

Property-Project ALUM Depth Logged 306m  
 Map SILVER PK Scale 15" Date: Drilled 8-28-83 Logged 12-7-83  
 State NV County ESM of SE of SE of Sec 29 T N R 38 1/2 E  
 Instrument SPA-29 Operator JED Elevation 5100 (m)  
 Comments FINAL LOG

JUSTIFY

Card A

Date Logged

Proj No	Well No	DA	MO	YR	*
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20					
1186	5007	12	83	C	M

\*19-Write F if Fahrenheit, 20-Write F if Feet

Site Description

Operator	Editor	DA	MO	YR
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68			
JED	JED	28	08	83

(Approx. location, water well?, oil test?, etc.)

Card B

Scale Unit

IN	CM
21 22 23 24 25	26 27 28 29 30
CM	

Map Size (75, 15, 60)

N Lat	W Long
31 32 33 34 35 36 37 38 39 40	41 42 43 44 45 46 47 48 49 50
37.45.0	117.45.0

Map Location \*\*

Measure from SW corner of map; except AMS sheets measure from bottom center degree mark (W,-)(E,+)

Use decimals

Northring

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
27.95

Easting

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
13.135100

Elev

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
5100

Write M if meters

Segment != Depths

Start	End	Conductivity K	ΔK
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50			
30.0	70.0	-4.8	-0.5

Best cond. (-K)  
Downward extrapolations (-ΔK)

Segment 2

Start	End	K	ΔK
51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80			
70.0	150.0		

