

LITHOLOGIC LOG

Project: AlumHole: 1186-39 (31-32)Elevation: 5030 ft.Date Drilled: 27/3/83Location: NE NW S32T1N R30 1/2 EMethod: Rotary and Diamond DrillGeologist: Deymonaz/Huntsman/Pilkington

Gamma: _____

Depth (m)	Description
0 - 190	<p data-bbox="444 676 873 705"><u>Lower Esmeralda Fm (Unit F)</u></p> <p data-bbox="477 739 1260 802">0- 55 Light orange to yellow brown, fine-grained tuffaceous siltstones.</p> <p data-bbox="461 835 1321 961">55- 91 Gray fine-grained tuffaceous siltstones, abundant clays developed by devitrification of the volcanic ash - some carbonate fracture fillings.</p> <p data-bbox="461 995 1321 1184">91-122 Gray-brown fine-grained laminated tuffaceous siltstone, abundant clay mineral development from devitrification of ash - bedding inclined about 45°. Sulfides either pyrite or marcasite common as fracture fillings, some sulfides disseminated parallel with bedding.</p> <p data-bbox="444 1218 1305 1344">122-152 Gray-brown tuffaceous siltstone with abundant euhedral calcite crystals, which resemble phenocrysts, parallel to laminations. Fine-grained disseminated pyrite cubes.</p> <p data-bbox="444 1377 1341 1566">152-190 Gray-green fine-grained tuffaceous siltstone with some coarser sandy layers composed of volcanoclastic debris, mostly subhedral crystal fragments of feldspar and quartz. Minor amounts of euhedral calcite and/or siderite crystals along some of the laminations.</p>
190 - 464	<p data-bbox="444 1604 873 1633"><u>Lower Esmeralda Fm (Unit E)</u></p> <p data-bbox="444 1667 1341 1827">190-280 Alternating layers of gray-green conglomerate composed of angular to subrounded clasts of black siltstone, gray-green siltstone from Paleozoic (?) section and gray-green tuffaceous siltstones from the older Esmeralda Fm set in a</p>

LITHOLOGIC LOG

Project: Alum

Hole: _____

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Geologist: _____

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Depth (m)

Description

matrix of volcanoclastic debris. Pyrite common as fracture fillings but also present a disseminations along the rock fragment boundaries.

Intercolated with the conglomerates are layers of gray-brown very fine-grained tuffaceous siltstones - minor calcite filled fractures, abundant euhedral calcite crystals give the rock the appearance of an ash flow tuff.

280-464 Intercolated gray-green conglomerates and tuffaceous sediments. However, the whole section becomes much more dense as the relative proportions of Paleozoic (?) and/or Precambrian (?) clasts increases at 287 meters. The rock contains fracture coating of a shiny black bitumen.

424-427 The conglomerate in this interval is a gray limestone breccia with large clasts of gray limestone held together with calcite cement.

Pyrite occurs as disseminated grains within the Paleozoic clasts and also as fracture fillings and along grain boundaries as a late stage mineralization.

464 - 493

Paleozoic (?) and/or Precambrian (?) Carbonate

464-472 Gray to dark gray medium-grained dolomite or dolomitic limestone. Below 470m the rock has solution cavities and considerable sulfides.

LITHOLOGIC LOG

Project: ATum

Hole: _____

Elevation: _____

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Location: _____

Method: _____

Geologist: _____

Gamma: _____

Depth (m)	Description
472-473	Fault gouge.
473-493	Rock show considerable recrystallization with large blebs of calcite - shows some silica replacement and development of a clear micaceous mineral.
493 - 499	<u>Granitic Pegmatite (Jurassic?)</u> Light gray coarse-grained pegmatitic granite composed of quartz, feldspar and muscovite which is probably a border phase of the Weepah pluton.
499 - 511	<u>Paleozoic (?) and/or Precambrian (?) Carbonates</u> Gray-green to dark green calcsilicate skarn rock with some cross-cutting calcite veinlets. The rock consists of quartz, epidote, diopside, grossularite, phlogopite and feldspar typical of the pyroxene hornfels assemblage of contact metamorphism.
511 - 525	<u>Granitic Pegmatite (Jurassic?)</u> Light gray, coarse-grained pegmatitic granite composed of quartz, feldspar and muscovite cut by quartz fracture fillings and/or veinlets. From 512-512.5 a strong shear zone with abundant gouge.
525 - 604	<u>Paleozoic (?) and/or Precambrian (?) Carbonate</u> Dark gray to black, fine-grained, dense banded dolomite with varying amounts of silica replacement. The more argillaceous layers show the development of muscovite and/or phlogopite. From 600-604m the rock contain extensive solution cavities lined with botryoidal silica. The rock contains considerable disseminated pyrite.

LITHOLOGIC LOG

Project: Alum

Hole: _____

Elevation: _____

Date Drilled: _____

Location: _____

Method: _____

Geologist: _____

Gamma: _____

Depth (m)

Description

604 - 606

Granitic Pegmatite (Jurassic?)

Light gray, coarse-grained pegmatitic granite developed by replacement of a calcsilicate skarn.

LITHOLOGIC LOG

Project: (1186) Alum 33026

Hole: 31-32 (1186-39)

Elevation: 5030'

Date Drilled: 3/27/83

Location: NWNE S32 T1N R 38 1/2 E

Method: rotary and diamond drill

Geologist: Deymonaz/Huntsman

Gamma: _____

Depth (m)	Description
0- 20 (0- 6.1)	Assorted volcanic gravels and sands - Unconsolidated with surface oxidation.
20- 150 (6.1-45.7)	Siltstone and clay - Light orange brown, moderate amounts of limonite, formation is soft and slightly sticky.
150- 180 (45.7-54.8)	Siltstone - As above, minor thin green beds of silt, most silts are soft, minor clay.
180- 220 (54.8-67.1)	Siltstone - Medium gray, slightly hard, no clays, with 40% cuttings A/A.
220- 250 (67.1-76.2)	Siltstone - Light gray, argillic alteration, minor kaolinite, small black fragments-possibly glass shards (core).
250- 260 (76.2-79.2)	Siltstone - Medium gray, fractured at 256' (78m) with abundant pyrite, silt beds dipping 45°.
260- 310 (79.2-94.5)	Siltstone - Dark gray, trace pyrite, minor kaolinite.
310- 320 (94.5-97.5)	Siltstone - Dark gray green silt and clay, waxey, minor shiny pyrite growing in veins along fractures.
320- 340 (97.5-103.6)	Siltstone - Dark gray green, less clays than above, beds dipping 20°, platy pyrite or marcasite on fractures.
340- 350 (103.6-106.7)	Siltstone - Gray, interbedded silts, highly fractured, pyrite and quartz in fractures, ash fall sediments.
350- 360 (106.7-109.7)	Siltstone - Gray, waxey, very fine silts with pyrite in fractures.
360- 370 (109.7-112.8)	Siltstone - Medium gray, pyrite and quartz along fractures, quartz vein thicker and crystalized.
370- 400 (112.8-121.9)	Siltstone - As above, soft green clay 1mm thick around pyrite, abundant pyrite along fractures, also black stain such as magnesium.

