10	< 10	< 10	< 10	< 2
Nu-281	< 0.01	< 0.5	10	17.5	35	< 10	< 10	< 10	< 10	< 2
Nu-282	< 0.01	< 0.5	4.7	10	30	11	< 10	< 10	< 10	3
Nu-283	< 0.01	< 0.5	9.6	20	62.5	< 10	< 10	< 10	< 10	< 2
Nu-284	< 0.01	< 0.5	9.2	10	30	13	< 10	< 10	< 10	4
Nu-285	< 0.01	< 0.5	8.5	12.5	55	< 10	< 10	< 10	< 10	4
Nu-286	< 0.01	< 0.5	10.5	15	30	11	< 10	< 10	36	< 2
Nu-287	< 0.01	< 0.5	10.9	15	37.5	18	< 10	< 10	48	< 2
Nu-288	< 0.01	< 0.5	10.9	65	67.5	13	< 10	< 10	< 10	4
Nu-289	< 0.01	< 0.5	3.9	5.0	22.5	< 10	< 10	< 10	< 10	< 2
Nu-289 A	< 0.01	< 0.5	14.6	72.5	55	< 10	< 10	< 10	< 10	< 2
Nu-292	< 0.01	< 0.5	5.9	5.0	22.5	< 10	< 10	< 10	< 10	< 2
Nu-293	< 0.01	< 0.5	15.8	17.5	47.5	< 10	< 10	< 10	< 10	< 2
Nu-294	< 0.01	< 0.5	11.2	20	42.5	< 10	< 10	< 10	< 10	< 2
Nu-295	< 0.01	< 0.5	8.1	10	37.5	< 10	< 10	< 10	< 10	< 2
Nu-296	< 0.01	< 0.5	11.5	7.5	32.5	< 10	< 10	< 10	< 10	< 2
Nu-297	< 0.01	< 0.5	10.2	12.5	60	< 10	< 10	< 10	< 10	< 2
Nu-298	< 0.01	< 0.5	7.8	17.5	30	< 10	< 10	< 10	< 10	3
Nu-299	< 0.01	< 0.5	10.8	25	52.5	< 10	< 10	< 10	< 10	< 2
Nu-300	< 0.01	< 0.5	13.6	20	47.5	< 10	< 10	< 10	< 10	2
Nu-301	< 0.01	< 0.5	13.3	12.5	57.5	< 10	< 10	< 10	< 10	< 2
Nu-302	< 0.01	< 0.5	40.8	12.5	42.5	< 10	< 10	< 10	< 10	< 2
Nu-303	< 0.01	< 0.5	8.5	5.0	20	< 10	< 10	< 10	< 10	< 2
Nu-304	< 0.01	< 0.5	12.6	17.5	52.5	< 10	< 10	< 10	< 10	< 2
Nu-305	< 0.01	< 0.5	13.1	12.5	67.5	< 10	< 10	< 10	< 10	< 2
Nu-306	< 0.01	< 0.5	7.6	5.0	35	< 10	< 10	< 10	< 10	3
Nu-307	< 0.01	< 0.5	10.7	10	25	< 10	< 10	< 10	< 10	< 2



CODIGO	Au g/TM	Ag ppm	Pb ppm	Cu ppm	Zn ppm	Sb ppm	Mo ppm	Sn ppm	As ppm	W ppm
Nu-307 A	< 0.01	< 0.5	7.5	15	25	< 10	< 10	< 10	< 10	< 2
Nu-308	< 0.01	< 0.5	10.2	10	37.5	< 10	< 10	< 10	< 10	< 2
Nu-309	< 0.01	< 0.5	12.5	15	65	< 10	< 10	< 10	< 10	< 2
Nu-309 A	< 0.01	< 0.5	24.1	27.5	95	< 10	< 10	< 10	< 10	< 2
Nu-311	< 0.01	< 0.5	9.0	10	40	< 10	< 10	< 10	< 10	< 2
Nu-312	< 0.01	< 0.5	6.4	10	40	< 10	< 10	< 10	< 10	< 2
Nu-313	< 0.01	< 0.5	8.4	5.0	15	< 10	< 10	< 10	< 10	< 2
Nu-314	< 0.01	< 0.5	51.8	2.5	55	< 10	< 10	16	< 10	3
Nu-316	< 0.01	< 0.5	17.3	10	35	< 10	< 10	< 10	< 10	2
Nu-316 A	< 0.01	< 0.5	14.6	7.5	35	< 10	< 10	< 10	< 10	< 2
Nu-318	< 0.01	< 0.5	10.9	5.0	70	< 10	< 10	< 10	< 10	< 2
Nu-319	< 0.01	< 0.5	8.9	7.5	22.5	< 10	< 10	< 10	< 10	< 2
Nu-323	< 0.01	< 0.5	25.8	27.5	110	< 10	< 10	< 10	< 10	3
Nu-323 A	< 0.01	< 0.5	29.6	25	90	< 10	< 10	< 10	< 10	< 2
Nu-324	< 0.01	< 0.5	39.3	47.5	145	< 10	< 10	< 10	18	2
Nu-325	< 0.01	< 0.5	37.1	40	147.5	< 10	< 10	< 10	31	< 2
Nu-326	< 0.01	< 0.5	32	42.5	130	< 10	< 10	< 10	< 10	3
Nu-327	< 0.01	< 0.5	30.1	30	127.5	< 10	< 10	< 10	< 10	< 2
Nu-328	< 0.01	< 0.5	32	12.5	92.5	< 10	< 10	18	< 10	4
Nu-329	< 0.01	< 0.5	37.4	37.5	130	< 10	< 10	< 10	< 10	< 2
Nu-330	< 0.01	< 0.5	27.9	35	132.5	< 10	< 10	< 10	< 10	< 2
Nu-342	< 0.01	< 0.5	3.7	5.0	15	< 10	< 10	< 10	< 10	2
Nu-344	< 0.01	< 0.5	14.8	7.5	30	< 10	< 10	< 10	< 10	< 2
Nu-345	< 0.01	< 0.5	17.5	12.5	55	< 10	< 10	< 10	< 10	< 2
Nu-345 A	< 0.01	< 0.5	17.2	12.5	52.5	< 10	< 10	< 10	< 10	< 2
Nu-346	< 0.01	< 0.5	56.3	15	47.5	< 10	< 10	< 10	< 10	3
Nu-347	< 0.01	< 0.5	50.6	10	57.5	< 10	< 10	< 10	< 10	6
Nu-348	< 0.01	< 0.5	50.1	7.5	65	< 10	< 10	< 10	34	4
Nu-350	< 0.01	< 0.5	157.3	5.0	220	13	< 10	< 10	62	15
Nu-???	< 0.01	< 0.5	22.9	10	40	< 10	< 10	< 10	< 10	3

  
**Ing. R. PAREDES PACHECO**  
 Director de Laboratorio  
 INGEMMET

  
**Quím. MARÍA JARA F.**  
 Laboratorio de Análisis Geoquímico  
 INGEMMET

**INGEMMET**

**MEMORANDUM N°002 -95-DGG/DL**

**Al** : **ING. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **RESULTADO DE ANÁLISIS POR**  
**W, Sn**

**Referencia** : **Memorándum N° 199-95-DPM**

**Fecha** : **Lima, 03 de Enero de 1996**

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*Me dirijo a Usted, a fin de hacerle llegar adjunto al presente los resultados de análisis por W y Sn, procedentes del Cuadrángulo de LIMBANI, solicitado con el documento de la referencia.*

*Atentamente,*

  
Ing. **RUFO PAREDES PACHECO**  
Director de Laboratorio  
**INGEMMET**



SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 199-95-DPM  
SOLICITADO POR : Ing. Manuel Paz M.  
PROCEDENCIA : PUNO - ZONA 29 - X  
PROYECTO : PROSPECCION GEOQUIMICA REGIONAL  
CUADRANGULO "LIMBANI"  
ANALISIS POR : W, Sn  
FECHA : Lima, 31 de Diciembre de 1995


CODIGO	W ppm	Sn ppm
LIM-01	4	< 10
LIM-02	2	< 10
LIM-03	4	< 10
LIM-04	< 2	< 10
LIM-05	< 2	< 10
LIM-06	3	< 10
LIM-07	4	12
LIM-08	6	18
LIM-09	20	< 10
LIM-10	18	< 10
LIM-11	20	< 10
LIM-12	18	11
LIM-13	4	< 10
LIM-14	10	< 10
LIM-15	< 2	< 10
LIM-16	4	< 10
LIM-17	3	< 10
LIM-18	10	< 10
LIM-19	< 2	< 10

CODIGO	W ppm	Sn ppm
LIM-20	12	< 10
LIM-21	4	< 10
LIM-22	4	< 10
LIM-23	25	< 10
LIM-24	< 2	< 10
LIM-25	< 2	< 10
LIM-26	< 2	< 10
LIM-27	< 2	< 10
LIM-28	< 2	< 10
LIM-29	5	15
LIM-30	6	15
LIM-31	7	< 10
LIM-32	4	13
LIM-33	4	21
LIM-34	< 2	11
LIM-35	< 2	< 10
LIM-36	4	< 10
LIM-37	6	< 10
LIM-38	< 2	< 10
LIM-39	4	< 10
LIM-40	4	< 10
LIM-41	< 2	< 10
LIM-42	2	< 10
LIM-43	4	< 10
LIM-44	4	< 10
LIM-45	4	< 10
LIM-46	< 2	< 10
LIM-47	25	< 10
LIM-48	< 2	< 10

CODIGO	W ppm	Sn ppm
LIM-49	4	< 10
LIM-50	< 2	< 10
LIM-51	4	< 10
LIM-52	4	< 10
LIM-53	4	< 10
LIM-54	35	< 10
LIM-55	75	< 10
LIM-56	70	30
LIM-57	30	< 10
LIM-58	8	14
LIM-59	8	< 10
LIM-60	< 2	13
LIM-61	2	< 10
LIM-62	< 2	< 10
LIM-63	4	< 10
LIM-64	< 2	< 10
LIM-65	< 2	< 10
LIM-66	< 2	< 10
LIM-67	30	26
LIM-68	20	28
LIM-69	5	13
LIM-70	7	93
LIM-71	< 2	< 10
LIM-72	< 2	< 10
LIM-73	8	< 10
LIM-74	< 2	< 10
LIM-75	< 2	< 10
LIM-76	< 2	< 10
LIM-77	30	< 10

CODIGO	W ppm	Sn ppm
LIM-78	4	< 10
LIM-79	22	< 10
LIM-80	< 2	< 10
LIM-81	< 2	< 10
LIM-82	2	< 10
LIM-83	5	< 10
LIM-84	4	< 10
LIM-85	12	< 10
LIM-86	4	< 10
LIM-87	12	< 10
LIM-88	4	< 10
LIM-89	< 2	< 10
LIM-90	< 2	< 10
LIM-91	2	< 10
LIM-92	2	< 10
LIM-93	2	< 10
LIM-94	2	< 10
LIM-95	4	< 10
LIM-96	7	17
LIM-97	13	15
LIM-98	< 2	< 10
LIM-99	10	13
LIM-100	8	< 10
LIM-101	7	< 10
LIM-102	2	< 10
LIM-103	6	< 10
LIM-104	10	< 10
LIM-105	2	< 10
LIM-106	6	< 10

CODIGO	W ppm	Sn ppm
LIM-107	4	< 10
LIM-108	< 2	< 10
LIM-109	< 2	< 10
LIM-110	2	< 10
LIM-111	< 2	< 10
LIM-112	< 2	< 10
LIM-113	2	< 10
LIM-114	< 2	< 10
LIM-115	6	< 10

  
Ing. RAYO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

MEMORANDUM N° 291-95-DGG/DL

A : Ing. Manuel Paz Maidana  
Director de Geología Minera

ASUNTO : REPORTE DE ANALISIS QUIMICOS  
CUADRANGULO DE SANDIA Y SAN IGNACIO


REF : Memos. N° 293-95-DPM

FECHA : Lima, 27 de Diciembre de 1995

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Me dirijo a Ud., a fin de hacerle llegar adjunto al presente el resultado de los análisis químicos de 157 muestras procedentes del cuadrángulo de SANDIA Y SAN IGNACIO (29-y) y (29-z), solicitados con el documento de la referencia.

Atentamente,

  
RUFOP PAREDES PACHECO  
Director de Laboratorio  
INGEMMET





SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 293-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROCEDENCIA : Cuadrángulo Sandía y San Ignacio  
ANALISIS POR : Au, Cu, Pb, Zn, Ag, Sb, Sn, As, W, Mo  
FECHA : Lima, 22 de Diciembre de 1995

CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S2 95104	< 0.01	25.0	24.9	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95105	< 0.01	32.5	29.7	110.0	< 0.5	< 10	< 10	20	< 2	< 10
S2 95106	< 0.01	30.0	27.9	122.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95107	< 0.01	30.0	28.7	115.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95108	< 0.01	32.5	16.3	105.0	≤ 5	< 10	< 10	< 10	< 2	< 10
S2 95109	< 0.01	45.0	53.3	122.5	≤ 0.5	< 10	< 10	30	< 2	< 10
S2 95110	< 0.01	32.5	25.0	115.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95111	< 0.01	22.5	24.4	90.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95112	< 0.01	30.0	29.0	112.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95113	< 0.01	30.0	27.5	120.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95114	< 0.01	27.5	28.0	115.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95115	< 0.01	27.5	26.7	100.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95116	< 0.01	30.0	25.9	112.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95117	< 0.01	32.5	37.9	147.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95118	< 0.01	30.0	26.1	120.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95119	< 0.01	35.0	37.7	152.5	< 0.5	< 10	< 10	17	< 2	< 10
S2 95120	< 0.01	30.0	23.5	112.5	0.5	< 10	< 10	10	< 2	< 10
S2 95121	< 0.01	25.0	20.9	92.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95122	< 0.01	17.5	15.7	27.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95123	< 0.01	25.0	23.2	92.5	0.5	< 10	< 10	< 10	< 2	< 10

CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S2-95124	< 0.01	42.5	43.7	152.5	< 0.5	< 10	< 10	11	< 2	< 10
S2-95125	< 0.01	22.5	19.4	82.5	< 0.5	< 10	< 10	< 10	2	< 10
S2-95126	< 0.01	22.5	22.1	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95127	< 0.01	32.5	34.6	127.5	≤ 0.5	< 10	< 10	10	< 2	< 10
S2-95128	< 0.01	27.5	30.1	87.5	0.5	< 10	< 10	< 10	< 2	< 10
S2-95129	< 0.01	47.5	275.6	132.5	0.75	< 10	< 10	11	< 2	< 10
S2-95130	< 0.01	62.5	24.1	80.0	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95131	< 0.01	32.5	35.5	110.0	< 0.5	< 10	< 10	< 10	2	< 10
S2-95132	< 0.01	30.0	23.5	92.5	0.7	< 10	< 10	< 10	< 2	< 10
S2-95133	< 0.01	27.5	20.1	57.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95134	< 0.01	27.5	27.8	100.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95135	< 0.01	20.0	16.0	75.0	≤ 0.5	< 10	< 10	< 10	2	< 10
S2-95136	< 0.01	35.0	26.0	72.5	0.5	< 10	< 10	13	< 2	< 10
S2-95137	< 0.01	30.0	27.4	95.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95138	< 0.01	25.0	21.3	62.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95139	< 0.01	7.5	1.7	12.5	≤ 0.5	< 10	< 10	< 10	2	< 10
S2-95140	< 0.01	27.5	22.9	85.0	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95141	< 0.01	27.5	25.7	102.5	0.5	< 10	< 10	< 10	4	< 10
S2-95142	< 0.01	17.5	11.6	42.5	0.5	30	< 10	< 10	< 2	< 10
S2-95143	< 0.01	30.0	19.3	82.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95144	< 0.01	27.5	16.3	60.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95145	< 0.01	22.5	16.0	42.5	≤ 0.5	< 10	< 10	< 10	2	< 10
S2-95146	< 0.01	27.5	18.5	65.0	0.5	< 10	< 10	< 10	4	< 10
S2-95147	< 0.01	12.5	5.8	22.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95148	< 0.01	25.0	22.5	77.5	0.5	< 10	< 10	< 10	< 2	< 10
S2-95149	< 0.01	17.5	16.4	57.5	≤ 0.5	< 10	< 10	< 10	2	< 10
S2-95150	< 0.01	32.5	22.9	85.0	0.5	< 10	< 10	< 10	4	< 10
S2-95151	< 0.01	25.0	18.0	50.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95152	< 0.01	5.0	1.1	2.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95153	< 0.01	17.5	235.0	100.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95154	< 0.01	20.0	16.2	55.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95155	< 0.01	27.5	22.7	85.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95156	< 0.01	22.5	22.5	97.5	< 0.5	< 10	< 10	< 10	2	< 10

