

6L00875

LITHOLOGIC WELL LOG

PROSPECT BeowaweCOUNTY _____ STATE NevadaDATE _____ SECTION 13WELL No. B-29-79 TOWNSHIP 31NRANGE 47E

CHEVRON RESOURCES COMPANY

Reported to represent the upper part of Ginn 1-13

TIME	DEPTH	LITHOLOGY	COMMENTS
	0-10	#1 95% grey fine grained basalt-3% cream fine grained lithic calcareous tuff?-2% subrded pebbles.	Mud Temp. = 70°F
	10-20	#2 98% subround to subang pebbles (mostly grey basalt)-2% ang. frags of basalt off larger fraction?-a trace of cream fine grained, lithic, calcareous tuff?	MT = 70°F
	20-30	#3 Subrounded to subang. pebbles with a trace of ang. frags, alluvium.	MT = 70°F
	30-40	#4 Alluvium-subrounded to subang pebbles & a trace of sand-~ 5% ang. frags off larger fraction.	MT = 65°F
	40-50	#5 Alluvium-95% subrded to subang pebbles, a trace of sand & granules-5% ang. frags.	MT = 68°F
	50-60	#6 Same as #5.	MT = 68°F
	60-70	#7 Alluvium-98% subrounded to subang pebbles-1-2% ang. frags, a trace of sand & granules-a trace of silica (tan) cemented sandst.	MT = 68°F
	70-80	#8 Alluvium-subrded to subang pebbles w/trace of ang. frags sand & granules-trace of silica cemented sandst. as #7.	MT = 68°F
	80-90	#9 Alluvium 95% as above-5% buff silicified? lithic tuff? a trace of qtz sandst. (very hard & clean).	
	90-100	#10 Med. grey diktytaxitic olivine basalt-a trace of alluvium.	MT = 68°F

Litho. for Ginn 1-13

17-1/2" drilled to 110' then opened to 26" to 106' bridging problems encountered while try to set 20" conductor pipe to bottom (106'). So conductor pipe was set @ 47'.

Mud logging unit was rigged and samples were collected beginning @ 110' per "Mud Logging Instructions."

Depth	Description*
110/20	<p><u>Andesite</u>: pred. reddish brown micro x'ln aroundmass with 3-4% phenos., relic weathered out phenos with iron ox staining adjacent appears to be a clinopyroxene (probably augite) other phenos. were in abundance clear to shiney bin lath shape mineral probably a Ca rich plag.</p> <p>5% bg cuttings have white, powdery coating (kaolinite). Cuttings commonly display red and yellow iron ox staining.</p> <p>Whitish to light grey material with black specks is cement from casing job.</p> <p>Trc amount of 3 different looking cryto x'ln qtz clear - white chalcedony, a milky creamy white opal? And a banded agate appearing variety.</p>
120/30	<p>Generally, A/A but <3% is a light grey <u>andesite</u> that is v. hard and appears to have been silicified with a sugary texture. Contains dark reddish brown to dark amber phenos. lath shaped. Trc pyroclucite in white clay minerals.</p> <p>Cement in sample.</p>
130/40	<p>Cuttings much finer, last lith described (120/30) absent. Trc of v. light gel powdery clay minerals. Generally A/A.</p>
140/50	<p>Majority of cuttings are fine grain - 0, with approximately 20% larger grain. Generally as above minor amount <5% of is a mottled reddish brown and grey.</p> <p>Grey doesn't appear to be volcanic? Some light grey mottling also occ. striated plag lath visible fresh looking white powdery clay increase to + 3-4%; cement present in sample.</p>

* Descriptions provided by R. F. Smith mud loggers.

Depth	Description
150/60	A/A yellow staining more prev. Some pieces approximately 15% are light grey speckled rock either silicified or mafics, nearly all leached out (no Iron ox. staining) of groundmass or poss a more acidic rx inclusions. Increase chalcedony 3-5%.
160/70	A/A trc crypto x'ln qtz-trc last described grey speckled lith-trc green staining on some plag grains, some clay minerals have light green cast.
170/80	Andesite A/A 15-20% yellowish brown. Some rectangular phenos probably plag appear to have integrown x'ln qtz (concoidal fracs. vis) <u>poss trc</u> included glass. Black in groundmass.
180/90	Cutting much finer. Overall color changes to pred a light reddish brown with a purple cast, red Iron ox staining increase to 20-25%. Phenos less common. Cutting are light purple with red specks.
190/200	A/A decrease red Iron ox staining 15-20% clay min and crypto. qtz A/A pred light purple andesite.