LITHOLOGIC LOG

Project: AlumHole: 31-32

Elevation: _____ Date Drilled: _____

Location: _____ Method: _____

Geologist: _____ Gamma: _____

Depth (m)	Description
400- 410 (121.9-125)	Siltstone - Gray green, abundant platy pyrite, minor kaolinite with pyrite, minor quartz.
410- 420 (125-128)	Siltstone - As above, very fine, cemented fractures with up to 1cm offset, trace pyrite.
420- 430 (128-131.1)	Siltstone - Green gray, minor biotite flakes, moderate amounts clear white sanidine crystals, crystal lithic ash fall tuff.
430- 480 (131.1-146.3)	Siltstone - As above, minor limonite staining, minor pyrite and sanidine, minor kaolinite.
480- 500 (146.3-152.4)	Siltstone - Medium gray, trace pyrite, trace sanidine, trace kaolite.
500- 510 (152.4-155.5)	Siltstone - Light gray, crystal lithic ash fall tuff, beds dipping 35°, abundant sanidine crystals, minor kaolinite, minor pyrite in small fractures.
510- 520 (155.5-158.5)	Siltstones - Light gray to medium green gray, layered, pyrite in fractures, minor kaolinite in one zone.
520- 540 (158.5-164.6)	Siltstone - Light gray, minor disseminated pyrite, abundant sanidine.
540- 550 (164.6-167.6)	Siltstone - Gray green, waxey silt, mostly clay, vertical vein of pyrite and aboundary black mineral around pyrite.
550- 560 (167.6-170.7)	Siltstone - Dark gray green, abundant sanidine turning to redish yellow. No pyrite in sample.
560- 580 (170.7-176.8)	Siltstone - Medium gray, no pyrite, no sanidine, moderate amounts of clay.
580- 614 (176.8-187.2)	Siltstone - Gray green and dark gray, layered, - abundant sanidine marcasite along bedding plains, slightly tarnished.

LITHOLOGIC LOG

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Geologist: _____

Gamma: _____

Depth (m)

Description

614- 628
(187.2-191.4)Conglomerate - Dark argillite highly pyritized, hard unit
minor calcite.628- 640
(191.4-195.1)Siltstone - Medium gray, fine grained, trace sanidine,
no pyrite.640- 660
(195.1-201.2)Siltstone - As above - with thin unit of breccia as
above without pyrite.660- 670
(201.2-204.3)Conglomerate - Small fragment of volcanic ash, limonite
staining along fractures.670- 710
(204.3-216.5)Siltstone - Medium to dark gray green, minor pyrite
along fractures.710- 720
(216.5-219.5)Siltstone & Conglomerate - Thin beds interbedded.
Breccia unit has been pyritized, also minor pyrite in
silt. Paleo erosion surface on sample collect.720- 730
(219.5-222.5)

Siltstone - Light gray, abundant shiny pyrite cubes.

730- 740
(222.3-225.6)Siltstone & Conglomerate - Layered as above, abundant
pyrite zoning in breccia on dark silts.740- 760
(225.6-231.7)Siltstone - Layered, light to medium brown gray,
conglomerate starts again at 742 with large fragments.760- 780
(231.7-237.8)

Siltstone - Layered, no conglomerates, minor pyrite.

780- 790
(237.8-240.8)Siltstone - Gray brown green. Very fine silts, minor
argillic alteration, minor sanidine crystals moderately
altered.790- 800
(240.8-243.9)

Conglomerate unit - Abundant pyrite.

800- 830
(243.9-253)Silts & Conglomerates - Sample highly fractured and
filled with shiny pyrite and quartz.

LITHOLOGIC LOG

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Geologist: _____

Gamma: _____

Depth (m)

Description

830- 850
(253-259)

Siltstone - Light brown gray, very fine, trace pyrite, trace sanidine altered moderate hematite stain on sanidine.

850- 874
(259-266.5)

Silts & Conglomerate - As above - moderate pyrite.

874- 880
(266.5-268.3)

Silt & Conglomerate - As above - with strong hematite stain, quartz and pyrite growing in vuq.

880- 890
(268.3-271.3)

Silts & Conglomerate - Conglomerate has been pyritized.

890- 900
(271.2-274.3)

Silty Clay - Gray green, slightly hard.

900- 910
(274.3-277.4)

Silt & Conglomerate - Gray, slightly hard, minor pyrite.

910- 920
(277.4-280.4)

Silts - Gray-layered, some layers up to 1.5 cm of pyrite, beds dipping 45°.

920- 930
(280.4-283.5)

Conglomerate - As above - minor pyrite, minor pumice.

930- 940
(283.5-286.5)

Silts - Layered as above.

940- 950
(286.5-289.6)

Siltstone - Gray green - coarse, abundant clays, abundant massive pyrite and cubes; minor tarnish on some pyrite, also black soft clay type deposit around pyrite - probably organic

950- 960
(289.6-292.7)

Siltstone - Medium gray, minor pyrite, weak hematite stains.

960-1000
(292.7-304.8)

Silt & Conglomerate - As above with moderate amounts of talc on fractures.

LITHOLOGIC LOG

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Depth (m)

Description

1000-1010 (304.8-307.9)	Silts & Conglomerates - Clays and talc along fractures, slightly soft, trace pyrite.
1010-1040 (307.9-317)	Conglomerate - Mostly unconsolidated, soft, strong argillic alteration, minor talc, abundant clays.
1040-1060 (317-323.1)	Silts & Conglomerates - Harder, fractures with quartz and minor talc, abundant kaolinite.
1060-1100 (323.1-335.4)	Harder, moderate pyrite in silts, minor argillic alteration, quartz and clays along fractures.
1100-1120 (335.4-341.4)	Silts & Conglomerates - Long vertical fracture filled with talc. Very little pyrite, no quartz along fracture.
1120-1130 (341.4-344.5)	Conglomerate - As above talc along fractures, soft, almost unconsolidated.
1130-1250 (344.5-381)	Conglomerate & Silts - As Above - minor hematite staining on white fault gouge mineral (talc). Minor to moderate argillic alteration. Slightly harder, almost unconsolidated.
1250-1260 (381-384)	Conglomerate - Med. gray - slickenslide along fracture, moderate amounts of talc, conglomerate consists mostly of hard green clay.
1260-1270 (384-387.1)	Conglomerate - As above - slightly softer, slightly fractured, trace talc along fractures.
1270-1290 (387.1-393.3)	Conglomerate & Silts - As above - no talc, no fractures.
1290-1340 (393.3-408.5)	Conglomerate - As above - minor fractures, trace talc, weak argillic alteration.
1340-1390 (408.5-423.7)	Conglomerate - As above, small fractures with quartz fillings.
1390-1409 (423.7-429.5)	Conglomerate - As above, two feet hard siliceous dark gray siltstone, highly fractured with quartz fillings.

LITHOLOGIC LOG

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Geologist: _____

Gamma: _____

Depth (m)

Description

1409-1430
(429.5-435.9)

Siltstone - Medium to dark gray, very fine, siliceous and very hard. Minor hematite stain, small quartz veins.

1430-1450
(435.9-442)

Conglomerate & Silts - As above but conglomerate is harder, no talc, no argillic alteration.

1450-1480
(442-451.2)

Conglomerate - Large fragments of siltstone fractured and loaded with small quartz veins prior to being deposited in present unit.

1480-1510
(451.2-460.3)

Conglomerate - As above, minor talc on fractures, more argillic alteration. Hard clay & siltstone.

1510-1518
(460.3-462.8)

Silt - Black, hard clays, no alterations.

1518-1534
(462.8-467.7)

Argillite - Light to medium gray - very hard, very abrasive highly fracture, minor pyrite, minor quartz and talc along fractures. Some zones show strong argillic alteration.

1534-1550
(467.7-472.5)

Argillite - Dark gray black, vuggy, minor pyrite throughout. Less argillic alteration, very very hard unit, slow penetration 2 feet/hour, highly siliceous.