Segment 3

150.0	170.0
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Segment 4

170.0	190.0
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Segment 5

190.0	210.0
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Segment 6

210.0	255.0
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Segment 7

255.0	305.0
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Segment 8

.999
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Segment 9

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

Segment 10

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

After final segment  
Start = .999

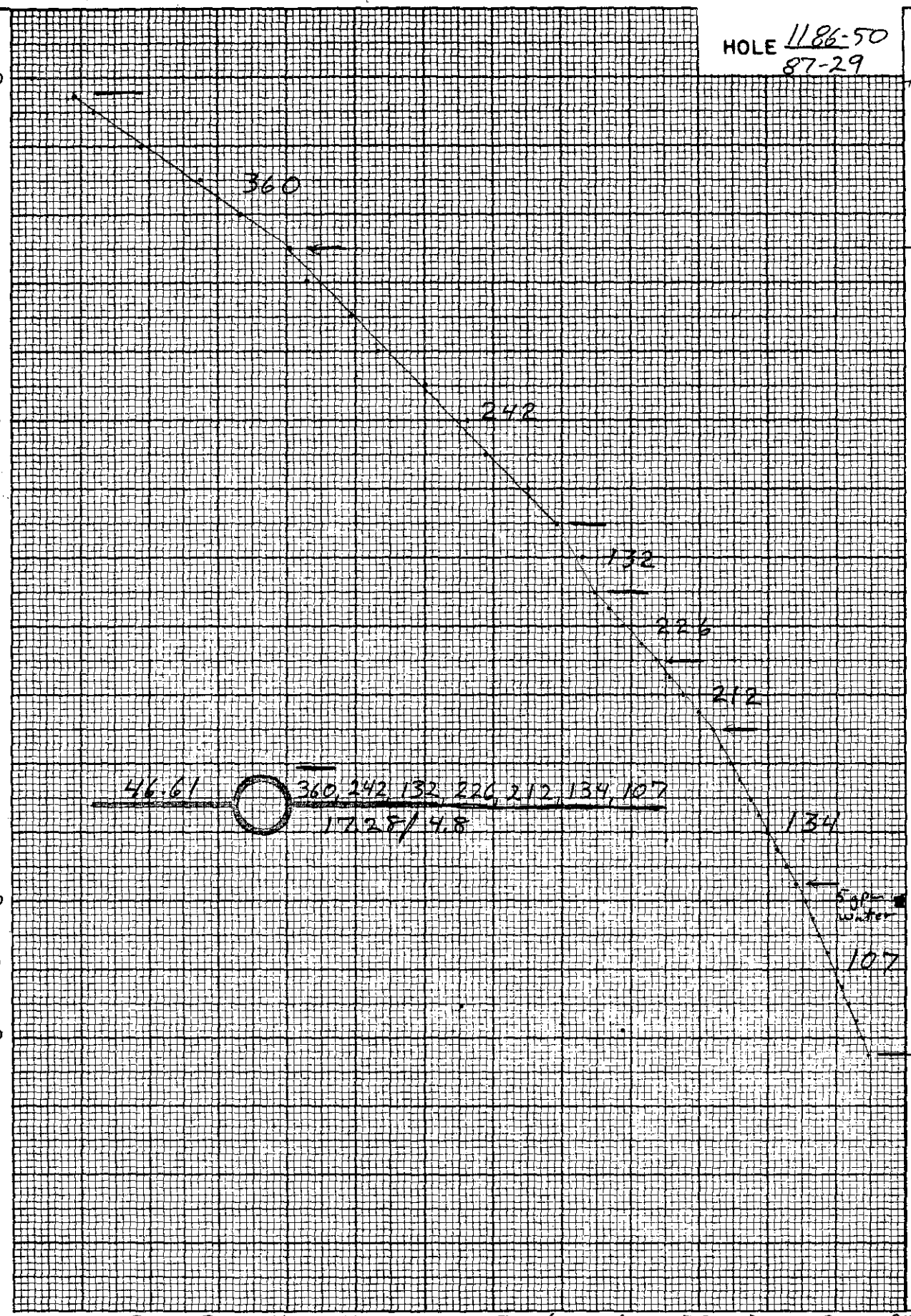
HOLE 1186-50  
87-29

Siltstone / Siltstone

Sandstones & Conglomerates

DEPTH  
METERS

0  
20  
40  
60  
80  
100  
120  
140  
160  
180  
200  
220  
240  
260  
280  
300  
320  
340  
360



TEMPERATURE °C

TP

Spring  
Water

46.61

360, 242, 132, 226, 212, 134, 107

17.28 / 4.8

134

107

360

242

132

226

212

Date Logged: 12-7-83

ΔT Well No. 1186-50

87-29

ALUM #2

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H <sub>2</sub> O Air	Lithology, etc.
10						AIR	C .0908 L —
20	98.91	21.50					
< 30	84.50	25.86					
40	74.10	29.43					
50	63.14	33.74					
60	56.71	36.62					
< 70	49.49	40.26					
80	47.23	41.51					
90	41.91	44.72					
100	39.06	46.61					
110	34.39	50.05					
120	30.78	53.06					
130	29.26	54.44					
140	26.10	57.58					
< 150	24.26	59.60					
160	22.72	61.42					
< 170	22.07	62.23				H <sub>2</sub> O	
175	21.20	63.35	1.12	224			
180	20.42	64.40	1.05	210			
185	19.575	65.59	1.19	238			
< 190	18.797	66.74	1.15	230			
195	18.148	67.74	1.00	200			
200	17.503	68.77	1.03	206			
205	16.851	69.85	1.08	216			
< 210	16.208	70.97	1.12	224			
215	15.899	71.52	0.55	110			
220	15.492	72.27	0.75	150			

K=Conductivity

Date Logged: 12-7-83

ΔT Well No. 1186-50

87-29

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H <sub>2</sub> O Air	Lithology, etc.
225	15.181	72.86	0.59	118			
			0.75	150			
230	14.792	73.61	0.62	124			
235	14.481	74.23	0.59	118			
240	14.189	74.82	0.68	136			
245	13.863	75.50	0.69	138			
250	13.541	76.19	0.81	162			
255	13.171	77.00	0.58	116			
260	12.915	77.58	0.50	100			
265	12.694	78.08	0.64	128			
270	12.424	78.72	0.57	114			
275	12.188	79.29	0.70	140			
280	11.904	79.99	0.46	92			
285	11.721	80.45	0.50	100			
290	11.527	80.95	0.46	92			
295	11.350	81.41	0.40	80			
300	11.200	81.81	0.53	106			
305	11.005	82.34	<u>0.22</u>				
306.5	10.924	82.56				C 0.0955 L	

K=Conductivity

## LITHOLOGIC LOG

Project: AlumHole: 87-29 (33026-50)Elevation: 5,100'Date Drilled: 8/28/83Location: SESE Sec 29 T1N R38 1/2EMethod: rotary/airGeologist: Pilkington

