LITHOLOGIC LOG

Project: Alum

Hole: 56-29 (1186-43)

Elevation: 5020' Date Drilled: Completed: 12/21/81

Location: NW 1/4 SE 1/4 Sec 29 T1N R38 1/2E Method: air/foam and mud

Geologist: John Deymonaz Gamma:

Depth (m)	Description
0- 41	Esmeralda Fm - Siltstones and Sandstones - Firm to hard, predominantly light green and gray siltstones with minor fine sandstones. Intermittent zones of silicification. Minor iron staining along fractures and minor pyrite along small tight fractures.
41-111	Esmeralda Fm Siltstone - Med. to dark gray siltstones and soft shales. Some swelling in clays at 41m. Minor calcite along rare fractures. Rare pyrite.
111-454	Siltstone - Paleozoic ? section, hard, abrasive dark gray siltstones and shales. Bedding and laminations visible in larger chips. Intermittent fine grained argillaceous sandstones. Pyrite 5-20%, highest amount in upper portions of section. Large (up to 3 cm) pyrite crystals in white mylonite (?) from fault zone from 200m to unknown depth. Significant amounts of 80°C water encountered at 200-205m. Formation appears pervasively fractured.

AMAX EXPLORATION, INC.

TEMPERATURE/DEPTH LOG

ΔT Well No. 1178-43 (56-29)

Property-Project Alum Depth Logged 450 m

Map Silver Peak Scale 15 Date: Drilled 21/12/82 Logged 3/4/82

State Nevada County Esmeralda, of of NW of SE of Sec 29 T 1N R 38 1/2 E

Instrument Spafford #29 Operator JED Elevation 5040 (ft / m)

Comments 2 3/8" tubing H2O @ 115 meters

Card A

RT JUSTIFY	Proj No	Well No	DA	MO	YR	*
	1186	43	3	4	82	C M

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

Site Description	Operator	Editor	Drilled DA	Drilled MO	Drilled YR
9.5 Km WSW OF KEEPAH	JED	VDP	21	12	81

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

Card B

Map Location * *

Scale Unit IN CM	Map Size (7.5, 15., 60.)	N Lat Degree	N Lat Min	W Long Degree	W Long Min	**
Fm	15.	37.	45.	117.	45.	

Use decimals

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

Northing	Easting	Elev	
28.1	12.2	5040.	F

Use decimals ← Write M if if meters

Segment ! = Depths

Start	End
30.0	100.0

Conductivity

K	ΔK

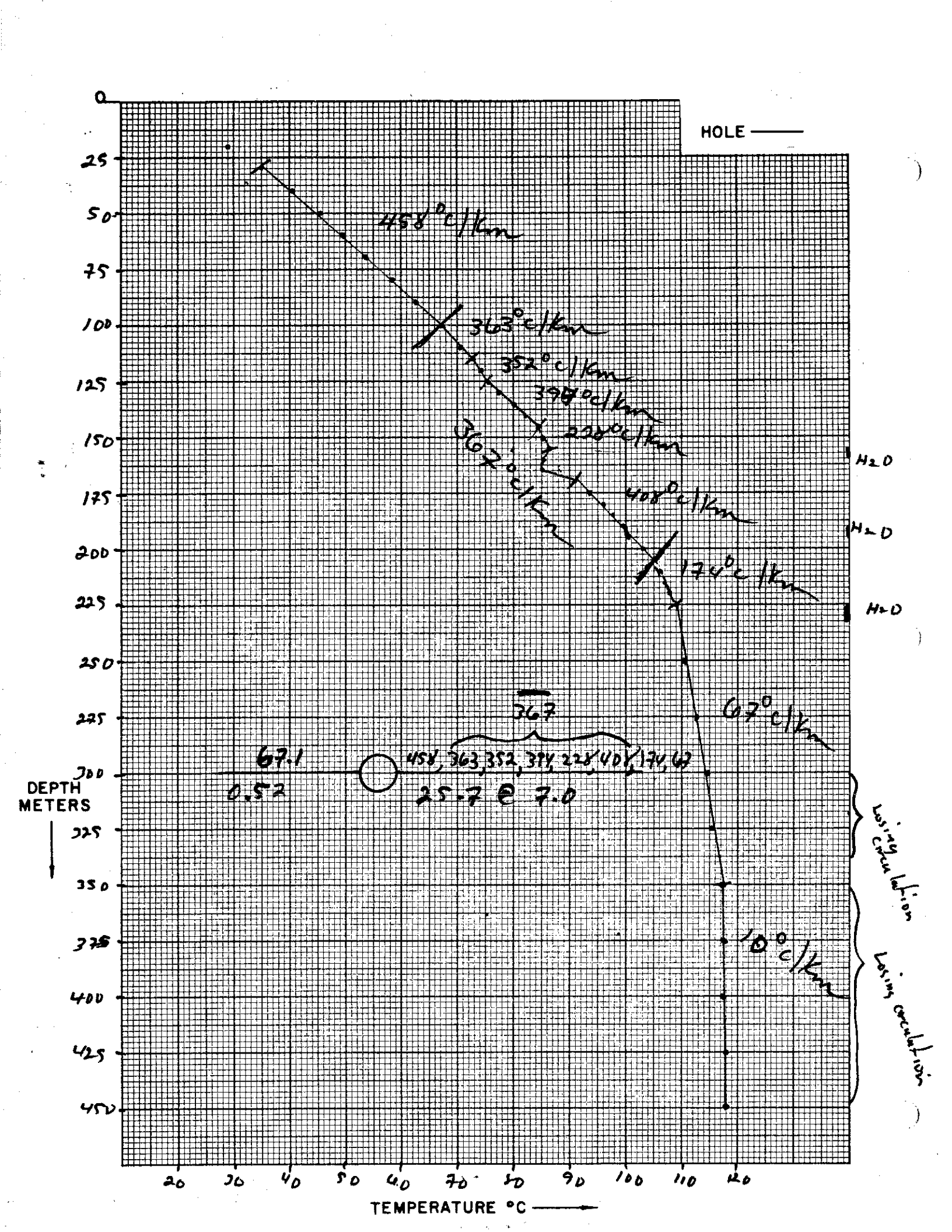
Best cond. (-K)

