

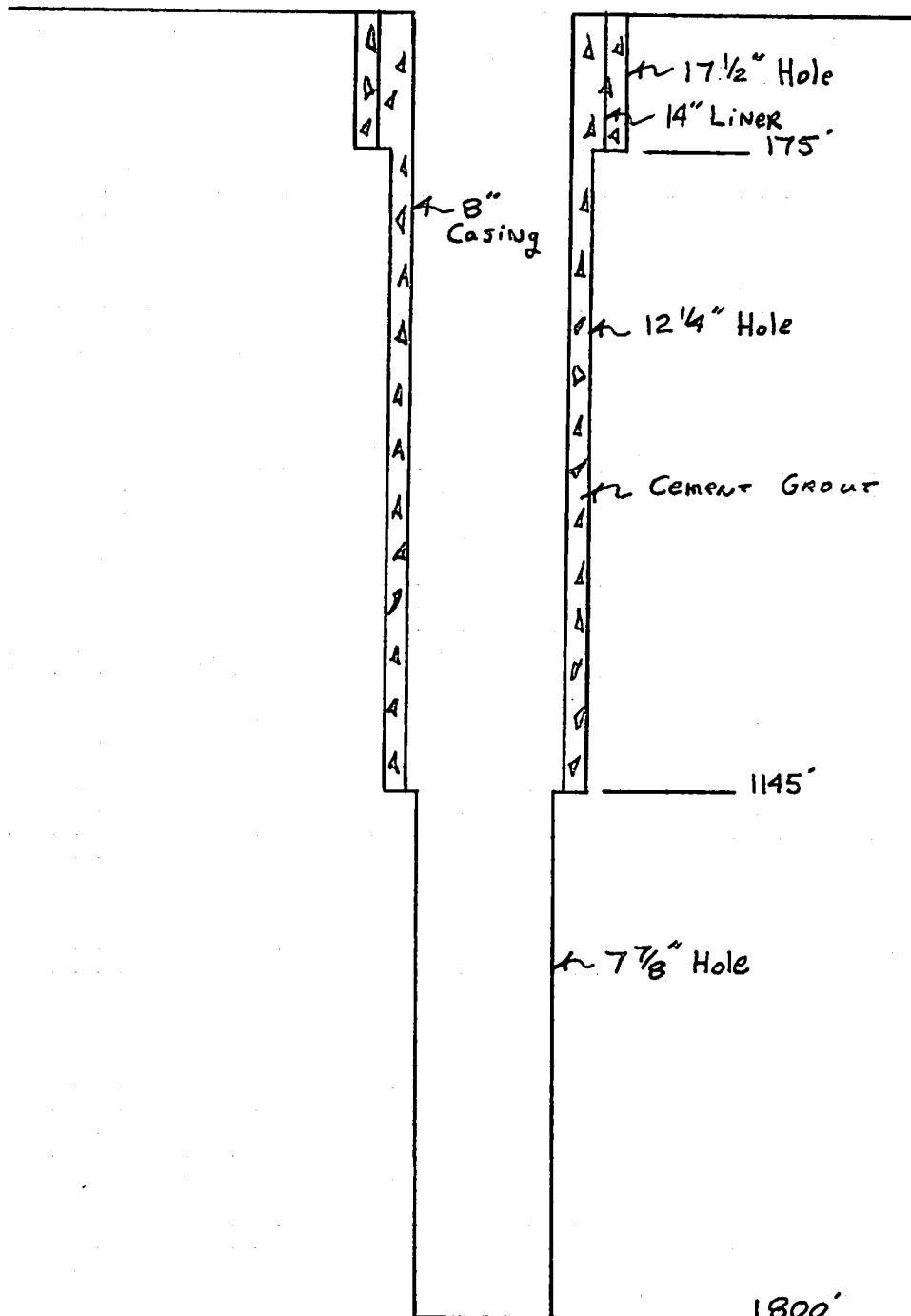
VARNER WELL AND PUMP CO.

DUBUQUE, IOWA

SUBJECT:

DATE

City of Ansonia, Iowa



DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

Date

Nov. 21, 77

Job

Aensworth, Iowa

Hole No.

City Well

Rig No.

Brewster

Tour

M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
1165	1166	12:52	1:02	10			Lm + Shale	
	67		1:13	11				
	68		1:24	11				
	69		1:34	10				
1170			1:45	11				
	71		1:55	10				
	72		2:05	10				
	73		2:15	10				
	74		2:26	11				
1175			2:36	10				
	76		2:46	10				
	77		2:56	10				
	78		3:06	10				
	79		3:15	9				
1180			3:25	10			Weld Mud Line	
	81	3:57	4:08	11				
	82		4:19	11				
	83		4:30	11				
	84		4:40	10				
1185			4:46	7				
	86		4:50	9				
	87		5:05	15				
	88		5:10	10				
	89		5:20	10			Fin Pump	
1190		5:28	5:40	12				
	91		5:48	8				
	92		5:55	7				
	93		6:01	6				
	94		6:10	9				
1195							Kelly 1' Short.	

