UURI EARTH SCIENCE LAB

GL04924

PROJECT COSO CGEH-1
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R Gulbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

Kelley Bushing = 21.61' above permanent datum level. Declination = 15°

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No. 31 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
40'		Biotite Gneiss	Fine gr. biotite in milky feldspar matrix; 1-2% epidote frags and QTZ. vein frags; Generally very fresh. Foliation in mafic-rich pieces.	Biotite → Vermiculite Fe stain on some QTZ. chips. Tr. biotite → epidote												
50		Biotite Gneiss	Foliation locally in mafic-rich frags. 1% epidote frags., 60% mafics in milky Fs. 40% QTZ chips, some clear, some milky w/ Fe.	Biotite → Vermiculite												
60		Biotite Gneiss	QTZ. increases to 50%; mafics 40% Tr. epidote.													
70		Biotite Gneiss	Foliation of mafics evident; almost no ep. <1% QTZ vein frags.	Biotite → epidote, weak.												
80		Biotite Gneiss	Foliation of mafics; Some sugary ep. in qtz. grains.													
90		Biotite Gneiss	Foliation still present plus "slabby" chips of mafics; no alteration. Some Fe in qtz.; TR. ep.	Very weak biotite → vermiculite												
100		Biotite Gneiss	Mafics decreasing to 40%. Still banded qtz. + Fs., 60%.	Fe-stained qtz, 2-3%						Several slickensided frags.		106'	1°	—		
110		Biotite Gneiss	Mafics mainly fine gr. biotite - 40%. QTZ + Fs. = 60%; 2-3% Fe-stained QTZ - From vein? TR. ep. in QTZ.									114'	1°5'	N20W	Temp = 104°F	TS 110'
120		Biotite Gneiss	Mafics fine gr. biotite, 40%; Fs + QTZ 60%; Some Fe-stained QTZ.							Several milk-white chips w/slickenside.		123	148°F-150°F		Temp.	
130																

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CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

Kelley Bushing = 21.61' above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												130		Biotite Gneiss	Biotite + mafics 35% QTZ + Fs 60%; 5% Fe-stained QTZ.	One or two chips of banded Fe-oxide						2-3% milk white chips w/slick.						
												140		Biotite Gneiss	Mafics almost totally biotite in small clot-like blotches? 40%; QTZ + Fs = 60%	Very few fe stained chips of QTZ.						2-3% milky white frags w/slick.						
												150		Biotite Gneiss	QTZ + Fs masses up to 1/4" - 60%; mafics 40%. Wood chips + lost circulation materials present.	Fe stain weak, but on 10% of frags.												
												160		Biotite Gneiss	QTZ + Fs = 60%; Biotite 40%; 10% strong Fe stained QTZ. Lost circ. material present, incl. walnut hulls.	Very Fe-stained biotite-rich chips locally.												
												170		Biotite Gneiss	QTZ + Fs = 65%; biotite = 35%; med. to fine chips; no QTZ vein frags. Lost circ. material.													
												180		Biotite Gneiss	Fine-gr. chips < 1/8"; QTZ + Fs = 65%; biotite = 20%; 10% milky qtz frags w/slicks. Lost circ. material.							10% milky QTZ w/slickenside.						
												190		Biotite Gneiss	QTZ + Fs = 60%; Biotite 40%; Minor Fe stain on Fs + QTZ. Lost circ. material.							Local QTZ w/slick.; frag. size increases to 1/4".						
												200		Biotite Gneiss	QTZ + Fs = 60%; Biotite 40%; Lost circ. material.	Moderate Fe-stain on QTZ + Fs.						10% milky QTZ frags w/slickensides.						
												210		Biotite Gneiss	Chips up to 1/2" w/weak Fe stain QTZ + Fs = 60%; Biotite 40%; QTZ frags from veins = 10%	Slightly weathered zones.						Frags. up to 1/2"; fract. zone.		214	1°45'	N6E	106/104	
												220		Biotite Gneiss	Frag size 1/8"; 60% QTZ + Fs; 40% biotite	50% frags w/Fe stain; weathered zone?												

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GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	(FRACTURES m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION
												240	
												250	
												260	
												270	
												280	
												290	
												300	
												310	
												320	
												330	

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Biotite Gneiss	Frags. 1/2-3/4" + Fines; Fine laminations; moderate Fe stain on 20% Frags; 60% QTz + Fs; 40% Biotite							Large Frags.-Fracture?						
Biotite Gneiss	Large Frags, many w/slick. QTz + Fs = 60%; Biotite 40%; local ep. on Fract.							Fracture zone - large chips						
Biotite Gneiss	QTz + Fs = 60%; Bio. 40%; 1" Frag has salt + pepper igneous texture ....dike?							Large chips - Fracture zone.						
No Sample taken; Circulation bypassed shaker table because using Lost Circ. materials								Frags up to 1/4".						
Biotite Gneiss	QTz + Fs = 60%; Biotite 40%; almost No vein material.	Fe stain on Fs and mafics - is weak and patchy.												
Biotite Gneiss + QTz vein	50% of chips are QTz. TR. ep; biotite Gneiss unchanged.	Patches of Fe on 50% of Frags - very weak.												
Biotite Gneiss	QTz + Fs 60%; biotite 40%; some milky QTz w/slicken. Walnut shells present in samples (Lost circ.)	Fe stain decreasing - only 10% of Frags.						Milky QTz. w/slicken.						TS 300
Biotite Gneiss	Mafic content not as distinctly banded and decreasing to 20%. QTz + Fs = 80%. Small Frags. ~ 50-60% of sample.	Very weak Fe stain.						Milky QTz w/slicken.		301	2°	—	Temp. 106°F	
Biotite Gneiss	Laminations not very distinct but there; Mafics 25%; QTz + Fs = 75%.	Fe stain weak; microbreccia of 80% mafics w/Fs + QTz; totally stained.						Some milky QTz. w/slicken.		312	1°45'	N11E	Temp. 106°F	
Biotite Gneiss + Granite	Mafics still patchy + Fine composite grains; banding in only a few grains; Sample is quite fine gr, <1/8" generally.	Very minor Fe stain.												

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GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (Nº PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
340		Biotite Gneiss + Tr. very mafic rock frags.	Small chips, 30% of sample is walnut shells. Banding (Foliation) not very distinct - Granitics?	TR. Fe STAIN												
350		Biotite Gneiss	60% QTZ + Fs.; 40% Biotite; abundant Small milky QTZ w/slickensides. Walnut shells present.	TR. hem. pseudomorphs w/limonite Limonite on 10% of Frags.						Clear hexagonal QTZ XTAL from open vein (?)						
360		Biotite Gneiss	60% QTZ + Fs.; 40% biotite; some frags of mafics very fine grained. Some ep. chips w/limonite	TR. hem; minor oxidation; Fe STAIN on 20% of Frags.						Some Milky QTZ w/slicks.						
370		Biotite Gneiss	60% QTZ + Fs; 40% biotite; many iron filings from drilling tools in sample. a few all-mafic fine gr. frags.	Minor Fe STAIN						20% of chips are slivers w/slicks.						
380		Biotite Gneiss + QTZ veins	60% QTZ + Fs; 40% Biotite; 40% of frags are QTZ.	Minor Fe STAIN on 50% of Frags.						Some milky QTZ w/slicks.						
390		Biotite Gneiss	60% fine chips; mostly QTZ + Fs w/minor biotite, 10% of chips are QTZ w/strong Limonite 60% QTZ + Fs; 40% biotite.							Some milky QTZ w/slicks.		391	1°30'	—		
400		Biotite Gneiss?	Laminations hard to discern - may be granitic texture w/some comp., 60% QTZ + Fs; 40% biotite - TR. ep.	Minor Fe STAIN						Some milky QTZ w/slicks.						
410		Biotite Gneiss	Fine gr chips but Laminations clear locally. Weak chlorite after biotite on some chips.	Weak Fe								410	1°30'	N25W	Temp: 112/110°F	
420		Biotite Gneiss + fine gr. mafic rich unit.	Gneiss 30% Mafics, 70% QTZ + Fs; Mafic frags have 5-10% white mineral	Weak Fe STAIN												
430		80% Bio. Gneiss 20% Mafic dike (?)	Gneiss; 30% Mafics, 70% QTZ + Fs Mafic dike 70% fine gr. biotite; 30% white specks.	Both units have slight Fe STAIN.												

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CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	CO_3	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION
												440	
												450	
												460	
												470	
												480	
												490	
												500	
												510	
												520	
												530	

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Biotite Gneiss	70% QTZ + Fs; 30% mafics - mainly biotite. Tr. ep.	Trace Fe stain												
90% Bio. Gneiss 10% Granite (equigranular)	80% Frags fine. Bio. Gneiss; 70% QTZ + Fs; 30% biotite. Granite fine gr. equigranular w/distinct books.	Weak Fe stain throughout rock types.						Some milky QTZ w/slicks.						
Biotite Gneiss Tr. fine gr. diorite	Frag size fine exc. mafics. Bio. Gneiss = 70% QTZ + Fs; 30% biotite. Most Frags. are QTZ + Fs w/small flecks of biotite.	Weak Fe stain.												
Biotite Gneiss 5% diorite	Bio. Gneiss: 70% Qtz + Fs; 30% Biotite; diorite very fine gr; Black w/white specks.							Some milky QTZ w/slicks.						
Biotite Gneiss 5% diorite	Gneiss: 70% QTZ + Fs; 30% biotite; diorite very fine gr.	Weak Fe stain in Gneiss Frags.						2% of Frags. milky QTZ w/ slicks.						
Granite ? and Biotite Gneiss	70% of Frags very small; QTZ/Fs. Frags w/biotite specks.	Very weak Fe stain.						10% of Frags milky QTZ w/ slicks.						
Biotite Gneiss w/vein QTZ.	70% QTZ + Fs; 30% biotite; 20% of Frags from QTZ veins.							Tr. milky QTZ w/slicks.						TS 500
Granite 95% 5% diorite	75% QTZ + Fs; 25% biotite + hb. Very fine gr. black	hb → Bio.; apatite in fracture filling; pale green basal cleavage. Fe stain near mafics in Granite.						Milky qtz w/slicks.		511 507'	1°45' 1°35'	 N39W	Temp: 110°F	
Granite 98% 2% diorite	75% QTZ + Fs; 25% hb + bio. Diorite very fine gr, 80% mafics	Very fine apatite on fracs. Fe stain near mafics. Creamy-colored talc-like clays on small frags.												
Hornblende Granitics	10% hb. xtals; 15% biotite; 75% QTZ + Fs. Very fine cuttings. Small Frags. of lt. pink granitics w/chloritized mafics.	Fe stain in 60% of Frags.												

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DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith + Joy Hyde

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
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CO-ORDINATES: LAT. ____ LON. ____
GRID ____ N ____ E
T 22 S R 39 E SEC. 6

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SHEET No. 6 OF 48

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.) (GL)	DATE	COMPANY
			Temperature	40-582' GL	9-19-77	Dresser-Atlas
			Induction	33-578' GL	"	"
			Caliper	33-580' GL	"	"

GEOLOGIC NOTES (Use also for general comments)

DOWN HOLE LOCATION: Distance Down Hole (m. ft.)	ROCK TYPE	DESCRIPTION: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	MINERALIZATION: Distribution (Massive, Disseminated, Veinfill, Replacement) / Type (Hypogene, Supergene, Ore and Limonite Mineralogy)
540	Biotite Granite Tr. diorite	70% QTZ + Fs, 30% biotite	Weak Fs stain on most fine chips.
550	Diorite	Very fine gr.; 90% biotite + hb ≤10% QTZ + Fs.	Apatite(?) on fract. occ.; Fe stain on some biotite; chalky white clays (sticks to tongue) - 1-2% of sample.
560	Granitics + diorites	LT. colored granitics; biotite partially repl. by chl. locally; biotite-rich diorite (?) frags. 50% granitics; 30% mafic frags. One or two lt. pink med. gr. granitic frags noted.	Ep. + green-yellow clay mins on frags. Limonite + hem. stain present-weak. White chalky clay mins coat some frags; calcite along some fract.
570	Granitics + Granodiorites	Lt. pink granitics, med. gr.; granodiorite) med. gr. - Granodiorite med. gr. Lt. colored Limonite-stained granitics; some dark, fine gr. mafic frags w/ chl.	LT. yellow-green clays; plag. in Gd. is mostly repl. by white chalky clays; Ep. present; Chl. repl. mafics in some frags.
580	Granitics + Some mafics + granodiorite	LT. colored to granodiorites, med. gr. TR. mafics which are fine gr.	Fe staining (Limonite). LT. Green-yellow clays + Ep. xtals. White chalky clays after Fs. LT. pink clay noted - TR.
590	Granodiorite + TR. mafics + TR LT. Pink Granitics	LT. Pink, med. gr. granitics; Low mafic content, <1%; Mafics fine gr. diorites; LT. colored granitics to grano-diorites are med. gr. to fine gr.	Fe stain (Limonite), LT. yellow-green clays coat some frags. Ep. seals old fracts. Hematite stain weak. White chalk-like clays, 1%
600	Granitics, Granodiorite + small % mafics	1% LT. colored granitics w/ ~2% mafics; abundant darker granitics, fine gr; 3% fine gr. mafics.	Limonite stain locally; white chalky, and lt. green-yellow clays locally ~1%. Some local ep.
610		Samples 610-670 were Not collected.	
620			
630			

STRUCTURE: Down Hole Dist. (m. ft.)	Foliation ∢ with core	Bedding ∢ with core	Fracture ∢ with core	Description of Structures (Post or Pre-Ore (Evidence))	Fracture Intensity (No. per metre)

DOWN HOLE SURVEY DATA: Depth (m. ft.)	Inclination	Bearing
604	2°	N53W

THIN & POLISHED SECTIONS: Depth (m. ft.)	Sample Number
	Temp: 112°F

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SHEET No. 7 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) m. ft.; ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

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		Samples caught below are taken at the footage indicated. They are collected from the shale shaker and represent less than one foot of drilling.														
680		Hornblende diorite	40-50% hb w/very weak chl. fresh Fs 40%; <10% QTZ. Hb x tals 2-3 mm across.	<1% apatite in patches.						Some frags have slicks.						
												689	2°30'	N76W	Temp: 100°F	
690		95% hb diorite 5% shear zone chips	40-50% hb w/very minor chl.; fresh Fs + QTZ; tr. apatite	Fe stain on QTZ + Fs in <5% of grains. Weak alteration along fracts. indicated by milky-colored chips.						5% of chips w/slicks. or milky white clay alt.						
700		hb diorite	40% hb; 60% Fs + QTZ; some ep., orange + green.	Weak alt.; 30% of chips are weakly Fe stained.												TS 700'
710		hb diorite	35% hb, grain size 1x.5 mm; Plag. + QTZ dominant; hb very fine.	Weak Fe stain on 15% of frags; Limonite pseudomorphs <<1% of the py surrounded by fine apatite.												
720		Hb diorite	40% Hb; 55% Fs + QTZ; 5% apatite (?) + tr. ep.	5% chips show salmon colored orthoclase; 10% of chips w/Fe stain though weak. Cubic hem. pseudomorphs after py. or mcgn.												
730		Hb diorite	35-40% Hb about half → Biotite; 55% Fs + QTZ, some QTZ w/strong yellow to orange color; 5% apatite as fine green grains.	Very weak Fe stain on 20% of chips; Some Limonite after py ~ <1%.												
740		Hb diorite	30% Hb; 60% Fs + QTZ; weak pink in orthoclase.	Tr. of hem. near some Hb; weak clay alt. on 10% of chips.												
750		40% Meta QTZite (?) 20% diorite 40% Hb diorite	Very fine gr. w/very fine biotite; very fine grained frags may be dirty quartzite. Fine gr = 35% Hb, 70% Fs + QTZ hb diorite.	Weak Fe stain near Hb may be after py.												
760		Meta quartzite	Fine gr. QTZ, light tan. Some chips w/biotite - may be dirty seds. Sugary texture.													

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER., KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (Nº PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
770		95% Hb diorite 5% altered Hb diorite w/ slicks.	Hb ranges from 10-25% of frags; transition zone; Very white sample w/coarse Fs chips.	Very weak Fe stain around some mafics + on some chips. 5% of chips Fs → clay + silica; most chips w/slicks.					3% of frags milky white w/slicks.						
780		50% diorite Gneiss	Very fine gr., 90% biotite, 10% Fs.	Weak foliation; some frags have slicks.											
		50% Hb diorite	Hb xtals 1-2mm, 25% of frags. Fs + QTZ = 75%. Some chips w/vein QTZ XTALS, and clay filling.	Weak Fe stain							788	2°45'	N75W	Temp: 110°F	
790		50% Diorite Gneiss	Very fine gr. 90% biotite, 10% Fs + QTZ.												
		50% Diorite	Mafics mainly biotite, 25%; 70% Fs + 5% QTZ. which is clear, vitreous, med. gr.	Very weak Fe stain on some frags.											
800		80% Diorite Gneiss	Gneiss fine gr, 90% biotite.	One chip of veinfill magnetite w/slicks. Calcite coating on one side.											
		20% Diorite	Med. gr, 25% biotite; 70% Fs, 5% QTZ.												
810		40% Quartzite	Light tan, sugary texture.												
		40% Diorite Gneiss	Fine gr, 90% biotite												
		20% Diorite	Med. grain.	Slight Fe stain on some frags.											
820		Quartzite	Slab-like very angular chips; Light tan; Sugary texture, 1-3% very fine biotite in some frags.												
830		Quartzite	Light tan to grey, Sugary texture. Very angular chips.												
840		60% Quartzite	Light tan to grey, Sugary texture.												
		40% Diorite	Med. gr., 25% biotite; 70% Fs, 5% QTZ.	Tr. clay alt. on frags w/slicks on one sides. Very weak Fe stain on some frags.					1% milky white frags w/slicks.						
850		90% Diorite	Med. gr, 25% fine-gr. biotite in patches, some after hb; 75% Fs + QTZ.	Weak Fe stain on 80% of frags.											
		10% Diorite Gneiss	Very fine biotite, 90%. Fs 10%												
860		Diorite (?) 95%	Med. to coarse-gr. Biotite after hb in some chips; fine gr. biotite in patches on other frags.												
		5% Quartzite	Lt. tan, sugary texture.												

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	MINERALIZATION — TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
870		Granodiorite	Med gr. biotite 20%; Hb 5%; Fs 70%; QTZ 5%	Very weak Fe in a few gr.								874		Temp:	126°F, without circ.	4.5hr
880		Granodiorite	Med. gr., biotite 20%, hb 5%, Fs 70%, QTZ 5%.	Very weak Fe on Fract (?) surfaces.								880	2°30'	N65°W	Temp: 110°F	
890		Granodiorite	Med. to coarse gr. Biotite masses up to 3mm of fine gr. patches, 30% of frags; Fs 65%, QTZ 5%													
900		Granodiorite	Med. to coarse gr., fine biotite in patches + after hb. 30-35%; Fs = 65-60% and QTZ 5%.													TS 900'
910		80% Granodiorite	Med. gr., fine biotite in patches. 30-35% biotite + hb. 65-60% Fs, 5% QTZ.	Weak Fe stain on fract. surfaces												
		20% Diorite	90% fine biotite, 10% Fs; some large plag. xtals which don't appear in rock texture, but have large clvg. faces.													
920		90% Diorite	Fine-med. gr., biotite in distinct books. 90% mafics, 10% Fs.													
		10% Vein QTZ	+ Sugary white orthoclase													
930		Diorite	Fine gr. w/some distinct biotite books. 90% mafics, 10% Fs.	1% of chips w/moderate clay alt, assoc. w/shear surfaces.						Shears on some frags. w/slicks. and clay.						
940		95% Diorite	Fine gr., 90% mafics. Hb + biotite; 10% Fine gr. Fs.	Local patches w/magnetite xtals. Some oxidation on outside.												
		5% Granodiorite	Med. gr., 30% mafics; 65% Fs, 5% QTZ.													
950		90% Diorite	Fine gr., 90% mafics, hb + bio.; 10% Fs	50% of Diorite w/moderate clay alt.						Shears on clay-alt. chips.						
		10% QTZ + Fs.	Vein material, very white, some w/ sugary texture.													
960		50% Diorite	Fine gr., 90% mafics, 10% Fs.	60% of diorite w/med. alt.						Shear on clay-alt. frags.						
		50% Vein QTZ	+ Fs + Granodiorite frags. Mostly vein material.													

