CARBONATE HYDROLOGY
Site ~~HOLE~~ #1 Book #1

WELL RECORD

081-08W-05CCCD-1

Well is located 6 miles S (N) and ____ miles S (N) from W (E)

SWISHER (Nearest Town) in JOHNSON (County),

in the SW¼ SW¼ Sec. 5 T. 8N R. 8W

Owner LEO CECHURA Well No. ____

Postoffice address ____

Contractor IGS

Address ____

Driller EVANS, BUNKER

Well begun APR 26, 1972;

completed ____, 19____

Rig used—Cable, Rotary, Jet, or ____

Depth of well 523 (Feet)

Size of hole (note total amount of each size) 6 3/4" TO 133 1/2', 5" TO 327', 3" TO 533

Main water supply at ____ (Feet below surface)

Final water head 73.18 (Feet above or below surface)

Is well pumped? ____

Yield ____ (Gallons per minute)

Water level when pumping ____

Position of well ____ (Upland, valley, side hill, etc.)

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
12:38	0	2 1/2		SOIL, BRN
	2 1/2	7 1/2		COLOR CHANGE [redacted], YEL [redacted]
12:44	7 1/2	11		[redacted] LOESS
	11	11 1/2		LOESS
12:46	11 1/2	12 1/2		YEL BRN TILL, LEACHED ~~SLIGHTLY CALC.~~ ≈ 12 1/2'
	12 1/2	15 1/2	13' 12:49 14 12:53	TILL, YEL BRN CALC, SCATT PEBBLES (13 1/2 14)
	15 1/2	16 1/2	15 12:57 16 1:00	LITTLE BLUE GR ≈ 14' 10" BLUE GR ≈ 16 1/2
	16 1/2	20	18 1:04	BLUE GR TILL
			19 1:05 20 1:07	
Add #1	DRILL STEM			
1:23	20	25	21 1:23 22 1:25	BLUE GR, TILL
	25	27 1/2	23 1:27 24 1:29	BLUE GR, TILL SOFT SPOT, ≈ 27 1/2 (GUMBO?)
	27 1/2	33	25 1:31 28 1:35	TILL, BR GR TRACE WOOD.
	33	36	29 1:37 30 1:38	31 TILL, [redacted] GRAVELLY BR GR.
	36	38 1/2	31 1:39 33 1:41	TILL, BR GR, ~~TILL, YEL BRN~~
	38 1/2	39 1/2	38 1:55	TILL, LT YEL BRN
	39 1/2	40	40 1:59	GRAVEL, TILL, YEL BRN
				TILL, BL GR

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
ADD #2	DRILL STEM			
2:08	40	45	43 2:13 43 2:15	TILL, BRGR, SD & GRAVEL (40½-41) 43 - BLGR TILL
			44 2:20 45 2:24	BEGIN USING 2nd H_2O TANK
	45	50	46 2:25 48 2:31	TILL, BL GR, FEW SCATT PEBBLES
			50 2:37	
	50	55	52 2:43 55 2:52	TILL, BL GR, SCATT PEBBLES, SOME STREAKS OF GREEN
	55	60	57 2:56 60 3:03	TILL, BL GR, SCATT PEB.
Add #3				
3:13	60	65	63 3:20 65 3:24	TILL, BL GR, SCATT PEB.
	65	70	67 3:29 69 3:33	TILL, BL GR, SCATT PEB.
	70	75	70 3:37 73 3:44	TILL, BL GR, SCATT PEB
	75	80	75 3:47 77 3:52	TILL, GR.
			79 3:58 80 4:00	
ADD #4				
4:09	80	85	82 4:15 84 4:21	Boulder, TILL, BL GR, SCATT PEB
	85	90	86 4:23 88 4:26	TILL, BL GR, SCATT PEB
	90	95	90 4:29 92 4:30	TILL, GR.
			94 4:33	

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
	95	99 ~~100~~	98 4:36 100 4:45	~~GRAVEL & T (96 FT)~~ TILL, GY SOFT (95-95½) (96-97) (GRAVELLY ZONE)
	99	100		TILL, VERY LT GR, YEL BRN (?) (NON-CALC)
USED	½ SECOND	TANK		
	≈ 525 GALS	H_2O	FOR	DAY
APR 27	Add #5			
	100	105		CLAY,
	105	109		TRACE SS 107½ CLAY, YEL GR
	109	110		CLAY, YEL
	110	111		CHATTER (111') CLAY, GR
	111	112½		~~SS~~ CLAY W/IRON OXIDE CEMENTED SS
	112½	114		CLAY, GREEN
	114	116		CLAY, GR
	116	118		CLAY W/IRON OXIDE CEM SS. Chatter 117
	118	120		MIXED SS & SH
Add #6				
~~120~~ 4:59	120	125		MIXED SS & SH
125 12:01.	125	128		SD & GRAVEL
	128	130	GR	SD & GRAVEL, PYRITE

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
	130	131		COARSE GR Sd + GRAVEL, PYRITE, WH CLAY
	131	131 1/2		LS, GR, FOSSIL FRAGS ~ CN
START 1:29	131 1/2	133 1/2		LS, OLIVE GR, BLACK SPECKS, FOSSIL FRAGS ~
SET 133 1/2 OF 5" CASING USED 3350 gals H_2O				
APR 26	WEATHER — RAINY, WINDY, 45°F			
11:51	133 1/2	137		LS, GR
135 12:00	137	139		SOFT LS, DK GR TO LT.
140 12:25	139 +			LS, DK GR, CHT, LT GR
	139	140		LS, DK OLIVE GR
12:30 DINNER				
APR 24 Add #7				
1:25	140	141		LS, LT TO DK GR, TRACE PYRITE, ARG, FOSSILIF
	141	142		LS, GR, SOFT, STREAK, FOSSILIF
	142	145		LS, DK GR, FOSSILIF (~ ⊕), CHT
1:50	145	147		SOFT SPOT 145 1/2 - 145 1/2 LS, DK GR, CHT APPEARANCE OF CHALCOCITE TOWARD BOT
	147	148 1/2		LS, DK GR, CLAYEY, FOSSILIF
				NO NOTICEABLE LOSS OF FLUID

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
150 2:16	149½	150		LS, DK GR, FOSSIL ☐
	150	150½		LS, BRN; LS, DK GR, VERY FOSSIL ☐
	150½	151		LS, DK GR, GLAUC, CHT, WH
	151	153½		LS, DK GR, STREAKS OF SH ≈152' GR, VERY FOSSILIF 153-153½ ☐
155 2:45	153½	155		LS, BRN, FOSSILIFO, DOL, WH, ≈154½
	155	156		DOL, DK BRN, CALCITE
	156	157½		LS, DK GR, GLAUC UPPER PART
160 3:13	157½	160		SOFT SPOT 158½ LS, DK GR, FOSSIL FRAGS ☐ # BECOMING TAN ≈160
3:19 Add #8	160 +			LS, GR, FOSSIL FRAGS WH (DOL)
	160	165		LS, BRN, FOSSIL FRAGS # ☐, SH, GR ≈162 STREAK DOL, DK BRN, ARG
3:44	165	169½		LS, GR
170 4:12 173 4:26	169½	173		LS, DK GR, FINER CUTTINGS CUTTINGS IMPROVED TOWARD BOTTOM OF INTERVAL
	USED 1 TANK H_2O - 350 GALS LEFT SITE 4:45	No Noticeable loss of fluid		
May 3	NOTE: WELL PRODUCING H_2O, H_2O RUNNING OUT OF PIT; ON SITE: EVANS, BUNKER			VISITORS: KOCH, WAHL WEATHER: CLOUDY, WINDY, COOL (MORNING) SUNNY, SLIGHT BREEZE, MILD (AFTERNOON)
1:15	BEGIN CORING			
3:00	173	182½		CORE INTERVAL — LS, GR, FOSSILIF FEW CLAY SEAMS

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
3:46 [redacted]	183	193	5:15	LS, GR. - TAN TOWARDS BOT., FOSSILIF. NUMEROUS CLAY PARTINGS CORE
			Box #2	USED ≈ 175 GALS TO THIN DOWN MUD.
LEFT	SITE 6:40		4" Box #3	DUMPED REST OF TANK MAINTAINED 1
				FULL TANK
MAY 4	PARTLY CLOUDY LIGHT BREEZE	+20	RUNNING OUT OF PIT AGAIN	
9:20	193	203	Box #3 9" Box #4	[redacted] CORE LS LT TAN GR
10:14 10:42	203	213		CORE
11:19 12:49	213	223	Box	BRECCIATED LS ≈ 216' CORE [redacted]
1:24 1:45	223	233	Box #6 18" Box #7	BRECCIATED LS CORE WITH LS 227½, VERY HARD
2:15 2:40	233	243	Box #7 27" Box #8	DOL, SACC ≈ 237 CORE
3:03 3:37	243	253	Box #8 30" Box #9	DOL, SACC, VERY FRABE, CLAYEY CORE
4:05	LEAVE SITE 5:00			
MAY 5	Hole PLUGGED, CIRCULATING TO CLEAN HOLE, MIX ⅔ BAG BEN NITE (100#)			
	Hole CLEANED BEGIN CORING			
10:35	253	256	HOLE PLUGGED, NO CIRCULATION Box #9	DOL, BRN SACC (14"); LS, GR, ARG, SH, GR; SH, GRN
10:50 [256]	Pull tools to retrieve CORE AND UNPLUG CORE TUBE, SH PLUGGED OPENING			
12:30	DINNER			
RAINED OUT LEAVE SITE 2:30				

Site #1 Book #2

WELL RECORD

Well is located _____ miles N/E/S/W and _____ miles N/E/S/W from

SWISHER in JOHNSON,
(Nearest Town) (County)

in the SW¼ SW¼ Sec. 5 T. 21N R. 8W

Owner _____ Well No. _____

Postoffice address _____

Contractor _____

Address _____

Driller _____

Well begun _____, 19____;

completed _____, 19____

Rig used—Cable, Rotary, Jet, or _____

Depth of well _____
(Feet)

Size of hole (note total amount of each size) _____

_____

Main water supply at _____
(Feet below surface)

Final water head _____
(Feet above or below surface)

Is well pumped? _____

Yield _____
(Gallons per minute)

Water level when pumping _____

Position of well _____
(Upland, valley, side hill, etc.)