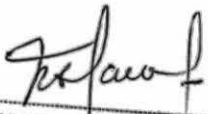
CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S2 95157	< 0.01	7.5	3.1	12.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95158	< 0.01	17.5	8.7	22.5	< 0.5	< 10	53	< 10	< 2	< 10
S2 95159	< 0.01	22.5	24.2	82.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95160	< 0.01	17.5	22.9	75.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95161	< 0.01	27.5	23.5	87.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95162	< 0.01	30.0	19.9	105.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95163	< 0.01	25.0	18.0	60.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95164	< 0.01	20.0	17.8	70.0	0.5	< 10	< 10	< 10	2	< 10
S2 95165	< 0.01	20.0	24.7	75.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95166	< 0.01	20.0	19.3	65.0	0.5	< 10	< 10	< 10	4	< 10
S2 95167	< 0.01	7.5	9.7	22.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95168	< 0.01	17.5	16.2	45.0	0.5	< 10	< 10	< 10	2	< 10
S2 95169	< 0.01	17.5	21.7	87.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95170	< 0.01	17.5	17.5	60.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95171	< 0.01	22.5	25.5	95.0	< 0.5	< 10	< 10	< 10	2	< 10
S2 95172	< 0.01	22.5	20.4	87.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95173	< 0.01	20.0	17.5	42.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95174	< 0.01	22.5	19.3	70.0	< 0.5	< 10	< 10	< 10	2	< 10
S2 95175	< 0.01	22.5	24.2	85.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95176	< 0.01	27.5	23.4	87.5	≤ 0.5	< 10	≤ 10	< 10	< 2	< 10
S2 95177	< 0.01	27.5	34.1	107.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95178	< 0.01	27.5	23.0	87.5	0.5	< 10	< 10	≤ 10	< 2	< 10
S2 95179	< 0.01	27.5	26.8	87.5	0.5	< 10	< 10	< 10	4	< 10
S2 95180	< 0.01	27.5	22.4	85.0	< 0.5	< 10	< 10	< 10	3	< 10
S2 95181	< 0.01	35.0	24.2	72.5	< 0.5	< 10	12.0	13	4	< 10
S2 95182	< 0.01	35.0	26.3	85.0	≤ 0.5	< 10	< 10	10	4	< 10
S2 95183	< 0.01	27.5	20.1	117.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2 95184	< 0.01	25.0	18.8	75.0	≤ 0.5	< 10	< 10	< 10	4	< 10
S2 95185	< 0.01	22.5	16.2	50.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95186	< 0.01	27.5	20.1	85.0	0.5	< 10	< 10	< 10	< 2	< 10
S2 95187	< 0.01	25.0	21.1	87.5	0.5	< 10	< 10	< 10	< 2	< 10
S2 95188	< 0.01	27.5	19.2	87.5	0.5	< 10	< 10	< 10	< 2	< 10
S2 95189	< 0.01	17.5	14.9	55.0	< 0.5	< 10	< 10	< 10	< 2	< 10

CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S2-95190	< 0.01	15.0	24.6	62.5	0.5	< 10	< 10	<10	3	< 10
S2-95191	< 0.01	20.0	22.6	80.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95192	< 0.01	27.5	20.9	87.5	≤ 0.5	≤ 10	< 10	< 10	3	< 10
S2-95193	< 0.01	25.0	31.0	60.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95194	< 0.01	20.0	19.4	70.0	0.5	< 10	< 10	< 10	2	< 10
S2-95195	< 0.01	27.5	21.7	82.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95196	< 0.01	32.5	22.8	115.0	≤ 0.5	< 10	< 10	12	< 2	< 10
S2-95197	< 0.01	27.5	21.7	82.5	0.5	< 10	< 10	< 10	< 2	< 10
S2-95198	< 0.01	27.5	22.0	85.0	0.5	< 10	< 10	< 10	< 2	< 10
S2-95199	< 0.01	27.5	30.2	87.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95200	< 0.01	25.0	22.1	87.5	0.5	< 10	< 10	< 10	< 2	< 10
S2-95201	< 0.01	22.5	22.8	67.5	< 0.5	< 10	< 10	< 10	< 2	< 20
S2-95202	< 0.01	22.5	22.8	75.0	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95203	0.11	47.5	36.6	137.5	≤ 0.5	35	< 10	< 10	< 2	< 10
S2-95204	< 0.01	7.5	7.6	10.0	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95205	< 0.01	35.0	28.7	87.5	< 0.5	< 10	< 10	23	< 2	< 10
S2-95206	< 0.01	25.0	19.7	75.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95207	< 0.01	25.0	19.5	72.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95208	< 0.01	25.0	23.5	62.7	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95209	< 0.01	25.0	18.1	72.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95210	< 0.01	20.0	22.9	77.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95211	< 0.01	22.5	18.4	87.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95212	< 0.01	32.5	16.8	67.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95213	< 0.01	22.5	19.7	70.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95214	< 0.01	22.5	19.8	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95215	< 0.01	25.0	19.6	82.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95216	< 0.01	27.5	18.8	82.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95217	< 0.01	22.5	22.1	97.5	≤ 0.5	< 10	< 10	< 10	< 2	< 10
S2-95218	< 0.01	22.5	21.3	92.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95219	< 0.01	22.5	18.7	80.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95220	< 0.01	17.5	12.6	57.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2-95221	< 0.01	20.0	17.7	70.0	< 0.5	< 10	≤ 10	< 10	< 2	< 10
S2-95222	< 0.01	20.0	16.1	57.5	< 0.5	< 10	< 10	< 10	< 2	< 10

CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S2 95223	< 0.01	20.0	14.4	65.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95224	< 0.01	25.0	29.0	102.5	< 0.5	< 10	≤ 10	< 10	< 2	< 10
S2 95225	< 0.01	20	17.5	72.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95226	< 0.01	17.5	9.2	47.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95227	< 0.01	30.0	23.9	262.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95228	< 0.01	22.5	15.3	70.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95229	< 0.01	22.5	21.5	80.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95230	0.08	15.0	14.6	50.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95231	0.01	25.0	19.6	77.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95232	< 0.01	32.5	23.6	70.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95233	≤ 0.01	27.5	22.2	57.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95234	0.05	25.0	17.6	70.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95235	0.27	47.5	33.3	107.5	< 0.5	610	< 10	26	< 2	< 10
S2 95236	0.04	22.5	18.9	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95237	0.18	55.0	36.5	100.0	< 0.5	309	< 10	17	< 2	< 10
S2 95238	< 0.01	37.5	28.3	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95239	< 0.01	45.0	31.9	62.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95240	< 0.01	37.5	23.5	97.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95241	< 0.01	25.0	21.2	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95242	< 0.01	27.5	19.9	57.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95243	< 0.01	32.5	23.5	80.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95244	< 0.01	30.0	22.3	107.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95245	< 0.01	27.5	21.3	65.0	< 0.5	< 10	< 10	< 10	< 2	< 20
S2 95246	< 0.01	12.5	34.1	10.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95247	< 0.01	25.0	22.1	85.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95248	< 0.01	10.0	13.5	37.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S2 95249	< 0.01	25.0	23.8	82.5	< 0.5	< 10	< 10	12	< 2	< 10
S2 95250	< 0.01	25.0	18.1	92.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S295251	< 0.01	15.0	15.5	50.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S295252	< 0.01	20.0	19.0	82.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S295253	< 0.01	32.5	20.4	45.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S295254	< 0.01	12.5	17.2	50.0	≤ 0.5	< 10	≤ 10	< 10	< 2	< 10
S295255	< 0.01	12.5	20.5	75.0	< 0.5	< 10	< 10	< 10	< 2	< 10

CODIGO	Au g/TM	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	Sn ppm	As ppm	W ppm	Mo ppm
S295256	< 0.01	22.5	20.1	75.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S295257	< 0.01	10.0	4.6	15.0	< 0.5	< 10	< 10	< 10	< 2	< 10
S295258	< 0.01	7.5	14.1	57.5	< 0.5	< 10	62.0	< 10	< 2	< 10
S295259	< 0.01	20.0	18.8	72.5	< 0.5	< 10	< 10	< 10	< 2	< 10
S295260	< 0.01	35.0	20.3	45.0	< 0.5	< 10	< 10	< 10	< 2	< 10



  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

26 DIC

Recibido

INGEMMET

MEMORANDUM Nº 344-95-DPM

**Al** : **Director de Laboratorios**

**Asunto** : **Análisis Geoquímico muestras del Cuadrángulo de Macusani (29-v)**

**Fecha** : **Lima, 26 de Diciembre de 1995.**

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*Remitimos a Ud. 21 muestras de rock chips, (8 muestras de la Primera Campaña y 13 muestras de la Segunda Campaña) correspondientes a la prospección geoquímica del Cuadrángulo de Macusani para que se efectue el análisis geoquímico respectivo por los siguientes elementos:*

*Cu, Pb, Zn, Ag, Sb, Sn, As, Au, W y Mo (10 elementos).*

*Adjunto al presente la relación de las muestras.*

*Atentamente,*

cc. 94203 (29-v)

  
\_\_\_\_\_  
ING. MANUEL PAZ MAIDANA  
Director de Prospección Minera  
INGEMMET

# RELACION DE MUESTRAS DE ROCK CHIPS

## Primera Campaña

1 MAV	29002
2 MAV	29004
3 MAV	29012
4 MAV	29018
5 MAV	29024
6 MAV	29034
7 MAV	29081
8 MAV	29170

## Segunda Campaña

1 MAV	29177
2 MAV	29178
3 MAV	29179
4 MAV	29365
5 MAV	29366
6 MAV	29367
7 MAV	29368
8 MAV	29369
9 MAV	29370
10 MAV	29371
11 MAV	29372
12 MAV	29373
13 MAV	29374





INGEMMET

19 12 1995

Recibido \_\_\_\_\_ Hora \_\_\_\_\_  
Reg. \_\_\_\_\_

MEMORANDUM Nº 338-95-DPM

**Al** : **Director de Laboratorios**

**Asunto** : **Análisis Geoquímico muestras del Cuadrángulo de Sandia (29-y)**

**Fecha** : **Lima, 19 de Diciembre de 1995.**

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*Remitimos a Ud. 99 muestras de sedimentos de quebrada, y 04 muestras de roca correspondientes a la prospección geoquímica del Cuadrángulo de Sandia para que se efectue el análisis geoquímico respectivo por los siguientes elementos:*

*Cu, Pb, Zn, Ag, Sb, Sn, As, Au, W y Mo (10 elementos).*

*Adjunto al presente la relación de las muestras.*

*Atentamente,*

cc. 94203 (29-y)

  
\_\_\_\_\_  
ING. MANUEL PAZ MAIDANA  
Director de Prospección Minera  
INGEMMET

RELACION DE MUESTRAS PARA ANALISIS GEOQUIMICO

CUADRANGULO SANDIA - 29 y

S395261	S395301	S395341
S395262	S395302	S395342
S395263	S395303	S395343
S395264	S395304	S395344
S395265	S395305	S395345
S395266	S395306	S395346
S395267	S395307	S395347
S395268	S395308	S395348 **
S395269	S395309	S395349
S395270	S395310	S395350
S395271	S395311	S395351
S395272	S395312	S395352
S395273	S395313	S395353 **
S395274	S395314	S395354
S395275	S395315	S395355
S395276	S395316	S395356 **
S395277	S395317	S395357
S395278	S395318	S395358
S395279	S395319	S395359
S395280	S395320	S395360
S395281	S395321	S395361
S395282	S395322	S395362
S395283	S395323	S395363 **
S395284	S395324	
S395285	S395325	
S395286	S395326	
S395287	S395327	
S395288	S395328	
S395289	S395329	
S395290	S395330	
S395291	S395331	
S395292	S395332	
S395293	S395333	
S395294	S395334	
S395295	S395335	
S395296	S395336	
S395297	S395337	
S395298	S395338	
S395299	S395339	
S395300	S395340	

\*\* Muestras de roca

INGEMMET

MEMORANDUM Nº 331-95-DPM

INSTITUTO GEOLOGICO MINERO  
Y METALURGICO  
Dirección de Laboratorios

30 NOV 1995

Recibido \_\_\_\_\_ Hora \_\_\_\_\_

**Al** : **Director de Laboratorios**

**Asunto** : **Análisis Geoquímico muestras del Cuadrángulo de Macusani (29-v)**

**Fecha** : **Lima, 29 de Noviembre de 1995.**

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*Remitimos a Ud. 191 muestras de sedimentos de quebrada, correspondientes a la prospección geoquímica del Cuadrángulo de Macusani para que se efectue el análisis geoquímico respectivo por los siguientes elementos:*

*Cu, Pb, Zn, Ag, Sb, Sn, As, Au, W y Mo (10 elementos).*

*Adjunto al presente la relación de las muestras.*

*Atentamente,*

cc. 94203 (29-v)