Summary: 110 - 200'

Andesite - pred reddish brown, some light reddish brown with purple cast with depth, porphyritic. Micro x'ln groundmass with plag. and pyroxene phenos, invarious stages of alteration abund. relic phenos of pyroxene, common red and yellow Iron ox. staining. Trc - approximately 5% crypto x'ln qtz, trc silicified lith frags trc - 4% clay minerals.

<u>200/10</u>	Andesite 30% generally A/A. <u>Breccia 70%</u> varies rounded to angular volcanic with frags set in an in an buff-pinkish - whitish clay matrix.
210/20	Andesite reddish brown - brown with mottling of light yellow and green - ang. and red. Some with light purple cast. Porphyritic - <3% phenos. pred. plag micro x'ln groundmass. About 10% have a honey yellow, vitreous mineral on them, possibly adamite(?) trc white clay min. Iron ox staining yellow and red.
220/30	Andesite A/A light grey material in sample is cement sloughed from cement job on conductor pipe.
230/40	As above-abundance of cement in sample-color red-brown with purple cast overall - trc with clay minerals, trc crypto x'ln qtz.
240/50	Andesite A/A. Still abundant cement increase crypto x'ln qtz from trc - 1%.

Depth	Description
250/60	A/A 5-7% dark reddish brown andesite with twinned plag phenos has sugary texture to groundmass. Trc cement. Trc white clay minerals.
260/70	Generally as above some possible red encrustations of realgar? Could be Iron ox staining-xls. of vitreous light green minerals-yellow Iron ox staining.
270/80	A/A.
280/90	A/A
290/300	Color has less purple cast changes more to brown - reddish brown. Trc white clay.
Summary: 200 - 300'	
Andesite; maroon - red-brown (brick) light green, canary yellow and occasional white mottling, cryptoxln - aphanitic-larger cuttings, devitrified - smaller cuttings, hyaline, white, kaolin clay in relic felds cast and in prox of partly alt felds; amber, x'ls/conchod - sbcon. fracture, translucent adamine dull black metallic mineral disseminated thru matrix.	
310/20	A/A except smaller cuttings and matrix more hyaline (glassy)
320/30	A/A.
330/40	A/A vis twinned plag phenos. Trc crypto qtz with included segregated Iron oxides.
340/50	A/A - some pieces have rounded surfaces.
350/60	A/A mottled varied - common, clear plag phenos "fresh" looking overall rock reddish brown with purple cast, cuttings much finer.
360/70	A/A.
370/80	A/A.
380/90	A/A but with dark red brown mottling and banding.
390/400	Trc poss incrustations of Realgar.
400/10	A/A cutting are much larger. Some pieces have light yellow and light green soft coating.
410/20	Cutting are finer. A/A. Trc white crumbly clay - Kaolinite.
420/30	A/A.