1550-1560
(472.5-475.6)

Argillite - Soft, strong argillic alteration, moderate clays, large quartz vein, minor shiny pyrite cubes.

1560-1570
(475.6-478.6)

Argillite - Hard, highly siliceous, weak argillic alteration, minor pyrite.

1570-1620
(478.6-493.9)

Dolomite - Dark gray with white swirls, (marbled), abundant disseminated pyrite, slightly vuggy at 1590 some clear quartz crystals.

1620-1658
(493.9-505.5)

Granite - Light gray to white, abundant muscovite, quartz and feldspar, trace chlorite, trace talc on fractures.

LITHOLOGIC LOG

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Depth (m)

Description

1650-1675
(505.5-510.6)

Siltstone - Dark gray green with fractures, fillings and abundant sulfides.

1675-1720
(510.6-524.4)

Granite - Light gray to white, abundant disseminated pyrite, abundant talc, minor mica, trace chlorite, moderate feldspar and quartz. Trace rose red translucent crystals. Moderate argillic alteration fractured and sheared at 1718.

1720-1776
(524.4-541.5)

Dolomite - Dark gray and black, vuggy, coarse granular texture, minor pyrite, minor small silica filled fractures, minor hematite staining around some pyrite.

1776-1967
(541.5-599.6)

Dolomite - Medium to dark green gray marbled. Calcite fillings in most fractures with a trace of pyrite, minor micas at 1789, lateral shear at 1825' dipping 70° cross core.

1967-1981
(599.6-603.9)

Dolomite - Dark gray, vuggy with loss circulation zone.

1981-1986(TD)
(603.9-605.5-TD)

Granite - Light gray, quartz, mica and feldspar.

AMAX EXPLORATION, INC.

TEMPERATURE/DEPTH LOG

1186-39

AT Well No. 31-32

Property-Project ALUM Depth Logged 605 m

Map Silver PK Scale 15" Date: Drilled 3/27/82 Logged 5/6/82

State NV County ESM of NE of NW of Sec 32 T 14 R 3E

Instrument SPR 29 Operator Huntsman Elevation 5030 (ft)

Comments 1 1/2' tubing Flow log

Date Logged

JUSTIFY

Card A

Proj No	Well No	DA	MO	YR	*
1186	39	6	6	83	C M

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

Site Description																				Operator					Editor					DA					MO					YR				
1186																				GH/DP					27					6					83									

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

Card B

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

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

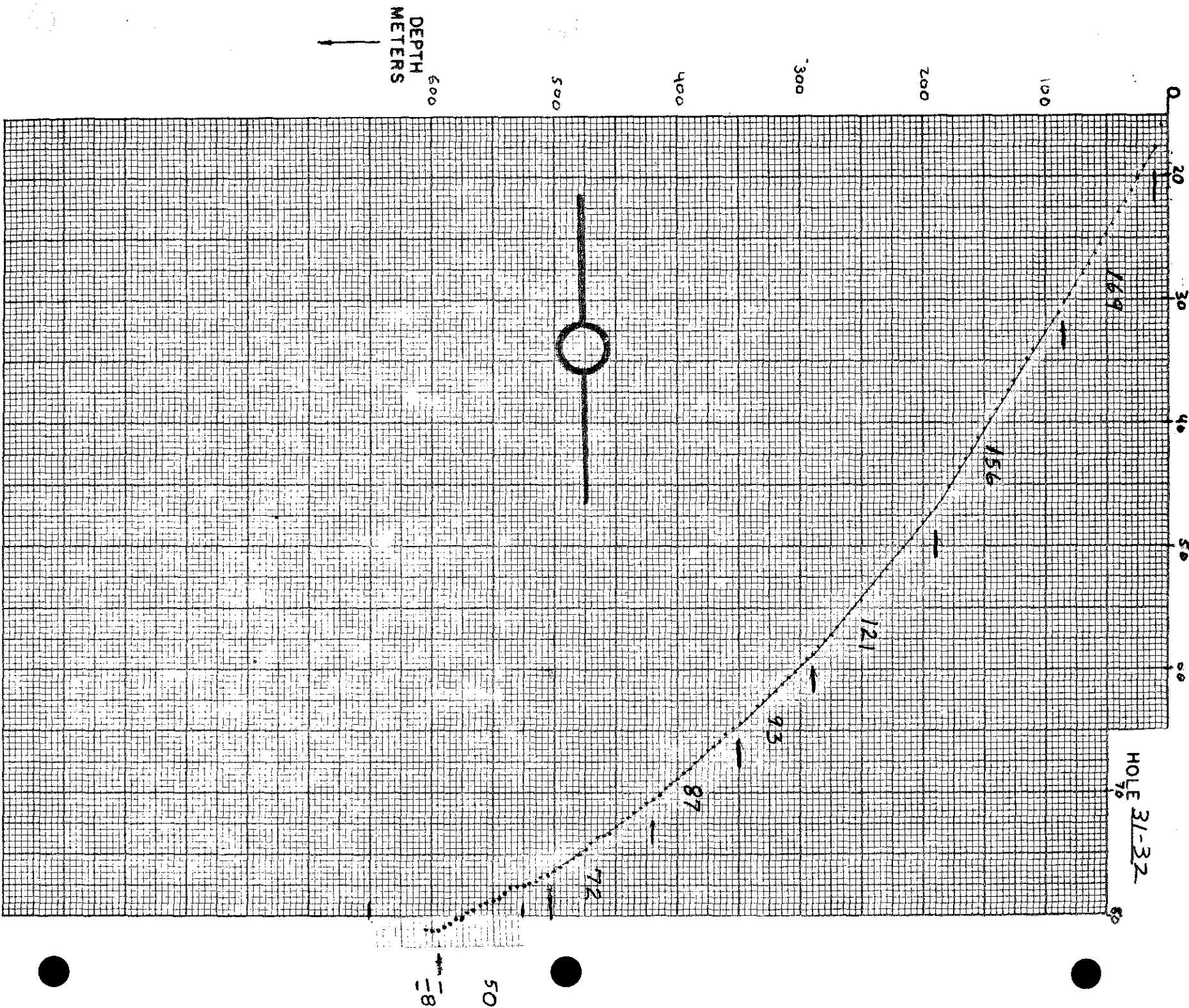
Northing										Easting										Elev									
27										11.5										5030									

Write M if meters

Segment	Start	End	Conductivity K	ΔK
Segment 1	10.0	85.0		
Segment 2	85.0	190.0	3.5	-0.5
Segment 3	190.0	290.0		
Segment 4	290.0	350.0		
Segment 5	350.0	420.0		
Segment 6	420.0	505.0		
Segment 7	505.0	595.0		
Segment 8	595.0	799		
Segment 9				
Segment 10				

After final segment Start = .999

TEMPERATURE °C



DEPTH
METERS

600

500

400

300

200

100

0

20

30

40

50

60

HOLE 31-32

8

50

Date Logged: 6/6/83AT Well No. 32-32

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
5	120.53	15.87					
< 10	113.40	17.63	1.76			w	
15	110.26	18.44	.81	162		↓	
20	106.96	19.30	.86	172			
25	103.48	20.24	96	192			
30	99.92	21.22	98	196			
35	96.54	22.18	96	192			
40	93.62	23.04	86	172			
45	90.66	23.92	88	176			
50	87.73	24.83	91	182			C .0952
55	85.33	25.59	76	152			
60	82.94	26.37	78	156			
65	80.54	27.17	80	160			
70	78.39	27.91	74	148			
75	75.93	28.77	86	172			< .0952
80	73.76	29.55	78	156			
< 85	71.67	30.33	78	156			
90	69.70	31.08	75	150			
95	67.63	31.89	81	162			
100	65.69	32.68	79	158			C .0953
105	63.91	33.42	74	148			
110	62.15	34.17	75	150			
115	60.31	34.97	80	160			
120	58.59	35.75	78	156			
125	56.77	36.60	85	170			C .0955
130	55.02	37.43	83	166			
135	53.46	38.20	77	154			