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845.0 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES m. ft.); ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	MINERALIZATION — TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
970		Granodiorite - Fine chips -	Med. gr., 20% mafics, 75% Fs, 5% QTZ.	Weak clay alt. in plag. in 10% of frags. Red. hematite stain on some chips w/shears.												
980		Diorite + Granodiorite	Greenish clay on frags, many fine QTZ or Fs. chips.	Weak to moderate alteration on most chips.												
		Greenish gouge clay	Clay forms balls w/rock chips throughout; pale blue-green.													
990		Diorite and Granodiorite	Fine frags. in balls of blue-green clay. Larger frags of rock w/moderate alt.	Some blue-green frags w/slicks.								992	2°30'	N76W		
		Greenish gouge clay.		Moderate clay alt. in Fs.						Gouge clay.						
1000		95% Plag. chips.	All probably vein material; TR. magnetite and biotite.	No alt. noted.												
		5% Diorite	90% Mafics, 10% Fs.	No alt. Noted.												
		1% White clay.	Clay forms balls w/imbedded chips.							Gouge clay.						
1010		20% Diorite	90% Mafics, 10% Fs.													
		70% Fs	Plag. w/local orthoclase	Some very pink orth. - From vein?												
		10% Granodiorite	Med. gr., 30% mafics; 65% Fs, 5% QTZ.	Weak clay alt. in Gd.												
1020		Sheared Gd + Diorite	Some larger frags, may be caving. Generally sheared very fine material.	Weak clay in plag. in Gd.												
		White Gouge clays.	Cemented by white clay.							Gouge clay.						
1030		60% Gd.	30% Mafics; 65% Fs, 5% QTZ.	Weak clay alt. in some plag.												
		30% Diorite	Fine grain, 90% Mafics, 10% Fs.													
		10% Q + Fs.	Fs = orthoclase. Chips sugary texture, Salmon pink.													
1040		Granodiorite	30% Mafics, 65% Fs, 5% QTZ.													
		10% vein QTZ. + orth.	Sugary texture, Salmon pink orth.													
		White clay.	Cements frags into balls.							Gouge clay.						
1050		60% QTZ + Orth.	Med. gr., vein material.													
		40% Granodiorite	Med. gr.; 30% mafics, 65% Fs, 5% QTZ.	Weak clay alt.						Shear surfaces on some chips.						
1060		70% QTZ + Orth	Vein — med. gr.													
		30% Gd w/banding	Couedbe gneiss.	Very weak clay alt.												

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845. (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK 2 MOD 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION
												1070	
												1080	
												1090	
												1100	
												1110	
												1120	
												1130	
												1140	
												1150	
												1160	

ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
90% Granodiorite	25% Biotite + hb, 70% Fs, 5% QTZ. TR. APATITE	Weak clay alt. in some Frags.												
10% Alaskite	QTZ + Orthoclase, No mafics - pale pink													
60% Granodiorite	25% Biotite + hb, 70% Fs, 5% QTZ	<1% patches of magnetite, ep, py, hematite; moderate clay alt. in plagioclase												
40% Alaskite	80% orth, 20% QTZ.									1092	2°30'	N75W		
70% Granodiorite	25% biotite + hb; 70% Fs, 5% QTZ	No clay alt. noted.												
30% Alaskite	80% Orthoclase, 20% QTZ.													
80% Alaskite	80% Orth, 20% QTZ, med. gr.													
10% Diorite	Fine gr, 90% mafics, 10% Fs.	Hematite on fract. + slick. surfaces												
100% Granodiorite	TR 25% biotite, 70% Fs, 5% QTZ.													
95% Alaskite	60% Orth, 40% QTZ almost graphic ≈1% biotite and magnetite.													
4% Granodiorite	20% Biotite + hb; 75% Fs, 5% QTZ.													
1% Diorite	Fine gr, 90% mafics, 10% Fs.													
99% Alaskite	50% orth., 50% QTZ in fine-med. xtals. ~1% Dissem very fine mafics.													TS 1120'
1% Diorite	Fine gr. 90% mafics, 10% Fs.	TR. clay alt.												
99% Alaskite	50% Orth., 50% QTZ some QTZ. very parallel. ~1% Dissem, very fine mafics.													
1% Granodiorite	20% mafics, 75% Fs, 5% QTZ.	Weak clay alt. in plag.												
99% Alaskite	40% Orth, 60% QTZ., 1% mafics.													
1% Granodiorite	20% mafics, 75% Fs, 5% QTZ.	Weak clay alt. in plag.												
99% Alaskite	50% Orth, 50% QTZ, 1% mafics, Locally frags have up to 5% mafics.													
1% Granodiorite	20% mafics, 75% Fs, 5% QTZ.	Weak clay alt. in plag.												
Alaskite	50% Orth, 48%, QTZ 2%, dissem mafics; Locally biotite/chlorite books.													TS 1160

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakers Field)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No 12 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.) KB	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1170		99% Alaskite	50% Orth, 49% QTZ, 1% Fine disseminated mafics.													
		1% Granodiorite	20% mafics, 70% Fs, 10% QTZ	Mod. clay alt. in plag.						White gouge(?) clay cementing chips together.						
1180		95% Alaskite	60% Orth, 40% QTZ, ~1% Fine mafics.													
		5% Diorite	90% mafics, 10% Fs.	Greenish clay throughout, probably Gouge clay.						Greenish gouge clay cements chips.		1186	4°30'	N75W		
1190		95% Alaskite	60% Orth, 40% QTZ, 1% Fine mafics.													TS 1190
		5% biotite Gneiss	35% biotite, 65% Fs + QTZ; Thin biotite Laminations.	Tr. clay alt.												
1200		90% Alaskite	70% Orth, 30% QTZ, 1% Fine mafics													
		10% hb diorite + Granodiorite	25% hb + biotite, 70% Fs, 5% QTZ.													
1210		90% Alaskite	70% Orth, 30% QTZ, ~1% Fine mafics							Green + white gouge clays in balls of frags.						
		5% Vein QTZ.	Clear to milky													
		5% Granodiorite	25% Bio., 70% Fs, 5% QTZ.	Weak + med. clay in plag.								1216	4°30'	W		
1220		80% Alaskite	70% Orth, 30% QTZ, 1% Fine mafics													
		10% hb diorite	25% hb, 65% Fs, 5% QTZ, 5% Ap + magn.	Locally hb → biotite; plag is cloudy.												
		10% Diorite	Fine gr, 90% mafics, 10% Fs. Diorite/hb diorite contact visible.													
1230		80% biotite Gneiss	40% biotite, 60% Fs + QTZ, 1% Ap. -Sheared-													
		20% Alaskite	70% Orth, 30% QTZ, 1% Fine mafics.													
1240		60% hb diorite	25% hb, 70% Fs, 5% QTZ. Med. gr.	Hair-line QTZ. veins.												
		20% Diorite	Fine gr, 90% bio., 10% Fs.							Sheared.						
		20% Alaskite + Vein QTZ.	Pink, 70% Orth, 30% QTZ. Clear to cloudy, coarse gr. QTZ.													
1250		Biotite Granite	Frags mostly xtals, Large biotite books, Fs, QTZ and hb. Med.-Coarse gr.; Frags rather Fine.													
1260		Granodiorite	35% Mafics, 60% Fs 5% QTZ, Med.-Coarse gr. Mafics mainly hb + some biotite	Ep. along veinlets + single chips. Tr. ep. in some mafics. Weak clay in some plag. Some blue-green clay alt.						Chips w/slicks. chalk white w/mafics intact.						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY J. Hyde

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

CORE SIZE (mm. in.)	FROM (m. ft.)	TO

GEOPHYSICAL LOGS

LOG RUN	DEPTH (G.L.) (m. ft.)	DATE	COMPANY
Caliper	574-1342'	9-25-77	GO Int'l.
Temperature	570-1341'	"	"
Induction Elec.	574-1341'	"	"
Comp. Density/γ-Neutron	20-1347'	"	"
Cement Bond log	20-1368 KB	9-27-77	"
Comp. Density (γ-γ)	30-1372 KB	"	"
3-D Velocity (CBL)	0-1356 GL	9-28-77	Birdwell
Nuclear Cement-Top Locator	0-1356 GL	"	"
Temperature	30-1370 KB	9-28-77	GO Int'l.

SHEET No. 13 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES/m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG) CLAY, CHLOR. EPID., BIO., SER., K-SPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES: DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1270		Granodiorite 75%	Fine gr, biotite-rich, some bio. in books. Dissem cubic py. TR. K-spar Frags. Granodiorite is magnetic.	Limonite/hematite after cubic pyrite. Creamy-colored + Lt. green clays. Vein calcite, 1%. Chl. aft. biotite, 5%;											TS 1270
1280		Granodiorite 70% <1% K-spar XTALS!	Fine gr, bio-rich; some biotite in books; <1% K-spar. TR. dissem. py GD. Frags. are magnetic.	Ep. veinfill ~2%; Chl. ~10%; white + creamy colored clays, 2%; Vein calcite.							1279	4°30'	N88W		
1290		Granodiorite 75%	Fine gr, biotite-rich. Biotite → chl. TR. K-spar w/ep. coatings + chloritized mafics; TR. hb XTALS Noted. TR. Dissem. py. GD. Frags. magnetic.	Chl. ~10%; White chalky clays locally, ~3%; TR. Ep.											
1300		Granodiorite 75%	Fine gr; biotite → chl.; TR. dissem py. TR. pink K-spar. Frags of GD. are magnetic.	TR. Vein Calcite; Chl. ~12%; Lt. yellow-green clays coat frags locally. Ep ~1%.											
1310		QTZ Frags ≈ 30% Fs frags ≈ 60% Granodiorite Frags ~1%	Mafics in in Gd. going to chl.; Fs is mostly plag. w/~15% K-spar. Mafic Frags are magnetic.	White clays repl. some Fs, at least partially 10%; Chl ~10%; TR. ep., TR. hem (?) in QTZ veins Assoc. w/chl. locally. (after py?) TR. APATITE in mafics.					Sampled Red. hematite appearing min. for X-ray.		1312			(See footnote) Temp: 285°F * 1310	1310
1320		Leucogranite 80% Diorite 1% Granod. <1%	<1% mafics; mostly pink K-spar; plag + QTZ; med-fine gr. Dioritic Frags fine gr-aphanitic; magnetic.	Chl. 1%; white chalky clays 1%.											
1330		Leucogranite 80%; Diorite TR; Gd. 1%	Med-fine gr; <1% mafics Gd Frags are fine gr, magnetic. Diorite fine gr., bio → chl.	Mafics in dark Frags → chl, ~1%. TR. hem; TR. red, euhedral garnets ~1mm											
1340		Leucogranite 85%; Granodiorite 1%	Med-fine gr, <1% mafics; TR. dissem. py. Mafic frags magnetic. TR. gneissic frags w/limonite stain. hb XTAL noted-1½ cm.	Mafics → chl. ~10%; TR. red, euhedral garnets ~1mm; white chalky clay frags; TR. hem.											
1350		Leucogranite 90% 1% Gd. TR Gneissic Frags.	Med. gr.-fine gr; TR. garnet; TR. Dissem py.; mafics in Gd. + Gneiss → Chl. Leucogranite has <1% mafics.	Chl. ~10%; White chalky clays, some w/slicks. + hem. stain.											
1360		Leucogranite 65%, Diorite ~1% Gneissic 29%	Med-fine gr, Leucogr. has <1% mafics. Gneiss fine gr; biotite-rich w/limonite stain. Diorite non-magnetic, aphanitic, chloritized.	Chl. partially repl. mafics ~10%. Chalky white clays (after Fs?). White clays repl. some K-spar. Lt. yellow-green clays ~TR. TR. hematite.							1368 4°30' N88W 1368 Temp: 136°F 16 hrs. after circ. stopped 1368				

* Temp. 40.5 hrs. After circ. stopped, Following cementing of casing. Tool in hole for 1 hr. 285°F

Temp = 215°F (log)

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith, J. Hyde

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O-(Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (0–300); FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY (1/2), CHLOR. EPID. (1/2), BIO. (2/3), SER (1/3), KSPAR (1/2), SILICA (2/3), $CO_3^=$ (2/3); TOTAL SULPHIDES (vol. %) (0–10); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1370			No sample taken at 1370-1380 Hole cemented to 1368, drilled through shoe + cement. Samples through 1380 were mostly cement + metal filings. Interval drilled w/water which failed to bring up adequate cuttings to shaker table.													
1380																
1390		95% Leuco-Granite	Equigranular Lt. pink-white, 70% orth, 30% QTZ, <1% biotite.													
		Diorite 5%	Fine gr. sheared, altered Diorite.													
1400		95% Leuco-Granite	Equigranular Lt. pink, med. gr. 70% orth + plag, 30% QTZ <1%							Several frags w/metallic slicks + clay w/Fe stain.						TS 1400
		5% Diorite	mafics. Diorite is altered.	Aft. to clay + mafics + sheared.												
1410			No sample returns due to starting air drilling.													
1420			(1410 - 1420)													
1430		Leucogranite	Equigr., med-coarse gr. lt. pink-white; 50% orth + TR. plag, 50% QTZ, clear xtals. TR. chl. w/greenish clays.	TR. Fe stain in specks; TR. red, euhedral garnet.												
1440		Leucogranite	Very fine sand instead of chips - med to coarse. Lt. pink, 50% orth, plag; 50% QTZ	1% pale turquoise color - clay, After plag?, in irregular patches.												
1450		Leucogranite 95%	Equigr. Lt. pink-white med-coarse gr. 50% orth + plag, 50% QTZ.	TR. red euhed. garnet xtals, 1 mm. Half of diorite alt. to chl + clay - sheared.												
		5% Diorite	Very fine gr., 90% mafics.							Shearing in diorite		1455	3°5'	S67W	—	
1460		Leucogranite	Equigr. Lt. pink-white med. gr. 50% orth, 50% QTZ, 1% chl. 1% garnet, red to orange.													

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (~~m.~~ ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY (FRACTURES / m. ft.)	ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
											1470		Leucogranite	Med.-Fine gr. pink-white, 50% Orth + plag; 50% QTZ. 1% chl. + garnet + magnetite	Garnet red to orange. Chl. aft. biotite in books.												
											1480		Leucogranite	Med-Fine gr. pink-white, 50% orth + plag, 50% QTZ, 1% chl.; TR. magn, Garnet.	Weak clay in some plag. Chl. may have some sericite with it.												TS 1480
											1490		Leucogranite	Med-Fine gr. pink-white; 50% orth + plag, 50% clear QTZ. TR. chl, magn., garnet.	Greenish (Chl) gouge clay on some Frags.												
											1500		95% Leuco-Granite 5% Grano-diorite	Med-Fine gr. pink-white; 50% orth + plag; 50% QTZ; TR. chl., magn.) garnet. 45% Biotite + hb, 50% plag, 5% QTZ.	Clay in plag on sheared. Frags. Weak clay alt. in some plag.												
											1510		Granodiorite	45% Bio. + hb, 50% Plag + Orth; 5% QTZ. TR. APATITE.	TR. Clay alt. in plag. Chl. aft. biotite weak. TR. py. on QTZ. Veins.												
											1520		Granodiorite	Phenoritic Fine gr; 45% bio. + hb, 50% Plag + Orth, 5% QTZ.	Bio. patches repl. hb locally. TR. Chl. in mafics; py on hair-line Fract.												
											1530		50% Grano-diorite Diorite 40%	Phenoritic Fine gr, 45% Biot hb; 30% plag 20% Orth; 5% QTZ. 90-95% Mafics, Slickensides; Very fine gr, almost aphanitic.	Weak-med. clay in most plag. Mafics → chl.							Fracture zone interrad-many large Frags.						TS 1530
											1540		60% Grano-diorite 40% Leuco-granite	50% mafics, 45% Orth, plag; 5% QTZ Few small, Fresh, Chips. 60% plag + K-spar, 40% QTZ.	Mafics all chloritized, plag w/weak clay.							1/4-1/2" Frags - Fract. zone						
											1550		80% Diorite 20% Leuco-granite	30% mafics, 70% aphanitic Fs. 60% plag + Orth, 40% QTZ.	Mafics → chl.							frags up to 1.5" - large Fract. system.		1549	35'	S65W		Temp: 209°F
											1560		70% Grano-diorite	Fine gr phenoritic, 45% mafics, 50% plag + K-spar, 5% QTZ.	Weak chl. and clay locally.							Chl. and clay strong on sheared frags; Sand + 1/2" Frags - Fracture zone.						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (0–100); FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION — TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1570		90% Granodiorite 10% Leucogranite	45% Mafics, 50% plag, orth, 5% QTZ. 60% Orth + plag. 40% QTZ + biotite	Some chl. after mafics, some weak clay.												
1580		Granodiorite	45% Mafics, 50% plag + orth, 5% QTZ. Phaneritic, Med-Fine gr.	Tr. dissem. py, weakely on sheared frags.												
1590		Diorite + Gd small frags.	90% Mafics, 10% Fs, orth, QTZ.	TR. Clay alt.						chips 1/4-1/2" Fracts. zone						
1600		Diorite	90% Mafics, 10% Fs, QTZ.	Weak chl. in mafics.												
1610		50% Diorite 50% Vein QTZ.	90% Mafics, 10% Fs + QTZ. Milky to buff color QTZ, fine sand size.	Weak Chlorite in mafics						Fract. zone(?) w/ QTZ vein?						
1620		95% Diorite 5% Leucogranite	Fine gr. black, 90% biotite in books; 10% Fs + QTZ. 99% Orth + QTZ, 1% mafics.													
1630		95% Diorite 4% Leucogranite + QTZ vein 1% alt. Diorite	Fine gr. phaneritic, 85% biotite, 15% plag. + QTZ. 75% Orth + QTZ., 25% biotite, maybe envelope in diorite.	Biotite → chl. Pale green to white Bio → chl.						Caving material(?) chips up to 1/2"						
1640		Very fine chips 50% QTZ + Orth 30% Diorite 2% alt. Diorite	QTZ + orth, probably Leucogranite. Diorite is phaneritic, 90% Bio., 10% QTZ + Fs. Pale green chips.	Bio. → chl., weak clay alt.												TS 1640
1650		Very fine frags. 75% QTZ + Orth. 25% Granodiorite	frags are QTZ + orth., Probably Leucogranite vein. Med. gr. 35% mafics, 60% Fs, 5% QTZ.	TR. clay alt.												
1660		75% Granodiorite 25% QTZ + alaskite	Med/fine gr. phaneritic; 35% Mafics; 60% Fs; 5% QTZ. Clear to milky QTZ. chips, 80% Orth, 20% very fine QTZ.	TR. strong clay alt. in some plag. TR. py on some frags.												

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845.0 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N: E:
T 22S R 39E SEC. 6

KB = 21.61' above permanent datum

SHEET No 17 OF 48

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)
4.5"	1704	1707

GEOPHYSICAL LOGS

LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
Induction Elec.	1349-1678'	10/3/77	GO Int'l.
Temp. log	1311-1677'	10/3	GO Int'l.
γ-Ray log	1349-1678'	10/3	GO Int'l.
Caliper	1367-1697'	10/3	GO Int'l.