  
\_\_\_\_\_  
ING. MANUEL PAZ MAIDANA  
Director de Prospección Minera  
INGEMMET

RELACION DE MUESTRAS DE SEDIMENTOS  
MACUSANI V 29

1 MAV 29171	54 MAV 29227	107 MAV 29280	160 MAV 29333
2 MAV 29172	55 MAV 29228	108 MAV 29281	161 MAV 29334
3 MAV 29173	56 MAV 29229	109 MAV 29282	162 MAV 29335
4 MAV 29174	57 MAV 29230	110 MAV 29283	163 MAV 29336
5 MAV 29175	58 MAV 29231	111 MAV 29284	164 MAV 29337
6 MAV 29176	59 MAV 29232	112 MAV 29285	165 MAV 29338
7 MAV 29180	60 MAV 29233	113 MAV 29286	166 MAV 29339
8 MAV 29181	61 MAV 29234	114 MAV 29287	167 MAV 29340
9 MAV 29182	62 MAV 29235	115 MAV 29288	168 MAV 29341
10 MAV 29183	63 MAV 29236	116 MAV 29289	169 MAV 29342
11 MAV 29184	64 MAV 29237	117 MAV 29290	170 MAV 29343
12 MAV 29185	65 MAV 29238	118 MAV 29291	171 MAV 29344
13 MAV 29186	66 MAV 29239	119 MAV 29292	172 MAV 29345
14 MAV 29187	67 MAV 29240	120 MAV 29293	173 MAV 29346
15 MAV 29188	68 MAV 29241	121 MAV 29294	174 MAV 29347
16 MAV 29189	69 MAV 29242	122 MAV 29295	175 MAV 29348
17 MAV 29190	70 MAV 29243	123 MAV 29296	176 MAV 29349
18 MAV 29191	71 MAV 29244	124 MAV 29297	177 MAV 29350
19 MAV 29192	72 MAV 29245	125 MAV 29298	178 MAV 29351
20 MAV 29193	73 MAV 29246	126 MAV 29299	179 MAV 29352
21 MAV 29194	74 MAV 29247	127 MAV 29300	180 MAV 29353
22 MAV 29195	75 MAV 29248	128 MAV 29301	181 MAV 29354
23 MAV 29196	76 MAV 29249	129 MAV 29302	182 MAV 29355
24 MAV 29197	77 MAV 29250	130 MAV 29303	183 MAV 29356
25 MAV 29198	78 MAV 29251	131 MAV 29304	184 MAV 29357
26 MAV 29199	79 MAV 29252	132 MAV 29305	185 MAV 29358
27 MAV 29200	80 MAV 29253	133 MAV 29306	186 MAV 29359
28 MAV 29201	81 MAV 29254	134 MAV 29307	187 MAV 29360
29 MAV 29202	82 MAV 29255	135 MAV 29308	188 MAV 29361
30 MAV 29203	83 MAV 29256	136 MAV 29309	189 MAV 29362
31 MAV 29204	84 MAV 29257	137 MAV 29310	190 MAV 29363
32 MAV 29205	85 MAV 29258	138 MAV 29311	191 MAV 29364
33 MAV 29206	86 MAV 29259	139 MAV 29312	
34 MAV 29207	87 MAV 29260	140 MAV 29313	
35 MAV 29208	88 MAV 29261	141 MAV 29314	
36 MAV 29209	89 MAV 29262	142 MAV 29315	
37 MAV 29210	90 MAV 29263	143 MAV 29316	
38 MAV 29211	91 MAV 29264	144 MAV 29317	
39 MAV 29212	92 MAV 29265	145 MAV 29318	
40 MAV 29213	93 MAV 29266	146 MAV 29319	
41 MAV 29214	94 MAV 29267	147 MAV 29320	
42 MAV 29215	95 MAV 29268	148 MAV 29321	
43 MAV 29216	96 MAV 29269	149 MAV 29322	
44 MAV 29217	97 MAV 29270	150 MAV 29323	
45 MAV 29218	98 MAV 29271	151 MAV 29324	
46 MAV 29219	99 MAV 29272	152 MAV 29325	
47 MAV 29220	100 MAV 29273	153 MAV 29326	
48 MAV 29221	101 MAV 29274	154 MAV 29327	
49 MAV 29222	102 MAV 29275	155 MAV 29328	
50 MAV 29223	103 MAV 29276	156 MAV 29329	
51 MAV 29224	104 MAV 29277	157 MAV 29330	
52 MAV 29225	105 MAV 29278	158 MAV 29331	
53 MAV 29226	106 MAV 29279	159 MAV 29332	

MEMORANDUM N°258-95-DGG/DL

**Ai** : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **Reporte de Análisis Químico**  
**PROYECTO AURIFERO MIMA**

**Referencia** : **Memorándum N° 312-95-DPM**

**Fecha** : **Lima, 23 de Noviembre 1995**

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Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos por Au de 52 muestras, procedentes del Proyecto Aurífero MIMA, solicitado con el documento de la referencia.

Atentamente,

  
Ing. RUFINO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET





**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGENMET**

**DIRECCION DE LABORATORIOS**  
 (LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N°312-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz M.  
 PROCEDENCIA : DPTO. DE MADRE DE DIOS  
 PROYECTO : AURIFERO - MIMA  
 ANALISIS POR : Au  
 FECHA : Lima, 23 de Noviembre de 1995

CLAVE	PESO ORIGINAL DE GRAVA AURIFERA (Kg)	PESO DEL CONCENTRADO SECO (Kg)	CONCENTRADO Au g/TM	GRAVA Au g/M <sup>3</sup>
5BMD-Au 42	116.50	0.198	73.84	0.326
5BMD-Au 43	120.60	0.097	40.0	0.084
5BMD-Au 44	115.15	0.481	58.0	0.630
5BMD-Au 45	57.15	0.059	22.67	0.061
5BMD-Au 46	62.10	0.129	124.70	0.674
5BMD-Au 47	118.40	0.087	51.33	0.098
5BMD-Au 48	115.20	0.377	30.67	0.261
5BMD-Au 49	106.95	0.257	27.33	0.171
5BMD-Au 50	109.60	0.111	30.50	0.081
5BMD-Au 51	107.30	0.104	39.0	0.098
5BMD-Au 52	108.30	0.191	35.0	0.161
5BMD-Au 53	101.05	0.283	15.67	0.114
5BMD-Au 54	110.40	0.424	54.0	0.539
5BMD-Au 55	95.50	0.150	53.33	0.218
5BMD-Au 56	105.65	0.289	141.66	1.008
5BMD-Au 57	111.90	0.205	59.33	0.283
5BMD-Au 58	104.50	0.334	21.67	0.180
5BMD-Au 59	51.65	0.225	23.0	0.260
5BMD-Au 60	54.10	0.111	24.33	0.130

CLAVE	PESO ORIGINAL DE GRAVA AURIFERA	PESO DEL CONCENTRADO SECO (Kg)	CONCENTRADO Au g/TM	GRAVA Au g/M <sup>3</sup>
SBMD-Au 61	111.95	0.152	64.33	0.227
SBMD-Au 62	57.80	0.174	204.67	1.602
SBMD-Au 63	53.85	0.090	47.33	0.206
SBMD-Au 64	54.30	0.163	295.33	2.305
SBMD-Au 65	54.30	0.114	26.0	0.142
SBMD-Au 66	53.90	0.078	34.65	0.190
SBMD-Au 67	99.40	1.528	4.10	0.147
SBMD-Au 68	100.50	0.187	9.67	0.047
SBMD-Au 69	82.40	0.132	103.33	0.416
SBMD-Au 70	81.90	0.155	106.67	0.525
SBMD-Au 71	81.90	0.153	127.33	0.619
SBMD-Au 72	54.10	0.243	37.67	0.440
SBMD-Au 73	117.10	0.311	29.0	0.200
SBMD-Au 74	113.70	0.245	46.0	0.258
SBMD-Au 75	28.00	0.076	43.0	0.303
SBMD-Au 76	79.50	0.179	42.67	0.250
SBMD-Au 77	104.20	0.148	26.0	0.096
SBMD-Au 78	68.00	0.196	118.0	0.884
SBMD-Au 79	74.50	0.132	226.0	1.040
SBMD-Au 80	107.60	0.167	116.33	0.469
SBMD-Au 81	42.40	0.301	43.0	0.794
SBMD-Au 82	77.40	0.437	13.0	0.191
SBMD-Au 83	103.50	0.189	30.33	0.144
SBMD-Au 84	103.75	0.326	29.67	0.242
SBMD-Au 85	64.40	0.224	14.67	0.133
SBMD-Au 86	76.50	0.814	71.0	1.964
SBMD-Au 87	75.05	0.104	44.67	0.161
SBMD-Au 88	72.10	0.243	71.67	0.628
SBMD-Au 89	70.70	0.234	64.0	0.608
SBMD-Au 90	78.40	0.192	51.33	0.327
SBMD-Au 91	69.30	0.150	19.67	0.111
SBMD-Au 92	77.40	0.131	142.33	0.626
SBMD-Au 93	78.70	0.356	35.67	0.420



*Maria Jara F.*

Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

**MEMORANDUM N° 256-95-DGG/DL**

**AL :** Ing. Manuel Paz Maidana  
Director de Prospección Minera

**ASUNTO :** RESULTADO DE ANALISIS ELEMENTAL  
POR ESPECTROGRAFIA DE EMISION

**FECHA :** Lima, 22 de Noviembre de 1995

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Me dirijo a Ud. a fin de hacerle llegar adjunto al presente los resultados de análisis elemental por espectrografía de emisión de 04 muestras procedentes del Proyecto MIMA, solicitada con Memo. N°327-95-DPM.



Atentamente,

  
Ing° RUF0 PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



# DIRECCION DE LABORATORIOS

## ANALISIS ELEMENTAL POR ESPECTROGRAFIA DE EMISION

### REPORTE N° 026-95-DL-LEM

SOLICITADO POR : MEMORANDUM N° 327-95-DPM  
PROCEDENTE : Proyecto Aurífero MIMA  
N° DE MUESTRAS : 04  
FECHA : Lima 22 de Noviembre de 1995

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### RESULTADOS :

Muestra 5BMD-Au 38 :

Elementos mayores : Fe, Si, Al, Mg  
Elementos medios : Mn, Sn, V, Ti, Ca  
Elementos menores : Pb, Cr, Ta, Ag, Hf, Cd, Th, Ni, Sc,  
As, Eu, Lu, In, Au, Mo, Cu, Sb, Zr,  
Zn, Yt, Co, Ce, Sm, Tm, Yb, La, Li

Muestra 5BMD-Au 42 :

Elementos mayores : Fe, Si, Al, Mg  
Elementos medios : Mn, Sn, V, Ti, Ca  
Elementos menores : Pb, Cr, Ta, Ag, Hf, Cd, Th, Ni, Sc,  
As, Eu, Lu, In, Au, Mo, Cu, Sb, Zr,  
Zn, Yt, Co, Ce, Sm, Tm, Yb, La, Li

Muestra 5BMD- Au 62 :

Elementos mayores : Fe, Si, Al, Mg  
Elementos Medios : Mn, Sn, V, Ti, Ca  
Elementos menores : Pb, Cr, Ta, Ag, Hf, Cd, Th, Ni, Sc,  
As, Eu, Lu, In, Au, Mo, Cu, Sb, Zr,  
Zn, Yt, Co, Ce, Sm, Tm, Yb, La, Li

Muestra 5BMD- Au 69 :

Elementos mayores : Fe, Si, Al, Mg  
Elementos medios : Mn, Sn, V, Ti, Ca  
Elementos menores : Pb, Cr, Ta, Ag, Hf, Cd, Th, Ni, Sc,  
As, Eu, Lu, In, Au, Mo, Cu, Sb, Zr,  
Zn, Yt, Co, Ce, Sm, Tm, Yb, La, Li



  
Espec. PALERMO CARRASCO G.  
Labs. de Rayos X y Anals. Multielemental  
INGEMMET

**INGEMMET**

MEMORANDUM N°250-95-DGG/DL

*Al* : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

*Asunto* : **Reporte de Análisis Químico**  
**PROYECTO AURIFERO MIMA**

*Referencia* : **Memorándum N° 298-95-DPM**

*Fecha* : **Lima, 16 de Noviembre 1995**

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*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos de 75 muestras, procedentes del Proyecto Aurífero MIMA, solicitado con el documento de la referencia.*

*Atentamente,*

*16/11/95*

*DPM Paredes  
16/11/95*

  
Ing. **RUFO PAREDES PACHECO**  
Director de Laboratorio  
**INGEMMET**



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGENMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N°298-95-DPM  
SOLICITADO POR : Ing. Manuel Paz M.  
PROCEDENCIA : DPTO. DE MADRE DE DIOS  
PROYECTO : AURIFERO - MIMA  
ANALISIS POR : Hg (AGUAS)  
FECHA : Lima, 16 de Noviembre de 1995

<b>CODIGO</b>	<b>Hg µg/L</b>
5BMD-HGA-70	< 0.5
5BMD-HGA-72	< 0.5
5BMD-HGA-75	< 0.5
5BMD-HGA-78	< 0.5
5BMD-HGA-79	< 0.5
5BMD-HGA-83	< 0.5
5BMD-HGA-84	< 0.5
5BMD-HGA -89	< 0.5
5BMD-HGA -90	< 0.5
5BMD-HGA -94	< 0.5
5BMD-HGA -96	< 0.5
5BMD-HGA -98	< 0.5
5BMD-HGA-101	< 0.5
5BMD-HGA-104 a	53.9
5BMD-HGA-104 b	89
5BMD-HGA-106	< 0.5
5BMD-HGA-108	< 0.5
5BMD-HGA-110	1.4
5BMD-HGA-113	< 0.5
5BMD-HGA-115	< 0.5

<b>CODIGO</b>	<b>Hg µg/L</b>
<b>5BMD-HGA-118</b>	< 0.5
<b>5BMD-HGA-121</b>	< 0.5
<b>5BMD-HGA-124</b>	< 0.5
<b>5BMD-HGA-127</b>	< 0.5
<b>5BMD-HGA-129</b>	< 0.5
<b>5BMD-HGA-130</b>	< 0.5
<b>5BMD-HGA-132</b>	< 0.5
<b>5BMD-HGA-134</b>	< 0.5
<b>5BMD-HGA-136</b>	< 0.5
<b>5BMD-HGA-137</b>	< 0.5
<b>5BMD-HGA-142</b>	< 0.5
<b>5BMD-HGA-144</b>	< 0.5
<b>5BMD-HGA-147</b>	< 0.5
<b>5BMD-HGA-150</b>	< 0.5

**NOTA:** Todas las muestras de aguas se analizaron por duplicado (de los 2 frascos).



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N°298-95-DPM  
SOLICITADO POR : Ing. Manuel Paz M.  
PROCEDENCIA : DPTO. DE MADRE DE DIOS  
PROYECTO : AURIFERO - MIMA  
ANALISIS POR : Hg (MATERIA ORGANICA)  
FECHA : Lima, 16 de Noviembre de 1995

<b>CODIGO</b>	<b>Hg mg/kg</b>
5BMD-HGO-73	0.240
5BMD-HGO-76	0.040
5BMD-HGO-81	0.030
5BMD-HGO-86	0.165
5BMD-HGO-93	0.090
5BMD-HGO-100	0.120
5BMD-HGO-103	0.090
5BMD-HGO-111	0.070
5BMD-HGO-116	0.120
5BMD-HGO-120	0.030
5BMD-HGO-125	0.030
5BMD-HGO-128	0.163
5BMD-HGO-131	0.395
5BMD-HGO-135	0.100
5BMD-HGO-139	0.104
5BMD-HGO-141	0.098
5BMD-HGO-143	0.083
5BMD-HGO-145	0.010
5BMD-HGO-146	0.290



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N°298-95-DPM  
SOLICITADO POR : Ing. Manuel Paz M.  
PROCEDENCIA : DPTO. DE MADRE DE DIOS  
PROYECTO : AURIFERO - MIMA  
ANALISIS POR : Hg (SEDIMENTOS)  
FECHA : Lima, 16 de Noviembre de 1995

<b>CODIGO</b>	<b>Hg mg/Kg</b>
5BMD-HGS-69	0.195
5BMD-HGS-71	0.120
5BMD-HGS-74	0.620
5BMD-HGS-77	0.140
5BMD-HGS-80	0.100
5BMD-HGS-82	0.120
5BMD-HGS-85	0.440
5BMD-HGS-87	0.130
5BMD-HGS-88	0.100
5BMD-HGS-91	0.160
5BMD-HGS-92	0.100
5BMD-HGS-95	0.590
5BMD-HGS-97	0.607
5BMD-HGS-99	0.185
5BMD-HGS-102	0.120
5BMD-HGS-105	2.560
5BMD-HGO-107	0.290
5BMD-HGS-109	0.390
5BMD-HGS-112	0.200

CODIGO	Hg mg/Kg
5BMD-HGS-114	0.170
5BMD-HGS-117	0.190
5BMD-HGS-119	0.190
5BMD-HGS-122	0.130
5BMD-HGS-123	0.110
5BMD-HGS-126	0.130
5BMD-HGS-133	0.310
5BMD-HGS-138	0.820
5BMD-HGS-140	0.720
5BMD-HGS-148	16.600
5BMD-HGS-149	0.290

  
Ing. ROLFO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET





**INGEMMET**

MEMORANDUM N°235-A-95-DGG/DL

**Al** : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **Reporte de Análisis Químico**  
**CUADRANGULO MACUSANI (29-y)**

**Referencia** : **Memorándum N° 242-95-DPM**


**Fecha** : **Lima, 31 de Octubre 1995**

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Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos de 162 muestras, procedentes del Cuadrángulo MACUSANI (29-y), solicitado con el documento de la referencia.

