PREPARED FOR

CONSOLIDATION

COAL COMPANY

2 INVERNESS DRIVE EAST

ENGLEWOOD, COLORADO

HYDROLOGY REPORT
EMERY MINE
EMERY, UTAH

VOLUME 2

RECEIVED
JAN 11 1980
STATE OF UTAH
Division of Oil, Gas
& Mining

watec, inc.

PLATES
(exception: Plate 5 in text)

APPENDICES

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STATE OF UTAH
Division of Oil, Gas
& Mining

APPENDIX I

AVAILABLE WELL COMPLETION DATA

FORM NO 9-1904-A

SITE NO. EMRIA #5

EMRIA #3

Recorded by D. Morrissey

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385252111140601 | RG Number R=0 * | Transaction T= (A) D M V * (add, delete, modify, verified)

Site-Type 2= C D H I M P T / W * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well, well, shaft) | Data Reliability 3= (C) U L M * (field checked, unchecked, location not, minimal, accurate, data) | Reporting Agency 4= USGS *

Project No. 5= 464913400 * | District 6= 49 * | State 7= 49 * | County (or town) EMERY | 8= 015 *

Latitude 9= 38 52 52 * (deg min sec) | Longitude 10= 111 14 06 * (deg min sec) | Lat-Long Accuracy 11= S F (T) M * (sec, 5 sec, 10 sec, Min)

Local Number 12= (D-22-6)22cdd * | Land Net Loc. 13= SESESW S 22 T 22S R 6E * (1/4 1/4 1/4 section, township, range, merid)

Location Map 14= EMERY EAST QUAD * | Scale 15= 24000 *

Altitude 16= 6080. * | Method of Measurement 17= A L (M) * (altimeter, level, map) | Accuracy 18= 40 *

Topo Setting 19= D C E (F) H K L O P S T U V W * (depression, stream, channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, flat, upland draw) | Hydrologic Unit (OWDC) 20= 14070002 *

Date of First Construction/Completion 21= 3 20 1978 * (month day year) | Use of Site 23= A D E G H Ø M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, with drawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T (U) Y Z * (air cond, bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25= * | Tertiary Use of Water 26= * | Depth of Hole 27= 275. * | Depth of Well 28= 275. * | Source of Depth Data ① 29= L *

Water Level 30= 5359. * | Date Measured 31= 10 27 1978 * (month day year) | Source ① 33= S *

Method of Measurement 34= A C E G H L M R (S) T V Z * (airline, calibrated, airline, estimated, pressure gage, calibrated, pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated, electric tape, other)

Site Status 37= D F G H Ø P R S T V X Z * (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36= S * | Pump Used 35= X * (no) | Measuring Point 266= -1.33 * | Measuring Point Date 267= 10 27 1978 * (month day year)

OWNER IDENTIFICATION (1)

R=158 * | T= A D M * (add, delete, modify) | Date of Ownership 159 # / / * (month day year)

Name: Last 161= * | First 162= * | Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * | T= A D M * (add, delete, modify) | Ident 190 # EMRIA #3 * | Assigner 191 USGS *

New Card Same R & T | Ident 190 # * | Assigner 191 *

SITE VISIT DATA (1)

R=186 * | T= (A) D M * (add, delete, modify) | Date of Visit 187# 10 27 1978 * (month day year) | Name of Person 188 D. MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * | T= A D M * (add, delete, modify) | Date 193 # / / * (month day year) | Geohydrologic Unit 195 # *

New Card Same R thru 195

Temperature 196# 00010 * | Degrees C 197 *

Conductance 196# 00095 * | µMhos 197 *

Other (STORET) Parameter 196# * | Value 197 *

Other (STORET) Parameter 196# * | Value 197 *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No. 59 # 1 * | Date of Construction Completion 60 = 10/28/1978 * (month day year) | Source of Const. Data 64 = 5 *

Name of Contractor/Driller: 63 = F. ANDERSON *

Method of Construction: 65 = A (air, rotary) B (bored, or augured) C (cable, tool) D (dug) H (hydraulic, rotary) J (jetted) P (air percussion) R (reverse, rotary) T (trenching) V (driven) W (drive, wash) Z (other) *

Finish: 66 = C (porous, concrete) F (gravel w. perf) G (gravel, screen) H (horizontal, gallery) Ø (open, end) P (perforated, or slotted) S (screen, sand point) T (walled) W (open, hole) X Z (other) *

Type of Seal: 67 = B (bentonite) C (clay) G (cement, grout) Z (other) *

Bottom of Seal: 68 = 100 *

Method of Development: 69 = A (air lift, pump) B (bailed) C (compressed, air) J (jetted) N (none) P (other, pump) S (surged) Z (other) *

Number of Hours in Development: 79 = 1 *

Special Treatment During Development: 71 = C (chemicals) D (dry ice) E (explosives) F (deflocculent) H (hydrofracturing) M (mechanical) Z (other) *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0.0 *	74 = 275. *	75 = 5.63 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.0 *	78 = 275. *	79 = 4.0 *	80 = P *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * | Construction Entry No 59 # 1 *

New Card for Each Open Section With Same R, T and Field 59

	Openings Data	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 0.0 *	83 # 100.0 *	83 # . *
Bottom of Section Below LSD	84 100.0	84 275.0	84 .
Type of Openings 6	85 = W *	85 = P *	85 = *
Type of Material 7	86 = P *	86 = P *	86 = *
Diameter of Open Section	87 = 0.0 *	87 = . *	87 = . *
Width of Opening	88 = 0.0 *	88 = . *	88 = . *
Length of Opening	89 = 0.0 *	89 = . *	89 = . *

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency) D (driller) Ø (owner) A (other gov't) R (other reported) L (logs) G (geologist) Z (other)

5 Casing Material Codes

B (brick) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (rock or stone) S (steel) T (tile) U (coated steel) W (wood) Z (other)

6 Type of Openings Codes

F (fracture) L (louvered shuttered) M (mesh) P (perforated or slotted) R (wire wound) S (screen, (unknown) T (sand point) W (walled) X (open hole) Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (stainless steel) S (steel) T (tile) Z (other)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 # * | Date 148 = / / * (month day year)

Discharge: 150 = * | Source of Data[1] 151 = *

Method of Measurement 152 = B C E F M O P R T U V W Z * (bailer, current meter, estimated, flume, totaling meter, orifice, pitot-tube, meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source[1] of Data 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other) | Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 = *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 258 = *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 = *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log[2]	Begin Depth	End Depth	Source of Data[1]
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # * | End Year 116 = * | Source Agency 117 = *

Frequency of Collection[3] 118 * | Network Site 257 = * | Type of Analyses[4] 120 = *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = * | Source Agency 124 = USGS *

Frequency of Collection[3] 125 M * | Network Site 258 = *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection[3] 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (files, machine readable, published, other)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

(1) Source of Data Codes:

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

(3) Frequency of Collection Codes

A B C D F I M O Q S W Z (annual, bi monthly, continuous, daily, semi monthly, intermittent, monthly, one time only, quarter annual, semi annual, weekly, other)

(2) Type of Log Codes

A B C D E F G H I J K L M N O P Q (time, collar, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, μ later, photo, radio active)

S T U V Z (sonic, temp, gamma gamma, fluid velocity, other)

4 Type of Quality Analyses Codes

A B C D E F G H J K L M Z (physical, common chemical, trace elements, pesticides, nutrients, sanitary, codes R&D, codes D&E, codes R&F, codes D&E, codes C,D&E, all of most, other)

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = (A) D M * (add, delete, modify) | Entry No 256 # 1 * | Depth to Top 91 = 0.0 * | Depth to Bottom 92 = 171.0 *

Unit Identifier 93 = 211 BLGT * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = . * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = (A) D M * (add, delete, modify) | Entry No 256 # 1 * | Depth to Top 91 = 171.0 * | Depth to Bottom 92 = 275.0 *

Unit Identifier 93 = 211 FRRN * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = . * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = ORGINALLY CORE HOLE-REAMED OUT TO 5 5/8" *

185 = 4" PVC CASING INSTALLED FOR AQUIFER TEST *

185 = WELL, NO TEST AS OF 2/15/78 *

NOTES:

Electric and Gamma log available –
Core obtained for 0–200' –
Monthly water levels @ this site –

U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 213-137

EMRIA Borehole # 3

Three

Photos being processed
(Uncorrected copy)

Footage		
24	0	SH, dk brn, calc, sft, silty, carb flks 0.1 mm, benz +
25		As abv, sm hd zones, silty
27	0	SILTST, wh, calc, arg
27	3	SH, , brn, sm zones v/silty, more coherent
29	6	SH, dk gry, silty, benz +
33	9	SH, dk gry, coherent, silty, calc, uniform, carb flks and platelets, benz +, moisture pH 6
36	2	End Box 1

3

Footage		
36	2	SH, lighter brn, less silty, calc, benz +
37	8	SH, gry, brkn, sft, silty, blue fluor spot, benz +
37	9	SILTST, arg, rare grn qtz grains, carb flks, dk gry, benz +, calc
40	0	SH, dk gry-brn, sft, silty, calc, benz +
40	5	SILTST, arg, dk gry, carb flks, calc, v/sft
41	0	SH, dk gry-brn, silty, sft, benz + , calc
* 42	0	As abv w/fluor gyp venlets & veneers on fract up to 30° from hor, gyp fibers perp to venlet walls
43	0	SILTST, dk gry, arg, benz + to
43	9	SH, dk gry, v/silty, less calc, abund pyr cylinders 0.1 by 1 mm, plant fiber replacement?
44	10	SILTST, arg, as abv w/ brn limon coating on fract
45	6	End Box 2

Footage		
45	6	SH, dk gryw/brn pptings, calc
45	7	Fract 33° to hor
47		SH, dk gry, silty, carb flks, calc, w/ gyp-lined fractures
47	4	SH, brn, pting, v/friable, calc, brkn
48		SH, dk gry, sli silty, more carb, larger flks
50	4	SH, dk gry, brkn, calc, fissile,
50	6	Limon fract w/ 1 mm non-fluor gyp lining
53		SH, silty, gry, calc, carb, tite, thin fract linings of gyp
54	9	End Box 3

Footage		
54	9	SH, gry, brkn, w/ brn calcite as veneer on fract, benz +
55		SH, as abv, incoherent in water, benz +, calc, carb
55	2	Blue fluor spt
57	5	SH, as abv, v/friable
58	5	SH, as abv w/ ylw hor fract. sli silty, calc, cab flks
60	2	SH, dk gry, as abv, more dolc
62	5	Ylw fluor on bedding plane fract
63		SH, as abv, less carb, dolc
63	10	Blue fluor spots
64	3	SH, dk gry, asa bv, w/limon stained fract, calc
65		SH, dk gry, brkn, brn stained fract @ 75° to hor
		End Box 4

Footage		
65	0	SH, dk gry, carb, calc, sli silty, fissile, tite, homog
70	6	SH, as abv, less calc
71	8	Foss on bedding plane, 2 mm dia
72	4	SH, dk gry, carb, sli silty, dolc, fissile, benz -
74	11	End Box 5

Footage

74	11	SH, dk gry, carb, dolc, homog, tite but fissile
76	0	SH, as abv, dk gry, carb, calc to dolc, uniform, fissile, benz -, fluor -
80	2	SH, dk gry, fiss, dolc, carb flks
84	0	SH, as abv, tite but fissile, calc to dolc, carb flks
85	0	End Box 6

Footage		
85	0	SH, dk gry, fiss, uniform, dolc, carb flks, brittle
88	9	Marker in error
95	0	SH, as abv, fiss, brittle, uniform, calc to dolc, rare carb flks $>$0.1 mm, abund finely divided carb spks $<$0.01 mm
97	0	End Box 7

Footage

97 0 SH, dk gry, homog, fissile, brittle, slivery, calc dolc, carb flks

99 4 SH, as abv, tendency to break in slivers, calc dolc, carb flks

104 0 SH, dk gry, calc-dolc, splintery, uniform, benz -, fluor - , carb flks

104 4 End Box 8

Footage		
104	4	SH, dk gry, as abv, calc to dolc
105	3	SHlayer, gry, v/sft, w/ pale gry clay matrix containing carb flks and curved golden brn bio ? flks 0.1 - 0.05 mm, dolc
106	11	Cream fluor patch of calcite in fibrous veinlets w/ fibers perp to veinlet walls
109	3	Cream-tan fluor patch to 109" 3"
112		SH, dk gry, dolc carb flks, fissile
113	9	SH, as abv w/wh fract filling of calcite, sli fluor
114	0	End Box 9

Footage		
114	0	SH, dk gry, as abv, homog, fiss, brittle, moisture in core @ pH 8
116	0	SH, as abv, dolc, sli carb flks, fissile parallel to bedding
122	0	SH, tr pyr ?
122	0	SH, dk gry, dolc, sli amount carb matl
123	9	End Box 10

Footage		
125	0	SH, dk gry, dolc, fiss, brittle, no silt, sm carb, moisture @ pH 8
126	5	Hi angle frac - 80°
131	3	SH, as abv, smwhat harder, dolc
133	2	Wh patch
133	6	End Box 11

Footage

133 6 SH, dk gry, as abv, homog, less fissile, sli silty, more competent

135 2 Fluor spot, poss gyp in bedding plane seams

136 4 Fluor spot

137 5.5 Wh gyp seam, fibrous perp to seam wall

138 0 SH, dk gry, sli silty, more competent, cores do not break when lifted, dolc

138 11 CLAY seam , benz -, "fat" clay, light gry, w/ <0.1 mm bio ? flks to

139 1 SH, dk gry, as abv, sli silty, non-fissile

139 8 Fluor patch, 2 x ½ cm, non-fib calcite

140 6 SH, dk gry, competent, tite, little carb, dolc silty

141 1 Fluor gyp 1.5 cm x ¼ cm lentic veinlets, wh parallel to bedding

142 3 End Box 12

Footage		
143	3	SH, light gry zone to 143' 5" containing highly fluor wh calcite surrounding brn calcite
143	3	SH, dk gry, homog, silty, tite, calc dolc, non-fissile
144	4	Gyp stringer, fibers perp to veinlet wall
145	8	Calcite and gypsum veinlets to
145	10	SH as abv
147	4	Gyp veinlet not parallel to bedding plane
148	7	SH, dk gry as abv but brken to 148' 9"
149	2	SH, lgt gry, calc, w/ calcite seams to 149' 6"
150	0	SH, dk gry, hd, tite, silty, sli carb
151		End Box 13

Footage		
152	0	SH, dk gry, hd, tite, sli silty, sli carb, dolc, less fissile
160	9	Calcite veinlet, irreg
161	0	End Box 14

Footage		
*161	0	SH, dk gry, as abv
164	0	Calcite veinlet, discontinuous 2 - 18 mm long
165	8	SH, as abv, sli silty, hd, tite, homog, dolc
168	8	SH, as abv, sli silty w/ pods of SS, gry
169	3	SH, mttld, cm patches of SS, gry-brn, mg - fg (½ mm max) carb matl, pyr, dolc
169	11	Fluor patch 3/4 x 3½ cm
170	3	Blk carb patch 1 x 3/4 cm
171	5	End Box 15

3

Footage

171 5 SS, gry-brn, fg - mg, massive, indist bedding, dolc, pyr, mttled carb matl, secondary quartz faces, subang relatively porous

171 8 Lentic COAL lens 1/4 x 1 cm parallel to bedding and oval carb patches about 1 cm dia

173 4 SS, gry-brn, fg- mg w/secondary quartz faces, massive, mo re calc, sm grains w/ blk inclus, very por, bedding 5 - 7° to hor

175 4 SS, fg - mg, subang, sm carb, por, tr pyr

178 3 SS, gry-brn, por, fg - mg, sm carb, sm pyr, sli dolc, subang grains, massive

179 9 COAL parting, 3 cm seam, grains tend to float due to poss oily coating, reddish film on COAL,

180 0 SS, as abv, dolc

End Box 16

Footage

180	5	Bright yellow fluorescence in carb lam
181	0	SS, as abv, sli pyr w/ carb parting, brner color
181	1	Carb partings to 181 2", ylw fluor
181	9	Carb lam
* 182	0	SS, brn, fg - mg, dolc, por, massive, tr oil ?
182	11	Diffuse patchy fluor
185	3	Large carb seam parallel to bedding w/ banded pyr lam 0.1 mm wide separating COAL lam w/ reddish film
186	5	Patches of carb matl
187	5	SS, as abv, sli dolc, por, tr carb matl
189	9	Diffuse carb lam 5 - 25° to hor to 189' 9"
		End Box 17

Footage

189 9 SS, brn, fg - mg, subang, non-calc, carb partings, grains w/ minute pyr inclus, massive, por, non-fluor, faint bedding planes 20° max to hor,

191 9 SS, as abv but sli calc, pyr, loosely cemented, v/por, secondary quartz faces on grains

195 0 SS, as abv, massive, dissem pyr, calc

197 10 SS w/ clear and milky grains, pyr in clear grains, v por variably calc

198 9 Carb lam 55° to hor, stylolite-like to 198' 10"

199 4 End Box 18

3

Footage		
201	2	SS, brn, massive, fg - mg, pyr, homog, por w/ carb partings w/COAL layers mm thk, slickensides, reddish film
* 201	8	Carb partings 40° to hor, wavy, lentic in SS, as abv
203	0	SS, as abv, mod calc, massive, unif, por, sm pyr
207	3	SS, carb patches, non-calc, por as abv
207	6.5	SH, mttld, carb, silty, mon-calc, non-fluor, benz -
208	1	End Box 19

3

FORM NO 9-1904-A

SITE NO. EMRIA

EMRIA #2

Recorded by Morrissey

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385248111322 01 | RG Number R=0 | Transaction T= A D M V (add, delete, modify, verified)

Site Type 2= C D H I M P T W (collector, drain, sinkhole, connector, multi-pipe, pond, tunnel or, well shaft, well) | Data Reliability 3= C U L M (field checked, unchecked, location not accurate, minimal data) | Reporting Agency 4= USGS

Project No. 5= 464913400 | District 6= 49 | State 7= 49 | County (or town) EMERY | 8= 015

Latitude 9= 385248 (deg min sec) | Longitude 10= 1111322 (deg min sec) | Lat-Long Accuracy 11= S F T M (sec, 5 sec, 10 sec, Min)

Local Number 12= (D-22-6)26bbb | Land Net Loc. 13= NWNWNW 1/4 1/4 1/4 S 26 (section) T 22 (township) R 6 (range) (merid)

Location Map 14= EMERY EAST QUAD | Scale 15= 24000

Altitude 16= 6080. | Method of Measurement 17= A L M (altimeter, level, map) | Accuracy 18= 40

Topo Setting 19= D C E F H K L O P S T U V W (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland, channel, flat, draw) | Hydrologic Unit (OWDC) 20= 14070002

Date of First Construction/Completion 21= 10 / / 1978 (month day year) | Use of Site 23= A D E G H O M P R S T U W X Z (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, with drawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T U Y Z (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25= | Tertiary Use of Water 26= | Depth of Hole 27= 349.0 | Depth of Well 28= 349.0 | Source of Depth Data① 29= L

Water Level 30= 26.62 | Date Measured 31= 9/29/1978 (month day year) | Source① 33= S

Method of Measurement 34= A C E G H L M R S T V Z (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, electric tape, calibrated electric tape, other)

Site Status 37= D F G H O P R S T V X Z (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data① 36= L | Pump Used 35= X (no) | Measuring Point 268= -1.1 | Measuring Point Date 267= 9 29 1978 (month day year)

OWNER IDENTIFICATION (1)

R=158 | T= A D M (add, delete, modify) | Date of Ownership 159 # / / (month day year)

Name: Last 161= | First 162= | Middle Initial 163=

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 | T= A D M (add, delete, modify) | Ident 190 # EMRIA #2 | Assigner 191= USGS

New Card Same R & T | Ident 190 # | Assigner 191=

SITE VISIT DATA (1)

R=186 | T= A D M (add, delete, modify) | Date of Visit 187# 9/29/1978 (month day year) | Name of Person 188= D. MORRISSEY

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 | T= A D M (add, delete, modify) | Date 193 # / / (month day year) | Geohydrologic Unit 195 #

New Card Same R thru 195

Temperature 196 # 00010 | Degrees C 197=

Conductance 196 # 00095 | µ Mhos 197=

Other (STORET) Parameter 196 # | Value 197=

Other (STORET) Parameter 196 # | Value 197=

FOOT NOTES.