K=Conductivity

Date Logged: _____

ΔT Well No. _____

apth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
140	51.93	38.98	90	180			
145	50.21	39.88	70	140			
150	48.91	40.58	79	158			C .0957
155	47.48	41.37	76	152			
160	46.16	42.13	73	146			
165	44.92	42.86	85	170			
170	43.53	43.71	73	146			
175	42.35	44.44	74	148			C .0960
180	41.19	45.18	98	196			
185	39.72	46.16	59	118			
< 190	38.86	46.75	54	108			
195	38.09	47.29	72	142			C .0962
200	37.09	48.01	79	158			
205	36.02	48.80	57	114			
210	35.27	49.37	73	146			
215	34.33	50.10	59	118			
220	33.59	50.69	67	134			C .0965
225	32.77	51.36	70	140			
230	31.93	52.06	55	110			
235	31.29	52.61	56	112			
240	30.66	53.17	62	124			
245	29.97	53.79	67	134			C .0968
250	29.24	54.46	43	86			
255	28.78	54.89	62	124			
260	28.14	55.51	49	94			
265	27.64	56.00	63	126			
270	27.01	56.63					

K=Conductivity

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Date Logged: 6/6/83 ΔT Well No. 32-32

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
275	26.42	57.24	41	82			c .0971
280	26.03	57.65					
			52	104			
285	25.54	58.17					
			59	118			
290	24.91	58.86	41	82			
295	24.55	59.27					
			46	92			
300	24.14	59.73					c .0975
			52	104			
305	23.68	60.27					
			34	68			
310	23.39	60.61					
			63	126			
315	22.87	61.24					
			49	98			
320	22.47	61.73					
			34	68			
325	22.19	62.07					c .0980
			50	100			
330	21.80	62.57					
			39	78			
335	21.50	62.96					
			55	110			
340	21.08	63.51					
			44	88			
345	20.75	63.95					
			48	96			
350	20.40	64.43	43	86			
			48	96			
355	20.09	64.86					
			43	86			
360	19.75	65.34					
			42	84			
365	19.45	65.77					
			45	90			
370	19.16	66.19					
			48	96			
375	18.85	66.66					c .0990
			40	80			
380	18.53	67.14					
			46	92			
385	18.27	67.54					
			44	88			
390	17.98	68.00					
			38	76			
395	17.70	68.44					
			52	104			
400	17.47	68.82					c .0995
405	17.15	69.34					

K=Conductivity

page _____ of _____

Date Logged: _____

 ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
410	16.94	69.70	46	92			
415	16.67	70.16	38	76			
< 420	16.45	70.54	35	70			< .1001
425	16.25	70.89	43	86			
430	16.01	71.32	28	56			
435	15.85	71.60	48	96			
440	15.59	72.08	40	80			
445	15.38	72.48	37	74			
450	15.18	72.85	45	90			<
455	14.95	73.30	29	58			
460	14.80	73.59	18	36			
465	14.71	73.77	49	98			
470	14.46	74.26	53	106			< .1014
475	14.20	74.79	33	66			
480	14.04	75.12	32	64			
485	13.89	75.44	36	72			
490	13.72	75.80	19	38			
495	13.63	75.99	37	74			< .1020
500	13.46	76.36	36	72			
< 505	13.34	76.62	29	58			
510	13.21	76.91	29	58			
515	13.08	77.20	22	44			
520	12.98	77.42	9	18			
525	12.94	77.51	7	14			< .1027
530	12.91	77.58	27	54			
535	12.79	77.85	35	70			
540	12.64	78.20					

K=Conductivity

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Drill History Alum 31 - 32

- 3/ 9/83 Rigged up by 2 p.m. and spudded to 215' with 6 1/4" hole. Work done by Superior Drilling.
- 3/10/83 Ran 215' of 4 1/2" (12 #/ft) casing and cemented with 1 yard of 7 sacks sandmix.
- 3/11/83 Longyear moving rig onto pad and rigged up.
- 3/12/83 Rigging up, installed B.O.P. equipment. Tested Hydrill for 20 minutes at 20 psi with pipe in and out of hole.
- 3/13/83 Commenced drilling at 7 a.m. Cored from 215' to 448' for a daily total of 233'. Mud wt 8.5, vis 40 and Ph 8.5.
- 3/14/83 Coring from 448' to 641' for a daily total of 193'. Core hole is 3 1/2". Mud wt 8.3, vis 38 and Ph 8.5. Drilling ahead with penetration of 8-10 ft/hour.
- 3/15/83 Corring from 641' to 883' for a daily total of 242'. Mud temp in 68° F, mud out 80° F, wt 8.4 vis 38, Ph 8.3.
- 3/16/83 Coring from 883' to 1087' for a daily total of 196'. Penetration is 7-9 ft/hour. Mud temp out 80° F, wt 8.3, vis 40 and Ph 8.3
- 3/17/83 Coring from 1084' to 1326' fro a daily total of 242'. Mud temp out 67°F, wt 8.3, vis 34 and Ph 8.5
- 3/18/83 Coring from 1326' to 1460' for a daily total of 138'. Mud temp out 65°F, wt 8.4, vis 32, and Ph 8.5
- 3/19/83 Coring from 1460' to 1547' for a total footage of 87'. Loss circulation at 1523' and hard argillite formation slowed penetration rate to less than 8 ft/hour. No mud returns.
- 3/20/83 Cored from 1547' to 1549' when pipe got stuck in hole. Operations shut down till NQ drill pipe arrived to continue hole.
- 3/21/83 Resumed drilling about midnight with NQ bit (3"). Drilled out landing ring and NQ bit, than drilled 18' and POH for bit change. Cored from 1549' to 1567'.
- 3/22/83 Cored from 1567' to 1702' for a daily total of 135'. Mud temp. out 75°F, wt. 8.2, vis. 31 and Ph 8.5.
- 3/23/83 Cored form 1702' to 1799' for a total footage of 97'. P.O.H. at 1789' for bit change. Continually losing about 50% of drilling fluids, and temporarily lost all circulation at 1741'. Mud temp. is 52°F, out 54°F, wt. 8.3, vis. 35, and Ph 11.5.
- 3/24/83 Cored from 1799' to 1880' for a total footage of 81'. Rock very hard and abrasive wearing out 2 bits in 70'. 65% fluid returns, mud wt. 8.3, vis 34 and Ph 11.5.

- 3/25/83 Cored from 1880 to 1938' for a total footage of 58'. Mud temp. is 58°F, out 64°F, wt. 8.3, vis. 36, and Ph 11.4.
- 3/26/83 Cored from 1938 to 1986(TD) for a daily total of 48'. Mud temp is 60°F, out 66°F, wt. 8.4, vis. 37, and Ph 11.6. Completed hole at 5 pm, P.O.H. and R.I.H. with cutter, cut HQ pipe at 1499' and pulled HQ rods.
- 3/27/83 Finished pulling HQ rods. Birdwell Geophysical ran SP, gamma, caliper and induction logs. Ran 1946' feet of 1-1/2" tubing. Crew completed breaking down NQ rods and started rigging down.
- 3/28/83 Removed B.O.P.E. and released.