ADDITIONAL REMARKS, ETC.

COUN - AIR PUMP + CHANGE
KELLY ROSE CONN

APPROVED BY

DRILLER

Bud Gatewood

DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

850-1200

Date Nov. 21, 77

Job Annisuth, Iowa

Hole No. City Well

Rig No. Brehmer

Tour

M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
1195	1196	6:28	6:33	5				
	97		6:39	6				
	98		6:44	5				
	99		6:48	4				
	1200		6:51	3				
	01		6:56	5			SHALE	
	02		7:01	5				
	03		7:07	6				
	04		7:12	5				
	1205		7:20	8				
	06		7:29	9				
	07		7:36	7				
	08		7:43	7				
	09		7:50	7				
	1210		7:57	7				
	11		8:05	8				
	12		8:12	7			SHALE	
	13		8:20	8			H.R. PUMP	
	14	8:25	8:32	7				
	1215		8:38	6				
	16		8:45	7				
	17		8:55	9				
	18		9:05	10			SHALE	
	19		9:11	6				
	1220		9:13	2				
	21		9:18	5				
	22		9:22	4				
	23		9:26	4				
	24		9:29	3				
	1225		9:32	3			Conn @ 1225'	

ADDITIONAL REMARKS, ETC.

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DRILLER

DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

Date 11-21-77

Job Ringworth

Hole No. City Well

Rig No. Brewster

Tour M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
1225	1226	9:44	9:50	4			Sand.	
	27	9:	9:54	4				
	28		9:58	4				
	29		10:01	3				
1230			10:03	2				
	31		10:06	3				
	32		10:10	4				
	33		10:14	4				
	34		10:18	4				
1235			10:23	5				
	36		10:27	4				
	37		10:30	3				
	38		10:33	3				
	39		10:37	4				
1240			10:40	3				
	41		10:44	4				
	42		10:49	5				
	43		10:54	5				
	44		10:59	5				
1245			11:04	5				
	46		11:09	5				
	47		11:14	5				
	48		11:18	4				
	49		11:26	8			Prairie du Chien	
1250			11:34	8				
	51		11:40	6				
	52		11:46	6				
	53		11:53	7				
	54		12:00	7				
1255			12:07	7				

ADDITIONAL REMARKS, ETC.

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DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

Date 11/22/77

Job Ausworth

Hole No. City Well

Rig No. Brew

Tour

M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
1255	1256	12:02	12:14	2			Sand.	Con @ 1256'
	57	12:24	12:29	5				
	58		12:33	4				ROT. CHAM.
	59	12:40	12:46	6				
	1260		12:56	10				
	61		1:02	2				
	62		1:11	8				
	63		1:18	7				
	64		1:25	7				
	1265		1:34	9				
	66		1:43	9				
	67		1:53	10				
	68		2:02	9				
	69		2:11	9				
	1270		2:23	12				
	71		2:35	12				
	72		2:52	17				
	73		3:08	16				
	74		3:20	12				
	1275		3:30	10				
	76		3:40	10				
	77		3:51	11				
	78		3:58	7				
	79		4:04	6				
	1280		4:12	8				
	81		4:20	8				
	82		4:30	10				
	83		4:38	8				
	84		4:45	7				
	1285		4:53	8				Con @ 1285'

ADDITIONAL REMARKS, ETC.

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DAILY DRILLING REPORT

VARNER WELL AND PUMP CO.

BOX 237

DUBUQUE, IOWA 52001

Date 11/22/77

Job AUGSWORTH

Hole No. CITY WELL

Rig No. BREW

Tour M

M

DEPTH		TIME START	TIME FINISH	MINUTES	MUD VISCOSITY	MUD WEIGHT	FORMATION	REMARKS
FROM	TO							
1285	1286	5:16	5:25	9				
	87		5:37	12				
	88		5:53	16				
	89		6:09	16				
	1296		6:24	15				
	91		6:37	13				
	92		6:50	13				
	93		7:03	13				
	94		7:14	11				
	1295		7:25	11				
	96		7:36	11				
	97		7:45	9				
	98		7:54	9				AIR PUMP
	99	8:01	8:08	7				
	1300		8:15	7				
	01		8:21	6				
	02		8:30	9				
	03		8:36	6				
	04		8:42	6				
	1305		8:49	7				
	06		8:57	8				
	07		9:03	6				
	08		9:14	11				
	09		9:23	9				
	1310		9:32	9				
	11		9:37	5				
	12		9:42	5				
	13		9:47	5				
	14		9:52	5				
	1315		9:57	5				