① Source of Data Codes:

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No. 59 # 1 * | Date of Construction Completion 60 = 12/5/1972 * (month day year) | Source of Const. Data 64 = 5 *

Name of Contractor/Driller 63 = F. ANDERSON *

Method of Construction 65 = A (air rotary) B (bored, or augered) C (cable tool) D (dug) H (hydraulic rotary) J (jetted) P (air percussion) R (reverse rotary) T (trenching) V (driven) W (drive wash) Z (other) *

Finish 66 = C (grouted concrete) F (gravel w. perf) G (gravel screen) H (horizontal gallery) Ø (open end) P (perforated or slotted) S (screen) T (sand point) W (walled) X (open hole) Z (other) *

Type of Seal 67 = B (bentonite) C (clay) G (cement grout) Z (other) *

Bottom of Seal 68 = 90 *

Method of Development 69 = A (air lift, pump) B (bailed) C (compressed air) J (jetted) N (none) P (pump) S (surged) Z (other) *

Number of Hours in Development 70 = 1 *

Special Treatment During Development 71 = C (chemicals) D (dry ice) E (explosives) F (deflocculent) H (hydrofracturing) M (mechanical) Z (other) *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0.	74 = 349.	75 = 5.63
73 #	74 =	75 =
73 #	74 =	75 =
73 #	74 =	75 =
73 #	74 =	75 =

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.	78 = 349.	79 = 4.0	80 = P	81 =
77 #	78 =	79 =	80 =	81 =
77 #	78 =	79 =	80 =	81 =
77 #	78 =	79 =	80 =	81 =
77 #	78 =	79 =	80 =	81 =

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * | Construction Entry No 59 # 1 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 0.	83 # 40.	83 #
Bottom of Section Below LSD	84 = 40.	84 = 349.	84 =
Type of Openings 6	85 = W	85 = P	85 =
Type of Material 7	86 = P	86 = P	86 =
Diameter of Open Section	87 = 0.0	87 =	87 =
Width of Opening	88 = 0.0	88 =	88 =
Length of Opening	89 = 0.0	89 =	89 =

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency), D (driller), Ø (owner), A (other gov't), R (other reported), L (logs), G (geologist), Z (other)

5 Casing Material Codes

B (brick), C (concrete), G (galv. iron), I (wrought iron), M (other metal), P (PVC or plastic), R (rock or stone), S (steel), T (tile), U (coated steel), W (wood), Z (other)

6 Type of Openings Codes

F (fracture), L (louvered shuttered), M (mesh), P (perforated or slotted), R (wire wound), S (screen, unknown), T (sand point), W (walled), X (open hole), Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze), C (concrete), G (galv. iron), I (wrought iron), M (other metal), P (PVC or plastic), R (stainless steel), S (steel), T (tile), Z (other)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 # * | Date 148 = / / * (month day year)

Discharge: 150 = * | Source of Data[1] 151 = *

Method of Measurement 152 = B C E F M O P R T U V W Z * (bailer, current meter, estimated, flume, totaling meter, orifice, pitot-tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source① of Data 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other) | Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 = *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 268 = *

STANDBY POWER DATA (2)

(Use LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 # *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify)

New Card for Each Log Type Same R & T

Type of Log②	Begin Depth	End Depth	Source of Data①
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # * | End Year 116 = * | Source Agency 117 = *

Frequency of Collection 3 113 = * | Network Site 257 = * | Type of Analyses 4 120 = *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = (A) D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = * | Source Agency 124 = USGS *

Frequency of Collection 3 125 M * | Network Site 258 = *

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection 3 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (respondent, district, other) | Format 261 = F M P Z * (files, machine readable, published, other)

New Card Same R & T | Type of Data 181 # * | Loc 182 C D Z * | Format 261 = F M P Z *

FOOT NOTES.

① Source of Data Codes:

S D O A R L G Z
reporting agency, driller, owner, other gov't, other reported, logs, geologist, other

③ Frequency of Collection Codes

A B C D F I M Ø Q S W Z
annual, bi monthly, continuous, daily, semi monthly, intermittent, monthly, one time only, quarter annual, semi annual, weekly, other

② Type of Log Codes

A B C D E F G H I J K L M N Ø P Q
time, collar, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, μ later, photo, radio active

S T U V Z
sonic, temp, gamma, fluid gamma, other velocity

4 Type of Quality Analyses Codes

A B C D E F G H J K L M Z
physical, common chemical, trace elements, pesticides, nutrients, sanitary, codes BAD, codes BAE, codes BAF, codes DAE, codes CODE, codes must, all or, other

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # 1 * | Depth to Top 91 = 0.0 * | Depth to Bottom 92 = 25.0 *

Unit Identifier 93 = 211CLGT * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / (month day year) * | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = 25.0 * | Depth to Bottom 92 = 349.0 *

Unit Identifier 93 = 211FRRN * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / (month day year) * | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add) | 185 = 'THIS HOLE WAS DRILLED FOR A PUMP TEST, '*

New Card Same R&T | 185 = 'TEST NOT YET CONDUCTED '*

185 = ' '*

NOTES:

Gamma log available –
Monthly water level measurement made at this site –
core obtained for top 318' –

U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 213-137

EMRIA core hole No. 2 TD 318'
NW 1/4 sec 26. T. 22 S., R. 6 E.

(logged by T. A. Ryer, Oct. 12, 1978)

This core is in very poor condition - much breakage and very little attention to keeping accurate track of footages. It also appears that, in some instances, core has been placed into the box out of order. Not much confidence can be attached to the log.

Box 1 10-22
Clyst, slty, weathered (Blue Gate Sh Mbr)

Box 2 22-30
22-25 clyst, slty, weathered

* Blue Gate/ Ferron contact @ 25'

25-30 ss, f-gr, tan (weathered), heavily burrowed, the burrows mixing slt and cly into what was probably originally a clean ss

Box 3 30-42
ss, f-gr, tan (weathered), a few coaly chips, a few wavy lam.

Box 4 42-52'
ss, f-gr, same as box 3

Box 5 52-64'
ss, f-gr, same as box 3, 4; upper part tan (weathered), lower part gry.

Box 6 64-74
note: The depositional sequence in boxes 6 and 7 does not make good sense; further, it does not correspond at all to what is described from a Consolidation Coal Co. core drilled nearby. I have, in this log, interchanged the contents of boxes 6 and 7.
64-74 ss, f-gr, as above, a few small burrows

Box 7 74-80
74-77.6 ss, f-gr, sharp base
*25-77.6 is a beach sequence prograded towards the NE; genetically equivalent to interval 10-33.7 of core hole No. 1.
77.6-79.8 coal (this and coal below combined I-J coals)
79.8-80 ss, vf-gr with lam. of slty clyst, contorted

Box 8 80-90
There is approximately 12.5' of core jammed into this box, all coal except for 2 thin splits of vf ss w/ coaly streaks @ indicated depths of 82.1 and 82.6

Box 9 90-100
All coal; no indication of which end is top - have labelled box using the same labelling scheme employed by the driller on previous boxes from this hole.

Box 10 100-110
ss, vf, interbedded and interlam w/ sltst, very contorted in lower part, grading up to all sltst w/ some interbedded clyst in uppermost 3'

Box 11 110-120'
ss, f-gr w/ clay chips, top 2' ss, vf-gr w/ slst lam, highly contorted, a few small burrows

Box 12 120-130'
Box contains approximately 13' of core
120-130 sandstone, fine-grained

Box 13 130-140
Sandstone, fine-grained; upper 2' has clay, carb. lam., contorted and interbedds of siltstone w/ss lam.

Box 14 140-150'
140-148 sandstone, f. to vf-gr., sharp lower contact
* interval approx. 110-148 is channel sequence
148-150 sh, coaly, grading upward to sltst w/coaly frags, rooted

Box 15 150-160'
150-156.9 clyst, slty grading up to sltst and vf-gr ss w/cly, carb laminae at top; rooted at top
156.9-157.9 Shale, carb w/pyrite
157.9-158.8 coal and shaley coal, very badly broken up (split of G coal ?)
158.8-160 Shale, carb.

Box 16 160-170'
There is approx. 10.6' of core in the box
160-162.5 coal (probably G coal)
162.5-164.5 Clyst, slty, and cly sltst
164.5-170 mostly sltst w/laminae of v.f. ss, lams wavy, amount of ss decreasing upward

Box 17 170-180
170-174.6 ss, vf-gr, interlam w/sltst, wavy lam, x-bedded, totals about 50% sd.
174-6-175.9 ss, vf-gr w/clyst chips, x-bedded and ripple-lam, small amt carb debris
175.9-180 ss, vf-gr, same as 170-174.6, but only approx. 20% ss, a few burrows

Box 18 180-190
180-181 ss, vf-gr same as 170-174.6, approx 50% ss.
181-190 ss, f-gr w/wavy lams of clyst and carb debris; burrowed, clay-walled burrows

Box 19 190-208
Wood block in box reads "dropped core 190-200."
Core in box is ss, f-gr same as 181-190- whole interval was probably this same lithology. Also in the box is approx. 1' of cly sltst- doesn't look like this material belongs in this part of the sequence.

Box 20 208-219
ss, f-gr same as 181-190

Box 21 219-229
219-221.5 ss, f-gr, lams of carb debris, minor burrowing
221.5-229 ss, f-gr, same as 181-190 but heavily burrowed

Box 22 229-251
Wood block reads "dropped core 230-240"
Another block reads "core loss between 240-248"
229-230.1 ss, f-gr w/ lams of carb. debris
230.1-230.9 ss, vf-gr, slty, heavily burrowed w/trace fossil Chondrites
*interval approx. 180-230.9 is delta-front sandstone sequence (No. 4 ss of Ryer study)
230.9- ? missing
? - ? 6' of coal, very badly broken (C coal)
? - 249 missing
249-251 clyst, slightly slty

Box 23 251-258
251-252.3 sh, carb.
252.3-258 clyst, slty, the content of slt decreasing upward

Box 24 258-268
There is 9' of core in the box.
258-261.2 sltst, cly, coaly frags
261.2-263.2 coal (split of A coal)
263.2-265.7 sh, carb, slightly slty
265.7-266.7 coal (split of A coal)
266.7-268 clyst, carb to coaly, slty; coaly stringers

Box 25 268-276
ss, vf-gr, interlam w/sltst in proportions indicated:
268-272 approx. 40% ss
272-274 approx. 20% ss
274-276 approx. 40% ss

Box 26 276-285
276-278 mostly sltst w/coaly frags, some interbedded v.f.ss.
278-279.3 ss, f-gr, a few wavy clyst lams, carb frags, oyster shell frags
279-3-279.7 ss, vf-gr, interlam w/sltst
279.7-280.2 ss, f-gr, same as 278-279.3
280.2-276 Sltst, interlam w/vf ss, burrowed, sltst total approx. 70%

Box 27 285-294
interlam vf ss and sltst, very wavy-lam, burrowed, approx. 50% ss.

Box 28 294-304
294-297.2 ss, vf-gr, interlam w/gray sltst w/carb frags; contorted lam; burrowed
297.2-304 ss, f-gr, a few sltst lam, small carb frags; clay-walled burrows; a few oyster shell frags; a large coal frag (log?) @ 298'.

Box 29 304-308
ss, vf-gr interlam w/sltst and carb debris; burrowed
* interval 268-308 (and perhaps deeper) represents filling of abandoned distributary channel which locally cut out the No. 2 delta-front sandstone of Ryer study. Consists largely of repeated sequences 0.2-0.3' thick of vf ss grading up to and interlam w/ sltst -each such sequence may represent deposition during flood stage (ss) followed by return to quiet conditions (sltst); ss/ sltst contacts are sharp.

Box 30 308-318
308-308.5 ss, f-gr w/carb, cly lam, heavily burrowed
308.5-314.5 ss, f-gr, a few small carb grains, a few oyster shell frags
314.5-318 ss, f-gr, lots of carb wood frags, some quite large; clay chips, all contorted

*308-318 may be uppermost part of No. 1 delta front sandstone of Ryer study; alternately, may be basal part of abandoned distributary fill, in which case top of No. 1 ss not cored

FORM NO 9-1904-A

SITE NO. EMRIA 1

EMRIA #1

Recorded by Morrissey

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385330111122701 (5 / 7)

RG Number R = 0 *

Transaction T = (A) D M V * (add, delete, modify, verified)

Site-Type 2 = C D H I M P T W * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well / well / shaft)

Data Reliability 3 = (C) U L M * (field-checked, unchecked, location not, minimal / accurate / data)

Reporting Agency 4 = USGS *

Project No. 5 = 464913400 *

District 6 = 49 *

State 7 = 49 *

County (or town) EMERY 8 = 015 *

Latitude 9 = 385330 * (deg min sec)

Longitude 10 = 1111228 * (deg min sec)

Lat Long Accuracy 11 = S F (T) M * (sec, 5 sec, 10 sec, Min)

Local Number 12 = (D-22-6)23adb *

Land Net Loc. 13 = S 23 T 22 R 6 * (1/4 1/4 1/4 section, township, range, merid)

Location Map 14 = EMERY EAST QUAD *

Scale 15 = 24000 *

Altitude 16 = 6160. *

Method of Measurement 17 = A L (M) * (altimeter, level, map)

Accuracy 18 = 40 *

Topo Setting 19 = D C E F H K L O P (S) T U V W * (depression, stream, channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, flat, upland draw)

Hydrologic Unit (OWDC) 20 = 14070002 *

Date of First Construction/Completion 21 = 10 / 1978 * (month day year)

Use of Site 23 = A D E G H (Ø) M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat, reservation, observ, mine, oil or gas, recharge, repress, test, unused, with drawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = *

Tertiary Use of Water 26 = *

Depth of Hole 27 = 305. *

Depth of Well 28 = 305. *

Source of Depth Data (1) 29 = L *

Water Level 30 = 138.17 *

Date Measured 31 = 10 / 27 / 1978 * (month day year)

Source (1) 33 = S *

Method of Measurement 34 = A C E G H L M R (S) T V Z * (airline, calibrated, airline, estimated, pressure gage, calibrated, pressure gage, geophysical, logs, manometer, reported, steel tape, electric tape, calibrated, electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently, pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data (1) 36 = L *

Pump Used 35 = X * (no)

Measuring Point 266 = -1.64 *

Measuring Point Date 267 = * (month day year)

OWNER IDENTIFICATION (1)

R = 158 * T = A D M * (add, delete, modify)

Date of Ownership 159 # / / * (month day year)

Name: Last 161 = *

First 162 = *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 * T = (A) D M * (add, delete, modify)

Ident 190 # EMRIA #1 *

Assigner 191 = U.S.G.S. *

New Card Same R & T

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 * T = A D M * (add, delete, modify)

Date of Visit 187 # / / * (month day year)

Name of Person 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 * T = (A) D M * (add, delete, modify)

Date 193 # 1012511978 * (month day year)

Geohydrologic Unit 195 # 211FRRN *

New Card Same R thru 195

Temperature 196 # 00010 *

Degrees C 197 = 13.0 *

Conductance 196 # 00095 *

µMhos 197 = 2400. *

Other (STORET) Parameter 196 # 00400 *

Value 197 = 7.4 *

Other (STORET) Parameter 196 # *

Value 197 = *

FOOT NOTES:

(1) Source of Data Codes:

S D Ø A R L G Z (repairing, driller, owner, other gov't, other reported, logs, geologist, other agency)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No. 59 # 1 * | Date of Construction Completion 60 = 10 / 11978 * (month day year) | Source of Const. Data 64 = 5 *

Name of Contractor, Driller 63 = F. ANDERSON *

Method of Construction 65 = A B C D H J P R T V W Z *
(A: air rotary; B: bored, or augered; C: cable-tool; D: dug; H: hydraulic, rotary; J: jetted; P: air-percussion; R: reverse, rotary; T: trenching; V: driven; W: drive, wash; Z: other)

Finish 66 = C F G H Ø P S T W X Z *
(C: porous, concrete; F: gravel w. perf; G: gravel, screen; H: horizontal, gallery; Ø: open, end; P: perforated, or slotted; S: screen; T: sand point; W: walled; X: open, hole; Z: other)

Type of Seal 67 = B C G Z *
(B: bentonite; C: clay; G: cement, grout; Z: other)

Bottom of Seal 68 = 20 *

Method of Development 69 = A B C J N P S Z *
(A: air lift, pump; B: bailed; C: compressed, air; J: jetted; N: none; P: other, pump; S: surged; Z: other)

Number of Hours in Development 70 = 2 *

Special Treatment During Development 71 = C D E F H M Z *
(C: chemicals; D: dry ice; E: explosives; F: deflocculent; H: hydrofracturing; M: mechanical; Z: other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 305. *	75 = 5.63 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 * | New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 305. *	79 = 4.0 *	80 = P *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * | Construction Entry No 59 # 1 * | New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 0. *	83 # 20.0 *	83 # . *
Bottom of Section Below LSD	84 = 20. *	84 = 305. *	84 = . *
Type of Openings 6	85 = W *	85 = P *	85 = *
Type of Material 7	86 = P *	86 = P *	86 = *
Diameter of Open Section	87 = 0.0 *	87 = . *	87 = . *
Width of Opening	88 = 0.0 *	88 = . *	88 = . *
Length of Opening	89 = 0.0 *	89 = . *	89 = . *

FOOT NOTES:

1 Source of Data Codes:
S D Ø A R L G Z
(S: reporting, agency; D: driller; Ø: owner; A: other; R: gov't; L: other reported; G: logs; Z: geologist, other)

5 Casing Material Codes
B C G I M P R S T U W Z
(B: brick; C: concrete; G: galv, iron; I: wrought, iron; M: other, metal; P: PVC or, plastic; R: rock or, stone; S: steel; T: tile; U: coated, steel; W: wood; Z: other)

6 Type of Openings Codes
F L M P R S T W X Z
(F: fracture; L: louvered, shuttered; M: mesh; P: perforated, or slotted; R: wire-wound; S: screen, (unknown); T: sand, point; W: walled; X: open, hole; Z: other)

7 Type of Material Codes for Open Sections
B C G I M P R S T Z
(B: brass or, bronze; C: concrete; G: galv, iron; I: wrought, iron; M: other, metal; P: PVC or, plastic; R: stainless, steel; S: steel; T: tile; Z: other)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147# 1 * | Date 148 = 10 25 1978 * (month day year)

Discharge: 150 = 2.0 * | Source of Data[1] 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z * (bailer, current meter, estimated, flume, totaling meter, orifice, pitot-tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source[1] of Data 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Pumping Period 157 = 4.0 *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43# A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 = *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43# * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 268 = *

STANDBY POWER DATA (2)

(See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * | Type of Lift 43# * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 = *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify)

New Card for Each Log Type Same R & T

Type of Log[2]	Begin Depth	End Depth	Source of Data[1]
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115# * | End Year 116 = * | Source Agency 117 = *

Frequency of Collection[3] 118 * | Network Site 257 = * | Type of Analyses[4] 120 = *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122# * | End Year 123 = * | Source Agency 124 = *

Frequency of Collection[3] 125 * | Network Site 258 = *

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128# * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection[3] 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181# * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181# * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

(1) Source of Data Codes:

S D O A R L G Z
reporting agency, driller, owner, other gov't, other reported, logs, geologist, other

(3) Frequency of Collection Codes

A B C D F I M Ø Q S W Z
annual, bi monthly, continuous, daily, semi monthly, intermittent, monthly, one time only, quarter annual, semi annual, weekly, other

(2) Type of Log Codes

A B C D E F G H I J K L M N Ø P Q
time, collar, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, μ later, photo, radio active

S T U V Z
sonic, temp, gamma, fluid velocity, other

(4) Type of Quality Analyses Codes

A B C D E F G H J K L M Z
physical, common chemical, trace elements, pesticides, nutrients, sanitary, codes B&D, codes B&E, codes B&F, codes D&E, codes C,D&E, all or most, other

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = HOLE DRILLED FOR PUMP TEST, TEST ATTEMPTE *
185 = D BUT LOW YIELD PREVENTED DRAWDOWN FROM *
185 = REACHING OBSERVATION WELL 500' NORTH *

NOTES:

Electric and Gamma logs taken –
QW sample taken –
top 100' of hole was cored –

U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 213-137

Emery EMRIA core hole No. 1 TD 100'

NE 1/4 sec 23 T. 22 S., R. 6 E.
(logged by T. A. Ryer, Oct. 11, 1978)

Box 1 10-20'
10-18.8 ss, vf-gr, hard, tan (weathered), planar to low angle X-lam, a few clyst layers @ 13-14'
18.8-20 clyst, slty, brn

Box 2 20-30'
20-22.3 ss, vf-gr, v. hard, gry, planar to low-angle X-lam
22.3-24 sltst, sdy, cly, crumbly
24-29.6 ss, as above
29.6-30 clyst, slty w/ lams of vf ss

Box 3 30-39'
30-33.7 mostly sltst; some slty clyst and clyst; upper 1' sdy, slty clyst

* 10-33.7 constitutes a beach sequence prograded to the NE during the general sw-ward transgression of the Blue Gate sea
33.7-39 coal (J coal; I coal of Lupton, 1916)

Box 4 39-48'
39-39.8 coal (J coal)
39.8-40.6 sltst, cly, grading up to clyst
40.6-42 sltst, cly
42-43 sltst, a bed of vf-gr ss 0.2' thick @ 41.6
43-48 ss, vf-gr, wavy cly lam., soft-sed def. structures, heavily burrowed

Box 5 48-58'
48-50.1 coal, shy streaks in upper half (split of I coal)
50.1-57 ss, vf-gr, same as 43-48
57-58 mostly sltst w/ sd-filled burrows; grades into overlying unit

Box 6 58-68'
58-58.3 sltst, sdy, cly
58.3-59.3 coal (split of I coal)
59.3-68 ss, vf-gr, wavy-lam, thin beds of cly sltst and clyst; a few burrows in lower part; upper part has lam cover w/ fine carb. frags; top 1' rooted

Box 7 68-78
68-70 mostly clyst, slty w/ vf-gr ss lams; ss @ 69', wavy-lam.
70-73 ss, vf-gr, interlam w/ sltst; burrows in slty parts
73-77 ss, f-med-gr, X-bedded; sharp lower contact (probably a small distributary or tidal channel)
77-78 ss, vf-gr, slty w/ wavy lams of carb. debris grading up to sltst full of sd-filled burrows

Box 8 78-88
78-80.9 ss, med-gr; top 0.2' f-gr; a layer of clyst 0.1' thick @ 78.2-78.3
80.9-82 coal, badly broken up (split of I coal)
82-82.9 clyst, a few carb frags
82.9-84 coal; upper half shaley coal or coaly sh
84-88 sltst, cly grading up to clyst; slty part shows carb rootlets; top 0.2' carb.