Gamma: \_\_\_\_\_

Depth (m)	Description
0 - 0.6	<u>Alluvium</u> - Recent gravels in dry wash.
0.6 - 70	<u>Lower Esmeralda Fm (Unit F)</u>
0.6 - 15	Gray-green, fine-grained tuffaceous siltstone, minor limonite staining, very minor manganese stains along a few fractures.
15 - 21	Yellow-brown, limonite stained, fine-grained tuffaceous siltstone.
21 - 24	Red-brown hematite stained fine-grained tuffaceous siltstone.
24 - 37	Blue-gray, altered, fine-grained tuffaceous siltstone, minor disseminated sulfides. Abundant montmorillonite.
37 - 70	Blue-gray to gray-green fine-grained tuffaceous siltstone and tuffaceous sandstones interbedded. Color due to alteration of volcanic ash to montmorillonite. Minor fracture fillings of calcite, some siderite.
70 - 307	<u>Lower Esmeralda Fm (Unit E)</u>
70 - 122	Dark gray-green to blue-gray volcanoclastic conglomerate with clasts of gray limestone, black argillite, ash flow tuff and some quartzite in a volcanoclastic matrix composed of crystal fragments of feldspar and quartz surrounded by volcanic ash. Clay alteration of the ash gives the rock a distinct gray color.
122 - 198	Gray green to blue gray, clayey, fine-grained tuffaceous siltstone and interbedded fine-grained tuffaceous sandstones. Minor chalcedony fracture fillings, minor disseminated pyrite.

## LITHOLOGIC LOG

Project: AlumHole: 87-29

Elevation: \_\_\_\_\_

Date Drilled: \_\_\_\_\_

Location: \_\_\_\_\_

Method: \_\_\_\_\_

Geologist: \_\_\_\_\_

Gamma: \_\_\_\_\_

Depth (m)

Description

- 198 - 256 Gray-green to blue-green volcanoclastic conglomerate with clasts of gray limestone, black argillite and ash flow tuff in a volcanoclastic matrix composed of crystals of feldspar and quartz surrounded by volcanic ash. The ash has been conveyed to montmorillonite which gives the rock a uniform gray color. Abundant white chalcedony @ 201 meters. Minor disseminated pyrite.
- 256 - 262 Very strong clay alteration. First water entry 40°C at about 5 gpm. Was able to dry water.
- 262 - 307 Intercolated volcanoclastic sandstones and conglomerates. Rock is denser, and harder than uphole - appears to be similar to the lower part of Esmeralda seen in 31-32. Made about 10 gpm at 300 meters.

DAILY DRILLING REPORT

Project - Hole: ALUM 87-29 Date: Aug. 27-28, 1983  
 Location: SE of SE Sec. 29 T 1N R 38-1/2 Spud Date: Aug. 27  
 County, State: ESMERALDA, NV Day #: 1 & 2  
 Prog. Depth: 1000' Contractor: Stevens-Harris  
 Geologist: Pilkington Rig.: Midway 1500

Drilled 0 to 1008 Mud/Air/ Air - Foam injection below 740  
 Footage Cut 1008 Temp: In \_\_\_\_\_ Out \_\_\_\_\_  
 Hole Size 6-1/4" Wt \_\_\_\_\_  
 Dev. Survey \_\_\_\_\_ @ \_\_\_\_\_ Vis \_\_\_\_\_  
 Casing 8" 0-20' Ph \_\_\_\_\_  
 Bits, stabs, etc. & ser. # Drilled w/hammer.

Lithology Esmeralda Fm - Siltstones, volcanoclastic breccias

Additional Report Moved on location 10:30 AM 8/27/83 and drilled till 5:00 PM.

Resumed drilling at 10:00 AM and completed to 1008' at 2:30 PM. Water  
encountered at 740', about 1 GPM, no sample collected.

Well History

Interval	Hole Size	Casing	<u>Expenditures</u>
0-20	8-3/4"	7"	Total to date _____
20-1008	6-1/4"	2" tubing	Projected _____
_____	_____	_____	Cost/Ft _____
_____	_____	_____	Budgeted _____