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
MAY 8	RAINY (MORNING) AFTERNOON	(CLOUDY, 50°)		
	BEGIN ENTERING HOLE 1:15			
	HOLE PLUGGED AGAIN, BEGIN			CIRCULATING TO CLEAN HOLE 1:35
	PULL CORE TUBE (STUCK AGAIN) 1:45			
	TRY CIRCULATING AGAIN			
	REPLACE TUBE 2:15. HOLE STILL			PLUGGED, CIRCULATE AGAIN
	HOLE CLEARED, BEGIN CORING			
3:00	256'	263'	Box #10	CORE
3:54	USED NO H_2O			
MAY 9	PARTLY CLOUDY, MILD, CIRCULATE TO CLEAN HOLE AGAIN			
10:04			Box 10 34"	
11:04	263	273' 3"	Box 11 7'5"	267'2" BREAK ARG LS, GR, SH BREAKS, BLACK, GRA CORE BL GR, DOL, VUGGY, PYRITE & CALCITE FILLING
11:25			Box 11 2'	HOLE TAKING H_2O VUGGY BOTTOM
11:56	273' 3"	283	Box 12	CORE BADLY FRACTURED CRUSH 17" FROM TOP
12:25 DINNER				DOL, BL GR, VERY POROUS, PYRITE LT TAN IN SPOTS
1:05				CORE, GG
1:37	283	293	Box 13	STILL TAKING H_2O, ADDY & PART BAG BENT,
1:56			Box 14	
2:24	293	303	6" Box 15	CORE, GG
2:47			Box 15	
3:28	303	313	1 1/4' Box 16	CORE, GG
3:47			Box 16	TAKING H_2O AGAIN
4:20	313	323	1 1/2' Box 17	CORE
SHUT DOWN 5:30				
MAY 10	A SOB OF A DAY; 303' OF			CORE STEM STUCK IN HOLE!
HOLE HAD TAKEN H_2O, ATTEMPT TO FILL				HOLE WITH H_2O, BECOME STUCK,
WE CAN'T UNDERSTAND! OBTAIN FI				SHING TOOLS FROM ZATTA RETRIEVE
150' OF CORE STEM AND			INNER BA	BARREL (PURE LUCK); STILL 163' IN HOLE,
HOLE NOW RUNNING H_2O?			DRAIN	MUD PIT, REFILL WITH CLEAN H_2O.

BULLSHIT! I SAY.

LEAVE SITE 6:00 PM.

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
MAY 11	SCREW 7 DRILL STEM, KELLY, SUB ON			TO CORE STEM ATTEMPT PULLING TO FREE
	NO LUCK; INSERT 315' 1" PIPE,			ATTACH MUD LINE CIRCULATE TO CLEAN
	MUD OUT OF HOLE, ADD POLYP			HOSATE TO THIN UP MUD, LET SET
	OVER NIGHT, USE 250 GALS			OF H_2O, LEAVE SITE 8:15 PM
MAY 12	INSERT 1" PIPE TO JET HOLE			ALLOW TO RUN UNTIL AFTER DINNER,
	REMOVE 1" PIPE, SCREW IN KEL			Y, ATTEMPT TO PULL, NO LUCK,
	SHUT DOWN 4:30			
MAY 15	OBTAIN HAMMER FROM LATTA,			SCREW IN 8 DRILL STEM, DRIVE STEM
	AND THEN ATTEMPT PULLIN			G, PULL FEW FEET DRIVE AGAIN
	ALTERNATING THIS METHOD, MA			NAGE TO FREE CORE STEM.
	RETURN FISHING TOOLS TO			LATTA.
MAY 16	ARRIVE ON SITE AT 1:00			GETTING READY TO REAM HOLE
	DUMP 700 GALS H_2O AND			200# BENTONITE INTO HOLE, CAN'T
	FILL HOLE, SHUT DOWN 4:45			
MAY 17	USE 700 GALS H_2O & 300# BEN.			HOLE STILL TAKING H_2O.
	WILL TRY BACK FILLING HOLE,			DUMPED ANOTHER 700 GALS ALONG WITH
	BACKFILLING, MUST HAVE OPENED QUITE			A CAVITY WHEN WE PULLED THE CORE STEM
	GOING TO TRY BRICK & CELLOPHANE			REFILLING TANKS
	USE BRICK, CELLOPHANE, 700 GAL			H_2O, 200# BEN, HOLE STILL NOT BRIDGED.
	REFILL TANKS, USE 700 GAL,			100# BEN, REAM X 1½', PULL TOOLS HOLE
	TAKE H_2O AGAIN			
	SHUT DOWN 5:30			

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
MAY 19	USE 700 GALS H_2O & 600# IN ATTEMPT TO PLUG HOLE, PUMP, HOLE EMPTY AGAIN. LEAVE SITE 6:00			BENTONITE, MIX FOR HIGHER VISCOSITY MANAGE TO CIRCULATE, SHUT OFF
MAY 22	USE ≈ 200 GALS, HOLE WOULD NEEDED TO FILL HOLE,			FILL BUT COULD NOT MAINTAIN QUANTITY BAIL HOLE, MOVE FOR SMALL HOLE.

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
7-11-72	MOVE BACK ONTO		SITE,	BEGIN REAMING BY AIR.
	REAM FROM	176'	TO 220	
7-12-72	RAIN. POSSIBLE MAJOR		CREVICE	≈237' P. AP Bentonite
	REAM FROM	220'	TO 323'	NOTE: OIL SCUM IN SPRING GROVE
	DRILL 323' TO ≈327'			DOL, LT GR, COARSE,
	323'	327'		
	RETURN COMPRESSOR			
	AWAIT PARTS			
7-14-72	MOVE CORE STEM & MISC. DIG MUD PIT.			
7-17-72	RAIN 5" IN I.C. SET 3½" CASING TO 327'			
	SHUT DOWN 4:30, RAIN.			
7-18-72	PUT TOOLS IN HOLE FILL PITS, BEGIN CORING.			
12:57 1:15	327	332' 10"	Box #18	CORE, LT GR TO BL GR DOL, VUGGY, BOTTOM 3" FRACTURED PYRITE
1:37 2:00	332' 10"	343	Box #18 #19	CORE, BL GR DOL, PROMINENT VERTICAL FRACTURING FROM TOP OF INTERVAL TO ≈340'; 340' DOL, BL GR, COARSELY XLN; NOTE CAVITY ≈ 2' FROM TOP OF INTERVAL.

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
2:21 2:45	343	353	Box 19 20	CORE, Dol, BL GR, SOME LT TAN INTERMIXED, PROMINENT VERTICAL FRACTURES, INTERGRANULAR POROSITY, COARSELY XLN, FOSSILS
3:21 3:35	353	359'8"	Box 20 21	CORE, Dol, BL GR, COARSELY XLN, INTERGRANULAR POROSITY, VERTICAL FRACTURE, BRACN
3:50 4:13	359'8"	369'5"	Box 21 22	SHELL IMPRESSION 355'2" CORE, Dol, BL GR, aa, Sol'N CAVITIES ≈ 362½, 363, 366½, 367'1", 368'
4:30 4:35	369'5"	373	Box 22	CORE, Dol, aa
USE	700 GALS	H_2O, TAKING	FLUID	
7-19-72				
9:37 10:00	373	383'1"	Box 23 24	CORE, Dol, aa, Sol'N CAVITIES BECOMING MORE QTZ LINED
10:16 10:34	383'1"	393	24 25	CORE
	RAIN AGAIN!			
12:46 1:05	393	403	25	CORE, CHT, [illegible] NODULAR APPEARING Dol, BL GR, SOMEWHAT TAN, PYRITE
1:25 1:37	403	413	CHT ≈ 413	CORE CHT, TR, POLITIC, Dol, aa, PYRITE FILLING FRACTURES, QTZ FILLING.
2:00 2:19	413	423		CORE, Dol, LT TAN, CHT, aa

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
2:37 3:00	423	433		CORE, Dol, GY, CHT, CG., CALCITE CREVICE FILLING
3:23 3:50	433	443	Box 29 30	CORE Dol, LT GR, COARSELY XLN, CHT, GY, w/embedded Fossils.
4:09 4:34	443	453	30 31	CORE
TOOK FLUID ALL DAY USE 700 GAL H_2O, 150# BEN				
7-20-72				↗ ≈ 455' 4"
9:15 9:55	453	463	31 32	CORE, Dol, BL GR GRADING TO CRM & GRN GR, COARSELY XLN, DENSE, HARD
10:21 11:03	463	473	32 33	CORE, Dol, CRM & GRN GR, COARSELY XLN, DENSE HARD PYRITE PERSISTENT THROUGHOUT LITTLE CHT TOWARDS BOTTOM, SOME GRN CLAY SEAMS, FEW VERTICAL FRACTURES.
11:25 12:00	473	483	33 34 TAKING FLUID	CORE, Dol, BL GR, SOME DK CRM, PYRITE STILL PERSISTENT COARSELY XLN GRADES TO DK TAN BACK TO BL GR [redacted] CHT
DINNER				
1:40 2:19	483	493	34 35	CORE, Dol, BL GR, DK TAN, CHT, OFF WHITE PYRITE
2:46 3:25	493	503	35 36 NOTE LOST OF FLUID ≈ 502', REGAIN FLUID CIRCULATION AGAIN	CORE, Dol, DK TAN, SMALL VOID AT ≈ 502
3:50 4:27	503	513	36 37	CORE
USE 875 GAL H_2O 250# BEN				