Box 9 88-100 (there is approx. 9.5' of core in this box - can't tell where core is missing - perhaps 2.5' @ approx. 92')

88-91 sltst, cly and slty clyst; possible rooting at top

91-93.5 missing??

93.5-99 ss, coarsening upward from vf- to f-gr, ripple-drift lam, a few small burrows (possible distal splay)

99-100 sltst, sdy, cly, soft, crumbly

*39.8-100 records deposition in a lower delta plain environ., largely brackish-water bay

FORM NO 9-1904-A

SITE NO USGS 1-1

Recorded by D Morrissey

U S DEPT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 12/19/78

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385224111142601 (5–19)

RG Number R = 0 *

Transaction T = (A) D M V * (add, delete, modify, verified)

Site-Type 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well shaft, well)

Data Reliability 3 = (C) U L M * (field checked, unchecked, location not, minimal, accurate, data)

Reporting Agency 4 = USGS *

Project No. 5 = 464913400 *

District 6 = 49 *

State 7 = 49 *

County (or town) EMERY 8 = 015 *

Latitude 9 = 38 52 24 * (deg min sec)

Longitude 10 = 111 14 26 * (deg min sec)

Lat-Long Accuracy 11 = S F (T) M * (sec, 5 sec, 10 sec, Min)

Local Number 12 = (D-22-6)27CB3 *

Land Net Loc 13 = SWNWNW S 27 T 22 R 6 * (1/4 1/4 1/4 section township range merid)

Location Map 14 = MESA BUTTE QUAD *

Scale 15 = 24000 *

Altitude 16 = 6080. *

Method of Measurement 17 = A L (M) * (altimeter, level, map)

Accuracy 18 = 20 *

Topo Setting 19 = D C E (F) H K L O P S T U V W * (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland, channel, flat, draw)

Hydrologic Unit (OWDC) 20 = 14070002 *

Date of First Construction/Completion 21 = 11/14/1978 * (month day year)

Use of Site 23 = A D E G H (Ø) M P R S T U W X Z * (anode, drain, geothermal, seismic, heat, reservation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = *

Tertiary Use of Water 26 = *

Depth of Hole 27 = 380. *

Depth of Well 28 = 380. *

Source of Depth Data (1) 29 = L *

Water Level 30 = 103.88 *

Date Measured 31 = 12/10/1978 * (month day year)

Source (1) 33 = S *

Method of Measurement 34 = A C E G H L M R (S) T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data (1) 36 = L *

Pump Used 35 = X * (no)

Measuring Point 266 = -0.90 *

Measuring Point Date 267 = 12 10 1978 * (month day year)

OWNER IDENTIFICATION (1)

R = 158 * T = A D M * (add, delete, modify)

Date of Ownership 159 # / / *

Name: Last 161 = *

First 162 = *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 * T = A D M * (add, delete, modify)

New Card Same R & T

Ident 190 # *

Assigner 191 = *

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 * T = A D M * (add, delete, modify)

Date of Visit 187 # / / *

Name of Person 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 * T = (A) D M * (add, delete, modify)

Date 193 # 11/17/1978 * (month day year)

Geohydrologic Unit 195 = 211FRRN *

New Card Same R thru 195

Temperature 196 # 00010 *

Degrees C 197 = 000010.0 *

Conductance 196 # 00095 *

µMhos 197 = 001250. *

Other (STORET) Parameter 196 # *

Value 197 = *

Other (STORET) Parameter 196 # *

Value 197 = *

FOOT NOTES:

(1) Source of Data Codes.

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA

R = 58 * | T = (A) D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 11 / 14 / 1978 * (month, day, year) | Source of Const. Data 64 = 5 *

Name of Contractor Driller 63 = L. WELLS *

Method of Construction 65 = (A) B C D H J P R T V W Z *
(A) rotary, B bored, or augered, C cable tool, D dug, H hydraulic, rotary, J jetted, P air-percussion, R reverse, rotary, T trenching, V driven, W drive, wash, Z other

Finish 66 = C F G H (Ø) P S T W X Z *
C porous, concrete, F grave w. perf, G grave screen, H horizontal, gallery, (Ø) end, P perforated, or slotted, S screen, T sand point, W walled, X open, hole, Z other

Type of Seal 67 = B C G Z *
B bentonite, C clay, G cement grout, Z other

Bottom of Seal 68 = 310 *

Method of Development 69 = A B C (J) N P S Z *
A air-lift, pump, B bailed, C compressed, air, (J) jetted, N none, P other, pump, S surged, Z other

Number of Hours in Development 70 = 4 *

Special Treatment During Development 71 = C D E F H M Z *
C chemicals, dry ice, E explosives, F deflocculent, H hydrofracturing, M mechanical, Z other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0 *	74 = 340 *	75 = 6.0 *
73 # 40 *	74 = 380 *	75 = 5.0 *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0 *	78 = 340.0 *	79 = 6.0 *	80 = P *	81 = *
77 # 0 *	78 = 310.0 *	79 = 2.0 *	80 = S *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # *	83 # *	83 # *
Bottom of Section Below LSD	84 = *	84 = *	84 = *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

1 Source of Data Codes:
S D B A P L G Z
S reporting agency, D driller, B owner, A other gov't, P other reported, L logs, G geologist, Z other

5 Casing Material Codes
B C G I M P R S T U W Z
B brick, C concrete, G galv. iron, I wrought iron, M other metal, P PVC or plastic, R rock or stone, S steel, T tile, U coated steel, W wood, Z other

6 Type of Openings Codes
F L M P R S T W X Z
F fracture, L louvered, shattered, M mesh, P perforated, or slotted, R wire wound, S screen, unknown, T sand point, W walled, X open, hole, Z other

7 Type of Material Codes for Open Sections
B C G I M P F S T Z
B brass or bronze, C concrete, G galv. iron, I wrought iron, M other metal, P PVC or plastic, F stainless steel, S steel, T tile, Z other

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 = 0.01 * | Date 148 = 11 17 1979 * (month day year)

Discharge: 150 = 10.59 * | Source of Data[1] 151 = S *

Method of Measurement 152 = B C E F M O P R T U W Z * (bailer, current meter, estimated, flume, rotating meter, orifice, pitot-tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source[1] of Data 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, physical logs, manometer, reported, steel tape, electric, calibrated tape, electric tape, other) | Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 # *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 268 = *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 # *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log[2]	Begin Depth	End Depth	Source of Data[1]
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1978 * | End Year 116 = * | Source Agency 117 = USGS *

Frequency of Collection[3] 118 = M * | Network Site 257 = * | Type of Analyses[4] 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = * | Source Agency 124 = USGS *

Frequency of Collection[3] 125 = M * | Network Site 258 = *

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection[3] 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (cooperator, district, other) | Format 251 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

[1] Source of Data Codes:

S D O A R L G Z (reporting agency, driller owner, other gov't, other reported, logs, geologist, other)

[3] Frequency of Collection Codes

A B C D F I M O O S W Z (annual, bimonthly, continuous, daily, semi-monthly, intermittent, monthly, one time only, quarter annual, semi annual, weekly, other)

[2] Type of Log Codes

A B C D E F G H I J K L M N O P Q (time, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, μ later, photo, radio active)

S T U V Z (sonic, temp, gamma, fluid velocity, other)

[4] Type of Quality Analysis Codes

A B C D E F G H J K L M Z (physical, common chemical, trace elements, bacteria, radiochemical, nutrients, sanitary, codes B&D, codes B&E, codes B&P, codes D&E, codes C,D&E, all of most, other)

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = ON 11/10/1978 SET CEMENT BASKET & 2" ID *
185 = IRON PIPE TO 310FT. PUMPED CEMENT ON TOP *
185 = OF CEMENT BASKET. *

NOTES:

0-20 DEEPLY WEATHERED BLUEGATE SHALE
20-30 MODERATELY WEATHERED BLUEGATE SHALE
30-60 - SLIGHTLY WEATHERED BLUEGATE SHALE
Kmbg 60-70 - MAINLY WEATHERED BLACK BLUEGATE SHALE W/ SOME SS.
Kmf 70-100 - DARK GRAY SS + SILTSTONE
100-130 - LT. GRAY FINE GRAIN SS.
130-140 - MAINLY COAL, SOME LT. GRAY SS.
"IS" 140-150 - COAL
150-160 - MAINLY LT. GRAY FINE GRAIN SS, SOME COAL
160-180 - DK. GRAY SHALE, SOME SS IN BOTTOM 10 FT.
190-200 - LT. GRAY, FINE GRAIN SS
200-210 - MAINLY DK. GRAY SHALE, SOME COAL?
210-220 - MAINLY COAL W/ SOME LT. GRAY FINE GRAIN SS
220-240 - LT. GRAY FINE GRAIN SS.
240-250 - LT. GRAY FINE GRAIN SS & EQUAL AMT. OF DK GRAY SHALE
250-260 - DK GRAY SHALE W/ SOME SS.
260-280 - LT. GRAY FINE GRAIN SS.
280-310 - BLACK CARBONACEOUS SHALE
310-320 - BLACK CARBONACEOUS SHALE & EQUAL AMT DK. GRAY SS
320-350 - DK GRAY SS
350-370 - BL. CARBONACEOUS SHALE
370-380 - BL. CARBONACEOUS SHALE & EQUAL AMT OF DK GRAY SS ON BOTTOM

U. S. GOVERNMENT PRINTING OFFICE : 1978 O - 210-107

FORM NO 9-1904-A

SITE NO USGS 1-2

U S DEPT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Reproduced by J. DODGE

Date 12-21-78

Check One X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385224111142662 (5–19)

RG Number R = 0 *

Transaction T = (A) D M V * (add, delete, modify, verified)

Site-Type 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well shaft, well)

Data Reliability 3 = (C) U L M * (field checked, unchecked, location not, minimal accurate data)

Reporting Agency 4 = USGS *

Project No. 5 = 4649 13400 *

District 6 = 49 *

State 7 = 49 *

County (or town) EMERY 8 = 015 *

Latitude 9 = 38 52 24 * (deg min sec)

Longitude 10 = 111 14 26 * (deg min sec)

Lat-Long Accuracy 11 = S F (T) M * (sec 5 sec 10 sec, Min)

Local Number 12 = (D-22-6) 27C83 *

Land Net Loc. 13 = SWNWNW S 27 T 22 R 6 * (1/4 1/4 1/4 section township range merid)

Location Map 14 = MESA BUTTE QUAD *

Scale 15 = 24000 *

Altitude 16 = 6080. *

Method of Measurement 17 = A L (M) * (altimeter, level, map)

Accuracy 18 = 20 *

Topo Setting 19 = D C E (F) H K L O P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC) 20 = 14070002 *

Date of First Construction Completion 21 = 11 17 1978 * (month day year)

Use of Site 23 = A D E G H (Ø) M P R S T U W X Z * (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond, bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = *

Tertiary Use of Water 26 = *

Depth of Hole 27 = 150.00 *

Depth of Well 28 = 150.00 *

Source of Depth Data ① 29 = L *

Water Level 30 = 37.68 *

Date Measured 31 = 12 10 1978 * (month day year)

Source ① 33 = S *

Method of Measurement 34 = A C E G H L M R (S) T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36 = L *

Pump Used 35 = X * (no)

Measuring Point 266 = 0.55 *

Measuring Point Date 267 = 12 10 1978 * (month day year)

OWNER IDENTIFICATION (1)

R = 158 *

T = A D M * (add, delete, modify)

Date of Ownership 159 # / / * (month day year)

Name: Last 161 = *

First 162 = *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 *

T = A D M * (add, delete, modify)

Ident 190 # *

Assigner 191 = *

New Card Same R & T

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 *

T = A D M * (add, delete, modify)

Date of Visit 187 # / / * (month day year)

Name of Person 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 *

T = (A) D M * (add, delete, modify)

Date 193 # 11 17 1978 * (month day year)

Geohydrologic Unit 195 = 211FERN *

New Card Same R thru 195

Temperature 196 # 00010 *

Degrees C 197 = 00.0008.5 *

Conductance 196 # 00095 *

µMhos 197 = 005000. *

Other (STORET) Parameter 196 # *

Value 197 = *

Other (STORET) Parameter 196 # *

Value 197 = *

FOOT NOTES:

① Source of Data Codes.

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA

R = 58 * | T = (A) D M * (add, delete, modify) | Entry No. 59 = 001 * | Date of Construction Completion 60 = 11 11 1978 * (month day year) | Source of Const. Date 61 = 5 *

Name of Contractor Driller 63 = L. WELLS *

Method of Construction 65 = (A) B C D H J P F T V W Z *
(A) air rotary; B bored or augered; C cable tool; D rug; H hydraulic rotary; J jetted; P auger percussion; F reverse rotary; T trenching; V driven; W drive wash; Z other

Finish 66 = C F G H (E) F S T W X Z *
C porous concrete; F gravel w. perf; G gravel screen; H horizontal gallery; (E) etc; F perforated or slotted; S screen; T sand point; W walled; X open hole; Z other

Type of Seal 67 = B C G Z *
B bentonite; C clay; G cement grout; Z other

Bottom of Seal 68 = 75 *

Method of Development 69 = A B C (J) N P S Z *
A air-lift pump; B bailed; C compressed air; (J) jetted; N none; P other pump; S surged; Z other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
C chemicals; D dry ice; E explosives; F deflocculent; H hydrofracturing; M mechanical; Z other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 56.00 *	75 = 6.0 *
73 # 56. *	74 = 150.00 *	75 = 5.0 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 75.0 *	79 = 2.0 *	80 = P *	81 = . *
77 # 0. *	78 = 36.0 *	79 = 6.0 *	80 = P *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # . *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # . *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = . *	84 = . *	84 = . *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = . *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES.

1 Source of Data Codes:
S recording, drilling agency; D driller; O other; G geol; A other agency; R other reliable; L log; G geologist; Z other

5 Casing Material Codes
B brick; C concrete; G galv. iron; I wrought iron; M other metal; P PVC or plastic; R rock or stone; S steel; T tile; U coating steel; W wood; Z other

6 Type of Openings Codes
F fracture; L louvered shuttered; M mesh; P perforated or slotted; R wire wound; S screen (unknown); T sand point; W walled; X open hole; Z other

7 Type of Material Codes for Open Sections
B brass or bronze; C concrete; G galv. iron; I wrought iron; M other metal; P PVC or plastic; R stainless steel; S steel; T tile; Z other

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 # 00 11 * | Date 148 = 1 1 7 1979 * (month day year)

Discharge 150 = . . * Source of Data[1] 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z *
(bailer, current meter, estimated, flume, totalizing meter, orifice, pitot tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = . . * Static Level 154 = . . * Source of Data[1] 155 = * Specific Capacity 272 = . . *

Method of Measurement 156 = A C E G H L M R S T V Z *
(airline, calculated, estimated, gauge, pressure gage, pressure pipe, chronological logs, manometer, reported, steel tape, tape, electric tape, other) Pumping Period 157 = . . *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 # . . *

Pump Intake Setting 44 = . . * Type of Power 45 = D E G H L N W Z *
(diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 36 = . . * (month day year) Horsepower 46 = . . *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 = * | Manufacturer of Pump 48 = . . *

Serial No of Pump 49 = . . * Name of Power Company 50 = . . *

Power Company Account No 51 = . . * Power Meter No 52 = . . * Pump Rating 53 = . . *

Person or Company Who Maintains the Pump 54 = . . * Additional Lift 255 = . . * Rated Pump Capacity 268 = . . *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 55 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = . . * | Lift Entry No 254 = *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify)

New Card for Each Log Type Same R & T

Type of Log[2]	Begin Depth	End Depth	Source of Date[1]
199 # *	200 = . . *	201 = . . *	202 = . . *
199 # *	200 = . . *	201 = . . *	202 = . . *
199 # *	200 = . . *	201 = . . *	202 = . . *
199 # *	200 = . . *	201 = . . *	202 = . . *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1 9 7 9 * | End Year 116 = . . * | Source Agency 117 = USGS *

Frequency of Collection[3] 118 = M * Network Site 257 = . . * Type of Analyse[4] 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1 9 7 8 * | End Year 123 = . . * | Source Agency 124 = USGS *

Frequency of Collection[3] 125 = M * Network Site 256 = . . *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # . . . . * | End Year 129 = ... * | Source Agency 130 = ... *

Frequency of Collection[3] 131 = . . * Network Site 259 = . . * Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # . . . . . * | Loc 182 = C D Z * (accelerator, district, other) | Format 261 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181 # . . . . . * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES.

[1] Source of Data Codes: S D O A E L G Z (estimated, drill, owner, other agency, other, reported, geologist, other)

[3] Frequency of Collection Codes: A B C D E F V Ø Q S W Z (annual, bi monthly, continuous, daily, every 5 years, hourly, monthly, quarterly, semi annual, weekly, other)

[2] Type of Log Codes: A B C D E F G H I J K L M N Ø P Q (time, caliper, caliper, drillers, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, latero, microlog, neutron, water, photo, radio active)
S T L V Z (sonic, temp, gamma density, fluid velocity, other)

[4] Type of Quality Analyses Codes: A B C D E F G H J K L M Z (chemical, bacterial, chemical, trace elements, pesticide, radionuclides, sediment P&D, sediment B&E, sediment B&F, sediment D&E, sediment C,D&E, all of above, other)

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = 'ON 11/10/1979 SET CEMENT BASKET + 2" PVC' *

185 = 'TO 75FT. PUMPED IN CEMENT ON TOP OF' *

185 = 'BASKET THRU 1" STEEL PIPE TO TOP OF HOLE.' *

NOTES:

U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 217-159

FORM NO 9-1901-A

SITE NO USGS 1-3

Recorded by J DODGE

U S DEPT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 12-20-79

Check One X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No: 3553001111153701 (5–9)

RG Number: R = 0.*

Transaction: T = A D M V * (add, delete, modify, verified)

Site-Type: 2 = C D H I M P T W * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well; well, shaft)

Data Reliability: 3 = C U L M * (field checked, unchecked, location not, minimal; accurate, data)

Reporting Agency: 4 = USGS *

Project No.: 5 = 464913400 *

District: 6 = 49 *

State: 7 = 49 *

County (or town): EMERY

8 = 015 *

Latitude: 9 = 395300 * (deg min sec)

Longitude: 10 = 1111537 * (deg min sec)

Lat-Long Accuracy: 11 = S F T W * (sec, 5 sec, 10 sec, Min)

Local Number: 12 = (D-22-6)21CCB *

Land Net Loc.: 13 = SWSWNWS 21 T 22 R 6 * (1/4 1/4 1/4 section township range meridian)

Location Map: 14 = EMERY WEST QUAD *

Scale: 15 = 24000 *

Altitude: 16 = 6155. *

Method of Measurement: 17 = A L N * (air meter, level, map)

Accuracy: 18 = 20 *

Topo Setting: 19 = D C E F H K L O P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, sediment, hillside, terrace, undulating, valley flat, upland plain)

Thema Geo Unit: 20 = 140700002 *

Date of First Construction: 21 = 11 29 1973 * (month day year)

Use of Site: 23 = A D E G H O M P R S T U W X Z * (anode, drain, geothermal, seismic, heat reservoir, observation, mine, oil or gas, recharge, research, test, unused, with drawal, waste, destroyed)

Use of Water: 24 = A B C D E F H I M N P R S T U Y Z * (air cond, bottling, commercial, cooling water, power, fire, domestic, irrigation, municipal, industrial, public supply, recreation, stock, storage, unused, other)

Secondary Water Use: 25 = *

Tertiary Use of Water: 26 = *

Depth of Hole: 27 = 725. *

Depth of Well: 28 = *

Source of Depth Data: 29 = L *

Water Level: 30 = 107.22 *

Date Measured: 31 = 12 01 1973 * (month day year)

Source: 33 = S *

Method of Measurement: 34 = A C E G H L M R S T V Z * (airline, sounding, estimated, pressure gage, calibrated pressure gage, geophysical logs, hydrometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status: 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geochemical Data: 38 = L *