Atentamente,

6/11/95  
Recibido  
6/11/95  
DPH

  
Ing° LUIS PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N° 242-95-DCGN  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROYECTO : CUADRANGULO MACUSANI  
ANALISIS POR : Cu, Pb, Zn, Ag, Sb, As, Mo, W, Sn, Au  
FECHA : Lima, 20 de Octubre de 1995

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
1. MAV 29001	5.0	30.2	78.0	< 0.5	< 10	30	11.0	4	36.0	< 0.01
2. MAV 29003	2.5	47.5	55.0	< 0.5	< 10	< 10	< 10	14	100	< 0.01
3. MAV 29005	5.0	22.0	92.5	< 0.5	< 10	< 10	13.7	8	12.0	< 0.01
4. MAV 29006	7.5	12.0	70.0	< 0.5	< 10	< 10	< 10	8	11.5	< 0.01
5. MAV 29007	5.0	6.3	42.5	< 0.5	< 10	< 10	< 10	6	6.5	< 0.01
6. MAV 29008	5.0	12.9	65.0	< 0.5	< 10	< 10	< 10	3	9.0	< 0.01
7. MAV 29009	42.5	44.6	410.0	< 0.5	< 10	30	11.0	6	7.0	< 0.01
8. MAV 29010	5.0	58.2	87.5	< 0.5	15	< 10	< 10	4	2.0	< 0.01
9. MAV 29011	5.0	15.0	77.5	< 0.5	< 10	< 10	< 10	< 2	11.0	< 0.01
10. MAV 29013	7.5	20.1	127.5	< 0.5	< 10	< 10	< 10	3	5.0	< 0.01
11. MAV 29014	5.0	43.7	102.5	< 0.5	< 10	< 10	< 10	4	67.0	< 0.01
12. MAV 29015	15.0	35.4	152.5	< 0.5	< 10	< 10	< 10	4	33.0	< 0.01
13. MAV 29016	25.0	29.6	170.0	< 0.5	< 10	< 10	< 10	2	24.5	< 0.01
14. MAV 29017	15.0	11.3	95.0	< 0.5	< 10	< 10	< 10	2	7.5	< 0.01
15. MAV 29019	10.0	14.0	32.0	< 0.5	< 10	< 10	< 10	4	2.0	< 0.01
16. MAV 29020	15.0	17.8	70.0	< 0.5	< 10	< 10	< 10	< 2	10.0	< 0.01
17. MAV 29021	17.5	18.4	67.5	< 0.5	< 10	< 10	< 10	6	10.0	< 0.01
18. MAV 29022	20.0	18.5	95.0	< 0.5	< 10	< 10	< 10	4	4.0	< 0.01
19. MAV 29023	15.0	19.1	67.5	< 0.5	< 10	< 10	< 10	4	9.0	< 0.01

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
20. MAV 29025	45.0	10.2	77.5	< 0.5	< 10	< 10	< 10	2	6.5	< 0.01
21. MAV 29026	20.0	14.5	105.0	< 0.5	< 10	< 10	< 10	2	9.0	< 0.01
22. MAV 29027	22.5	18.5	105.0	< 0.5	< 10	< 10	< 10	4	7.5	< 0.01
23. MAV 29028	12.5	11.8	72.5	< 0.5	< 10	< 10	< 10	4	7.5	< 0.01
24. MAV 29029	15.0	16.2	55.0	< 0.5	< 10	< 10	< 10	< 2	3.5	< 0.01
25. MAV 29030	10.0	17.3	70.0	< 0.5	38	< 10	< 10	4	36.0	< 0.01
26. MAV 29031	15.0	32.9	80.0	< 0.5	12	< 10	< 10	3	8.5	< 0.01
27. MAV 29032	27.5	98.5	337.5	< 0.5	< 10	< 10	< 10	6	20.0	< 0.01
28. MAV 29033	27.5	54.0	475.0	< 0.5	< 10	12	< 10	4	132.5	< 0.01
29. MAV 29035	12.5	26.2	97.5	< 0.5	< 10	< 10	< 10	< 2	4.5	< 0.01
30. MAV 29036	10.0	19.4	70.0	< 0.5	< 10	< 10	< 10	< 2	7.5	< 0.01
31. MAV 29037	10.0	16.3	62.5	< 0.5	< 10	< 10	< 10	3	17.0	< 0.01
32. MAV 29038	10.0	9.7	27.5	< 0.5	< 10	< 10	< 10	2	7.5	< 0.01
33. MAV 29039	10.0	12.5	37.5	< 0.5	< 10	< 10	< 10	6	6.0	< 0.01
34. MAV 29040	7.5	9.0	77.5	< 0.5	< 10	< 10	< 10	5	11.5	< 0.01
35. MAV 29041	6.0	14.0	60.0	< 0.5	< 10	< 10	< 10	6	6.0	< 0.01
36. MAV 29042	12.5	23.6	70.0	< 0.5	< 10	< 10	< 10	4	10.0	< 0.01
37. MAV 29043	12.5	13.5	45.0	< 0.5	35	< 10	< 10	6	4.5	< 0.01
38. MAV 29044	7.5	17.2	87.5	< 0.5	< 10	< 10	13.8	8	9.0	< 0.01
39. MAV 29045	7.5	11.4	92.5	< 0.5	< 10	< 10	< 10	8	11.5	< 0.01
40. MAV 29046	10.0	16.2	70.0	< 0.5	< 10	< 10	< 10	4	6.0	< 0.01
41. MAV 29047	7.5	16.3	77.5	< 0.5	< 10	< 10	13.8	9	9.5	< 0.01
42. MAV 29048	5.0	11.4	40.0	< 0.5	< 10	< 10	< 10	3	3.0	< 0.01
43. MAV 29049	5.0	15.3	77.5	< 0.5	< 10	< 10	< 10	10	25.0	< 0.01
44. MAV 29050	12.5	17.0	90.0	< 0.5	< 10	< 10	< 10	6	16.0	< 0.01
45. MAV 29051	15.0	18.6	65.0	< 0.5	< 10	< 10	< 10	3	9.0	< 0.01
46. MAV 29052	22.5	11.3	37.5	< 0.5	< 10	30	< 10	< 2	4.0	< 0.01
47. MAV 29053	20.0	17.3	127.5	< 0.5	< 10	< 10	< 10	3	45.0	< 0.01
48. MAV 29054	7.5	8.5	35.0	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
49. MAV 29055	5.0	12.8	25	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
50. MAV 29056	5.0	7.3	45.0	< 0.5	< 10	< 10	< 10	4	5.0	< 0.01

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
51. MAV 29057	12.5	12.9	85.0	< 0.5	< 10	30	< 10	3	16.0	< 0.01
52. MAV 29058	22.5	13.5	27.5	< 0.5	< 10	< 10	< 10	4	3.0	< 0.01
53. MAV 29059	10.0	12.9	17.5	< 0.5	< 10	< 10	< 10	2	15.0	< 0.01
54. MAV 29060	2050.0	2137.0	2950.0	28.0	30	1280	< 10	100	7,000.0	0.025
55. MAV 29061	7.5	23.3	65.0	< 0.5	< 10	< 10	< 10	< 2	19.0	< 0.01
56. MAV 29062	7.5	10.5	30.0	< 0.5	< 10	< 10	< 10	3	6.0	< 0.01
57. MAV 29063	12.5	42.0	776.3	< 0.5	13.5	< 10	< 10	3	56.0	< 0.01
58. MAV 29064	2.5	42.9	55.0	< 0.5	< 10	< 10	< 10	18	92	< 0.01
59. MAV 29065	5.0	33.0	107.5	< 0.5	< 10	< 10	< 10	4	42.0	< 0.01
60. MAV 29066	10.0	13.7	95.0	< 0.5	< 10	< 10	< 10	4	39.5	< 0.01
61. MAV 29067	10.0	50.6	145.0	< 0.5	< 10	< 10	< 10	< 2	16.0	< 0.01
62. MAV 29068	7.5	11.7	125.0	< 0.5	< 10	< 10	< 10	2	6.0	< 0.01
63. MAV 29069	7.5	17.1	92.5	< 0.5	< 10	< 10	< 10	6	13.0	< 0.01
64. MAV 29070	7.5	11.3	92.5	< 0.5	< 10	< 10	< 10	8	10.5	< 0.01
65. MAV 29071	5.0	14.6	55.0	< 0.5	< 10	< 10	< 10	2	6.0	< 0.01
66. MAV 29072	5.0	15.2	80.0	< 0.5	< 10	< 10	< 10	2	12.0	< 0.01
67. MAV 29073	30.0	13.5	57.5	< 0.5	< 10	< 10	< 10	2	5.0	< 0.01
68. MAV 29074	10.0	10.2	37.5	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
69. MAV 29075	10.0	5.5	25.0	< 0.5	< 10	< 10	< 10	< 2	3.5	< 0.01
70. MAV 29076	7.5	8.7	27.5	< 0.5	< 10	< 10	< 10	3	10.5	< 0.01
71. MAV 29077	7.5	19.1	62.5	< 0.5	< 10	31	< 10	< 2	33.0	< 0.01
72. MAV 29078	15.0	14.5	50.0	< 0.5	< 10	< 10	< 10	3	7.0	< 0.01
73. MAV 29079	10.0	12.5	30.0	< 0.5	< 10	< 10	< 10	< 2	2.5	< 0.01
74. MAV 29080	10.0	21.2	42.5	< 0.5	< 10	< 10	< 10	2	6.0	< 0.01
75. MAV 29082	25.0	0.47	32.5	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
76. MAV 29083	22.5	15.6	65.0	< 0.5	< 10	< 10	< 10	3	10.5	< 0.01
77. MAV 29084	17.5	21.9	42.5	< 0.5	< 10	< 10	< 10	2	5.0	< 0.01
78. MAV 29085	152.5	157.5	150.0	< 0.5	21.5	133	< 10	9	700.0	< 0.01
79. MAV 29086	17.5	41.7	287.5	< 0.5	< 10	< 10	< 10	3	30.0	< 0.01
80. MAV 29087	17.5	32.6	65.0	< 0.5	< 10	< 10	< 10	3	9.5	< 0.01
81. MAV 29088	12.5	15.5	35.0	< 0.5	< 10	< 10	< 10	4	10.5	< 0.01

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
82. MAV 29089	45.0	22.0	47.5	< 0.5	< 10	< 10	< 10	4	395.0	< 0.01
83. MAV 29090	12.5	14.4	37.5	< 0.5	< 10	< 10	< 10	5	3.5	< 0.01
84. MAV 29091	12.5	17.7	35.0	< 0.5	< 10	< 10	< 10	8	16.0	< 0.01
85. MAV 29092	10.0	18.7	35.0	< 0.5	< 10	< 10	< 10	10	11.5	< 0.01
86. MAV 29093	12.5	9.0	22.5	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
87. MAV 29094	17.5	58.9	122.5	< 0.5	< 10	48	< 10	2	26.0	< 0.01
88. MAV 29095	10.0	26.4	95.0	< 0.5	< 10	< 17	< 10	2	36.0	< 0.01
89. MAV 29096	1262.5	112.3	362.5	2.0	24	349	< 10	40	12,600.0	< 0.01
90. MAV 29097	15.0	27.6	72.5	< 0.5	< 10	< 10	< 10	< 2	35.0	< 0.01
91. MAV 29098	12.5	22.4	75.0	< 0.5	< 10	< 10	< 10	< 2	11.5	< 0.01
92. MAV 29099	12.5	12.4	30.0	< 0.5	< 10	< 10	< 10	2	8.0	< 0.01
93. MAV 29100	12.5	19.9	57.5	< 0.5	< 10	< 10	< 10	< 2	19.0	< 0.01
94. MAV 29101	12.5	11.8	35.0	< 0.5	< 10	< 10	< 10	2	5.0	< 0.01
95. MAV 29102	12.5	12.3	37.5	< 0.5	< 10	< 10	< 10	< 2	8.0	< 0.01
96. MAV 29103	62.5	26.1	160.0	< 0.5	< 10	< 10	< 10	5	87.5	< 0.01
97. MAV 29104	12.5	10.2	32.5	< 0.5	< 10	< 10	< 10	4	5.5	< 0.01
98. MAV 29105	7.5	12.4	45.0	< 0.5	< 10	< 10	< 10	< 2	5.5	< 0.01
99. MAV 29106	10.0	12.1	40.0	< 0.5	< 10	< 10	< 10	< 2	4.5	0.02
100. MAV 29107	10.0	14.2	27.5	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
101. MAV 29108	15.0	10.1	30.0	< 0.5	< 10	< 10	< 10	2	7.5	< 0.01
102. MAV 29109	10.0	8.5	20.0	< 0.5	< 10	< 10	< 10	2	4.0	< 0.01
103. MAV 29110	10.0	6.2	27.5	< 0.5	< 10	< 10	< 10	4	3.0	< 0.01
104. MAV 29111	17.5	20.6	42.5	< 0.5	< 10	< 10	< 10	2	4.0	< 0.01
105. MAV 29112	7.5	4.8	17.5	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
106. MAV 29113	10.0	15.2	32.5	< 0.5	< 10	30	< 10	< 2	4.0	< 0.01
107. MAV 29114	5.0	9.8	22.5	< 0.5	< 10	30	< 10	3	4.0	≤ 0.01
108. MAV 29115	5.0	7.9	10.0	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
109. MAV 29116	5.0	7.3	17.5	< 0.5	< 10	< 10	< 10	2	4.0	< 0.01
110. MAV 29117	15.0	15.7	32.5	< 0.5	< 10	< 10	< 10	< 2	9.0	< 0.01
111. MAV 29118	7.5	10.5	25.0	< 0.5	< 10	36	< 10	< 2	17.0	< 0.01
112. MAV 29119	10.0	7.5	20.0	< 0.5	< 10	< 10	< 10	< 2	3.5	< 0.01