7-21-72

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
9:00	513	522'3"	TAKING FLUID	CORE SH, GRN ≈ 521'
10:10 11:37	522'3"	533'		SH, DK GRN GR 526'8"
Pull Tools out of hole shut				
down	3:00 USE	425 GALS	H_2O, ≈	50# BEN
7-24-72	TEAR DOWN	MOVE BACK		TO SITE #2
				Can't find where you were on site 2
Site #2 ≈ 25' SSE of #1				

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
3/17/75				MOVED RIG ON LOCATION NO.1
m to 2.2PM			3" to 5"	NEW COMPRESSOR
3/18/75	327	460	READING	WITH AIR MOVED RIG TO WARREN
m to 2.2PM				
/19/75	460	521	"	" "
				HOLE WAS Air LIFTING ABOUT 200 GPM
				WHILE Drilling.
Ril 21, 1975		8.0AM	6.5 P.M.	MOVED RIG TO NO. 14

PLE D.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
	173	193	7.0	CORE
	193	253	6.0	5" T.S. CASING SET AT 133.5'
	253	256	5.5	
	256	263	6.0	
	263	323	6.0	
	323	323	6.0	[illegible] WITH CORE BEAM
	323	323	7.0	
/72	323	323	5.0	"
72	323	323	5.5	[illegible]
	323			[illegible]
MOVED	TO	NO. 2	LOCATION	6/6/72 TO 7/11/72
2/72	133	327'		REAMED CORE HOLE WITH AIR
/72	327	533	T.D.	CORE HOLE

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
5/1/75	374	390	REP. 1100 GPM 100 P.S.I.	LIGHT BR OR TAN DOL COARSE GRAINED + WHITE CHT 15% - 20% CAV TRACE
	390	401	7.5 P.M.	TAN DOL. COARSE GRAINED SOME CHERT
5/2/75				
	401	410		TAN TO LIGHT BR-GR PLY SOME LIGHT COLORED DOL COARSE GRAINED
	410	414		DOLO. MEDIUM DARKER COARSE GRAINED (PLY SOME) + CAV. 10%
	414	420	PORSE	GRAY TO LIGHT BR DOL. CHERT WHITE SOME CHERT
	420	440	"	DOL. LIGHT COLORED + COARSE GRAINED GRAY TO TAN PLY
	440	450		DOL. MED. TO COARSE GRAINED + CHERT GRAY - WHITE MAROON PLY VERY LITTLE CHERT
	450	459		GRAY-GREEN TAN DOL MED TO COARSE GRAINED DARK PLY.
	459	491	T.D.	GRAY-GREEN SILTSTONE SHALEY AT BOTTOM
5/5/75			8.0 - 5.5	E-LOGGED HOLE + REPAIRED SIDE HOLE
5/5/75	Pump	No. 1	7.5 - 6.0	WITH FLOWMETER BELOW PUMP TEST PUMPED HOLE (PUMPED 70 GPM AT 125') STATIC 84' (PULLED PUMP
5/6/75			7.5 - 6.5	TAKE DOWN RIG WELDED ON 5' COUPLING ON 5' PIPE AT GROUND LEVEL MOVED RIG TO NO. 1 + SET UP
5/8/75			7.5 - 6.5	SET TEST PUMP TO 150'; PUMPED 75 GPM 90' PUMPING LEVEL (75' STATIC) PULLED PUMP

SAMPLE NO.	DEPTH From	DEPTH To	THICKNESS	DESCRIPTION OF BEDS — KIND OF ROCK, COLOR, HARD OR SOFT, WATER, ETC.
5/9/75			2.5 – 5.0	(50' STRADDLE) SET PUMP + PACKERS
				PUMPED FROM 222 TO ABOVE
				221' TO 320'
5/12/75			Am. P.M. 8.0 – 8.0	FINISHED PACKER TESTING NO. 1
				PULLED PUMP
5/13/75				TOOK DOWN + MOVED RIG TO NO. 2
		7.5 Am		UNLOADED TEST PUMP AT WAREHOUSE
		6.0 P.m		+ LOADED DRILLPIPE TO NO. 1 + TOOK TO NO. 2
				UNLOADED TOOL TRUCK TO WAREHOUSE
				+ LOADED AIR COMPRESSOR
5/14/75		7.5 Am	Air Lifting 1:59 PM. 10 gpm	Drilling into A.L.
	2[illegible]	[illegible]	6.0 P.m.	REAMING COLD HOLE TO 5'
5/15/75	420	427	8.0 A.m.	" "
	427	437	XX	BLOW OUT CASE CLEANED + PULLED
	437	455		TAKE OUT " " + SOME CHECK WATER EVERY 445'
	455	488		GRAY TO GREY Light Colored Oil Cases to mud Cleaned

I.G.S. #1 081-0BW-05 CCCD-1

Box #	Depth Interval	Box #	Depth
1	173 - 182	21	355' - 363'11"
2	182 - 191'9"	22	363'11" - 373
3	191'9" - 201'7"	23	373 - 382'9"
4	201'7" - 211'3"	24	382'9" - 392'4"
5	211'3" - 220'10"	25	392'4" - 401'11"
6	220'10" - 230'7"	26	401'11" - 411'7"
7	230'7" - 240'5"	27	411'7" - 420'11"
8	240'5" - 250'3"	28	420'11" - 430'5"
9	250'3" - 256'	29	430'5" - 439'7"
10	256' - 265'10"	30	439'7" - 449'3"
11	265'10" - 275'3"	31	449'3" - 458'9"
12	275'3" - 283'	32	458'9" - 468'5"
13	283 - 293	33	468'3" - 477'11"
14	293 - 302'6"	34	477'11" - 487'3"
15	302'6" - 311'9"	35	487'3" - 496'11"
16	311'9" - 321'6"	36	496'11" - 506'6"
17	321'6" - 323' > 4' gap	37	506'6" - 513
18	327 - 336'	38	513 - 522'6"
19	336' - 345.5	39	522'6" - 531'11"
20	345.5 - 355'1"	40	531'11" - 533

0-131 Pleist

131-173 cuttings only (at deck); CV

173-533 core

131

C.V.

140

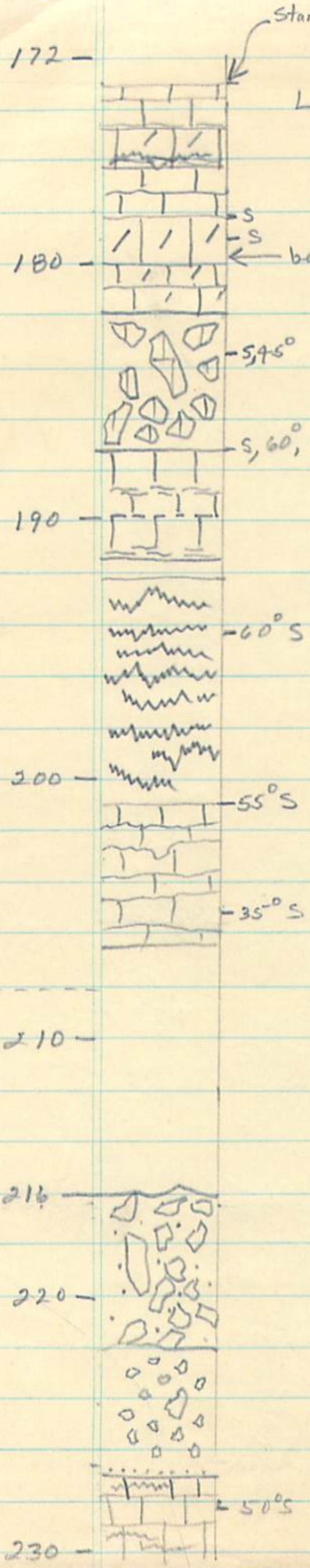
160

150

158

172

#1 contd.



Ls., v. lt. olive gr. to yel-gr, med-f, mott. w/ dk gr. fos; scatt. sli. wavy clay lam. + partings; dolomitic zones
173-182

Ls, v. lt olive gr. to brn-gr. + v. pale yel-brn, sli. fos., dolo., dom. brecc., w/ 45° to 60° shears, shaly matrix
182-187.3

Ls., lt. brn-gr. to v. pale yel-brn, dolo.; Penn.? sh parting @ 188.3' & @ 190'
187.3-191.5

Ls, v. pale yel-brn, f-v. f., abund sty, sli dolo.; abund dk yel-brn crin. debris.
191.5-201

Ls, lt brn-gr. to v. lt. olive gr, f, sli. fos, scatt. v. weak sty., carb. partings
201-206.5

Ls., v. lt. olive gr. to brn-gr, f, v. fos (dom. bracks); abund. irreg sh partings; brecc. + shear zone in bottom 0.5'
206.5-216

Ls. breccia, dom Dav. frags w/ few scatt. C.V.; dom a mega brecc in matrix of sdy sh containing micro-brecc. + Dav. & C.V.
216-222

Breccia, (dom micro) w/ a few Dav. frags, dom. S. G. + bleached S. G. or Kenwood frags in sdy shaly to arg., sdy dol. matrix; 1/4" zone clayey Ss at base
222-227

Ls., pk-gr. to v. pale yel-brn, s.c.-l; birdseye spar, micro dessic (?) traces filled w/ spar, in upper 2'; scatt. sty.; minor brecciation in lower 0.7'
227-234.3

#1 contd.