Form used: 35 = X * (ne)

Measuring Point: 36 = −6.3 *

Measuring Point Date: 37 = 12 01 1973 * (month day year)

OWNER IDENTIFICATION (1)

R = 158 * T = A D M * (add, delete, modify)

Date of Ownership: 159 # / / *

Name: Last 161 = *

First 162 = *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 * T = A D M * (add, delete, modify)

Ident 190 # *

Assigner 191 = *

New Card Same R & T

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 * T = A D M * (add, delete, modify)

Date of Visit: 187 # / / *

Name of Person: 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 * T = A D M * (add, delete, modify)

Date: 193 # 11 30 1973 * (month day year)

Geohydrologic Unit: 195 = 211FRRI *

New Card Same R thru 195

Temperature: 196 # 00010 * Degrees C: 197 = 000010.5 *

Conductance: 196 # 00095 * Micro: 197 = 002100. *

Other (STORET) Parameter: 196 # 0040 * Value: 197 = 000009.0 *

Other (STORET) Parameter: 196 # * Value: 197 = *

FOOT NOTES:

1 Source of Data Codes:

S D C A R L G Z

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 = 1 * | Date of Construction Completion 60 = 1/12/1973 * (month day year) | Status 61 = S *

Name of Contractor Driller 63 = L. WELLS *

Method of Construction 65 = A B C D H J P R T V W Z *
(A rotary, B bailed, C cable tool, D dug, H hydraulic rotary, J other, P jetted, R air rotary, T hammer, V driven, W drive point, Z other)

Finish 66 = C E G I O P S T W Y 1 * | 67 = B C 1 Z *
(C perforated, concrete, E gravel, screen, G gravel, open, I hand dug, O open end, P perforated, slotted, S screen, T semi-cased, W wire wrapped, Y open hole, 1 gravel, cement grout, Z other)

Bottom of Gear 68 = *

Method of Development 69 = A B C J N P S Z *
(A airlift, B bailed, C compression air, J jetted, N none, P pump, S surged, Z other pump)

Number of Hours in Development 70 = 3 *

Special Treatment During Development 71 = C D E F H M Z *
(C chemicals, D dispersants, E acids, F fracturing, H hydrofracturing, M mechanical, Z other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 = 1 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment Below LSD	Diameter of Hole Segment
73 = 0. *	74 = 40. *	75 = 6.0 *
73 = 40. *	74 = 725. *	75 = 5.0 *
73 = . *	74 = . *	75 = . *
73 = . *	74 = . *	75 = . *
73 = . *	74 = . *	75 = . *

CASING SCHEDULE (3)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 = 1 * | New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77# 0. *	78 = 40.00 *	79 = 6.00 *	80 = P *	81 = . *
77# . *	78 = . *	79 = . *	80 = *	81 = . *
77# . *	78 = . *	79 = . *	80 = *	81 = . *
77# . *	78 = . *	79 = . *	80 = *	81 = . *
77# . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (4)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 = * | New Card for Each Open Section With Same R, T and Field 59

	(Opening) Data	(Opening) Data	(Opening) Data
Top of Section Below LSD	83 # . *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = . *	84 = . *	84 = . *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = . *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES:

5 Casing Material Codes

B C I I M P R S T U W Z
Brick, concrete, new iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, tar paper, wood, other

6 Type of Openings Codes

F L M P R S T W X Z
fracture, louvers, shutters, perforated or slotted, wire wrapped, screen, sand point, wedged, open hole, other

7 Type of Material Codes for Open Sections

B C G I M P R S T Z
brass or bronze, concrete, gray iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, other

PRODUCTION DATA (1)

R = 124 145 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 = 1 * | Date 148 = 1 1 3 0 1975 * (month day year)

Discharge: 150 = 2.61 * | Source of Data 1 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z * (gauge, current meter, estimated, flume, totalizing meter, orifice, pitot tube meter, reported, tracer dilution, venturi, volumetric, weir, other)

Pump Intake Depth 153 = * | Static Level 154 = * | Source of Data 2 155 = S * | Source of Data 2 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, pressure gage, tape, jet, pressure gage, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submersible, turbine, windmill, other) | Entry No 254 = *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 268 = *

STANDBY POWER DATA (2) See LIFT DATA for codes of Fields 43 and 56 below

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 = *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log 3	Begin Depth	End Depth	Source of Data 1
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1973 * | End Year 116 = 1975 * | Source Agency 117 = USGS *

Frequency of Collection 3 118 = D * | Network Site 257 = * | Type of Analyses 4 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1973 * | End Year 123 = 1975 * | Source Agency 124 = USGS *

Frequency of Collection 3 125 = D * | Network Site 258 = *

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection 3 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (depositor, district, other) | Format 261 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES.

3 Source of Data Codes.

S D D A R L G Z (recording, driller, owner, other gauge, other reported, log, geologist, other)

5 Frequency of Collection Codes

A B C D F I M B C C W C (annual, biannually, continuous, daily, semi-monthly, intermittent, monthly, biweekly, quarterly, semi-annual, weekly, other)

2 Type of Log Codes A B C D E F G H I J K L M N O P Q R S T U V W X (sonic, [illegible], [illegible], [illegible], electric, [illegible], geologic, [illegible], [illegible], induction, [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], [illegible], other)

4 Type of Water Analyses Codes

A B C D E (chemical, bacteriological, radioactive, [illegible], other)

FORM. NO. [illegible]94-C

U.S. DEPT. OF [illegible] INTERIOR
GEOLOGIC[illegible] [illegible]RVEY
WATER RESOURCES DIVISION

USGS 1-3

GROUND WATER SITE INVENTORY
MODIFICATIONS SCHEDULE

Site Ident. No. 385300111153701

Check One X English Metric Units

MODIFICATION TRANSACTIONS

SUBMISSION

Date	Initials	Done

R=183* T=A* 185='CASING LEFT IN HOLE & HOLE DESTROYED 1*

0 = ZERO | Ø = ALPHA O | 1 = ONE | 1 = ALPHA I | 2 = TWO | Z = ALPHA Z | / = SLASH | | = VERT. BAR | | = MINUS | | = HORZ. BAR

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = (A) * (add)

New Card Same R&T

185 = 'HOLE DRILLED TO DEPTH OF 725 FT. DEPTH '*

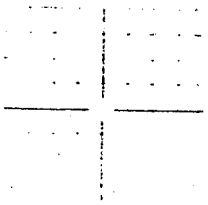
185 = 'OF BOTTOM OF PACKER SET AT 600 FT. AT '*

185 = 'BLUEGATE/FERRON CONTACT. '*

(REMARKS CONT. ON MODIFICATION SCHEDULE)

NOTES

0-10 sand gravel
10-50 weathered bluegate shale
hmb 50-598 bluegate shale
hmf 598-610 coarse grained light gray sandstone, some shale
610-620 med. to fine grained light grey SS, some shale
620-630 silty, med grained SS
630-640 silty, med. grained light gray SS, some shale
640-650 med. grained gray SS, some shale, coal
650-660 dark gray siltstone, very fine grained SS
"IS" — 660-670 coal
670-680 dark gray shale, siltstone, very fine SS
680-690 dark gray siltstone, some coal
690-700 siltstone, shale
700-710 clay, grey siltstone, some shale
710-720 grey siltstone, med. gray SS
720-725 gray siltstone, med. gray SS.



FORM NC 9-190a — A

SITE NO USGS 1-4

Recorded by J. DOGE

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 12-20-78

Check One X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 38.54.25/1.1.1/16.09.0.1 (15)

RG Number R = 0

Transaction T = A D M V (add, delete, modify, verified)

Site-Type 2 = C D H I M P T W (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well; well, shaft)

Data Reliability 3 = C U L M (field checked, unchecked, location not, minimal; accurate, data)

Reporting Agency 4 = USGS

Project No. 5 = 464913400

District 6 = 49

State 7 = 49

County (or town) EMERY

8 = 015

Latitude 9 = 39.52.26 (deg, min, sec)

Longitude 10 = 111.16.08 (deg, min, sec)

Lat/Long Accuracy 11 = S F T M (sec, 5 sec, 10 sec, Min.)

Local Number 12 = (D-22-6)17ABC

Land Net Loc. 13 = NENWSW (1/16, 1/4, 1/4) S 17 (section) T 22 (township) R 6 (range) (Meridian)

Location Map 14 = EMERY WEST QUAD

Scale 15 = 24000

Altitude 16 = 6280

Method of Measurement 17 = A L M (altimeter, level, map)

Accuracy 18 = 20

Topo Setting 19 = D C E F H K L O P S T U V W (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland flat, draw)

Hydrologic Unit (HUC) 20 = 14070002

Date of First Construction Completion 21 = 12 (month) 04 (day) 1978 (year)

Use of Site 23 = A D E G H Ø M P R S T U W X Z (anode, drain, geothermal, seismic, heat, reservoir, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T U Y Z (air cond, bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = ___

Tertiary Use of Water 26 = ___

Depth of Hole 27 = 1100

Depth of Well 28 = ___

Source of Depth Data ① 29 = L

Water Level 30 = +6.05 −29.00

Date Measured 31 = 12 (month) 14 (day) 1978 (year)

Source ① 33 = S

Method of Measurement 34 = A C E G H L M R S T V Z (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D E G H Ø P R S T V X Z (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 38 = L

Pump Used 39 = X (no)

Measuring Point 266 = ___

Measuring Point Date 267 = ___ (month, day, year)

OWNER IDENTIFICATION (1)

R = 158

T = A D M (add, delete, modify)

Date of Ownership 159 # ___ / ___ / ___ (month, day, year)

Name: Last 161 = ___

First 162 = ___

Middle Initial 163 = ___

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189

T = A D M (add, delete, modify)

Ident 190 # ___

Assigner 191 = ___

New Card Same R & T

Ident 190 # ___

Assigner 191 = ___

SITE VISIT DATA (1)

R = 186

T = A D M (add, delete, modify)

Date of Visit 187 # ___ / ___ / ___ (month, day, year)

Name of Person 188 = ___

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192

T = A D M (add, delete, modify)

Date 193 # 12/14/1978 (month, day, year)

Geohydrologic Unit 195 = 211FCRN

New Card Same R thru 195

Temperature 196 # 00015

Degrees C 197 = 000015.5

Conductance 196 # 00095

Micros 197 = 1475.

Other (STORET) Parameter 196 # 00400

Value 197 = 000008.1

Other (STORET) Parameter 196 # ___

Value 197 = ___

FOOT NOTES.

① Source of Data Codes:

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, local, geologist, other)

WELL CONSTRUCTION DATA 1

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 = 001 * | Date of Construction Completion 60 = 12 / 4 / 1973 * (month / day / year) | Source of Construction Data 64 = S *

Name of Contractor/Driller 63 = L. WELLS *

Method of Construction 65 = A (air rotary) B (bored or augured) C (cable tool) D (rug) H (hydraulic rotary) J (jetted) P (air percussion) R (reverse rotary) T (trenching) V (vac) W (drive wash) Z (other) *

Finish 66 = C (porous concrete) F (gravel w. perf) G (gravel screen) H (horizontal gallery) O (open end) P (perforated or slotted) S (screen) T (sand point) W (walled) X (open hole) Z (other) * | Type of Seal 67 = B (bentonite) C (clay) G (cement grout) Z (other) *

Bottom of Seal 68 = * | Method of Development 69 = A (air-lift pump) B (bailed) C (compressed air) J (jetted) N (none) P (other pump) S (surged) Z (other) * | Number of Hours in Development 70 = *

Special Treatment During Development 71 = C (chemicals) D (dry ice) E (explosives) F (deflocculent) H (hydrofracturing) M (mechanical) Z (other) *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 = 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 40. *	75 = 6.0 *
73 # 40. *	74 = 1100. *	75 = 5.0 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 = 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 40. *	79 = 6.00 *	80 = P *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # * | New Card for Each Open Section With Same R, T and Field 59

	(Openings Data	(Openings Data	(Openings Data
Top of Section Below LSD	83 # *	83 # *	83 # *
Bottom of Section Below LSD	84 = *	84 = *	84 = *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency) D (driller) E (other) A (other gov't) R (other reported) L (log) G (geologist) Z (other)

5 Casing Material Codes

B (brick) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (rock or stone) S (steel) T (tile) U (ceramic steel) W (wood) Z (other)

6 Type of Openings Codes

F (fracture) L (louvered shuttered) M (mesh) P (perforated or slotted) R (wire wound) S (screen, unknown) T (sand point) W (walled) X (open hole) Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (rain ms. steel) S (steel) T (tile) Z (other)

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 = 001 * | Date 148 = 12 / 14 / 1979 * (month day year)

Discharge: 150 = 3.33 * | Source of Data[1] 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z *
(bailer, current meter, estimated, flume, totalizing meter, orifice, pitot tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source of Data[1] 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z *
(airline, airline, calibrated, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, recorder tape, steel tape, electric tape, other)

Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 # *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year) | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 # * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 262 = *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 # *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log[2]	Begin Depth	End Depth	Source of Data[1]
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1978 * | End Year 116 = 1978 * | Source Agency 117 = USGS *

Frequency of Collection[3] 118 = Ø * | Network Site 257 = * | Type of Analyses[4] 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = 1978 * | Source Agency 124 = USGS *

Frequency of Collection[3] 125 = Ø * | Network Site 258 = *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection[3] 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

[1] Source of Data Codes:

S D O A R L G Z
(reporting agency, driller, owner, other gov't, other reported, log, geophysical, other)

[3] Frequency of Collection Codes

A B C D F I M Ø Q S W Z
(annual, bi-monthly, continuous, daily, semi-monthly, 1-time, short term, monthly, one time only, quarterly, annual, semi-annual, weekly, other)

[2] Type of Log Codes

A B C D E F G H I J K L M N Ø P Q
(time, caliper, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, diameter, acoustic, microlog, neutron, ø, later, photo, radioactive)

S T U V Z
(sonic, temp, gamma, fluid, other gamma velocity)

[4] Type of Quality Analyses Codes

A B C D E F G H J K L M Z
(physical, common chemical, trace elements, [illegible], [illegible], mercury, organic B&D, organic B&E, organic B&F, organic D&E, organic C,D&E, other, other)

FORM. NO. [illegible]-C

U.S. DEPT. OF [illegible]TERIOR
GEOLOGIC[illegible]RVEY
WATER RESOURCES DIVISION

GROUND WATER SITE INVENTORY
MODIFICATIONS SCHEDULE

USGS. 1-4

Site Identification No. 385426 1111 60801

Check One X English ..... Metric Units

MODIFICATION TRANSACTIONS

SUBMISSION

Date	Initials	Done (✓)

R=183* T=A* 185=\WAS SET. FLOWED 5GAL./2MIN. C-14 SAMPLE/*
\TAKEN & QW SAMPLE TAKEN ON 12/14/1975. /*

0 - ZERO | 0 - ALPHA O | 1 - ONE | 1 - ALPHA I | 2 - TWO | 2 - ALPHA Z | / - SLASH | | - VERT. BAR | | - MINUS | | - HORZ. BAR

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = 'HOLE DRILLED TO DEPTH OF 1100FT. TOP OF '*
185 = 'PACKER SET AT DEPTH OF 1035FT. HOLE FLOW'*
185 = 'ED AT 15:00 ON 12/13/1978 AFTER PACKER '*

NOTES:

0-60 sand, gravel, boulders (surface water)
60-1043 shale
1043-1060 fine grain, light grained SS, siltstone
1060-1075 clayish siltstone, fine grained SS
1075-1100

U. S. GOVERNMENT PRINTING OFFICE : 1978 O - 213-[illegible]

FORM NO 9-1904-A

SITE NO USGS. Z-1

Recorded by V. DODGE

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 12-21-78

Check One: X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No: 385045 111171801 (5–19)

RG Number: R = 0 *

Transaction: T = (A) D M V * (add, delete, modify, verified)

Site-Type: 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well shaft, well)

Data Reliability: 3 = (C) U L M * (field checked, unchecked, location not, minimal accurate data)

Reporting Agency: 4 = USGS *

Project No.: 5 = 464913400 *

District: 6 = 49 *

State: 7 = 49 *

County (or town): EMERY

8 = 015 *

Latitude: 9 = 385045 * (deg min sec)

Longitude: 10 = 1111718 * (deg min sec)

Lat-Long Accuracy: 11 = S F (T) M * (sec, 5 sec, 10 sec, Min)

Local Number: 12 = (D-23-6) 6ACC *

Land Net Loc.: 13 = NESWSW S 6 T 23 R 6 * (1/4 1/4 1/4 section, township, range, merid)

Location Map: 14 = WALKER FLAT QUAD *

Scale: 15 = 24000 *

Altitude: 16 = 6050. *

Method of Measurement: 17 = A L (M) * (altimeter, level, map)

Accuracy: 18 = 20 *

Topo Setting: 19 = D C E (F) H K L O P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC): 20 = 14070002 *

Date of First Construction Completion: 21 = 11 20 1978 * (month day year)

Use of Site: 23 = A D E G H Ø M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat reservation, observation, mine, oil or gas, recharge, repress, rest, unused, with waste, destroyed, plowal)

Use of Water: 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond, bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desa, other)

Secondary Water Use: 25 = *

Tertiary Use of Water: 26 = *

Depth of Hole: 27 = 720.0 *

Depth of Well: 28 = *

Source of Depth Data (1): 29 = S *

Water Level: 30 = -112. *

Date Measured: 31 = 11 28 1978 * (month day year)

Source (1): 33 = S *

Method of Measurement: 34 = A C E (G) H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status: 37 = D F (E) G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data (1): 36 = L *

Pump Used: 35 = X * (no)

Measuring Point: 266 = *

Measuring Point Date: 267 = * (month day year)

OWNER IDENTIFICATION (1)

R = 158 *

T = A D M * (add, delete, modify)

Date of Ownership: 159 # / / * (month day year)

Name: Last: 161 = *

First: 162 = *

Middle Initial: 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 *

T = A D M * (add, delete, modify)

Ident: 190 # *

Assigner: 191 = *

New Card Same R & T

Ident: 190 # *

Assigner: 191 = *

SITE VISIT DATA (1)

R = 186 *

T = A D M * (add, delete, modify)

Date of Visit: 187 # / / * (month day year)

Name of Person: 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 *

T = (A) D M * (add, delete, modify)

Date: 193 # 11 28 1978 * (month day year)

Geohydrologic Unit: 195 = 211FR2N *

New Card Same R thru 195

Temperature: 196 # 00010 *

Degrees C: 197 = 000013.5 *

Conductance: 196 # 00095 *

197 = 001400. *

Other (STORET) Parameter: 196 # 00400 *

197 = 000008.9 *

Other (STORET) Parameter: 196 # *

Value: 197 = *

FOOT NOTES:

(1) Source of Data Codes:

S D Ø A R L G Z

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 11/20/1978 * (month day year) | Source of Const. Data 54 = C *

Name of Contractor Driller 63 = L. FINN *

Method of Construction 65 = A B C D H J P R T V W Z *
(A rotary, B bored or augered, C cable tool, D dug, H hydraulic, rotary, J jetted, P air-percussion, R reverse rotary, T trenching, V driven, W drive wash, Z other)

Finish 66 = C F G H Ø F S T W X Z *
(C porous concrete, F gravel w. pert, G gravel screen, H horizontal gallery, Ø open end, F perforated or slotted, S screen, T sand point, W walled, X open hole, Z other)

Type of Seal 67 = B C G Z *
(B bentonite, C clay, G cement grout, Z other)

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
(A air-lift pump, B bailed, C compressed air, J jetted, N none, P other pump, S surged, Z other)

Number of Hours in Development 70 = 1 *

Special Treatment During Development 71 = C D E F H M Z *
(C chemicals, D dry ice, E explosives, F defloculent, H hydrofracturing, M mechanical, Z other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 12. *	75 = 6.0 *
73 # 12.0 *	74 = 720. *	75 = 5.0 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 12.00 *	79 = 6.00 *	80 = 5 *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # . *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = . *	84 = . *	84 = . *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = . *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES:

1 Source of Data Codes.
S D Ø A R L G Z
(reporting agency, driller, owner, other, govt, other reported, logs, geologist, other)

5 Casing Material Codes
B C G I M P R S T U W Z
(brick, concrete, galv. iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, coated steel, wood, other)

6 Type of Openings Codes
F L M P R S T W X Z
(fracture, louvered, shuttered, mesh, perforated or slotted, wire wound, screen, unknown, sand point, walled, open hole, other)

7 Type of Material Codes for Open Sections
B C G I M P R S T Z
(brass or bronze, concrete, galv. iron, wrought iron, other metal, PVC or plastic, stainless steel, steel, tile, other)

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 = 101 * | Date 148 = 11 2 1978 * (month day year)

Discharge: 150 = 3.53 * | Source of Data 151 = S *

Method of Measurement: 152 = B C E F M O P R T U V W Z * (baler, current meter, estimated, flume, totalizing meter, orifice, pitot tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level: 153 = 3.0 * | Static Level: 154 = -112.00 * | Source of Data 155 = S * | Specific Capacity: 272 = *