feet DEPTH		GRAPHIC LOGS							GRAPHIC GEOLOGY	TR. TRACE 1. WEAK 2. MOD. 3. STRONG Unit interv. VEINLETS	G.L. elev. 4946.9' K.B. elev. 4960.4 DESCRIPTIONS 30' sample interval
		ALTERATION									
		Calc. %	hem.	1. WEAK	2. MOD.	3. STRONG	2nd. Clay				
400											
410									400-500	Felsite, T.F. aphanitic, vesicular, brn. bleached rim on vesicles, text. exactly like samples	
440									T.S.	614-11 & A-97	
470										Minor zeo., few argil alt.	
500										Vesicular blk glass, minor zeo.	
530									500-1460	Porphyritic Dacite, T.F., vitric, vesicular	
560									T.S.	Cumulophyric xls of plag, K-feldspar & pyroxene in glass.	
590									590-710	Dacite Flow, glassy flow brecc. & porphy. w/ clay alt. gray-brn glass.	
620											
650											
680											
710									710-740	Mixed glass 1/2, aphanitic 1/2 & clay 1/2	
740									740-850	Dacite, dusky red-grayish red.	
770									T.S.	aphanitic, few 4mm bio & feldsp. ph.	
800										minor gray glass, pepper Fe-oxide	
830									Tr. qtz	minor clay alt. chips	
860									830-860	glass & clay flow brecc. like 470-590	
890									860-1160	Dacite Flow, gray glass w/ dk. gr. red sperulites? 890- w/ clay & zeo.	
920										1920-1040 unwashed sperulites + glass bio. as 740-; ilmenite	
950										grades to cumulophyric aphanitic, gray-brn.	
980											
1010											
1040											
1070											
1100											
1130											
1160										change at 1160 may be only color aph. → gla	
1190									1160-1250	Porph. Dacite? Flow, dk gray-blk. glass, few 1mm feldsp. xls, mafic alt. → clay & hem	
1220											
1250									1250-1310	Porph. Dacite, pale red, few 1-2mm plag. hem stain & clay coated fract.	
1280											
1310									1310-1370	Clay alt flow brecc. with few glass frag. rem.	
1340										1340-Mixed glass & alt. (poss. tuff). amber feldspar xls, 2mm.	
1370									1370-1460	Dacite? Flow, black glass, amber phen. poss. qtz filled vesicle.	
1400										clay & sericite alt zone 1460-1490	
1430										Calcite amygdules, also chlorite & zeolite	
1460									1460-2060	Basalt Lava flow, brn, qtz amygdules & v. few phenocryst, low gamma.	
1520										amygdules continuing, zeolites poss. alt. to clay?	
1550											
1580											
1610											
1640											
1700										wh. kaolinite? along fractures, few red chi	
1760									Tr. calc.	1760-90 fine cuttings, poss. flow brecc. or fault zone.	
1790									Tr. calc.		
1850									L. calc.	dk. gray-blk glassy when fresh.	
1910									L. calc.		
1970										calc. amygdules. same rock finer cuttings, zeo. amyg. Poss. flow brecc.	

DRILL HOLE Ginn 1-13 Chevron Res. Beowawe
 LOCATION Beowawe, Lander Co. Nevada.

LOGGED BY Sibbett
 Dec. 29, 1981

feet DEPTH	ALTERATION							GRAPHIC GEOLOGY	TR. TRACE 1. WEAK 2. MOD. 3. STRONG Unit Interval VEINLETS	DESCRIPTIONS
	1. WEAK 2. MOD. 3. STRONG									
	Calcite	Hem.	Silicif.	Pyrite	Chlor.	2. Mod. Clays				
1970										
2030	Tr							1460-2060	Basalt flows continued, glassy to aphanitic or alt. to sericite and clay.	
2060								2030-60	Mixed 1/2 basalt, 1/2 tuffaceous siltst.	
2090								2060-2090	Poss. Tuffac. siltst. or fault, layered clast, unalt. blk chips are v. fine grained.	
2150								2090-2240	Andesite? aphanitic, blk glassy to olive grn alt. chips, high gamma log.	
2210	Tr									
2240								1 qtz	qtz veinlets or amygdules?	
2270								2240-2330	Tuff, non-welded, poss. waterlain minor layering, blk specks, no pheno.	
2300								2330-2420	Lithic sandst., fine grained, 1/4 mm pale grn., mod. - poor sort.	
30										
60										
90										
2420										
50								2420-2450	Porcelaneous or tuffac. siltst.	
80								2450-3050	Andesite? med. gray-brn, fine grained.	
2510	Tr							1 qtz	Veinlets and/or qtz amygdules	
40								1 qtz		
70								1 qtz	2570-2600 coarse chips, poss. fract. zone	
2600	Tr							1 qtz	py, celadonite and qtz in vesicles, breccia	
50	Tr							Tr		
60	Tr							Tr qtz	dk gray - fresh	
90								1 qtz	olive-brn. partially alt.	
2720								1 qtz		
50								Tr. qtz	amygdaloidal - w/ zeo, qtz	
80									qtz & calcite amydales with celadonite coat	
2810									few tuff- siltst. chips	
40										
70										
2900										
30									qtz amygdules continued.	
60									Tr py. in tuff chip, poss. caving.	
90										
3020										
50										
80								3050-80	Red ash, and andesite chips.	
3110								3080-3230	Andesite?, v. fine grain, dk-med. gray celadonite, breccia, zeo. and chal. amygd.	
40								1 calc. py.		
70										
3200										
30										
60								?	3230-3290	Poss. Tuff or alt flow? li. grn-gray w/ few grn sand grains?
90										
3320									3290-4250	Basalt? med. gray, alt. qtz amygd. coarser crystals than above. Lava flows. - low gamma log to 4190'
50										
80										
3410									3410-70	abundant qtz-zeo-celad. amygd.
40										
70										
3500										
30										
60									3560- abundant qtz-zeo-celad. amygd.	