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (WEAK, MODERATE, STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1670		90% Granodiorite	Med-Fine gr., 35% Mafics, 60% plag+orth, 5% QTZ.	50% of Gd. is chl./garnet skarn(?) Fs brecciated in some Frags.					Shears in some skarn Frags.						
		10% QTZ+Orth.	Vein QTZ chips	Tr. py.											
			Alaskite; 90% orth, 10% fine QTZ.												
1680		90% Granodiorite	Med-Fine gr. phaneritic, 35% biotite+chl; 60% Fs, 5% QTZ.												
		10% QTZ+Orth.	Vein QTZ clear to milky;												
		Leucogranite	Orth = 50-90%, balance is QTZ.												
1690		90% Granodiorite	Med-Fine gr. phaneritic, 35% mafics, 60% Fs, 5% QTZ.	Tr garnet/chl. skarn(?)											
		7% QTZ+Orth.	Mixed Vein + Leucogranite												
		3% Alt. Diorite(?)		Palegreen, tr. chl., aphanitic											
1700		Hb Diorite	Med gr; large euhedral hb; 45% mafics; 50% Fs, 5% QTZ; Dissem py.	Core: Chl + Calc. in fractures; folded, swirled texture; Metamorphic rock, Hb diorite or gabbro; med. gr. local lenses → coarse grain. Ep, chl, euhedral calcite on fract. plus deep reddish-purple hematite (?) patches, 1-2% dissem py + some along fract.	1704			15°	5% of frags sheared slivers	3	1702	5°0'	S71W	Temp: 210/212°F TS 1700	
		5% QTZ+Orth.	Vein QTZ + occasional leucogr. Frags.		1705			50°							
					1706			45°							
					1706	90°		60°							
					1707			70°							
1710		No samples due to poor returns during initiation of Air Drilling.			1707			90°							
1720															
1730															
1740															
1750															
1760		Mixed units, probably caving	Granodiorite 35% mafics; Fine gr. green w/clay in matrix Diorite, fine gr. 90% mafics	Tr. Gd → Garnet/chlorite skarn(?) Some diorite w/mod. clay alt.					Caving, chip size up to 1/3"						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CG-EH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6
KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1770		85% Gd.	Fine gr. 35-40% mafics.	5% Gd silicified mafics → chl.						Silicified Gd in 1½" frags.						
		5% Leucogr.	Orth + QTZ. 90% 10% chl.	Weak clay alt betw. orth.												
		5% Diorite	90% Mafics, 10% Fs. TR Py.	TR apatite.												
		5% Cement														
1780		Fine sand-size	Material too fine to describe													
		85% Gd.	constituents.													
		5% Cement														
		5% Silicified Gd.														
1790		90% Gd.	35% Mafics, 60% plag + orth, 5% QTZ.	1% silicified Mafics → chl. + sericite(?)						Sheared Gd. w/ sericite (?)						
		10% Diorite	Fine gr. 90% Mafics, 10% Fs.							Diorite in ½" Frags.						
		Sand-size														
1800		Gd.	35% Ab + Bio., 60% plag + orth, 5% QTZ	5% Silicified Mafics → chl.; Plag → clay,											1800	CGEH-1
		TR Cement		Pale green color; TR. Garnet as												1800 (TS)
		TR. alaskite	Very large orth xtals, 30% QTZ.	red patches. May be Garnet skarn (?)												
				developed on fracts.												
1810		Very fine sand	size frags, 70% QTZ or Fs.													
			15% Silicified + alt. Gd.													
			10% Small Cement chips.													
			5% Hb + biotite chips.													
1820		85% Gd.	all but a trace is altered.	Mafics → chl., some garnet, orth, w/												
				intense orange-brown color.												
		10% Cement														
		5% Alaskite	60% orth, 40% clear QTZ.													
1830		60% QTZ + Fs	+ biotite sand (from Gd ?)													
		25% Gd.	altered	altered chips → chl Aft. mafics												
		10% Alaskite	Orth 70%, QTZ 30%, sugary texture	Strong colored orth; plag w/ mod-strong												
		5% Cement		clay alt; some silicification.												
		alt. QTZ, plag	frags.	Plag → clay												
1840		80% Gd.	35% mafics, 60% Fs, 5% QTZ.	10% alt. mafics → chl. Plag → clay											1840	CGEH-1
				TR. silicification + sericite (?)												1840 (TS)
		20% Cement														
1850		80% Gd.	35% Mafics, 60% Fs, 5% QTZ.	70% of Gd alt., weak-strong clay						frags up to 1.5", caving					~~1850~~	~~CGEH-1~~
				Mafics → chl. QTZ/hem. veinlet						zone, fracture zone						~~1850 (TS)~~
				chips.												
		20% Cement														
1860		90% Gd.	35% Mafics, 60% Fs, 5% QTZ.	50% altered plag → clay; mafics → chl.												
				Some sericite (?)												
		10% leucogr.	60% orth, 40% QTZ, <1% mafics							Large frags, ½"						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6
KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1870		90% Gd.	35% Mafics, 60% Fs, 5% QTZ.	70% of frags Mafics → Chl. Strong orange to brown stain in orth.					Many large chips w/slicks		1873	7.5°	S50W	1870	CGEH-1
		10% Alt. Diorite	Chl. + clay, very fine gr.	Mafics → chl.; plag → clay.								Temp: 210°F			1870
		10% Cement													
1880		Granodiorite	35% Mafics, 60% Fs, 5% QTZ.	Mafics → chl.; Plag → clay, orth w/strong orange-red colors.					few frags >½", many small w/slicks.						
		TR. Leucogr.	TR. fresh Gd.												
		TR. alt. diorite													
1890		Granodiorite	35% Mafics, 60% Fs, 5% QTZ.	Hb + Bio. → chl. Mod. to weak clay in plag. Orth w/strong brown-red color.					few chips +½"; Fract 20%. Many frags w/slicks.						
		TR. Alt. Diorite	Very fine, micro-xtalline	General Green tint, Mafics → chl.											
		TR. fresh Gd.													
1900		70% Gd.	35% Mafics, 60% Fs, 5% QTZ.	Mafics → chl, weak clay in plag; orth. w/strong color. May be garnet?											
		30% Cement													
1910		90% Gd.	35% Mafics, 60% Fs, 5% QTZ.	Mafics → chl.; weak clay in plag. Orth w/strong color.											
		5% Cement													
		5% QTZ/Ser.	– Vein? Microxtalline w/sericite faces??												
1920		90% Gd.	35% Mafics, 60% Fs, 5% QTZ, 5% fresh, rest is altered.	QTZ, Sericite? chl. chips. Mafics → chl.; weak clay in plag, strong color in orthoclase.											
		5% Cement													
		5% Alt. Diorite	Fine gr, 90% Mafics, 10% Fs	Fs → clay weak.											
1930		90% Gd.	35-40% Mafics, 60% Fs, 5% QTZ.	80% altered Mafics → chl. Plag. to weak clay, TR. Garnet (?)					Some large frags, ½"		1934	9°15'	S50W	Temp: 210°/200°F	
		5% Alaskite	Very fine chips 70% Orth, 30% QTZ.	5% silicified w/calcite veinlets.											
		5% Cement													
1940		Granodiorite	35% Mafics, 60% Fs, 5% QTZ.	Large silicified frags, strong chl., strong color in orth; weak clay in plag, TR. Garnet.					Silicified material in ½" frags.						
		90% fine sand sized chips	chl. weak throughout mafics.												
1950		Granodiorite	Med.-fine gr., 35% Mafics, 60% Fs, 5% QTZ.	Weak to mod. chl. in mafics; Some frags w/ TR. garnet (?)					Several chl. chips w/slicks.						
		Sand size frags.													
		TR Cement													
1960		Granodiorite	Med-fine gr, 35% Mafics, 60% Fs, 5% QTZ.	Weak chl. throughout, Alt. mafics.											
		Sand size frags									1965	8°45'	S50W		
		TR. Cement													

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) m. ft.; ALTERATION (WEAK, MODERATE, STRONG): CLAY, CHLOR. EPID., BIO., SER, K-SPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1970		Granodiorite Sand size frags.	35% Mafics, 60% FS, 5% QTZ. Many frags are single FS or QTZ grains.	Weak Chl. in Mafics											
		5% LCM + Cement													
1980		Granodiorite Sand Size frags.	35% Mafics, 60% FS, 5% QTZ.	Weak Chl. in Mafics. QTZ Vein material coarse gr.; (5% of frags) Clay alt. near Vein material.					5% frags milky white slivers w/slicks; several sheared, chloritized chips.						
		5% Cement + LCM													
1990		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	Weak chl. in Mafics, Strong chl. in Sheared frags.					5% milky white frags w/ slicks. Shear zone - QTZ Veins?						
		TR. Cement													
2000		40% Gd. 55% White Granite 5% Milky White Slivers	55% Mafics, 60% FS, 5% QTZ. Clear to cloudy, coarse grain. Must be Small QTZ veins or one large one	Weak chl. Several frags of hematite veinfill w/limonite coating.					5% milky white slivers w/slicks.		2000'	8°45'	S52W	Temp: 151°F	TS 2000
		TR. Cement, LCM													
2010		90% Granodiorite 5% QTZ/Orth 5% Shear slivers	35% Mafics, 60% FS, 5% QTZ. Qtz clear to cloudy, coarse grained.	Weak Chl. Hematite veinfill w/limonite					5% milky white slivers w/slicks						
		Some LCM													
2020		Granodiorite Some LCM	35% Mafics, 60% FS, 5% QTZ.	Weak chl. in mafics Clays in FS in sheared frags.					1% Milky white slivers w/slicks.		2020	8°30'	S49W	Temp: 145°F	
2030		80% White Granite	70% QTZ, clear; 30% Orth, is slightly cloudy, Med-Coarse gr. TR. Mafics (bio.) some frags.						1% Milky white slivers w/slicks.						
		20% Granodiorite TR. Cement + LCM	35% Mafics, 60% FS, 5% QTZ.	Weak chl. alt. in Mafics											
2040		80% Granodiorite	35% Mafics, 60% FS, 5% QTZ, TR. Ap	Weak chl. in Mafics.					2% Milky white slivers w/slicks.						TS 2040
		20% QTZ + Orth. Alaskite Vein? Some LCM	Med-Coarse gr., clear QTZ 70%, cloudy Orth 30%.												
2050		Granodiorite Sand-sized 5% LCM	35% Mafics, 60% FS, 5% QTZ. chips Sawdust, cellophane, walnut shells, cotton seed hulls.	Weak chl. in 50% of Mafics					2% Milky white slivers w/slicks						
2060		90% Granodiorite, sand sized. 5% Alaskite 5% LCM	35% Mafics, 60% FS, 5% QTZ Very fine grained, subrounded pink frags.	Weak chl. in 50% of Mafics					1% Milky white slivers w/slicks.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CG-EH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES: LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent Datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No. 21 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES m. ft.); ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.); ELEVATION

GEOLOGIC NOTES (Use also for general comments)

DISTANCE DOWN HOLE (m. ft.)	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION (DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement; TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE (DOWN HOLE DIST. (m. ft.); FOLIATION ∢ WITH CORE; BEDDING ∢ WITH CORE; FRACTURE ∢ WITH CORE; DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2070	Granodiorite	35% Mafics, 60% FS, 5% QTZ	TR. Chl. in mafics	1% Milky white slivers w/slicks.						
	1% LCM									
									Temp:	
2080	95% Diorite	90% Mafics, 10% FS; Very fine gr.	TR. clay alt.	TR. Milky white slivers w/slicks.		2080	8°30'	S45W	152°F	
	5% Granodiorite	35% Mafics, 60% FS, 5% QTZ.	TR. Chl.; 1% silicified strong chl. increased pink intensity of orth. color.							
	LCM									
2090	80% Granod.	35% Mafics, 60% FS, 5% QTZ.	50% of Gd in 1/2-3/4" frags, silicified + chloritized; weak chl. in other 50%.	Large 1/2" + frags - caving zone?						
	5% Diorite	90% Mafics, 10% FS, Fine-gr.								
	5% Leucogr.	In 1/4" frags, 75% Orth + QTZ, 25% Plag.	Plag w/mod.-strong clay alt.							
2100	80% Gd.	35% Mafics, 60% FS, 5% QTZ.	10% large frags 1/2" w/silicified chl., weak chl. in rest.	1/2-3/4" frags; caving zone						
	5% Leucogr.	Large frags, 75% Orth, QTZ; 25% Plag.	Plag. w/mod. clay alt.							
	5% Vein QTZ.	clear, coarse gr.								
	TR. Gouge clay	Small green balls of clay.								
2110	80% Sand sized frags	clear QTZ + cloudy FS.		5% Milky white slivers w/ slicks.						
	15% Gd.	35% Mafics, 60% FS, 5% QTZ.								
	5% Milky white slivers w/slicks.									
2120	White Granite	Wh. chips w/clear QTZ 50%, FS 50%; TR. Fine gr. mafics; generally coarse grained.	Pale green shadows in many frags, may be Chl.	2% Milky white slivers w/slicks						
2130	White Granite	White, coarse gr. 50% QTZ, 50% FS; TR "sugary" chlorite (?) or sericite (?)		1% Milky white slivers w/slicks					TS	2130
2140	White Granite	White Sugary to coarse texture, 50% QTZ, 50% FS; TR. Pale green patches of Chl. or sericite (?).		1% Milky white slivers w/slicks.						
2150	Sand sized frags.	White Granite + Granodiorite ? 5% of total is biotite.	Pale green color in 10% of frags.	2% Milky white slivers w/slicks.						
2160	Sand size frags.	White Granite + diorite (?) or Gd. 5% of frags is mafic chips too fine gr. to discern where they came from.	Pale green patches in 10% of frags.	2% Milky white slivers w/slicks; Several very large 3/4" frags of Leucogranite.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.: LON.:
GRID: N: E:
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

SHEET No 22 OF 48

GEOPHYSICAL LOGS

CORE SIZE (~~mm~~ in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (GL) (~~m.~~ ft.)	DATE	COMPANY
3.5"	2219	2229	Caliper	1347-2205'	10/11/77	GO Int'l.
			Temperature #1	1330-2205'	"	"
			#2	70'-2205'	"	"

GRAPHIC LOGS

SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (WEAK / MODERATE / STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

GEOLOGIC NOTES (Use also for general comments)

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (~~m.~~ ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (~~m.~~ ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (~~m.~~ ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2170		Sand sized frags. + Gd. Frags.	5% Very fine mafic frags, mostly biotite flakes.	Tr. Pale green patches.					1% Milky white slivers w/slicks.						
		Tr. LCM													
2180		White Granite	50% QTZ, 50% FS; 5% of Frags very fine biotite. 1% very fine pale green frags →	Maybe chl. or sericitized leucogr.					1% Milky white slivers w/slicks.		~~1845~~ 2180	~~53°~~ 74°45'	S34W		
2190		White Granite	White coarse grained, 50% clear QTZ. 49% FS, 1% biotite in coarse clots of very fine flakes.	Tr. pale green patches. More sugary green material on fracts.					1% Milky white slivers w/slicks.					TS	2190
2200		White Granite	White med-coarse gr., 50% clear QTZ 49% Feldspar. 1% Biotite in clots and very fine flakes.	Weak chl. after some biotite aggregates. Tr. pale green patches.					1% Milky white slivers w/slicks.						
		Tr. Diorite	90% biotite, 10% FS.	Strong chl. on sheared chips.											
2210		White Granite	White coarse-med. gr., 50% clear QTZ 48% FS, 2% biotite aggregates; biotite also fine flakes.	Chl. after biotite clots is weak. Tr. pale green patches, esp. on sheared chip edges.					1% Milky white slivers w/slicks.						
					2219			50°		3					
2220		White Granite -CORE- ½' Diorite dike	Core Coarse gr. ½-1" xtals, 25% QTZ 30% Orth, 40% Plag; 5% hb+bio. 2220-2221=90% Mafics; local small (<1") Xenolithic frags of granodiorite	Chl. on fractures w/slicks. Rock generally very fresh. Local greenish shadows within FS. —Microcline? 2228.5=½-¼" veinfill of Chl + calc.	2221			30°	Fract w/slicks ⅛" chl. coating 2222-22.5 fract. parallel to core 6-8" patches of intensely					TS	2227
					2223	50% (weak)									
					2225			30°	Fract. pieces 2-5", 1-2".						
					2228.5			30-35°	Some fract. washed out but sealed.						
2230		No Sample due to coring.													
2240		White Granite Tr. Granodiorite	30% QTZ, 65% FS frags; 5% fine bio. Few frags show Gd texture; maybe xenolith.	Some FS w/greenish cast may be Chl. or microcline.											
		Tr LCM													
2250		White Granite	30% QTZ, 65% FS, 5% Mafics.	Chl. in diffuse aggregates or microcline?					Sheared Chl. frags. 1% white slivers w/slicks.						
2260		White Granite	30% QTZ, 65% FS, 5% Mafics as fine dissem. biotite	Chl. in veinfill. Diffuse lt. green blotches — microcline?					2% White slivers w/slicks						
		3% Diorite	fine gr. 90% Mafics, 10% FS.												

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above Permanent Datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES m. ft.); ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

GEOLOGIC NOTES (Use also for general comments)

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2270		White Granite	30% QTZ, 65% FS, 5% Mafics; Mafics almost all very fine dissem. bio.	TR. chl. in diffuse blotches (?)					5% Milky white w/slicks						
		5% Diorite dike?	90% Mafics, 10% FS.								2278	7°30'	S23W		
		1% LCM									TEMP:	1%/202° F			
2280		90% Wh. Granite	30% QTZ, 65% FS, 5% Mafics.	TR. chl. (?) or microcline (?)											
		10% Diorite dike	90% Mafics as fine bio.; 10% FS.						Some diorite frags sheared + chloritized – sheared contact?						
2290		No Sample.													
2300		White Granite	Still coarse gr; 30% QTZ, 65% FS 5% Mafics.	1% chl. (?) or microcline. TR. pink in <1% of orth.											
		TR. Diorite													
2310		Granodiorite	Med. gr., 45% Mafics, 50% FS, 5% QTZ	Large frags silicified-probably along fracts. 80% of frags. unaltered.					1/2-3/4" Frags; caving zone						
		5% Wh. Granite													
2320		60% Granodiorite	45% Mafics, 50% FS, 5% QTZ.	TR. chl. in Mafics											
		25% Wh. Granite	30% QTZ, 65% FS, 5% Mafics coarse grained.	TR. pink in some orth.					2% Milky white slivers w/slicks.						
		15% Diorite	90% Fine bio., 10% FS	Sheared pieces w/clay + TR. chl.					Shearing in diorite.						
2330		90% Wh. Granite	Coarse gr. 30% QTZ, 65% FS, 5% Mafics	TR. pink in some orth. Maybe weak intro. of orth along fracture?											
		5% Granodiorite	45% Mafics, 50% FS, 5% QTZ.												
		5% Diorite	90% Fine Mafics, 10% FS.												
2340		White Granite	30% QTZ, 65% FS, 5% Mafics.	TR. chl (?) or microcline?					1% Milky white slivers w/slicks; + chl. slivers w/slicks.						
		TR. Granodiorite													
2350		60% Granodiorite	45% Mafics; 50% FS, 5% QTZ.	20% of mafics → chl. FS fresh					1% Milky white slivers w/slicks.					TS	2350'
		40% Wh. Granite	30% QTZ, 65% FS, 5% Mafics	TR pink in local orth.											
2360		Very fine Sand Granodiorite.	All frags very small, but dark w/high mafic content – infer diorite or Granodiorite.	TR. chl. in some mafics and in sheared chips.											

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (~~m.~~ ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6
KB = 21.61' Above

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2370		Very fine Sand 60% Granodiorite 40% Wh. Granite 1CM Muscovite	Color indicates mixed Gd and Wh. Gr. Several flakes of Musc. are from 1CM added to mud to end Lost circ.	TR. chl. in 10% of Mafics and on sheared frags.							2375	7°30'	S18W		
2380		Granodiorite TR Wh. Granite	35% Mafics, 60% Fs, 5% QTZ. Coarse gr. frags of QTZ + FS.	Weak chl. in some mafics					TR. Milky white slivers w/slicks.						
2390		80% Wh. Granite 20% Gd.	Coarse Gr. 35% QTZ, 60% FS, 5% Mafics. 35% Mafics, 60% FS, 5% QTZ.	Weak chl. (?) in diffuse greenish patches. Chl. in Mafics.					TR Milky white slivers w/slicks.						
2400		White Granite	35% QTZ, 60% FS, 5% Mafics	TR. chl. (?) in diffuse patches. (or Microcline ?)											
2410		White Granite	35% QTZ, 60% FS, 5% Mafics	TR chl. (?); TR. Pink in some orth.					10% Med. size white slivers w/slicks.						
2420		Wh. Granite TR. Granodiorite	35% QTZ, 60% FS, 5% Mafics Very small Frags.	TR. chl. (?) in diffuse patches. May be Microcline.											
2430		No Sample.													
2440		Wh. Granite 10% Diorite + Granodio.	35% QTZ, 60% FS, 5% Mafics. 90% Mafics, 10% FS. 35% Mafics, 60% FS, 5% QTZ.	Moderate pink color to most orth. Both sheared, w/clay after FS.					Large Milky slivers w/slicks sheared diorite/Gd.						
2450		Wh. Granite 5% Granodio.	35% QTZ, 60% FS, 5% Mafics. 35% Mafics, 60% FS, 5% QTZ.	TR. chl. in some mafics.					chl. on shear surfaces 2% white slivers w/slicks						
2460		White Granite	Coarse Gr. 35% QTZ, 60% FS, 5% Mafics	TR mod. pink in orth.					2% white slivers w/slicks.		2459	8°0'	S23W	Temp: 210/200°F	

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.: LON.:
GRID: N E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No. 25 OF 48

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION — Massive, Disseminated, Veinfill, Replacement	TYPE — Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES — Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												2470		Wh-Granite	Coarse gr. 35% QTZ, 60% FS, 5% Mafics							1% Milky Wh-slivers w/slicks.						
														5% Diorite Dike	90% Mafics, 10% FS.													
												2480		White Granite	Coarse gr, 35% QTZ, 60% FS, 5% Mafics; biotite very fine dissem. in irregular aggregates.	Slight pink in some orth, weak alt. along Fract ?? Chl. on Fract. Faces; of <1% Frags.						1% large Milky slivers w/slicks.						
												2490		Wh. Granite	Coarse gr, 35% QTZ, 60% FS, 5% Mafics.	Orth/ep. envelopes along Fract (?) or Veins. Very low percent of total, <1%.						1% white slivers w/slicks.						
												2500		50% Wh. Granite	Coarse gr, 35% QTZ, 60% FS, 5% Mafics → chl.													
														50% Diorite Dike	Very dark, 95% Mafics, 5% FS!	All mafics strongly chloritized												
												2510		50% Wh. Granite 50% Gd.	35% QTZ, 60% FS, 5% Mafics. 35% Mafics, 60% FS, 5% QTZ.	TR. apatite						1% white slivers w/slicks						
												2520		75% Wh. Granite 25% Diorite + Granodiorite	35% QTZ, 60% FS, 5% Mafics. Both fresh and altered frags.	Silicified frags ½"+; May be vein fill.											~~TS 2550~~ TS	2520
												2530		50% Wh. Granite 50% Diorite	35% QTZ, 60% FS, 5% Mafics. 90% Mafics, 10% FS.	chl. on sheared frags. TR. alt. to clay along sheared surfaces.						Washout frags from leucogranite and alt. Gd – from 1500'??						
												2540		75% Wh. Granite 25% Caved material	35% QTZ, 60% FS, 5% Mafics. Alt. Gd + silicified Gd + Cement (From 1500'?)	....												
												2550		White Granite	35% QTZ, 60% FS, 5% Mafics	TR. chl. green patches – diffused (or microcline?)						1% white slivers w/slicks	2551	8°30'	S25W	Temp: 189°F	
														5% Diorite Dike	90% Mafics, 10% FS.													
												2560		White Granite 1% Diorite Dike	35% QTZ, 60% FS, 5% Mafics. 90% Mafics, 10% FS.	TR. chl. on some fract.						Chl. frags. w/slicks.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N: E:
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES/m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION

DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2570		Very fine Sand Large frags are white Granite	35% QTZ, 60% FS, 5% Mafics Sand seems to be all from White Granite													
2580		White Granite	35% QTZ, 60% FS, 5% Mafics TR. of pink on some orth.	(?) Chl. in diffuse patches												
2590		White Granite	35% QTZ, 60% FS, 5% Mafics TR. pink in 30% of Frags.	Chl. weak in biotite books												
2600		White Granite	35% QTZ, 60% FS, 5% Mafics	Chl. on fract. only						1% White slivers w/slicks					TS	2600
2610		White Granite	35% QTZ, 60% FS, 5% Mafics	Chl. on fracts. Fresh FS.												
2620		White Granite	35% Qtz, 60% FS, 5% Mafics.	Chl. on shear surfaces						1% White slivers w/slicks 3% chl. covered shear surfaces.						
2630		White Granite	35% QTZ, 60% FS, 5% Mafics	Chl. on shears and diffused through some frags.												
2640		White Granite	35% QTZ, 60% FS, 5% Mafics	TR. chl. in biotite books, and diffuse green in some frags.								2640	7°45'	S1E	Temp: 220°F	
2650		White Granite	35% QTZ, 60% FS, 5% Mafics	TR. chl. in mafics.						Fracture slivers of chl. w/slicks						
2660		White Granite 2% Granodiorite	35% QTZ, 60% FS, 5% Mafics 35% Mafics, 60% FS, 5% QTZ.	TR chl. in mafics						TR chl. slivers w/slicks						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22 S R 39 E SEC. 6

KB = 21.61' Above permanent datum.