Method of Measurement: 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, pressure gage, prophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Pumping Period: 157 = 1.7 *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift: 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 # *

Pump Intake Setting: 44 = * | Type of Power: 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date: 38 = / / * (month day year) | Horsepower: 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift: 43 # * | Lift Entry Nr: 254 # * | Manufacturer of Pump: 48 = *

Serial No of Pump: 49 = * | Name of Power Company: 50 = *

Power Company Account No: 51 = * | Power Meter No: 52 = * | Pump Rating: 53 = *

Person or Company Who Maintains the Pump: 54 = * | Additional Lift: 258 = * | Rated Pump Capacity: 268 = *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift: 43 # * | Type of Power: 56 = * | Horsepower: 57 = * | Lift Entry No: 254 # *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log (2)	Begin Depth	End Depth	Source of Data (1)
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1978 * | End Year 116 = 1978 * | Source Agency 117 = USGS *

Frequency of Collection (3) 118 = Q * | Network Site 257 = * | Type of Analyses (4) 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = 1978 * | Source Agency 124 = USGS *

Frequency of Collection (3) 125 = Q * | Network Site 258 = *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection (3) 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (form, machine, published, other readable)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES

(1) Source of Data Codes: S D C A P L C Z (reported, other agency, other reported, other)

(3) Frequency of Collection Codes: A B C D F I M Q C S W Z (annual, biennial, monthly, quarterly, semi-annual, weekly, other)

(2) Type of Log Codes: A B C D E F G H I J K L M N P Q (time, caliper, caliper, drillers, electric, fluid conduct, geologist, magnetic, induction, gamma ray, diameter, lateral, micro log, neutron, water, photo, radioactive)

S T U V Z (sonic, temp, gamma, fluid, other gamma velocity)

(4) Type of Quality Analyses Codes: A B C D E F G H J K L M Z (physical, cultural chemical, trace elements, nutrients, other, S&D, S&E, B&E, B&T, DAE, C,D&E, other)

FORM. NO. [illegible]-C

U.S. DEPT. OF [illegible]TERIOR
GEOLOGIC[illegible]RVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
MODIFICATIONS SCHEDULE

USGS-2-1A
(D-23-6)6ACC

Site Ident. No. 385045111171801 19

Check One X English ___ Metric Units

MODIFICATION TRANSACTIONS

SUBMISSION

Date	Initials	Done (✓)

```
R=192* T=A* 193#11/21/1978* 195#21 1FRRN*
196#0001 0* 197=000012.5*
196#00095* 197=001975*
196#00400* 197=000008.2*

R=146* T=A* 147#2* 148=11/21/1978*
150=0.14* 151=S*
152=F*
153=129.67* 154=18.60* 155=S*
156=T* 157=1.0*

R=183* T=A* 185=\ COLLECTED 3 15GAL DRUMS FOR C-14 SAMPLE/
\ AT 13115; QW SAMPLE COLLECTED; K=1400, /
\ T=13.5C. pH=8.9 STATIC WATER LEVEL=-122. /
\ ON 11/21/1978 WHEN HOLE WAS AT DEPTH OF/
\ 385FT. QW SAMPLE TAKEN; K=1975; T=12.5; /
\ pH=8.2.
```

|0| - ZERO |O| - ALPHA O |1| - ONE |I| - ALPHA I |2| - TWO |Z| - ALPHA Z |/| - SLASH |||- VERT. BAR |-| = MINUS |_| - HORZ. BAR

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 125 = * | % Water Contributed 132 = *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 * | T = A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91 = * | Depth to Bottom 92 = *

Unit Identifier 93 = * | Lithology 96 = * | Lithologic Modifier 97 = *

AQUIFER DATA (2)

R = 94 * | T = A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 125 = * | % Water Contributed 132 = *

PERTINENT REMARKS

R = 183 * | T = A * (add)

New Card Same R&T

185 = HOLE DRILLED TO DEPTH OF 720 FT. DEPTH OF *

185 = BOTTOM OF PACKER AT 645 FT. ON 11/23/1973 *

185 = BEGAN FLOWING @ 12:00; FLOW = 1 GAL/17 SEC; *

(CONT. ON GWSI MODIFICATIONS SCHEDULE)

NOTES:

0-20 weathered Bluegate shale
20-280 gray Bluegate shale
280-340 - fine grain gray SS, + shale
340-350 - dark gray shale, some coal
350-360 - dark gray shale, some SS.
360-370 - med. grain SS, shale
370-380 - med. grain, light gray SS.
380-390 - gray SS, mixed dark gray shale
390-400 - coal, some shale
400-410 - siltstone, little coal
410-420 - gray clayish siltstone, some shale
420-430 - med. grain, gray SS. some shale
430-440 - coal, some shale
440-450 - clayish siltstone + shale, some SS.
450-460 - gray siltstone + SS
460-470 - med. grain SS., some soft yellow chunks
470-480 - med. grain, gray SS (yellow chunks)
480-490 - gray SS., some coal + shale
490-495 - med. grain, gray SS
495-500 - coal
500-510 - gray, clayish siltstone, yellow chunks
510-540 - gray siltstone, very fine gray SS.
540-548 - dark gray siltstone, very fine - light gray SS, yellow flecks
548 - stopped cutting, out of hole to check bit
548-560 - gray siltstone, clayish, fine SS
560-570 - gray siltstone, fine SS, coal
570-580 - coal + yellow chunks, dark gray siltstone
580-590 gray siltstone (yellow chunks)
590-600 lgt. gray siltstone, very fine gray SS.
600-610 dark gray siltstone, some shale
610-630 - gray siltstone, very fine sand (yellow chunks)
630-640 - siltstone, sand + coal
640-650 - dark gray siltstone, mixed coal
650-655 - dark gray siltstone, very fine sand
"A" 655-660 - coal
660-670 - fine grained gray SS, silty, yellow chunks
670-680 - silty, fine grained gray SS.
680-690 - gray siltstone, very fine SS.
690-700 - gray siltstone, chunks of mudstone
700-710 - gray siltstone, mudstone chunks, shale
710-720 - dk. gray shale, some siltstone + sandstone

"IS"

U. S. GOVERNMENT PRINTING OFFICE : 1974 O - 215-137

FORM NO 9-1904-A

SITE NO USGS 2-3

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Recorded by V DODGE

Date 12-21-78

Check One X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385049 111153101 (5 … 19)

RG Number R = 0 *

Transaction T = (A) D M V * (add, delete, modify, verified)

Site-Type 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well shaft, well)

Data Reliability 3 = (C) U L M * (field checked, unchecked, location not, minimal accurate data)

Reporting Agency 4 = U.S.G.S. *

Project No. 5 = 464913400 *

District 6 = 49 *

State 7 = 49 *

County (or town) EMERY 8 = 015 *

Latitude 9 = 385049 * (deg min sec)

Longitude 10 = 111153 1 * (deg min sec)

Lat-Long Accuracy 11 = S F (T) M * (sec, 5 sec, 10 sec, Min)

Local Number 12 = (D-23-6) 43CB *

Land Net Loc. 13 = NW SW NW S 4 T 23 R 6 * (1/4 1/4 1/4 section township range merid)

Location Map 14 = WALKER FLAT QUAD *

Scale 15 = 24000 *

Altitude 16 = 6120.00 *

Method of Measurement 17 = A L (M) * (altimeter, level, map)

Accuracy 18 = 20 *

Topo Setting 19 = D C E (F) H K L Ø P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC) 20 = 14070002 *

Date of First Construction/Completion 21 = 11 29 1978 * (month day year)

Use of Site 23 = A D E G H Ø M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat reservation, observation, mine, oil or gas, recharge, repress, test, unused, with drawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = *

Tertiary Use of Water 26 = *

Depth of Hole 27 = 440.00 *

Depth of Well 28 = *

Source of Depth Data (1) 29 = S *

Water Level 30 = 288.99 *

Date Measured 31 = 12 01 1978 * (month day year)

Source (1) 33 = S *

Method of Measurement 34 = A C E G H L M R S (T) V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data (1) 36 = L *

Pump Used 35 = X * (no)

Measuring Point 266 = 0.98 *

Measuring Point Date 267 = 12 01 1978 * (month day year)

OWNER IDENTIFICATION (1)

R = 158 *

T = A D M * (add, delete, modify)

Date of Ownership 159 # / / * (month day year)

Name: Last 161 = *

First 162 = *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 *

T = A D M * (add, delete, modify)

Ident 190 # *

Assigner 191 = *

New Card Same R & T

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 *

T = A D M * (add, delete, modify)

Date of Visit 187 # / / * (month day year)

Name of Person 188 = *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 *

T = (A) D M * (add, delete, modify)

Date 193 # 12 / 1978 * (month day year)

Geohydrologic Unit 195 = 211FRRN *

New Card Same R thru 195

Temperature 196 # 00010 *

Degrees C 197 = 000014.0 *

Conductance 196 # 00095 *

µMhos 197 = 003400. *

Other (STORET) Parameter 196 # 00400 *

Value 197 = 000008.4 *

Other (STORET) Parameter 196 # *

Value 197 = *

FOOT NOTES:

(1) Source of Data Codes

S D Ø A P L G Z (reporting agency, driller owner, other agency, other reported, logs, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = (A) D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 11 / 29 / 1978 * (month day year) | Source of Const. Data 64 = S *

Name of Contractor/Driller 63 = L. FINN *

Method of Construction 65 = (A) B C D H J P R T V W Z *
(A) air rotary, B bored or augered, C cable tool, D dug, H hydraulic, rotary, J jetted, P air percussion, R reverse rotary, T trenching, V driven, W drive wash, Z other

Finish 66 = C F G H O P S T W X (Z) *
C porous concrete, F gravel w. peel, G gravel screen, H horizontal gallery, O open end, P perforated or slotted, S screen, T sand point, W walled, X open hole, (Z) other

Type of Seal 67 = B C G Z *
B bentonite, C clay, G cement grout, Z other

Bottom of Seal 68 = *

Method of Development 69 = A B C (J) N P S Z *
A air-lift pump, B bailed, C compressed air, (J) jetted, N none, P other pump, S surged, Z other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
C chemicals, D dry ice, E explosives, F deflocculent, H hydrofracturing, M mechanical, Z other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 60.00 *	75 = 6.0 *
73 # 60. *	74 = 440.00 *	75 = 5.0 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 60. *	79 = 6.00 *	80 = S *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # . *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = . *	84 = . *	84 = . *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = . *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES:

1 Source of Data Codes:
S D Ø A P L G Z
reporting agency, driller, owner, other, gov't, other reported, logs, geologist, other

5 Casing Material Codes
B C G I M P R S T U W Z
brick, concrete, galv. iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, coated steel, wood, other

6 Type of Openings Codes
F L M P R S T W X Z
fracture, louvered, shuttered, mesh, perforated or slotted, wire wound, screen (unknown), sand point, walled, open hole, other

7 Type of Material Codes for Open Sections
B C G I M P R S T Z
brass or bronze, concrete, galv. iron, wrought iron, other metal, PVC or plastic, stainless steel, steel, tile, other

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147 # 001 * | Date 148 = 12 01 1978 * (month day year)

Discharge 150 = 50 * | Source of Data 1 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z * (bailer, current meter, estimated, flume, totaling meter, orifice, pitot-tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = * | Static Level 154 = * | Source of Data 1 155 = * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other) | Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43 # A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 # *

Pump Intake Setting 44 = * | Type of Power 45 = D E G H L N W Z * (diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = (month day year) * | Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Lift Entry No 254 # * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = * | Name of Power Company 50 = *

Power Company Account No 51 = * | Power Meter No 52 = * | Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = * | Additional Lift 255 = * | Rated Pump Capacity 268 = *

STANDBY POWER DATA (2) (See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43 # * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 # *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify) | New Card for Each Log Type Same R & T

Type of Log 2	Begin Depth	End Depth	Source of Data 1
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *
199 # *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115 # 1978 * | End Year 116 = 1978 * | Source Agency 117 = USGS *

Frequency of Collection 3 118 = Ø * | Network Site 257 = * | Type of Analyses 4 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122 # 1978 * | End Year 123 = 1978 * | Source Agency 124 = USGS *

Frequency of Collection 3 125 = Ø * | Network Site 258 = *

WATER PUMPAGE/WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128 # * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection 3 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181 # * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (files, machine, published, other readable)

New Card Same R & T | Type of Data 181 # * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

1 Source of Data Codes: S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

3 Frequency of Collection Codes: A B C D F I M Ø Q S W Z (annual, bi-monthly, continuous, daily, semi-monthly, intermittent, monthly, one time only, quarter annual, semi-annual, weekly, other)

2 Type of Log Codes: A B C D E F G H I J K L M N Ø P Q (time, collar, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, μ later, photo, radio-active)

S T U V Z (sonic, temp, gamma gamma, fluid velocity, other)

4 Type of Quality Analyses Codes: A B C D E F G H J K L M Z (physical, common chemical, trace elements, pesticides, nutrients, sanitary, codes B&D, codes B&E, codes B&F, codes D&E, codes C,D&E, all or most, other)

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 | T = A D M (add, delete, modify) | Entry No 256 # | Depth to Top 91 = | Depth to Bottom 92 =

Unit Identifier 93 = | Lithology 96 = | Lithologic Modifier 97 =

AQUIFER DATA (2)

R = 94 | T = A D M (add, delete, modify) | Geohydrologic Unit Entry No 256 #

Date 95 # (month / day / year) | Water Level 126 = | % Water Contributed 132 =

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R = 90 | T = A D M (add, delete, modify) | Entry No 256 # | Depth to Top 91 = | Depth to Bottom 92 =

Unit Identifier 93 = | Lithology 96 = | Lithologic Modifier 97 =

AQUIFER DATA (2)

R = 94 | T = A D M (add, delete, modify) | Geohydrologic Unit Entry No 256 #

Date 95 # (month / day / year) | Water Level 126 = | % Water Contributed 132 =

PERTINENT REMARKS

R = 183 | T = A (add) | 185 =

New Card Same R&T | 185 =

185 =

NOTES:

0-10- Deeply weathered, fine grained SS + siltstone
10-30- Moderately weathered, fine grained SS + siltstone
30-60- Slightly weathered, fine grained SS.
60-120- Unweathered siltstone, some SS + shale
120-130- Coal on top & siltstone
130-155- Fine grained SS & siltstone
160-170 - Coal
170-180 - Coal (±5') + siltstone
180-230 - fine grained SS.
230-255- siltstone
255-260 - Coal
260-310 - equal amts. of coal, SS, siltstone
310-320 - fine grained SS, some siltstone
320-330 - H. gray siltstone & equal amt. H. brown fine grained SS, some coal
330-340 - H. brown fine grained SS, some moisture @ ±135 ft.
340-440 - H. gray fine grained SS.

U. S. GOVERNMENT PRINTING OFFICE : 1976 O - 213-137

FORM NO 9-1904- A

SITE NO USGS 2-4A&B

Recorded by J. DODGE

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 12-22-78

Check One X English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385155111141301 (5–19) | RG Number R=0 * | Transaction T= (A) D M V * (add, delete, modify, verified)

Site-Type 2= C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well shaft, well) | Data Reliability 3= (C) U L M * (field checked, unchecked, location not, minimal accurate data) | Reporting Agency 4= USGS *

Project No. 5= 464913400 * | District 6= 49 * | State 7= 49 * | County (or town) EMERY | 8= 015 *

Latitude 9= 385155 * (deg min sec) | Longitude 10= 1111418 * (deg min sec) | Lat-Long Accuracy 11= S F (T) M * (sec 5 sec, 10 sec, Min)

Local Number 12= (D-22-6)3433A * | Land Net Loc. 13= NWNWNE S 34 T 22 R 6 * (1/4 1/4 1/4 section, township, range, merid)

Location Map 14= MESA BUTTE QUAD * | Scale 15= 24000 *

Altitude 16= 6110. * | Method of Measurement 17= A L (M) * (altimeter, level, map) | Accuracy 18= 20 *

Topo Setting 19= D 1026 E F H K L Ø P (S) T U V W * (depression, stream, channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, flat, upland draw) | Hydrologic Unit (OWDC) 20= 14070002 *

Date of First Construction/Completion 21= 12 06 1978 * (month day year) | Use of Site 23= A D E G H Ø M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, with drawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T (U) Y Z * (air cond, bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25= * | Tertiary Use of Water 26= * | Depth of Hole 27= 360.00 * | Depth of Well 28= * | Source of Depth Data ① 29= 5 *

Water Level 30= 84.4 * | Date Measured 31= 12 14 1978 * (month day year) | Source ① 33= 5 *

Method of Measurement 34= A C E G H L M R (S) T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37= D F G H Ø P (R) S T V X Z * (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36= L * | Pump Used 35= X * (no) | Measuring Point 266= 1.30 * | Measuring Point Date 267= 12 14 1978 * (month day year)

OWNER IDENTIFICATION (1)

R=158 * | T= A D M * (add, delete, modify) | Date of Ownership 159 # / / * (month day year)

Name: Last 161= * | First 162= * | Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * | T= A D M * (add, delete, modify) | Ident 190 # * | Assigner 191= *

New Card Same R & T | Ident 190 # * | Assigner 191= *

SITE VISIT DATA (1)

R=186 * | T= A D M * (add, delete, modify) | Date of Visit 187# / / * (month day year) | Name of Person 188= *

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * | T= (A) D M * (add, delete, modify) | Date 193 # 12 14 1978 * (month day year) | Geohydrologic Unit 195 = 211 FEEN *

New Card Same R thru 195

Temperature 196# 00010 * | Degrees C 197= 000009.0 *

Conductance 196# 00095 * | µMhos 197= 001325. *

Other (STORET) Parameter 196# 00400 * | Value 197= 000009.1 *

Other (STORET) Parameter 196# * | Value 197= *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 12 / 06 / 1973 * (month, day, year) | Source of Const. Data 64 = S *

Name of Contractor Driller 62 L. FINN *

Method of Construction 65 = A B C D H J P R T V W Z *
(A: air, rotary; B: bored, or augered; C: cable, tool; D: dug; H: hydraulic, rotary; J: jetted; P: air-percussion; R: reverse, rotary; T: trenching; V: driven; W: drive wash; Z: other)

Finish 66 = C F G H Ø P S T W X Z *
(C: porous, concrete; F: gravel w. perf.; G: gravel, screen; H: horizontal, gallery; Ø: open, end; P: perforated, or slotted; S: screen; T: sand point; W: walled; X: open, hole; Z: other)

Type of Seal 67 = B C G Z *
(B: bentonite; C: clay; G: cement, grout; Z: other)

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
(A: air-lift, pump; B: bailed; C: compressed, air; J: jetted; N: none; P: other, pump; S: surged; Z: other)

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
(C: chemicals; D: dry ice; E: explosives; F: defloculent; H: hydrofracturing; M: mechanical; Z: other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0. *	74 = 60.0 *	75 = 6.0 *
73 # 60.0 *	74 = 360.0 *	75 = 5.0 *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *
73 # . *	74 = . *	75 = . *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0. *	78 = 60.0 *	79 = 6.0 *	80 = S *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *
77 # . *	78 = . *	79 = . *	80 = *	81 = . *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # . *	83 # . *	83 # . *
Bottom of Section Below LSD	84 = . *	84 = . *	84 = . *
Type of Openings 6	85 = *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = . *	87 = . *	87 = . *
Width of Opening	88 = . *	88 = . *	88 = . *
Length of Opening	89 = . *	89 = . *	89 = . *

FOOT NOTES:

1 Source of Data Codes:
S D Ø A R L G Z
(S: reporting agency; D: driller; Ø: owner; A: other gov't; R: other reported; L: logs; G: geologist; Z: other)

5 Casing Material Codes
B C G I M P R S T U W Z
(B: brick; C: concrete; G: galv. iron; I: wrought iron; M: other metal; P: PVC or plastic; R: rock or stone; S: steel; T: tile; U: coated steel; W: wood; Z: other)

6 Type of Openings Codes
F L M P R S T W X Z
(F: fracture; L: louvered shuttered; M: mesh; P: perforated, or slotted; R: wire-wound; S: screen, (unknown); T: sand point; W: walled; X: open, hole; Z: other)

7 Type of Material Codes for Open Sections
B C G I M P R S T Z
(B: brass or bronze; C: concrete; G: galv. iron; I: wrought iron; M: other metal; P: PVC or plastic; R: stainless steel; S: steel; T: tile; Z: other)

PRODUCTION DATA (1)

R = 134 146 * (flowing, pumped) | T = A D M * (add, delete, modify) | Entry No 147# 001 * | Date 148 = 12 14 1979 (month day year)

Discharge: 150 = 50 *

Source of Data 1 151 = S *

Method of Measurement 152 = B C E F M O P R T U V W Z *
(boiler, current meter, estimated, flume, totaling meter, orifice, pitot-tube meter, reported, trajectory, venturi, volumetric, weir, other)

