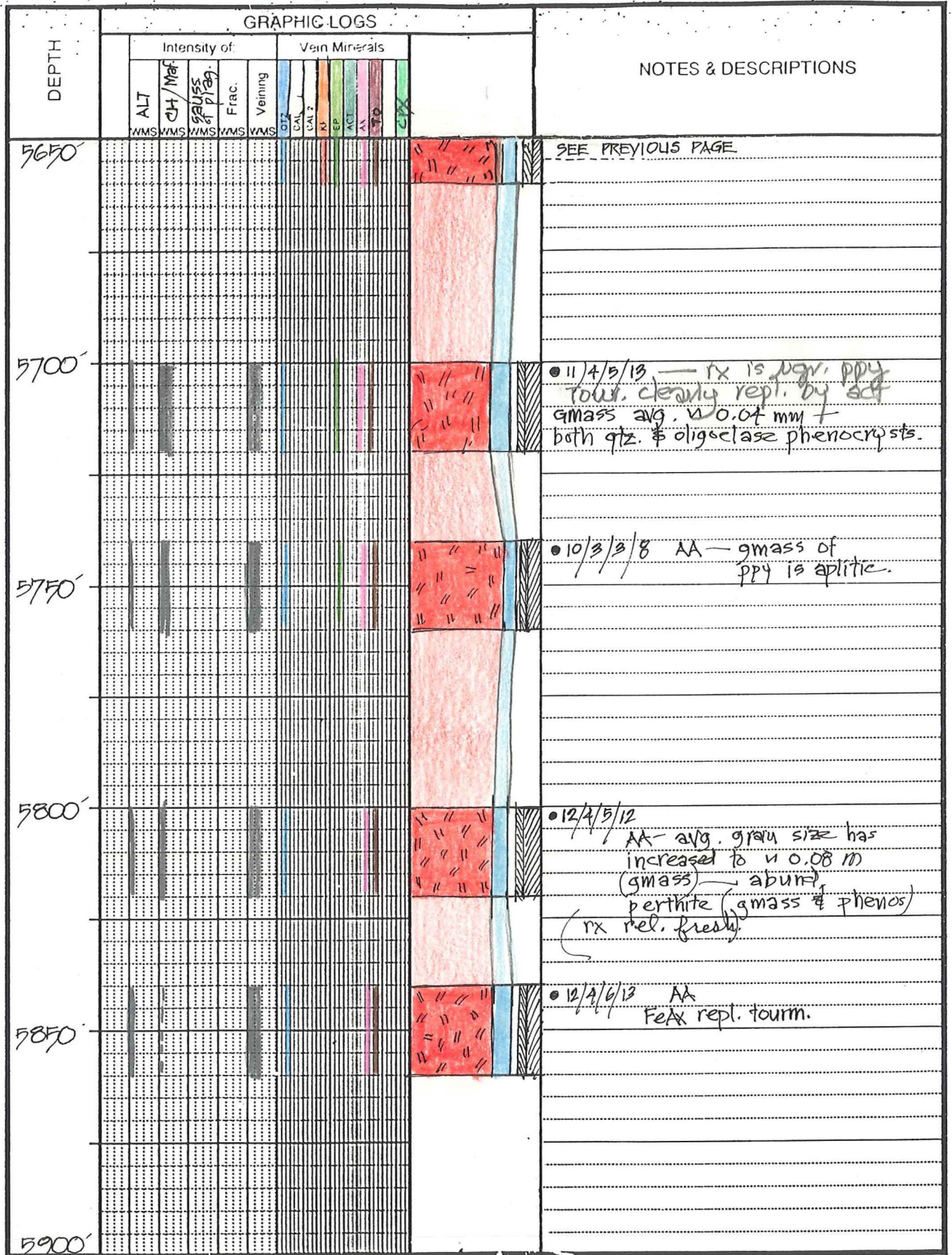


Borehole No. GPC-29

Depth Interval 5400-5650'

Logged By JH

Date \_\_\_\_\_



Borehole No. GDC-29  
 Depth Interval 5650-5900'

Logged By JH  
 Date \_\_\_\_\_

GRAPHIC LOGS

DEPTH	Intensity of:											Notes & Descriptions				
	Intensity of:					Vein Minerals										
	ALT	Ch/Maf	sauss. of plag.	Frac.	Veining	DTX	CAL	CAL2	AN	LP	ACT		AX	TO		
5900															37 Lith	10/1/1/12 • dom. usgr. ppy but suspect a few chips of hbl. granodiorite, poss. occurring as dikes — Rx appear to be relatively fresh.
5950																7/2/3/11 AA K-feldspar "flooding" of some plagioclase phenocrysts.
6000																13/4/3/13 AA — a few chips GRD also appearance of some vein actinolite.
6050																NO SAMPLE
6100																7/2/2/12 appearance of ptly chlted. bte-hbl. granodiorite <del>NO, NO sample to start down to 6100'</del>
6150																NIS




Borehole No. GRT-29

Depth Interval 5900-6150

Logged By JH

Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS											NOTES & DESCRIPTIONS			
	Intensity of:					Vein Minerals									
	ALT WMS	Ch/Maf WMS	Sauss. of plag. WMS	Frac. WMS	Veining WMS	Qtz	Cal	Pl	Ep	Act	Ax		TO	Cpx	
6150															NO SAMPLE
6200															<p><u>NEW INTRUSIVE</u></p> <ul style="list-style-type: none"> <li>6/1/2/18 intensely alt. BTE-HBL grd. ppv - bte and pxh totally chltzd</li> <li>pxh also partly altered to actinol.</li> <li>abund. tour. &amp; tour/plag.</li> <li>also ep/vntt. — abund.</li> <li>accessory apatite (also KFS - tour. vntt. frags)</li> </ul>
6250															<ul style="list-style-type: none"> <li>6/3/5/14 AA</li> </ul>
6300															<ul style="list-style-type: none"> <li>8/3/5/13 AA, but rx much fakeshell - abund primary opx &amp; bte — # ALLANITE axinite clearly repl. tourmaline</li> </ul>
6350															<ul style="list-style-type: none"> <li>(NS)  SW ch NS is at 6300</li> </ul>
6400															

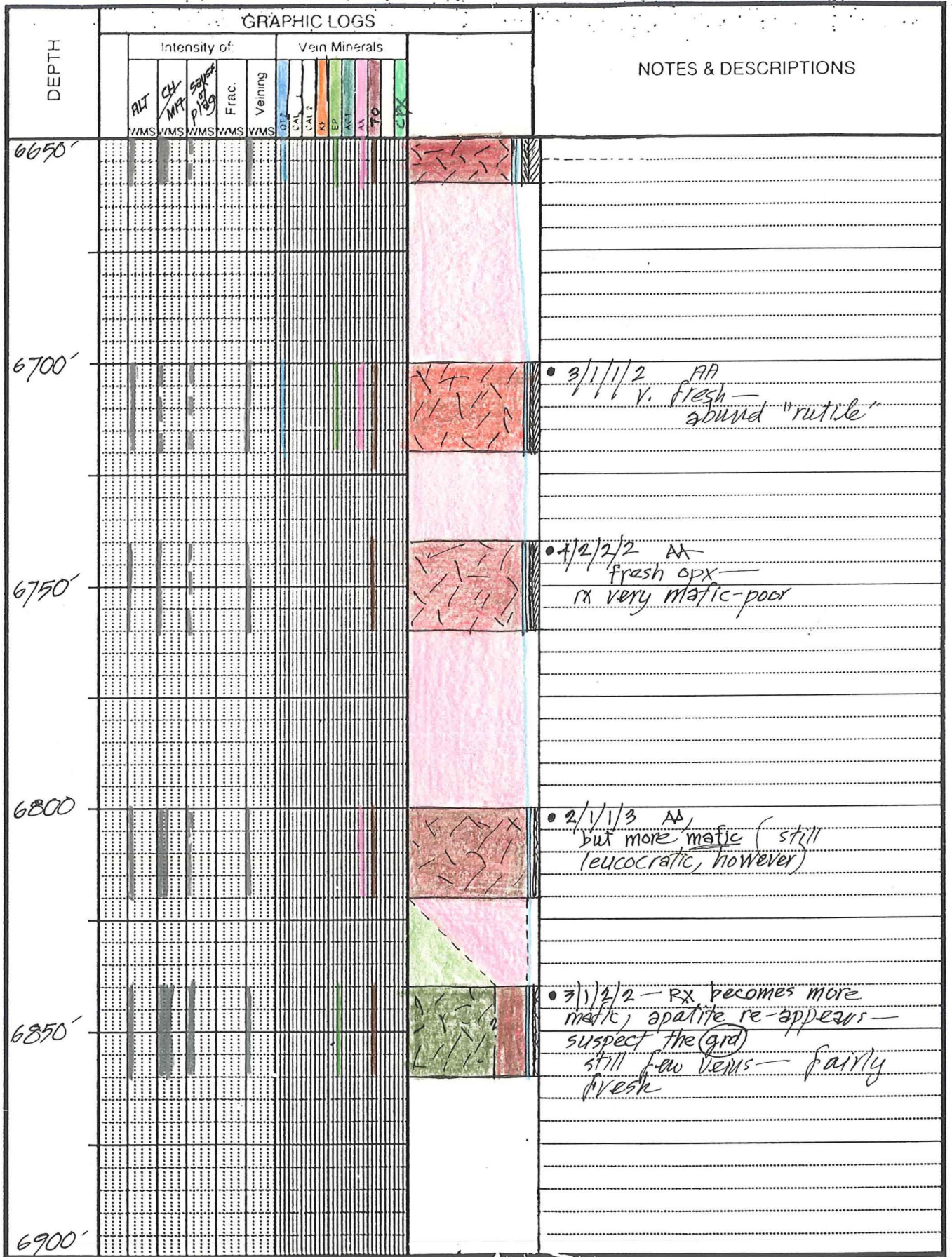
act  
ox/to

2nd b

Borehole No. GPC-29  
 Depth Interval 6150-6400

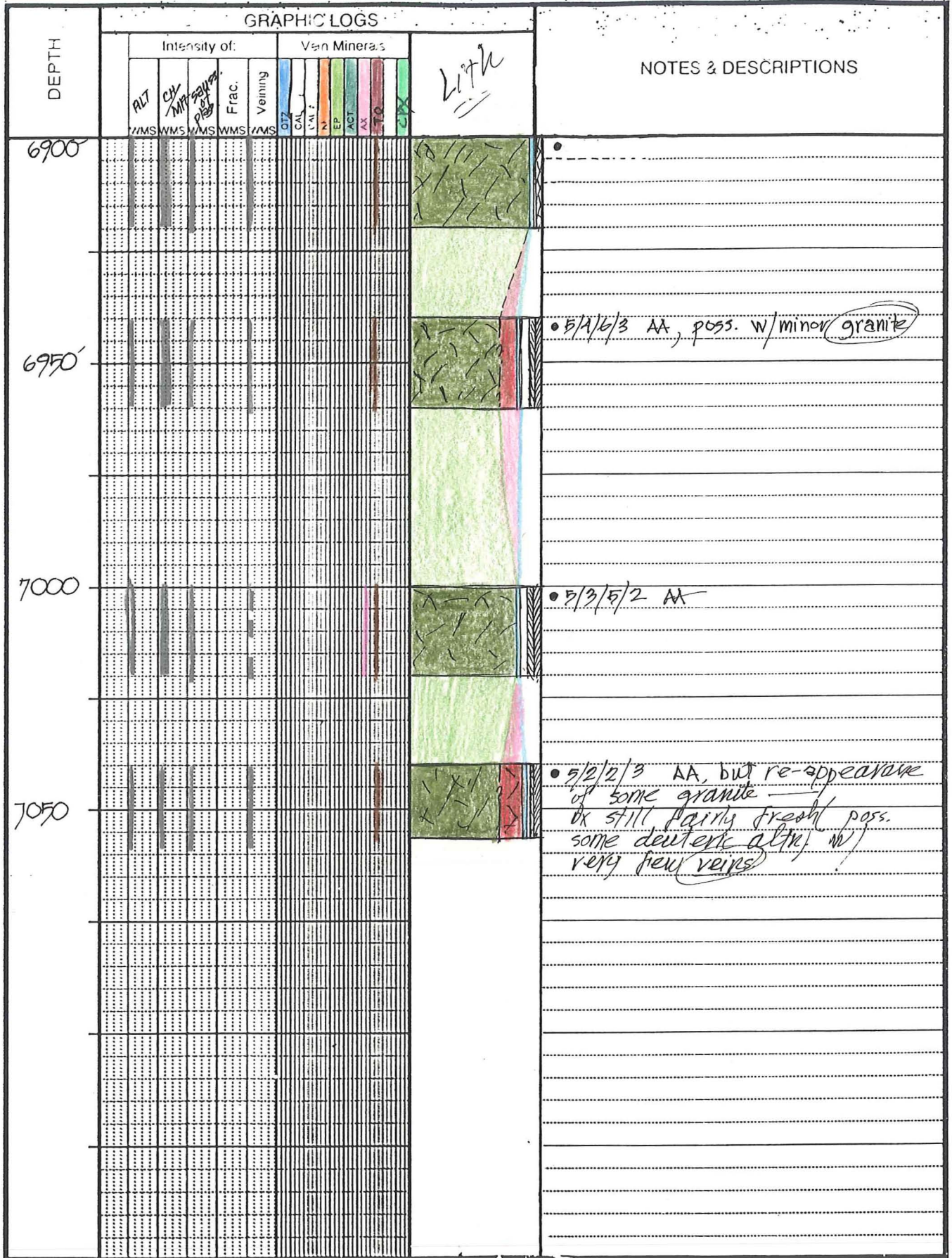
Logged By H  
 Date \_\_\_\_\_





Borehole No. GXC-29  
 Depth Interval 6650-6900'

Logged By JH  
 Date \_\_\_\_\_



Borehole No. GDC-29  
 Depth Interval 6900-7053'

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													LITH.	NOTES & DESCRIPTIONS
	Intensity of					Vein Minerals									
	ALT	CH/maf	ser/plag	ser/pl	ser/pl	Qtz	Cal	K	EP	ACT	AX	TO	CR		
5200'															
5250'														hntfs ARG	<p>hntfs ARGILLITE</p> <p>* rust/stal/cavet/7 veinlet frags / rx type 15 fgr hornfelsic mgw, avg. grn size <math>\approx 0.02</math> mm dia. — conspic. ser/plag — rx type still readily recognizable. — clastic grains up to 0.1 mm. dia. — mod KFSF flooding.</p>
5300'															<p>♦ 1/2/1/5 v 2/3 hntfs ARG (grain size avg v 5-7<math>\mu</math>) — rem. HNTFsc MGW</p>
5350'															<p>♦ 1/3/12/8 AA</p>
5400'															<p>♦ 3/4/6/16 RA much larger cuttings — 19 tour - KFSF chips — more conspic. caving.</p>
5450'															<p>♦ 1/1/2/8 RA, exc. appearance of minor granite — hntfs rocks still identifiable as parent lithologies</p>

Borehole No. GRCF, 15D-28  
 Depth Interval 5200 - 5450'

Logged By JH  
 Date \_\_\_\_\_



DEPTH	GRAPHIC LOGS												LITH.	NOTES & DESCRIPTIONS	
	Intensity of:					Vein Minerals									
	ALTN	Chl/mef	SAUSS. plag.	Fe <sup>2+</sup> sil/pl.	Veining	Qtz	Cal?	Py	EP	AGT	AX	TO			CPX
5450'															SEE PREVIOUS PAGE
5500'															<p>◆ 1/tr/tr/5 dom. fresh ngr. (or pgr ppq - abund, acc., acicular "rutile" (poss. FeO) - fsp. v. fresh - also bte</p>
5550'															<p>1/tr/tr/6            ⓐ avg. cuttings size ~ 55 μ            #2/10; ngr (or ppq) AA            consp. sericitization of plag.            some aplitic texture apparent.</p>
5600'															<p>■ 1/2/3/0 AA</p>
5650'															<p>ⓐ 1/1/3/1/1 AA            still v. fresh but abund. to vmt. fragments.</p>
5700'															