DRILL HOLE Ginn 1-13, Beowawe Nev.
 LOCATION SE4 SE4, Sec 13, T. 31N., R. 47E.

LOGGED BY Sibbett
 Dec. 30, 1981

GRAPHIC LOGS

Feet DEPTH	ALTERATION							GRAPHIC GEOLOGY	VEINLETS	DESCRIPTIONS 30' sample interval
	1. WEAK 2. MOD. 3. STRONG			Chlor	2nd clay	Pyrite	Calc.			
	Calc.	hem	Pyrite							
3560										
90									3290-4250	Basalt-lava flow (Continued) dk. grn. gray amygdales of qtz with chlor or zeo. epidote probably present but too fine. strong propylitic or ductile alteration
3620										
50										
80										
3710										
40										
70										
3800										
30										
60										3830- finer grained than above.
90										
3920									Tr, py-ca	
50									I, qtz-py	
80									I, qtz-py	
4010									I, qtz-py	
40									Tr qtz-py	
70									Tr qtz-py	
4100									Tr qtz	
30									Tr, Calc,	qtz amygdales.
60										
90										
4220										1/3 sample is white calc. siltst.
4250										1/2 sample is tuffaceous siltst.
80									" "	4250-4400 Hornblende Andesite, dk gray, 2-2 mm horn. rods, mostly alt., 2-3 mm plagiopheno. alt. to sericite, + calcite, variable text.
4310									" "	
40									" "	
70									" "	
4400									" "	
30									□ □	4400-4850 Dacite dike? White to v. pale grn Mica alt. to sericite + minor chlor. few rounded clast, qtz & felds? pheno. 1/2-1/3 sample mix. from up hole.
60									□ □	
90									□ □	
4520									□ □ □ □	T.S. Mix litho., few clay stone chips. alt. hornb
50										4550-4610 Quartz vein, white-clear, 3-qtz-py silken sides, qtz-py breccia
80										4610-4730 Chert and argil. siltst., br. gray
4610									{ { { {	
40									{ { { {	
70									{ { { {	
4700									T.S.	Chert & slate chips, few chip igneous rock, some pyroclastic rx, well ash.
30									{ { { {	
60									{ { { {	4730-4910 Slate, grayish blk. to dk gray with variable amounts of grn stone & chert.
90									{ { { {	
4820									{ { { {	Minor grn stone? in the slate
50									{ { { {	
80									{ { { {	I, qtz, py Chert, grn stone & slate
4910									{ { { {	Tr, qtz-py
40									{ { { {	4910-5060 Chert, dk-med. gy. few slate chips.
70									{ { { {	T.S. Chert, breccia, few vol. chips with ophitic texture.
5000									{ { { {	
30									{ { { {	
60									{ { { {	
90									{ { { {	5060-5090 Quartz vein or meta siltst? white-
5120									{ { { {	5090- slate, blk. to gyish blk fine mica xls.
50									T.S.	few chert chips.

DRILL HOLE Ginn 1-13 Beowawe
 LOCATION _____

LOGGED BY Sibbett
 Dec 31, 1981

in feet DEPTH	GRAPHIC LOGS								GRAPHIC GEOLOGY	VEINLETS	DESCRIPTIONS
	ALTERATION				Silica side's	Fault breccia	TR. TRACE 1. WEAK 2. MOD. 3. STRONG				
	Calc.	Pyrite	Chlor.	Red Clay							
5150											30' sample intervals
80										5090-5240	Slate, blk to gyish blk. & few chert chips showing weak cleavage & mica sheen.
5210											
40											
70											
5300											
30											
60											
90											
5420											
50											
80											
5510											
40											
70											
5600											
30											
60											
90											
5720											
50											
80											
5810											
40											
70											
5900											
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6020											
50											
80											
6110											
40											
70											
6200											
50											
60											
90											
6320											
6350											
80											
6410											
40											
70											
6500											
30											
60											
90											
6620											
50											
80											
6710											
6740											