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/28/83

Location: NE of NW Sec. 32 T 1N R 38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2,000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1986' to 1986' TD Mud/Air/ _____

Footage Cut 0' Temp: In _____ Out _____

Hole Size _____ Wt _____

Dev. Survey _____ @ _____ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report Removed BOPE, completed rigging down, moved equipment to Fish Lake.

Well History

Interval	Hole Size	Casing
0-215	6 1/4"	4 1/2
215-1549	3 1/2"	
1549-1986	3"	

Expenditures

Total to date	<u>67,242</u>
Projected	_____
Cost/Ft	<u>33.86</u>
Budgeted	_____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/27/83
 Location: NE of NW Sec. 32 T1N R38 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2,000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1986' to 1986'TD Mud/Air/ _____
 Footage Cut 0' Temp: In _____ Out _____
 Hole Size _____ Wt _____
 Dev. Survey _____ @ _____ Vis _____
 Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report Finish pulling HQ rods, Birdwell Geophysics ran SP, gamma,
caliper and electric logs. Ran 1946' 1 1/2" tubing, crew completed breaking down
NQ rods. Began rigging down.

Well History

Interval	Hole Size	Casing
0-215	6 1/4	4 1/2
215-1549	3 1/2	
1549-1986	3	

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (A1um) Date: 3/26/83

Location: NE of NW Sec. 32 T 1N R 38 1/2 Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2,000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1938' to 1986' TD Mud/Air/ _____

Footage Cut 48' Temp: In 60°F Out 66°F

Hole Size 3" Wt 8.4

Dev. Survey _____ @ _____ Vis 37

Casing _____ Ph 11.6

Bits, stabs, etc. & ser. # _____

Lithology Quartzite, siltstones

Additional Report Complete hole about 5 p.m., POH, RIH with cutter, cut HQ pipe at 1499', start pulling HQ rods.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4</u>	<u>4 1/2</u>
<u>215-1549</u>	<u>3 1/2</u>	_____
<u>1549-1986</u>	<u>3</u>	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/25/83
 Location: NE of NW Sec. 32 T 1N R 88 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2,000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1880' to 1938' Mud/Air/ _____
 Footage Cut 58' Temp: In 58°F Out 64°F
 Hole Size 3" Wt 8.3
 Dev. Survey _____ @ _____ Vis 36
 Casing _____ Ph 11.4

Bits, stabs, etc. & ser. # L50437 out 1887, #651261 in 1887, out 190

Lithology Quartzite

Additional Report _____

Well History

Interval	Hole Size	Casing	Expenditures	
			Total to date	Projected
<u>0-215</u>	<u>6 1/4</u>	<u>4 1/2</u>	_____	_____
<u>215-1549</u>	<u>3 1/2</u>	_____	_____	_____
<u>1549-1938</u>	<u>3</u>	_____	_____	_____
_____	_____	_____	Cost/Ft _____	_____
_____	_____	_____	Budgeted _____	_____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/24/83
 Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1799' to 1880' Mud/Air/ _____
 Footage Cut _____ 81' Temp: In _____ Out _____
 Hole Size 3 Wt 8.3
 Dev. Survey _____ @ _____ Vis 34
 Casing _____ Ph 11.5

Bits, stabs, etc. & ser. # L399875 in at 1840-1861: LH8638 in 1861'

Lithology _____

Additional Report Rock hard and abrasive. Bits 51' 21' 65% fluid returns.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/23/83
 Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1702 to 1799 Mud/Air/ _____
 Footage Cut 97' Temp: In 52°F Out 54°F
 Hole Size 2 3/4" Wt 8.3
 Dev. Survey @ Vis 35
 Casing _____ Ph 11.5

Bits, stabs, etc. & ser. # L50345G in at 1789
 Lithology lt. gray quartzite
 Additional Report POH for bit change at 1789'. Continually losing about 50% of drilling fluids; temporarily lost all circulation at 1741'

Core coming out much cooler than above 1600'

Well History

<u>Interval</u>	<u>Hole Size</u>	<u>Casing</u>	<u>Expenditures</u>
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>	<u>Total to date \$44,853.</u>
<u>215-1549</u>	<u>3 1/2</u>	<u>_____</u>	<u>Projected _____</u>
<u>1549-1799</u>	<u>2 3/4</u>	<u>_____</u>	<u>Cost/Ft _____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>Budgeted _____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	
<u>_____</u>	<u>_____</u>	<u>_____</u>	

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/22/83
 Location: NE of NW Sec. 32 T1N R38 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1567 to 1702 Mud/Air/ _____
 Footage Cut 135' Temp: In _____ Out 75° F
 Hole Size 3 Wt 8.2
 Dev. Survey _____ @ _____ Vis 31
 Casing _____ Ph 8.5

Bits, stabs, etc. & ser. # _____
 Lithology Quartzite
 Additional Report trip for bit

Well History

Interval	Hole Size	Casing
0-215	6 1/4"	4 1/2
215-1549	3	_____
1549-1702	3	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures 2,299.
 Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/21/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1549 to 1567 Mud/Air/ _____

Footage Cut 18' Temp: In _____ NR _____ Out 76°F

Hole Size 3 Wt 8.6

Dev. Survey @ Vis 31

Casing _____ Ph 8.4

Bits, stabs, etc. & ser. # NQ

Lithology Argillite

Additional Report Resumed drilling about midnight with NQ bit. Drilled out

landing ring and HQ bit, drilled 18 feet, POH for bit change. Drilled out

of clay/fault zone and into competent argillites.

Well History

Interval	Hole Size	Casing
0-215	6 1/4"	4 1/2
215-1549	3 1/2	
1549-1567	3	

Expenditures

Total to date	<u>39,653</u>
Projected	_____
Cost/Ft	<u>25.30</u>
Budgeted	_____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/20/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1547 to 1549 Mud/Air/ No returns

Footage Cut 2' Temp: In _____ Out _____

Hole Size 3 1/2" Wt _____

Dev. Survey @ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology Soft gray clay, fault zone.

Additional Report Drill pipe stuck in hole, shut down, waiting on NO drill pipe to continue hole.

Well History

Interval	Hole Size	Casing	Expenditures
0-215	6 1/4"	4 1/2"	Total to date <u>34,688</u>
215-1549	3 1/2"	---	Projected _____
_____	_____	_____	Cost/Ft <u>22.39</u>
_____	_____	_____	Budgeted _____
_____	_____	_____	

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/19/83

Location: NE of NW Sec. 32 T1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1460 to 1547 Mud/Air/ No returns

Footage Cut 87' Temp: In _____ Out _____

Hole Size 3 1/2" Wt _____

Dev. Survey @ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology Siltstone breccia 1460-1523, Argillite 1523-1547

Additional Report Lost circulation at 1523' at argillite contact. Penetration

8 ft/hour.