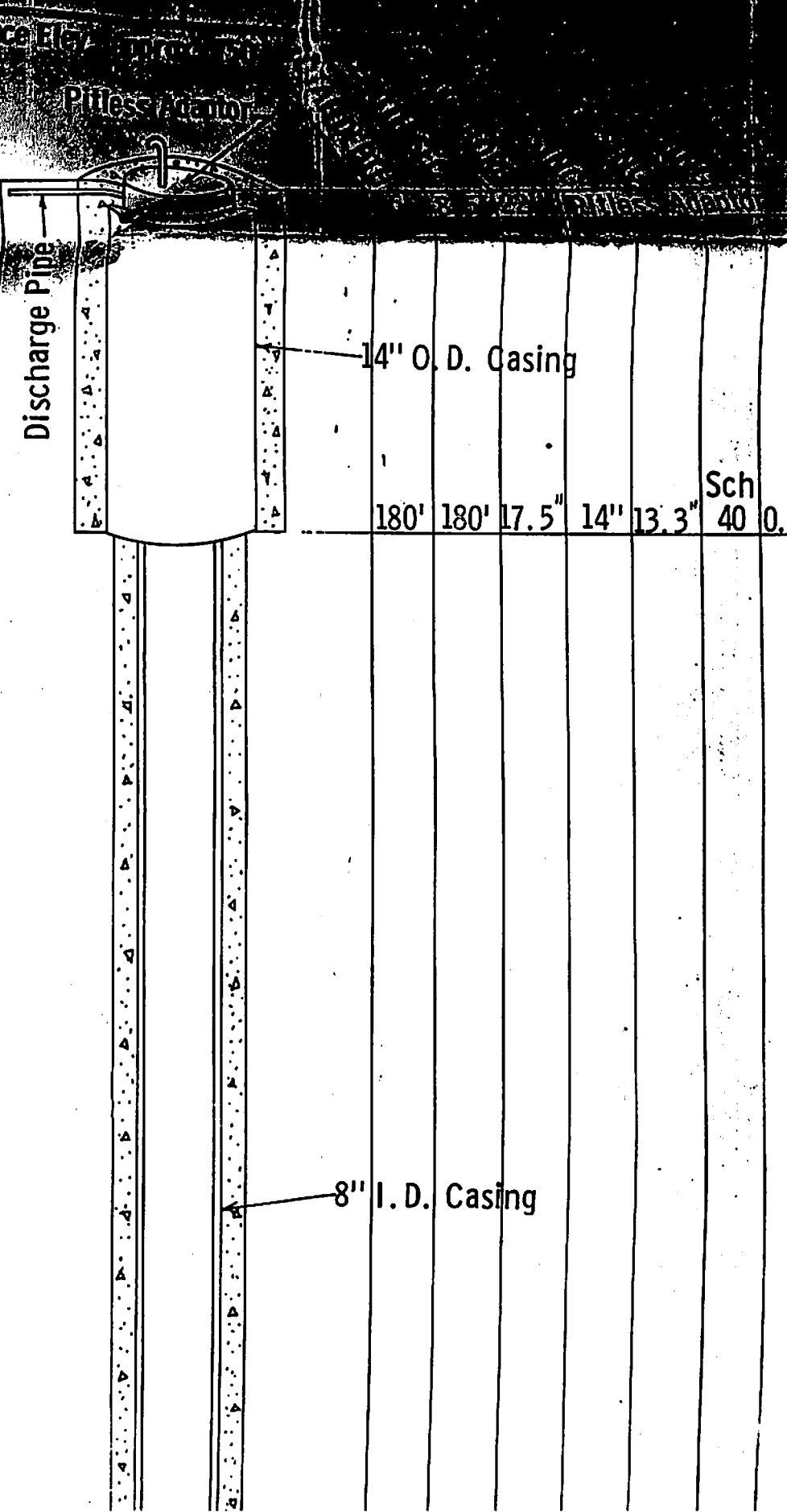
ADDITIONAL REMARKS, ETC.

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GEOLOGICAL FORECAST

FORMATION	DESCRIPTION	Surface Elevation		
		THICK. FT.	FROM. FT.	TO. FT.
Devonian	Locally containing sand & gravel interbedded	160	0	160
	1 Dolomite & Minor Chert	45	160	205
	2 Sandstone	20	205	225
	Maple Hill-Sherfield Shale	290	225	515
	Lime Creek Limestone & Shale	25	515	540
Silurian	Cedar Valley Limestone & Dolomite	110	540	650
	Dolomite	15	650	665
	Maquoketa Mostly Shale includes several dolomite beds	225	665	890



Ordovician

Maquoketa	Includes several dolomite beds	225	800	870
Galena	Limestone Minor Chert In lower part	185	890	1075
Decorah-Platteville	Limestone & Shale beds, about 50/50 percent Glenwood Shale at base	125	1075	1200
St. Peter	Sandstone	70	1200	1270
Prairie du Chien	Dolomite-sandy in upper half and trace of Chert, Root Valley Sandstone about 50' thick in middle, Dolomite w/ 10-25% Chert in lower half	440	1270	1710
Jordan	Sandstone	80	1710	1790
Lawrence	Dolomite	160	1790	1950