VWV  
 VWV  
 mod 5  
 720

5

Borehole No. GDCF 15D-28  
 Depth Interval 5450-5700'

Logged By JH  
 Date \_\_\_\_\_

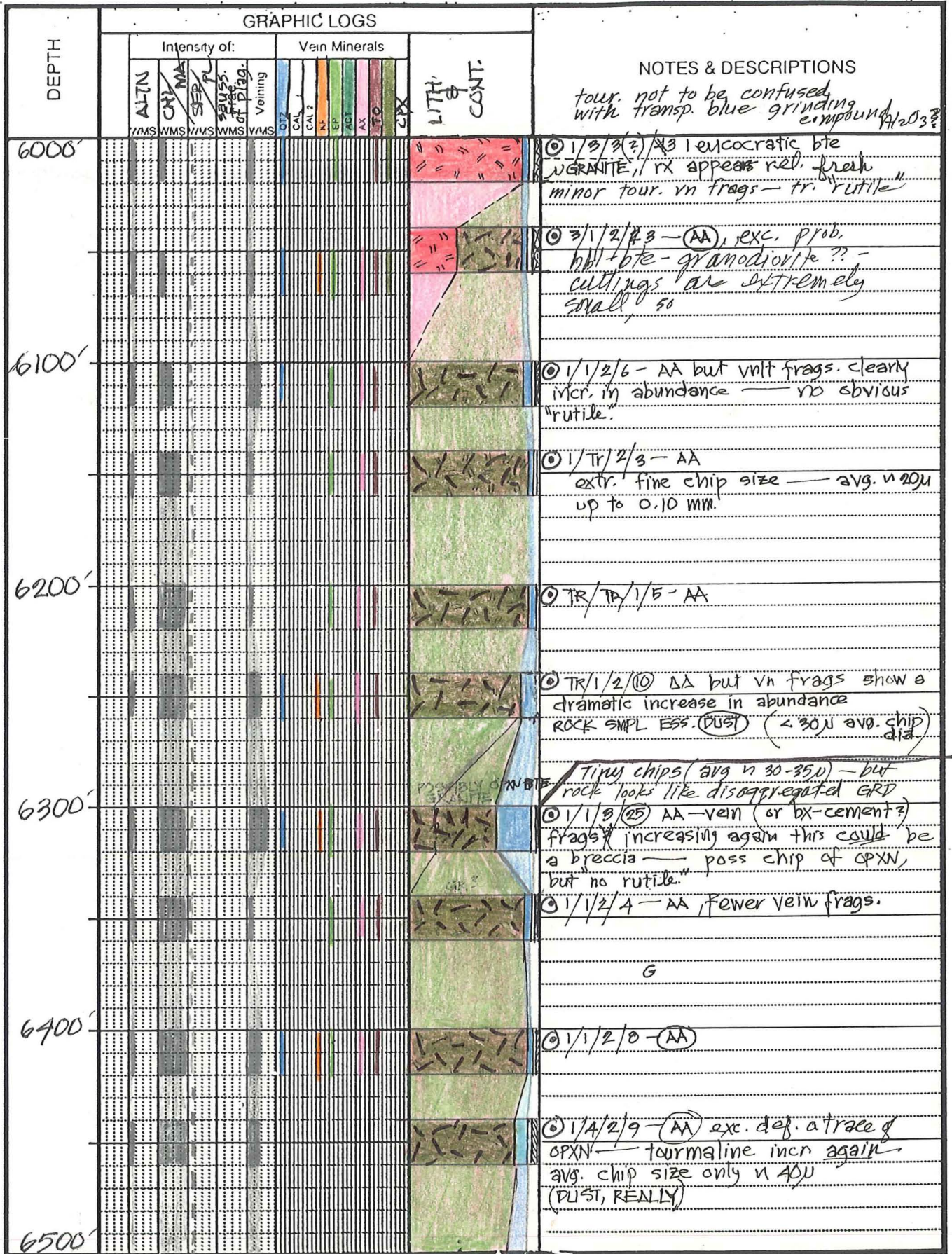
DEPTH	GRAPHIC LOGS													Lith	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals											
	ALTN.	CHL	Amf	glauss. plag.	Frac.	Veining	QUZ	CAL	CAL?	KF	EP	AN?	AX			TO	Cpx
5700'																	2/1/2/4 AA
5750'																	2/1/7/4 AA (fresh mgr. ppg)
5800'																	3/1/2/6 — AA exc sl. more chl — als. more tour. some of which occurs as pxln. irreg. aggregates — both brown & white varieties are present
5850'																	2/1/2/4 — AA
5900'																	1/1/1/3 ♦ AVE CUTTINGS DIA. only 25u — Rx id pretty tentative, but strongly suspect pyroxene (or garnet ppg — EPIDOTE picks up.
5950'																	1/1/2/4 (AA)

Borehole No. GDCF 15D-28

Depth Interval 5700-5950'

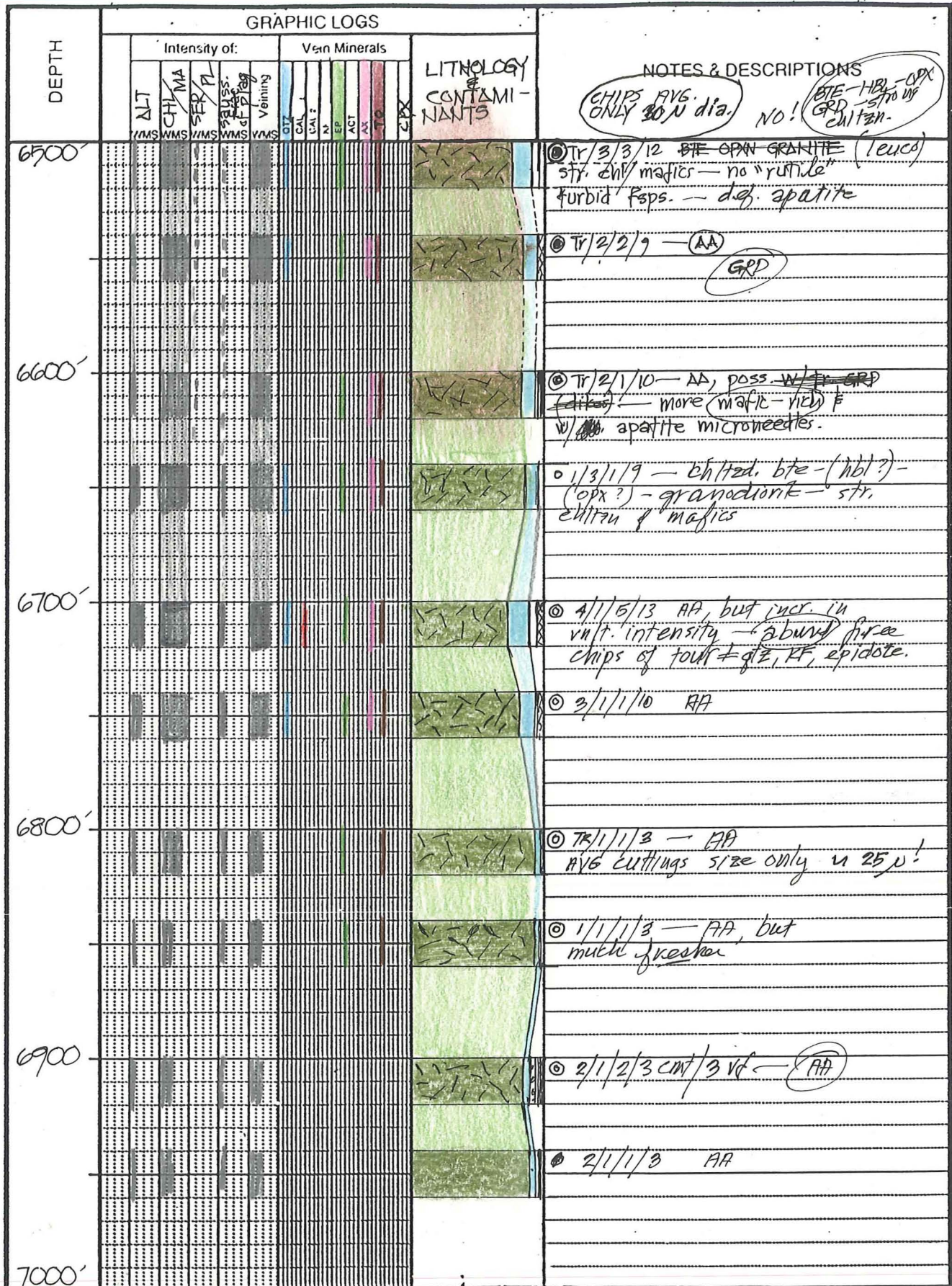
Logged By JH

Date \_\_\_\_\_



Borehole No. GPCF 15D-28  
 Depth Interval 6000-6500'

Logged By JH  
 Date \_\_\_\_\_



Borehole No. GRDF 15D-28  
 Depth Interval 6500-7000'

2-5 W  
 5-15 M  
 15-25 S  
 > 25 VS  
 2-5 W  
 5-15 M  
 15-25 S  
 > 25 VS  
 2-5 W  
 5-15 M  
 15-25 S  
 > 25 VS  
 2-5 W  
 5-15 M  
 15-25 S  
 > 25 VS

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													LITH	NOTES & DESCRIPTIONS			
	Intensity of:					Vein Minerals												
	ALTN WMS	CHL WMS	MAF WMS	SALTS OF PLAG. WMS	Frag- WMS	Veinmg WMS	QTZ	CAL	LAZ	KF	EP	ACT	AI			TO	Cpx	
6950'																		SEE PREVIOUS PAGE
7000'																		◆ 1/2/1/4 bte-hbl. - opxn grd. conspic. apatite needles - strong chltan of mafics
7050'																		● 2/2/1/1
7100'																		* TR 1/1/2 AA, but fresher w/ fewer vnt. frags.
7150'																		○ AVG. CHIP SIZE - <del>3/4</del> 0.02-0.03 TINY - RX calls tentative!
7200'																		

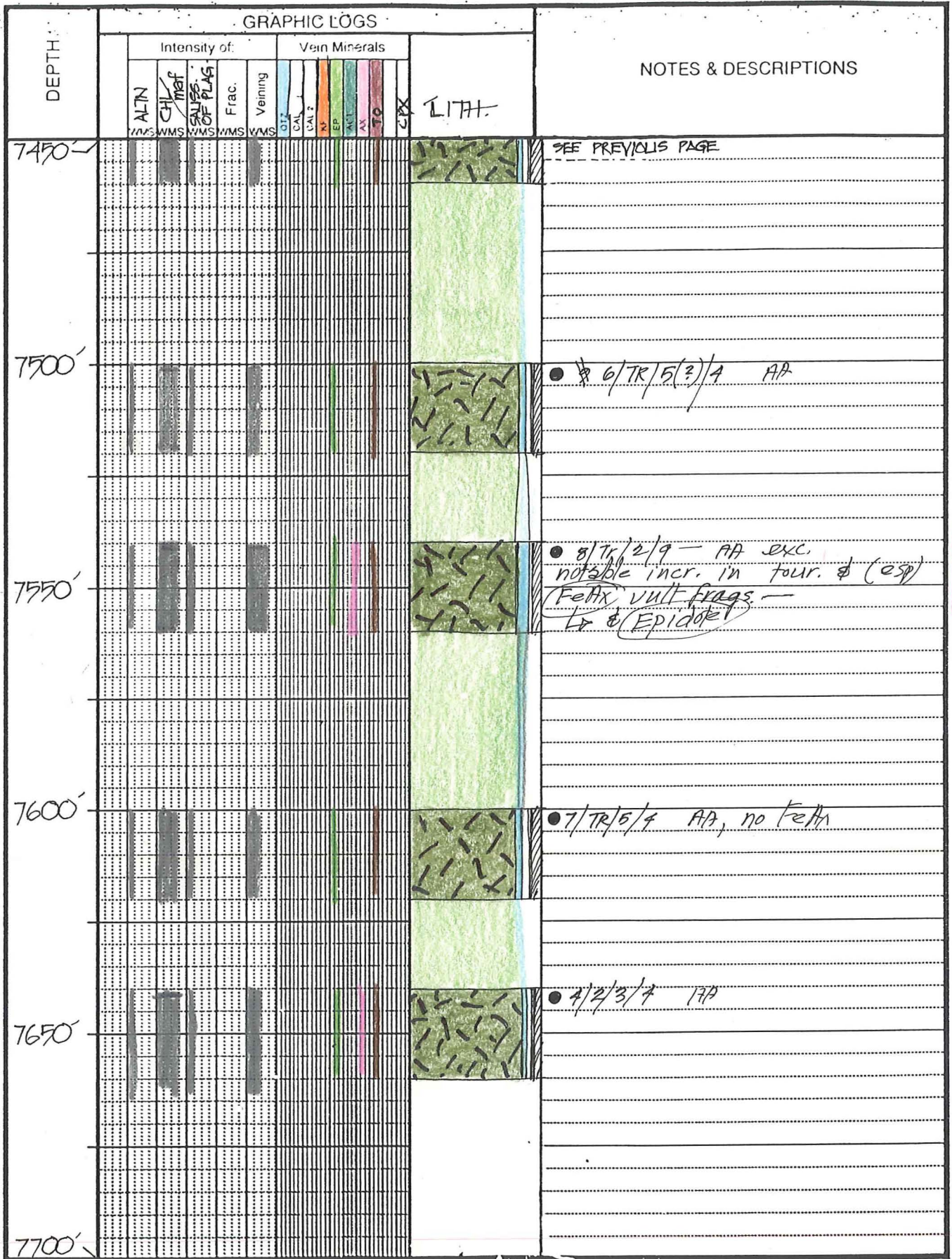
Borehole No. GRCF 15D-28  
 Depth Interval 6950-7200'

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS														LITH.	NOTES & DESCRIPTIONS
	Intensity of:					Vein Minerals										
	ALTN.	CHL / maf	SALTS of FLG	Frac.	Veinmg	OLZ	CAL	CAL ?	EP	LP	ACT	AX	TO	TR		
7200-																<ul style="list-style-type: none"> <li>4/1/1/1 bte-opxn-hbl grd.; rx becomes much fresher; tr (CPX) — only tr Tourmaline.</li> </ul>
7250'																<ul style="list-style-type: none"> <li>9/1/2/7 AA but altn. incr. again — als. rock becomes (in larger chips) much more decussate-appearing.</li> <li>avg. chip size 0.04-0.10 mm</li> </ul>
7300'																<ul style="list-style-type: none"> <li>5/TR/3/3 AA</li> </ul>
7350'																<ul style="list-style-type: none"> <li>6/TR/2/3 AA</li> </ul>
7400'																<ul style="list-style-type: none"> <li>5/TR/1/2 AA poss. tr 2nd bte</li> </ul>
7450'																<ul style="list-style-type: none"> <li>9/TR/3/3 AA, but bimodal ep chip size &lt;math&gt;220\mu(-790\mu)&amp; \neq 100-150\mu(+10\mu)&lt;/math&gt;</li> </ul>