Well History

<u>Interval</u>	<u>Hole Size</u>	<u>Casing</u>	<u>Expenditures</u>
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>	<u>Total to date 36,262</u>
<u>215-1547</u>	<u>3 1/2"</u>	<u>---</u>	<u>Projected 23.44</u>
_____	_____	_____	<u>Cost/Ft _____</u>
_____	_____	_____	<u>Budgeted _____</u>
_____	_____	_____	

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/18/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1326 to 1460 Mud/Air/ 90% Fluid returns

Footage Cut 138' Temp: In _____ Out 65° F

Hole Size 3 1/2 Wt 8.4

Dev. Survey @ Vis 32

Casing _____ Ph 8.5

Bits, stabs, etc. & ser. # _____

Lithology Esmeralda Fm. - siltstone, siltstone breccia

Additional Report _____

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
<u>215-1460</u>	<u>3 1/2"</u>	<u>---</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date 34,617
 Projected _____
 Cost/Ft 23.70
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/17/83
 Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83
 County, State: Esmeralda, Nevada Day #: _____
 Prog. Depth: 2000' Contractor: Wright/Longyear
 Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 1084 to 1326 Mud/Air/ _____
 Footage Cut 242' Temp: In NR Out 67° F
 Hole Size 3 1/2" Wt 8.3
 Dev. Survey @ Vis 34
 Casing _____ Ph 8.5

Bits, stabs, etc. & ser. # _____
 Lithology Esmeralda, (Siltstone & Breccia)
 Additional Report _____

Well History

<u>Interval</u>	<u>Hole Size</u>	<u>Casing</u>	<u>Expenditures</u>
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>	<u>Total to date 31,567</u>
<u>215-1326</u>	<u>3 1/2"</u>	_____	<u>Projected _____</u>
_____	_____	_____	<u>Cost/Ft _____</u>
_____	_____	_____	<u>Budgeted _____</u>
_____	_____	_____	

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/16/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 883 to 1087 Mud/Air/ _____

Footage Cut 196' Temp: In NR Out 80° F

Hole Size 3 1/2" Wt 8.3

Dev. Survey @ Vis 40

Casing _____ Ph 8.3

Bits, stabs, etc. & ser. # _____

Lithology Esmeralda Fm. (Claystone, siltstones)

Additional Report Penetration 7-9 ft/hour.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
<u>215-1087</u>	<u>3 1/2"</u>	<u>---</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/15/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 641 to 883 Mud/Air/ _____

Footage Cut 242' Temp: In 68° F Out 80° F

Hole Size 3 1/2" Wt 8.4

Dev. Survey @ Vis 38

Casing _____ Ph 8.3

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report _____

Well History

<u>Interval</u>	<u>Hole Size</u>	<u>Casing</u>	<u>Expenditures</u>
<u>0-215</u>	<u>6 1/4"</u>	<u>_____</u>	<u>Total to date 23,857</u>
<u>215-883</u>	<u>3 1/2"</u>	<u>_____</u>	<u>Projected _____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>Cost/Ft _____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>Budgeted _____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/14/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 448 to 641 Mud/Air/ _____

Footage Cut 193' Temp: In NR Out NR

Hole Size 3 1/2" Wt 8.3

Dev. Survey @ Vis 38

Casing _____ Ph 8.5

Bits, stabs, etc. & ser. # _____

Lithology Esmeralda Fm. (siltstones)

Additional Report Drilling ahead with penetration 8-10 ft/hour.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
<u>215-641</u>	<u>3 1/2"</u>	<u>---</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/13/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 215 to 448 Mud/Air/

Footage Cut 233' Temp: In _____ Out _____

Hole Size 3 1/2" Wt 8.5

Dev. Survey @ Vis 40

Casing _____ Ph 8.5

Bits, stabs, etc. & ser. # _____

Lithology Esmeralda Fm. (siltstones)

Additional Report Commenced drilling at 7 AM.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
<u>215-448</u>	<u>3 1/2"</u>	<u>---</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/12/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 215 to 215 Mud/Air/ _____

Footage Cut 0' Temp: In _____ Out _____

Hole Size _____ Wt _____

Dev. Survey @ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report Rigging up, install BOP equipment. Test Hydrill to 200 psi
for 20 minutes with pipe in and out of hole.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/11/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 215 to 215 Mud/Air/ _____

Footage Cut 0' Temp: In _____ Out _____

Hole Size _____ Wt _____

Dev. Survey @ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report Rigging Up.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	<u>4 1/2"</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (Alum) Date: 3/10/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 215' to 215' Mud/Air/ _____

Footage Cut 0' Temp: In _____ Out _____

Hole Size _____ Wt _____

Dev. Survey _____ @ _____ Vis _____

Casing 4 1/2" 12#/ft. (0-215') Ph _____

Bits, stabs, etc. & ser. # _____

Lithology _____

Additional Report Ran 215' of 4 1/2" casing and cemented with 1 yard of

7 sack sandmix.

Well History

Interval	Hole Size	Casing
<u>0-215</u>	<u>6 1/4"</u>	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Expenditures

Total to date _____
 Projected _____
 Cost/Ft _____
 Budgeted _____

DAILY DRILLING REPORT

Project - Hole: 31-32 (ATum) Date: 3/9/83

Location: NE of NW Sec. 32 T 1N R38 1/2E Spud Date: 3/9/83

County, State: Esmeralda, Nevada Day #: _____

Prog. Depth: 2000' Contractor: Wright/Longyear

Geologist: Deymonaz/Huntsman Rig.: _____

Drilled 0 to 215' Mud/Air/ foam

Footage Cut 215' Temp: In _____ Out _____

Hole Size 6 1/4" Wt _____

Dev. Survey @ Vis _____

Casing _____ Ph _____

Bits, stabs, etc. & ser. # _____

Lithology Esmeralda fm. (siltstone)

Additional Report Set up on site about 2:00 p.m.

<u>Well History</u>			<u>Expenditures</u>
<u>Interval</u>	<u>Hole Size</u>	<u>Casing</u>	<u>Total to date</u> _____
<u>0-215</u>	<u>6 1/4"</u>	_____	<u>Projected</u> _____
_____	_____	_____	<u>Cost/Ft</u> _____
_____	_____	_____	<u>Budgeted</u> _____
_____	_____	_____	
_____	_____	_____	

20th CENTURY PLASTICS, INC.