Production Level 153 = *

Static Level 154 = 84.4 * | Source of Data 1 155 = S * | Specific Capacity 272 = *

Method of Measurement 156 = A C E G H L M R S T V Z *
(airline, airline calibrated, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Pumping Period 157 = *

LIFT DATA (1)

R = 42 * | T = A D M * (add, delete, modify) | Type of Lift 43# A B C J P R S T U Z * (air, bucket, centrifugal, jet, piston, rotary, submergible, turbine, unknown, other) | Entry No 254 = *

Pump Intake Setting 44 = *

Type of Power 45 = D E G H L N W Z *
(diesel, electric, gasoline, hand, LP gas, natural gas, windmill, other)

Date 38 = / / * (month day year)

Horsepower 46 = *

MAJOR PUMP DATA (2)

R = 47 * | T = A D M * (add, delete, modify) | Type of Lift 43# * | Lift Entry No 254 = * | Manufacturer of Pump 48 = *

Serial No of Pump 49 = *

Name of Power Company 50 = *

Power Company Account No 51 = *

Power Meter No 52 = *

Pump Rating 53 = *

Person or Company Who Maintains the Pump 54 = *

Additional Lift 255 = *

Rated Pump Capacity 258 = *

STANDBY POWER DATA (2)

(See LIFT DATA for codes of fields 43 and 56 below)

R = 55 * | T = A D M * (add, delete, modify) | Type of Lift 43# * | Type of Power 56 = * | Horsepower 57 = * | Lift Entry No 254 = *

AVAILABLE LOG DATA (1)

R = 198 * | T = A D M * (add, delete, modify)

New Card for Each Log Type Same R & T

Type of Log 2	Begin Depth	End Depth	Source of Data 1
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *
199# *	200 = *	201 = *	202 = *

WATER QUALITY DATA COLLECTION (1)

R = 114 * | T = A D M * (add, delete, modify) | Begin Year 115# 1978 * | End Year 116 = * | Source Agency 117 = USGS *

Frequency of Collection 3 118 = Ø * | Network Site 257 = * | Type of Analyses 4 120 = B *

WATER LEVEL DATA COLLECTION (1)

R = 121 * | T = A D M * (add, delete, modify) | Begin Year 122# 1978 * | End Year 123 = * | Source Agency 124 = USGS *

Frequency of Collection 3 125 = Ø * | Network Site 256 = *

WATER PUMPAGE WITHDRAWAL DATA COLLECTION (1)

R = 127 * | T = A D M * (add, delete, modify) | Begin Year 128# * | End Year 129 = * | Source Agency 130 = *

Frequency of Collection 3 131 = * | Network Site 259 = * | Method of Collection 133 = C E M U Z * (calculated, estimated, metered, unknown, other)

OTHER DATA AVAILABLE (1)

R = 180 * | T = A D M * (add, delete, modify) | Type of Data 181# * | Loc 182 = C D Z * (cooperator, district, other) | Format 261 = F M P Z * (files, machine, published, other vendor)

New Card Same R & T | Type of Data 181# * | Loc 182 = C D Z * | Format 261 = F M P Z *

FOOT NOTES:

1 Source of Data Codes:

S D O A R L G Z
(reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

2 Type of Log Codes

A B C D E F G H I J K L M N O P Q
(time, collar, caliper, driller's, electric, fluid conduct, geologist, magnetic, induction, gamma ray, dipmeter, laterlog, microlog, neutron, u later, photo, radio active)

S T U V Z
(sonic, temp, gamma, fluid gamma, other velocity)

3 Frequency of Collection Codes

A B C D F I M O C S W Z
(annual, bimonthly, continuous, daily, semi monthly, intermittent, monthly, one time only, quarter annual, semi annual, weekly, other)

4 Type of Quality Analyses Codes

A B C D E F G H J K L M Z
(physical, common chemical, trace elements, pesticides, nutrients, sanitary, codes B&D, codes B&E, codes B&F, codes D&E, codes E D&E, all or more, other)

FORM. [illegible]04-C

USGS Z-4A

2.7

U.S. DEPT. O[illegible] INTERIOR
GEOLOG[illegible]RVEY
WATER RESOURCES DIVISION

GROUND WATER SITE INVENTORY
MODIFICATIONS SCHEDULE

Site Ident. No. 385155111141801

Check One X English ___ Metric Units

MODIFICATION TRANSACTIONS

SUBMISSION

Date	Initials	Done (✓)

```
R=192* T=A* 193#12/12/1978* 195#211FRRN*
  196#00010* 197#000010.5*
  196#00095* 197#001100*
  196#00100* 197#000008.9*

R=146* T=A* 147#Z* 148=12/12/1978*
  150=02.7* 151=S*
  152=V*
  154=86.72* 156=S* 157=1.75*

R=183* T=A* 185=\160FT. WATER SAMPLE WAS TAKEN; K=1100;
                \T=10.5; pH=8.9.
```

0	= ZERO	Ø	= ALPHA O	1	= ONE	I	= ALPHA I	2	= TWO	Z	= ALPHA Z	/	= SLASH	|	= VERT. BAR	¦	= MINUS		= HORZ. BAR

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R=90 * | T= A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91= * | Depth to Bottom 92= *

Unit Identifier 93= * | Lithology 96= * | Lithologic Modifier 97= *

AQUIFER DATA (2)

R=94 * | T= A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126= * | % Water Contributed 132= *

GEOHYDROLOGIC UNIT DESCRIPTIONS (1)

R=90 * | T= A D M * (add, delete, modify) | Entry No 256 # * | Depth to Top 91= * | Depth to Bottom 92= *

Unit Identifier 93= * | Lithology 96= * | Lithologic Modifier 97= *

AQUIFER DATA (2)

R=94 * | T= A D M * (add, delete, modify) | Geohydrologic Unit Entry No 256 # *

Date 95 # / / * (month day year) | Water Level 126= * | % Water Contributed 132= *

PERTINENT REMARKS

R=183 * | T= A * (add) | New Card Same R&T

185= 'DEPTH OF HOLE=360.0 FT. TOP OF PACKER SET'*
185= 'AT 268FT. WATER SAMPLE TAKEN WITH K=1325'*
185= 'ON 12/12/1978, WHEN HOLE WAS AT DEPTH OF'*
(CONT. ON MODIFICATION SCHEDULE)

NOTES:

0-10 - sand, gravel, weathered SS.
10-20 - reddish, weathered (burnt?) SS
20-30 - weathered med. grain SS.
30-90 - no recovery due to loose formation, probably burnt coal + clinkers
90-100 - white very fine grained SS.
90-100 - white fine grained SS. Some shale
100-110 - wet fine grained SS, siltstone + dry blue shale, little coal on bottom (picked up water @ 123')
120-130 - shale, siltstone
130-135 - coal
135-140 - interbedded shale, med. grained SS, coal + siltstone
140-150 - siltstone, some SS.
150-160 - fine grained lt. gray SS
160-165 - fine grained SS
165-178 - coal
178-184 - shale, clayish siltstone
184-190 - SS, fine grain, mudstone
190-193 - shale
193-196 - coal
196-200 - SS, siltstone
210-220 - shale, siltstone, lt. fine grain SS
220-230 - very hard lt. gray SS + siltstone
230-250 - very hard lt. gray SS - med grain
250-260 - med. grain lt. gray SS, shale
260-270 - shale, siltstone
270-290 - shale, siltstone
290-360 - med. grain to fine grain lt. gray SS

U. S. GOVERNMENT PRINTING OFFICE

FORM NO 9-1904-A

(D-22-6)19cdb-1

SITE NO. Quitch #1

Recorded by Morrissey

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 10/2/79

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385391111173301 (5–19)
RG Number R=0 *
Transaction T= (A) D M V * (add, delete, modify, verified)
Site-Type 2= C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well shaft, well)
Data Reliability 3= (C) U L M * (field checked, unchecked, location not, minimal accurate data)
Reporting Agency 4= USGS *
Project No. 5= 464913400 *
District 6= 015 *
State 7= 49 *
County (or town) EMERY 8= *
Latitude 9= 385301 * (deg min sec)
Longitude 10= 111733 * (deg min sec)
Lat-Long Accuracy 11= S (F) T M * (sec, 5 sec, 10 sec, Min)
Local Number 12= (D-22-6)19cdb-1 *
Land Net Loc. 13= 1/4 1/4 1/4 S 19 T 22S R 6E D * (section, township, range, merid)
Location Map 14= EMERY WEST QUAD *
Scale 15= 24000 *
Altitude 16= 6070. *
Method of Measurement 17= A L (M) * (altimeter, level, map)
Accuracy 18= 20 *
Topo Setting 19= D C E F H K L Ø P S T U (V) W * (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland, channel, flat, draw)
Hydrologic Unit (GWDC) 20= 14070002 *
Date of First Construction/Completion 21= 4/ /1979 * (month day year)
Use of Site 23= A D E G H Ø M P R S T U (W) X Z * (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or, gas, recharge, repress, test, unused, with, waste, destroyed, drawal)
Use of Water 24= A B C D E F H (I) M N P R S T U Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)
Secondary Water Use 25= *
Tertiary Use of Water 26= *
Depth of Hole 27= 410. *
Depth of Well 28= 410. *
Source of Depth Data ① 29= D *
Water Level 30= 6090. *
Date Measured 31= 5/16/1979 * (month day year)
Source ① 33= S *
Method of Measurement 34= A C E (G) H L M R S T V Z * (airline, calibrated, airline, estimated, pressure gage, calibrated, pressure gage, geophysical, logs, manometer, reported, steel tape, electric tape, calibrated, electric tape, other)
Site Status 37= D (F) G H Ø P R S T V X Z * (dry, flowing, nearby, flowing, nearby, recently flowing, obstruction, pumping, recently, pumped, nearby, pumping, nearby, recently pumped, foreign substance, surface water effects, other)
Source of Geohydrologic Data ① 36= *
Pump Used 35= * (no)
Measuring Point 266= . *
Measuring Point Date 267= / / * (month day year)

OWNER IDENTIFICATION (1)

R=158 * T= (A) D M * (add, delete, modify)
Date of Ownership 159# / / * (month day year)
Name: Last 161= *
First 162= *
Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * T= A D M * (add, delete, modify)
New Card Same R & T
Ident 190# [illegible] *
Assigner 191= CONSOL COAL CO *
Ident 190# *
Assigner 191= *

SITE VISIT DATA (1)

R=186 * T= (A) D M * (add, delete, modify)
Date of Visit 187# 5/31/1979 * (month day year)
Name of Person 188= MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * T= (A) D M * (add, delete, modify)
Date 193# 5/31/1979 * (month day year)
Geohydrologic Unit 195= 211BLGT *
New Card Same R thru 195
Temperature 196# 00010 *
Degrees C 197= 20.5 *
Conductance 196# 00095 *
µMhos 197= 1250. *
Other (STORET) Parameter 196# *
Value 197= . *
Other (STORET) Parameter 196# *
Value 197= . *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z
reporting agency, driller, owner, other, gov't, other reported, logs, geologist, other

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # * | Date of Construction Completion 60 = 5 / 1 / 1979 * (month day year) | Source of ① Const. Data 64 = D *

Name of Contractor/Driller 63 = * TEST HOLE FOR CONSOLIDATION COAL CO.

Method of Construction 65 = A B C D H J P R T V W Z *
A air rotary; B bored, or augered; C cable-tool; D dug; H hydraulic, rotary; J jetted; P air-percussion; R reverse, rotary; T trenching; V driven; W drive, wash; Z other

Finish 66 = C F G H Ø P S T W X Z *
C porous, concrete; F gravel w, perf; G gravel screen; H horizontal, gallery; Ø open, end; P perforated, or slotted; S screen; T sand point; W walled; X open, hole; Z other

Type of Seal 67 = B C G Z * (B bentonite; C clay; G cement, grout; Z other)

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
A air lift, pump; B bailed; C compressed, air; J jetted; N [illegible]; P other, pump; S surged; Z other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
C chemicals; D dry ice; E explosives; F deflocculant; H hydrofracturing; M mechanical; Z other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.0 *	78 = 410. *	79 = 4.0 *	80 = P *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 1 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section: Below LSD	83 # 390.0 *	83 # *	83 # *
Bottom of Section Below LSD	84 = 410.0 *	84 = *	84 = *
Type of Openings ⑥	85 = P *	85 = *	85 = *
Type of Material 7	86 = P *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

① Source of Data Codes:
S reporting agency; D driller; Ø owner; A other gov't; R other reported; L logs; G geologist; Z other

5 Casing Material Codes
B brick; C concrete; G galv. iron; I wrought iron; M other metal; P PVC or plastic; R rock or stone; S steel; T tile; U coated steel; W wood; Z other

6 Type of Openings Codes
F fracture; L louvered, shuttered; M mesh; P perforated or slotted; R wire wound; S screen (unknown); T sand point; W walled; X open hole; Z other

7 Type of Material Codes for Open Sections
B brass or bronze; C concrete; G galv. iron; I wrought iron; M other metal; P PVC or plastic; R stainless steel; S steel; T tile; Z other

FORM NO 9-1904-A

SITE NO. LEWIS WELL

Recorded by D. Morrissey

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 10/2/79

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No: 385209111171801 (5–19)
RG Number: R = 0 *
Transaction: T = (A) D M V * (add, delete, modify, verified)
Site-Type: 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well shaft, well)
Data Reliability: 3 = (C) U L M * (field checked, unchecked, location not accurate, minimal data)
Reporting Agency: 4 = USGS *
Project No.: 5 = 464913400 *
District: 6 = 015 *
State: 7 = 49 *
County (or town): EMERY 8 = *
Latitude: 9 = 38 52 09 * (deg min sec)
Longitude: 10 = 111 17 18 * (deg min sec)
Lat-Long Accuracy: 11 = S F (T) M * (sec, 5 sec, 10 sec, Min)
Local Number: 12 = (D-22-6)30DCB-1 *
Land Net Loc.: 13 = S T R * (1/4 1/4 1/4 section, township, range, merid)
Location Map: 14 = WALKER FLAT, UTAH *
Scale: 15 = 24000 *
Altitude: 16 = 6020.0 *
Method of Measurement: 17 = A L (M) * (altimeter, level, map)
Accuracy: 18 = 20 *
Topo Setting: 19 = D C E F H K L O P S T U (V) W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)
Hydrologic Unit (OWDC): 20 = 1407000Z *
Date of First Construction/Completion: 21 = 9/21/1979 * (month day year)
Use of Site: 23 = A D E G H O M P R S T U (W) X Z * (anode, drain, geothermal, seismic, heat reserv, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)
Use of Water: 24 = A B C D E F H (I) M N P R S T U Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)
Secondary Water Use: 25 = H *
Tertiary Use of Water: 26 = S *
Depth of Hole: 27 = 608. *
Depth of Well: 28 = 608. *
Source of Depth Data ①: 29 = Ø *
Water Level: 30 = -8.59 *
Date Measured: 31 = 10/18/1979 * (month day year)
Source ①: 33 = S *
Method of Measurement: 34 = A C E (G) H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)
Site Status: 37 = D (F) G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)
Source of Geohydrologic Data ①: 36 = *
Pump Used: 35 = * (no)
Measuring Point: 266 = *
Measuring Point Date: 267 = * (month day year)

OWNER IDENTIFICATION (1)

R = 158 * T = (A) D M * (add, delete, modify)
Date of Ownership: 159 # 9/21/1977 * (month day year)
Name: Last: 161 = LEWIS *
First: 162 = JOHN *
Middle Initial: 163 = S *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 * T = A D M * (add, delete, modify)
Ident: 190 # *
Assigner: 191 = *
New Card Same R & T
Ident: 190 # *
Assigner: 191 = *

SITE VISIT DATA (1)

R = 186 * T = (A) D M * (add, delete, modify)
Date of Visit: 187 # 9/28/1979 * (month day year)
Name of Person: 188 = MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 * T = (A) D M * (add, delete, modify)
Date: 193 # 9/28/1979 * (month day year)
Geohydrologic Unit: 195 # 211FRRN *
New Card Same R thru 195
Temperature: 196 # 00010 *
Degrees C: 197 = 16.0 *
Conductance: 196 # 00095 *
µMhos: 197 = 1650. *
Other (STORET) Parameter: 196 # 00400 *
Value: 197 = 8.8 *
Other (STORET) Parameter: 196 # *
Value: 197 = *

FOOT NOTES:

① Source of Data Codes:
S D O A R L G Z
reporting agency, driller, owner, other gov't, other reported, logs, geologist, other

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # * | Date of Construction Completion 60 = 9/2/1/1979 * (month day year) | Source of Const Data (1) 64 = 0 *

Name of Contractor Driller 63 = L. WELLS *

Method of Construction 65 = A (air, rotary) B (bored, or augered) C (cable-tool) D (dug) H (hydraulic, rotary) J (jetted) P (air-percussion) R (reverse, rotary) T (trenching) V (driven) W (drive, wash) Z (other) *

Finish 66 = C (porous, concrete) F (gravel, perf) G (gravel, screen) H (horizontal, gallery) Ø (open, end) P (perforated, or slotted) S (screen) T (sand point) W (walled) X (open, hole) Z (other) *

Type of Seal 67 = B (bentonite) C (clay) G (cement, grout) Z (other) *

Bottom of Seal 68 = 590 *

Method of Development 69 = A (air-lift, pump) B (bailed) C (compressed, air) J (jetted) N (none) P (other, pump) S (surged) Z (other) *

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C (chemicals) D (dry ice) E (explosives) F (deflocculent) H (hydrofracturing) M (mechanical) Z (other) *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # 0.0 *	74 = 608.0 *	75 = 5.63 *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.0 *	78 = 608. *	79 = 4.0 *	80 = P *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 590. *	83 # *	83 # *
Bottom of Section Below LSD	84 = 608. *	84 = *	84 = *
Type of Openings 6	85 = P *	85 = *	85 = *
Type of Material 7	86 = P *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency) D (driller) Ø (owner) A (other) R (gov't) L (other reported) G (logs) Z (geologist, other)

5 Casing Material Codes

B (brick) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (rock or stone) S (steel) T (tile) U (coated steel) W (wood) Z (other)

6 Type of Openings Codes

F (fracture) L (louvered, shuttered) M (mesh) P (perforated, or slotted) R (wire-wound) S (screen, (unknown)) T (sand point) W (walled) X (open hole) Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (stainless steel) S (steel) T (tile) Z (other)

FORM NO 9-1904— A

SITE NO. USGS 3-1

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Recorded by _____ Date _____

Check One ____ English ____ Metric Units

GENERAL SITE DATA (0)

Site Ident No (5–19)

RG Number R=0

Transaction T= A D M V (add, delete, modify, verified)

Site-Type 2= C D H I M P T W (collector, drain, sinkhole, connector, multiple, pond, tunnel or well shaft, well)

Data Reliability 3= C U L M (field checked, unchecked, location not accurate, minimal data)

Reporting Agency 4=

Project No. 5=

District 6=

State 7=

County (or town) _____ 8=

Latitude 9= (deg min sec)

Longitude 10= (deg min sec)

Lat-Long Accuracy 11= S F T M (sec, 5 sec, 10 sec, Min)

Local Number 12=

Land Net Loc. 13= S T R (1/4 1/4 1/4 section, township, range, merid)

Location Map 14=

Scale 15=

Altitude 16= 6060.

Method of Measurement 17= A L M (altimeter, level, map)

Accuracy 18=

Topo Setting 19= D C E F H K L Ø P S T U V W (depression, stream, channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC) 20=

Date of First Construction/Completion 21= / / 1979 (month day year)

Use of Site 23= A D E G H Ø M P R S T U W X Z (anode, drain, geothermal, seismic, heat reserv, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T U Y Z (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25=

Tertiary Use of Water 26=

Depth of Hole 27= 71.