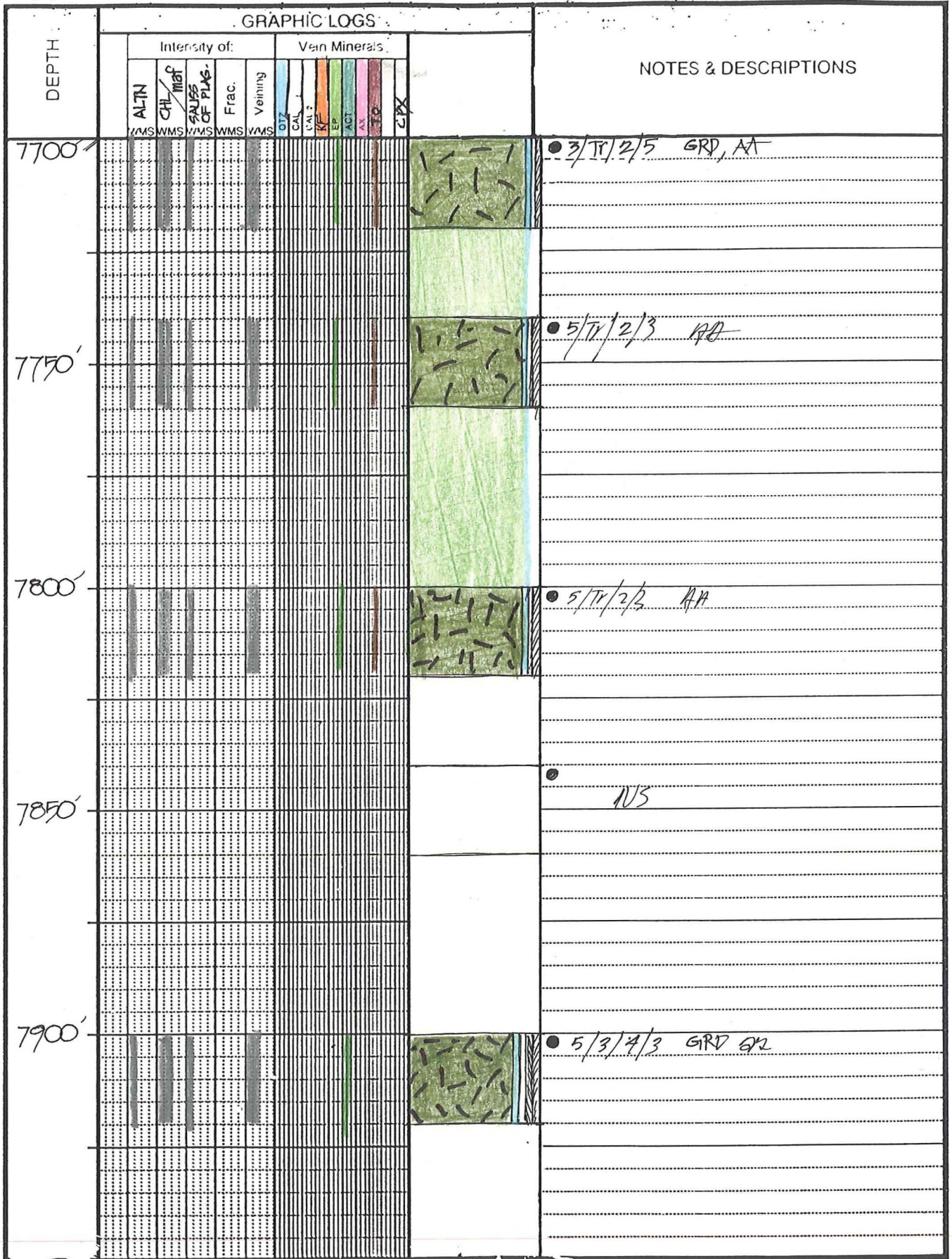
Borehole No. GDCF 15D-28  
 Depth Interval 7200-7450

Logged By JH  
 Date \_\_\_\_\_



Borehole No. GDF 157-28  
 Depth Interval 7450-7700'

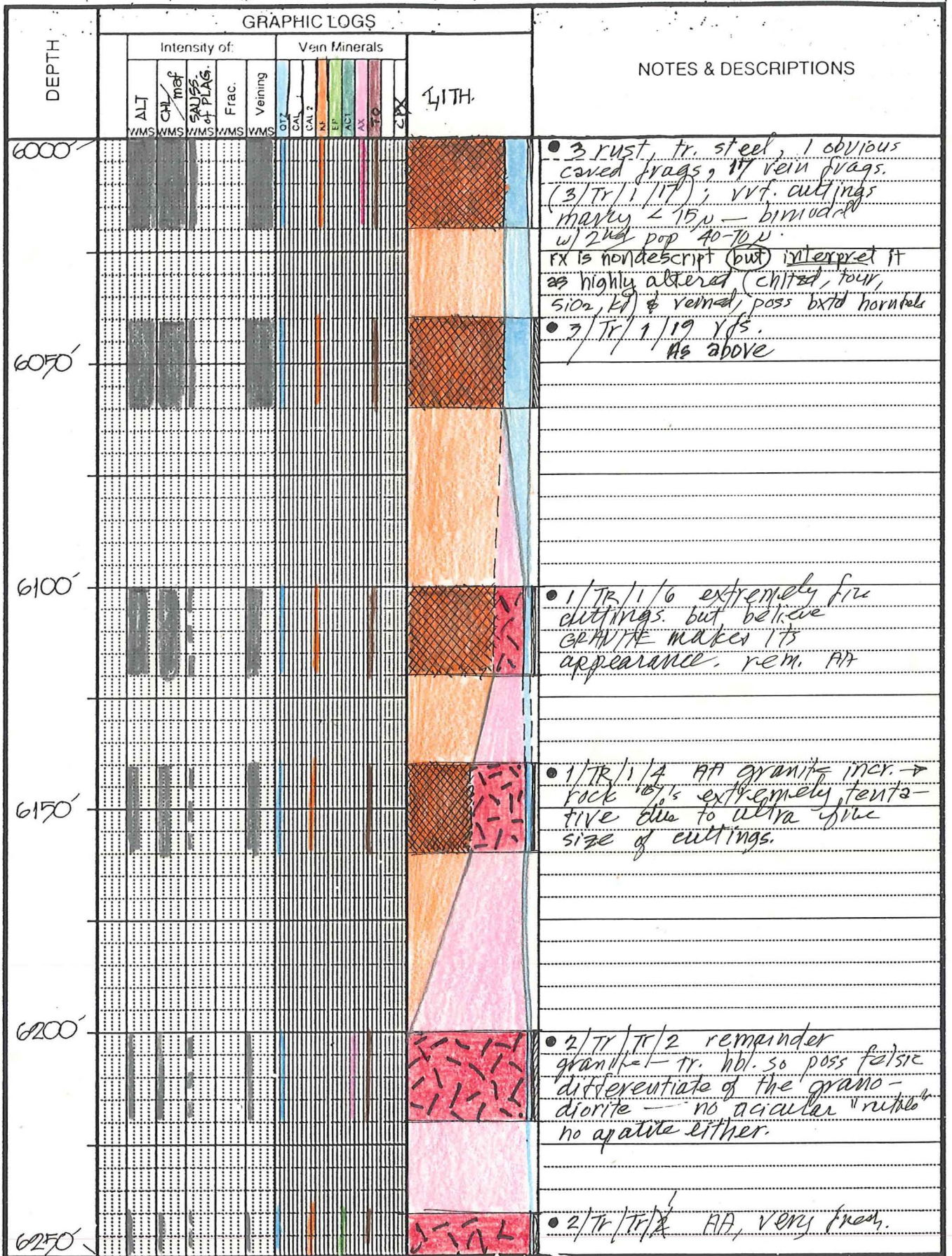
Logged By JH  
 Date \_\_\_\_\_



Borehole No. GRDF 15D-28  
 Depth Interval 7700-7920'

Logged By JH  
 Date \_\_\_\_\_





Borehole No. GDF 123-19  
 Depth Interval 6000-6250'

Logged By JH  
 Date \_\_\_\_\_



DEPTH	GRAPHIC LOGS												LITH	NOTES & DESCRIPTIONS	
	Intensity of:					Vein Minerals									
	ALT WMS	CH WMS	MAF WMS	SALTS OF PLAG. WMS	Frac. WMS	Veining WMS	QZ	CAL	EP	ACT	AN	TD			CPX
6500'															<ul style="list-style-type: none"> <li>◆ 3 steel, 3 rust &amp; scale, 2 caved, 2 vnt frags. — v. finely ground, but believed to be GPD AA based on mafics &amp; apatite.</li> </ul>
6550'															<ul style="list-style-type: none"> <li>○ only tr. steel, 1 rust, good clean sample. —&gt; extr. fine grind — can't tell if felsic GPD or mafic GRNT, but! — no aciz. rutile, some apatite</li> </ul>
6600'															<ul style="list-style-type: none"> <li>◆ <del>AA</del> but of some granite revised: all granite</li> </ul>
6650'															<ul style="list-style-type: none"> <li>◆ 1 steel, 2 rust &amp; scale, no cv 1 vnt(?) — appearance of rel. coarse unaltered biotite flakes some rutile. — conspicuous, <del>absent</del> of chloriticates.</li> <li>REvised all granite.</li> </ul>
6700'															<ul style="list-style-type: none"> <li>◆ 2 steel, 2 rust — suspect now dom. by GRANITE — rutile occurs — still extremely fine grind prevents ID for sure</li> </ul>
6750'															<ul style="list-style-type: none"> <li>◆ TR steel, 2 rust &amp; scale AVG. chip size 50 microns. otherwise apparently all GRANITE AA — fresh — real lack of vein minerals.</li> </ul>

Borehole No. GRCF, 123-19  
 Depth Interval 6500-6750'

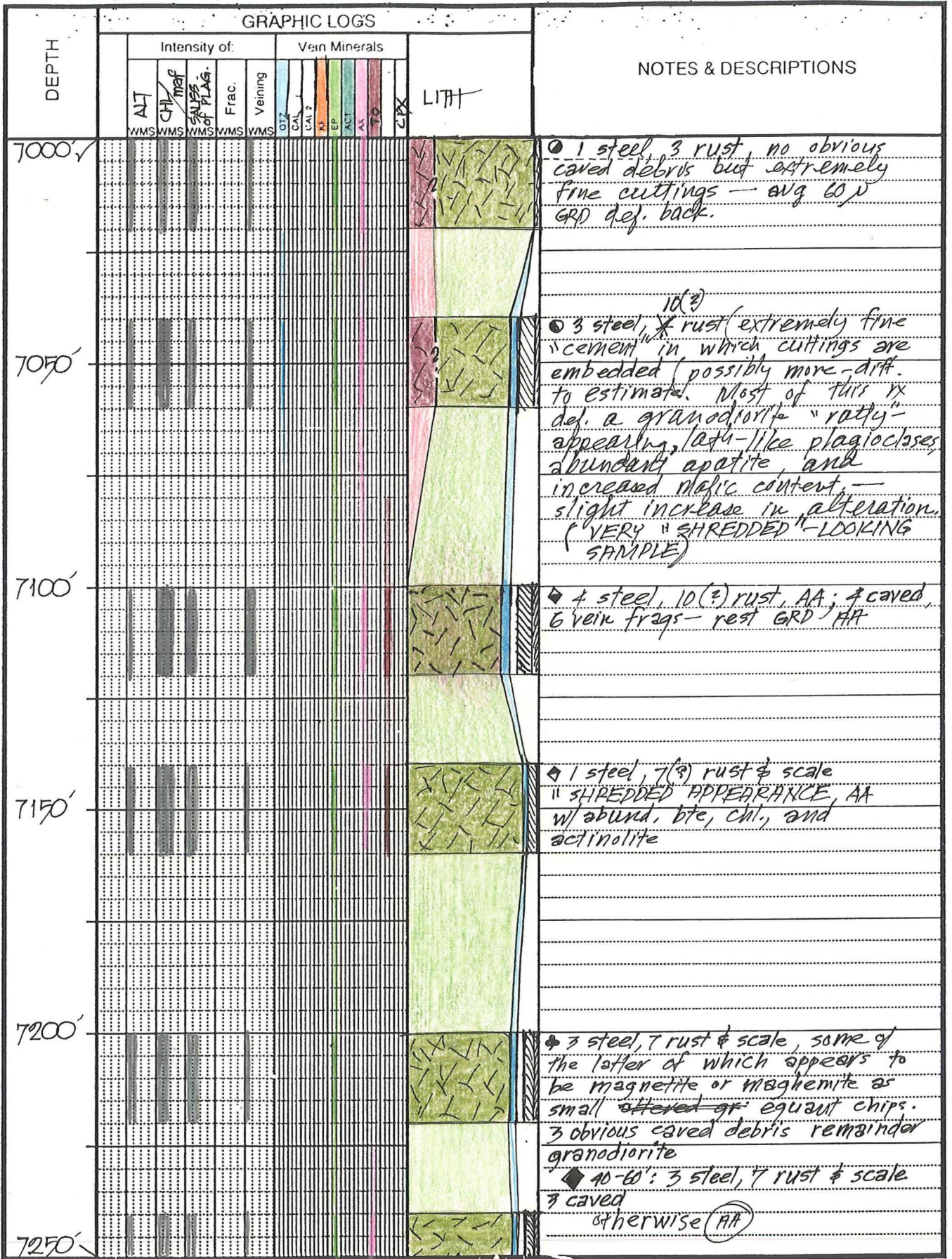
Logged By JH  
 Date \_\_\_\_\_



DEPTH	GRAPHIC LOGS													LITH.	NOTES & DESCRIPTIONS	
	Intensity of					Vein Minerals										
	ALTN. WMS	CHL WMS	maf. SALTS OF PLAG. WMS	Frac. WMS	Veining WMS	DTZ	CAL	U'AL?	K?	EP	LAG	AN	TO			CPX
8500'																<ul style="list-style-type: none"> <li>◆ 1 steel, 10(?) rust (diff to est. - really a powdery cement) - 1 caved rem. GRANITE - more bte - very fresh</li> <li>◆ 22% (?) rust &amp; hematite/magnetite scale? - no - a v. fine-gr. cement in which cuttings are embedded remainder GR AP except much more felsic.</li> </ul>
8600' (DUST)																<ul style="list-style-type: none"> <li>◆ 2% steel, <sup>25,??</sup> 20% (def. an est.) (rust) - biotite very fresh - appearing.</li> </ul>
8700' 865'																<ul style="list-style-type: none"> <li>◆ 17% rust, 3 steel, 7% caved rem. fresh bte - opxn granite as above. apparently siderite &amp; magnetite/magnetite scale present. "RUTILE"</li> <li>◆ 20 rust, tr steel, 1 caved remainder conspic. fresh granite</li> </ul>
8800'																<ul style="list-style-type: none"> <li>◆ 30(?) rust, 3 steel, 7 caved remainder GR extremely fresh except for chltzn. &amp; bte (n 50%)</li> </ul>