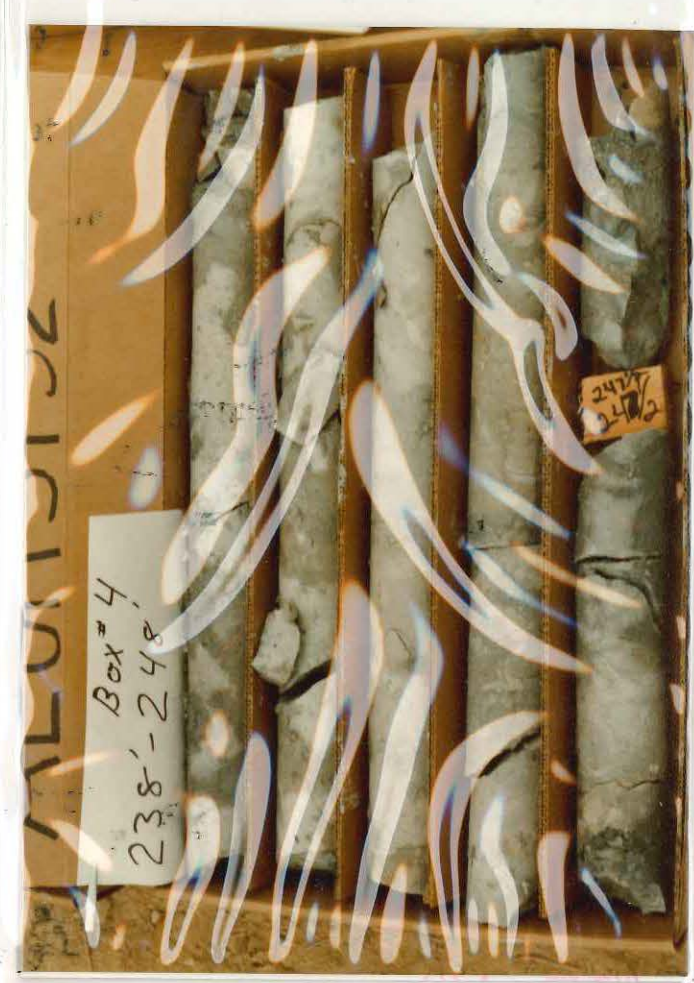
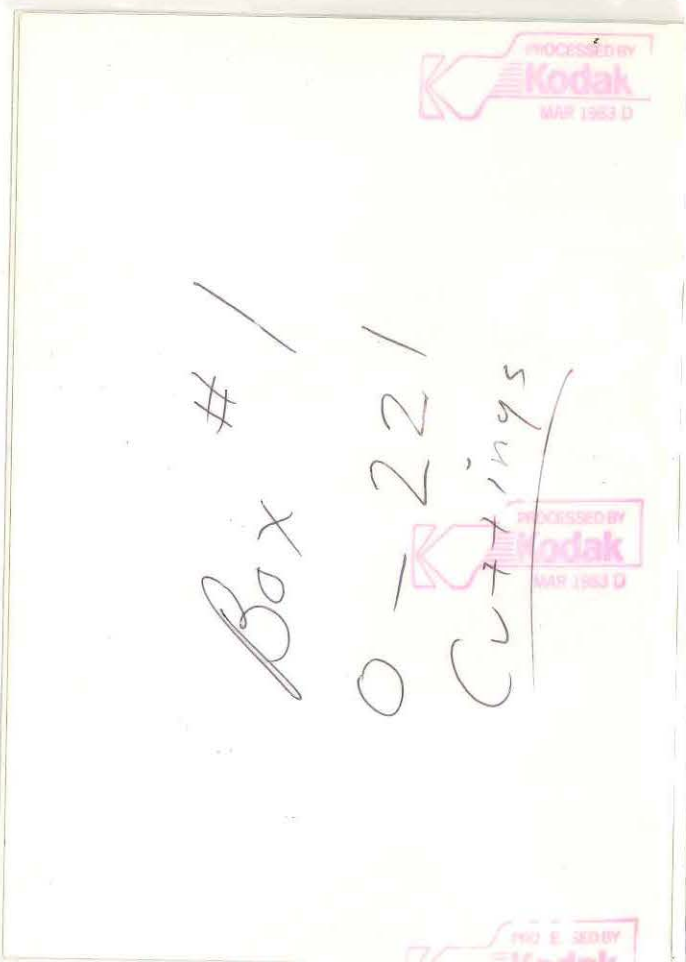
455 GARDEN LA. CA. 91104

Box #1
O-221
Cuttings

PROCESSED BY
Kodak
MAY 1963 D

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Kodak
MAY 1963 D

PRO E. 380BY
Kodak









20TH CENTURY FLINTS, INC.

20TH CENTURY FLINTS, INC.