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No. 27 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
2670		White Granite 50% Granodiorite	35% QTZ, 60% FS, 5% QTZ. 45% Mafics, 50% FS, 5% QTZ Finer grain than usual.	TR Chl. in mafics												
2680		70% Wh. Granite 30% Grano-diorite	35% QTZ, 60% FS, 5% QTZ. 40% Mafics, 55% FS, 5% QTZ	TR. Chl. of Fract. faces w/slicks TR. Chl.												
2690		NO SAMPLE														
2700		White Granite TR. Granodiorite	35% QTZ, 60% FS, 5% QTZ. Coarse gr. Biotite in both coarse books and as patches of fine flakes. 35% Mafics, 60% FS, 5% QTZ.	Greenish tint on some frags. Some Lt. pink orth. TR. Chl. in mafics.								2700	8°0'	S20W	No temp.	
2710		Wh. Granite 5% Meta-Quartzite	35% QTZ, 60% FS, 5% QTZ. Very fine laminations of green, grey + black cryptocrystalline material; conchoidal fract. across laminae	Greenish tint in half of frags.											TS	2710
2720		Layered Meta-Quartzite	White, grey, green, black layers Very fine to 1/4" layers. Conchoidal fractures.	QTZ/calc. hairline veinfill.						Shearing on 5% of frags.						
2730		Layered Metaquartzite 20% Wh. Granite	Wh, grey, green, black layers. Very fine to 1/4" layers - conchoidal fract. 35% QTZ, 60% FS, 5% QTZ.							5% Frags w/slicks.					TS	2730
2740		Wh. Meta-Quartzite	Sugary texture, all white; sharp angular frags; 95% QTZ, 5% clay (?) filling.													
2750		Wh. Meta-Quartzite	Texture ranges from fine gr. to sugary to fine laminations; 90% QTZ. grains + cryptocrystalline clay(?). Sharp angular fragments.												TS	2750
2760		White Meta-Quartzite	Fine gr. → sugary → fine laminations 90% QTZ w/matrix.													

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)

GEOPHYSICAL LOGS

LOG RUN	DEPTH (ft.)	DATE	COMPANY
Temperature #1	0-2810 GL	10-16-77	Production DATA, Inc. (PDI)
" #2	300-2910 GL	"	

SHEET No. 28 OF 48

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	K SPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												2770		White Meta-Quartzite -90%	White to grey, fine → sugary → laminated texture. 90% QTZ. Coarse gr. portion could be aluskite. One frag suggests inclusion of finer gr. grey material														
														10% Wh. Granite	35% QTZ, 60% FS, 5% Mafics														
												2780		Wh. Granite	35% QTZ, 60% FS, 5% Mafics	TR. pink FS.						chlorite <1% of sheared frags.					TS	2780
												2790		NO SAMPLES due to NO Returns – Lost Circulation										2791	7°15'	523W		
												2800																
												2810																
												2820		Fine Sand from White Granite	frags are QTZ, FS, unaltered fine biotite.							3% White slivers w/slicks		2826	7°15'	523W	Temp: 169°F	
												2830		White Granite 60% Cement	35% QTZ, 60% FS, 5% Mafics Coarse Gr. Sample is 60% Cement frags.	Very fresh.						Chl. coating on sheared surfaces					TS	2830
												2840		White Granite 10% Cement	35% QTZ, 60% FS, 5% Mafics Coarse gr, but Mafics finely dissem in some frags + books locally. (biotite books)	TR. pale green color in frags. TR. chlorite in mafics.												
												2850		White Granite 10% Cement	35% QTZ, 60% FS, 5% Mafics Coarse gr. dissem. biotite as well as large books.	TR. Hem. on frag in clear QTZ XTAL												
												2860		White Granite 10% Cement	35% QTZ, 60% FS, 5% Mafics.							TR. Milky white slivers w/slicks.						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.); ELEVATION

GEOLOGIC NOTES (Use also for general comments)

Distance down hole (m. ft.)	Rock type	Description (Mineralogy, alteration, textures, grain size, fragment size)	Mineralization (Distribution: Massive, Disseminated, Veinfill, Replacement; Type: Hypogene, Supergene, Ore and Limonite Mineralogy)	Structure (Down hole dist. (m. ft.); Foliation ∢ with core; Bedding ∢ with core; Fracture ∢ with core; Description of structures: Post or Pre-Ore (Evidence))	Fracture intensity (No. per metre)	Depth (m. ft.)	Inclination	Bearing	Thin & polished sections: Depth (m. ft.)	Sample number
2870	White Granite	35% QTZ, 60% FS, 5% Mafics. May be some Granodiorite caving.	TR. Chl. (?) as greenish patches diffused through FS.	TR. White slivers w/slicks.						
	5% Cement									
2880	White Granite	35% QTZ, 60% FS, 5% Mafics	Tr. Red paper-like mineral along fracts. within clear QTZ XTALS (Hem?) Chl. on clear faces and adjacent mafics.							
	5% Cement									
2890	White Granite	35% QTZ, 60% FS, 5% Mafics TR. Granodiorite - May be xenolith.	TR. Chl. Locally very small patches of red specks on fracts in clear QTZ (Hem?) TR. py after mafics.	TR. White slivers w/slicks.						
	5% Cement									
2900	White Granite	35% QTZ, 60% FS, 5% Mafics.	TR. Red min. on fract in clear QTZ. TR. Chl. (?)						TS	2900'
	5% Cement									
2910	White Granite Sand size frags	35% QTZ, 60% FS, 5% Mafics. Most frags. are monomineralic.	TR. Red min. in all clear QTZ along fractures in QTZ XTALS.							
	5% Cement + LCM, muscovite + walnut shells.									
2920	White Granite Sand sized frags.	35% QTZ, 60% FS, 5% Mafics	TR. Red in some clear QTZ. Frags.	1% White slivers w/slicks.		2923			Temp: 184°F	
	5% Cement + LCM									
2930	White Granite	35% QTZ, 60% FS, 5% Mafics	TR. Red min. in some QTZ XTALS							
	5% Cement + LCM									
2940	White Granite	35% QTZ, 60% FS, 5% Mafics.	TR. Red min. in most QTZ. XTALS. Chl. on sheared surfaces	5% Milky White slivers w/slicks.						
	1% Cement + LCM									
2950	White Granite	35% QTZ, 60% FS, 5% Mafics.	Red specks more abundant. Most clear QTZ XTALS have 1%-5%. Very bright red - cinnabar?, hematite? Garnet?							
2960	White Granite	35% QTZ, 60% FS, 5% Mafics	TR. Red in QTZ XTALS locally. TR. chl. on shear surfaces.							
	20% Diorite Dike	90% Fine gr. bio., 10% FS.								

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT. / LON.:
GRID N / E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

SHEET No. 30 OF 48

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
3.5"	2995	3006				

GEOLOGIC NOTES (Use also for general comments)

Down Hole Distance (m. ft.)	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinfill, Replacement) / Type (Hypogene, Supergene, Ore and Limonite Mineralogy)	Structure: Down Hole Dist. (m. ft.)	Foliation ∢ with core	Bedding ∢ with core	Fracture ∢ with core	Description of Structures (Post or Pre-Ore (Evidence))	Fracture Intensity (No. per meter)	Depth (m. ft.)	Inclination	Bearing	Thin & Polished Sections: Depth (m. ft.)	Sample Number
2970	White Granite	35% QTZ, 60% FS, 5% Mafics	TR Chlorite on shear and tr. in Mafics											
	5% Diorite	90% Fine biotite, 10% FS.												
	3% From Caving; 1540' zone (?) alt. granodiorite													
	TR. Cement													
2980	White Granite	35% QTZ, 60% FS, 5% Mafics	TR. red min. in some QTZ frags.					5% white slivers w/slicks						
	5% Diorite	90% biotite, 10% FS												
	TR Cement + LCM (walnut shells + muscovite)													
2990	White Granite	35% QTZ, 60% FS, 5% Mafics	TR red. min in some clear QTZ XTALS					5% white slivers w/slicks		2995	4°30'	S69W	—	
	Fine frags	Most are monomineralic												
	TR Cement			2995			40°-45°	Most fractures closed.	3-4					
	White Granite	Flow-banding; Hem. in 30% of QTZ XTALS.		2996			90°	2995.5 open fracture.					TS	2997
	2995 Diorite = 6"	Dike(?) Contact 70-80° to core axis		2997			40°	1" thick zone w/chl. and						
3000	White Granite	Coarse gr., Several finer gr. more		2999	40°		90°	slicks. Fracts. have						
		Mafic inclusions up to 8". Dark bands of partially digested xenoliths.		3009			25°	either chl. and/or calc.					TS	3004
		along "foliation." Granite is dirty from country rock.		3006			30°	on surfaces						
		Several fractures 90° to core axis are	ground from coring process.											
		Greenish cast to some FS.												
3010	White Granite	35% QTZ, 60% FS, 5% Mafics.												
		Monomineralic frags.												
	TR. Diorite	90% Mafics, 10% FS.												
	1% Cement	+ LCM												
3020	White Granite	35% QTZ, 60% FS, 5% Mafics	TR. Red hematite in qtz XTALS											
		Coarse gr.												
	3% Granodiorite	35% Mafics, 60% FS, 5% QTZ.												
	Cement + LCM	Very fresh, probably small xenolith												
3030	White Granite	35% QTZ, 60% FS, 5% Mafics.	TR. pyrite after biotite; TR. hem. in QTZ XTALS locally.											
	3% Cement + LCM	(Walnut shells, muscovite, sawdust, cellophane)												
3040	White Granite	35% QTZ, 60% FS, 5% Mafics	TR. Red hematite on fract in QTZ											
		Mafics very fine and dissem;												
		otherwise rock is coarse gr.												
	1% Cement	+ LCM												
3050	White Granite	35% QTZ, 60% FS, 5% Mafics	TR red hematite on fract in QTZ										TS	3050
			TR greenish cast to FS locally.					5% White slivers w/slicks.						
	TR. Cement	+ LCM												
3060	White Granite	35% QTZ, 60% FS, 5% Mafics	TR hem. on fract in QTZ; May											
		Dark cast due to contamination	be Fe coming from Mafics.											
		from gd.-like material												

CORE

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakers field)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6
KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

GEOLOGIC NOTES (Use also for general comments)

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3070		White Granite	35% QTZ, 64% FS, 1% Mafics Diminished Mafics - Very fine gr.	TR. Green in FS						3% Milky White slivers w/slicks						
3080		White Granite	35% QTZ, 64% FS, 1% Mafics as very fine biotite. Greenish cast to 30% of FS.	TR. hem. in clear QTZ xtals.						3% Milky white slivers w/slicks. Some 1/8" thick.		3085	4°30'	S84W	Temp: 218/232°F	
3090		White Granite	35% QTZ, 64% FS, 1% Mafics as very fine biotite	Very weak green tint to some FS						2% Milky white slivers w/slicks						
3100		White Granite	35% QTZ, 64% FS, 1% Mafics as fine bio. TR. Green tint to FS.							2% white slivers w/slicks 1% Chips w/chl. on Shear Surfaces.						
3110		White Granite	35% QTZ, 64% FS, 1% Mafics as fine bio. TR. green tint in FS.							1% Milky white slivers w/slicks						
3120		White Granite	35% QTZ, 64% FS, 1% Mafics. TR Green tint in FS.							1% Milky white slivers w/slicks.						
3130		White Granite TR cement	35% QTZ, 64% FS, 1% Mafics. TR Green tint in FS.	TR. Chl. in small clots of bio.						1% white slivers w/slicks 1% frags w/chl. on slick. Surfaces						
3140		White Granite TR. cement	35% QTZ, 64% FS, 1% Mafics Weak green tint in FS.	TR. hemutite in clear QTZ xtals.						1% white slivers w/slicks 1% frags w/chl. on slick surfaces.						
3150		White Granite	35% QTZ, 64% FS, 1% Mafics TR. Green tint in FS.	TR. hem. in some QTZ xtals.						1% white slivers w/slicks 1% frags w/chl. on slick. surfaces.						
3160		White Granite	35% QTZ, 64% FS, 1% Mafics Weak green tint to FS.	TR. hematite in clear QTZ xtals.						TR. white slivers w/slicks.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CG-EH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	(FRACTURES) m. ft.	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^{=}$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												3170		White Granite	35% QTZ, 64% FS, 1% Mafics as fine biotite.	TR. hematite locally in clear QTZ.						TR. chl. on fracts. TR. white slivers w/slicks						
												3180		White Granite 80% Diorite TR. Cement	35% QTZ, 64% FS, 1% Mafics 95% Mafics, 5% FS. Weak green tint in FS.							TR. chl. on slicks.					TS	3180
												3190		White Granite 10% Gabbro TR. Cement	35% QTZ, 64% FS, 1% Mafics. 100% Fine gr. mafics - Very fresh. Weak green tint on FS.							TR. white slivers w/slicks		3195	5°30'	N75W		Temp: 180°/220°F
												3200		White Granite	35% QTZ, 64% FS, 1% Mafics Coarse gr. QTZ + FS: still coarse; biotite book, but bio. usually very fine and in clots within FS. Weak Green tint.							TR. white slivers w/slicks						
												3210		60% Wh. Granite 40% Diorite Dike(?)	35% QTZ, 64% FS, 1% Mafics 90% Mafics, 10% FS. Fine to med. grained. Very fresh w/overall black appearance.	TR. hem. in QTZ. TR. Green tint.						2% white slivers w/slicks						
												3220		White Granite 1% Diorite	35% QTZ, 64% FS, 1% Mafics. 90% Mafics, 10% FS - Fine - Med. gr.	TR. Green tint.						TR white slivers w/slicks.						
												3230		White Granite TR. Diorite TR. Cement	35% QTZ, 64% FS, 1% Mafics 90% Mafics, 10% FS.	Very White						TR white slivers w/slicks						
												3240		White Granite TR. Diorite	35% QTZ, 64% FS, 1% Mafics 90% Mafics, 10% FS. Med gr.	Very fresh.												
												3250		NO SAMPLE															
												3260		White Granite 20% Diorite	35% QTZ, 64% FS, 1% Mafics 90% Mafics, 10% FS, Med. gr.	Very fresh, TR. py in one biotite book.						TR white slivers w/slicks TR hem. on fracts.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.: LON.:
GRID: N: E:
T 22S R 39E SEC. 6

KB = 2161' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3270		80% Gd.	60% Mafics as hb xtals, 40% FS	Local chl. in shear pieces					2% white slivers w/slicks					TS	3270
			May be dike or xenolith - Fine gr.						and sheared Gd.						
		20% White													
		Granite	35% QTZ, 64% FS, 5% Mafics												
3280		White Granite	35% QTZ, 64% FS, 5% Mafics	TR pink in orth, TR. Green in					1% white slivers w/slicks					TS	3280
			as very Fine biotite	some FS.											
		5% Gd.	60% hb, 40% FS, phanaritic,												
			Fine gr.												
3290		Wh. Granite	35% QTZ, 64% FS, 5% Mafics	TR. chl. in Sheared Frags					1% White slivers w/slicks					Temp:	
		5% Gd.	60% hb, 40% FS.	5% sheared, w/chl.					+ local chl. Slivers.		3294	4°30'	N64W	222° F	
3300			NO SAMPLES due to												
			Lost Circulation -												
3310			Returns did not												
3320			come onto Shaker												
			table.												
3330															
3340															
3350															
3360															

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6
KB = 21.61' Above permanent datum

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	FRACTURES (m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^{=}$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION — Massive, Disseminated, Veinfill, Replacement	TYPE — Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES — Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												3370			No Samples - By passed												Temp:	
																								3376	5°15'	N69W	180° F	
															Shaker table													
												3380																
												3390		White Granite Coarse frags.	35% QTZ, 64% FS, 1% Mafics; Many orth. strongly pink Moderate green tint within FS xTALS - microcline?	Mod. red hematite in clear QTZ xTALS.						5% Wh. chips w/slicks; chl. w/slicks; unalt. rock w/slicks						
												3400		White Granite Coarse frags.	35% QTZ, 64% FS, 1% Mafics. Weak to strong pink in orth, diffuse to strong green in FS.	Chl. in biotite where sheared. Strong red hem. in QTZ xTALS. May be tr. Limonite in shears.						5% white chips w/slicks + chl. w/slicks and QTZ w/slicks.						
												3410		White Granite Coarse frags.	35% QTZ, 64% FS, 1% Mafics Weak pink in orth, diffuse green within discrete FS xTALS - Microdine?	Chl. on shears only, TR. Hem. in chl. shears.						1% white frags w/slicks + chl. w/slicks.						
												3420		White Granite Coarse Chips	35% QTZ, 63% FS, 2% Mafics Pink orth + pale green in some FS xTALS.	Most biotite w/weak to med. chl. Strong hem. in some QTZ xTALS						1% white + chl. frags w/slicks.						
												3430		White Granite	35% QTZ 63% FS, 2% Mafics. Pink OR. + green in FS xTALS. Stringers in QTZ are microcline + chl.	Chl. in all mafics. TR. py. near fracture surfaces w/chl.						1% White + chl. frags w/slicks						
												3440		White Granite	35% QTZ, 64% FS, 1% Mafics. Pink ORth, some green - Microcline?	TR. chl. in mafics						TR white frags + TR. chl. frags w/slicks.						
												3450		White Granite	35% QTZ, 64% FS, 1% Mafics Pink OR, TR. Microcline (?)	TR Chl. TR. py in QTZ grain.						3% white slivers w/ slicks. TR Chl. w/slicks					TS	3450
												3460		White Granite TR. Cement	35% QTZ, 64% FS, 1% Mafics Pink OR, TR green Microcline (?)	Weak to Med. chl. in mafics. Hem. of interxtal faces between feldspars.						2% white slivers w/slicks.						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CG-EH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY (No. FRACTURES / m. ft.)	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol. %)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
											3470		White Granite	35% QTZ, 64% FS, 1% Mafics	Weak to Med. chl. in all mafics Hem. specks in QTZ XTALS. May be hem as fracture fill or vein material. TR Py.						1% White slivers + chl. w/slicks. Hem coating on fract. thru QTZ. gr.		3476	5°45'	N50W	Temp: 172°F	
											3480			No Samples													
											3490																
											3500		80% Granodiorite 10% White Gr.	40% FS, 55% Mafics, 5% QTZ. Mafics are biotite, hb; phaneritic, fine gr. 35% QTZ, 64% FS, 5% Mafics. Pink OR.	Fresh FS. TR. Hem. in QTZ TR Ep. Weak to Med. chl. in Mafics.						1% White slivers w/slicks.						
											3510		80% Granod. 10% White Granite	60% FS, 35% Mafics, 5% QTZ. 35% QTZ, 60% FS, 3% Mafics. 2% Muscovite in fine books. Problem is Musc. is part of LCM also.	TR Ep.						1% White slivers w/slicks TR. chl. w/hem. w/ slicks						
											3520		Granodiorite (Fine Sand)	35% Mafics, 60% FS, 5% QTZ.	TR chl., Ep.						5% White slivers w/slicks						
											3530		Granodiorite Very Fine Sand.	35% Mafics, 60% FS, 5% QTZ.	TR. chl., ep.						5% white slivers w/slicks						
											3540		Granodiorite (Coarse frags)	35% Mafics, 60% FS, 5% QTZ.	chl. mod. to strong. Mostly on sheared frags.						40% white or partially white slivers w/slicks. 90% of frags appear sheared to some extent.						
											3550		Granodiorite	Sheared; 35% Mafics, 60% FS, 5% QTZ.	QTZ + FS → white opaques. Mafics → chl.						All frags sheared.					TS	3550
											3560		Granodiorite	Sheared; 35% Mafics, 60% FS, 5% QTZ.	QTZ + FS → white opaques Mafics → chl.						25% of frags sheared.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CG-EH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (ft. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.) | GRAPHIC LOGS: FRACTURE INTENSITY (FRACTURES / m. ft.) | ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, $CO_3^=$ | TOTAL SULPHIDES (vol. %) | ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION — TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3570		Granodiorite	35% Mafics, 60% FS, 5% QTZ. TR. Ep.	Some mafics → chl.						10% of frags w/slicks		3570	5°15'	N45W	206°F = Temp.	
3580		Granodiorite	35% Mafics, 60% FS, 5% QTZ. TR. Hem in QTZ.	Several buff calcite vein frags. One shows vein TR. hem. on contact						5% frags w/slicks.						
3590		Granodiorite	35% Mafics, 60% FS, 5% QTZ. TR. Hem. in QTZ.	TR Chl.						5% frags w/slicks						
3600		Very fine frags 50% Gd. 50% Granite	Definite Gd. frags as above - 50% of sample is monomineralic QTZ, white + pink FS.							1% frags w/slicks - mostly white						
3610		White Granite TR. Gd.	35% QTZ, 60% FS, 5% Mafics. TR. Green in some FS.							5% white slivers w/slicks						
3620		White Granite	35% QTZ, 60% FS, 5% Mafics <1% OR w/strong pink color.	TR chl. inclusions in some FS.						5% white slivers w/slicks						
3630		White Granite	35% QTZ, 60% FS, 5% Mafics <1% OR. w/strong pink color.	TR chl. inclusions in some FS						5% White slivers w/slicks						
3640		White Granite	35% QTZ, 60% FS, 5% Mafics. <1% pink OR.	TR chl. in occ. FS.						5% white slivers w/slicks						
3650		White Granite 1% LCM	35% QTZ, 60% FS, 5% Mafics <1% pink OR. Walnut hulls + muscovite.	TR chl. in <1% FS.						5% white slivers w/slicks						
3660		60% Wh. Granite 40% Gd.	35% QTZ 60% FS, 5% Mafics 35% Mafics, 60% FS, 5% QTZ.	Chl. on sheared frags only.						5% white slivers w/slicks 10% chl. frags from Gd. w/slicks.		3661	5°	N45W	Temp: 210°F	