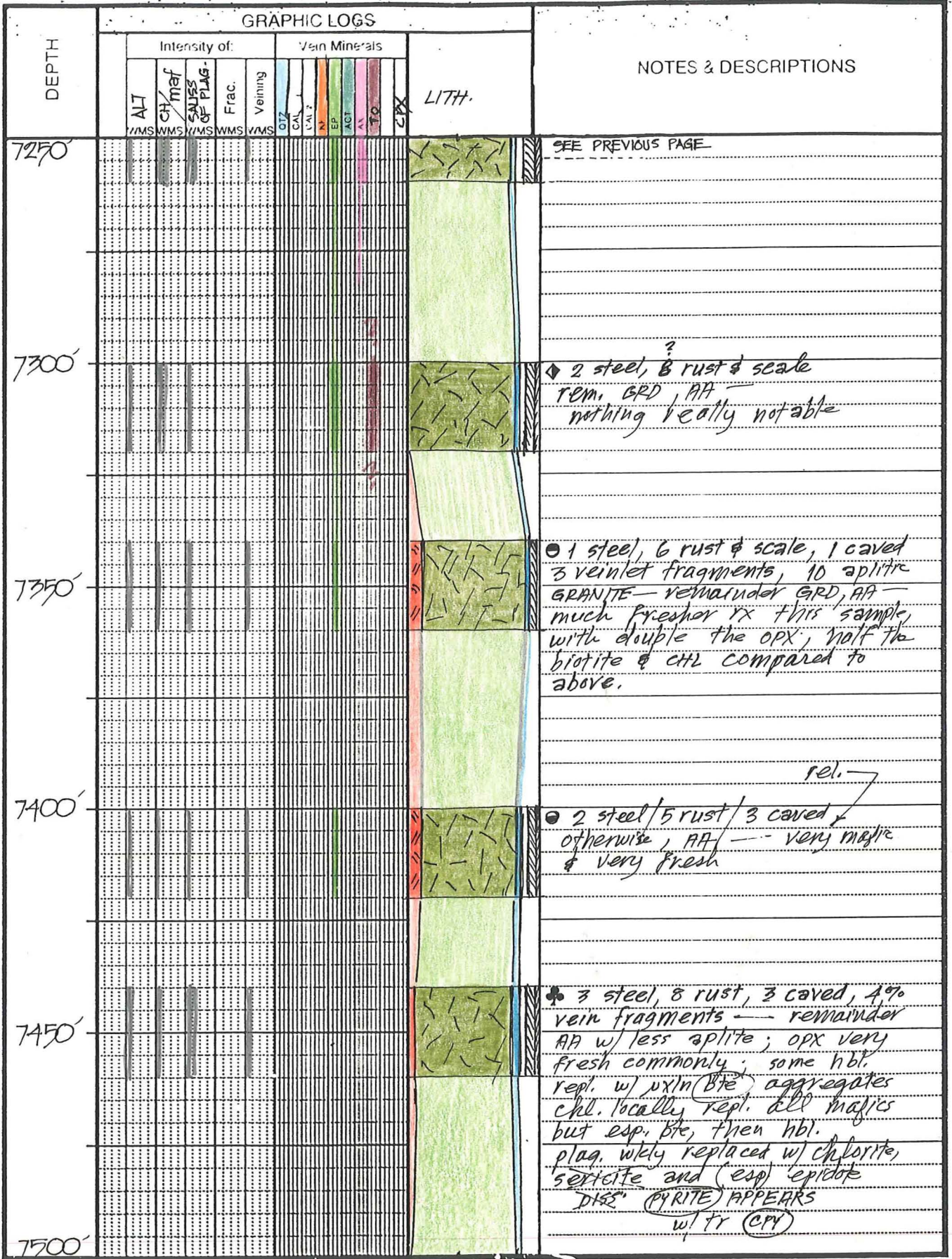
Borehole No. GRDF, 123-19  
 Depth Interval 8500-8760'

Logged By JH  
 Date \_\_\_\_\_



Borehole No. GRDF 123-19  
 Depth Interval 7000-7250'

Logged By JH  
 Date \_\_\_\_\_

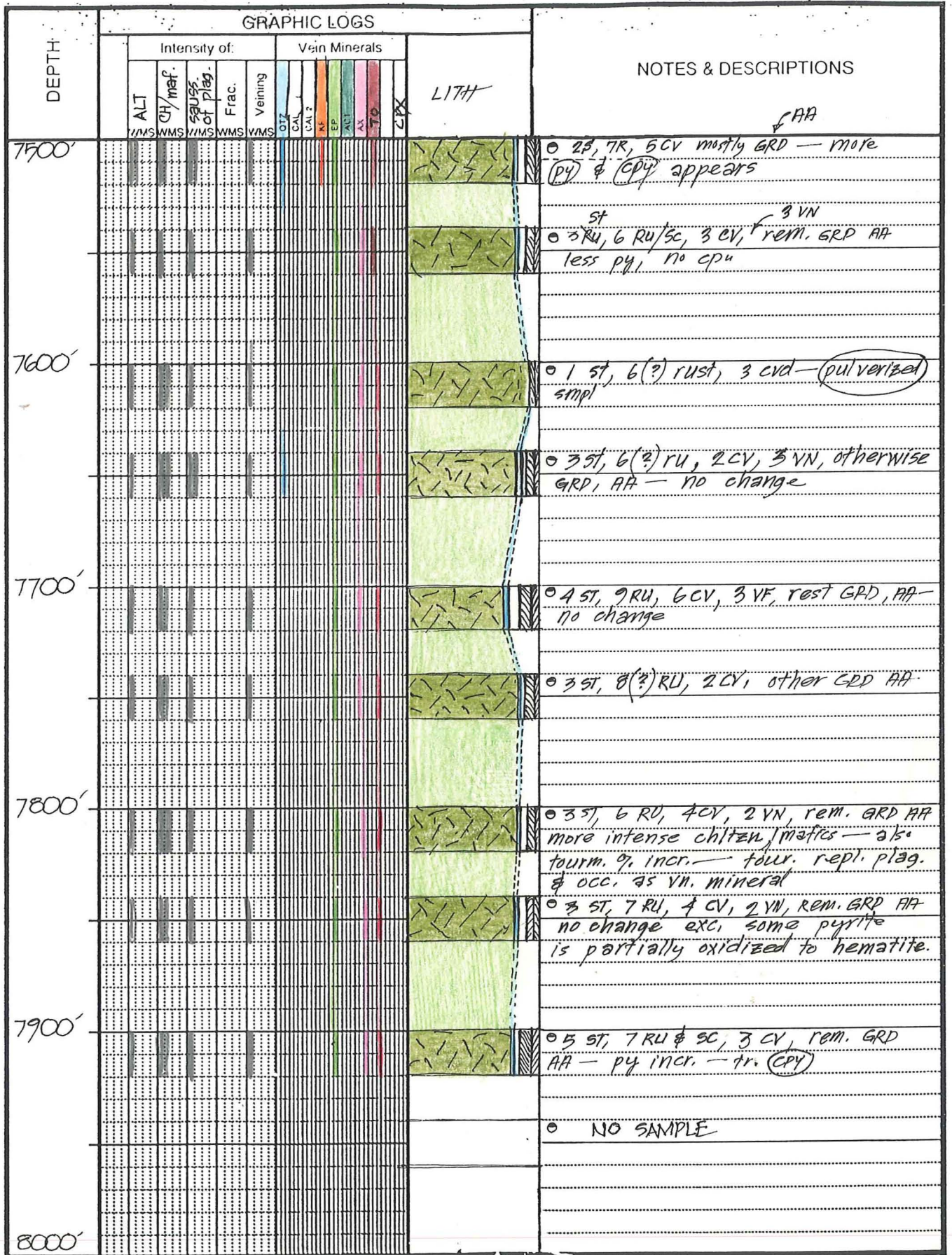


Borehole No. GRCF 123-19

Depth Interval 7250-7500'

Logged By JH

Date \_\_\_\_\_



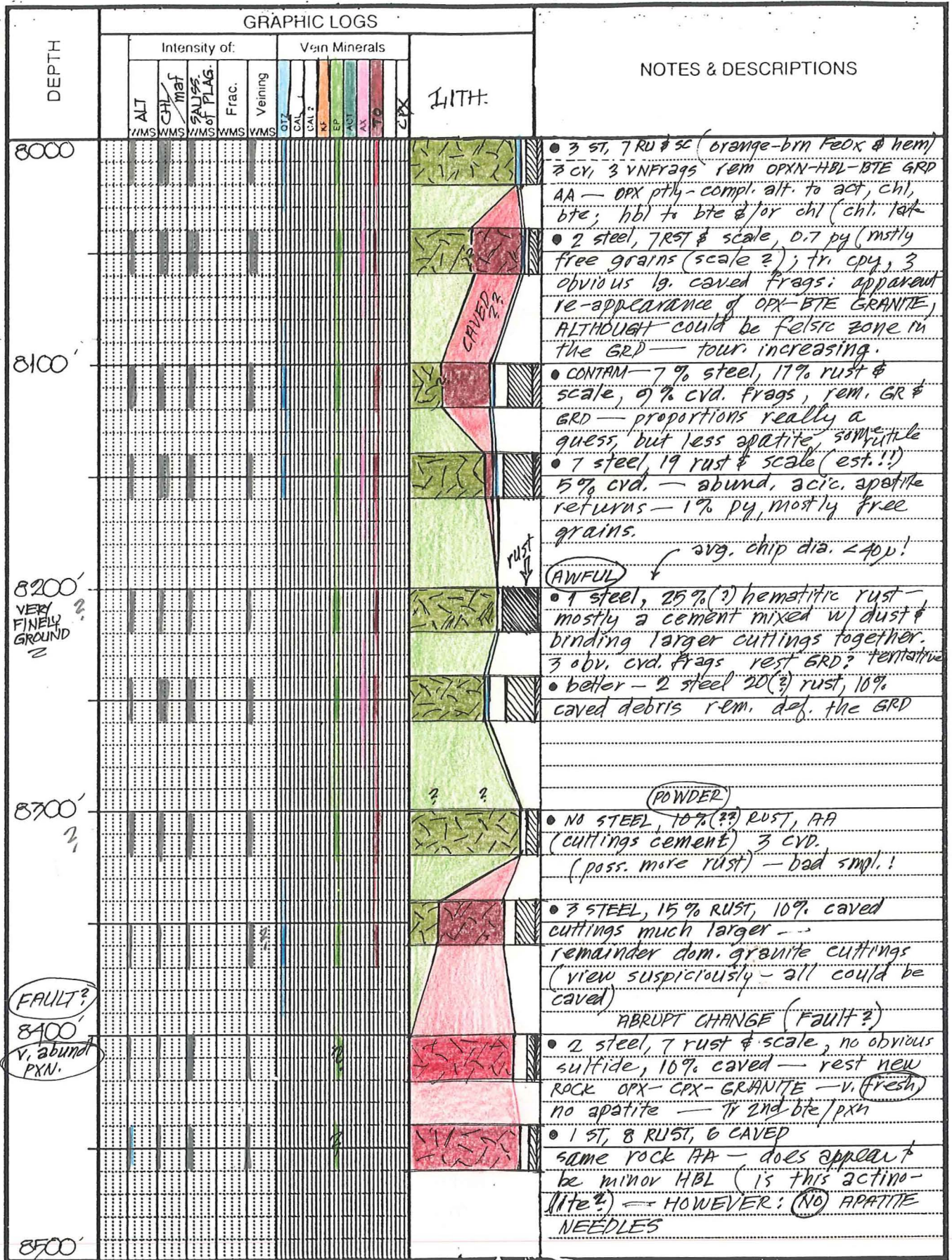
Borehole No. GRDF 123-19

Depth Interval 7500 - 8000'

Logged By JH

Date \_\_\_\_\_





CUTTINGS BECOME LARGER  
Tolr. disappears  
pxn. fresh  
PXN >> BTE

Borehole No. GRCF, 123-19  
Depth Interval 8000-8500'

Logged By JH  
Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													NOTES & DESCRIPTIONS					
	Intensity of:					Vein Minerals													
	26Mn	WMS	WMS	WMS	WMS	Frac.	Vein	veining	WMS	OTZ	CAL1	CAL3	KF		EP	AGT	AX	TO	
7900																			
7950																			
8000																			<p>Hnfle. mag - texture preserved                      0.05-0.1 mm &amp; gtz grns.                      embed in pxn (5-15%) retd.                      masses of bte, gtz, Kfsp, plag.                      fr. sphere, 1mm. - a few chips                      good granoblastic texture.                      4% vlt. frags. - pleoch.                      grn/blue hbll or actinolite                      - a few clasts up to 0.2 mm dia.</p>
8050																			
8100																			<p>AA, a little more KF                      also cpx / Franc. calcite</p> <p>scattered plag, porphyro-                      blasts, partially altered                      to Kspar - more conspie.                      granoblastic texture.</p>
8150																			
8200																			<p>still hnfle - sl. more                      coarsely xln.</p> <p>finer-grnd hnfle - more bte -                      rich still no intrusive</p>
8250																			AA
8300																			<p>still hnfle, mag.                      more conspicuously granoblastic,                      but clearly still the same                      rock.</p>
8350																			
8400																			<p>higher prop of true granoblastic                      hnfle. avg grain size 0.1 mm                      gtz-bte-pxn-oligoclase.</p>

200 depth of viny  
 1M - W

ALL HORNFELS

Borehole No. NCPA J-4  
 Depth Interval \_\_\_\_\_

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By Hulen  
 Date \_\_\_\_\_

Li

DEPTH	GRAPHIC LOGS											Lithology	NOTES & DESCRIPTIONS	
	Intensity of:					Vein Minerals								
	WMS	WMS	WMS	WMS	WMS	OPX	CAL1	CAL2	KF	EP	ACT			AX
8400														hntls & hntls. MGW, AR 2/1/5/3 suspect most of the cpx is from veins
8450														HNFLS to pelitic calcic hornfels - OPXN/BTE-TREM- OTZ - avg. 0.08-0.4 mm grain size w/ 20% equant to stubby bath- shaped pl. green opxn. - scath acicular - lath-like tremalite xls. some of the opxn is app. porphyroblastic - up to 0.2 mm, dia. orange brn. bte. - sieve-textured. (8490-8500 - hornfels), much less calcic than above. 0.04 mm P-PL-BTE-OPXN
8500														prob. diff. domains in some hntls
8550														HF 2/1/4/2 BTE-OPX GRANITE, NO RUTILE
8600														8520-75 - same as above 2/1/2/1 opxn-biotite (granite) - pretty clean-looking 7% bte, 2/1% opxn - common halite-bearing fluid inclusions. fine-gr. hybrid-granular - FeTx appears. at 8510-25 - much more 2/2/3/2 hnt appear - also ix seem more lath. - granular - this is the east Geysers granodiorite!! (K/PAT/IE 13/2/2/5/2 the giveaway) RX is quite fresh 8670-85 - much more felsic than above poss granite or felsic segregation in granodiorite. 8700 to GRD for sure 3/2/3/1 -> RX quite fresh 2/1/2/2 - plag. here & above has "stippled" look due to diss. 2/1 chl (also due to primary extinction charact. (magmatic disequilibrium) + 2/1 8760-75: Note large increase in vein FeTx - so this mineral does in part post-date the granodiorite 3/1/2/11 8790-8800: aplite present in this empl. (connection w/ alteration?)
8650														
8700														max 0.9 mm patrol gran dia
8750														1/1/2/14
8800														4/1/5/8
8850														3/1/3/3
8900														GRD - vns., alt. diminishing GRD - Above one Qtz chip w/ acicular (rutile)