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
113.MAV 19120	15.0	15.2	37.5	< 0.5	< 10	< 10	< 10	4	17.0	< 0.01
114.MAV 19121	10.0	7.6	15.0	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
115.MAV 19122	15.0	31.2	37.5	< 0.5	< 10	13	< 10	< 2	18.0	< 0.01
116.MAV 19123	12.5	12.1	37.5	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
117.MAV 19124	7.5	9.4	12.5	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
118.MAV 19125	12.5	11.0	55.0	< 0.5	< 10	30	< 10	< 2	4.0	< 0.01
119.MAV 19126	17.5	9.4	25.0	< 0.5	< 10	< 10	< 10	< 2	16.0	< 0.01
120.MAV 19127	7.5	6.5	12.5	< 0.5	< 10	< 10	< 10	3	4.0	< 0.01
121.MAV 19128	5.0	4.2	7.5	< 0.5	< 10	< 10	< 10	< 2	3.0	< 0.01
122.MAV 19129	10.0	9.0	25.0	< 0.5	< 10	30	< 10	< 2	6.0	< 0.01
123.MAV 19130	10.0	9.8	35.0	< 0.5	< 10	< 10	< 10	< 2	3.0	< 0.01
124.MAV 19131	7.5	13.5	17.5	< 0.5	< 10	< 10	< 10	< 2	21.0	< 0.01
125.MAV 19132	12.5	41.5	122.5	< 0.5	< 10	60	< 10	< 2	14.0	< 0.01
126.MAV 19133	15.0	15.3	82.5	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
127.MAV 19134	30.0	33.9	77.5	< 0.5	< 10	27	< 10	< 2	5.0	< 0.01
128.MAV 19135	15.0	19.5	42.5	< 0.5	< 10	< 10	< 10	2	8.5	< 0.01
129.MAV 19136	15.0	35.0	57.5	< 0.5	< 10	< 10	< 10	< 2	11.0	< 0.01
130.MAV 19137	12.5	17.4	42.5	< 0.5	< 10	< 10	< 10	< 2	4.0	< 0.01
131.MAV 19138	12.5	11.4	30.0	< 0.5	< 10	< 10	< 10	< 2	42.0	< 0.01
132.MAV 19139	10.0	9.0	45.0	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
133.MAV 19140	12.5	8.0	17.5	< 0.5	< 10	< 10	< 10	< 2	4.5	< 0.01
134.MAV 19141	35.0	11.1	25.0	< 0.5	< 10	< 10	< 10	< 2	10.5	< 0.01
135.MAV 19142	25.0	8.0	20.0	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
136.MAV 19143	12.5	9.6	75.0	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
137.MAV 19144	15.0	9.4	17.5	< 0.5	< 10	< 10	< 10	< 2	24.0	< 0.01
138.MAV 19145	12.5	6.0	17.5	< 0.5	< 10	< 10	< 10	4	3.5	< 0.01
139.MAV 19146	10.0	14.3	60.0	< 0.5	< 10	< 10	< 10	< 2	6.0	< 0.01
140.MAV 19147	7.5	7.9	15.0	< 0.5	< 10	< 10	< 10	< 2	3.5	< 0.01
141.MAV 19148	12.5	4.6	10.0	< 0.5	< 10	< 10	< 10	3	2.5	< 0.01
142.MAV 19149	7.5	6.2	7.5	< 0.5	< 10	< 10	< 10	3	3.0	< 0.01
143.MAV 19150	10.0	7.4	15.0	< 0.5	< 10	< 10	< 10	2	4.5	< 0.01

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Mo ppm	W ppm	Sn ppm	Au ppm
144.MAV.19151	5.0	9.7	42.5	< 0.5	< 10	< 10	< 10	4	7.5	< 0.01
145.MAV.19152	12.5	13.4	37.5	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
146.MAV.19153	10.0	7.9	20.0	< 0.5	< 10	< 10	< 10	4	16.0	< 0.01
147.MAV.19154	7.5	6.9	20.0	< 0.5	< 10	< 10	< 10	2	3.0	< 0.01
148.MAV.19155	10.0	10.3	32.5	< 0.5	< 10	< 10	< 10	< 2	8.0	< 0.01
149.MAV.19156	12.5	11.2	40.0	< 0.5	< 10	< 10	< 10	< 2	5.0	< 0.01
150.MAV.19157	17.5	12.9	45.0	< 0.5	< 10	< 10	< 10	4	7.5	< 0.01
151.MAV.19158	10.0	13.5	32.5	< 0.5	< 10	< 10	< 10	3	5.0	< 0.01
152.MAV.19159	7.5	7.9	27.5	< 0.5	< 10	< 10	< 10	3	5.0	< 0.01
153.MAV.19160	7.5	8.2	10.0	< 0.5	< 10	< 10	< 10	< 2	3.0	< 0.01
154.MAV.19161	15.0	8.9	20.0	< 0.5	< 10	< 10	< 10	2	3.0	< 0.01
155.MAV.19162	10.0	8.2	22.5	< 0.5	< 10	< 10	< 10	< 2	3.0	< 0.01
156.MAV.19163	7.5	18.0	17.5	< 0.5	< 10	33	< 10	< 2	15.0	< 0.01
157.MAV.19164	17.5	50.2	55.0	< 0.5	< 10	40	< 10	3	13.0	< 0.01
158.MAV.19165	7.5	14.4	42.5	< 0.5	< 10	≤ 10	< 10	3	12.0	< 0.01
159.MAV.19166	7.5	13.3	22.5	< 0.5	< 10	< 10	< 10	2	9.0	< 0.01
160.MAV.19167	12.5	16.5	30.0	< 0.5	< 10	< 10	< 10	2	4.0	< 0.01
161.MAV.19168	10.0	6.1	20.0	< 0.5	< 10	< 10	< 10	< 2	3.5	< 0.01
162.MAV.19169	15.0	39.0	77.5	< 0.5	< 10	< 10	< 10	4	4.0	< 0.01

**INGEMMET**

MEMORANDUM N°201-95-DGG/DL

*Al* : *Ing. MANUEL PAZ MAIDANA*  
*Director de Prospección Minera*

*Asunto* : *Reporte de Análisis Químico por Au*  
*CUADRANGULO DE SANDIA (PUNO)*

*Referencia* : *Memorándum N° 200-95-DPM*

*Fecha* : *Lima, 29 de Setiembre 1995*

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*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos de 103 muestras, procedentes del Cuadrángulo SANDIA (Puno - ZONA 29-y), solicitado con el documento de la referencia.*

*Recibido DPM  
29/9/95*

*29/9/95*

*Atentamente,*

  
Ing. PAREDES PACHECO  
Director de Laboratorio  
INGEMMET





**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**  
 (LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 200-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz M.  
 PROCEDENCIA : DEP. DE PUNO 29-y  
 PROYECTO : CUADRANGULO "SANDIA"  
 ANALISIS POR : Cu, Pb, Zn, Ag, Sb, As, Au, Mo  
 FECHA : Lima, 26 de Setiembre de 1995

<b>CODIGO</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au g/TM</b>	<b>Mo ppm</b>
S195001	20	32.5	105	0.5	< 10	< 25	< 0.01	< 10
S195002	27.5	35.0	105	0.5	< 10	< 25	< 0.01	< 10
S195003	12.5	40.0	47.5	0.5	< 10	< 25	< 0.01	< 10
S195004	27.5	35.0	112.5	0.5	< 10	< 25	< 0.01	< 10
S195005	22.5	27.5	87.5	0.5	< 10	< 25	< 0.01	< 10
S195006	20.0	37.5	82.5	0.5	< 10	< 25	< 0.01	< 10
S195007	22.5	37.5	110	0.5	< 10	< 25	< 0.01	< 10
S195008	20.0	32.5	80.0	0.5	< 10	< 25	0.01	< 10
S195009	10.0	25.0	45.0	0.5	< 10	< 25	< 0.01	< 10
S195010	15.0	22.5	35.0	0.5	< 10	< 25	< 0.01	< 10
S195011	10.0	15.0	7.5	≤ 0.05	< 10	< 25	< 0.01	< 10
S195012	25.0	32.5	75.0	0.5	< 10	< 25	< 0.01	< 10
S195013	25.0	32.5	95.0	0.5	< 10	< 25	< 0.01	< 10
S195014	37.5	35.0	75.0	0.5	< 10	< 25	< 0.01	< 10
S195015	62.5	35.0	95.0	0.5	< 10	< 25	< 0.01	< 10
S195016	37.5	40.0	97.5	0.5	< 10	< 25	< 0.01	< 10
S195017	52.5	32.5	70.0	0.5	< 10	< 25	< 0.01	< 10
S195018	50.0	45.0	70.0	0.5	< 10	< 25	< 0.01	< 10
S195019	45.0	35.0	72.5	0.5	< 10	< 25	< 0.01	< 10

<b>CODIGO</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au g/TM</b>	<b>Mo ppm</b>
S195051	7.5	22.5	55	0.5	< 10	< 25	< 0.01	< 10
S195052	12.5	27.5	112.5	0.5	< 10	< 25	< 0.01	< 10
S195053	10	25	50	0.5	< 10	< 25	< 0.01	< 10
S195054	17.5	32.5	115	0.5	< 10	< 25	< 0.01	< 10
S195055	10	20	37.5	0.5	< 10	< 25	< 0.01	< 10
S195056	20	27.5	75	0.5	< 10	< 25	< 0.01	< 10
S195057	12.5	27.5	70	0.5	< 10	< 25	0.02	< 10
S195058	30	40	112.5	0.5	< 10	< 25	< 0.01	< 10
S195059	17.5	32.5	105	0.5	< 10	< 25	< 0.01	< 10
S195060	22.5	32.5	110	0.5	< 10	< 25	< 0.01	< 10
S195061	15.0	32.5	107.5	0.5	< 10	< 25	< 0.01	< 10
S195062	17.5	57.5	107.5	0.5	< 10	< 25	< 0.01	< 10
S195063	25	32.50	120	0.5	< 10	< 25	< 0.01	< 10
S195064	22.5	30	112.5	0.5	< 10	< 25	< 0.01	< 10
S195065	20	32.5	110	0.5	< 10	< 25	< 0.01	< 10
S195066	22.5	32.5	112.5	0.5	< 10	< 25	< 0.01	< 10
S195067	50.0	32.5	112.5	0.5	< 10	< 25	< 0.01	< 10
S195068	52.5	32.5	115	0.5	< 10	< 25	< 0.01	< 10
S195069	17.5	30	92.5	0.5	< 10	< 25	< 0.01	< 10
S195070	55	35	112.5	0.5	< 10	< 25	< 0.01	< 10
S195071	22.5	37.5	40	0.5	< 10	< 25	< 0.01	< 13.8
S195072	60	32.5	77.5	0.5	< 10	< 25	0.03	13.8
S195073	52.5	32.5	125	0.5	< 10	< 25	< 0.01	11.0
S195074	80	37.5	107.5	0.5	< 10	< 25	< 0.01	11.0
S195075	57.5	32.5	140	0.5	< 10	< 25	< 0.01	11
S195076	67.5	32.5	87.5	0.5	< 10	< 25	< 0.01	13.8
S195077	22.5	32.5	92.5	0.5	< 10	< 25	< 0.01	< 10
S195078	35	32.5	125	0.5	< 10	< 25	< 0.01	< 10
S195079	20	30	82.5	0.5	< 10	< 25	< 0.01	< 10
S195080	30	32.5	117.5	0.5	< 10	< 25	< 0.01	< 10
S195081	30	32.5	125	0.5	< 10	< 25	< 0.01	< 10

<b>CODIGO</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Sb ppm</b>	<b>As ppm</b>	<b>Au g/Tm</b>	<b>Mo ppm</b>
S195020	42.5	37.5	85.0	0.5	< 10	< 25	< 0.01	< 10
S195021	12.5	10.0	15.0	0.5	< 10	< 25	< 0.01	< 10
S195022	42.5	35.0	90.0	0.5	< 10	< 25	< 0.01	< 10
S195023	25.0	35.0	190	0.5	< 10	< 25	< 0.01	< 10
S195024	60.0	50.0	77.5	0.5	< 10	< 25	< 0.01	< 10
S195025	12.5	32.5	135	0.5	< 10	< 25	< 0.01	< 10
S195026	10.0	32.5	118	0.5	< 10	< 25	< 0.01	< 10
S195027	20.0	32.5	108	0.5	< 10	< 25	< 0.01	< 10
S195028	57.5	42.5	87.5	0.5	< 10	25	< 0.01	< 10
S195029	12.5	60	17.5	0.5	< 10	25	< 0.01	< 10
S195030	32.5	42.5	205	0.5	< 10	25	< 0.01	< 10
S195031	20	35	100	0.5	< 10	25	< 0.01	< 10
S195032	25	40	120	0.5	< 10	25	< 0.01	< 10
S195033	22.5	32.5	85	0.5	< 10	< 25	< 0.01	< 10
S195034	15	32.5	98	0.5	< 10	< 25	< 0.01	< 10
S195035	17.5	42.5	117.5	0.5	< 10	< 25	< 0.01	< 10
S195036	25	25	22.5	0.5	< 10	< 25	< 0.01	< 10
S195037	65	27.5	115	0.5	< 10	< 25	< 0.01	< 10
S195038	30	55	27.5	0.5	< 10	< 25	< 0.01	< 10
S195039	55	37.5	125.5	0.5	< 10	< 25	< 0.01	< 10
S195040	40	30	57.5	0.5	< 10	< 25	< 0.01	< 10
S195041	40	25	27.5	0.5	< 10	< 25	< 0.01	< 10
S195042	45	32.5	87.5	0.5	< 10	< 25	< 0.01	12.5
S195043	12.5	30	55	0.5	< 10	< 25	< 0.01	< 10
S195044	17.5	30	100	0.5	< 10	< 25	< 0.01	7.5
S195045	10	30	112.5	0.5	< 10	< 25	< 0.01	< 10
S195046	7.5	37.5	97.5	0.5	< 10	< 25	< 0.01	< 10
S195047	10	27.5	128	0.5	< 10	< 25	< 0.01	< 10
S195048	5	17.5	50	0.5	< 10	< 25	< 0.01	< 10
S195049	7.5	37.5	45	0.5	< 10	< 25	< 0.01	< 10
S195050	25	37.5	112.5	0.5	< 10	< 25	< 0.01	< 10

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Sb ppm	As ppm	Au g/Tm	Mo ppm
S195082	17.5	27.5	105	0.5	< 10	< 25	< 0.01	< 10
S195083	35	32.5	150	0.5	< 10	< 25	< 0.01	< 10
S195084	25	30	132.5	0.5	< 10	< 25	< 0.01	< 10
S195085	32.5	32.5	145	0.5	< 10	< 25	< 0.01	< 10
S195086	27.5	30	137.5	0.5	< 10	< 25	< 0.01	< 10
S195087	22.5	30	125.0	0.5	< 10	< 25	< 0.01	< 10
S195088	22.5	25	105	< 0.5	< 10	< 25	< 0.01	< 10
S195089	32.5	45	162.5	0.5	< 10	< 25	< 0.01	11
S195090	32.5	30	162.5	0.5	< 10	< 25	< 0.01	≤ 10
S195091	25	27.5	120	0.5	< 10	< 25	< 0.01	< 10
S195092	35	27.5	145	0.5	< 10	< 25	< 0.01	11
S195093	35	30	175	0.5	< 10	< 25	< 0.01	≤ 10
S195094	22.5	25	105	0.5	< 10	< 25	< 0.01	≤ 10
S195095	27.5	65	95	0.5	< 10	< 25	< 0.01	≤ 10
S195096	20	22.5	60	0.5	< 10	< 25	< 0.01	≤ 10
S195097	10	22.5	32.5	0.5	< 10	< 25	< 0.01	≤ 10
S195098	37.5	32.5	120	0.5	< 10	< 25	< 0.01	≤ 10
S195099	37.5	32.5	127.5	0.5	< 10	< 25	< 0.01	11
S195100	30	32.5	120	0.5	< 10	< 25	< 0.01	11
S195101	30	42.5	142.5	0.5	< 10	< 25	< 0.01	11
S195102	32.5	47.5	157.5	0.5	< 10	< 25	< 0.01	≤ 10
S195103	35	45	155	0.5	< 10	< 25	< 0.01	10



  
 JARA F.  
 Laboratorio de Análisis Geoquímico  
 INGEMMET

**INGEMMET**

**MEMORANDUM N°184-95-DGG/DL**

**Al** : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **Reporte de Análisis Químico por Hg**  
**PROYECTO AURIFERO - MIMA**

**Referencia** : **Memorándum N° 216-95-DPM**

**Fecha** : **Lima, 12 de Setiembre 1995**

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*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis Geoquímicos por Hg de Sedimentos, agua y material orgánico, procedentes del Proyecto Aurífero - MIMA, solicitados con el documento de la referencia.*

*Atentamente,*

  
Ing° **ROTO PAREDES PACHECO**  
Director de Laboratorio  
**INGEMMET**

*14/9/95*  
*Roto Paredes DPM.*  
*14/9/95*



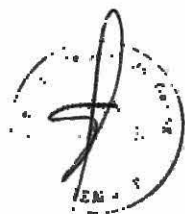
**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

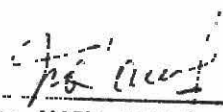
**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