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 ~~(m.~~ ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR./EPID., BIO., SER., KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	MINERALIZATION — TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (№ PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3670		White Granite	35% QTZ, 60% FS, 5% Mafics TR. pink in OR, TR pale green in FS.							2% white slivers w/ slicks						
3680		White Granite	35% QTZ, 60% FS, 5% Mafics TR pink in OR.	Weak Chl. in biotite						3% white slivers w/slicks					TS	3680
3690		White Granite	35% QTZ, 60% FS, 5% Mafics TR Green FS.	Weak Chl. in clots in FS.						1% white slivers w/slicks						
3700		White Granite	35% QTZ, 60% FS, 5% Mafics TR pink in OR; Maybe near shear or fracture.	Weak Chl. in mafics and clots in FS TR Hem. in local clear QTZ XTALS						2% white slivers w/slicks						
3710		White Granite	35% QTZ, 60% FS, 5% Mafics	Weak chl. in local Mafics TR. Hem in clear QTZ XTALS						2% white slivers w/slicks. Local chl. slivers.						
3720		White Granite 10% Gd.	35% QTZ, 60% FS, 5% Mafics. 35% Mafics, 60% FS, 5% QTZ Med → Fine gr. - Fresh.	TR. chl. in mafics locally.						2% white slivers w/slicks						
3730		White Granite TR. Gd.	35% QTZ, 60% FS, 5% Mafics 35% Mafics, 60% FS, 5% QTZ Med → Fine gr.							1% white slivers w/slicks						
3740		White Granite 10% Gd.	35% QTZ, 60% FS, 5% Mafics 35% Mafics, 60% FS, 5% QTZ TR. Green in some FS-microcline	TR. chl. in mafics locally						1% white slivers w/slicks						
3750		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Med → Fine gr.	TR chl. in Mafics						2% white slivers w/slicks 1% Gd slivers w/slicks						
		10% Wh. Granite	35% QTZ, 60% FS, 5% Mafics	TR hem. in QTZ XTALS.												
3760		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Med.-Fine gr., Biotite books + hb. XTALS.	Weak chl. in sheared frags.						10% Frags show slicks. 2% white slivers w/slicks		3765	4°45'	N60W		Temp: 204°F

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: L. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES: LAT. ____ LON. ____
GRID: ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3770		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	TR. chl. in mafics.						1% Gd slivers w/slicks FS → white opaque Hb + bio. still discernible						
3780		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	TR. chl. in Mafics						1% Gd. slivers w/slicks						
3790		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	TR. chl. in mafics, TR. Ep.						1% Gd slivers w/slicks TR white slivers w/slicks						
3800		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Med-Fine gr.	chl. on sheared frags.						2% white slivers /with slicks.					TS	3800
		5% Wh-Granite	35% QTZ, 60% FS, 5% Mafics.	TR. Ep. w/clear QTZ frags.												
3810		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	chl. on sheared frags. TR. Ep.						2% white slivers w/slicks						
		5% Granite	Probably small dike-35% QTZ 60% FS, 5% Mafics; Several frags high in Mafics-Partial penetration of Gd?													
3820		Granodiorite fine frags.	35% Mafics, 60% FS, 5% QTZ. 95% of frags sheared to some extent.	TR. chl. throughout						5% white slivers w/slicks						
3830		Granodiorite	35% Mafics, 60% FS, 5% QTZ. all frags show at least some shearing.	TR chl. Throughout						10% white slivers w/slicks TR. chl. slivers w/slicks						
3840		80% Granite	35% QTZ 60% FS 5% Mafics TR pink in OR.							5% white slivers w/slicks + TR Red Hem.						
		20% Gd.	35% Mafics 60% FS, 5% QTZ. All frags weakly sheared.	TR. Chl.												
3850		80% Granite	35% QTZ, 60% FS, 5% Mafics. TR Hem. in clear QTZ XTALS.	TR chl. clots after mafics, sheared.						10% white + black-white slivers w/slicks		3855	4°30'	N55W	Temp: 204°F	
		20% Gd.	35% Mafics, 60% FS, 5% QTZ, All chips sheared.	TR. chl. Throughout												
3860		90% Granite	35% QTZ, 60% FS, 5% Mafics. increased pink in OR.	TR Hem. in clear QTZ XTALS.						10% white slivers w/ slicks.						
		10% Gd.	35% Mafics, 60% FS, 5% QTZ. All sheared weakly.	TR. chl. Throughout												

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES: LAT. ____ LON. ____
GRID: ____ N ____ E
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)

GRAPHIC LOGS: FRACTURE INTENSITY (FRACTURES/m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE — DOWN HOLE DIST. (m. ft.) / FOLIATION ∢ WITH CORE / BEDDING ∢ WITH CORE / FRACTURE ∢ WITH CORE / DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (№ PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.) / INCLINATION / BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.) / SAMPLE NUMBER
3870		White Granite	35% QTZ, 60% FS, 5% Mafics. TR. pink in OR.	Hem. locally in clear QTZ.	10% small white slivers w/slicks			
		20% Gd.	35% Mafics, 60% FS, 5% Mafics. Shearing throughout.	TR chl. in all frags.				
3880		60% Granite	35% QTZ, 60% FS, 5% Mafics. Pink in most OR.	Strong red Hem coating on sheared QTZ.	10% white slivers w/slicks			
		40% Gd.	35% Mafics, 60% FS, 5% QTZ. All frags weakly sheared.	TR. chl. Throughout				
3890		50% Granite	35% QTZ, 60% FS, 5% Mafics. Most OR is pink.	Hem. locally in clear QTZ.	10% white slivers w/slicks			
		50% Gd.	35% Mafics, 60% FS, 5% QTZ. All frags weakly sheared.	TR chl. throughout. TR Ep.				
3900		Granite	35% QTZ, 60% FS, 5% Mafics.	Chl. on shear surfaces	10% white slivers w/slicks			
		10% Gd.	35% Mafics, 60% FS, 5% QTZ. All frags weakly sheared.	Strong hem. locally on shear faces. TR chl. small frags. TR. Ep.	1% chl. frags w/slicks			
3910		60% Gd.	35% Mafics, 60% FS, 5% QTZ. 50% of frags are weakly sheared	TR chl. throughout	15% white slivers w/slicks			
		40% Granite	35% QTZ, 60% FS, 5% Mafics. TR. pink in OR.	Could be multiple dikes. TR Hem. locally on QTZ xtals.				
3920		Granodiorite	35% Mafics, 60% FS, 5% QTZ. 50% of frags. sheared.	Weak chl. throughout	15% white slivers w/slicks. 1% chl. slivers w/slicks			
		10% Granite	35% QTZ, 60% FS, 5% Mafics. TR. pink OR.					
3930		Gd.	35% Mafics, 60% FS, 5% QTZ. 30% of frags w/shears.	TR chl. throughout	10% white slivers w/slicks			
		10% Granite	35% QTZ, 60% FS, 5% Mafics. OR pink locally.	TR. Hem. in QTZ.				
3940		Granodiorite	35% Mafics, 60% FS, 5% QTZ. 10% of frags sheared.	TR. chl.	10% white slivers w/slicks			
		10% Granite	35% QTZ, 60% FS, 5% Mafics.	TR. Hem, TR. Ep. on shears.				
3950			No Samples					
3960							3960 5°30' N60W	Temp: 212°F

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

SHEET № 40 OF 48

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
3"	4058	4062	Temperature - Dresser	40	10/26/77	

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) m. ft.; ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER., KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (№ PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
3970		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Biotite in Med → Fine gr. books.	TR. chl., TR. Ap., TR. Ep. TR Garnet in chlorite sliver? OR Hematite ?						1% white slivers w/slicks Chl. on shears						
3980		Granodiorite	35% Mafics, 60% FS, 5% QTZ Fresh biotite and hb.	TR chl. throughout.						1% white slivers w/slicks						
		5% Granite dike	Monomineralic frags of QTZ OR, plag. - Med to strong pink in OR.													
3990		Granodiorite	35% Mafics, 60% FS, 5% QTZ.	TR Chl.. TR. Ap.						1% white slivers w/slicks						
4000		Granodiorite	35% Mafics, 60% FS, 5% QTZ TR Ep. - both hb + Bio. fresh.	TR chl.						1% white slivers w/slicks					TS	4000
4010		50% Gd.	35% Mafics, 60% FS, 5% QTZ	TR. chl.						3% white slivers w/slicks						
		50% Granite	35% QTZ, 60% FS, 5% Mafics.													
4020		Granite	35% QTZ, 60% FS, 5% Mafics Very faint Greenish cast to sample.	Most Mafics → chl. due to shearing.						2% white slivers w/slicks						
4030		Granite	35% QTZ, 60% FS, 5% Mafics Faint Greenish cast to Sample	chl. in most Mafics - due to shearing.						2% white slivers w/slicks					TS	4030
4040		50% Granite	35% QTZ, 60% FS, 5% Mafics	chl. in Mafics						2% white slivers w/slicks		4043	6°45'	N72W	Temp: 206°F	
		50% Gd.	35% Mafics, 60% FS, 5% QTZ TR Ap, TR. Ep.	TR chl.												
4050		50% Granite	35% QTZ, 60% FS, 5% Mafics							TR white slivers w/slicks						
		50% Gd.	35% Mafics, 60% FS, 5% QTZ.	TR chl. on shear faces												
	CORE 4058-4062				4058			25°							TS	4059
4060		Granodiorite (Metased ?) 6-8" pieces (Ends Ground during coring) Chip Sample	Fine gr. blotching darker patches. One QTZ or chl/calcite vein No apparent foliation or flowbands = 50-50 Gd/White Granite	Fracture 35° chl. + hem. cut by QTZ-filled fract. @ 35°. Hem. - Filled hairline fract. 30°∠ No QTZ flooding or alteration envelope along any vein.	4059			25-35							TS	4060
					4060			30		1/4" wide chl. w/calcite center						
					4061			55		QTZ Vein 1/4"						
					4062			30		QTZ Vein 1/8"						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) m. ft.; ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4070		Granodiorite	35% Mafics, 60% FS, 5% QTZ TR. Ap., TR. Ep.	TR. Chl. on fract.						1% white slivers w/slicks						
4080		Granodiorite	35% Mafics, 60% FS, 5% QTZ. TR dull brown-red garnet(?) on sheared chips.	TR Chl. on shears						2% wh. slivers w/slicks						
4090		Gd.	35% Mafics, 60% FS, 5% QTZ TR Ep.	TR chl. on shears						1% white slivers						
4100		Gd.	35% Mafics, 60% FS, 5% QTZ. TR. Ep.	TR chl, hem. on fractured chips						1% white slivers w/slicks						
4110		Gd.	35% Mafics, 60% FS, 5% QTZ.	chl. on fract.						TR wh. slivers w/slicks					TS	4110
4120		Gd.	35% Mafics, 60% FS, 5% QTZ.	TR. chl. on fracture						2% white slivers w/ slicks. TR chl. w/slicks		4120	7°30'	N82W	Temp: 204/241°F	
4130		Granite	35% QTZ, 60% FS, 5% Mafics Pale pink OR, pale green Microcline (?)							2% wh. slivers w/slicks						
		10% Gd.	35% Mafics, 60% FS, 5% QTZ.	TR. chl.												
4140		Granite	35% QTZ, 60% FS, 5% Mafics Weak pink in OR. Pale greenish cast to plag.	TR. chl.						1% white slivers w/slicks						
4150		Granite	35% QTZ, 60% FS, 5% QTZ Weak pink in OR, Green tint to FS + strong green chl. chips — almost turquoise color.	1% chl. as fine frags + clots within FS.						1% white slivers w/slicks						
4160		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Weak Ch. in 30% of Mafics.	chl. on shears. TR. Ep.						TR wh. slivers w/slicks						
		Granite - TR.														

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

SHEET No 42 OF 48

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4170		Granodiorite	35% Mafics, 60% FS, 5% QTZ	Chl. on Shears, TR Ep.						1% white slivers w/slicks						
			Biotite + hb.	Red Hem. on both white +						1% Chl. slivers w/slicks						
		5% Wh.	35% QTZ, 60% FS, 5% Mafics	chl. slivers.												
		Granite	Slight pink due to Fe in OR.													
4180		Granite	35% QTZ, 60% FS, 5% Mafics	Chl. after mafics and in FS						2% white slivers w/slicks						
4190		Granite	35% QTZ, 60% FS, 5% Mafics	Chl. after mafics w/ TR in FS						1% white slivers w/slicks						
4200		Granite	35% QTZ, 60% FS, 5% Mafics	chl. after Mafics						1% white slivers w/slicks						
			TR Greenish tint in FS - Microcline?													
4210		Granite	35% QTZ, 60% FS, 5% Mafics	Weak Chl.						2% white slivers w/slicks						
			TR. Green FS, TR pink OR.													
4220		Granite	35% QTZ, 60% FS, 5% Mafics	TR Chl.						2% white slivers w/slicks						
			Very white.									4224	7°45'	N 88W	Temp: 208°F	
4230		Granite	35% QTZ, 60% FS, 5% Mafics	TR Hem. locally in QTZ + OR.						2% white slivers w/slicks						
			Very white	TR Chl.						(many from Gel.)						
		1% Grano-diorite	35% Mafics, 60% FS, 5% QTZ.													
4240		Granite	35% QTZ, 60% FS, 5% Mafics.							2% white slivers w/slicks						
			Very white; Mafics, are very fine biotite.													
4250		Granite	35% QTZ, 50% FS, 5% Mafics	TR Chl.						2% white slivers w/slicks					TS	4250
4260		Granite	35% QTZ, 50% FS, 5% Mafics	TR. Chl.						2% white slivers w/slicks						
			TR green tint in FS.													

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CCGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No 43 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (WEAK, MODERATE, STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4270		Granite	35% QTZ, 60% FS, 5% Mafics	TR. Chl.						1% white slivers w/Slicks						
4280		Granite	35% QTZ, 60% FS, 5% Mafics Strong pink color in FS. (OR) Probably high Fe from digested metased. Contact zone?	Weak to strong chl. High Fe content.						1% white slivers w/Slicks						
		5% Gd.														
4290		Granite	35% QTZ, 60% FS, 5% Mafics Strong pink in OR,	Weak to Strong Chl.						1% slivers w/slicks – Green and white						
		10% Gd.	35% Mafics, 60% FS, 5% QTZ.	Weak to Strong Chl.											Temp:	
												4298	8°15'	N87W	203°F	
4300		50% Gd.	Light green due to high Chl. 35% Mafics, 60% FS, 5% QTZ	Strong chl. after Mafics						1% large white slivers w/Slicks						
		40% Wh. Granite	35% QTZ, 60% FS, 5% Mafics Strong pink color in FS.													
4310		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Light Green.	Weak to strong chl.						2% slivers w/Slicks						
		TR Granite	35% QTZ, 60% FS, 5% Mafics Strong pink in FS.													
4320		Granite	35% QTZ, 60% FS, 5% Mafics General pink tint to Sample	TR Chl.						1% white slivers w/Slicks						
		TR. Gd.														
4330		Gd.	Fresh dark Mafics, biotite + Hb. 35% Mafics, 60% FS, 5% QTZ							1% white slivers w/Slicks						
4340		Granite Coarse chips	35% QTZ, 60% FS, 5% Mafics Hb → biotite, TR pink OR.	Chl. on shears only						1% white slivers w/Slicks						
4350		White Granite	35% QTZ, 60% FS, 5% Mafics	TR Chl. on fractures						1% white slivers w/Slicks						
		10% Gd. Coarse chips	35% Mafics, 60% FS, 5% QTZ													
4360		70% Granite	35% QTZ, 60% FS, 5% Mafics Coarse Gr.							1% chl. rich chips w/ slicks						
		30% Gd. Coarse chips	35% Mafics, 60% FS, 5% QTZ Med to Fine gr.	TR Ep.						1% white slivers w/Slicks						

UURI EARTH SCIENCE LAB

PROJECT Coso KGRA
DRILL HOLE CGEH-1
DEPOSIT TYPE Geothermal
LOGGED BY R. Galbraith

DATE STARTED 9/2/77
DATE COMPLETED 12/1/77
DRILLING CO. Big O (Bakersfield)
FINAL DEPTH 4845 (m. ft.)
COLLAR ELEV. 4358.5 (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No 44 OF 48

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; FRACTURES (m. ft.); ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	MINERALIZATION — TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4370		70% Gd.	35% Mafics, 60% FS, 5% QTZ.	TR. Chl.						1% white slivers w/slicks						
		30% Granite	Fine monomineralic chips of QTZ. and FS — too coarse to be from Gd.													
4380		Granodiorite	35% Mafics, 60% FS, 5% QTZ. Med to fine gr.	Weak Chl. throughout Mafics						2% white slivers w/slicks						
		TR. Granite	Fine chips of QTZ + FS.													
4390		Gd.	35% Mafics, 60% FS, 5% QTZ.	Weak to Med. Chl. throughout Mafics						2% white slivers w/slicks						
		TRACE	Med to fine gr.													
		White Gr.	Fine monomin. QTZ + FS.													
4400		Gd.	35% Mafics, 60% FS, 5% QTZ.	TR. Chl., mostly on shears.						2% white slivers w/slicks		4401	9°30'	576W	Temp: 189°F TS 4400	
4410		Granite	35% QTZ, 60% FS, 5% Mafics 10% of chips moderately pink OR.	Mod. chl., mainly sheared chips						2% white slivers w/slicks						
		TR. Gd.														
4420		Diorite	Fine gr. biotite w/10% FS	TR disseminated py as. med. gr. xtals						1% white slivers w/slicks						
		TR. Gd.	35% Mafics, 60% FS, 5% QTZ Med → Fine gr. dark FS.													
4430		Granite	25% QTZ, 70% FS, 5% Mafics Mod. pink color to ORth.	Mod to strong chl. due to shearing (?)						2% white slivers w/slicks						
4440		Granite	25% QTZ, 70% FS, 5% Mafics. Mod. pink to OR.	Mod. chl. in shear chips						2% white slivers w/slicks						
		30% Gd.	35% Mafics, 60% FS, 5% QTZ.	TR. Ep, TR. Chl.												
4450		Granite	25% QTZ, 70% FS, 5% Mafics Very weak pink in OR.	TR. Chl.						1% white slivers w/slicks						
		40% Diorite	90% Fine biotite, 10% FS.													
4460		Granite	25% QTZ, 70% FS, 5% Mafics Mod. pink in OR 20% of sample	Mafics → Chl. due to shearing						3% white slivers w/slicks		4461	9°45'	570W	Temp: 192°F	