Dol, lt. olive gr., f.-med, discontinuous incip. fracs; sli. gradu. upper contact; bottom 0.5' = calc brn-gr dol w/ abund alg. 234.3 - 237.3

Dol, pale to dk org, med, incip., par. open fracs, rust-stained 237 - 240.9

Dol brn-gr, evenly mott w/ scatt. carb particles, med, strong petrolic odor, friable zones; scatt. incip. fracs, dom. filled w/ calcite in lower 4'; dk brn 1/4" x 1" intraclasts @ 254.2; bottom 0.6' = olive gr. & yel-gr. mott dol (bioturbate?) 240.9 - 255.2

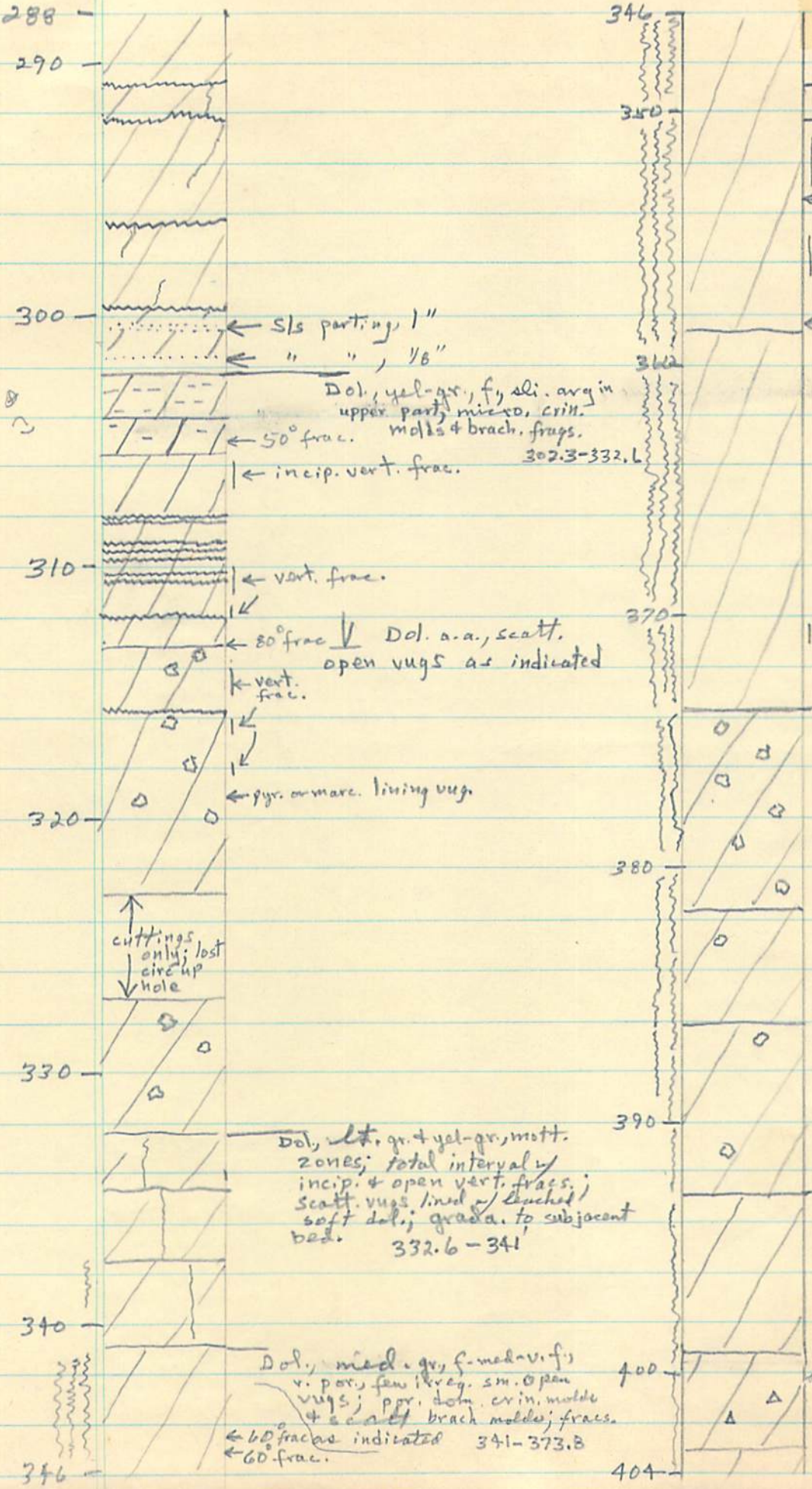
Dol, v. lt-med gr, f, arg., sdy, wavy sh partings; 255.2 - 255.5
sh lt. gr., tr. sd. grains; 255.5 - 255.8
Dol, v. lt. yel-gr, v. f, emb. sd & cht, dessic fracs sealed w/ calcite, v. mott. appearance due to spar; 255.8 - 256.5
Dol, lt. gr. to med. gr, v. f. - crsely xtalline in alternating zones, v. silty, scatt. emb. sd., sli. to v. arg., shaly partings and zones 256.5 - 265

Dol lt. gr., v. f, silty, arg, scatt. emb v.f.-c.sd., shaly zones; sh streaks in lower 1.5' = lt. gr-grn 265 - 267.2
Dol, v. lt-gr, v. f. sli. arg., silty, rare traces of emb. sd.; irreg nod. of gran. qtz. at base; incip. vert fracs in lower 4', some filled w/ pyrite; gr-grn sh parting at base; thin v. lt. gr. & med gr banding 271-272 267.2 - 274.7

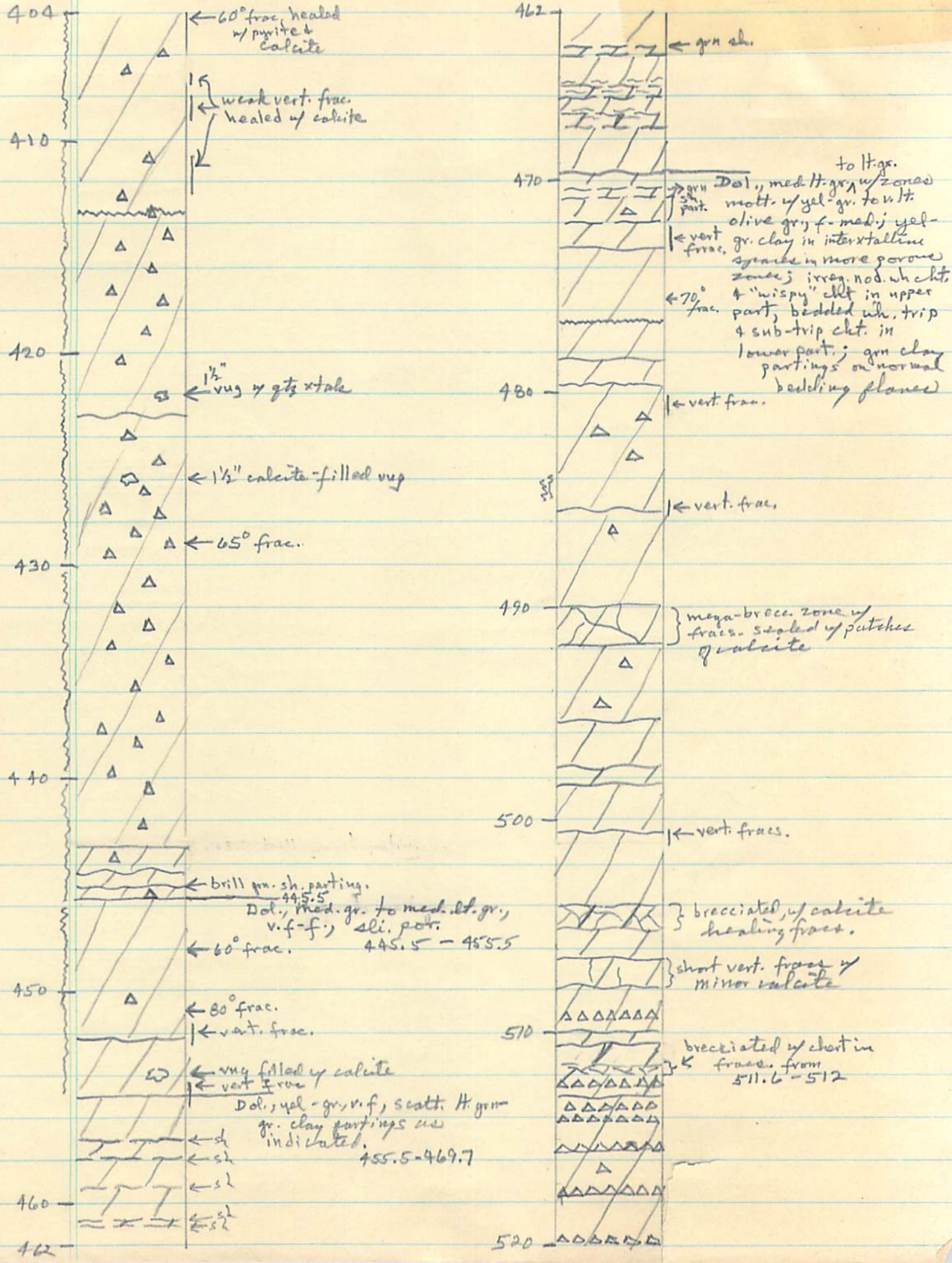
Dol., lt. gr. to med. gr., crse - f. sd. grde, emhed-subhed, per high-angle frac 275.5 274.7 - 276.5
Dol., lt. gr. to med dk gr, mottled zones, f-v.f., med.; bedded lt. yel-gr., s to sub-trip cht.; vert. & high-angle fracs; scatt. crin. molds, few bracks, tr. coral 276.5 - 285.3

0.8' lt yel gr bedded cht.
Dol, med gr. to lt. gr, mott. zones, v. f - med. high angle & vert. fracs.; 1/8" to 1" partings of Penn. (?) shaly, dolomitic sh indicated

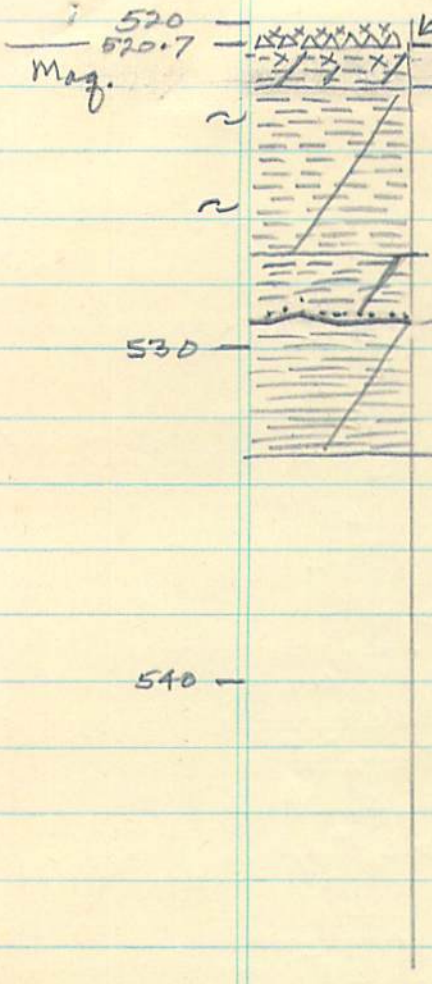
#1 contd.