ALUM 31-32

ALUM 31-32







2074 GEORGE W. BARNES, D.D.

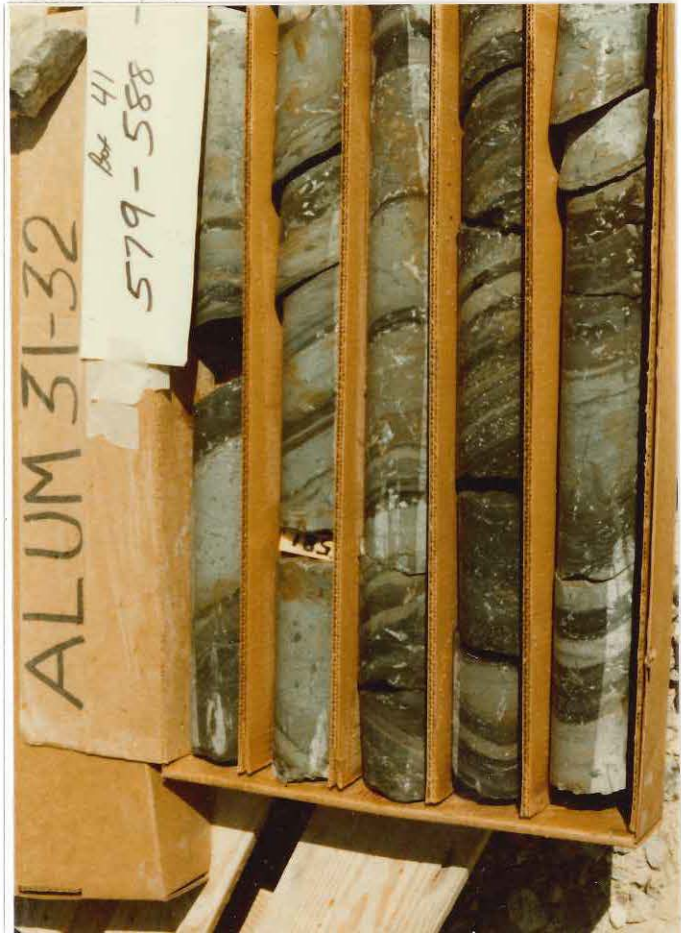


THE OFFICIAL RECORDS OF THE



8



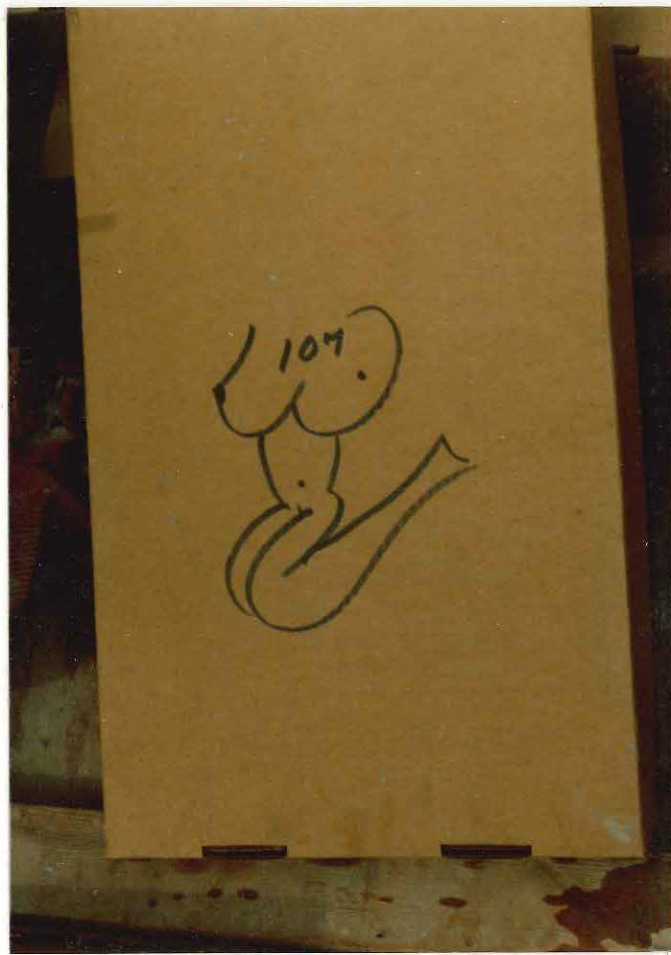












SCM CENTER BRIDGE, INC

2058 OSSENATH, 7709, BLOCK 3 A-94





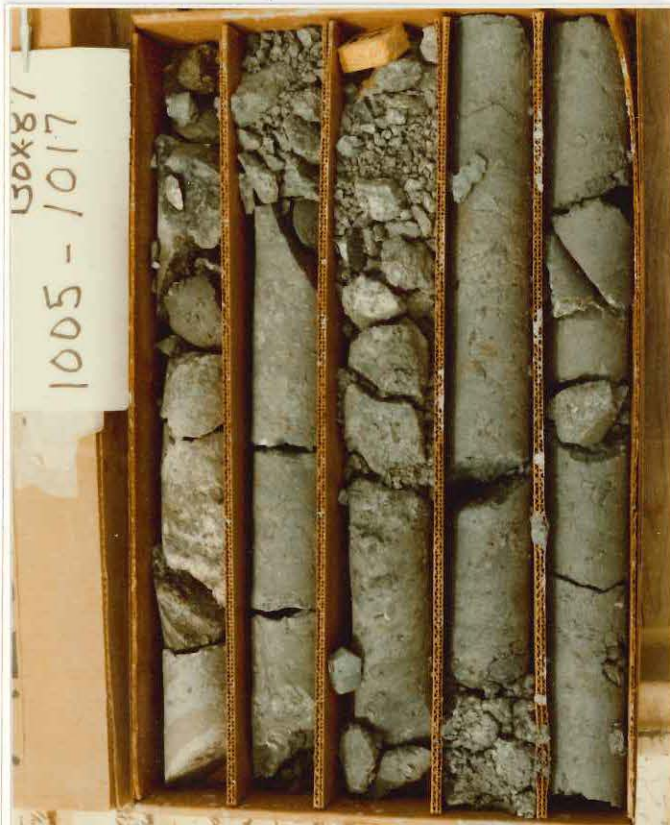




SCM CENTER RESEARCH INC

2000 CEMENTA-7/A 77 07 BLOCK 3 A-88

20th CENTURY FLUORIDES, INC.





ALUM 31-32
Box 89
1027 - 1037

PROCESSED BY
Kodak
MAR 1983 D

PROCESSED BY
Kodak
MAR 1983 D



ALUM 31-32
Box 92
1056.5 - 1066

PROCESSED BY
Kodak
MAR 1983 D

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Kodak
MAR 1983 D

SCM CENTRAL BRIDGE INC

SCM CENTRAL BRIDGE INC





20th CENTURY PLASTICS, INC.

20th CENTURY PLASTICS, INC.



ALUM 31-32

Box 105
1177-1186



ALUM 51-52

Box 106
1186-1195



ALUM 31-32

Box 107
1195-1204



Box 108

1204-1213



20th CENTURY FILMS, INC.

20th CENTURY FILMS, INC.





SMITHSONIAN INSTITUTION

U.S. GEOLOGICAL SURVEY



ALUM 31-32

Box 121

1320 - 1330



ALUM 31-32

Box 122

1330 - 1339



ALUM 31-32

Box 123

1339 - 1348



Box 124

1348 - 1358



25th CENTURY REACTOR, INC.

25th CENTURY REACTOR, INC.





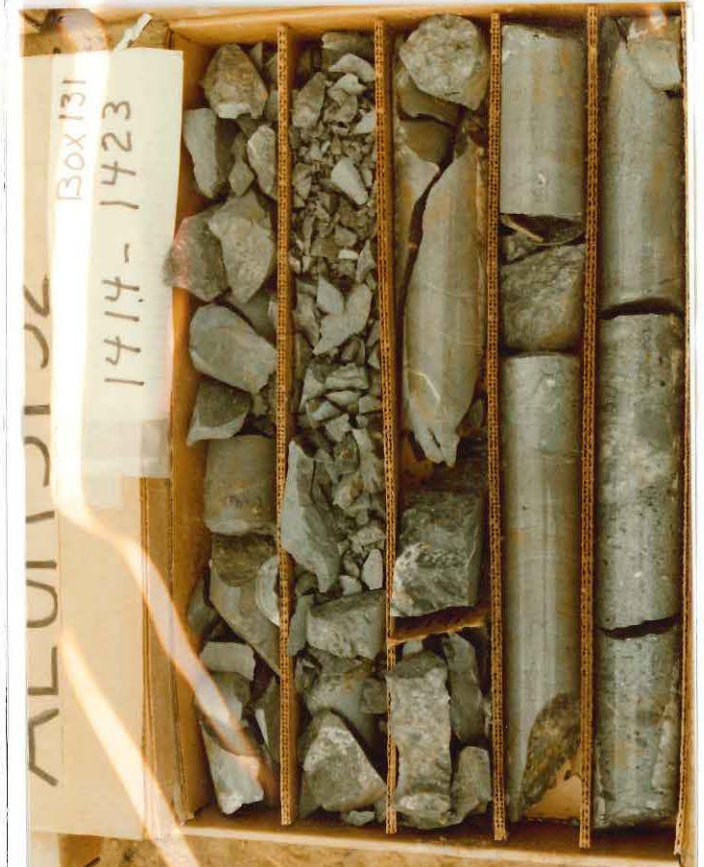
ALUM 31-32

Box 129
1395.5-1406



ALUM 31-32

Box 130
1406-1414



ALUM 31-32

Box 131
1414-1423



ALUM 31-32

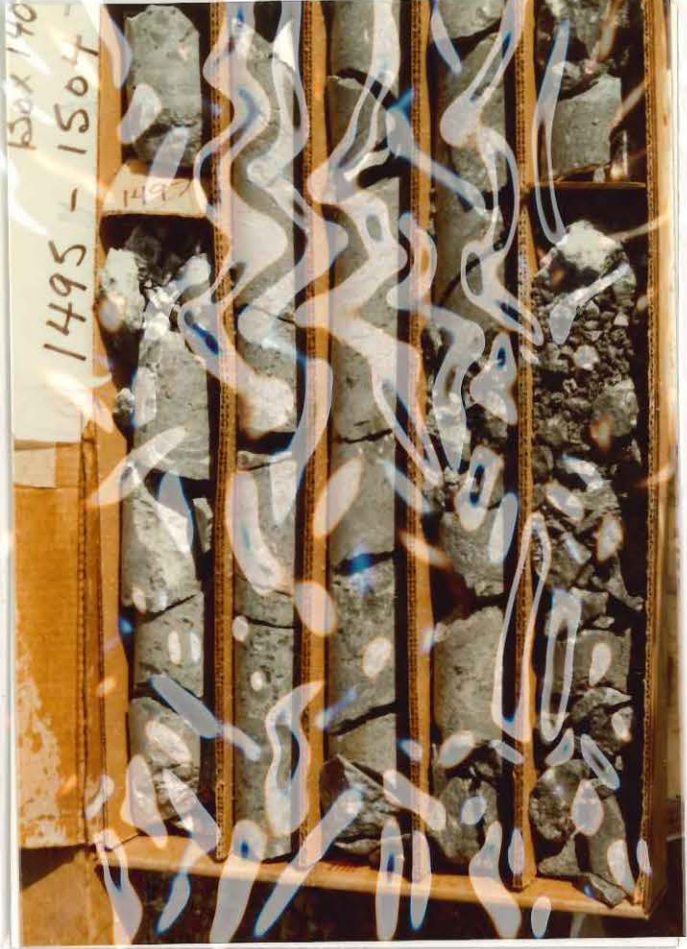
Box 132
1423-1432

SCIENTIFIC PLASTICS CO.



SCIENTIFIC PLASTICS CO.





SCM CHEMICAL PROCESSING

SCM CHEMICAL PROCESSING

5078 GEORGE F. ...



5079 GEORGE F. ...



ALUM 31-32

145
1540' - 1548.5'



1548.5' - 1558.5'



ALUM 31-32

147
1558.5' - 1562.5'



ALUM 31-32

148
1567.5' - 1577'



U.S. GEOLOGICAL SURVEY

WATER RESOURCES DIVISION





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3535 CHESTER ST. ST. LOUIS, MO

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