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.: LON.:
GRID: N: E:
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^{=}$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4470		Alaskite	95% OR - Very Salmon pink 5% QTZ							1% white slivers w/slicks						
		5% Gd.	35% Mafics, 60% FS, 5% QTZ Very fresh plag.	TR. Chl.												
4480		Alaskite	95% OR, 10% QTZ Very strong Salmon color							TR white slivers					TS	4480
4490		Alaskite	90% OR, 10% QTZ Strong Salmon pink							1% white slivers w/slicks						
4500		Alaskite	90% OR, 10% QTZ - OR. strong Salmon pink							2% white slivers w/slicks						
4510		Alaskite	90% OR, 10% QTZ. Strong Salmon pink OR. TR Chl. on shear surfaces	TR white gouge clay cementing chips						2% white slivers w/slicks						
4520		Alaskite	90% OR, 10% QTZ Strong Salmon pink							2% white slivers w/slicks						
4530		Alaskite	90% OR, 10% QTZ. Strong Salmon pink 1% chl./QTZ chips from shears							2% white slivers w/slicks					TS	4530
4540		Alaskite	90% OR, 10% QTZ. Strong Salmon pink 1-2% QTZ/chl. chips							2% white slivers w/slicks						
4550		Alaskite	90% OR, 10% QTZ. Strong Salmon pink color TR. QTZ/chl. chips	TR. white gouge clay cementing chips.						2% white slivers w/slicks						
4560		Gd. 10% Alaskite	35% Mafics, 60% FS, 5% QTZ. Very fresh FS. Salmon pink OR. chips	TR. Chl.						2% white slivers w/slicks		4567	10°30'	S57W		Temp: 202°F

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: R. Galbraith, J. Hyde

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) m. ft.; ALTERATION (1 = WEAK, 2 = MODERATE, 3 = STRONG): CLAY, CHLOR. EPID., BIO., SER, K SPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	MINERALIZATION — TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4570		60% Alaskite 40% Gd.	90% OR, 10% QTZ; 35% Mafics, 60% FS, 5% QTZ Fresh FS.	TR. Ep. in occ. Feldspar						1% white slivers w/slicks					TS	4570
4580		Gd.	35% Mafics, 60% FS, 5% QTZ Fresh FS. Med. to Fine gr.	TR. chl.						1% white slivers w/slicks						
4590		Mixed Granite and Gd.	Chips w/35% Mafics, 60% FS, w/ chips of all FS or QTZ/FS. NO pink OR.	TR. Chl						2% white slivers w/slicks						
4600		Lt. Granite 98% Gd 2% TR LCM	65% QTZ (clear), ~1% Mafics 34% FS (OR is pink), Fresh FS Med. Gr. Gd is 35% Mafics, 60% FS, 5% QTZ	Mafics → chl. locally; hem. in QTZ XTALS locally. White chalky frags w/hem. or chl. streaks.												
4610		Lt. Granite 99% LCM 1%	60% QTZ ~5% Mafics, 35% FS Med to Fine gr.	Mafics → chl.						3% white chalky frags w/slicks locally						
4620		Lt. Granite 98% Gd 1% TR LCM (Mica)	65% QTZ ~1% Mafics, 34% FS. Fresh FS, Med to Fine gr.	Mafics → chl. TR. Hem. in QTZ. XTALS. Mafics in Gd. partially gone to chl.						1% white chalky frags, some w/slicks						
4630		Lt. Granite 96% 3% Gd TR LCM (Mica)	60% QTZ, 2% Mafics, 38% FS. Some OR is bright Salmon (1%) Fine to med. gr.	Mafics → chl. in Granite, partially in Gd. frags. Hem + Chl in some QTZ XTALS.						1% white chalky frags, some w/slicks		4638	10°45'	S45W	TS Temp: 204°F	4630
4640		Lt. Granite 99% Gd ~1% TR LCM Mica	60% QTZ, 2% Mafics, 38% FS. Some OR bright salmon color (~1%)	Mafics → chl. in Granite. Hem + chl in QTZ XTALS locally.						1% white chalky frags, some w/slicks						
4650		Granodiorite 99% LCM 1% TR. Lt. Granite	35% Mafics, 60% FS, 4% QTZ Fine gr., Magnetic. TR. pink Salmon colored OR.	TR. chl.						5% white chalky frags w/slicks – Shear zone?						
4660		Granodiorite 99% LCM 1% TR. Lt. Granite	35% Mafics, 60% FS, 4% QTZ Fine gr, Magnetic. TR. Salmon colored OR.	TR. Chl.						2% white chalky frags w/slicks locally.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: J. Hyde

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 34E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SCALE (m. ft.)	GRAPHIC LOGS: FRACTURE INTENSITY	(FRACTURES) m. ft.	ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY	CHLOR. EPID.	BIO.	SER	KSPAR	SILICA	$CO_3^=$	TOTAL SULPHIDES (vol.%)	ROCK TYPE & STRUCTURE	DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
												4670		Granodiorite	Gd. 30% Mafics, 6% QTZ.							2% white chalky						
														15%, 20%	64% FS. Fine gr. Magnetic.							frags w/slicks locally						
														Lt. Granite	Granite: 60% QTZ, 37% FS,	Granite Mafics → chl. locally						+ chl. streaks						
														1% LCM	2% Mafics, Med. gr. Salmon													
															colored OR locally.													
														Gd. 45%	Gd: 30% Mafics, 6% QTZ, 64% FS.							1% white chalky						
												4680		Lt. Granite	Fine gr., magnetic.							frags w/slicks						
														50%	Granite: 60% QTZ, 37% FS,	Granite Mafics → chl. locally.												
														3% LCM	3% Mafics, Med. gr.	Hem. in QTZ XTALS locally.												
														Diorite to	35-45% Mafics, 3-5% QTZ, 50-60% FS	Mafics → chl in both Gd												
												4690		Granodiorite	Very fine gr, magnetic locally,	and Granite												
														90%, 5%	(less than previous samples)													
														Granite	Granite 60% QTZ, 37% FS, 3%													
														2% LCM	Mafics.													
												4700		Diorite 95%	Very fine gr, 50% Mafics, ~	Mafics → chl. locally.						White chalky frags.						
															45% FS (Not discernible)							w/hem + chl. on slick.						
														Granite 3%	Med gr, 60% QTZ, 37% FS, 3%	Fracture 2 mm wide filled w/chl. + QTZ						surfaces (1%)						
															Mafics.	outer edges, center w/hem. +												
														TR LCM Mica		QTZ.												
												4710		Granodiorite	Gd fine gr., fresh; 30% Mafics.	TR. chl.						1% white chalky						
														70%	6% QTZ, 64% FS. Magnetic							frags w/chl locally						
														Diorite 25%	Diorite: Fine gr, 50% Mafics							+ slicks.						
															~45% FS (Not discernible), Magnetic.													
														TR LCM Mica														
												4720		Granodiorite	Gd fine gr. Fresh, 30% Mafics, 6%	TR chl. Assoc. w/Granite frags.						TR. white chalky						
														50%, Diorite	QTZ, 64% FS; Magnetic. Diorite							frags w/chl + hem.						
														40%	Very fine gr, Mostly Mafics + FS.							on slick surfaces						
														TR Lt Granite	Lt. Granite is manifested as													
														TR LCM	Monomineralic pink OR, QTZ, + FS Grains.													
												4730		Gd. 98%	Gd 35% Mafics, 5% QTZ, 60% FS	TR chl., TR QTZ XTALS. w/hem						2% white chalky						
														Lt. Granite	Fine Gr., magnetic locally.	along fractures.						frags w/chl + hem on						
														1%	Granite as monomineralic XTALS							slick surfaces and						
														~1% LCM	of pink OR + QTZ.							as streaks					Temp:	
																								4739	11°30'	S43W	204°F	
												4740		Gd 95%	Gd 35% Mafics, 5% QTZ, 60%	Hematite + chl. locally.						1% white chalky					TS	4740
														1% Fe-Filings	FS; Fine gr., Slightly Magnetic.	Mafics → chl (TR). Hem. in						frags w/hem + chl.						
														3% LCM		QTZ grains.						as streaks. slicks						
														1% Lt. Granite	Granite: Monomineralic FS +							locally.						
															QTZ Grains. Some FS is pink.								*					
												4750		Gd 97%	Gd: 35% Mafics, 5% QTZ, 60% FS	Hem + chl. locally. Hem. in QTZ						1% white chalky						
														1% Fe-Filings	Fine gr, Magnetic.	chl. after Mafics ~1%.						frags w/ hem. + chl.						
														1% Lt. Granite	Granite as Monomineralic							as streaks and along						
														TR LCM	FS (OR + plag), QTZ. (Pink)							slick surfaces.						
												4760		Gd 97%	Gd: 30%, Mafics, 6% QTZ 64%	TR chl. after Mafics						2% white chalky						
														1% Lt. Granite	FS. Fine gr, Magnetic.							frags w/hem + chl.						
														TR LCM	Granite as Monomineralic							as streaks and along						
														TR Fe-Filings	FS (some pink) + QTZ							slick surfaces.						

UURI EARTH SCIENCE LAB

PROJECT: Coso KGRA
DRILL HOLE: CGEH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: J. Hyde

DATE STARTED: 9/2/77
DATE COMPLETED: 12/1/77
DRILLING CO.: Big O (Bakersfield)
FINAL DEPTH: 4845 (m. ft.)
COLLAR ELEV.: 4358.5 (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY (FRACTURES / m. ft.); ALTERATION (WEAK, MODERATE, STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
4770		Granodiorite 98% 2% Lt. Granite	Gd. 30-35% mafics; 5% QTZ, 60-65% FS, magnetic, fine gr; Granite as monomineralic Fs + qtz grains	Hem. in QTZ Kspar TR chl after mafics locally						2% white chalky frags w/chl + hem on slicks and as streaks						
4780		Granodiorite 40% Lt. Granite 60%	Gd 30% mafics; 5% Qtz 65% Fs. fine gr, magnetic Med. Gr granite pink Or is salmon colored, Some Qtz is crystal clear.	TR chl. in mafics mafics → chl. in granite						3% white chalky frags w/chl + hem slicks locally.						
4790			No Samples — Bypas													
4800			Due to Lost Circulation													
4810			No returnes													
4820																
4830																
4840		Granodiorite 45% Alaskite + Granite	Gd is fine gr. 35% mafics, 5% Qtz, 60% Fs, magnetic Granite FS is Sal mon colored Or mostly -w/patches chl. 2% mafics 75% FS 20% Qtz-Med gr.	TR Chl. after mafics in Gd Mafics → chl in granite						3% white chalky frags, some dominated by chl. + hem, slicks locally					TS	4840
EOH	4845'															

UURI EARTH SCIENCE LAB

PROJECT Coso Hot Springs - NWC
DRILL HOLE BDSH-1
DEPOSIT TYPE Geothermal
LOGGED BY Joy Hyde

DATE STARTED 8-4-76
DATE COMPLETED 12-25-76
DRILLING CO. Battelle NW Labs
FINAL DEPTH 1342 (m. ft.)
COLLAR ELEV. _____ (m. ft.)
CO-ORDINATES LAT. _____ LON. _____
GRID _____ N _____ E
T 22 S R 39 E SEC. 6

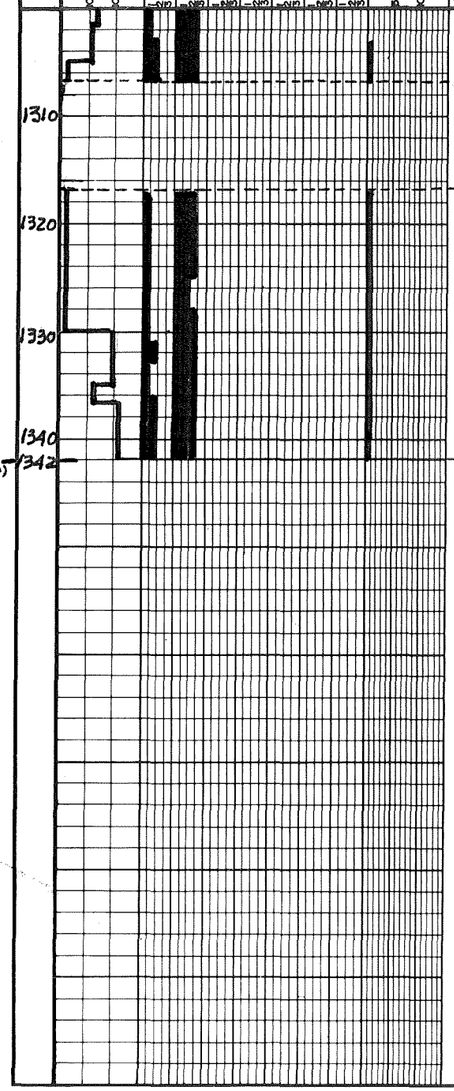
CORE SIZE (mm. in.)	FROM (m. ft.)	TO
2 3/8		

GEOPHYSICAL LOGS

LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET No. 14 OF 14

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) % N, V, Z; ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER., KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1300-42		Biotite Gneiss	Fine to med. gr. w/clear foliation and banding; 30% mafics 1300-01; thereafter ~60% mafics. Chlorite repl. mafics, secondary biotite is possible at 1326-31. Dissem. py locally.			1305				Shear zone						
						1327	40°								1327	404.5TS
			NOTE: Box w/1307-1317 is missing	Calcite on fractures		1320	50°									
						1324			75°							
				Calcite on fracts. (seals old fracts) 1320-36		1326										
						1327			50°							
				Perfect calcite xtals on fracts at 1328-29		1328	50°		10°							
						1329			80°							
				Some ep. on fracts. + Hem., calc. and white talc-like clay on fract at 1336.						1331-3 Shear zone						
						1334			80°							
						1336										
						1337-8				Shear zone - Slickenside well developed						
						1340-2				Shear zone - Gouge					1342	27K 409.0TS

UURI EARTH SCIENCE LAB

PROJECT: Coso Hot Springs - NWC
DRILL HOLE: BDSH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: Joy Hyde, Bob Galbraith

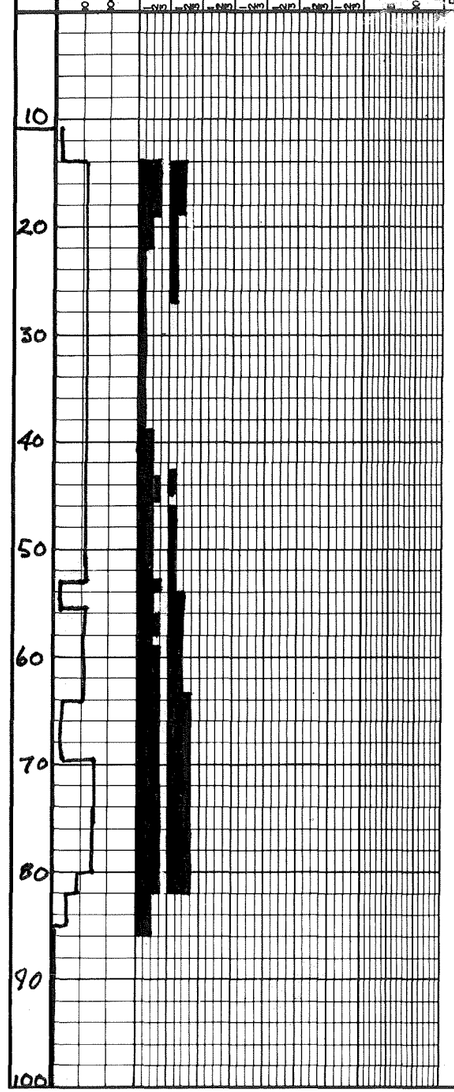
DATE STARTED: 8-4-76
DATE COMPLETED: 12-25-76
DRILLING CO.: Battelle NW Lab.
FINAL DEPTH: 1342' (~~m~~ ft.)
COLLAR ELEV. _____ (m. ft.)
CO-ORDINATES LAT. _____ LON. _____
GRID _____ N _____ E
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE ~~(mm. dia.)~~	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 7/8"						

SHEET Nº 1 OF 14

GRAPHIC LOGS



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (Nº PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
11-22		Biotite Gneiss	Equagranular; med. gr., 60% Feldspar + quartz 40% mafics	Few scattered xenoliths <1"; magnetic			50° 30°		40	Fracture					12'	3.7ES
						14-19				Gouge						
															19'	5.8TS
22-43		Biotite Gneiss	70% mafics; 30% Feldspar + quartz. No contact visible.	Minor epidote veins.												
43-53		Granitics	Foliation suggested	Epidote along shear zone		40'			20°	Shear zone						
53-54			Breccia and gouge.	High calcite matrix												
54-56			Coarse grained (¼-½') Granitic texture 25% mafics	Intermit. epidote on fractures											58	17.7TS
56-62			Brecciated; Granitics w/ calcite + clay matrix												60.2	1X
		Biotite Gneiss	Equagranular Biotite 35% mafics.			62-82				In Tense shearing; occasional 3-6" pieces, but mostly <1". Box: Frags. throughout; both Gneiss + granitics.						
				74-79' Bleaching											73.5	22.4FX
						77'	40°									
		Biotite Gneiss	Hard, Fresh rock; Few fractures			87'	40°		30°							
						91'			60°	Calcite on fractures					91.5	36.3FX
						94'	50°		45°							

GEOLOGIC NOTES (Use also for general comments)

Note: Fracture Intensity is per ft. through first 100'; thereafter described as per yd.

Sample code: TS = thin section
X = Interval whole rock x-ray (every 50')
FX = Fracture x-ray ES = Emission Spec.

UURI EARTH SCIENCE LAB

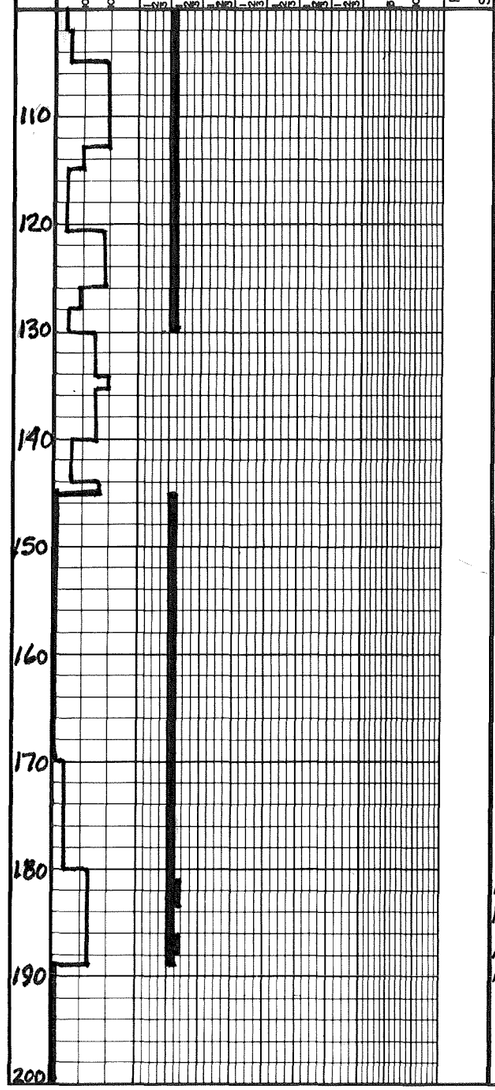
PROJECT Coso Hot Springs - NWC
DRILL HOLE BDSH-1
DEPOSIT TYPE Geothermal
LOGGED BY Joy Hyde, Bob Galbraith

DATE STARTED 8-4-76
DATE COMPLETED 12-25-76
DRILLING CO. Battelle NW Lab.
FINAL DEPTH 1342' (~~m~~ ft.)
COLLAR ELEV. _____ (m. ft.)
CO-ORDINATES LAT. _____ LON. _____
GRID _____ N _____ E
T 22S R 39E SEC. 6

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO	GEOPHYSICAL LOGS LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SHEET No. 2 OF 14

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES %); ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, K-SPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	MINERALIZATION: TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
100-104		Biotite Gneiss	100-104	Calcite on Fractures w/clays;		104			60°	Fracture						
104-106		Granite Dike	Upper contact 50°; ½" K-spar, med.gr.	Very weak bleaching ⅛" along Frac.		105	45°		60°						105'	32.0 TS
106-111		Biotite Gneiss	Breccia (106-111); clay/calcite matrix													
															110	2X
						113			35°	Shear w/½" altered zone						
						114	55°									
						115			45°							
		6" Mafic dike	95% Mafics; aphanitic			118									119	36.3 FX
111.5		Biotite Gneiss				121-127				Fracture zone w/patchy gouge						
						123			60°							
127-128		Mafic dike	127-128 Upper contact 60°			126	30°									
128-143		Biotite Gneiss	Mafic "smears" along Foliation (135-143)												130	39.6 TS
						131-135				Gouge clay ½" pieces, poor recovery						39.6 FX
			Multiple bands light + dark; Dark portion 80% mafics.			135-140				1-3" pieces						
		Biotite Gneiss	Contact 40°; No banding below 143'; occasional 1-4" darker bands maybe xenoliths; non-magnetic.						40°	Fractures; slight clays.						
143															144.5	44.0 FX
						144-145				Gouge					148.0	45.1 FX
						162			45°							
						165	25°								167	3X
						169			20°	Calcite-Coated Fracture						
				Epidote, calcite/clay on Fractures.		175									175	53.3 TS
181-183		Aplite Dike	QTz + Feldspars; Light pink, sugary texture; Lower contact 20°	Dike brecciated in middle; epidote filling and Calcite on Fracture											181	55.2 TS
184-186		Biotite Gneiss				184	30°		40°						183	55.8 TS
186-187		Aplite Dike														
187		Granite	Medium to Fine gr.; Slight "Foliation"; 40% mafics.	White clay mins. on Fracture + calcite		187			30°	Fracture						