8550-60 be  
more felsic  
5 seg. segregation  
at top  
of granodiorite

FeTx  
vnt

Borehole No. NCPA I-4  
Depth Interval \_\_\_\_\_

**DOE-GD/Industry  
GEYSERS CORING  
PROJECT**

Logged By JH  
Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													LITHOLOGY AND CONTAMINANTS	NOTES & DESCRIPTIONS
	Intensity of:					Vein Minerals									
	altm	chl/ma	sauss	Fac.	Veining	OTZ	CAL1	CAL2	KF	EP	ACT	AX	TO		
8900	WMS	WMS	WMS	WMS	WMS										<p>1/1/1/2-1</p> <p>⊙ OPXN - BTE - HBL GRDT. sub-granular abund. acicular op. 1 steel, 1 rust, 2 cavol, 2 vein frags</p> <p>RX is very fresh but some (deuteric?) chl/ma</p>
8950															<p>⊙ 2ST, 2CV, 5VF db (505)</p> <p>rem. GRD AA - 2/1/2/3</p> <p>AA 2/1/2/1</p>
9000															<p>AA conspicuous trace cpy</p> <p>3/1/2/1</p>
9050															<p>AA (GRD) 2/2/2/3</p> <p>AA 1/1/1/1</p>
9100															<p>AA 2/1/2/1</p> <p>⊙ mafics increasing. 3/1/2/2</p>
9150															<p>⊙ AA; opx incr. @ expense of hbl.</p> <p>1/1/2/1</p> <p>⊙ bte increases</p> <p>2/2/2</p> <p>RX is very fresh</p>
9200															<p>⊙ AA; 3ST, 3RU, 2CV, trace vein frags.</p> <p>Classic granodiorite w/abund. apatite needles</p>
9250															<p>⊙ 3ST, 1RU, 2CV, 5VF rem. GRD</p> <p>still rel. fresh but incr. in FeAx</p> <p>change in 90% grd, as above, &amp; in 80% much more felsic granite -- note rutile needles (urchins in many chips, rutile)</p>
9300															<p>⊙ AA w/only about 10% grd.</p> <p>3ST, 1RU, 1CV, 1VF rock very fresh but tr cpy</p>
9350															<p>⊙ 3ru, 1st, 1cv, 1vf</p> <p>AA - Even less. grd. (unaltered)</p> <p>⊙ → 70% grd 30% gr. otherwise AA/</p>
9400															<p>⊙ → AA grd back</p>

overexposed  
mg. &  
altm  
weak  
V-WK

Borehole No. NOR I-4  
Depth Interval 8900-9400'

DOE-GD/Industry  
**GEYSERS CORING PROJECT**

9400-90 (AA) some chl./mafic  
otherwise rx very fresh  
Logged By JBH  
Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS														Vein and Fracture Attitudes	Lithology	NOTES & DESCRIPTIONS	
	Intensity of:					Vein Minerals												
	PLZ	WMS	WMS	WMS	WMS	OTZ	CAL1	CAL2	KF	EP	ACT	AX	TO	BT				ILM
9000'																		
9050'																		
9100'																		
9150'																		
9200'																		
9250'																		
9300'																		
9350'																		
9400'																		
9450'																		
9500'																		

(Q-OLIG-OPX-BTE ± ILM HORNFELS  
 avg. gr. size 0.01-0.03 mm.  
 overall granoblastic w/ scd.  
 porphyroblasts - unalt. exc.  
 chl / (bte?) actinol. is 2nd (10px?)  
 (as is chl.); ilm. grains are  
 equant but ragged/anh. in  
 appearance KF/AC; Q-EP; EP.  
 ~25% aplite - anhedral - ugranular;  
 some pcs have scalloped opxn.  
 phens - some zoned plag. phens  
 sugary-textured q-mass - rounded  
 grains - 5% pyritic metabasalt -  
 obviously caved. → OVER (R)

alm  
misty  
chl  
ten.

CPX

Borehole No. INCPA J-5  
 Depth Interval 9000-9500'

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By JH  
 Date \_\_\_\_\_



DEPTH	GRAPHIC LOGS											Lithology	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals									
	WMS	CHL	MA	SER	PL	WMS	WMS	WMS	WMS	WMS	WMS				
10,000															Tr. HORNBLENDE (FRESH); rock is ess. fresh, but some chltzn. of bte
10,050															tr. rutile (and) apatite — NEW ROCK??
10,100															OPX-BTE GRNT, 0.05-0.2 mm. Big. gr. size conspic. anhedral-granular, bdy cavd drif. to tell which veinlets are ind...
10,150															int. of chl. & ser/plag. increases. rutillated gte fragment with hornblende
10,200															ep repl. allanite — hbl (tr) appears poss. grd. component. more strongly
10,250															seemingly AA but green hbl. becom. more common. still fresh
10,300															OPX-BTE-HBL granite (texturally not the grd but does contain hbl (also no apatite)
10,350															is Opx/BTE gr, aa hbl. diminishing; v. little ap.; gr. has anhedral granular texture VERY FRESH
10,400															AA; really seems a variant of the opx-bte granite — IN ONE CHIP HBL CLEARLY REPLACES OPX
10,450															AA
10,500															AA, but note there's a chip w/with acicular rutile & hornblende flake — this appears closely related to 0-3 gr is the GRANITE
10,550															AA extremely fresh rock — no veining
10,600															1/2/3/1 AA, but one chip fairly rich in apatite needles poss. approach of grd
10,650															AA — tr. rutile rock very fresh exc. for chl/some bte
10,700															AA — rutile, less hbl v. fresh rock (1/2/4/1) incl. magnetite or maghemite scale.
10,750															AA — epidote/allanite veinlet fragment. 1/2/2/TR
10,800															AA — 2/3/3/TR one frag w/bte & hbl. intergrown in equilibrium — fresh rx
10,850															AA — 3/4/4/TR
10,900															BTE-HBL-OPX GRANITE — v. fresh (w/accessory rutile)
10,950															AA — still very fresh 1/2/2/TR

is this the same rx (gr) w/ hbl/ opx?

10 psi  
21 psi  
10 psi  
8 psi

Borehole No. NCPA J-5  
Depth Interval \_\_\_\_\_

Logged By JH  
Date \_\_\_\_\_

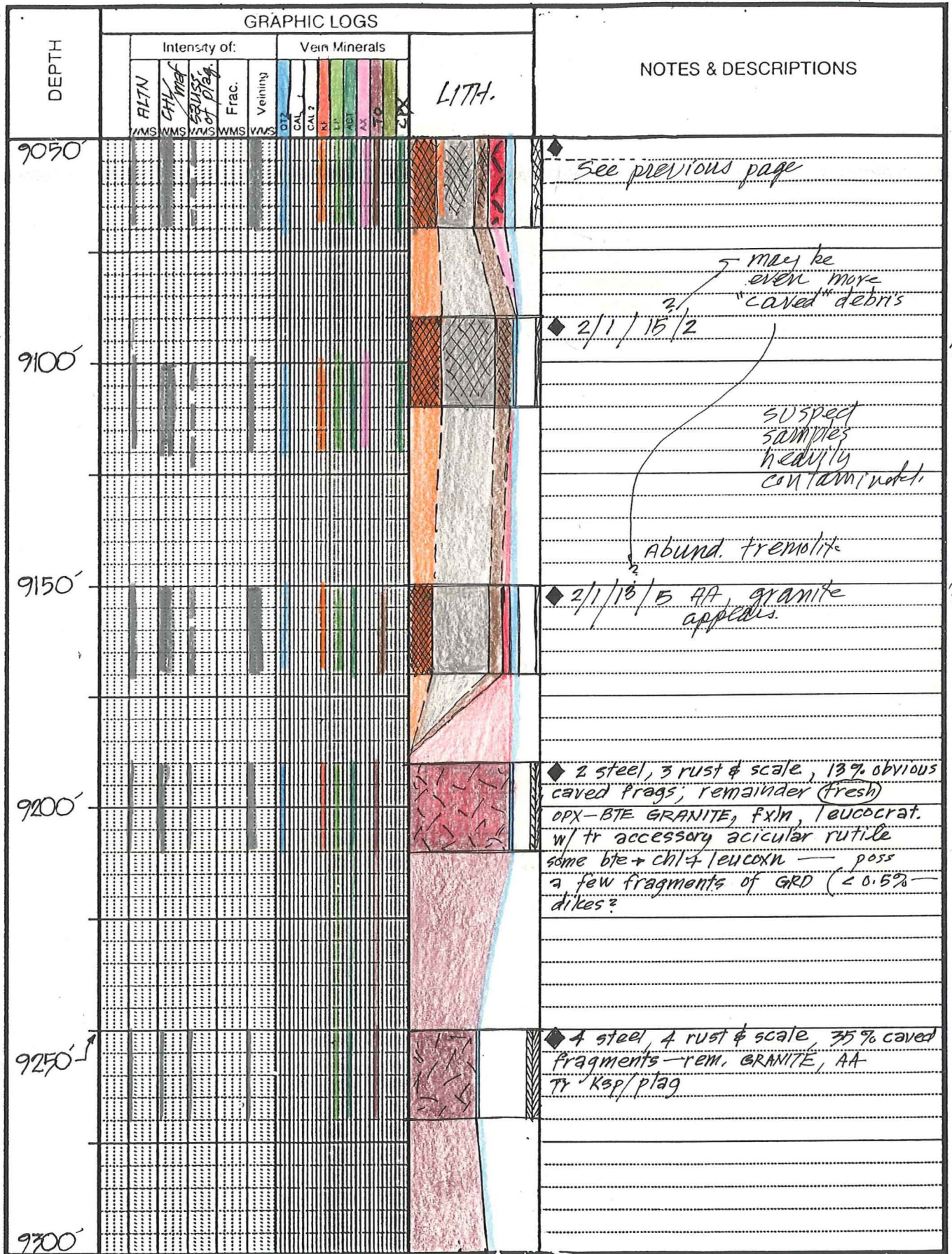
DEPTH	GRAPHIC LOGS													Lithology and contaminants	NOTES & DESCRIPTIONS
	Intensity of:					Vein Minerals									
	ALT	WMS	WMS	WMS	WMS	OTZ	CAL	CAL <sup>2</sup>	KF	EP	ACT	AX			
10,500														X X	1/3/3/TR OPX-BTE-HBL Granite hbl, but also abundant acicular rutile rock appears extremely fresh
10,550														X X	AA - even more abund. rutile including magnetite/maghemite (scale?) *
10,600														X X	AA - 1/2/8/7 fresh granite
10,650														X X	AA - opinion - below 10,000 ft in this hole - encountered a probable hybrid granite, same as in well number GDC-21 ↓ Revised opinion - absence of apatite argues against hybrid hypothesis - hbl in a couple of chips clearly replaces opx - magmatic replacement

Borehole No. J-5 NCPA  
 Depth Interval \_\_\_\_\_

0 15-00 ...  
 ...  
 Project

Logged By Hulen  
 Date \_\_\_\_\_

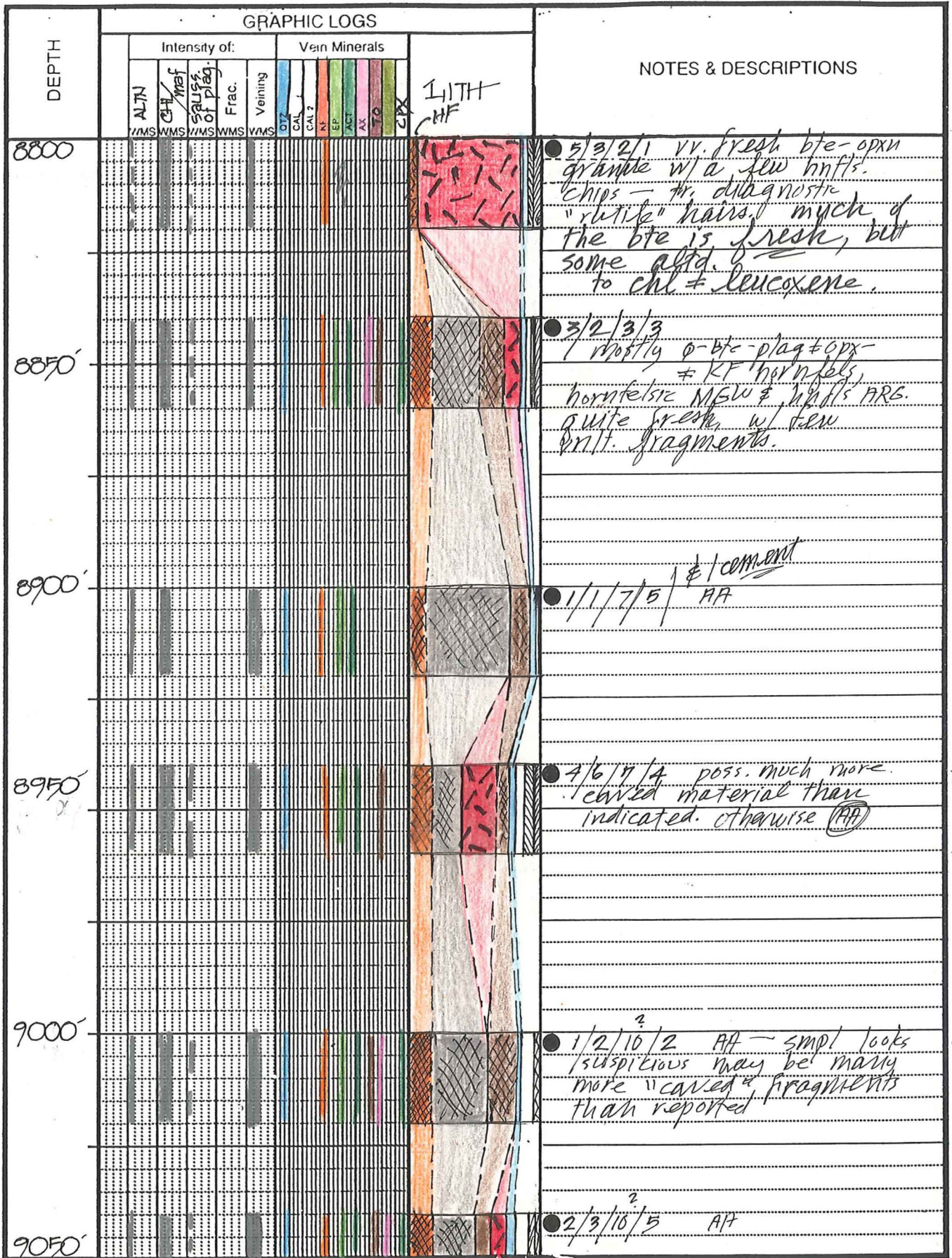




tr tremolite

Borehole No. LF23-RP1  
 Depth Interval 9050-9300

Logged By J. HULEN  
 Date \_\_\_\_\_

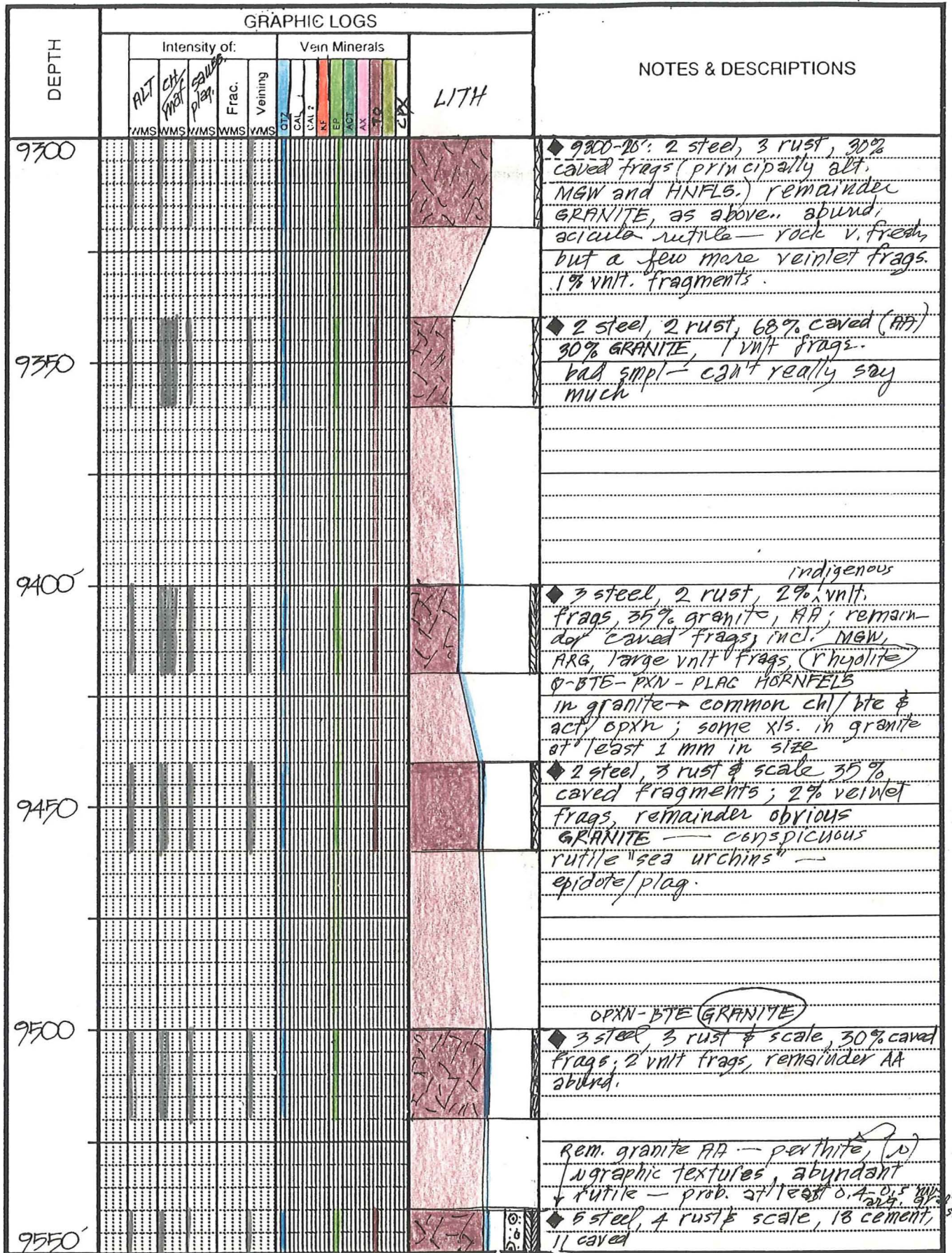


Borehole No. 1F23, RP-1  
 Depth Interval 8800-9050'