**ORDEN DE TRABAJO** : **Memo. N°216-95-DPM**  
**SOLICITADO POR** : **Ing. Manuel Paz M.**  
**PROCEDENCIA** : **DPTO. DE MADRE DE DIOS**  
**PROYECTO** : **AURIFERO - MIMA**  
**ANALISIS POR** : **SEDIMENTOS - Hg**  
**FECHA** : **Lima, 12 de Setiembre de 1995**

<b>CODIGO</b>	<b>Hg ppb</b>
5 BMD - Hg - S 1	29
5 BMD - Hg - S 3	148
5 BMD - Hg - S 4	48
5 BMD - Hg - S 6	90
5 BMD - Hg - S 8	87
5 BMD - Hg - S 11	150
5 BMD - Hg - S 12	92
5 BMD - Hg - S 14	161
5 BMD - Hg - S 16	45
5 BMD - Hg - S 18	24
5 BMD - Hg - S 19	176
5 BMD - Hg - S 21	68
5 BMD - Hg - S 23	112
5 BMD - Hg - S 25	40
5 BMD - Hg - S 27	10
5 BMD - Hg - S 28	32
5 BMD - Hg - S 30	56
5 BMD - Hg - S 32	58
5 BMD - Hg - S 34	48

CODIGO	Hg ppb
5 BMD - Hg - S 35	102
5 BMD - Hg - S 38	26
5 BMD - Hg - S 39	46
5 BMD - Hg - S 41	44
5 BMD - Hg - S 43	12
5 BMD - Hg - S 45	64
5 BMD - Hg - S 47	128
5 BMD - Hg - S 49	95
5 BMD - Hg - S 51	185
5 BMD - Hg - S 52	99
5 BMD - Hg - S 53	62
5 BMD - Hg - S 56	64
5 BMD - Hg - S 57	150
5 BMD - Hg - S 58	57
5 BMD - Hg - S 60	66
5 MND - Hg - S 61	46
5 BMD - Hg - S 63	62
5 BMD - Hg - S 65	67
5 BMD - Hg - S 66	15



  
 Quím. MARIA JARA F.  
 Laboratorio de Análisis Geoquímico  
 INGEMMET



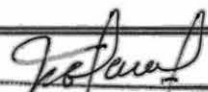
SECTOR ENERGIA Y MINAS  
INSTITUTO GEOLOGICO MINERO Y METALURGICO  
INGEMMET

DIRECCION DE LABORATORIOS  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 216-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROCEDENCIA : Dpto. Madre de Dios  
"PROYECTO AURIFERO MIMA"  
ANALISIS DE : AGUAS (DISPERSION DE MERCURIO)  
FECHA : Lima, 20 de Noviembre de 1995

MUESTRAS DE AGUAS	Hg µg/L
5 BMD-Hg A 2	< 0.5
5 BMD-Hg A 5	< 0.5
5 BMD-Hg A 10	< 0.5
5 BMD-Hg A 13	< 0.5
5 BMD-Hg A 17	< 0.5
5 BMD-Hg A 22	< 0.5
5 BMD-Hg A 24	0.6
5 BMD-Hg A 26	< 0.5
5 BMD-Hg A 31	< 0.5
5 BMD-Hg A 33	1.0
5 BMD-Hg A 37	< 0.5
5 BMD-Hg A 42	< 0.5
5 BMD-Hg A 46	< 0.5
5 BMD-Hg A 50	< 0.5
5 BMD-Hg A 54	< 0.5
5 BMD-Hg A 59	< 0.5
5 BMD-Hg A 64	< 0.5
5 BMD-Hg A 67	< 0.5

Av. Canadá 1470 San Borja - Apartado 889 — Telf. \_\_\_\_\_  
Lima 41 - Perú

  
Químico MARIA JARA F.  
Laboratorio de Química  
INGEMMET





SECTOR ENERGIA Y MINAS  
INSTITUTO GEOLOGICO MINERO Y METALURGICO  
INGEMMET

DIRECCION DE LABORATORIOS  
(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 216-95-DPM  
SOLICITADO POR : Ing. Manuel Paz Maidana  
PROCEDENCIA : Dpto. Madre de Dios  
"PROYECTO AURIFERO MIMA"  
ANALISIS DE : MATERIA ORGANICA - Hg  
FECHA : Lima, 13 de Setiembre de 1995

CODIGO	Hg ppb	OBSERVACIONES
5 BMD - Hg 0-7	39	Tallos regular cantidad, hojas mínimo, sedimentos abundantes
5 BMD - Hg 0-9	65	Tallos y hojas, mínima cantidad de sedimentos
5 BMD - Hg 0-15	59	Tallos, raices y hojas, mínima cantidad de sedimentos
5 BMD - Hg 0-20	51	Tallos, hojas, regular cantidad y sedimentos
5 BMD - Hg 0-29	132	Tallos, hojas, mínima cantidad de sedimentos
5 BMD - Hg 0-36	185	Raices mínima cantidad de sedimentos
5 BMD - Hg 0-40	54	Tallos solamente
5 BMD - Hg 0-44	62	Tallos, hojas y mínima cantidad de sedimentos
5 BMD - Hg 0-48	140	Tallos, hojas, trazas de sedimentos
5 BMD - Hg 0-55	109	Tallos, hojas y raices
5 BMD - Hg 0-62	33	Hojas, y sedimentos regular cantidad
5 BMD - Hg 0-68	56	Tallos, hojas, sedimentos residuales



Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

**INGEMMET**

MEMORANDUM N°178-95-DGG/DL

**Ai** : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **Reporte de Análisis Químico por Au**  
**PROYECTO AURIFERO - MIMA**


**Referencia** : **Memorándum N° 216-95-DPM**

**Fecha** : **Lima, 06 de Setiembre 1995**

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*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de 41 análisis Geoquímicos de Au, procedentes del Proyecto Aurífero - MIMA, solicitados con el documento de la referencia.*

Atentamente,

  
Ing° RUFFO PAREDE PACHECO  
Director de Laboratorio  
INGEMMET

6/9/95

Recibido DPM.  
6/9/95



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N°216-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz M.  
 PROCEDENCIA : DPTO. DE MADRE DE DIOS  
 PROYECTO : AURIFERO - MIMA  
 FECHA : Lima, 05 de Setiembre de 1995

CLAVE	P. ORIGINAL * Kgs). (campo)	P. CONC. ** Kg. (laboratorio)	AU g/TM	DENSIDAD * DE GRAVA (g/cm <sup>3</sup> <-> ITM/M <sup>3</sup> )	AU g/M <sup>3</sup>
5 BMD-Au 1	127	0.309	0.10	2.6	0.260
5 BMD-Au 2	25	0.076	0.01	2.6	0.026
5 BMD-Au 3	52	0.176	0.24	2.6	0.624
5 BMD-Au 4	54	0.255	0.15	2.6	0.390
5 BMD-Au 5	52	0.254	0.14	2.6	0.364
5 BMD-Au 6	50	0.382	0.23	2.6	0.598
5 BMD-Au 7	50	0.206	0.07	2.6	0.182
5 BMD-Au 8	50	0.196	0.08	2.6	0.208
5 BMD-Au 9	50	0.105	0.13	2.6	0.338
5 BMD-Au 10	51	0.281	0.50	2.6	1.300
5 BMD-Au 11	52	0.286	0.09	2.6	0.234
5 BMD-Au 12	52	0.200	0.12	2.6	0.312
5 BMD-Au 13	80	0.327	0.21	2.6	0.546
5 BMD-Au 14	78	0.395	0.13	2.6	0.338
5 BMD-Au 15	104	0.363	0.38	2.6	0.988
5 BMD-Au 16	56	0.215	0.04	2.6	0.104
5 BMD-Au 17	79	0.171	0.04	2.6	0.104
5 BMD-Au 18	76	0.315	0.08	2.6	0.208
5 BMD-Au 19	80	0.126	0.08	2.6	0.208

CLAVE	P. ORIGINAL * Kgs. (campo)	P. CONC. ** Kg. (laboratorio)	AU g/TM	DENSIDAD DE GRAVA. * (g/cm <sup>3</sup> <-> ITM/M <sup>3</sup> )	AU g/M <sup>3</sup>
5 BMD-Au 20	78	0.119	0.03	2.6	0.078
5 BMD-Au 21	80	0.159	0.06	2.6	0.156
5 BMD-Au 22	27	0.132	0.17	2.6	0.442
5 BMD-Au 23	78	0.130	0.05	2.6	0.130
5 BMD-Au 24	48	0.114	0.28	2.6	0.728
5 BMD-Au 25	39	0.172	0.18	2.6	0.468
5 BMD-Au 26	78	0.128	0.02	2.6	0.052
5 BMD-Au 27	78	0.213	0.06	2.6	0.156
5 BMD-Au 28	81	0.196	0.15	2.6	0.390
5 BMD-Au 29	104	0.221	0.04	2.6	0.104
5 BMD-Au 30	56	0.153	0.18	2.6	0.468
5 BMD-Au 31	78	0.145	0.12	2.6	0.312
5 BMD-Au 32	78	0.342	0.17	2.6	0.442
5 BMD-Au 33	52	0.128	0.03	2.6	0.078
5 BMD-Au 34	84	0.188	0.10	2.6	0.260
5 BMD-Au 35	48	0.161	0.03	2.6	0.078
5 BMD-Au 36	54	0.337	0.15	2.6	0.390
5 BMD-Au 37	55	0.399	0.05	2.6	0.130
5 BMD-Au 38	81	0.295	0.08	2.6	0.208
5 BMD-Au 39	54	0.154	0.03	2.6	0.078
5 BMD-Au 40	52	0.096	0.01	2.6	0.026
5 BMD-Au 41	52	0.189	0.05	2.6	0.130

Nota: \* Son datos entregados por los Ingenieros encargados del proyecto - MIMA  
 \*\* Peso seco de la muestra.



*Maria Jara F.*  
 Quím. MARIA JARA F.  
 Laboratorio de Análisis Geoquímico  
 INGEMMET

**INGEMMET**

MEMORANDUM N°174-95-DGG/DL

**Al** : **Ing. MANUEL PAZ MAIDANA**  
**Director de Prospección Minera**

**Asunto** : **Reporte de Análisis Químico por Au**  
**CUADRANGULO LIMBANI - PUNO**

**Referencia** : **Memorándum N° 199-95-DPM**

**Fecha** : **Lima, 31 de Agosto 1995**

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Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos de 115 muestras, procedentes del Cuadrángulo LIMBANI (Puno - ZONA 29-X), solicitado con el documento de la referencia.

Atentamente,

  
Ing° RFO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET

8/9/95  
Recibido  
8/9/95



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGENMET**

**DIRECCION DE LABORATORIOS**  
**(LABORATORIO DE QUIMICA ANALITICA)**

ORDEN DE TRABAJO : Memo. N° 199-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz M.  
 PROCEDENCIA : PUNO - ZONA 29 - X  
 PROYECTO : PROSPECCION GEOQUIMICA REGIONAL  
 CUADRANGULO "LIMBANI"  
 ANALISIS POR : Cu, Pb, Zn, Ag, Sb, As, Au, Mo  
 FECHA : Lima, 31 de Agosto de 1995

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/TM	Sb ppm	As ppm	Mo ppm
LIM-001	25	19.8	156	< 0.5	0.04	< 10	< 25	< 10
LIM-002	20	17.4	108	< 0.5	< 0.01	< 10	< 25	< 10
LIM-003	22.5	16.0	115	< 0.5	< 0.01	< 10	< 25	< 10
LIM-004	20	14.9	152	< 0.5	< 0.01	< 10	< 25	< 10
LIM-005	42.5	24.6	224	< 0.5	< 0.01	< 10	< 25	< 10
LIM-006	32.5	17.6	194	< 0.5	< 0.01	< 10	< 25	< 10
LIM-007	27.5	25.4	146	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-008	20	13.7	113	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-009	20	11.9	234	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-010	27.5	40.4	176	1.8	< 0.01	< 10	147	< 10
LIM-011	12.5	5.9	156	< 0.5	< 0.01	< 10	194	< 10
LIM-012	42.5	24.0	160	0.8	< 0.01	< 10	191	< 10
LIM-013	60	90.8	112.5	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-014	10	1.6	65	< 0.5	0.02	< 10	37	< 10
LIM-015	32.5	68.2	147.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-016	12.5	15.6	60	< 0.5	< 0.01	< 10	< 25	< 10
LIM-017	15	39.2	85	< 0.5	< 0.01	< 10	< 25	< 10
LIM-018	5	8.5	52	< 0.5	< 0.01	< 10	43	< 10
LIM-019	15	43.7	105	< 0.5	*<0.01 1.02	< 10	< 25	< 10

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/TM	Sb ppm	As ppm	Mo ppm
LIM-020	20	57.9	117.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-021	22.5	11.4	79	< 0.5	< 0.01	< 10	< 25	< 10
LIM-022	20	12.0	100	< 0.5	< 0.01	< 10	< 25	< 10
LIM-023	45	13.3	108	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-024	15	8.2	74	< 0.5	< 0.01	< 10	< 25	< 10
LIM-025	12.5	10.2	82	< 0.5	< 0.01	< 10	< 25	< 10
LIM-026	17.5	34.7	87.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-027	20	16.5	115	< 0.5	< 0.01	< 10	< 25	< 10
LIM-028	27.5	36.5	117.5	< 0.5	≤ 0.01	< 10	< 25	< 10
LIM-029	35	40.5	157.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-030	27.5	65.6	137.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-031	10	13.7	56	< 0.5	< 0.01	< 10	< 25	< 10
LIM-032	35	28.6	118	< 0.5	0.44 * 0.03	< 10	< 25	< 10
LIM-033	17.5	18.0	97	< 0.5	< 0.01	< 10	< 25	< 10
LIM-034	17.5	14.5	114	< 0.5	< 0.01	< 10	< 25	< 10
LIM-035	20	15.7	191	< 0.5	< 0.01	< 10	< 25	< 10
LIM-036	12.5	10.8	83	< 0.5	< 0.01	< 10	< 25	< 10
LIM-037	22.5	18.6	59	< 0.5	< 0.01	< 10	< 25	< 10
LIM-038	40	39.6	142.5	< 0.5	< 0.01	-	< 25	< 10
LIM-039	30	54.7	117.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-040	42.5	43.0	140	< 0.5	< 0.01	< 10	< 25	< 10
LIM-041	37.5	46.3	137.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-042	57.5	36.5	167.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-043	17.5	25.6	100	< 0.5	< 0.01	< 10	< 25	< 10
LIM-044	15	35.1	112.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-045	25	52.8	127.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-046	25	21.6	107	< 0.5	< 0.01	< 10	< 25	< 10
LIM-047	62.5	43.6	157.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-048	30	9.3	193	< 0.5	< 0.01	< 10	< 25	< 10
LIM-049	25	87.7	262.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-050	12.5	50.9	135	< 0.5	< 0.01	< 10	< 25	< 10