UURI EARTH SCIENCE LAB

PROJECT Coso Hot Springs - NWC
DRILL HOLE BDSH-1
DEPOSIT TYPE Geothermal
LOGGED BY Joy Hyde, Bob Galbraith

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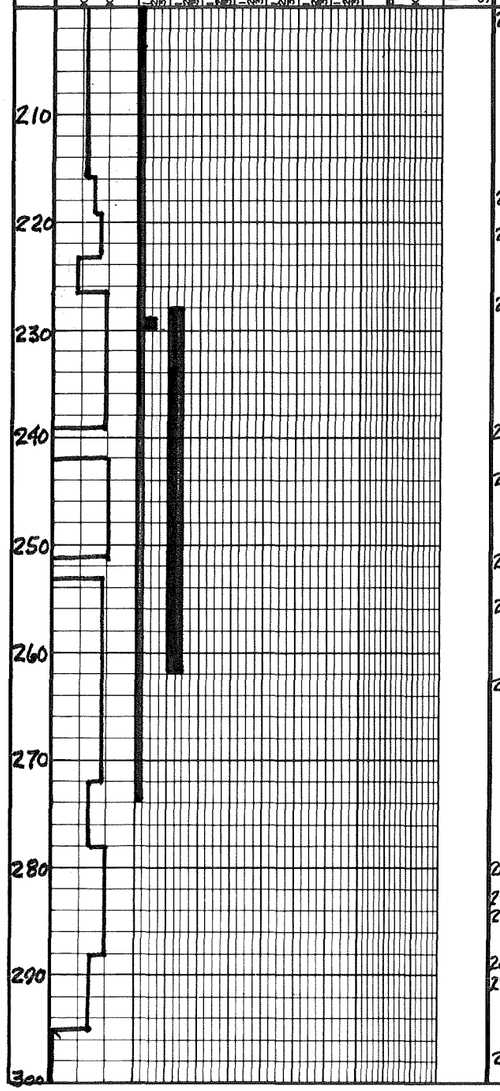
DATE COMPLETED 12-25-76
DRILLING CO. Battelle NW Lab.
FINAL DEPTH 1342' (~~m.~~ ft.)
COLLAR ELEV. _____ (m. ft.)
CO-ORDINATES LAT. _____ LON. _____
GRID _____ N _____ E
T 22S R 39E SEC. 6

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO
2 3/8		

GEOPHYSICAL LOGS

LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

SHEET № 3 OF 14



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (№ PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
200-221	Granite	Medium to Fine-gr. slight "Foliation"	Epidote on fract. 1/3" halo max. in	205			20°							
		208' "dirty" 1/4-1/2" bands.	Fract.	208	45°		65°							
				207			45°							
													208.4	4X
				212			60°							
				215			40°							
			1/4" Epidote Vein	216									214.5	65.4 FX
218-221	Gouge Clay	Gouge clay; decreasing frag. size downward												
221-228	Biotite Gneiss		Green-yellow Clays on Fract.	221-225										
													223	68.0 FX
228-239	Gneiss + Granodiorite	Gouge + Shear; slickenside; breccia. Total gouge clay												
													233	71.0 TS
			lt. yellow-green + PINK Clay mins. in breccia Zone	235-37										
239-242	Granodiorite	35% mafics; >1% qtz. Lower end sheared at 10°.	MnO_2(?) dendrites on Fracture surface	240'				Fracture						
242-251	Gouge + shear	clay gouge + breccia.												
251-257	Granite	Med.-gr.; large 1/2" K-spar												
			Gouge	253-55			60°	Gouge						
257-263	Gneiss Gouge Zone	Probably biotite gneiss, mostly gouge clay w/ 1/2-3" Frags.	Green clays mixed w/white clays.										253.5	77.3 TS
													257.4	5X
				263			40°							
263-280	Biotite Gneiss	Medium-grained					30°							
			6" shear zone	268				Shear zone						
			Fractures parallel to core axis	269-73									274	83.5 TS
			Shear zone	274	45°		80°							
				277			20°						279	85.2 TS
280-283	Granite	Fine-gr.; slight "foliation"	Weak Limonite stain.	281										
283-284	Mafic dike	Aphanitic, non-magnetic.											284	86.6 TS
284-289	Granite	Fine grained.												
				288-90				Shear zone						
289-290	Mafic dike	Aphanitic, non-magnetic												
290-298	Granite	Med.-gr.	Qtz-lined vugs in 1/2" Fracture	291			30°	1' Gouge zone						
				293			20°	Fracture; Shear zone						
298	Granite	Fine-gr. granite dike; contacts: upper = 45°; lower 85°												

UURI EARTH SCIENCE LAB

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DRILLING CO. Battelle NW Lab.
FINAL DEPTH 1342 (~~m~~ ft.)
COLLAR ELEV. _____ (m. ft.)
CO-ORDINATES LAT. _____ LON. _____
GRID _____ N _____ E
T 22 S R 39 E SEC. 6

CORE SIZE (~~mm~~ in.)	FROM (m. ft.)	TO (m. ft.)
2 3/8		

GEOPHYSICAL LOGS

LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES) ~~mm~~ (in.); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

SCALE: 310, 320, 330, 340, 350, 360, 370, 380, 390, 400

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
299-304		Granite	Med. gr.; strongly sheared zone; very low clay; may be gneiss(?); slaty clvg.	Strong Limonite stain in shear zone		304-7			10°						305	93.0TS
304-307															306.9	6X
307-398		Granite	Med. to coarse-gr.; large biotite clots; intermittent slight "foliation."													
				Weak lissem. limonite stain; seems to carry thru to 373'		310										
						320-22				Fracture parallel to core						
329		Xenolith	1½" Thick; med. gr. magnetic;			329	40°			Contact						
331		Xenolith	3"; 45° angle; non-magnetic.			331	45°			Contact						
				White + lt. yellow-green clays on fractures		347									347	105.8TS
															356.1	7X
				Mafic clot w/fresh py + chl.		359										
366		Xenolith	5-7" Thick, non-magnetic; mafic, med. gr.			366		40°		Xenolith contact						
						369			50°	1' Gouge Zone						
383		Xenolith	8" wide; fine metaseds (?) lt. grey													
387-390		Xenolith	3' thick; fine-gr. metaseds. magnetic; dark grey.	Calcite + Limonite stain on fracture		387										
						387	55°			Contact					388	118.3TS
395		Xenolith	8" Thick, med. gr., lt. grey.												393	120.0TS
398		Xenolith ?	Large, coarse biotite mass; may be xeno.	White, talc-like clays on fractures		399										
399-400		Gneiss	Fine gr. granitic texture w/definite foliation.													

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FINAL DEPTH 1342 (m. ft.)
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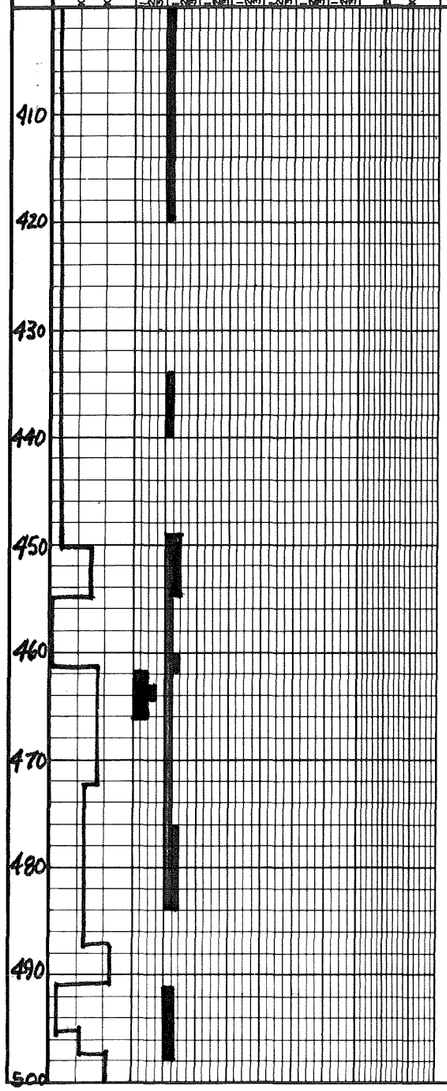
CO-ORDINATES LAT. LON.
GRID N E
T R SEC.

GEOPHYSICAL LOGS

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

GRAPHIC LOGS



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement. TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
399-405		Gneiss	Fine gr. granitic texture w/foliation	Weak limonite stain on fractures	405	80°								405	123.4TS
														405.4	8X
405-413		Granitics	Med. gr.; high biotite content; 1-3" patches of epidote (405-411) may be xenoliths or fract.-controlled alt.											410	125 ES
413		Granitics	Fine-gr. equigranular.												
418-420		Xenoliths	In granitics - non-magnetic metasedS.												
420-422		Dike	Fine gr.; 90% mafics w/feldspars; equigranular, <1 mm, magnetic; Sharp contact lower end.											420	420BG (TS)
422-428		Gneiss	Foliated, granitic texture.		422	60°			Contact						
					423	60°									
428-459		Granite	Med-coarse grained; patches of biotite.	Calcite, Limonite stain + epidote on fractures	429										
														443	135 FX
				Epidote, chlorite filling 70% of biotite clusters; weak limonite stain.	449				449-455 Shear zone; no gouge.						
														454.6	9X
459-467		Gneiss	Upper contact sharp. 466-467 is brecciated w/clay matrix	Pink + yellow-green clay mins. in Shear Zone	459	60°			Contact					461	140.5FX
					461-467										
467-473		Granitics	Med.-coarse gr. biotite clusters.	Bleached 468-473											
					468-491			Parallel	Fractures parallel to core end in shear zone at 469'						
473-491		Gneiss	Banded; coarse granitic texture	Lt. yellow-green and white clays.	471									476	145.1FX
					482	40°								481	146.6TS
489-491		Mylonite	Shear zone; Olive green slickensided frags.	Olive green clays.	489-90										
491		Granite	Coarse to med. gr. biotite clusters.												
			Frags. are powder to 1/4"	Pink + yellow-green clays in breccia zone.	498				497-500 Shear zone						

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T 22S R 39E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SHEET No 6 OF 14

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES/m.); ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (N° PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
500-507		Meta seds.(?)	Aphanitic slightly magnetic; 95% mafics; Breccia, clay matrix at 504'. Small 3" mylonitic zone.												503.8	10X
508						500-510				Shear Zone						
508-510		Granitics	Coarse gr; 45% mafics.	Calcite crystals on breccia Frags.		509										
510-513		Gneiss	Fine gr., Foliated; 35% mafics				65°			Foliation						
513-515		Gneiss	Coarse-gr.	Calcite veinfill		514	50°		30°	Fracture						
515-18		Gneiss	Fine gr.; 6" metased. (?) at 515'; is Fine-gr., dark grey, magnetic.			517	65°		15°	"						
518-528						518			55	"						
		Metaquartzite(?)	Tan, massive silicic zone - may be Fracture Fill or metased.			519			20	"					520	158.5TS
528-529		Mylonite	Clays are greenish brown.							Shear Zone						
529-530		Dike	Maybe metased; magnetic, aphanitic - Dark grey.	Veinfill + Replacement	{White to Lt. green clays; Fs. gone.	531									530	161.5TS 161.5 FX
530-536		Gneiss	Coarse to med. gr.	Veinfill	Greenish clays	532			0°	Parallel to core - Shear Zone - Slickensided.						
536-537		"	Fine gr.													
537-545		Gneiss (?)	Coarse gr. - maybe granitics.	Veinfill	Epidote											
544-551		Dike (?) or Metaseds.	Dark grey, massive; 85% mafics. Weakly magnetic.	Veinfill + repl.	{Clays are greenish, white; hematite	546				Shear Zone						
				Veinfill	Calcite	549			15°							
551-554		Granitics	Coarse gr.			550			20°						553	168.6 TS
554-566		Dike (or Metaseds)	Aphanitic, dark grey; magnetic + some non-magnetic.	Veinfill	Greenish clays	553			10°	Shear Zone						11X
				Limonite staining												
				Veinfill	Calcite	559			65°							
				"	Calcite + clays	561										
566-578		Leucogranite	Only 10% mafics, pinkish; coarse grained.	Veinfill	Yellow-Green clays	565			60°	Shear Zone					564	171.9 TS
				Veinfill ?	K-spar											
					Hematite + green clay	569			25°						567	172.8 TS
				Veinfill	Epidote	571										
578-591		Granitics ?	Coarse grained 40% mafics. Some segments very foliated - gneiss?	Veinfill + Repl.	{Greenish Clays + hematite	583-584				{Mylonitic Shear Zone						
					Hematite	590										
591-595		Hb "Metagabbro"	Fine-gr.; randomly oriented hornblende is partially replaced by chl. and biotite; 75% mafics.	Veinfill + repl.	Olive green gouge clays TR. Pyrite	591										
				Veinfill	Qtz. + Ep. 6" thick	593										
595-599		Gneiss	Fine gr. - only 4'		Clays + hematite	598										
599-600		"Metagabbro"	Same as 591-595													

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GEOPHYSICAL LOGS

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SCALE (m. ft.): 610, 620, 630, 640, 650, 660, 670, 680, 690

GRAPHIC LOGS: FRACTURE INTENSITY; (FRACTURES/m.); ALTERATION (1 WEAK 2 MODERATE 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol.%); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION
600-663	
663-664	
664-675	
675-700	

GEOLOGIC NOTES (Use also for general comments)

ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE.	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
Hb "meta-gabbro"	Randomly oriented hb, 1-3cm long; partly repl. by biotite + chl.; Pink feldspathic zones w/hb crystals radiating into them (eg at 615'). Sparse pyrite disseminated.	Veinfill	Py., Ep, Q TZ.	605									602.2	12X
													605	184.4 FX
													610	185.9 TS
	This may be former calc-silicate seds.												613.2	186.9 TS
		Veinfill w/strong Limonite + epidote		620			20°							
							{15	New Fracture						
		Veinfill	Epidote	623			{40°	Filled Fracture						
				625			40°	Dike						
		Veinfill + repl.	Clay (Lt. green)	629			70°	Shear Zone						
		Veinfill + repl.	Green, shiney clays	633										
			Greenish clays w/slickenside	635 ↓ 640				Mylonized Shear Zone						
													651.4	198.6 TS 13X
			Clays + hematite	660				Shear Zone					661.5	201.6 TS
				663			50°	Contact angle						
Dike	Maybe xenolith - aphanitic, dark grey equigranular; clean sharp contact. Maybe an apophyse of coarse granitics, or granodiorite.	Veinfill	Hematite + clays	670				{Shear Zone {Mylonite						
→ Hb "gabbro"	Finer-gr., broken fragments.		Slickensides: clays are olive gr.	673										
Granitics	Coarse gr., some well developed foliation; mafics are in clusters; 45% mafics.		Olive green clays	675 ↓ 681				{Shear Zone, mylonite and breccia w/clay matrix						
		Replacement	White clay mins.	683 ↓				Shear Zone; crumbled into 1 cm-6 cm frags.						
				691			10°	Fracture					689	210 TS
		Veinfill	Creamy white, talc-like clays.	693			65°						694	211.5 TS
				696				Shear Zone - mylonite						
													700	213.4 TS

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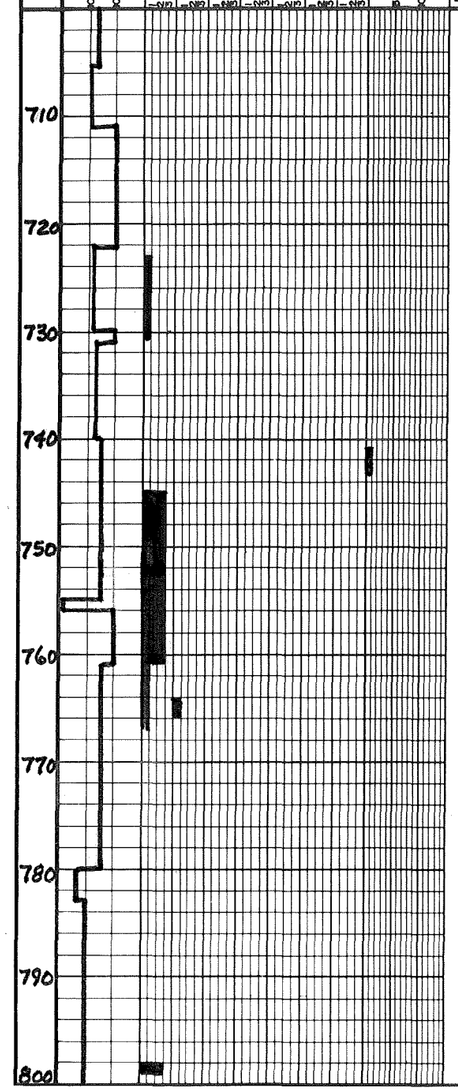
GEOPHYSICAL LOGS

CORE SIZE (~~mm.~~ in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SHEET No. 8 OF 14

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES ~~mm/m~~); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, $CO_3^=$; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE



~757 LC?

799 LC

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement)	TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
700-745		Granitics	Coarse-gr. w/clusters of biotite.	Weak limonite stains on most fracture surfaces.											700.6	14X
				738 White clays in shear zone												
				white + Lt. green clays		742			20°	Fracture						
745-760		Breccia - mylonite	Totally replaced by greenish clays (expanding). Intense shearing mylonitic zone. Any rock fragments noted are < 0.5cm. Core is "solid" clays.			745				Mylonitic shear zone						
															749.8	15X
															751	~~228.8TS~~ 228.9ES
				Golden brown clays mixed w/olive green clays - 756-761 and 798-99.					50°	Fracture @ 756'					756	230.4FX
															757	230.7FX
760-761		Breccia	Fragments 1mm-4cm in white chalky clay matrix.	761 White clays in breccia; chalky, sticky when wet.		761										
761-64		Alaskite	Lt. pink, mostly QTZ + K-spar; mafics only at contact which is gradational. Coarse-grained texture.			765			30°	Fracture						
764-66																
766-83		Granitics	Med. grained, 20% mafics (biotite).													
		Alaskite	Same as above alaskite; contact grades into granitics													
						782			70°	Fracture - in Alaskite						
						783		65°		Contact (Alaskite w/Granitics)						
783-98		Granitics	Med. grained, 15% mafics													
															789.9	16X
						791			45°	Fracture						
						798				Shear zone						
798-800		Shear zone - granitics		golden brown clay mins.		799		45°	50°	Xenolith contact						

UURI EARTH SCIENCE LAB

PROJECT: Coso Hot Springs - NWC
DRILL HOLE: BDSH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: Joy Hyde

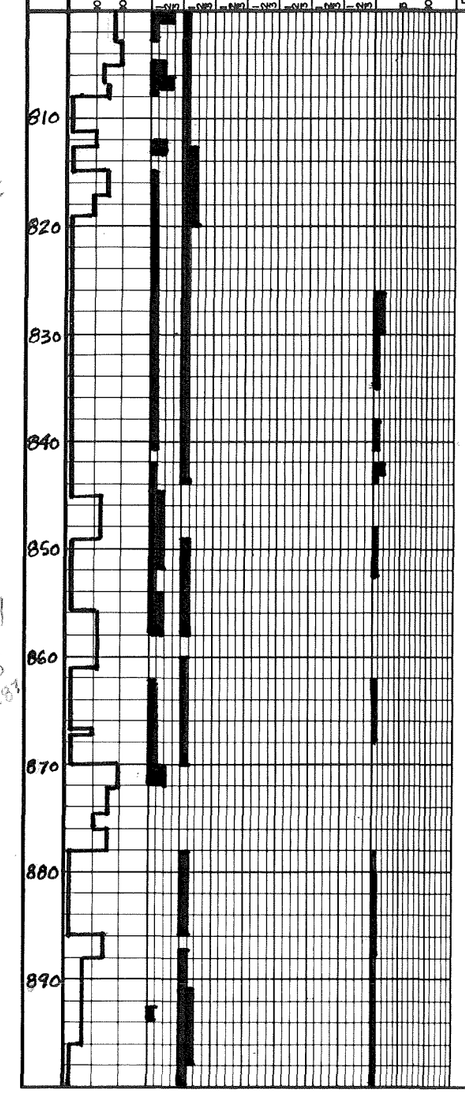
DATE STARTED: 8-4-76
DATE COMPLETED: 12-25-76
DRILLING CO.: Battelle NW Labs.
FINAL DEPTH: 1342 (m. ft.)
COLLAR ELEV.: (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N E
T 22S R 39E SEC. 6