DATE  
 TIME

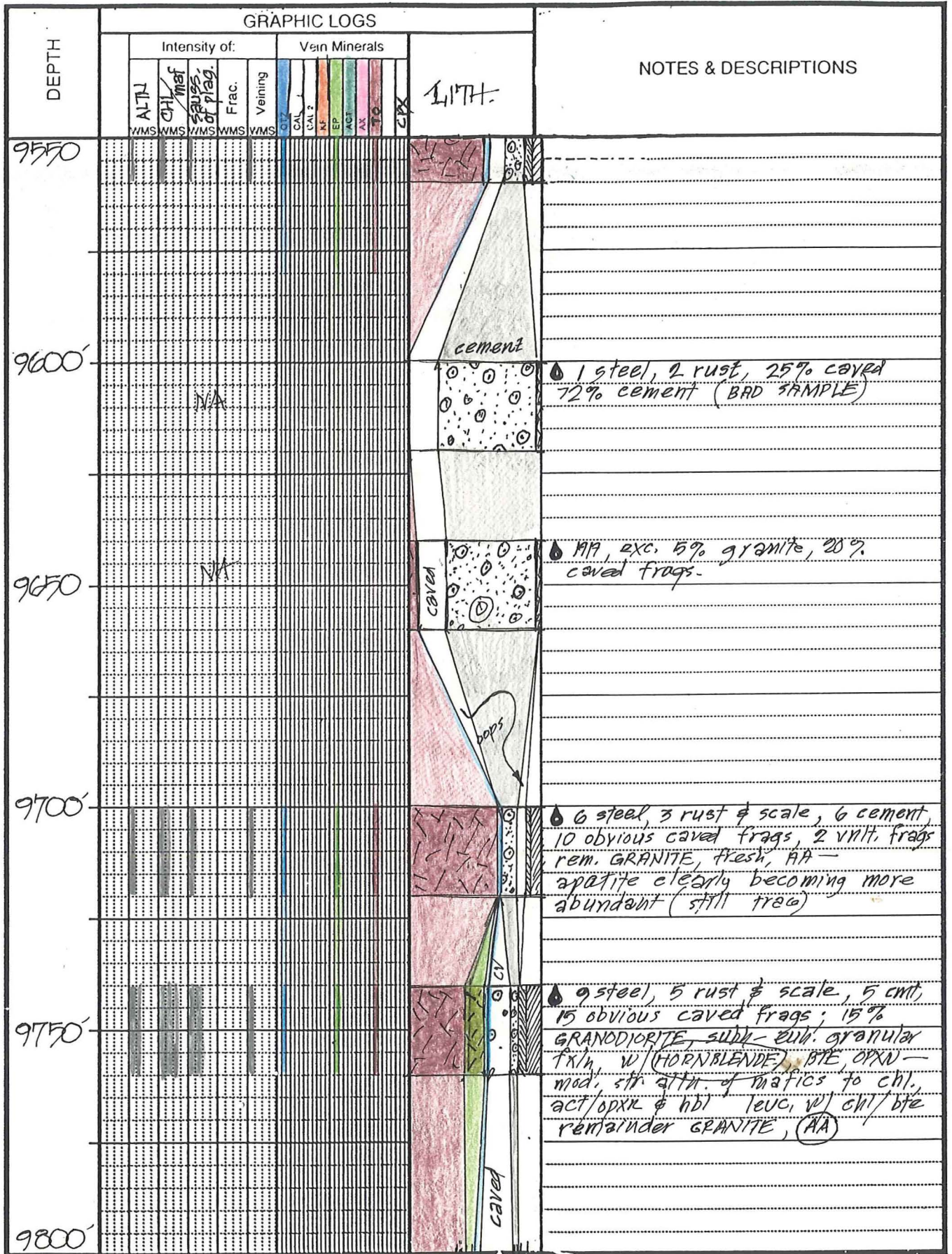
Logged By J. HULEN  
 Date \_\_\_\_\_

81  
 41  
 26.5



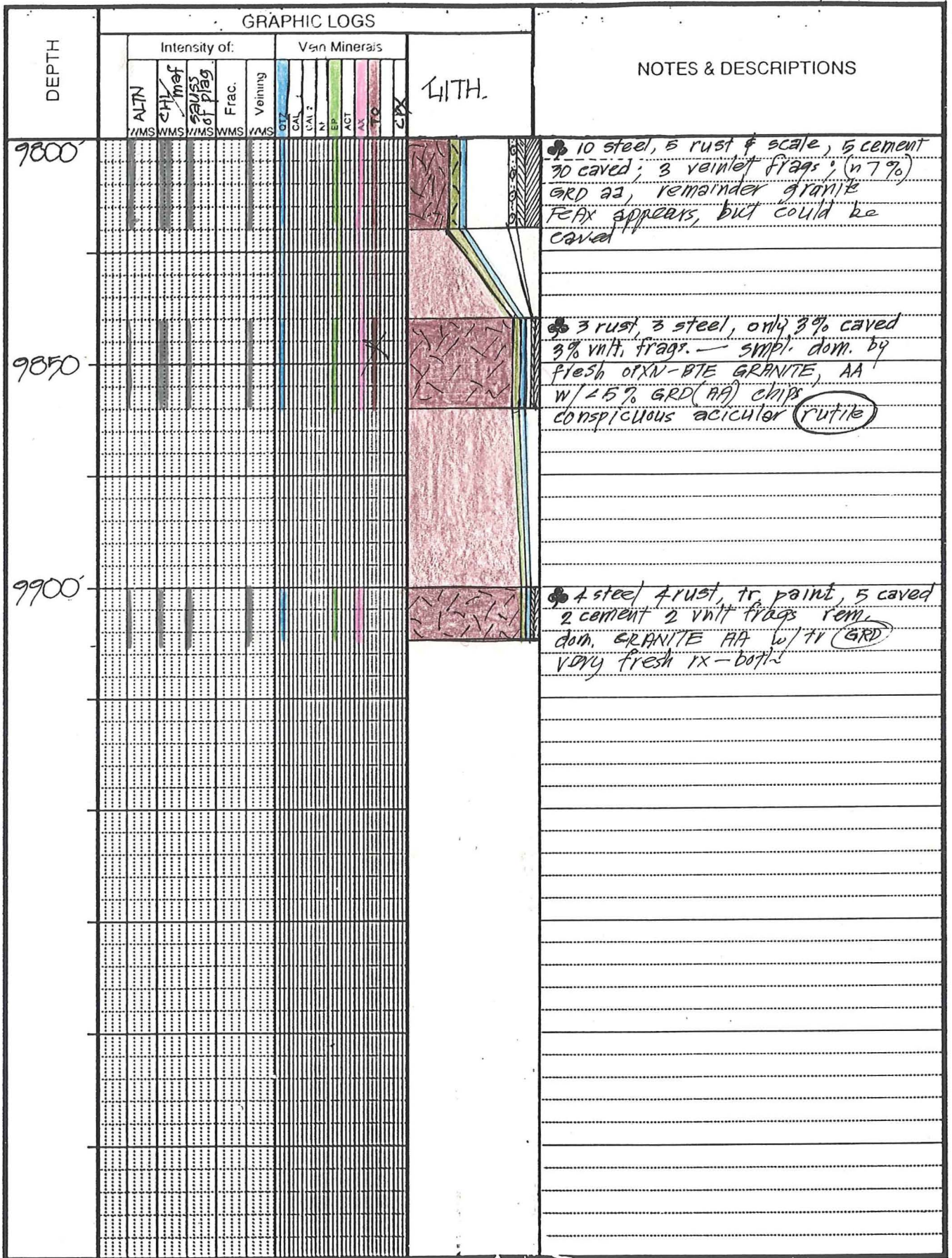
Borehole No. LF23, RDI  
 Depth Interval 9300-9550

Logged By JH  
 Date \_\_\_\_\_



Borehole No. LF23, RD1  
 Depth Interval 9550-9800'

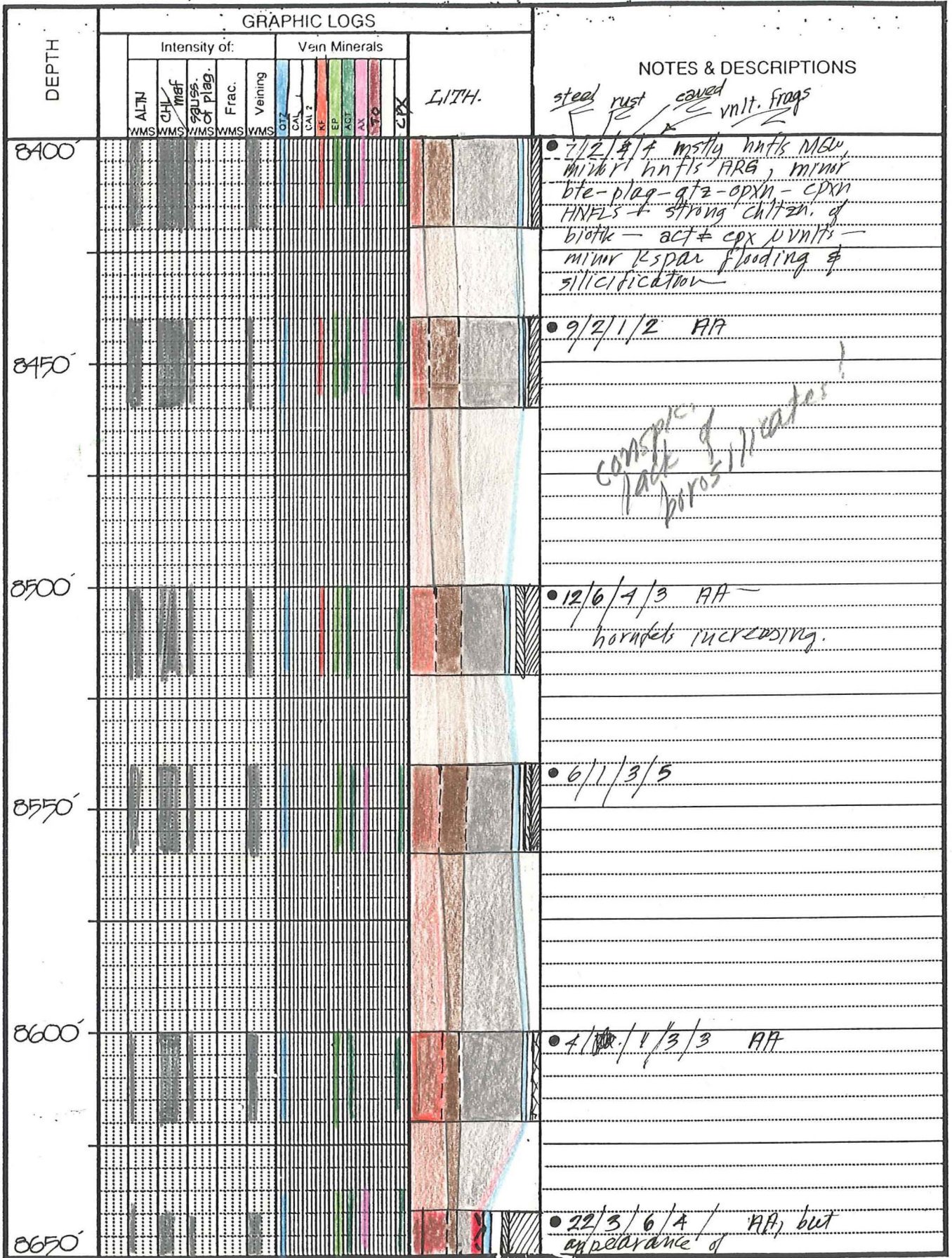
Logged By JH  
 Date \_\_\_\_\_



Borehole No. LF 23, RD1  
 Depth Interval 9800-12'

9800  
 9850  
 9900

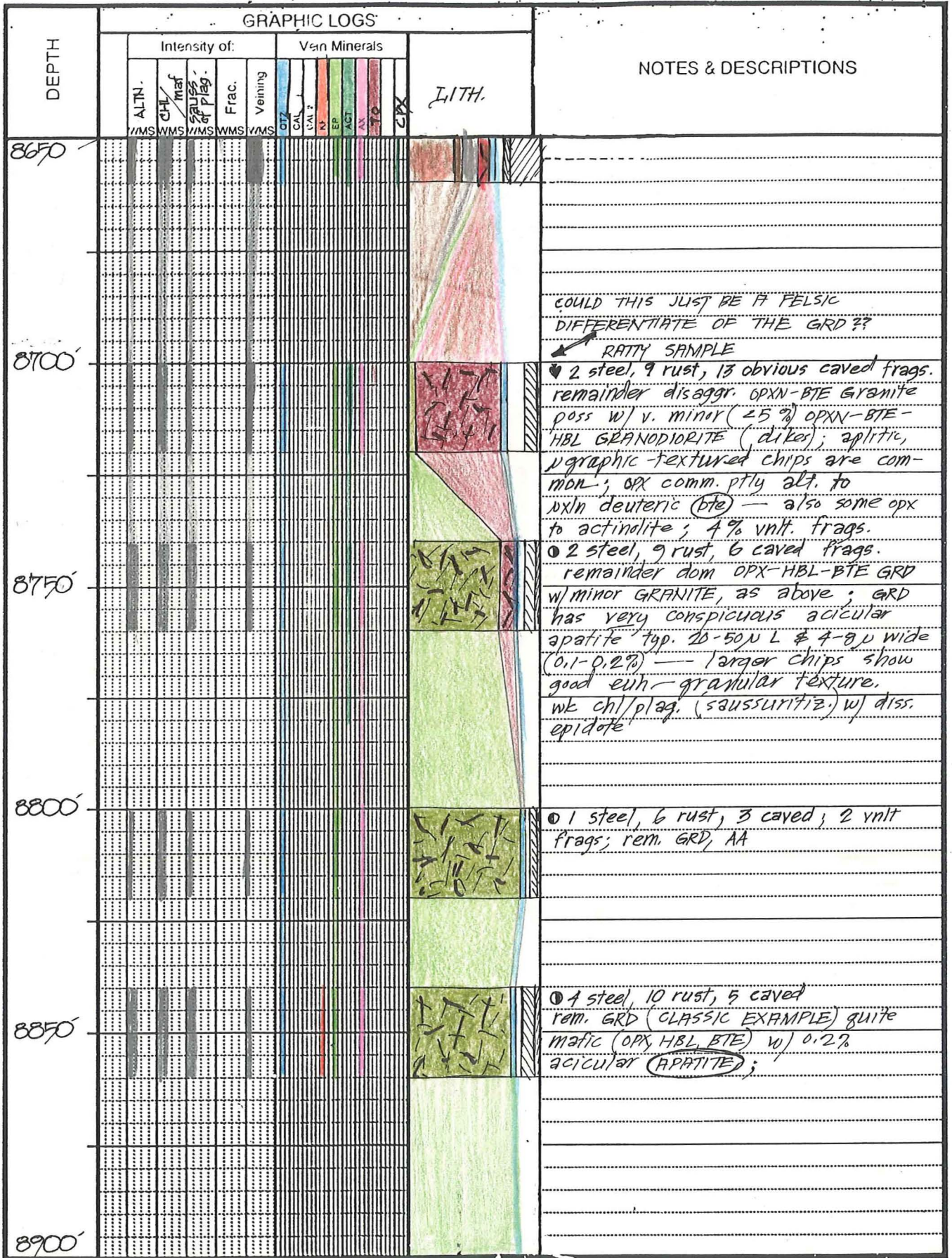
Logged By JH  
 Date \_\_\_\_\_



Borehole No. LF-40 ST-3  
 Depth Interval 8400-8650'