288
290
300
310
320
330
340
346
350
362
370
380
390
400
404
Sls parting, 1"
" " , 1/8"
Dol., yel-gr., f, sli. arg in upper part, micro. crin. molds & brach. frags.
302.3-332.6
50° frac.
incip. vert. frac.
vert. frac.
80° frac
Dol. a.a., scatt. open vugs as indicated
vert. frac.
pyr. or marc. lining vug.
cuttings only; lost circ up hole
Dol., lt. gr. & yel-gr., mott. zones; total interval w/ incip. & open vert. fracs.; scatt. vugs lined w/ leached soft dol.; grada. to subjacent bed.
332.6 - 341
Dol., med. gr, f-med-v.f, v. por., few irreg. sm. open vugs; ppr. dom. crin. molds & scatt brach molds; fracs.
60° frac as indicated
60° frac.
341 - 373.8
80° frac.
55° frac.
vert. frac.
60° frac.
vert. frac.
80° frac.
vert. frac.
373.8
w/ yel-gr. to v. pale yel-brn. mott.
Dol., med. gr. f-v.f., mod. por., scatt. vugs lined w/ pt. xtals.
373.8-393
Dol., yel-gr, sm. amt. of v. pale yel-brn. mott. in upper part, sli. por., irreg. nods. of trip. to sub. trip. wh. cht. as indicated; minor por. dom. crin. molds.
393 - 445.5
irreg. 1/4" frac. healed w/ calcite

1 contd.


404
410
420
430
440
450
460
462
60° frac. healed w/ pyrite & calcite
weak vert. frac. healed w/ calcite
1½" vug w/ gtz xtals
1½" calcite-filled vug
65° frac.
brill grn. sh. parting.
445.5
Dol., med. gr. to med. lt. gr., v.f-f., sli. poor.
445.5 – 455.5
60° frac.
80° frac.
vert. frac.
vug filled w/ calcite
vert frac
Dol., yel-gr., v.f, scatt. lt grn gr. clay partings are indicated.
455.5-469.7
462
grn sh.
470
grn sh part.
vert frac.
70°/frac.
to lt. gr.
Dol., med lt. gr. w/ zones mott. w/ yel-gr. to v. lt. olive gr., f-med.; yel-gr. clay in intercrystalline spaces in more porous zones; irreg. nod. wh cht. & "wispy" cht in upper part, bedded wh. trip & sub-trip cht. in lower part.; grn clay partings on normal bedding planes
480
vert. frac.
vert. frac.
490
mega-breccia zone w/ fracs. sealed w/ patches of calcite
500
vert. fracs.
brecciated, w/ calcite healing fracs.
short vert. fracs w/ minor calcite
510
brecciated w/ chert in fracs. from 511.6 – 512
520

#1 cont'd.



520.7 v. pyritic above & below basal cht, mod.

Sh. grn-gr (5G 7/1) mixed w/ gr-grn (5G 5/2), v. hd., v. dolo.; abund. dissem. pyrite; grada. below. 520.7-522

sh., grn-gr (5G 7.5/1), hd., mod. dolo, scatt. pyr. nods; traces of Lingula

526.9

sh., lt. olive gr. & olive gr., mott, hd., mod. dolo., abund. phos. grains in lower 0.1'

529

sh., grn-gr., (5G 5.5/1), hd, mod. dol.

533 TD

521
373
148

Spring Grove

1-6 Dol, med-f., sub-an-euhed; porous vuggy; small amt of calcite cement in opt. cont preserved (general porosity prob. result of dissolution of calcite); zones w/ abund. pyrite.

1-6A is microsparite (rext. micrite, equant, anhed.) w/ patches & blebs of unalt micrite; majority of unalt micrite is adjacent to widely spaced stylolites; micrite is only partially rext where stylolites are very closely spaced; dusky yel-brn bit. res. in sty seams; a few qtz grains scatt. at sty contact & bounded by sty (some qtz grains are elongated & may be due to dissolution.

1-7 Dol, f, equant, anhed to subhed, intercrystalline por; questionable remnants of sty seams (prob destroyed during dolomitization); vert. frac. filled w/ lg., unit xtals of calcite

1-7A Dol, v. f., anhed-subhed, minor intercrystalline porosity, v. vuggy abund pyrite (or carborundum); abundant faint streaks of bit. material that has been disturbed from sty positions due to dolomitization.

1-8 Dol., med, sub-euhed-anhed, ≤ por. (intercrystalline), non-porous areas have calcite cement remaining; abund pyrite at edges of dol hedra & at & near intercrystalline voids.

7

Kenwood

1-9 Dol., f-med, sub-anhed, sli. por; calcite cem; scatt. emb. qtz sd; xtalline qtz in voids - some replacement of calcite cem. by qtz? Slide is too thick - prepare another slide from spare slice.

1-10 Dol., med-f, sub-an-anhed, arg; scatt. emb. R qtz sd, tr. r cht. grains; scatt qtz "rods"; uniformly dissem pyrite.

1-10 A Dol., v. f, v. arg, pyritic; w/ irreg patches (reminiscent of "algal blades") of equant, crse-mosaic calcite; sli. thick section

1-11 Dol, v arg, v. f, v. silty, w/ a few "algal blades" as in 1-10 A; sli. thick

1-12 Dol, f-v.f, arg, few scatt emb qtz sd grains; pyrite-filled voids w/ qtz rods (rutilated?) + xtalline qtz w/in pyrite.

2 slides of 1-12

Silurian

1-13 Dol, crse-med, anhed-subhed, v. vuggy, por.

1-14 Dol, med, sub equant, anhed; scatt. small vugs, minor interxtalline por.; l weak sty.

1-15 Dol, v.f., anhed.; moderate interxtalline por.

1-15 A Dol., v.f anhed; scatt. v. sm vugs; scatt pyrite blebs; tr. emb qtz silt

1-15B Dol. a.a; more sub. qtz silt.; interxtalline por

1-15C Dol. a.a.

1-16 Dol. a.a; extremely f. dol. along incip. fracs

1-17 Dol, f, sub-anhed; 50% por; qtz in one void; voids prob. crin. molds

~~1-17A~~

1-17A Dol v.f; 50% por (all separate crin columnals arm molds - many ~~are~~ vesicles are abraded

1-17B Dol., f-v.f, 10% porosity (minor interxtalline por); calcite in sm. frac. area; concentrations of pyrite, esp. around calcite

1-17C Dol, f-~~med~~, 10% por (some = crin molds)

1-18 Dol, f-med; few crin molds (mostly interxt. por.); Cht. nod, frac., w/ pyrite, calcite + dol in fracs, scatt. malt. dol ◻'s in cht, locally grada from dol. to cht at borders of cht nod.

1-18A Dol, v.f.; cht nod a.a, w/ locally grada boundary, pyrite conc. at cht/dol contact along much of contact

1-18B Dol, med-f; 15% crin mold por; cht nod w/ repl. crin, semi-grada contact w/ dol.

1-19 Dol, med-f, anhed, uniform interxtalline porosity

Print office $.50 } zerox or Velum Omaha Office
Okalis or $1.50/aspin paper print }

1-20 Dol crse-med, anhed-subhed; v. minor por.; 2 glauc. grains.

1-21 Dol., med, anhed; v. minor por.

1-22 Dol, crse-f, anhed-anhed, arg., v. pyritic, 2 dary clear rims; cht nod w/ smtt pyrite + dol hedra; v. por zones.

Katherine Belgum
Law Library
Univ. of Iowa
} Campus

I.G.S #1 081-08W-05 CCCD-1

Box #	Depth Interval	Box #	Depth
1	173 - 182	21	355 " - 363'11"
2	182 - 191'9"	22	363'11" - 373
3	191'9" - 201'7"	23	373 - 382'8"
4	201'7" - 211'3"	24	382'8" - 392'4"
5	211'3" - 220'10"	25	392'4" - 401'11"
6	220'10" - 230'7"	26	401'11" - 411'7"
7	230'7" - 240'5"	27	411'7" - 420'11"
8	240'5" - 250'3"	28	420'11" - 430'5"
9	250'3" - 256'	29	430'5" - 439'7"
10	256' - 265'10"	30	439'7" - 449'3"
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17	321'6" - 323' > 4' gap	37	506'6" - 513
18	327 - 336'	38	513 - 522'6"
19	336' - 345.5	39	522'6" - 531'11"
20	345.5 - 355'1"	40	531'11" - 533

0-131 Pleist

131-173 cuttings only (at deck); CU

173-533 core

131 —

C.V.