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/TM	Sb ppm	As ppm	Mo ppm
LIM-051	32.5	43.4	245	< 0.5	< 0.01	< 10	< 25	< 10
LIM-052	22.5	18.7	139	< 0.5	< 0.01	< 10	< 25	< 10
LIM-053	22.5	32.5	150	< 0.5	< 0.01	< 10	< 25	< 10
LIM-054	17.5	88.9	207.5	< 0.5	* 0.64	< 10	522	< 10
LIM-055	25	55.3	185	< 0.5	* 0.58	< 10	566	< 10
LIM-056	22.5		152.5	< 0.5	* 1.18	< 10	160	< 10
LIM-057	15		137.5	< 0.5	* 1.87	< 10	96	< 10
LIM-058	17.5		177.5	< 0.5	* 0.015	< 10	105	< 10
LIM-059	25		120	< 0.5	< 0.01	< 10	25	< 10
LIM-060	27.5		147.5	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-061	75		127.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-062	17.5	44.4	120	< 0.5	< 0.01	< 10	< 25	< 10
LIM-063	17.5	32.8	117.5	< 0.5	< 0.01	< 10	39	< 10
LIM-064	30	35.7	165	< 0.5	< 0.01	< 10	25	< 10
LIM-065	25	44.2	145	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-066	52.5	55.6	135	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-067	20	62.3	130	< 0.5	< 0.01	< 10	44	< 10
LIM-068	15	35.4	132.5	< 0.5	< 0.01	< 10	42	< 10
LIM-069	22.5	39.1	155	< 0.5	< 0.01	< 10	36	< 10
LIM-070	50.0	65.2	232.5	< 0.5	≤ 0.01	< 10	64	< 10
LIM-071	30	53.9	137.5	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-072	30	34.7	142.5	< 0.5	< 0.01	< 10	30	< 10
LIM-073	20	22.8	105	< 0.5	< 0.01	< 10	< 25	< 10
LIM-074	12.5	13.1	81	< 0.5	< 0.01	< 10	< 25	< 10
LIM-075	27.5	17.3	111	< 0.5	< 0.01	< 10	< 25	< 10
LIM-076	15.0	19.8	98	< 0.5	< 0.01	< 10	< 25	< 10
LIM-077	12.5	31.1	62	< 0.5	< 0.01	< 10	247	< 10
LIM-078	12.5	11.8	58	< 0.5	≤ 0.01	< 10	< 25	< 10
LIM-079	10.0	10.6	64	< 0.5	< 0.01	< 10	118	< 10
LIM-080	17.5	24.2	85	< 0.5	< 0.01	< 10	< 25	< 10
LIM-081	30	24.2	108	≤ 0.5	< 0.01	< 10	≤ 25	< 10



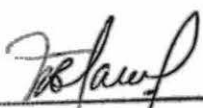
CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/TM	Sb ppm	As ppm	Mo ppm
LIM-082	20	23.0	78	< 0.5	≤ 0.01	< 10	< 25	< 10
LIM-083	37.5	34.7	133	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-084	30	26.4	99	< 0.5	< 0.01	< 10	< 25	< 10
LIM-085	7.5	24.4	69	< 0.5	< 0.01	< 10	< 25	< 10
LIM-086	15	22.0	93	< 0.5	< 0.01	< 10	< 25	< 10
LIM-087	10	27.3	62	< 0.5	< 0.01	< 10	< 25	< 10
LIM-088	20	21.2	111	< 0.5	< 0.01	< 10	< 25	< 10
LIM-089	32.5	25.1	124	< 0.5	< 0.02	< 10	< 25	< 10
LIM-090	37.5	31.5	220	< 0.5	0.01	< 10	< 25	< 10
LIM-091	37.5	38.8	124	< 0.5	< 0.01	< 10	< 25	< 10
LIM-092	20	13.6	112	< 0.5	0.01	0.01	< 25	< 10
LIM-093	20	29.8	124	< 0.5	0.01	< 10	< 25	< 10
LIM-094	17.5	16.7	70	< 0.5	< 0.01	< 10	< 25	< 10
LIM-095	10	24.6	50.0	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-096	17.5	42.3	98	< 0.5	0.01	< 10	< 25	< 10
LIM-097	22.5	41.7	115	< 0.5	< 0.01	< 10	< 25	< 10
LIM-098	27.5	42.0	138	< 0.5	< 0.01	< 10	< 25	< 10
LIM-099	25	51.6	132.5	< 0.5	* 0.16 * 0.10	< 10	≤ 25	< 10
LIM-100	25	27.9	132	< 0.5	< 0.01	< 10	< 25	< 10
LIM-101	17.5	32.3	107	< 0.5	< 0.01	< 10	< 25	< 10
LIM-102	17.5	30.9	110	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-103	17.5	49.2	125	< 0.5	< 0.01	< 10	< 25	< 10
LIM-104	22.5	49.9	175	< 0.5	< 0.01	< 10	38	< 10
LIM-105	17.5	47.8	137.5	< 0.5	< 0.01	< 10	≤ 25	< 10
LIM-106	25	31.6	167.5	< 0.5	3.32 < 0.01	< 10	53	< 10
LIM-107	17.5	27.0	105	< 0.5	< 0.01	< 10	< 25	< 10
LIM-108	17.5	85.8	107.5	< 0.5	< 0.01	< 10	< 25	< 10
LIM-109	17.5	53.1	125	< 0.5	< 0.01	< 10	< 25	< 10
LIM-110	15	44.0	97.5	< 0.5	0.01	< 10	< 25	< 10
LIM-111	42.5	78.7	182.5	< 0.5	< 0.01	< 10	≤ 25	< 10

CODIGO	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/TM	Sb ppm	As ppm	Mo ppm
LIM-112	25	27.9	95.0	< 0.5	< 0.01	< 10	72	< 10
LIM-113	20	28.4	142.5	< 0.5	0.02	< 10	< 25	< 10
LIM-114	20	37.4	135	< 0.5	< 0.01	< 10	< 25	< 10
LIM-115	20	46.7	115	< 0.5	< 0.01	< 10	40	< 10

CODIGO	OBSERVACIONES
LIM-110	Las muestras denotan presencia de oro libre
LIM-111	Todas las muestras fueron analizadas por el método de extracción con MIBK, sin replica
LIM-112	Muestras analizadas por ensayo al fuego A.A (chequeos)

\* Chequeados por Met. E. F. A.A.



  
 Quím MARIA JARA F.  
 Laboratorio de Análisis Geoquímico  
 INGEMMET

MEMORANDUM Nº 290-95-DGG/DL

A : Ing. Manuel Paz Maidana  
Director de Geología Minera

ASUNTO : REPORTE DE ANALISIS QUIMICOS POR Sn  
CUADRANGULO DE NUÑO

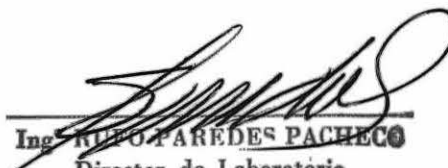
REF : Memos. Nºs 185-95-DPM  
280-95-DPM

FECHA : Lima, 27 de Diciembre de 1995

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Me dirijo a Ud., a fin de hacerle llegar adjunto al presente los resultado de análisis químicos de 100 muestras procedentes del cuadrángulo de Nuñoa, solicitado con documento de la referencia.

Atentamente,

  
Ing. RUFINO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



SECTOR ENERGIA Y MINAS

**INGEMMET**

Instituto Geológico Minero y Metalúrgico

**DIRECCION DE LABORATORIOS**

**(LABORATORIO DE QUIMICA ANALITICA)**

**ORDEN DE TRABAJO** : **Memo. Nº 185-95-DPM**  
**PROCEDENCIA** : **CUADRANGULO DE NUÑO**  
**SOLICITADO POR** : **Ing. Manuel Paz M.**  
**ANALISIS POR** : **Sn**  
**FECHA** : **Lima, 26 de Diciembre de 1995**

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Nu-001	12
Nu-002	< 10
Nu-003	< 10
Nu-004	< 10
Nu-005	< 10
Nu-006	< 10
Nu-007	< 10
Nu-008	< 10
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Nu-024	< 10
Nu-025	< 10
Nu-026	< 10
Nu-027	< 10
Nu-028	< 10
Nu-029	20
Nu-030	< 10
Nu-031	< 10
Nu-032	< 10

Nu-033	22
Nu-034	< 10
Nu-035	< 10
Nu-036	< 10
Nu-037	< 10
Nu-038	< 10
Nu-039	< 10
Nu-040	< 10
Nu-041	< 10
Nu-042	< 10
Nu-043	< 10
Nu-044	< 10
Nu-045	< 20
Nu-046	< 10
Nu-047	< 10
Nu-048	< 10
Nu-049	11
Nu-050	< 10
Nu-051	< 10
Nu-052	< 10
Nu-053	11
Nu-054	70
Nu-055	40
Nu-056	69
Nu-057	< 10
Nu-058	< 10
Nu-059	< 10
Nu-060	< 10
Nu-061	< 10
Nu-062	< 10
Nu-063	< 10
Nu-064	< 10
Nu-065	< 10
Nu-066	< 10
Nu-067	≤ 10
Nu-068	< 10
Nu-069	< 10
Nu-070	< 10
Nu-071	< 10
Nu-072	< 10
Nu-073	< 10
Nu-074	< 10
Nu-075	< 10
Nu-076	11
Nu-077	< 10
Nu-078	14
Nu-079	< 10
Nu-080	< 10
Nu-081	< 10
Nu-082	< 10
Nu-083	< 10
Nu-084	< 10
Nu-085	< 10
Nu-086	< 10
Nu-087	< 10

Nu-088	< 10
Nu-089	< 10
Nu-090	< 10
Nu-091	< 10
Nu-092	< 10
Nu-093	< 10
Nu-094	< 10
Nu-095	< 10
Nu-096	< 10
Nu-097	< 10
Nu-098	< 10
Nu-099	< 10
Nu-100	< 10



  
Quím. MARIA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

Orchivo

**INGEMMET**

MEMORANDUM N°235-95-DGG/DL

*Al* : **Ing. MANUEL PAZ MAIDANA**  
*Director de Prospección Minera*

*Asunto* : *Reporte de Análisis Químico por (W)*  
**CUADRANGULO DE NUÑO A**

*Referencia* : *Memorándum N° 185-95-DPM*

*Fecha* : *Lima, 31 de Octubre 1995*

*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis químicos de 100 muestras, procedentes del Cuadrángulo NUÑO A, solicitado con el documento de la referencia.*

*Recibido  
2/11/95*

*Atentamente,*

  
**Ing. RUFO PAREDES PACHECO**  
 Director de Laboratorio  
**INGEMMET**



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 185-95-DPM  
PROCEDENCIA : CUADRANGULO DE NUÑOA  
SOLICITADO POR : Ing. Manuel Paz M.  
ANALISIS POR : W  
FECHA : Lima, 31 de Octubre de 1995

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<u>CODIGO DE MUESTRA</u>	<u>W ppm</u>
Nu-001	< 2
Nu-002	< 2
Nu-003	< 2
Nu-004	< 2
Nu-005	5
Nu-006	< 2
Nu-007	< 2
Nu-008	< 2
Nu-009	≤ 2
Nu-010	≤ 2
Nu-011	< 2
Nu-012	< 2
Nu-013	< 2
Nu-014	< 2
Nu-015	< 2
Nu-016	< 2
Nu-017	3
Nu-018	≤ 2
Nu-019	< 2
Nu-020	< 2
Nu-021	< 2
Nu-022	< 2
Nu-023	< 2
Nu-024	≤ 2
Nu-025	< 2
Nu-026	≤ 2
Nu-027	3
Nu-028	≤ 2
Nu-029	< 2
Nu-030	< 2
Nu-031	3



Nu-032	≤ 2
Nu-033	≤ 2
Nu-034	< 2
Nu-035	< 2
Nu-036	< 2
Nu-037	2
Nu-038	2
Nu-039	< 2
Nu-040	4
Nu-041	3
Nu-042	5
Nu-043	< 2
Nu-044	≤ 2
Nu-045	3
Nu-046	3
Nu-047	≤ 2
Nu-048	3
Nu-049	4
Nu-050	4
Nu-051	< 2
Nu-052	< 2
Nu-053	< 2
Nu-054	< 2
Nu-055	< 2
Nu-056	< 2
Nu-057	< 2
Nu-058	< 2
Nu-059	< 2
Nu-060	< 2
Nu-061	< 2
Nu-062	< 2
Nu-063	< 2
Nu-064	< 2
Nu-065	< 2
Nu-066	< 2
Nu-067	< 2
Nu-068	2
Nu-069	6
Nu-070	4
Nu-071	< 2
Nu-072	< 2
Nu-073	< 2
Nu-074	3
Nu-075	4
Nu-076	< 2
Nu-077	< 2
Nu-078	5
Nu-079	2
Nu-080	< 2
Nu-081	< 2
Nu-082	< 2
Nu-083	3
Nu-084	< 2
Nu-085	3
Nu-086	2
Nu-087	3

Nu-088	3
Nu-089	2
Nu-090	3
Nu-091	< 2
Nu-092	< 2
Nu-093	2
Nu-094	< 2
Nu-095	3
Nu-096	< 2
Nu-097	2
Nu-098	< 2
Nu-099	< 2
Nu-100	2



  
Quím. MARÍA JARA F.  
Laboratorio de Análisis Geoquímico  
INGEMMET

**INGEMMET**

MEMORANDUM N°156-95-DGG/DL

*Al* : Ing. MANUEL PAZ MAIDANA  
Director de Prospección Minera

*Asunto* : Reporte de Análisis Químico

*Referencia* : Memorándum N° 185-95-DPM

*Fecha* : Lima, 14 de Agosto de 1995

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*Tengo a bien dirigirme a Ud. a fin de adjuntar al presente el resultado de los análisis Geoquímicos, procedentes del Cuadrángulo de NUÑO A, solicitados con el documento de la referencia.*

*Asimismo, comunico que los análisis por Wy Sn quedan pendientes hasta que se instale el hidrógeno y se nos proporcione los reactivos necesarios para esta clase de análisis.*

*Se adjunta las 100 contramuestras respectiva.*

14/8/95  
Recibido  
14/8/95

*Atentamente,*

  
Ing° RUFO PAREDES PACHECO  
Director de Laboratorio  
INGEMMET



**SECTOR ENERGIA Y MINAS**  
**INSTITUTO GEOLOGICO MINERO Y METALURGICO**  
**INGEMMET**

**DIRECCION DE LABORATORIOS**

(LABORATORIO DE QUIMICA ANALITICA)

ORDEN DE TRABAJO : Memo. N° 185-95-DPM  
 SOLICITADO POR : Ing. Manuel Paz M.  
 ANALISIS POR : Cu, Pb, Zn, Ag, Au, As, Sb, Mo  
 FECHA : Lima, 12 de Agosto de 1995

<b>CODIG. MUEST.</b>	<b>Cu ppm</b>	<b>Pb ppm</b>	<b>Zn ppm</b>	<b>Ag ppm</b>	<b>Au ppm</b>	<b>As ppm</b>	<b>Sb ppm</b>	<b>Mo ppm</b>
NU-001	27.5	33.5	87.5	<0.5	<0.01	<25	<10	<10
NU-002	15	20.7	62.5	<0.5	<0.01	<25	<10	<10
NU-003	15	15.8	52.5	<0.5	<0.01	<25	<10	<10
NU-004	7.5	88.8	30	<0.5	<0.01	<25	<10	<10
NU-005	15	14.6	30	<0.5	<0.01	<25	<10	<10
NU-006	15	18.8	30	<0.5	<0.01	<25	<10	<10
NU-007	20	25.9	85	≤0.5	<0.01	<25	<10	<10
NU-008	22.5	20.5	107.5	<0.5	<0.01	<25	<10	<10
NU-009	15	19.4	75	<0.5	≤0.01	<25	<10	<10
NU-010	15	30.5	37.5	<0.5	<0.01	<25	<10	<10
NU-011	7.5	12.5	52.5	<0.5	<0.01	<25	<10	<10
NU-012	7.5	13.8	50	<0.5	<0.01	<25	<10	<10
NU-013	10	11.5	27.5	<0.5	<0.01	<25	<10	<10
NU-014	15	14.5	50	<0.5	0.01	<25	<10	<10
NU-015	10	13.9	32.5	<0.5	<0.01	<25	<10	<10
NU-016	15	19.1	70	<0.5	<0.01	<25	<10	<10
NU-017	22.5	28.3	90	<0.5	<0.01	<25	<10	<10
NU-018	20	36.8	100	<0.5	<0.01	<25	<10	<10
NU-019	17.5	25.3	103	≤0.5	<0.01	<25	<10	<10