Depth of Well 28=

Source of Depth Data ① 129=

Water Level 30=

Date Measured 31= / / (month day year)

Source ① 33=

Method of Measurement 34= A C E G H L M R S T V Z (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37= D F G H Ø P R S T V X Z (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36=

Pump Used 35= (no)

Measuring Point 266=

Measuring Point Date 267= (month day year)

OWNER IDENTIFICATION (1)

R=158 T= A D M (add, delete, modify)

Date of Ownership 159 # / / (month day year)

Name: Last 161=

First 162=

Middle Initial 163=

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 T= A D M (add, delete, modify)

Ident 190 # Assigner 191=

New Card Same R & T

Ident 190 # Assigner 191=

SITE VISIT DATA (1)

R=186 T= A D M (add, delete, modify)

Date of Visit 187# / / (month day year)

Name of Person 188=

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 T= A D M (add, delete, modify)

Date 193 # / / (month day year)

Geohydrologic Unit 195 #

New Card Same R thru 195

Temperature 196# 0 0 0 1 0 — Degrees C 197=

Conductance 196# 0 0 0 9 5 — µ Mhos 197=

Other (STORET) Parameter 196# — Value 197=

Other (STORET) Parameter 196# — Value 197=

FOOT NOTES:

① Source of Data Codes:

S D O A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # * | Date of Construction Completion 60 = / / * (month day year) | Source of ① Const. Data 54 = *

Name of Contractor/Driller 63 = *

Method of Construction 65 = A B C D H J P R T V W Z *
air-rotary; bored, or augered; cable-tool; dug; hydraulic, rotary; jetted; air-percussion; reverse, rotary; trenching; driven; drive, wash; other

Finish 66 = C F G H Ø P S T W X Z *
porous, concrete; gravel w. perf; gravel screen; horizontal, gallery; open end; perforated, or slotted; screen; sand point; walled; open hole; other

Type of Seal 67 = B C G Z *
bentonite; clay; cement, grout; other

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
air-lift pump; bailed; compressed air; jetted; none; other pump; surged; other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
chemicals; dry ice; explosives; deflocculent; hydrofracturing; mechanical; other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material ⑤	Thickness of Casing
77 # 22. *	78 = 71. *	79 = 2. *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 21. *	83 # *	83 # *
Bottom of Section Below LSD	84 = 71. *	84 = *	84 = *
Type of Openings ⑥	85 = F *	85 = *	85 = *
Type of Material ⑦	86 = *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES

① Source of Data Codes:

S D Ø A R L G Z
reporting agency; driller; owner; other gov't; other reported; logs; geologist; other

⑤ Casing Material Codes

B C G I M P R S T U W Z
brick; concrete; galv. iron; wrought iron; other metal; PVC or plastic; rock or stone; steel; tile; coated steel; wood; other

⑥ Type of Openings Codes

F L M P R S T W X Z
fracture; louvered, shuttered; mesh; perforated or slotted; wire wound; screen (unknown); sand point; walled; open hole; other

⑦ Type of Material Codes for Open Sections

B C G I M P R S T Z
brass or bronze; concrete; galv. iron; wrought iron; other metal; PVC or plastic; stainless steel; steel; tile; other

(D-22-6)27Cbb-6

FORM NO 9-1904—A

SITE NO. USGS 4-1

Recorded by _____

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date _____

Check One ____ English ____ Metric Units

GENERAL SITE DATA (0)

Site Ident No (5–19)

RG Number R=0

Transaction T= A D M V (add, delete, modify, verified)

Site-Type 2= C D H I M P T W (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well, well shaft)

Data Reliability 3= C U L M (field checked, unchecked, location not accurate, minimal data)

Reporting Agency 4=

Project No. 5=

District 6=

State 7=

County (or town) 8=

Latitude 9= (deg min sec)

Longitude 10= (deg min sec)

Lat-Long Accuracy 11= S F T M (sec, 5 sec, 10 sec, Min)

Local Number 12=

Land Net Loc. 13= (1/4 1/4 1/4 section, township, range, merid)

Location Map 14=

Scale 15=

Altitude 16= 6060.

Method of Measurement 17= A L M (altimeter, level, map)

Accuracy 18=

Topo Setting 19= D C E F H K L O P S T U V W (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland flat, channel, draw)

Hydrologic Unit (OWDC) 20=

Date of First Construction/Completion 21= / / 1979 (month day year)

Use of Site 23= A D E G H O M P R S T U W X Z (anode, drain, geo-thermal, seismic, heat, reserv-oir, mine, oil or gas, recharge, repress, test, unused, with-drawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T U Y Z (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25=

Tertiary Use of Water 26=

Depth of Hole 27= 30.

Depth of Well 28= 30.

Source of Depth Data ① 29=

Water Level 30= 18.77

Date Measured 31= 06/13/1979 (month day year)

Source ① 33= S

Method of Measurement 34= A C E G H L M R S T V Z (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37= D F G H Ø P R S T V X Z (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36=

Pump Used 35= (no)

Measuring Point 266=

Measuring Point Date 267= (month day year)

OWNER IDENTIFICATION (1)

R=158 T= A D M (add, delete, modify)

Date of Ownership 159 # / / (month day year)

Name: Last 161=

First 162=

Middle Initial 163=

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 T= A D M (add, delete, modify)

Ident 190 #

Assigner 191=

New Card Same R & T

Ident 190 #

Assigner 191=

SITE VISIT DATA (1)

R=186 T= A D M (add, delete, modify)

Date of Visit 187# / / (month day year)

Name of Person 188=

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 T= A D M (add, delete, modify)

Date 193 # / / (month day year)

Geohydrologic Unit 195 =

New Card Same R thru 195

Temperature 196# 0 0 0 1 0 — Degrees C 197=

Conductance 196# 0 0 0 9 5 — µ Mhos 197=

Other (STORET) Parameter 196# — Value 197=

Other (STORET) Parameter 196# — Value 197=

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No. 59 # * | Date of Construction Completion 60 = / / * (month day year) | Source of ① Const. Data 64 = *

Name of Contractor/Driller 63 = *

Method of Construction 65 = A B C D H J P R T V W Z *
air-rotary, bored, or augered, cable-tool, dug, hydraulic rotary, jetted, air percussion, reverse rotary, trenching, driven, drive wash, other

Finish 66 = C F G H Ø P S T W X Z *
porous concrete, gravel w. perf, gravel screen, horizontal gallery, open end, perforated or slotted, screen, sand point, walled, open hole, other

Type of Seal 67 = B C G Z *
bentonite, clay, cement grout, other

Bottom of Seal 68 = *

Method of Development 69 = A B C J N P S Z *
air-lift pump, bailed, compressed air, jetted, none, other pump, surged, other

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
chemicals, dry ice, explosives, deflocculent, hydrofracturing, mechanical, other

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.00 *	78 = 30.00 *	79 = 2. *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 10.00 *	83 # *	83 # *
Bottom of Section Below LSD	84 = 30.00 *	84 = *	84 = *
Type of Openings ⑥	85 = P *	85 = *	85 = *
Type of Material 7	86 = *	86 = *	86 = *
Diameter of Open Section	87 = *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z
reporting agency, driller, owner, other gov't, other reported, logs, geologist, other

5 Casing Material Codes

B C G I M P R S T U W Z
brick, concrete, galv. iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, coated steel, wood, other

6 Type of Openings Codes

F L M P R S T W X Z
fracture, louvered shuttered, mesh, perforated or slotted, wire wound, screen (unknown), sand point, walled, open hole, other

7 Type of Material Codes for Open Sections

B C G I M P R S T Z
brass or bronze, concrete, galv. iron, wrought iron, other metal, PVC or plastic, stainless steel, steel, tile, other

(D-22-6) 33 aba-1

FORM NO 9-1904-A

SITE NO. MUDDY #1

Recorded by D. MORRISSEY

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 10/12/79

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385153 111145701 (5 … 19)

RG Number R = 0 *

Transaction T = (A) D M V * (add, delete, modify, verified)

Site-Type 2 = C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well, well shaft)

Data Reliability 3 = (C) U L M * (field checked, unchecked, location not accurate, minimal data)

Reporting Agency 4 = USGS *

Project No. 5 = 9464913400 *

District 6 = 49 *

State 7 = 49 *

County (or town) EMERY 8 = 015 *

Latitude 9 = 38 51 53 * (deg min sec)

Longitude 10 = 111 14 57 * (deg min sec)

Lat-Long Accuracy 11 = S (F) T M * (sec, 5 sec, 10 sec, Min)

Local Number 12 = (D-22-6) 33aba-1 *

Land Net Loc. 13 = NE NW NE S 33 T 22 S R 6 E SL * (1/4 1/4 1/4 section, township, range, merid)

Location Map 14 = MESA BUTTE, UTAH *

Scale 15 = 24000 *

Altitude 16 = 6050.00 *

Method of Measurement 17 = A L (M) * (altimeter, level, map)

Accuracy 18 = 20 *

Topo Setting 19 = D C E F (H) K L Ø P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC) 20 = 14070002 *

Date of First Construction/Completion 21 = 05/22/1979 * (month day year)

Use of Site 23 = A D E G H (Ø) M P R S T U W X Z * (anode, drain, geothermal, seismic, heat, reserv, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24 = A B C D E F H I M N P R S T (U) Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25 = *

Tertiary Use of Water 26 = *

Depth of Hole 27 = 161.80 *

Depth of Well 28 = 161.80 *

Source of Depth Data ① 29 = D *

Water Level 30 = 141.08 *

Date Measured 31 = 07/02/1979 * (month day year)

Source ① 33 = S *

Method of Measurement 34 = A C E G H L M R (S) T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37 = D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36 = *

Pump Used 35 = N * (no)

Measuring Point 266 = -1.80 *

Measuring Point Date 267 = 07 02 1979 * (month day year)

OWNER IDENTIFICATION (1)

R = 158 *

T = (A) D M * (add, delete, modify)

Date of Ownership 159 # 05/22/1979 * (month day year)

Name: Last 161 = CONSOL *

First 162 = COAL CO *

Middle Initial 163 = *

OTHER SITE IDENTIFICATION NUMBERS (1)

R = 189 *

T = (A) D M * (add, delete, modify)

New Card Same R & T

Ident 190 # MUDDY #1 *

Assigner 191 = USGS-MORRISSEY *

Ident 190 # *

Assigner 191 = *

SITE VISIT DATA (1)

R = 186 *

T = (A) D M * (add, delete, modify)

Date of Visit 187 # 07/02/1979 * (month day year)

Name of Person 188 = MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R = 192 *

T = A D M * (add, delete, modify)

Date 193 # / / * (month day year)

Geohydrologic Unit 195 # *

New Card Same R thru 195

Temperature 198 # 00010 *

Degrees C 197 = *

Conductance 196 # 00095 *

µMhos 197 = *

Other (STORET) Parameter 196 # *

Value 197 = *

Other (STORET) Parameter 196 # *

Value 197 = *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = (A) D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 05/22/1979 * (month day year) | Source of Const. Data ① 64 = S *

Name of Contractor/Driller 63 = USGS RIG * ARTHUR CLARKE

Method of Construction 65 = (A) B C D H J P R T V W Z *
(air-rotary, bored, or augered, cable-tool, dug, hydraulic, rotary, jetted, air-percussion, reverse, rotary, trenching, driven, drive, wash, other)

Finish 66 = C F G H Ø (P) S T W X Z *
(porous, concrete, gravel w. perf, gravel screen, horizontal, gallery, open, end, perforated, or slotted, screen, sand point, walled, open, hole, other)

Type of Seal 67 = B C (G) Z *
(bentonite, clay, cement, grout, other)

Bottom of Seal 68 = 3.0 *

Method of Development 69 = A B (C) J N P S Z *
(air-lift, pump, bailed, compressed, air, jetted, none, other, pump, surged, other)

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z *
(chemicals, dry ice, explosives, deflocuient, hydrofracturing, mechanical, other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.00 *	78 = 162.00 *	79 = 2.50 *	80 = P *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = (A) D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 122.00 *	83 # *	83 # *
Bottom of Section Below LSD	84 = 162.00 *	84 = *	84 = *
Type of Openings ⑥	85 = P *	85 = *	85 = *
Type of Material 7	86 = P *	86 = *	86 = *
Diameter of Open Section	87 = 2.50 *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

① Source of Data Codes:
S D Ø A R L G Z
(reporting agency, driller, owner, other gov't, other reported, logs, geologist, other)

5 Casing Material Codes
B C G I M P R S T U W Z
(brick, concrete, galv. iron, wrought iron, other metal, PVC or plastic, rock or stone, steel, tile, coated steel, wood, other)

6 Type of Openings Codes
F L M P R S T W X Z
(fracture, louvered, shuttered, mesh, perforated or slotted, wire-wound, screen (unknown), sand point, walled, open hole, other)

7 Type of Material Codes for Open Sections
B C G I M P R S T Z
(brass or bronze, concrete, galv. iron, wrought iron, other metal, PVC or plastic, stainless steel, steel, tile, other)

(D-22-6) 28 ddb-1

FORM NO 9-1904—A

SITE NO. MUDDY #2

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Recorded by D. Morrissey

Date 10/12/79

Check One ✓ English ___ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385209111144001 (5–19)

RG Number R=0 *

Transaction T= A D M V * (add, delete, modify, verified)

Site-Type 2= C D H I M P T W * (collector, drain, sinkhole, connector, multiple, pond, tunnel or well shaft, well)

Data Reliability 3= C U L M * (field checked, unchecked, location not accurate, minimal data)

Reporting Agency 4= USGS *

Project No. 5= 9464913400 *

District 6= 49 *

State 7= 49 *

County (or town) 8= EMERY 015 *

Latitude 9= 38 52 09 * (deg min sec)

Longitude 10= 111 14 40 * (deg min sec)

Lat-Long Accuracy 11= S F T M * (sec, 5 sec, 10 sec, 1 min)

Local Number 12= (D-22-6)28ddb-1 *

Land Net Loc. 13= NW SW SW S 28 T 22S R 6E SL * (1/4 1/4 1/4 section, township, range, mer.)

Location Map 14= MESA BUTTE, UTAH *

Scale 15= 24000 *

Altitude 16= 6045.00 *

Method of Measurement 17= A L M * (altimeter, level, map)

Accuracy 18= 20 *

Topo Setting 19= D C E F H K L O P S T U V W * (depression, stream channel, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley flat, upland draw)

Hydrologic Unit (OWDC) 20= 14070002 *

Date of First Construction/Completion 21= 06 00 1979 * (month day year)

Use of Site 23= A D E G H O M P R S T U W X Z * (anode, drain, geothermal, seismic, heat reservoir, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T U Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25= *

Tertiary Use of Water 26= *

Depth of Hole 27= 136.1 *

Depth of Well 28= 136.1 *

Source of Depth Data ① 29= S *

Water Level 30= 44.18 *

Date Measured 31= 06 13 1979 * (month day year)

Source ① 33= S *

Method of Measurement 34= A C E G H L M R S T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37= D F G H O P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water effects, other)

Source of Geohydrologic Data ① 36= *

Pump Used 35= N * (no)

Measuring Point 266= -1.10 *

Measuring Point Date 267= 06 13 1979 * (month day year)

OWNER IDENTIFICATION (1)

R=158 * T= A D M * (add, delete, modify)

Date of Ownership 159 # 06 01 1979 * (month day year)

Name: Last 161= CONSOL *

First 162= COAL CO *

Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * T= A D M * (add, delete, modify)

Ident 190 # MUDDY #2 *

Assigner 191= USGS-MORRISSEY *

New Card Same R & T

Ident 190 # *

Assigner 191= *

SITE VISIT DATA (1)

R=186 * T= A D M * (add, delete, modify)

Date of Visit 187# 06 13 1979 * (month day year)

Name of Person 188= MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * T= A D M * (add, delete, modify)

Date 193 # / / * (month day year)

Geohydrologic Unit 195 # *

New Card Same R thru 195

Temperature 196# 0 0 0 1 0 * Degrees C 197= *

Conductance 196# 0 0 0 9 5 * µMhos 197= *

Other (STORET) Parameter 196 # * Value 197= *

Other (STORET) Parameter 196 # * Value 197= *

FOOT NOTES:

① Source of Data Codes.

S D G A R L G Z (reporting agency, driller, owner, other gov't reported, other, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No. 59 # 001 * | Date of Construction Completion 60 = 061 119.79 * (month day year) | Source of Constr. Data 64 S =

Name of Contractor/Driller 63 USGS RIG * AURTUR CLARKE - DRILLER

Method of Construction 65 = A (rotary) B (bored, or augered) C (cable-tool) D (dug) H (hydraulic, rotary) J (jetted) P (air-percussion) R (reverse, rotary) T (trenching) V (driven) W (drive, wash) Z (other) *

Finish 66 = C (porous concrete) F (gravel w. perf) G (gravel screen) H (horizontal gallery) Ø (open end) P (perforated or slotted) S (screen) T (sand point) W (walled) X (open hole) Z (other) *

Type of Seal 67 = B (bentonite) C (clay) G (grout) Z (other) *

Bottom of Seal 68 = 3.0 *

Method of Development 69 = A (air lift, pump) B (bailed) C (compressed air) J (jetted) N (none) P (pump) S (surged) Z (other) *

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C D E F H M Z * (chemicals, dry ice, explosives, deflocculent, hydrofracturing, mechanical, other)

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.00 *	78 = 136.00 *	79 = 2.50 *	80 = P *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 96.00 *	83 # *	83 # *
Bottom of Section Below LSD	84 = 136.00 *	84 = *	84 = *
Type of Openings 6	85 = P *	85 = *	85 = *
Type of Material 7	86 = P *	86 = *	86 = *
Diameter of Open Section	87 = 2.50 *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency) D (driller) Ø (owner) A (other gov't) R (other reported) L (logs) G (geologist) Z (other)

5 Casing Material Codes

B (brick) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (rock or stone) S (steel) T (tile) U (coated steel) W (wood) Z (other)

6 Type of Openings Codes

F (fracture) L (louvered, shuttered) M (mesh) P (perforated or slotted) R (wire wound) S (screen, unknown) T (sand point) W (walled) X (open hole) Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze) C (concrete) G (galv. iron) I (wrought iron) M (other metal) P (PVC or plastic) R (stainless steel) S (steel) T (tile) Z (other)

(D-22-6)27cbb-5

FORM NO 9-1904-A

SITE NO. MUDDY # 3

Recorded by D. MORRISSEY

U.S. DEPT. OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
GROUND WATER SITE INVENTORY
SITE SCHEDULE

Date 10/12/79

Check One ____ English ____ Metric Units

GENERAL SITE DATA (0)

Site Ident No 385222111142801 (5–19) | RG Number R=0 * | Transaction T= (A) D M V * (add, delete, modify, verified)

Site-Type 2= C D H I M P T (W) * (collector, drain, sinkhole, connector, multiple, pond, tunnel or, well, well, shaft) | Data Reliability 3= (C) U L M * (field checked, unchecked, location not, minimal, accurate, data) | Reporting Agency 4= USGS *

Project No. 5= 9464913400 * | District 6= 49 * | State 7= 49 * | County (or town) EMERY 8= 015 *

Latitude 9= 385222 * (deg min sec) | Longitude 10= 1111426 * (deg min sec) | Lat Long Accuracy 11= S (F) T M * (sec, 5 sec, 10 sec, Min)

Local Number 12= (D-22-7)27cbb-5 * | Land Net Loc. 13= NW NW SW S 27 T 22S R 6E SL * (1/4 1/4 1/4 section, township, range, merid)

Location Map 14= MESA BUTTE, UTAH * | Scale 15= 24000 *

Altitude 16= 6060.00 * | Method of Measurement 17= A L (M) * (altimeter, level, map) | Accuracy 18= 20 *

Topo Setting 19= D C E F H K L Ø P S T (U) V W * (depression, stream, dunes, flat, hilltop, sink, swamp, offshore, pediment, hillside, terrace, undulating, valley, upland, channel, flat, draw) | Hydrologic Unit (OWUC) 20= 14070002 *

Date of First Construction/Completion 21= 06/12/1979 * (month day year) | Use of Site 23= A D E G H Ø M P R S (T) U W X Z * (anode, drain, geothermal, seismic, heat, observation, mine, oil or gas, recharge, repress, test, unused, withdrawal, waste, destroyed)

Use of Water 24= A B C D E F H I M N P R S T (U) Y Z * (air cond., bottling, commercial, dewater, power, fire, domestic, irrigation, medicinal, industrial, public supply, recreation, stock, institution, unused, desal, other)

Secondary Water Use 25= * | Tertiary Use of Water 26= * | Depth of Hole 27= 167.2 * | Depth of Well 28= 158.0 * | Source of Depth Data ① 29= S *

Water Level 30= 25.45 * | Date Measured 31= 06/13/1979 * (month day year) | Source ① 33= S *

Method of Measurement 34= A C E G H L M R (S) T V Z * (airline, calibrated airline, estimated, pressure gage, calibrated pressure gage, geophysical logs, manometer, reported, steel tape, electric tape, calibrated electric tape, other)

Site Status 37= D F G H Ø P R S T V X Z * (dry, flowing, nearby flowing, nearby recently flowing, obstruction, pumping, recently pumped, nearby pumping, nearby recently pumped, foreign substance, surface water affects, other)

Source of Geohydrologic Data ① 36= * | Pump Used 35= N * (no) | Measuring Point 266= -1.20 * | Measuring Point Date 267= 06/13/1979 (month day year)

OWNER IDENTIFICATION (1)

R=158 * | T= (A) D M * (add, delete, modify) | Date of Ownership 159# 06/13/1979 * (month day year)

Name: Last 161= CONSOL * | First 162= COAL CO. * | Middle Initial 163= *

OTHER SITE IDENTIFICATION NUMBERS (1)

R=189 * | T= (A) D M * (add, delete, modify) | Ident 190# MUDDY #3 * | Assigner 191= USGS-MORRISSEY *

New Card Same R & T | Ident 190# * | Assigner 191= *

SITE VISIT DATA (1)

R=186 * | T= (A) D M * (add, delete, modify) | Date of Visit 187# 06/13/1979 * (month day year) | Name of Person 188= MORRISSEY *

FIELD WATER QUALITY MEASUREMENTS (1)

R=192 * | T= (A) D M * (add, delete, modify) | Date 193# 08/23/1979 * (month day year) | Geohydrologic Unit 195# 21FRRN *