140 —

160 —

150 —

158 —

172 —

W-23166

CCCD Sec. 5, 81N, 8W Johnson Co.

C.V.

1-1 Ls.; micritic, fos. (broken, v. few crin); scatt. anhed pyrite; traces of silicification in portions of shells

1-1A Ls.; micritic, v. fos. (nearly all broken shells, tr. crin.), spotted w finely dissem anhed pyrite; many shell frags par. to wholly replaced by spherulitic chal & granular qtz.

1-1B Ls.; micritic; mod fos w equal shell frags & crin.; partial to nearly complete silicification of many shell frags.

1-2 Ls, micritic, v. fos (dom crin, few shell frags); 80% fos grains

1-2A Ls, " " " " ; 70% fos grains; sm vugs & fracs filled w mosaic calcite

1-2B Ls, micritic, v. fos (= shel, crin, bryo; few calcisphaera); bare tr of shell silicification

1-2C Ls, micritic, v. fos (sub= shel, crin) bare tr. silic. of shell frags; pyrite spots conc. in some shells

1-3 Ls, fos hash (dom crin.); much rext of shell frags; scatt glauc. grains & filling pores in crin frags.

Breccia

1-4 Breccia: micrite brec. frags in matrix of weak pelmicrite; stg sutures on some breccia/matrix contacts.

1-4A Breccia; weakly rext banded calcilutite brec. frags in matrix of strongly rext, fanned calcite w scatt qtz silt & qtz "rods"; some matrix/breccia boundaries are grada.

1-5 Breccia? uniform micrite w mosaic calcite bet "frags" & in dessication (?) fracs & sm. vugs; minor amt. of qtz in some vugs & w calcite in fracs.

Roll number 1 W-Number 23166 Location 08108W05CCCD-1

Name Leo Cechura (SWISHER) "First hole", Johnson County Iowa

Status: Incomplete 7-21 1972; Complete ____ 19__; Destroyed ____ 19__

Total Depth 533, 7-21 1972; ____, ____ 19__; Started 4-24 1972

Cuttings from 0 to 173 Core from 173 to 323
from 323 to 327 from 327 to 533
from ____ to ____ from ____ to ____

Hole diameter 6 3/4 in from 0' to 133½'; ____ in from ____
5 in from 133½' to 521'; ____ in from ____' to ____

Casing 5 in from +1' to 133' Type T+C Steel
____ in from ____' to ____' Type ____
____ in from ____' to ____' Type ____

Formation tops, indicate source; D, driller; I, inital pick; F, final study

Pleistocene	131'	thick, top at 0'	F	Bertram	0'	thick, top at ?	
Rapid Solon	85.3'	thick, top at 131'	F	Siluran	246.2'	thick, top at 274.7'	F
Davenport	18'	thick, top at 216.3'	F	Maquoketa	____'	thick, top at 520.9	F
Spring Grove	20.9'	thick, top at 234.3'	F	~~Gower~~	~~146.3~~'	thick, top at ~~274.7~~	
Kenwood	19.5'	thick, top at 255.2'	F	~~Hopkinton~~	~~164~~'	thick, top at 341 274.7	
[illegible]	0'	thick, top at ____'		Kankakee	141'	thick, top at 480	
Coggon	0'	thick, top at ____'		Penn	31'	thick, top at 100'	
				Cyclocrinites	27		

434 - 465

5-26-76

Seven samples from ____ to ____; from ____ to ____; from ____ to ____
from ____ to ____; from ____ to ____; from ____ to ____
from ____ to ____; from ____ to ____; from ____ to ____

Geophysical logs, include remarks, temporary casing or drillstem if any, and an evaluation of the quality of the log.

S. P.	from 133'	to ____'	Fair
Resistivity	from 133'	to ____'	Good
Conductivity	from 75'	to 300'	two runs -- probe plugged on first one
Temperature	from 70'	to 323'	Good -- increasing toward bottom; 73-300 Fair
Caliper	from 124'	to 520'	Good
Flow Meter	from 80'	to 512'	Good.
Natural Gamma	from 5.25'	to 520'	Good
Gamma Gamma	from 8'	to 125'	Poor -- off scale kicks
Neutron	from 8'	to 125'	Poor -- scale resets

Flowmeter Main water 330-360 Hopkinton -70

Permeable zones from 193' to 323'; from 443' to 453'; from 475' to 485'
from ____' to ____'; from ____' to ____'; from ____' to ____'

Crevice @ 237 Cavity @ 335 and @ 502

Description of measuring point ____ located ____ feet above L.S.D.

M.P. Altitude ____ L.S.D. Altitude 818 Source of alt. data 7½' topo

Water Level below M.P. 73.18 ft., on 6-6 1972; 70.73 ft., on 3-28 - 73
____ ft., on ____ 19__; ____ ft., on ____

Also see Back

Cuttings studied by Bunker, Core studied by Koch & Bunker

File location PL 8-727

well producing 100 to 200 gpm with air.

Well 81-08W-05 CCCD Date 5-12-75 Page ___ of ___

Feet below land surface to: Upper Packer 370 Lower Packer 422 Pump intake ___

Airline setting in feet below measuring point: Green 370 Yellow 422

Measuring point is ___ and is ___ feet above land surface

Time	Electric Line or Tape		Green Airline		Yellow Airline		Water Meter or Orifice	Discharge	Remarks
	Reading	W.L.	Read	W.L.	Read	W.L.	Bucket Read	gpm	
1:25									Inflate Packers
1:27			129#		153#				@ 1:32
1:31	80-2.80	77.20							
1:35			129#		156#				
40	80-2.50	77.50							
42									Pump on
43			50#		156#				
45	80-2.20		55#		156#		1 hole 3¾"		Lower Packer has slow leak
1:50	80-2.20		55		156#				
1:55			54		156#				
1:58			55		155		5¼" 1 hole.	3 gals/9.4 secs	
2:00	80-2.20								
2:08			55		156		4¼ 1 hole		57° at end of 200' hose
2:11	80-2.10								
2:30	80-2.10		55		156		4¼" 1 hole		
2:53	80-2.05		55		156				
2:55									Sample taken
3:00								Deflate Packers	Lower Packer slowly
3:03			70		140				
05			88		110				
3:07			83		108		1 hole 9½"		
3:10									Pump off
3:12			130		158				
3:14	80-2.15								

Well 081-08W-05 CCCD Date 5-12-75 Page 1 of ____

Feet below land surface to: Upper Packer 316 Lower Packer 368 Pump intake ____

Airline setting in feet below measuring point: Green 316 Yellow 368
Airline at L.S.

Measuring point is Top of spacer and is 2.3 feet above land surface

Time	Electric Line or Tape		Green Airline		Yellow Airline		Water Meter or Orifice	Discharge	Remarks
	Reading	W.L.	Read	W.L.	Read	W.L.	Bucket Read	gpm	
9:23	Tape 80-2.53								
9:27	10' E line 80-2.9								
9:50					130#				
9:52			103#						
9:55	80-3.00	77.00							
9:56									Inflate Both Packers
10:00	80-3.10	76.90	103#		130#				
10:05	80-3.20	76.80	103#		131#				
10:07									Pump on.
10:07:15			97		130			68 gpm	
10:10	80-2.80		97		130		2 holes 16"	~~(78 gpm)~~	
10:15	80-2.80								
10:20			97		129½		2 holes 14"		54°F
10:23	80-2.75								
10:32	80-2.60		97½		129		2 holes 14"		
10:45	80-2.60		97		129				
11:05	80-2.50		97½		129		2 holes 14¾		
11:25	80-2.40		97		129				
11:43							15"	Collect water	sample
11:44	80-2.40		97		129				
11:45			103		131				Pump off.
11:47	80-2.50								cond 975
11:50	80-2.60								
11:53	80-2.65								
12:55	80-2.8		103		131				

Well 81-08-05 CCCD Date 5-~~8~~ 9-75 Page ___ of ___

Feet below land surface to: Upper Packer ~~268~~ 271 Lower Packer ~~320~~ 323 Pump intake ___

Airline setting in feet below measuring point: Green ~~268~~ 271 Yellow ~~320~~ 323

Measuring point is Top of casing for E line L.S. for airline and is 2.3 feet above land surface

Time	Electric Line ~~or Tape~~ Reading	W.L.	Green Airline Read	W.L.	Yellow Airline Read	W.L.	Water Meter or Orifice Bucket Read	Discharge gpm	Remarks
2:18	78'								
2:28	77.4'		89#		112#				
2:33									Test both
2:34			~~86#~~		112#				
2:35			~~83#~~						↑
2:36			~~81#~~	Airline	112#				Green
2:38			~~77½~~	Leak?					Airline
2:42	78.7		~~71#~~		112#				leaking
2:45			~~65#~~		112#				
2:48	78.9		62#		111#				↓
2:55			89#		111#				Pump on.
57			55#		111#				
58	78.7		55#		111#		10½" 2 holes		
3:02			55#		"				
:04			54.5#		"				
:05	78.6								
3:15			54#		111#				
17	78.4						11¼" 2 holes		
3:40	77.9		54#				11" 2 holes		
3:47			54#						Sample collected
3:48									Pump off.
3:49			82#						
3:50			89#						
3:52			89#						
3:53	77.7		89#		111#				

Well 81-08-05 CCCD Date 5-~~8~~9-75 Page 1 of ____

Feet below land surface to: Upper Packer ~~220~~ 223 Lower Packer ~~272~~ 275 Pump intake ____

Airline setting in feet below measuring point: Green ~~221~~ 223 Yellow ~~293~~ 275

Measuring point is Top of casing for E line L.S. for Airlines and is 2.3 feet above land surface