0 1 2 3 4 5 6 7 8 9 10  
 10 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30

Logged By JH  
 Date \_\_\_\_\_

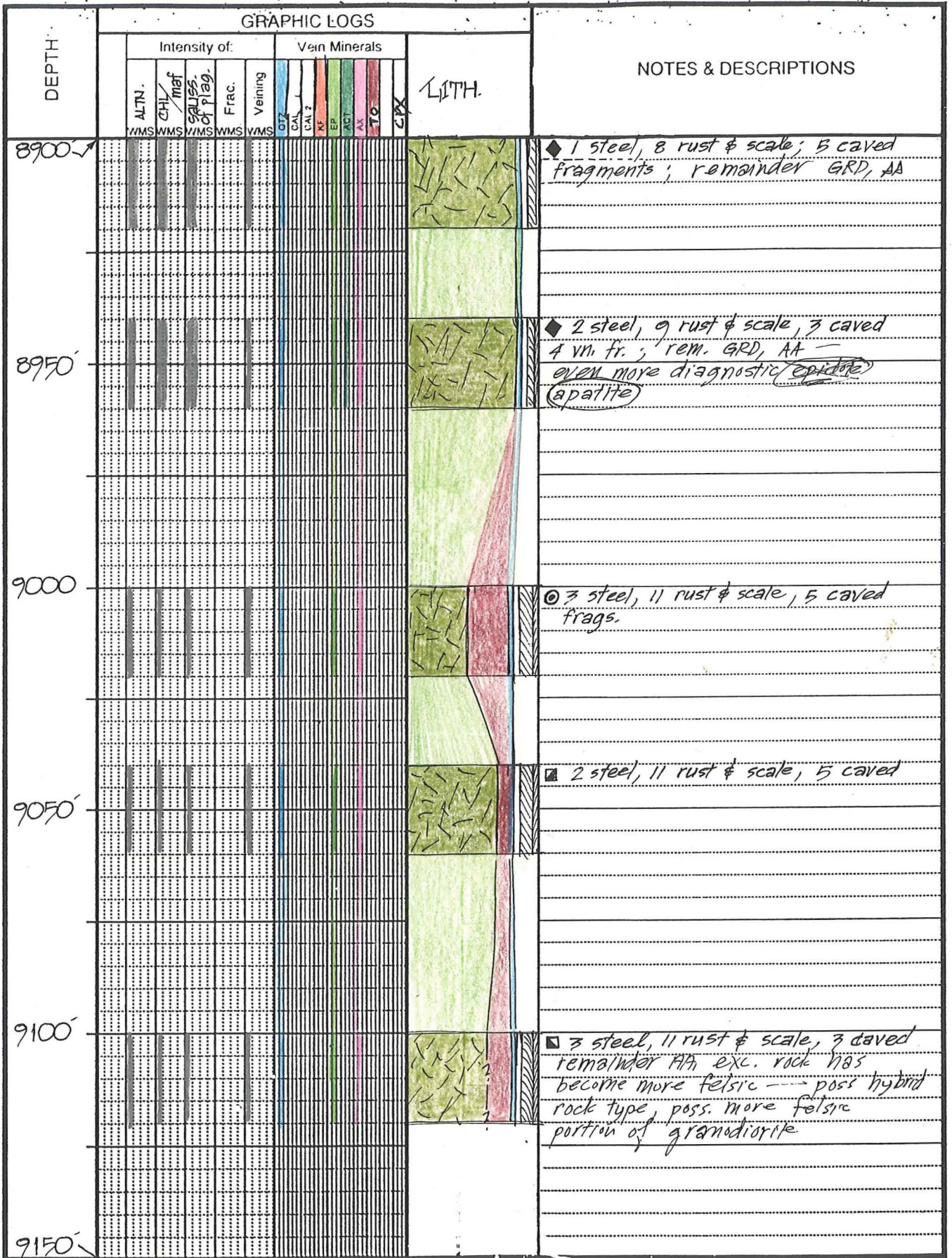


△

△  
GOOD APAT.!

Borehole No. LF40, ST3  
 Depth Interval 8650-8900'

Logged By JH  
 Date \_\_\_\_\_



Borehole No. LF40, ST3  
 Depth Interval 8900-9120'

0 12:00  
 0 12:00  
 0 12:00

Logged By JH  
 Date \_\_\_\_\_



2107c

DEPTH	GRAPHIC LOGS												LITH.	NOTES & DESCRIPTIONS			
	Intensity of:					Vein Minerals											
	ALIN	CHL	mf	sauss.	of plag.	Free	Veining	Qtz	Cal	UAI	EP	ACT			AX	TO	CPX
8600'																	<p>rust caved streak vein frags</p> <p>11/4/4/33 — Remnant dom. by v.f. granodioritic hornfels composed of Qtz, Bt, Clg, Kfs, opx, cpx, sphene, hb, tourmaline in various combinations — also some hntfsc MGK (original rx texture recognizable) this sample may be a disaggregated hydrothermal breccia.</p>
8650'																	<p>9/3/3/35 AA — 2 types of bte one metamorphic — the other, rxn, greenish — poss. hydrothermal secondary biotite.</p>
8700'																	<p>12/2/5/19 AA</p>
8750'																	<p>9/2/4(?) / 19 AA a few hntfsc chip massively altered to K feldspar</p> <p>abund. quartz frags / plagioclase also partly repl. w/ tourmaline &amp; epidote.</p>
8800'																	<p>2 steel, 8 rust, 3 caved; 21% v.f. 5% hyd. bx frags. mostly omtd. w/ Qtz, tourm., FeHx. remainder is leucocratic granite, w/ no biotite or opx (either alt. to barosilicate or initially absent. — no rutile much of tour. repl. plagioclase</p>
8850'																	<p>6 steel 17 rust, 1% obv. caved, 15 vein frags. rem. Qtz</p>



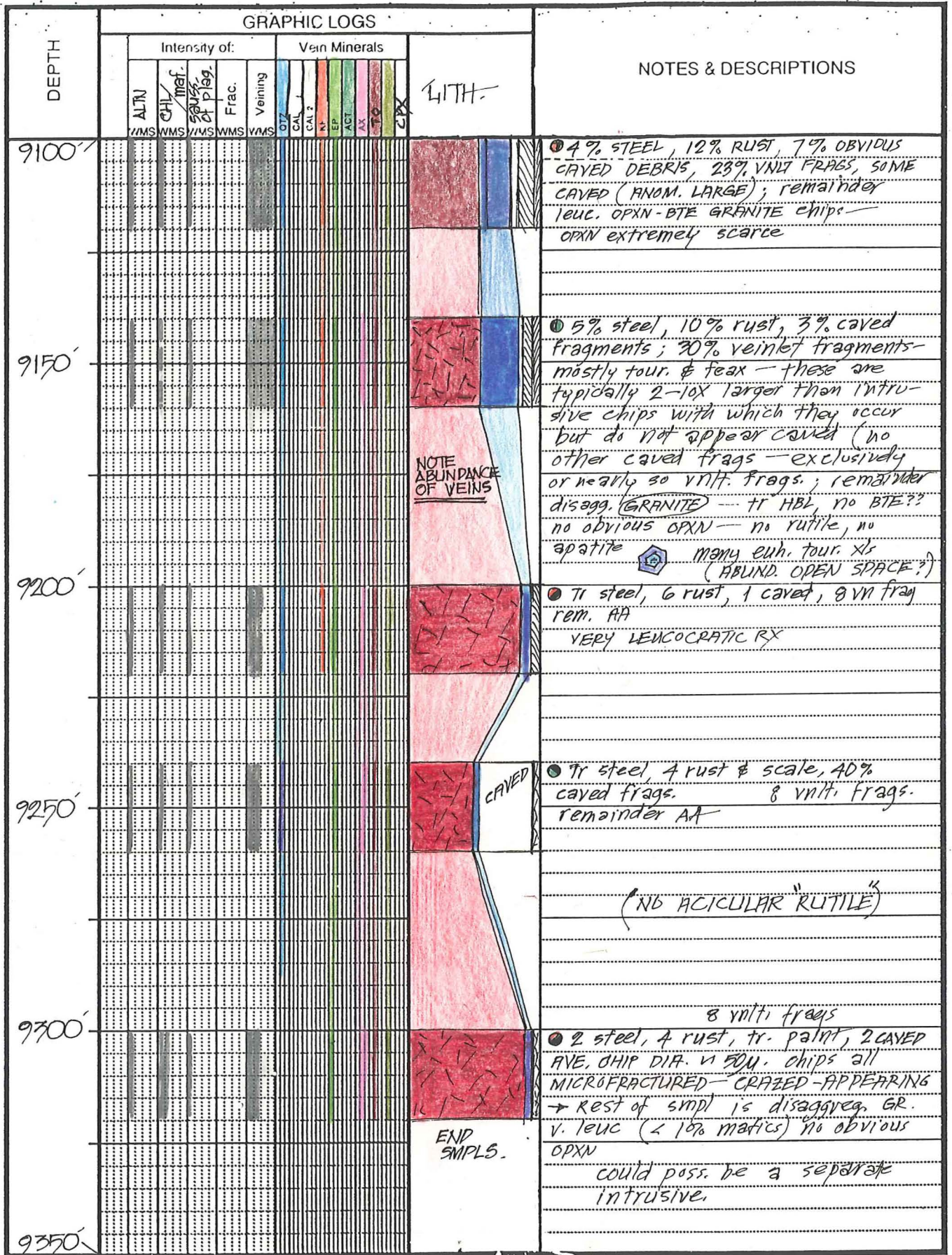
Borehole No. OF 21C-12  
 Depth Interval 8600-8850'

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													LITH.	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals											
	ALTN WMS	CHL WMS	SAUSS. WMS	FRAC. WMS	Veining WMS	QZ CAL	CAL 2 KF	EP AGI	AX TQ	OPX	CLX	SPX					
8850'																	
8900'																	<p>3 steel, 23 rust; 2 caved 28 vein fragments - mostly to FeHx - remainder matrix-free granite no (found to bte alt. to chlorite plus leucocoxene. plag. xls. up to 0.5 mm, dia (size of largest chip) 5 steel 15 rust, 2 caved, 35% vein fragments. rem. gr. AA. w/tr. applied</p> <p>sample below: definite evidence of K-spar alteration &amp; plag.</p>
8950'																	
9000'																	<p>6 steel, 11 rust, 3 caved 40% vein fragments mod. - strong KFM metasoma- tism of plagioclase grains.</p>
9050'																	<p>5 steel, 10 rust, 7% obvious caved fragments; 22 obvious vint. fragments remainder disaggr. granite, leucocratic, w/tr. opx, 1 bte, pty alt. to chl. — NO ACICULAR RUTILE; possibly another intrusive but could be rutile-deficient portion of main granite mass.; plag. partially "saussuritized" - vacuole- rich, sparse chltan. &amp; sericitization local pxln. sphere — tour. in part replaces plagioclase. — some bte alt. to chl &amp; sphene</p>
9100'																	

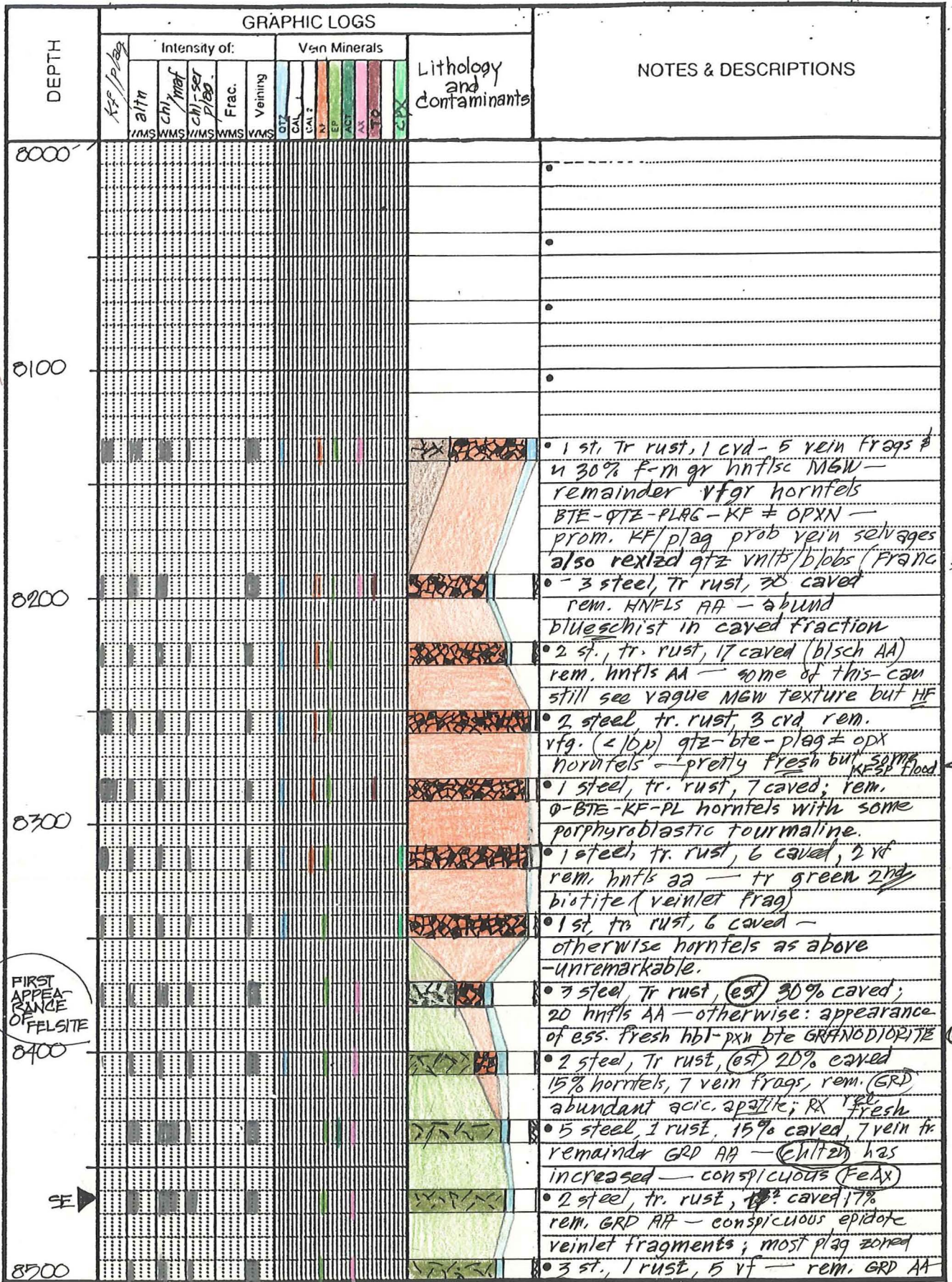
Borehole No. CF21C-12  
 Depth Interval 8850-9100'

chips extensively microfrxd. ↑  
 Logged By JH  
 Date \_\_\_\_\_



Borehole No. OF21C-12  
 Depth Interval 9100-9320'

Logged By JH  
 Date \_\_\_\_\_



Borehole No. Q-9  
 Depth Interval 8000-8500

Logged By JBH  
 Date \_\_\_\_\_

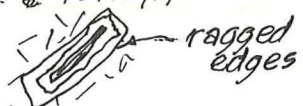
FIRST APPEARANCE OF FELSITE F?