DRILL HOLE Ginn 1-13 Beawawe
 LOCATION _____

LOGGED BY Sibbett

feet DEPTH	GRAPHIC LOGS										VEINLETS	DESCRIPTIONS 30 Sample interval
	ALTERATION						Slickensides	Fault breccia gouge	GRAPHIC GEOLOGY	TR. TRACE 1. WEAK 2. MOD. 3. STRONG		
	Calc	SI	Chlor	1. WEAK	2. MOD.	3. STRONG						
6790												6790-7040 Diabase or Greenstone (cont) olive-gy. Fine xl. text. poss. few gtz crystal
70												
6800												
30												
60												
90												
6920												
50												
80												
7010												6950-7010 1/2 gtz &/or gtz vein & chert. F. gr. ophitic, poss. amygdale, gtz vein.
40												
70												
7100												7040-7070 Slate, blk. - dk gy. few diabase. 7070-7100 Diabase? alt. w/ few gtz & chert chip
30												
7100-7130												Slate, blk, w/ few gtz vein, & chert
80												
7130-7220												Quartzite, dk gy, med. gr. I. calc. Fault zone w/ brec, gouge, veins, slickensid.
90												
7220												
50												
7220-50												slate, med-li. gy, calcareous.
80												
7250-7280												Quartzite, med. gy, M-F. grain.
7310												
40												
7310-7340												Mixed Qtz, Diabase & Slate.
70												
7400												
30												
7400-7970												Diabase or Greenstone? Olive grn. T.S. aphanitic near contact, fine phaneritic w/in Chert zones, med. gy, fract. Tr. vein gtz
60												
7520												
50												
80												
7610												
40												
7700												
30												
60												
7820												
50												
80												
7910												
40												
70												
8000												
30												
60												
90												
8120												
50												
80												
8150-8225												Diabase or Greenstone? Olive grn.
8210												
40												
8225-8300												Slate, blk, with mix. chert & diabase
70												
8300												
8330												
												8300- Mixed chert, diabase & slate.

DRILL HOLE Ginn 1-13 Beowawe, Nev.
 LOCATION _____

LOGGED BY Sibbett

feet DEPTH	GRAPHIC LOGS											TR. TRACE 1. WEAK 2. MOD. 3. STRONG	VEINLETS	DESCRIPTIONS			
	ALTERATION						Slaker sides	Fault 6 Rec. 10 # 9099 e	GRAPHIC GEOLOGY								
	Calc		Py	Chlor													
8370																	
40																	8300-8410 Mixed diabase, chert & slate cont. chert may be meta siltstone?
60																	
80																	
8400																	
40																	
8420																	
40																	
8440																	
60																	
80																	
8500																	
20																	
40																	
60																	
80																	
8600																	
20																	
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60																	
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8600-8640																	
20																	
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80																	
8640-8680																	
20																	
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80																	
8680-8870																	
20																	
40																	
60																	
80																	
8800																	
20																	
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60																	
80																	
8870-																	
20																	
40																	
60																	
80																	
8900																	
20																	
40																	
60																	
80																	
9000																	
20																	
40																	
60																	
80																	
9030-9210																	
20																	
40																	
60																	
80																	
9100																	
20																	
40																	
60																	
80																	
9200																	
20																	
40																	
60																	
80																	
9210-9390																	
20																	
40																	
60																	
80																	
9300																	
20																	
40																	
60																	
80																	

DRILL HOLE: Ginn 1-13 Beawawe, Nev.
LOCATION

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feet DEPTH	ALTERATION							GRAPHIC GEOLOGY	VEINLETS	DESCRIPTIONS
	1. WEAK 2. MOD. 3. STRONG									
	Calc	Px	Chlor							
9380									Diabase to 9390'	
9400									9390-9400 Lost Cir. Material	
20									9400- slate, med. gy, and diabase, oliv	
40									Slate is higher grade, larger mica,	
60									includes meta silst.	
80										
9500										
9515										
T.D.										

DRILL HOLE Ginn 1-13 Beawawe
LOCATION _____

LOGGED BY Sibbett

Table 4. Directional survey data.

For Ginn 1-13, Beawawe cross section is N57°W
or 33°N of W.

DEPTH (ft)	DRIFT (degree-minute/direction)
120	1°45' /S75W
241	1°30' /S57W
284	2° /S77W
354	1°15' /S84W
468	1°15' /S16W
700	1°15' /S30W
1088	1°15' /S15W
1226	1° /S33W
1339	0°
1447	1° /S49W
1565	1°45' /N72E
1668	0°45' /N72E
1984	0°45' /S35W
2257	2°30' /S59W
2301	1°45' /S71W
2376	1° /N43W
2418	1° /N8W
2478	1° /N12W
2539	1° /N2W
2613	1°30' /N41E
2701	1°30' /N34E
2794	1°15' /N40E
3427	1°15' /N82E
3940	2° /S67E
5370	2° /N30E
5916	4° /N32E