Time	Electric Line or Tape		Green Airline		Yellow Airline		Water Meter or Orifice	Discharge	Remarks
	Reading	W.L.	Read	W.L.	Read	W.L.	Bucket Read	gpm	
11:32			62		89				Pump on
33			60		"				
33:15			58		"				
34			55		"				
34:30			52.5		"				
35			50.5		"				
35:30			49		"				
36			47.5		"				
36:30			46.5		"				
37			46		"				
37:30			45.5		"				
38			44.5		"				
38:30			44+		"				
39			43.5		"				
39:30			42.5		"				
40			42		"		1½" 2 plugs out		
40:30			41		"				
41			40		"				
41:30			39.5		"				
42			38.5		"				
42:30			38		"				
43			37.5		"				
43:30			36.5		"				
44			36		"				
44:30			35.5		"				
45			34.5		"				
45:30			34		"				
46			33.5		"				
48			31		"				
51			28.5		"		9" (2 plugs out)		
54			26.5		"				
1200			24		"				
1208			21.5		"				

First Hole

Well _____ Date 5-9-75 Page 1 of ____

Feet below land surface to: Upper Packer ~~220~~ 223 Lower Packer ~~272~~ 275 Pump intake ____

Airline setting in feet below measuring point: Green ~~221~~ 223 Yellow ~~273~~ 275

Measuring point is Top of Spider and is 2 feet above land surface

Time	Electric Line ~~or Tape~~ Reading	W.L.	Green Airline Read	W.L.	Yellow Airline Read	W.L.	Water Meter or Orifice Bucket Read	Discharge gpm	Remarks
11:00	77.8								
11:14			69#		90#				
11:20									Inflate
11:21			69½#		90#				
11:22	77.0								
11:25	76.1								
11:30	76.0								11:32 Pump ON
11:32	96.7?								
11:33	106.2?								
11:37	95.7?								
11:40	91.7?								
11:42	89.5								
11:47	133.8						9" 2 holes		
11:53	133.4								
12:06	132.4						9" 2 holes		New E line
12:18			20#		89#				
12:20	133.4								
12:30	136		19#		89				
12:50	136		17.5#		89		7½" 2 holes.		55°F
1:12			16#		"		7" 2 holes		
1:15									Sample collected
1:20								Inflate upper packer	
							1 hole 2½"	15 gpm.	
1:25			15#		89				
1:33			14.5#		89				
1:38			14.25						Pump off
1:39			77#						
1:40			72						
1:41			69#						
1:45	88.6		68½"						
1:49	87.4								
1:51	87.0								
1:55	86.1		68		"				

First Hole

Well _____ Date 5-12-75 Page ___ of ___

Feet below land surface to: Upper Packer 421 Lower Packer 469 Pump intake ___
Not inflated

Airline setting in feet below measuring point: Green ___ Yellow ___

Measuring point is Top of spider (Air line L.S.) and is 2.3 feet above land surface

Time	Electric Line or Tape		Green Airline		Yellow Airline		Water Meter or Orifice	Discharge	Remarks
	Reading	W.L.	Read	W.L.	Read	W.L.	Bucket Read	gpm	
3:27			150		176				
3:31	80-2.25	77.75	151		177				Inflate Upper
3:36			62		88		1 hole 2¼"		Pump on 3:35
3:40	80-2.30	77.70	63		89				
3:54			63		89		1 hole 2½"		
3:58	80-2.20								
4:15	80-2.25		63		89		1 hole 3"		
4:38	" "		62		88				
4:43			"		"		1 hole 3"		Sample taken
4:45									Pump off
4:45½			162						
4:46			156		180				
4:47			153		178				
48			151		177				

Well 81-08-5 CCCD Date 5-8-75 Page 1 of ____

Feet below land surface to: Upper Packer None Lower Packer None Pump intake ____

Airline setting in feet below measuring point: Green 145 Yellow ____

Measuring point is Top of Spider and is 2.3 feet above land surface

Time	Electric Line ~~or Tape~~		Green Airline		Yellow Airline		Water Meter or Orifice Bucket Read	Discharge gpm	Remarks
	Reading	W.L.	Read	W.L.	Read	W.L.			
11:00	75.2		75						
12:08	75.5								
12:11									Pump on
12:12	85.3								
13	86.5								
14	87.1								
15	87.5						73½ gpm	3 holes 9"	
17	87.6								
12:19	87.8								
12:25	87.9		62.5				75 gpm	9½"	
12:31	88.1								
38	88.3								
42	89.9								Temp 53°
1:00	90.0								
1:10	90.1								
1:20	90.2								
1:30	90.3								
1:55	90.4								
2:25	89.2							3 holes 10"	
2:57	89.6								
3:15	89.2								
3:15:30									Pump off
3:16	82.2								
3:16:10	79.2								
3:16:30	77.2								
3:17:10	77.6								
3:18:20	77.2								
3:20:15	77.0								
3:22:00	76.7							Alakinity	290
3:26:00	76.6							Conductivity	980
3:30	76.6							Ph	7.45

First Hole

81-08w-05 CCCD

Packer tests 5-9 and 5-12 1975

First setting 11 joints of 2" pipe = 21 x 11 = 231

Handling nipple to center of packer + 4

Leave 12' above land surface − 12

Top packer 223

52' spread between packers 52

Lower packer 275

Second setting.

Add 42' of pipe (two joints) → 235

Set 6' above land surface + 42

− 6

Top packer 271

52

Lower packer 323

Third setting

15 joints of pipe = 315 315

Handling nipple to center of packer +4

Set 3' above land surface − 3

Top packer 316

52

Lower packer 368

Fourth setting

18 joints of pipe 378

Handling nipple to center of packer +4

Set 12' above L.S. − 12

Top packer 370

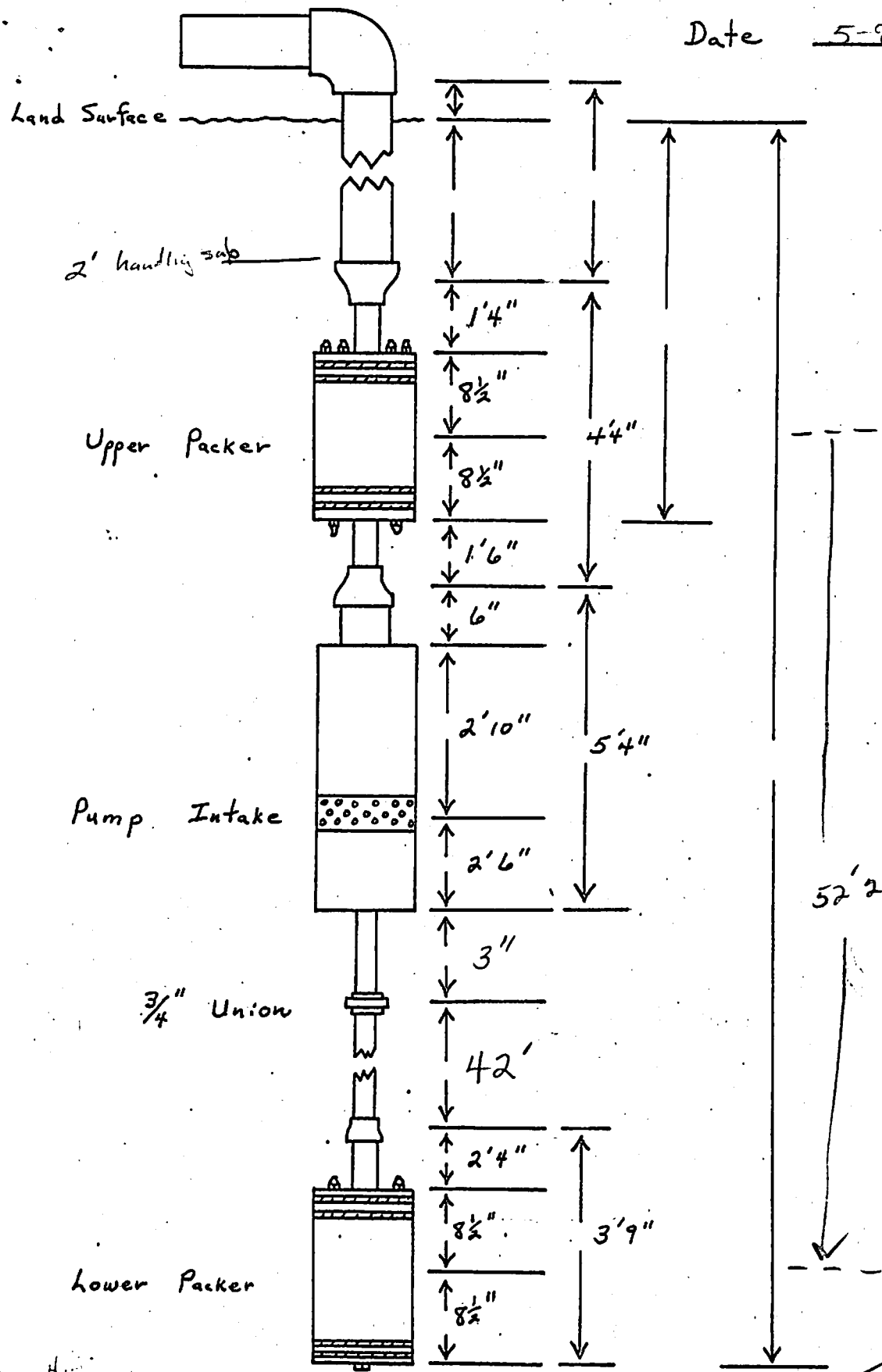
52

Lower packer 422

OVER

Well No. First Hole

Date 5-9-75



21 x 11
= 231 + 2
= 233
+ 52
285
12 above L.S.
273
+ 2 packer end
275

8½"
1'6"
5'4"
3"
42'
2'4"
8½"
50 26"
52'2"

Second setting
Adj 42' set
6' above L.S.