CORE SIZE (~~mm.~~ in.)	FROM (~~m.~~ ft.)	TO
2 3/8		

GEOPHYSICAL LOGS

LOG RUN	DEPTH (m. ft.)	DATE	COMPANY

GRAPHIC LOGS



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION: MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement.) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
800-807		Granitics	Med.-gr.; mylonitic (801-802) Xenolith, mafic, non-magnetic, fine gr.	White clays, slickenside 801-802'	800-8				Shear zone w/breccia						
					805'			45°							
				Brownish-yellow clays	807			80°	Shear zone						
808-12		Diorite	Med. gr., 40% mafics, traces of resorbed xenoliths.												
				Brown + green slickensided clay mins.	813				Shear zone 1' thick						
812-18		Leucogranite	Lt. pink, coarse gr.; grades from diorite. 1% mafics; @ 814' mafic xenoliths, fine gr.; 3 cm - 26 cm xenolith sizes.		814			45°							
					815				Shear zone to 819'					816	248.7 FX
														818	249.3FX
818-841		Diorite	Med.-Fine gr., 40% mafics; magnetic	Hematite + brown-green clays. Fract.	818										249.3TS
				Old fract. sealed w/calcite											
				Hematite, clays, calcite on fracts.	824										
826			Pyrite as aggregates + streaks, 2 cm across, altering to epidote.; in diorite											826	251.8 FX
				Calcite on fract.	836			45°							
				Calcite - fract. 840-842	840			45°							
841-42		Alaskite	Lt. pink, residual mafics; med. gr.; in chilled contact on both ends w/diorite		841-2		50°		Contacts						
				844' - Brown/Red clays on fract.										843	256.9TS
842-45		Diorite	Fine grained		845				Mylonite - Shear zone						
845-48		Mylonite	Olive green clays, sheared + brecciated	848 Old fract. sealed w/calcite	↓									848.1	17X
848-58		Diorite	Fine grained.	853' Fracts. sealed w/QTZ + Fs. Clay mins along fract.	848			40°						848	258.5 TS
				855 Calc. + brownish clay mins.											
				Limonite stains on fracts. (856')											
858-62		Alaskite	Lt. pink, med. gr., chilled contact w/ diorite on bottom contact.	Hematite on fract. 860'	862		30°	60°	Contact						
862-71		Diorite	Fine grained.	864' Calc. + clay mins.	864			15°	Slickenside						
				866' Greenish clays + calc.	866			40°							
				867' Ep. on fract. + clays.											
871-75		Alaskite	Fragmented; same as ealier Alaskite	870' Green-yellow slickensided clays	871-9				Shear/Gouge zone.						
875-77		Gneiss	Foliated, fine gr., relict beds obvious.		877	40°									
877-79		Granitics (?)	Coarse gr., biotite clusters; biotite going to chl. + ep.; 10% mafics		879		85°		Xenolith Contact					878	267.6TS
		Mafic Dike	Aphanitic, 80% mafics, magnetic. Contains xenoliths of coarse gr. mafics, lt. colored granitic intrusives @ 881-2'		881		30°		Xenolith(?) contact						
				883 Calc. + chl. on fract.											
			Mylonite @ 886-7'; 6" granite intrus. at 889'		887				Shear zone						
				890-3 Calc. fills old fracts.											
891-95		Granitics	Coarse gr., 2% mafics, lt. pink.	Wh. clay mins.-chalky- Along fract. + permeates fragments.	891				Breccia zone 3"					893	272.4TS
															272.4FX
895-900		Granodiorite	Coarse gr. w/some foliation locally ~15% mafics. Py mostly repl. by ep.	Olive green clay mins. in shear zone.	897			55°	Shear zone 886-7					895.7	18X
				897 Ep + calc. on fract.											

817 LC

857 LC also at 858?

878 LC

UURI EARTH SCIENCE LAB

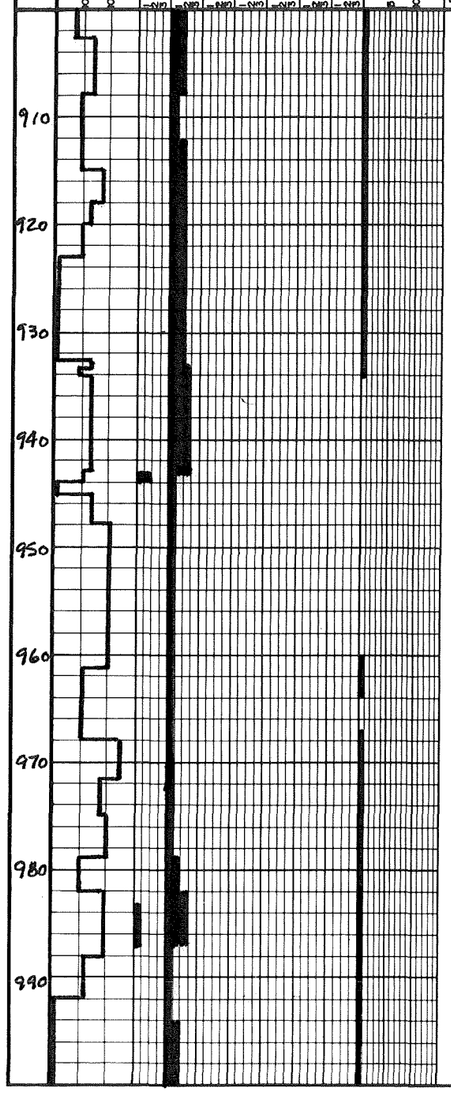
PROJECT: Coso Hot Springs - NWC
DRILL HOLE: BDSH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: Joy Hyde

DATE STARTED: 8-4-76
DATE COMPLETED: 12-25-76
DRILLING CO.: Battelle NW Labs
FINAL DEPTH: 1342 (m. ft.)
COLLAR ELEV.: (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N: E:
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SHEET No. 10 OF 14



DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement. TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
900-908		Granodiorite	Coarse-gr. dark, 15% mafics; clear foliation locally. Small mafic dike 905', 6", non-magn. Could be Gneiss?	Greenish Clays on fract. 900-908	901			85°	Shear Zone, Slickenside					902	274.9 TS
									Gouge Zone						
908-913		Leucogranite	(?) 1% mafics, med.gr, slightly foliated. Gneiss?												
				Wh.+green slickensided clays	912			45°	Shear Zone					912	278.0 FX
913-21		Gneiss (?)	Coarse-med. gr., foliated, dark color; 40% mafics			85°									278.0 TS
921-33		Hornfels (?)	Mafic, non-magnetic; fine gr.; may be dike; old + new fract.	Green clay mins-chl.? Fract.	923										
				Calc.+ Lt. granitics fill old fracts.	924			30°	Sealed Fracts.						
933-43		Leucogranite	Coarse gr. lt. pink, ~1% mafics; altered + fractured.	Brown-yellow clay mins	933			55°	Shear zone-slickenside						
					937			15°							
				944 Greenish clays - slick. Wh. clays on fract.	941-3				Gouge+breccia zone					944.9	19X
943-44		Clay breccia	Greenish-blue solid clay w/frags. angular, gneissic; 4cm diameter to 1mm.												
944-49		Biotite Gneiss	Banded w/granitic veins; med. gr.; dark xenoliths in lt. colored gneiss.	Limonite stain on fracts.	956				Shear zone						
									Sealed old fractures						
949-61		"Alaskite"	Lt. pink, residual mafics. May be Leucogranite.						Gouge zone 949-61						
961-67		Gneiss	Banded, med.gr., clear relict beds.	Hematite on fracts. + green clays	964			55°						965	294.1 TS
967-79		Leucogranite	1% mafics, coarse-gr., very silicic.	White clay mins + calc.-fracts.	967			30°							
					968-73				Shear zone - brecciated frags. 1cm-4cm						
				Limonite + hem. along fracts.	972										
979-1000		Biotite Gneiss	Foliated, fine to med. gr, mafics going to ep. Dissem. py.; banded locally, some bands being heavily chloritized.	Py, hem, lt green clay mins - fract.	979.5			35°							
				Greenish-black clays	983				Shear zone - mylonitic					985	300.2 FX
985		Dike	Sheared - meta volcanics? Dissem. py. Very black.	992-1000 White talc-like clays.											
														995.7	20X
														999	304.4 FX

UURI EARTH SCIENCE LAB

PROJECT: Coso Hot Springs - NWC
DRILL HOLE: BDSH-1
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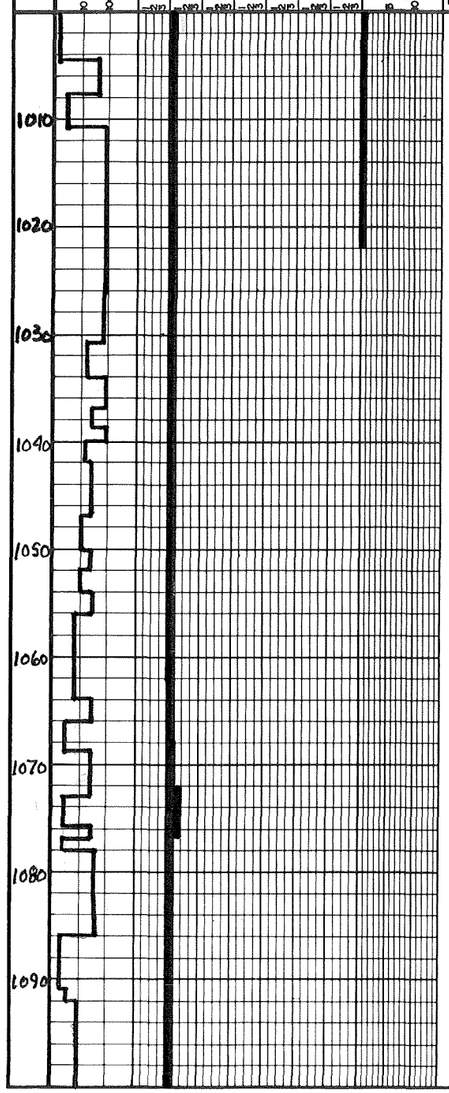
DATE COMPLETED: 12-25-76
DRILLING CO.: Battelle NW Labs
FINAL DEPTH: 1342 (m. ft.)
COLLAR ELEV. ____ (m. ft.)
CO-ORDINATES LAT. ____ LON. ____
GRID ____ N ____ E
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (~~mm~~ in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						

SHEET No. 11 OF 14

GRAPHIC LOGS



1011 - May be LC

DOWN HOLE LOCATION: Distance Down Hole (m. ft.)	Elevation	Rock Type	Description: Mineralogy, Alteration, Textures, Grain Size, Fragment Size	Mineralization: Distribution (Massive, Disseminated, Veinfill, Replacement); Type (Hypogene, Supergene, Ore and Limonite Mineralogy)	Structure: Down Hole Dist. (m. ft.)	Foliation ∢ with core	Bedding ∢ with core	Fracture ∢ with core	Description of Structures (Post or Pre-Ore (Evidence))	Fracture Intensity (No. per metre)	Down Hole Survey Data: Depth (m. ft.)	Inclination	Bearing	Thin & Polished Sections: Depth (m. ft.)	Sample Number
1000-10		Gneiss	Fine to med. gr., banded; Silicic												
					1003	30°			1011-1021						
				Hematite on Fracts.	1005-7	30°			Fract. Zone - Gouge						
				Py almost all repl. by ep./chl.					Frags. 10 cm - 2mm						
1009-10		Granite Dike	6" Thick, pink, med. gr., 2% mafics		1010		10°		Contact					1010	307.8 TS
1010-11		Granites	Dark, maybe gneiss; 10% mafics, Fine gr. to med. gr.												
1012-17		Gneiss (?)	Brecciated, small Frags., Silicious + Feldspathic, Lt. pink w/mafic bands.	Py in vug surrounded by lt. blue mineral. Aggregate ≈ 4cm	1026									1026	312.7 TS
															312.7 FX
1017-23		Granites (leucogranite?)	Darker grading into Lt. pink; coarse gr. w/3% mafics or less. Darker granites are foliated, maybe gneiss.	1021 Hem. on Fract.											
1023-25		Gneiss	Could be granites; w/xenoliths which are chloritized + intruded by Lt. pink granites - brecciated.												
1025-1100		Breccia	Leucogranitic Frags. in silicious matrix (creamy white); 1% mafics, Coarse gr Frags, Fine gr. matrix is well indurated.		1032			40°							
				1037 Wh. clays. as repl. on Fract											
					1037			70°							
			1045-1055 10' Solid leucogranite; Breccia continues. Frags. also gneissic locally; all Frags size 1mm to 10cm. Silver muscovite, mafics chloritized. Plag. mostly replaced by white chalky clays; orth. is fresh.		1045			45°						1045	21 X
														1045	318.5 TS
					1052			87°							
				Wh. clays. Fract. zone.											
				Limonite patches on Fracts.	1056										
			Total breccia feature = 108'	Green (chl?) clays in white clay matrix - Fract. zone. Green clays are elongate, 1 cm wide, 2cm long. Have fibrous, smeared appearance.	1064				Breccia zone						
1073-76		Mafic Dike	Aphanitic, slightly magnetic, 80% mafics. Post-breccia.	Wh. talc-like clays - Fract.	1074									1075	326.7 TS
				Wh. chalky clays - Fract.	1078			85°							
			Breccia continues....		1080			30°	Breccia zone						
1085-93		Granodiorite	Grey, 15% mafics, Fine gr. Post-breccia.		1087			40°							
			Breccia continues...											1094	22 X
					1100			30							

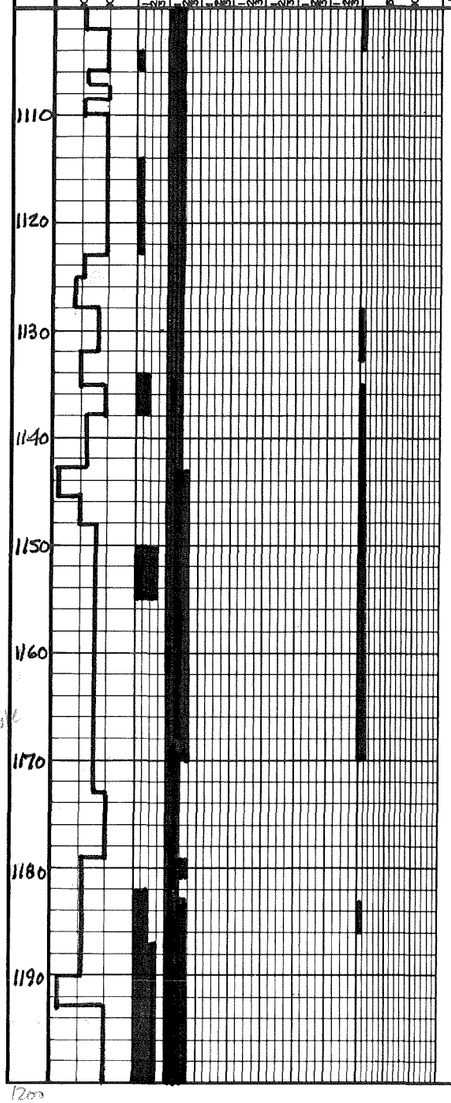
UURI EARTH SCIENCE LAB

PROJECT: Coso Hot Springs - NWC
DRILL HOLE: BDSH-1
DEPOSIT TYPE: Geothermal
LOGGED BY: Joy Hyde

DATE STARTED: 8-4-76
DATE COMPLETED: 12-25-76
DRILLING CO.: Battelle NW Labs
FINAL DEPTH: 1342 (m. ft.)
COLLAR ELEV.: (m. ft.)
CO-ORDINATES LAT.:
LON.:
GRID: N: E:
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO (m. ft.)	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 3/8						



LC ~1130
1160 LC Probable
~1178-80 LC
LC ~1197

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ELEVATION	ROCK TYPE	DESCRIPTION (MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE)	MINERALIZATION: DISTRIBUTION (Massive, Disseminated, Veinfill, Replacement) / TYPE (Hypogene, Supergene, Ore and Limonite Mineralogy)	STRUCTURE: DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES (Post or Pre-Ore (Evidence))	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1100-33		Leucogranitic Breccia	Continues as described on pg 11.	Bleached, chalky white clays-1105-28					Breccia Zone to 1133'						
					1108			85°						1106	337.1 FX
				Most plag. gone to clays; orth. remains; Mafics chloritized; Muscovite is silver.											
				1100-33	1112			35°						1112	338.9TS
1129			1129 Mini-pegmatite w/silver book-mica.		1130			15°	Gouge zone						
			1131 Rectangular fly xtals in granitic frags.												
1133-71		Mafic Dike	Aphanitic, 75% mafics; mostly alt. to olive green clays; fly disseminated along fracts.; non-magnetic.	Olive green clays along fract. + as replacement min.					Shear Zone 1133-1171 Slickenside.					1135	345.9 FX
				Calcite along fract - seals old fractures	1138			20°							
														1143.4	23X
				Calcite on fract.	1147			15°							
				Green talc-like clay mins. on fractures 1133-1171	1148										
														1150	350.5TS
					1155			50°							
		1160	1' Granitic segment w/multiple sealed fractures.		1160			55°	Slickenside w/deep striae, 1cm wide						
				Hem. along fracts. Fracts. sealed w/ep. at 1160	1163			35°						1160	353.6 FX
1171-81		Granite	Coarse-gr., slight alt. of plag. to clays; mafics chloritized. Silver muscovite.	Calcite seals old fractures	1171			60°							
1181-96		Cemented Granitic Breccia	White matrix is silicic + clay mins (chalky); Frags. 1mm-2cm; mafic chloritized.												
				1187-96 White clays (chalky) throughout matrix											
									Shear Zone 1196-1200					1192.6	24X
1196-		Mylonite	Olive gr. clays.		1195			85°							

UURI EARTH SCIENCE LAB

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GRID: N E
T 22 S R 39 E SEC. 6

GEOPHYSICAL LOGS

CORE SIZE (mm. in.)	FROM (m. ft.)	TO	LOG RUN	DEPTH (m. ft.)	DATE	COMPANY
2 7/8						

SHEET No. 13 OF 14

GRAPHIC LOGS: SCALE (m. ft.); FRACTURE INTENSITY; (FRACTURES %); ALTERATION (1 WEAK, 2 MODERATE, 3 STRONG): CLAY, CHLOR. EPID., BIO., SER, KSPAR, SILICA, CO_3; TOTAL SULPHIDES (vol. %); ROCK TYPE & STRUCTURE

DOWN HOLE LOCATION: DISTANCE DOWN HOLE (m. ft.)	ROCK TYPE	GEOLOGIC NOTES (Use also for general comments): DESCRIPTION — MINERALOGY, ALTERATION, TEXTURES, GRAIN SIZE, FRAGMENT SIZE	MINERALIZATION — DISTRIBUTION: Massive, Disseminated, Veinfill, Replacement	MINERALIZATION — TYPE: Hypogene, Supergene, Ore and Limonite Mineralogy	STRUCTURE — DOWN HOLE DIST. (m. ft.)	FOLIATION ∢ WITH CORE	BEDDING ∢ WITH CORE	FRACTURE ∢ WITH CORE	DESCRIPTION OF STRUCTURES: Post or Pre-Ore (Evidence)	FRACTURE INTENSITY (No. PER METRE)	DOWN HOLE SURVEY DATA: DEPTH (m. ft.)	INCLINATION	BEARING	THIN & POLISHED SECTIONS: DEPTH (m. ft.)	SAMPLE NUMBER
1200-06	Mylonite	Bluish-grey, slick. clay mins. to 1208	Chlorite occurs throughout and is "smeared" appearing; slickensided along shears. Calcite on Fract. at 1205'						Shear Zone 1200-30 Slickenside.						
1206-08															
	Breccia	Granitic in white chalky clay matrix.			1209			50°							
1208-30	Mylonite + Breccia	Clays same as above w/small patches (10cm) white chalky clays. Dissem. py locally.													
														1214	370.0FX
					1230			60°							
1230-92	Leucogranite	Coarse gr.; plag. is repl. by wh. chalky clays. Mafics chloritized, Intermittent silver muscovite flakes. Dissem. py. + py along Fracts. 1% mafics.	Bluish-green clay mins.		1236				Mylonite (6"), Shear Zone						
					1238			70°							
					1240			75°						1241.8	25X
			1241-57 White clay mins. repl. most. Fs; some orth. left fresh; Green clays seal old fractures.		1242			50°						1242	378.6TS
1256-9	Xenoliths	Fine-gr., variable sizes 3cm to 40cm.			1257				Gouge Zone						
1261	Xenolith				1260			60°						1261	384.4TS
1265-72	Mylonite	Bluish-green slick. clays.	Limonite stain on some Fracts.		1265				Shear Zone to 1272						
			Hematite stains on Fracts.		1269			50°							
1276-77	Mylonite	Bluish-green slick clays.	White talc-like clay on Fract (1274 + 1283')		1279										
					1278				Gouge + Shear Zone to 1289						
1279-83	Mylonite	Bluish-green slick. clays.	Hematite on slickensided Fract. surfaces, + Lt. green clay mins. (chalky)		1281										
1284-89	Xenoliths (?)	Fine gr., grades into aphanitic, mafic xenolith; alt. to greenish-black slick. clays. (Mafic dike?) Dissem. py, non-magnetic			1286			70°							
			Calcite seals old fractures		1287										
			Greenish-black talc-like clays repl. constituents.		1288									1289	392.8 FX
1292-1300	Gneiss	Granitic texture, fine to med. gr., foliation is clear. Chloritized mafics, dissem. py.												1290	393.2TS
					1295			65°						1291	26X
					1296			75°							