Downward extrapolations (-ΔK)

	Start	End	K	ΔK
Segment 2	100.0	115.0	-7.0	-0.5
Segment 3	115.0	125.0		
Segment 4	125.0	145.0		
Segment 5	145.0	155.0		
Segment 6	155.0	170.0		
Segment 7	170.0	205.0		
Segment 8	205.0	225.0		
Segment 9	225.0	350.0		
Segment 10	350.	450.0		

After final segment Start = .999

.999


HOLE
458°c/km
363°c/km
352°c/km
398°c/km
228°c/km
362°c/km
408°c/km
174°c/km
H2O
H2O
H2O
367
67.1
0.52
458, 363, 352, 374, 228, 408, 174, 67
25-7 @ 7.0
67°c/km
10°c/km
losing circulation
losing circulation
DEPTH METERS
TEMPERATURE °C
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450
20
30
40
50
60
70
80
90
100
110
120

Date Logged: 3/4/82

ΔT Well No. 1186-43 (56-29)

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H_2O Air	Lithology, etc.
20	74.55	29.27					
30	60.20	35.02					
40	49.25	40.40					
50	40.95	45.34					
60	34.75	49.77					
70	30.09	53.68					
80	25.45	58.27					
90	21.80	62.57					
100	18.558	67.10					
110	16.483	70.48					
115	15.347	72.54					
120	14.464	74.25					
125	13.594	76.06					
130	12.755	77.94					
135	11.889	80.02					
140	11.072	82.14					
145	10.434	83.93					
150	9.932	85.42					
155	9.676	86.21					
160	9.846	85.68					
165	9.953	85.35					
170	8.194	91.33					
175	7.652	93.47					
180	7.049	96.05					
185	6.675	97.80					
190	6.107	99.52					
195	6.075	100.66					

K=Conductivity

Date Logged: _____ ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H_2O Air	Lithology, etc.
200	5.537	103.47					
205	5.148	105.60					
210	4.919	106.19					
215	4.856	107.12					
220	4.826	108.45					
225	4.736	109.08					
230	4.679	109.49					
235	4.619	109.92					
240	4.573	110.26					
245	4.526	110.61					
250	4.490	110.88					
255	4.703	111.10					
260	4.431	111.33					
265	4.378	111.74					
270	4.325	112.15					
~~275~~	~~4.292~~	~~112.57~~					
280	4.212	113.06					
285	4.147	113.59					
290	4.090	114.06					
295	4.037	114.51					
300	3.990	114.92					
305	3.944	115.32					
310	3.903	115.68					
315	3.865	116.00					
320	3.829	116.37					
325	3.793	116.70					
330	3.759	117.01					
335	3.727	117.31					

Date Logged: _____ ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H_2O Air	Lithology, etc.
340	3.726	117.32					
345	3.723	117.35					
350	3.719	117.39					
355	3.718	117.40					
360	3.719	117.39					
365	3.717	117.41					
370	3.712	117.45					
375	3.709	117.48					
380	3.704	117.53					
385	3.700	117.57					
390	3.696	117.60					
395	3.689	117.67					
400	3.683	117.73					
405	3.678	117.77					
410	3.671	117.84					
415	3.664	117.91					
420	3.658	117.96					
425	3.652	118.02					
430	3.646	118.08					
435	3.640	118.14					
440	3.634	118.28					
450	3.617	118.36					
450+	TD						

K=Conductivity