Third setting
15 x 21 = 315'
2
2
319
- 3 above L.S. of upper packer
316 center of upper packer
52
368 center of lower packer

55,25

First hole

Specific Zone	Capacity Rate	gpm / ft. drawdown Drawdown	Sp. Cp.	Log of sp. cap +1
133 - 521	75	14.9	5.03	0.78
133 - 275	44	60	0.73	0.24
223 - 275	15	127.6	0.12	0.05
271 - 323	54	80.8	0.67	0.22
316 - 368	64.5	13.9	4.64	0.75
370 - 422	18.5	171	0.11	0.05
370 - 521	25.	106	0.24	0.09
421 - 521	16.5	206	0.08	0.03

Drillers No. 1 W-Number 23166 Location 08108W05CCCD-1

Name Leo Cechura (SWISHER) "First hole", Johnson County Iowa

Status: Incomplete 7-21 1972; Complete ____ 19__; Destroyed ____ 19__

Total Depth 533, 7-21 1972; ____, ____ 19__; Started 4-24 1972

Cuttings from 0 to 173
from 323 to 327
from ____ to ____

Core from 173 to 323
from 327 to 533
from ____ to ____

Hole diameter 6¾ in from 0' to 133½'; ____ in from ____
5 in from 133½' to 521'; ____ in from ____' to ____

Casing 5 in from +1' to 133' Type T+C Steel
____ in from ____' to ____' Type ____
____ in from ____' to ____' Type ____

Formation tops, indicate source; D, driller; I, inital pick; F, final study

Pleistocene	131'	thick, top at 0' F	Bertram	0'	thick, top at ?		
Rapid Solon	85.3'	thick, top at 131' F	Siluran	246.2'	thick, top at 274.7'	F	
Davenport	18'	thick, top at 216.3' F	Maquoketa	____'	thick, top at 520.9	F	
Spring Grove	20.9'	thick, top at 234.3' F	~~Cower~~	~~16.3'~~	thick, top at ~~274.7~~		
Kenwood	19.5'	thick, top at 255.2' F	Hopkinton	~~164'~~	thick, top at 341 274.7		5-26-76
Tete	0'	thick, top at ____'	Kankakee	41'	thick, top at 480		
Coggon	0'	thick, top at ____'	Penn	31'	thick, top at 100'		
			Cyclovirnites	27	434-465		

Spoon samples from ____ to ____; from ____ to ____; from ____ to ____
from ____ to ____; from ____ to ____; from ____ to ____
from ____ to ____; from ____ to ____; from ____ to ____

Geophysical logs, include remarks, temporary casing or drillstem if any, and an evaluation of the quality of the log.

S. P.	from 133'	to ____'	Fair
Resistivity	from 133'	to ____'	Good
Conductivity	from 75'	to 300'	two runs -- probe plugged on first one
Temperature	from 70'	to 323'	Good -- increasing toward bottom; 73-300 Fair
Caliper	from 124'	to 520'	Good
Flow Meter	from 80'	to 512'	Good.
Natural Gamma	from 5.25'	to 520'	Good
Gamma Gamma	from 8'	to 125'	Poor -- off scale kicks
Neutron	from 8'	to 125'	Poor -- scale resets

Flowmeter Main water 330-360 Hopkinton -70 Cower

Permeable zones from 193' to 323'; from 443' to 453'; from 475' to 485'
from ____' to ____'; from ____' to ____'; from ____' to ____'

Crevice @ 237 Cavity @ 335 and @ 502

Description of measuring point ____
located ____ feet above L.S.D.
M.P. Altitude ____ L.S.D. Altitude 818 Source of alt. data 7½' topo

Water Level below M.P. 73.18 ft., on 6-6 1972; 70.73 ft., on 3-28-73
____ ft., on ____ 19__; ____ ft., on ____

Also see Back

Cuttings studied by Bunker, Core studied by Koch & Bunker

File location PL 8-727

well producing 100 to 200 gpm with air.

Thin sections

1-1	175'	C.V.	
1-1a	177.7		
1-1b	183		
1-2	192.6		
1-2a	198		
1-2b	203.5		
1-2c	212		
1-3	215.5		— grn clay or glauc. common.
1-4	217.1	"Dav"	— breccia w/ sty. suture contact
1-4a	226		
1-5	229.4		
1-6	234.7	S.G.	limy zone, rext., w/ abund. sty.
1-6a	237.2		
1-7	242.4		
1-7a	245.9		
1-8	255.1		
1-9	255.3	Ken	
1-10	256.5		
1-10a	261.3		
1-11	263.5		
1-12	273.7		
1-13	274.7	S.I.	
1-14	284.1		
1-15	298.6		
1-15a	304		
1-15b	318.5		
1-15c	328.8		
1-16	337.5		
1-17	343		
1-17a	374.9		
1-17b	391.2		
1-17c	406		
1-18	415.2		
1-18a	430.4		
1-18b	444.6		
1-19	462.6		
1-20	472.1		— glauc.? grains in sh parting at base of sample
1-21	496.2		
1-22	521.5?		0.4' above top mag.

Inventory by BB
Date 02/18/91

Page # 1/1

IDNR GEOLOGICAL SURVEY BUREAU

CORE INVENTORY

SYSTEM	SERIES	GROUP	FORMATION	MEMBER	CORE BOX#/NUM_BOX	CORE LOCATION	FT_TOP	FT_BOT
DEV				SOLON	1 /		173	216
				DAV	/		216	234.3
				SPR GROVE	/		234.3	255.2
				KEN	/		255.2	
			OTIS		/			
SIL					/			
					/			
					/			
				BRAINARD	/		520.7	533
					/			
					/			
					/			
					/			
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					/			
					/			
					/			

REMARKS: CHP #1 NX

OD FORM 1

WNUMBER 23166

W-23166 #1 contd. 81-8-5 1st Hole.

Ls, v. lt. olive gr. to yel-gr, med-f, mott. w/ dk gr. fos; scatt sli. wavy clay lam. + partings; dolomitic zones
173-182

Ls, v. lt olive gr. to brn-gr. + v. pale yel-brn, sli. fos., dolo., dom. brecc., w/ 45° to 60° shears, shaly matrix
182-187.3

Ls., lt. brn-gr. to v. pale yel-brn, dolo.; Penn.? sh parting @ 188.3' & @ 190'
187.3-191.5

Ls, v. pale yel-brn, f-v. f.; abund sty, sli dolo.; abund dk yel-brn crin. debris.
191.5-201

Ls, lt brn-gr. to v. lt. olive gr; f, sli. fos, scatt. v. weak sty., carb. partings
201-206.5

Ls., v. lt. olive gr. to brn-gr, f, v. fos (dom. brachs); abund. irreg sh partings; brecc. + shear zone in bottom 0.5'
206.5-216

Ls. breccia, dom Dav. frags w/ few scatt. c.v.; dom a mega brecc. in matrix of sdy sh containing micro-brecc. + Dav. & C.V.
216-222

Breccia, (dom micro) w/ a few Dav. frags, dom. S. G. + bleached S.G. or Kenwood frags in sdy shaly to arg., sdy dol. matrix; 1/4" zone clayey ss at base
222-227

Ls., pk-gr. to v. pale yel-brn, s.c.-l.; birdseye, spar, micro dessic (?) fracs filled w/ spar, in upper 2'; scatt. sty.; minor brecciation in lower 0.7'

Dol, lt. olive gr., f, mod discontinuous incip. fracs; sli. gradational upper contact; bottom 0.5' = calc brn-gr dol w/ abund sty.
234.3-237.3

Dol, pale to dk org, mod, incip., par. open fracs, rust-stained
237-240.9

Dol brn-gr, evenly mott w/ scatt. carb. particles, med, strong petrol odor, friable zones; scatt. incip. fracs, dom. filled w/ calcite in lower 4'; dk brn 1/4" x 1" intraclasts @ 254.2; bottom 0.6' = olive gr. + yel-gr. mott dol (bioturbate?)
240.9-255.2

Dol, v. lt-med gr, f, arg., sdy, wavy sh partings; 255.2-255.5
sh lt. gr., tr. sd. grains; 255.5-255.8
Dol, v. lt. yel-gr, v. f., emb. sd + cht, dessic fracs sealed w/ calcite; v. mott. appearance due to spar; 255.8-256.5
Dol., lt. gr. to med. gr, v. f.-crsely xtalline in alternating zones, v. silty, scatt. emb. sd., sli. to v. arg., shaly partings and zones
256.5-265

Dol lt. gr., v. f, silty, arg, scatt. emb v. f. sd., shaly zones, sh streaks in lower 1.5' = lt. gr-grn
265-267.2
Dol., v. lt gr, v. f. sli. arg., silty, rare traces of emb. sd.; irreg nod. of gran. gty at base; incip. vert fracs in lower 4'; some filled w/ pyrite; gr-grn sh parting at base; thin v. lt. gr. + med gr banding 271-272
267.2-274.7

Dol., lt. gr. to med. gr., crse-f. sd. grde, emb-subhed, per high-angle fracs 275.5
274.7-276.5
Dol., lt. gr. to med dk gr., mottled zones, f-v. f., med; bedded lt. yel-gr., s to sub-trip cht.; vert. + high-angle fracs; scatt. crin. necks, few brachs, tr. coral
276.5-285.3

Dol, med gr. to lt. gr, mott. zones, v. f-med, high angle + vert. fracs; 1/8" to 1" partings of Penn. (?) shaly dolomitic sh indicated

55,25

First hole

Specific Zone	Capacity Rate	gpm / ft. drawdown Drawdown	Sp. Cp.	Log of sp. cap +1
133 - 521	75	14.9	5.03	0.78
133 - 275	44	60	0.73	0.24
223 - 275	15	127.6	0.12	0.05
271 - 323	54	80.8	0.67	0.22
316 - 368	64.5	13.9	4.64	0.75
370 - 422	18.5	171	0.11	0.05
370 - 521	25.	106	0.24	0.09
421 - 521	16.5	206	0.08	0.03