CODIG. MUEST	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm	As ppm	Sb ppm	Mo ppm
NU-020	20	25.6	92.5	<0.5	<0.01	<25	<10	<10
NU-021	12.5	20.8	105	<0.5	<0.01	<25	<10	<10
NU-022	12.5	15.1	55	<0.5	<0.01	<25	<10	<10
NU-023	12.5	15.4	62.5	<0.5	<0.01	<25	<10	<10
NU-024	10	18.4	70	<0.5	<0.01	<25	<10	<10
NU-025	7.5	112	138	<0.5	<0.01	<25	<10	<10
NU-026	12.5	19.7	75	<0.5	<0.01	<25	<10	<10
NU-027	15	17.3	75	<0.5	<0.01	<25	<10	<10
NU-028	10	14.4	60	<0.5	<0.01	<25	<10	<10
NU-029	12.5	13.0	40	<0.5	<0.01	<25	<10	<10
NU-030	15	19.1	80	<0.5	<0.01	<25	<10	<10
NU-031	12.5	16.1	72.5	<0.5	<0.01	<25	<10	<10
NU-032	17.5	16.0	90	<0.5	<0.01	≤25	<10	<10
NU-033	12.5	10.2	57.5	<0.5	<0.01	≤25	<10	<10
NU-034	25	18.0	92.5	1.0	<0.01	<25	<10	<10
NU-035	12.5	7.8	27.5	<0.5	<0.01	≤25	<10	<10
NU-036	7.5	8.4	25	<0.5	<0.01	<25	<10	<10
NU-037	7.5	11.8	30	<0.5	<0.01	<25	<10	<10
NU-038	7.5	10.1	50	<0.5	<0.01	≤25	<10	<10
NU-039	7.5	8.6	27.5	<0.5	<0.01	<25	<10	<10
NU-040	17.5	19.5	67.5	<0.5	<0.01	<25	<10	<10
NU-041	10	8.2	25	<0.5	<0.01	<25	<10	<10
NU-042	10	23.2	45	<0.5	<0.01	≤25	<10	<10
NU-043	12.5	14.5	45	<0.5	<0.01	≤25	<10	<10
NU-044	10	14.2	37.5	<0.5	<0.01	≤25	<10	<10
NU-045	15	92.0	35	<0.5	<0.01	<25	<10	<10
NU-046	7.5	6.7	37.5	<0.5	<0.01	≤25	<10	<10
NU-047	10	12.2	35	≤0.5	<0.01	<25	<10	<10
NU-048	7.5	21.3	75	<0.5	<0.01	≤25	<10	<10
NU-049	5	23.2	50	<0.5	<0.01	<25	<10	≤10
NU-050	2.5	13.4	67.5	<0.5	<0.01	≤25	<10	<10

CODIG MUEST	Cu ppm	Pb ppm	Zn ppm	Au ppm	Ag ppm	As ppm	Sb ppm	Mo ppm
NU-051	12.5	15.5	87.5	<0.01	<0.5	<25	<10	<10
NU-052	5	8.8	42.5	<0.01	<0.5	<25	<10	<10
NU-053	15	22.6	185	<0.01	<0.5	<25	<10	≤10
NU-054	105	53.8	688	<0.01	<0.5	<25	<10	<10
NU-055	25	43.9	275	<0.01	<0.5	<25	<10	≤10
NU-056	22.5	45.0	268	<0.01	<0.5	<25	<10	<10
NU-057	7.5	15.2	75	<0.01	<0.5	<25	<10	≤10
NU-058	17.5	16.0	77.5	<0.01	<0.5	<25	<10	≤10
NU-059	12.5	25.1	72.5	<0.01	<0.5	<25	<10	≤10
NU-060	20	33.6	77.5	<0.01	<0.5	<25	<10	≤10
NU-061	12.5	29.1	60	<0.01	<0.5	<25	<10	≤10
NU-062	10	11.3	27.5	<0.01	<0.5	<25	<10	≤10
NU-063	22.5	22.3	82.5	<0.01	<0.5	<25	<10	<10
NU-064	20	22.7	105	<0.01	<0.5	<25	<10	≤10
NU-065	5	16.8	87.5	<0.01	<0.5	<25	<10	≤10
NU-066	7.5	22.4	130	<0.01	<0.5	<25	<10	≤10
NU-067	12.5	26.4	190	<0.01	<0.5	<25	<10	≤10
NU-068	7.5	18.4	120	<0.01	<0.5	<25	<10	≤10
NU-069	22.5	11.5	50	<0.01	<0.5	<25	<10	<10
NU-070	20	20.3	67.5	<0.01	<0.5	<25	<10	≤10
NU-071	10	12.1	55	<0.01	<0.5	<25	<10	<10
NU-072	7.5	8.4	30	<0.01	<0.5	<25	<10	≤10
NU-073	5	6.6	35	<0.01	<0.5	<25	<10	<10
NU-074	2.5	2.5	12.5	<0.01	<0.5	<25	<10	<10
NU-075	10	15.4	27.5	<0.01	<0.5	<25	<10	≤10
NU-076	10	20.9	185	<0.01	<0.5	<25	<10	≤10
NU-077	5	14.4	45	<0.01	<0.5	<25	<10	≤10
NU-078	7.5	22.2	37.5	<0.01	<0.5	<25	<10	≤10
NU-079	2.5	4.9	12.5	<0.01	<0.5	<25	<10	≤10
NU-080	22.5	9.1	27.5	<0.01	<0.5	<25	<10	<10
NU-081	15	16.7	80	<0.01	<0.5	<25	<10	≤10

CODIG. MUEST	Cu ppm	Pb ppm	Zn ppm	Au ppm	Ag ppm	As ppm	Sb ppm	Mo ppm
NU-082	12.5	12.6	45	<0.01	<0.5	<25	<10	≤10
NU-083	12.5	7.4	37.5	<0.01	<0.5	≤25	<10	≤10
NU-084	17.5	19.5	77.5	<0.01	<0.5	<25	<10	≤10
NU-085	17.5	15.7	70	<0.01	<0.5	<25	<10	≤10
NU-086	17.5	16.4	62.5	<0.01	<0.5	<25	<10	≤10
NU-087	15	41.0	72.5	<0.01	<0.5	<25	<10	≤10
NU-088	50	42.8	140	<0.01	<0.5	<25	<10	≤10
NU-089	50	39.5	180	<0.01	<0.5	<25	<10	≤10
NU-090	37.5	49.7	363	<0.01	<0.5	<25	<10	≤10
NU-091	47.5	43.0	208	<0.01	<0.5	<25	<10	<10
NU-092	30	31.8	82.5	<0.01	<0.5	<25	<10	≤10
NU-093	27.5	35.0	118	<0.01	<0.5	<25	<10	≤10
NU-094	35	30.2	128	<0.01	<0.5	<25	<10	<10
NU-095	25	26.3	118	<0.01	<0.5	<25	<10	<10
NU-096	15	25.7	90	<0.01	<0.5	<25	<10	≤10
NU-097	25	28.7	110	<0.01	<0.5	<25	<10	≤10
NU-098	17.5	26.2	85	<0.01	<0.5	<25	<10	≤10
NU-099	15	94.4	108	<0.01	<0.5	<25	<10	<10
NU-100	22.5	6000	6125	<0.01	<0.5	328	140	<10



  
 Quím. MARÍA JARA F.  
 Laboratorio de Análisis Geoquímico  
 INGEMMET



**IPEN**  
INSTITUTO PERUANO  
DE ENERGIA NUCLEAR

APARTADO 1697 LIMA  
CABLE IPEN PERU  
TELEF. : 723136 723639  
: 723637 724640  
TELEX: 25746  
DIRECCION : Av. CANADA No. 1470  
LIMA 41 PERU

"AÑO DE LAS INVERSIONES PRODUCTIVAS"

Lima, 31 de Julio 1995

Señor  
ING. MANUEL PAZ MAIDANA  
Director de Prospección Minera  
INGEMMET

Ref.: Memo. No.080-95-DPM

Tengo a bien dirigirme a Ud., con el fin de remitir adjunto al presente los resultados de las muestras de afloramientos (rocas) que pertenecen al Proyecto Mazo Cruz - Sectores Yulaca, Japo y alrededores del Dpto. de Puno.

Sin otro particular nos suscribimos de Ud.

Atentamente,

Lic. Eduardo Montoya Rossi  
Jefe del Grupo de Química  
Instituto Peruano de Energía Nuclear



INSTITUTO PERUANO DE ENERGIA NUCLEAR  
CANADA 1478 LINA 41 PERU  
APTDO. 1487 TELF. 723639  
FAX 788881  
DIRECCION GENERAL DE PROMOCION Y DESARROLLO  
GRUPO DE QUINICA

CERTIFICADO  
DE  
ANALISIS

Informe N° 109

Solicitado por : Ing. Manuel Paz Maidana  
Nombre de la muestra : de Afloramiento  
Fecha de Recepción : 30 de Mayo de 1995  
Fecha de Emisión : 26 de Julio de 1995  
Documento Referencia : Memorandum N° 080-95-DPM

RESULTADO DE ANALISIS

		% Humedad
Muestra 1	Andesita Yulaca	0.3
Muestra 2	Andesita Japo	0.9
Muestra 3	Yaurara	0.2
Muestra 4	Toba Yaurara	0.3
Muestra 5	Dique latitico	0.7
Muestra 6	Yulaca	1.8
Muestra 7	Yulaca	2.5
Muestra 8	Japo	0.4
Muestra 9	Japo	0.4
Muestra 12	Yulaca	0.1
Muestra 13	Japo	0.1
Muestra 15	Yulaca	0.4
Muestra 16	Japo	0.1

  
MSc Eduardo Montoya  
Jefe de Grupo

## RESULTADOS ANALITICOS

Elemento	Unid	Muestra 1	Muestra 2	Muestra 3	Muestra 4	Muestra 5
Al	%	16.2	8.4	8.8	8.0	7.6
Ba	%	0.10	0.13	0.13	0.15	0.14
Ca	%	1.80	3.40	3.14	2.02	2.43
Na	%	6.1	2.7	2.9	2.6	2.7
Ti	%	0.59	0.56	0.54	0.39	0.52
Mg	%	1.24	1.52	1.46	0.55	1.48
K	%	2.7	2.4	2.5	3.8	3.2
Sr	%	0.058	0.071	0.110	0.088	0.077
Cl	%	0.042	0.044	0.027	0.081	0.040
Fe	%	4.9	4.1	3.4	2.3	4.5
V	ppm	127	117	85	49	105
Mn	ppm	844	636	582	289	1151
Di	ppm	5.4	4.1	3.1	2.9	3.7
Eu	ppm	2.9	2.5	2.6	1.8	
Ce	ppm	110	106	93	115	102
Cr	ppm	92	81	147	168	150
La	ppm	46	46	40	52	47
Hf	ppm	5.7	5.9	5.9	6.5	6.1
U	ppm	<2	5.6	5.3	3.7	4.2
Th	ppm	9.5	12.2	12.3	13.2	11.8
Rb	ppm	71	145	64	262	79
Sc	ppm	11.0	8.9	9.0	3.4	9.0
Sm	ppm	9.5	8.1	7.0	8.4	8.2
Yb	ppm	2.1	1.5	1.1	0.65	1.2
Zn	ppm	103	98	122	106	204
Co	ppm	19.1	15.1	12.0	9.8	30.3
Au	ppm	<0.02		<0.02	<0.02	<0.02
As	ppm	<10	<10	<10	<10	
Sb	ppm		0.5		0.6	
Cs	ppm		5.0	2.6	5.9	2.9
Ni	ppm	145.7	26.8	151.4	367.6	38.0
Zr	ppm	261.9	260.5	260.2	327.8	238.2
Pb	ppm	35.0	39.2	42.8	34.2	40.5
W	ppm	<5	<5	<5	<5	
Nd	ppm		78	42	56	

## RESULTADO ANALITICO

Elemento	Unid	Muestra 13	Muestra 15	Muestra 16
Al	%	0.66	5.60	6.8
Ba	%	<0.02	0.18	0.14
Ca	%	<0.5	<0.5	<0.5
Na	%	0.02	0.06	0.05
Ti	%	0.45	0.51	0.45
Mg	%	<0.10	<0.10	<0.10
K	%		2.2	1.1
Sr	%	<0.020	0.147	0.042
Cl	%	<0.010	0.012	
Fe	%	0.72	9.4	1.0
V	ppm	19	244	98
Mn	ppm	110	14	45
Dy	ppm	1.6	0.9	3.8
Eu	ppm	0.8		1.9
Ce	ppm	32	88	98
Cr	ppm	374	229	259
La	ppm	14	48	45
Hf	ppm	4.9	5.3	4.6
U	ppm	2.5	3.2	<2
Th	ppm	5.8	8.3	8.1
Rb	ppm	<10	<10	<10
Sc	ppm	4.7	3.3	7.2
Sm	ppm	2.1	3.2	6.5
Yb	ppm	1.0	0.5	1.4
Zn	ppm	15.0	9.7	23.0
Co	ppm	1.3	1.5	8.5
Au	ppm	<0.02	0.07	<0.02
As	ppm	<10	150	22
Sb	ppm	0.4	1.9	1.1
Ni	ppm	9.4	308.0	651.7
Zr	ppm	245.0	231.6	223.9
Pb	ppm	37.3	38.7	71.1
W	ppm	<5	6.0	4.6
Nd	ppm	<30	68	35

## RESULTADO ANALITICO

Elemento	Unid	Muestra 6	Muestra 7	Muestra 8	Muestra 9	Muestra 12
Al	%	9.2	7.9	8.0	7.0	3.1
Ba	%	0.10	0.06	0.12	0.06	0.07
Ca	%	<0.5	<0.5	<0.5	<0.5	<0.5
Na	%	0.08	2.00	0.25	0.31	0.22
Ti	%	0.45	0.68	0.43	0.49	0.35
Mg	%	0.13	1.37	<0.10	<0.10	<0.10
K	%	0.54	2.70	2.70	1.30	1.10
Sr	%	0.075	0.072	0.082	0.190	0.073
Cl	%	<0.01		<0.01	<0.01	<0.01
Fe	%	5.60	4.40	0.52	0.70	0.43
V	ppm	105	139	95	100	44
Mn	ppm	16	3301	22	18	155
Dy	ppm	6.4	3.4	3.2	3.2	1.6
Eu	ppm	2.4		1.4	1.5	0.9
Ce	ppm	119	73	78	81	76
Cr	ppm	51	193	119	165	538
La	ppm	49	31	35	32	39
Hf	ppm	6.8	6.2	5.2	5.3	5.2
U	ppm	<2	3.3	3.5	3.8	2.1
Th	ppm	13.2	11.9	10.4	9.4	7.9
Rb	ppm	42	83	20	<10	<10
Sc	ppm	9.9	11.2	7.3	6.3	3.7
Sm	ppm	10.7	6.0	5.4	7.2	3.0
Yb	ppm	2.0	1.3	1.5	1.3	0.6
Zn	ppm	37	320	41	15	<10
Co	ppm	20.4	22.3	1.5	1.3	1.5
Au	ppm	<0.02	<0.02		<0.02	0.08
As	ppm	31	15	28	58	4.3
Sb	ppm	0.5	0.3	0.6	5.2	2.1
Cs	ppm	3.2	3.1			
W	ppm				<5	11.8
Nd	ppm	52	<30	<30	<30	30
Ni	ppm	66.5	104.1	20.9	310.6	1228.3
Zr	ppm	286.5	249.6	189.3	292.6	140.3
Pb	ppm	32.4	62.2	47.5	40.3	144.2