SE

DEPTH	GRAPHIC LOGS														LITHOLOGY & CONTAMINANTS	NOTES & DESCRIPTIONS	
	KF/PL	Intensity of:					Van Minerals				OPX						
		ALTN	CHL	MAF	PLAG	Frac.	Veining	DTZ	CAL	EP		ACT	TO				
8500'																	<ul style="list-style-type: none"> <li>146 cv frags, 6 steel, 1 rust,</li> <li>4 steel, 1 rust, 50 caved, 5 vf.</li> </ul>
8600'																	<ul style="list-style-type: none"> <li>remainder GRD - (hbl-px-btz grd AA)</li> <li>rx is "dirty" - appearing w/ saussurite</li> <li>fixed plagioclase, chl + act ± ep</li> <li>after mafics - euh-gr texture</li> <li>2 st, 1 ru, 11 cvd</li> </ul>
8700'																	<ul style="list-style-type: none"> <li>5 steel, 1 ru, 35 caved, 5 vf</li> <li>rem. GRD - altn. has increased again</li> <li>4 steel, 1 rust, 12 caved, 5 vn frags, rem alt GRD AA</li> <li>10 steel, 2 rust, 20 caved, 4 vfs</li> <li>remainder alt GRD AA - chl + act ± ep</li> <li>replace bulk of mafic minerals.</li> <li>DUST! 8-10 μ dom. chip diameters.</li> <li>1 rust, 1 steel, 3 caved; 2 vf. remainder</li> <li>APPARENTLY GRD, but "fresher than above"</li> <li>2 steel, 1 rust, 2 caved frags. -</li> <li>DUST as above... only tr. vnt. frags,</li> <li>rem. disaggr. (GRD)</li> <li>4 steel, tr. rust, 7 cvd; 1 vein fragment</li> </ul>
8800'																	<ul style="list-style-type: none"> <li>5 steel, 1 rust, 5 caved, 2 vf.</li> <li>rem. GRD AA</li> <li>2 steel, 1 rust, 7? caved (DUST)</li> <li>2 vf - remainder GRD</li> </ul>
8900'																	<ul style="list-style-type: none"> <li>4 st, 1 rust, 4(?) caved - rem GRD</li> <li>subh-granular - chips up to 200 μ - (str) altn. of mafics (also act/maf)</li> <li>3 st, 1 rust, 8(?) caved -</li> <li>rem GRD aa</li> <li>2 st, 1 rust, 4 caved, 2 vf</li> <li>rem. grd aa but fresher</li> <li>5 st, 1 rust, 7 obvious caved,</li> <li>6 vf. rem alt. GRD AA</li> <li>prob. mostly deuteric alteration</li> <li>6 steel, 1 rust, 5 obviously caved</li> <li>3 vf - rem. alt. GRD AA -</li> </ul>
9000'																	

no opx re-mains

some pcs... large enough to see that rock is clearly a PORPHYRY



Borehole No. 0-9  
 Depth Interval 8500-9000

Logged By JBH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS														LITH & CONTAMINANTS	NOTES & DESCRIPTIONS	
	KF/PL	Intensity of:				Veining	Vein Minerals										
		ALN	CHI	MA	PL		Frac.	WMS	WMS	WMS	WMS	WMS	WMS	WMS			WMS
9000																	<p>0 4 st, 1 ru, 7 cvd, 3 vf; rem. grd (opx-hbl/bte, act, altn. st. mafics (ch) ep, act; mod. saussurite in plag. subh. granular; abundant mafic apatite) - minor green bte/opx</p> <p>0 3 st, 2 ru, 10 caved, 2 vf - rem. GRD AA exc. much less altn.</p> <p>0 1 st, 1 ru, 2 cvd - rem. grd AA (DUST) - avg. chip size only 20-30µ</p>
9100																	<p>0 1 st, 1 ru, 2 cvd - rem. GRD exactly as above (DUST) very fresh</p> <p>0 8 steel, 2 rust, 15 caved, 2 vf; otherwise GRD AA - chips larger (avg. 80µ) mafics more altered.</p> <p>0 2 st, 1 ru, 17 caved, 2 vf rem GRD apparently deuterically altered - hbl/opx, act/hbl, opx chl/hbl/bte/opx</p>
9200																	<p>0 3 steel, tr. rust, 23% caved; Est. n 25%. GRD as above, remainder anh.-granular fgr bte-opx granite - no apatite rutile</p> <p>0 3 steel, 1 rust, 17% caved, 3 vf 20 GRD, rem. quite fresh, rutile-free granite.</p> <p>0 2 st, 1 rust, 5 caved, 2 vf remainder (GRD)</p> <p>0 1 steel, tr. rust, 3 caved, 1 vf (DUST - 20µ avg. chip size) chips commonly elongate. essentially fresh GRD</p> <p>0 8 steel, 2 rust, 55% caved (including abund. blueschist &amp; vein frags. note increase in contam. near SE</p> <p>0 3 steel, 1 rust, 15 caved, 3 vf - remainder ess. fresh GRD</p>
9300																	<p>0 3 st, 1 ru, 7 caved, 2 vf, rem. grd - chltzn. of mafics has increased again.</p> <p>0 4 st, 1 ru, 7/3 CV, 5 VF, 63 GRD, app. deuterically altered w/ strong chltzn of mafics</p> <p>0 2 st, 2 ru, 5 cvd, 3 VF, rem. fresh GRD AA def. same rx type -&gt; char. acicular apatite remains abundant</p> <p>0 2 st, 1 ru, 3 cvd, 2 vf - rem. AA</p>
9400																	<p>0 3 st, 1 ru, 3 cv, 4 vf - rem. GRD, altn. increasing plag. more sauss, bte more chltzn.</p>
9500																	

Borehole No. Q-9

Depth Interval 9000-9500'

Logged By JBH

Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													LITH & CONTAMINANTS	NOTES & DESCRIPTIONS	
	Intensity of:						Vein Minerals									
	KF/PL	ALTN	CHL	MA	Frac.	Veining	QU	CAL	LAZ	NI	EP	ACT	AX			TO
9500																<p>very dramatic increase in VF's (dom. FeAx)</p> <p>① 1s, 1R, 3 CVD, 28 VF's - these are diam. fxlw. FeAx-Ep (singly or in comb.)</p> <p>FeAx 16u - 0.15 mm (avg u 40u); ep. sug. 30u</p> <p>② 6s, 1R, 10 CVD, 17 vfrags, rem. GRD AA - poss some comp. similar dikes(?), finer-gr. w/distinctly euhedral lath-shaped plag.</p> <p>③ 5s, 3 FeOx, 15 CVD, 10 VF, rem. AA, exc. reappearance of some orig. bte &amp; OPXN still abund 2nd FeAx, ep, minor Qtz &amp; spm.</p> <p>④ 25 1R, 2 CV (obvious), 1 VF, u 15% (?) GRD AA remainder GRANITE w/v. few matrics - also very fresh bte, tr. OPX, no apatite</p> <p>⑤ 3st, 1ru, 9 obr. caved frags; 2l vein frags (VF's) - rem. back in GRD same as 9520-9590', and GR AA</p> <p>⑥ 1st, 1RU, 3 OBVIOUS CAVED FRAGS, rem. mostly bte-opxn GRANITE w/scatt. tr. curved-acicular ulxn rutile - quite fresh</p> <p>⑦ 2st, 1RU, 5 CVD, 3 VF, rem. GR AA clearly anh.-subh. granular, avg. grain size u 0.1-0.15 mm.</p> <p>⑧ TR. ST, 1 RUST, 2 CAVED, remainder GR as above - tr. ACICULAR RUTILE; FRESH ROCK</p> <p>⑨ 3 ST, 1 RUST, 2 CV, 2 VF; REM. fresh GR AA</p> <p>⑩ 1 st, 1 ru, 2 (OBVIOUSLY) CVD frags. 3 VF, REM. GR AA</p> <p>⑪ 2 ST, 1 RU, 2 CVD, 3 VF, rem. AA</p> <p>⑫ 7 ST, 2 RU, 7 CVD, 8 VF, 15% ?? granite AA; rem. GRD, same as 9550-60' also note incr. in altm &amp; vein minirln.</p> <p>⑬ 1 st, 2 rust, 3 CVD, 3 VF remainder mostly grd. AA</p> <p>⑭ 2 st, 1 rust, 2 CVD, 4 VF abund (4% disagg. bte) ← fairly fresh poss. SEPARATE INTRUSIVE - no hbl or opx</p> <p>⑮ 4 steel, 1 RUST, 17% CV - chip size noticeably coarsens 5 VF's,</p> <p>⑯ 5 ST, 1 RU, 3 CVD, 3 VF; otherwise GRANITE AA</p> <p>⑰ 2 ST, 1 RU, 5 OBVIOUS CAVED FRAGMENTS</p>
9600															<p>at least 2 gen. FeAx in vein fragment</p> <p>ep</p> <p>POSS. POST-GRD GR dike</p> <p>24 psi</p> <p>5 psi</p> <p>19 psi</p> <p>8 psi</p>	
9700															<p>abundant</p> <p>some epidote - to vein frags</p>	
9800															<p>28% VEIN FRAGMENT - MOSTLY FeAx!!</p> <p>a few grd chips assumed to be caved - remainder PXN-BTE GRANITE but, w/o rutile abund. halite-bearing fluid inclusions but only in magmatic quartz chips</p>	
9900																
10,000																

Borehole No. D-9.

Depth Interval 9500-10,000'

Logged By JBH

Date \_\_\_\_\_

28% VEIN FRAGMENT - MOSTLY FeAx!!

a few grd chips assumed to be caved - remainder PXN-BTE GRANITE but, w/o rutile abund. halite-bearing fluid inclusions but only in magmatic quartz chips

DEPTH	GRAPHIC LOGS														Vein and Fracture Attitudes	Lithology	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals													
	RdZ	WMS	WMS	WMS	WMS	WMS	Veining	QTZ	CAL1	CAL2	KF	EP	ACT	AX				TO	
8200																			
8250																			
8300																			
8350																			
8400																			
8450																			
8500																			
8550																			
8600																			
8650																			
8700																			

8620-30: dom fxl. opxn-bte hbl. grd., euh. gran. w/ 15% bte-pl.-pxn hntls; 2% serp from schist w/ 3% vitreous

badly caved sample, 0.2-0.4 mm. avg. gr. size, subh. euh. granular w/ plag. comm. [anh-lite but w/ somewhat corroded margins. abundant acicular diss. apatite

Borehole No. Y-1 RDZ  
 Depth Interval 8200-8700'

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By JH  
 Date \_\_\_\_\_



DEPTH	GRAPHIC LOGS											Vein and Fracture Attitudes	Lithology	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals										
	WMS	WMS	WMS	WMS	WMS	OTZ	CAL1	CAL2	KF	EP	ACT				AX	TO
8700															Grp, RA	
8750															AA	
8800																
8850																8920-25' - appearance of granite w/ rutile (??) - can't say if opxn-bte gr. or rhy ppy
8900																Conspic. zoned plag. - subh-euh. granular texture. pxns typically have corroded borders.
8950																pxn (± hbl.)
9000																K-spar locally engulfs corr. plag. Tactile & smelt (0.02 mhl) of early rounded pxns.
9050																caved - 90's are real guesses - but: abund. hbl. is a giveaway....
9100																end
9150																9170-40': large chip devnt. rhy? or dacite ppy - subvolc. for sure
9200																chip size diminishes - 40-50µm becoming more mafic S. minor given dacitic bte

actn. & veining all wk

badly caved

(do)

(do)

(do)

(do)

do

Borehole No. NCPA Y-1 RD2  
 Depth Interval 8700-9200'

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS													Vein and Fracture Attitudes	Lithology	NOTES & DESCRIPTIONS		
	Intensity of:					Vein Minerals												
	PLT	WMS	WMS	WMS	WMS	OTZ	CAL1	CAL2	KF	EP	ACT	AX	TO					
9200'																		
9250'																		opxn-bte-hbl grd. sub-euh. gran., avg. grn. size is 0.1 mm. hbl → act, chl. some deut. bte; opx → hbl, bte, chl. — quite fresh — app. abund. acic. apatite (accessory — v. 0.3% — mafics, esp. hbl, have scalloped, irregular borders.
9300'																		AA, more felsic. } \$ above; sparsely scatt, diss. chl. in
9350'																		AA, still fresh } plagioclase.
9400'																		tr. allanite (do)
9450'																		tr. allanite
9500'																		(ENTIRE INTERVAL) → chl. sparsely, repl. plag. no diss. flakes AA, but mafics decrease pass. appearance of granite (note tr. acicular rutile. (urchins) OPXN-BTE GRNT.
9520'																		hbl. returns. symplectite? (ilm & qtz)
9600'																		GRD again — smp. has "dirty" appearance mafics dramatically increase. do (di)
9650'																		GRD/GR mix — mafics drop, re-appears rutile
9700'																		GR dom. abund. acicular rutile

Borehole No. NCPA Y-1  
 Depth Interval 8700-9200'

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By JH  
 Date \_\_\_\_\_

DEPTH	GRAPHIC LOGS														Vein and Fracture Attitudes	Lithology	NOTES & DESCRIPTIONS
	Intensity of:					Vein Minerals											
	WMS	WMS	WMS	WMS	WMS	OTZ	CAL1	CAL2	RF	EP	ACT	AX	TO				
9700'																	dom opx-bte GR w/ diss rutile (sea urchins) tr. hbl. v. fresh-looking rock AA (fresh)
9750'																	nothing remarkable about the steam-entry zone.
9800'																	tr "symplectite"
9850'																	GRD re-appears.
9900'																	v. "dirty" f-gr. smpl.
9950'																	AA
10,000'																	AA, still very fresh
10,050'																	AA - hbl. could represent caving
10,100'																	AA (50s)
10,150'																	AA, but grd, inor. avg. chip size is 0.08 mm. proportions definitely estimated
10,200'																	NO RUTILE! fresh GRD!
10,210'																	comparatively little apatite (poss. a separate rock type) ALSO POSS. A HYBRID RX TYPE (ASSIMILATION)
10,220'																	AA, exc. a little more ep/plag.
10,230'																	AA

Borehole No. Y-1 RD2  
 Depth Interval 9700-10220'

**DOE-GD/Industry  
 GEYSERS CORING  
 PROJECT**

Logged By JH  
 Date \_\_\_\_\_