New Card Same R thru 195

Temperature 196# 00010 * | Degrees C 197= 11.5 *

Conductance 196# 00095 * | µMhos 197= 23000. *

Other (STORET) Parameter 196# 00400 * | Value 197= 7.4 *

Other (STORET) Parameter 196# * | Value 197= *

FOOT NOTES:

① Source of Data Codes:

S D Ø A R L G Z (reporting agency, driller, owner, other, gov't, other reported, logs, geologist, other)

WELL CONSTRUCTION DATA (1)

R = 58 * | T = A D M * (add, delete, modify) | Entry No 59 # 001 * | Date of Construction Completion 60 = 06/21/1979 * (month day year) | Source of Const. Data 64 S *

Name of Contractor/Driller 63 = USGS- RIG * AVRTUR CLARKE- DRILLER

Method of Construction 65 = A (air rotary) B (bored, or augered) C (cable tool) D (dug) H (hydraulic, rotary) J (jetted) P (air-percussion) R (reverse, rotary) T (trenching) V (driven) W (drive, wash) Z (other) *

Finish 66 = C (porous, concrete) F (gravel w, perf) G (gravel, screen) H (horizontal, gallery) Ø (open, end) P (perforated, or slotted) S (screen) T (sand point) W (walled) X (open, hole) Z (other) *

Type of Seal 67 = B (bentonite) C (clay) G (cement, grout) Z (other) *

Bottom of Seal 68 = 3.0 *

Method of Development 69 = A (air-lift, pump) B (bailed) C (compressed, air) J (jetted) N (none) P (other, pump) S (surged) Z (other) *

Number of Hours in Development 70 = *

Special Treatment During Development 71 = C (chemicals, dry ice) D (explosives) E (deflocculent) F (hydrofracturing) H (mechanical) M (other) Z *

DIMENSIONS OF THE HOLE CONSTRUCTED (2)

R = 72 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # *

New Card for Each Hole Segment Same R, T & Field 59

Top of Hole Segment Below LSD	Bottom of Hole Segment below LSD	Diameter of Hole Segment
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *
73 # *	74 = *	75 = *

CASING SCHEDULE (2)

R = 76 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Casing With Same R, T & Field 59

Top of Casing Segment Below LSD	Bottom of Casing Segment Below LSD	Diameter of Casing Segment	Casing Material 5	Thickness of Casing
77 # 0.00 *	78 = 158.00 *	79 = 4.00 *	80 = P *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *
77 # *	78 = *	79 = *	80 = *	81 = *

OPENINGS SCHEDULE (2)

R = 82 * | T = A D M * (add, delete, modify) | Construction Entry No 59 # 001 *

New Card for Each Open Section With Same R, T and Field 59

	(Openings Data)	(Openings Data)	(Openings Data)
Top of Section Below LSD	83 # 118.00 *	83 # *	83 # *
Bottom of Section Below LSD	84 = 158.00 *	84 = *	84 = *
Type of Openings 6	85 = P *	85 = *	85 = *
Type of Material 7	86 = P *	86 = *	86 = *
Diameter of Open Section	87 = 4.00 *	87 = *	87 = *
Width of Opening	88 = *	88 = *	88 = *
Length of Opening	89 = *	89 = *	89 = *

FOOT NOTES:

1 Source of Data Codes:

S (reporting agency), D (driller), Ø (owner), A (other gov't.), R (other reported), L (logs), G (geologist), Z (other)

5 Casing Material Codes

B (brick), C (concrete), G (galv. iron), I (wrought iron), M (other metal), P (PVC or plastic), R (rock or stone), S (steel), T (tile), U (coated steel), W (wood), Z (other)

6 Type of Openings Codes

F (fracture), L (louver-shuttered), M (mesh), P (perforated or slotted), R (wire wound), S (screen (unknown)), T (sand point), W (walled), X (open hole), Z (other)

7 Type of Material Codes for Open Sections

B (brass or bronze), C (concrete), G (galv. iron), I (wrought iron), M (other metal), P (PVC or plastic), R (stainless steel), S (steel), T (tile), Z (other)

FC47WW EMERY TOWN WELL

Form 113—2M—11-60

Examined 4-5-66 J.F.C.
Recorded: B. C.H-1-66 K.R.O. T. B. K.F.C.
Inspection Sheet 4-6-66 B.H.
Copied

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 36025 #1
Claim No.
Coordinate No. (D-22-6)4 cdb

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

OPEN HOLE - 1535 to 1614, 29 FT EN DIAM.

(1) WELL OWNER:
Name Emery Township
Address Emery, Utah

(2) LOCATION OF WELL:
County Emery Ground Water Basin (leave blank)
~~North~~ South 16 feet, ~~West~~ East 1285 feet from N. W. Corner of Section 4 T. 22 S, R. 6 E SLBM (strike out words not needed)

(3) NATURE OF WORK (check):
New Well ☒ Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

(4) NATURE OF USE (check):
Domestic ☐ Industrial ☐ Municipal ☒ Stockwater ☐
Irrigation ☐ Mining ☐ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):
Rotary ☒ Dug ☐ Jetted ☐
Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE:
Threaded ☒ Welded ☐
10" Diam. from 0 feet to 60 feet Gage
5" Diam. from 0 feet to 1535 feet Gage
" Diam. from feet to feet Gage
New ☒ Reject ☐ Used ☐

(7) PERFORATIONS:
Perforated? Yes ☐ No ☒
Type of perforator used
Size of perforations inches by inches
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet

(8) SCREENS:
Well screen installed? Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to
Diam. Slot size Set from ft. to

(9) CONSTRUCTION:
Was well gravel packed? Yes ☐ No ☒ Size of gravel:
Gravel placed from feet to feet
Was a surface seal provided? Yes ☒ No ☐
To what depth? 60 feet
Material used in seal: Surface Casing
Did any strata contain unusable water? Yes ☒ No ☐
Type of water: Depth of strata 1535
Method of sealing strata off: Hole filled with Cemented Bottom 120 ft to top

Was surface casing used? Yes ☒ No ☐
Was it cemented in place? Yes ☐ No ☒

(10) WATER LEVELS:
Static level below land surface Date
Artesian pressure lbs. above land surface Date

(11) FLOWING WELL:
Controlled by (check) Valve ☒ Cap ☐ Plug ☐ No Control ☐
Gravel leak around casing? Yes ☐ No ☒

LOG RECEIVED: STATE ENGINEER'S OFFICE

(12) WELL TESTS:
Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes ☐ No ☒ If so, by whom?
Yield: gal./min. with feet drawdown after hours
" " " " " "
Bailer test gal./min. with feet drawdown after hours
Artesian flow 360 g.p.m. Date
Temperature of water 99.2° F. Was a chemical analysis made? No ☐ Yes ☒

(13) WELL LOG:
Diameter of well 12¾" and 7⅝" inches
Depth drilled 1614 feet. Depth of completed well 1614 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

0-18 18' Gal
18-1255 1237' BLUE SHALE S-
1255-1614 359' FERRON SS

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS	
0'	18		X										18
18	1255	X						Kmbr				Blue Shale Shale	1237
1255	1261			X				Kmf				Sand Stone	26
1261	1269	X										Shale	8
1269	1313			X								Sand Stone	24
1313	1316	X										Shale	3
1316	1320										X	Chip Shale	4
1320	1327			X								Sand Stone	7
1327	1332	X										Shale	5
1332	1336			X								Sand Stone	4
1336	1341	X										Shale	5
1341	1375			X								Sand Stone	34
1375	1376	X										Shale	1
1376	1378			X								Sand Stone	2
1378	1382	X										Shale	4
1382	1384			X								Sand Stone	2
1384	1393	X										Shale	9
1393	1413			X								Sand Stone	20
1413	1419	X										Shale	6
1419	1512			X								Sand Stone	93
1512	1535	BASE OF THE 2 1535' [illegible]									X	Red & Shale Streaks	23
1535	1614			X								Sand Stone	79
												BASAL SANDSTONE	

Work started 9-10, 1966 Completed 4-2, 1966

(14) PUMP:
Manufacturer's Name
Type: H. P.
Depth to pump or bowles feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.

Name Cameron Drilling Company (Person, firm, or corporation) (Type or print)
Address 215 E. 1st South, Bountiful, Utah
(Signed) [illegible] (Well Driller)
License No. [illegible] Date 4-4, 1966

USE OTHER SIDE FOR ADDITIONAL REMARKS

Form 113-3M-1240

Examined 2/11/74 FCGWW (KEMMERER WELL or EMERY DEEP)

Recorded: B. C. 2/11/74 T. B.

Inspection Sheet

Copied 2-13-74 [illegible]

REPORT OF WELL DRILLER

STATE OF UTAH

Application No. [illegible]

Claim No.

Coordinate No. (1)-22-6 17 6 c

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:

Name The Kemmerer Coal Company

Address Frontier, Wyoming 83121

(2) LOCATION OF WELL:

County Emery Ground Water Basin (leave blank)

~~North~~ South 1194 feet, ~~East~~ West 20 feet from NW Corner of Section 17, T 22 S, R 6 E SLBM ~~W~~ USM (strike out words not needed)

(3) NATURE OF WORK (check):

New Well ☒ Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐

If abandonment, describe material and procedure:

(4) NATURE OF USE (check):

Domestic ☐ Industrial ☐ Municipal ☐ Stockwater ☐

Irrigation ☐ Mining ☒ Other ☐ Test Well ☒

(5) TYPE OF CONSTRUCTION (check):

Rotary ☒ Dug ☐ Jetted ☐

Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE:

Threaded ☐ Welded ☐

12" Diam. from 0 feet to 500 feet Gage 0.312"

8" Diam. from 478 feet to 1,543 feet Gage 0.277"

" Diam. from feet to feet Gage

New ☒ Reject ☐ Used ☐

(7) PERFORATIONS:

Perforated? Yes ☒ No ☐

Type of perforator used milling cutter- pre-perforated

Size of perforations 1/8" inches by 2-1/2" inches

2800 perforations from 1368 feet to 1543 feet

perforations from feet to feet

perforations from feet to feet

perforations from feet to feet

perforations from feet to feet

(8) SCREENS:

Well screen installed? Yes ☐ No ☒

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to

Diam. Slot size Set from ft. to

(9) CONSTRUCTION:

Was well gravel packed? Yes ☐ No ☒ Size of gravel:

Gravel placed from feet to feet

Was a surface seal provided? Yes ☒ No ☐

To what depth? 500 feet

Material used in seal: Cement grout

Did any strata contain unusable water? Yes ☐ No ☐

Type of water? Depth of strata

Method of sealing strata off:

Was surface casing used? Yes ☒ No ☐

Was it cemented in place? Yes ☒ No ☐

(10) WATER LEVELS:

Static level feet below land surface Date

Artesian pressure 74 feet above land surface Date 5-15-73

LOG RECEIVED:

(11) FLOWING WELL:

Controlled by (check) Valve ☒

Cap ☐ Plug ☐ No Control ☐

Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS:

Drawdown is the distance in feet the water level is lowered below static level.

Was a pump test made? Yes ☒ No ☐ If so, by whom: LAYNE-WESTERN COMPANY, INC.

Yield: 343 gal./min. with 286 feet drawdown after 16 hours

" " " " " " " "

Bailer test gal./min. with feet drawdown after hours

Artesian flow 239 g.p.m. Date 5-15-73

Temperature of water 209 F Was a chemical analysis made? No ☐ Yes ☒

(13) WELL LOG:

Diameter of well 12" x 8" inches

Depth drilled 1551 feet. Depth of completed well 154 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
0	5			X			X					
5	53	X										Brown
53	59	X										Gray-very hard S.S. seams
59	141									X		Shale, black
141	235									X		Shale, black with limesto
235	239										X	Coal
239	609									X		Shale, black, hard
609	[illegible]											Shale, black, sandy w/li
[illegible]	[illegible]											seams
[illegible]	[illegible]											Shale, black, hard
[illegible]	[illegible]			X								
[illegible]	[illegible]			X								with shale seams
[illegible]	[illegible]			X								Hard
[illegible]	[illegible]									X		Coal
[illegible]	[illegible]			X								Hard
[illegible]	[illegible]			X								Very hard
[illegible]	[illegible]									X		Coal & shale
[illegible]	[illegible]			X								Very hard
[illegible]	[illegible]									X		Coal
[illegible]	[illegible]			X								Very hard
[illegible]	[illegible]			X								With coal & shale seams
[illegible]	[illegible]			X								

Kmb

Kmf

15

"A"

IT - 0

G - 75 | 75

CD - 145 | 50

A - 174 | 29

Work started Feb. 18, 1973 Completed May 3, 1973

(14) PUMP:

Manufacturer's Name

Type: H. P.

Depth to pump or bowles feet

Well Driller's Statement:

This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.

Name LAYNE-WESTERN COMPANY, INC. (Person, firm, or corporation)

Address 8301 E. Iliff Ave.-Denver, Colo. 80231 (Type or print)

(Signed) Carl R. Larson (Well Driller)

License No. 188 Date February 4, 1974

USE OTHER SIDE FOR ADDITIONAL REMARKS

BRYANT WELL
Walker Flat Quad

2.3

75-673

Form 115-5M-12-60

Examined 6/28/73 [illegible]
Recorded: B. C. 6/28/73 [illegible] T. P. [illegible]
Inspection Sheet
Copied 7-12-73 BM

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 39733 (95-673)
Claim No.
Coordinate No. (D-22-6) 3 dbu

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name Edel B. Bryant
Address 10019 Bordeaux Ave. Arleta, Calif

(2) LOCATION OF WELL: OK
County Emery Ground Water Basin (leave blank)
~~North~~ 162 feet, ~~W~~ 1488 feet from E ¼ Corner
South
of Section 31 T 22 N/S R 6 E SLBM (strike out words not needed)

(3) NATURE OF WORK (check): New Well ☑
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

(4) NATURE OF USE (check):
Domestic ☐ Industrial ☐ Municipal ☐ Stockwater ☐
Irrigation ☑ Mining ☐ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):
Rotary ☑ Dug ☐ Jetted ☐
Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☑
6 " Diam. from 0 feet to 406 feet Gage 188
" Diam. from feet to feet Gage
" Diam. from feet to feet Gage
New ☐ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☑ No ☐
Type of perforator used Tech
Size of perforations 3 inch inches by ¼ inches
216 perforations from 360 feet to 402 feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet

(8) SCREENS: Well screen installed? Yes ☐ No ☑
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to
Diam. Slot size Set from ft. to

(9) CONSTRUCTION:
Was well gravel packed? Yes ☐ No ☑ Size of gravel:
Gravel placed from feet to feet
Was a surface seal provided? Yes ☑ No ☐
To what depth? 40 feet
Material used in seal: Cement
Did any strata contain unusable water? Yes ☐ No ☑
Type of water: Not very good Depth of strata 365
Method of sealing strata off: To 405

Was surface casing used? Yes ☐ No ☑
Was it cemented in place? Yes ☐ No ☑

(10) WATER LEVELS:
Static level feet below land surface Date
Artesian pressure 2 feet above land surface Date 7-1-72

LOG RECEIVED: [illegible] 17 1973 [illegible] RIGHTS DIVISION

(11) FLOWING WELL:
Controlled by (check) Valve ☐
Cap ☐ Plug ☐ No Control ☑
Does well leak around casing? Yes ☐ No ☑

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes ☐ No ☑ If so, by whom?
Yield: gal./min. with feet drawdown after hours
" " " "
" " " "
Bailer test gal./min. with feet drawdown after hours
Artesian flow 30 g.p.m. Date 7-1-72
Temperature of water 55° Was a chemical analysis made? No ☑ Yes ☐

(13) WELL LOG: Diameter of well 6 inches
Depth drilled 406 feet. Depth of completed well 406 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
0	4										X	Top Soil
4	365										X	Black + Brown Shale
365	405			X								White Sand Stone
												Making Water
405	406	X										Red
												15 gpm flow
												no control
												3/2 solid

Work started 6-21-72, 19 Completed 7-1, 1972

(14) PUMP:
Manufacturer's Name None
Type: H. P.
Depth to pump or bowles feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name Stevens Drilling Co. (Person, firm, or corporation) (Type or print)
Address Spanish Valley Drive
(Signed) Robert Brandon (Well Driller)
License No. 218 Date March 15, 1973

USE OTHER SIDE FOR ADDITIONAL REMARKS

WESTERN STATES MINERALS CORPORATION

DRILL & CORE LOG

Company: W.S.M. Job No. Dry Valley Hole No. WW9

Date: 8-13-78

Geologist: MCD

Drill Co: WSM

Logging Co: —

Hole Size 5½-

Core Size

Type Bit Hammer Buttons

Drilling With: Air ✓ to 280

Mud — to —

Total Depth: 280

Log Depth: —

Drill Time: ____ Hrs. ____ Mi

Location: Emery County Utah

Sec 32 T 23S R 6E Ground Elev.

KB Landowner

Remarks: Air blow down @ 280' yielded approx 7gpm. Did not develop - uncased - uncompleted well

	Lithologic Description
6	Sand - unconsolidated
7	Boulder
10	unconsolidated sand
20	Med - coarse grained brn ss
-29	Med grey & brn shale
-40	~~Med~~ Fine grained med. grey S.S.
-50	Med - Dark grey shale
-51	Coal
-65	Dark Grey shale
-69	Fine grained light grey S.S.
-70	Coal
-73	Carb. shale
-75	Coal
-87	Fine grained ~~med~~ to light grey S.S.
	* Moisture @ 84'
-109	Light grey argillaceous shale
~~110~~	
-110	Coal

	Lithologic Description
110-117	Med grey shale
117-124	Coal - F Seam
124-147	Fine - ~~med~~ grained light-dark grey S.S.
	* Moisture @ 130'
147-175	Fine - med grained light grey S.S. (carbonaceous material in S.S.) (loose)
175-218	Fine grained light to med grey S.S. (tight)
218-253	Fine-med grained light-med grey S.S. with some carbonaceous material.
253-280	Fine grained med-dark grey argillaceous shale
	TD @ 280

Page ___ of ___ Hole No. WW9

SUPPLY WELL - DOG VALLEY MINE

Dog Valley Mine

Form 113-5M-12-60

FERRON SS

Examined [illegible]

Recorded: B. C. [illegible] T. B. [illegible]

Inspection Sheet

Copied

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 45337 (95-1645)

Claim No.

Coordinate No. (R-23-6) 32 [illegible] 32 BDD

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name Western States Coal Corp.
Address 2330 So. Main Slc, Utah

(2) LOCATION OF WELL:
County Emery Ground Water Basin (leave blank)
South 2500'± feet, East 2300'± feet from NW Corner of Section 32, T. 23 (S) R. 6 (E) SLBM (strike out words not needed)

(3) NATURE OF WORK (check): New Well ☒
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

(4) NATURE OF USE (check):
Domestic ☒ Industrial ☐ Municipal ☐ Stockwater ☐
Irrigation ☐ Mining ☒ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):
Rotary ☒ Dug ☐ Jetted ☐
Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☒
8" Diam. from 0 feet to 293 feet Gage .322
" Diam. from feet to feet Gage
" Diam. from feet to feet Gage
New ☒ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☒ No ☐
Type of perforator used
Size of perforations 1/4" inches by 2" inches
120 perforations from 253 feet to 293 feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet

(8) SCREENS: Well screen installed? Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to
Diam. Slot size Set from ft. to

(9) CONSTRUCTION:
Was well gravel packed? Yes ☒ No ☐ Size of gravel: 1/2"
Gravel placed from 60' feet to 293 feet
Was a surface seal provided? Yes ☒ No ☐
To what depth? 60' feet
Main [illegible] used in seal: Cement Grout
Did any strata contain unusable water? Yes ☐ No ☒
Type of water: Depth of strata
Method of sealing strata off:

Was surface casing used? Yes ☐ No ☒
Was it cemented in place? Yes ☐ No ☐

(10) WATER LEVELS:
Static level 200' feet below land surface Date
Artesian pressure feet above land surface Date

LOG RECEIVED: MAR 07 1975

(11) FLOWING WELL:
Controlled by (check) Valve ☐
Cap ☐ Plug ☐ No Control ☐
Does well leak around casing? Yes ☐ No ☐

WATER RIGHTS

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes ☐ No ☒ If so, by whom?
Yield: 22 [illegible] gal./min. with feet drawdown after 2 hours
" " " "
" " " "
Bailer test [illegible] gal./min. with feet drawdown after hours
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? No ☒ Yes ☐

(13) WELL LOG: Diameter of well 12 1/4" inches
Depth drilled 293 feet. Depth of completed well 293 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

0-293 [illegible]

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
0	25	X										25
25	30		X									5
30	95	X										65
95	105			X								10
105	109	X										4
109	120			X								11
120	130										X	COAL 10
130	135			X								5
135	140	X										5
140	155	X		X								15
155	205			X								50
205	210	X									X	COAL 5
210	235			X								25
235	265		X	X								WATER [illegible]
265	270			X								5
270	293	X		X								23

Work started June 24 1975 Completed July 5 1975

(14) PUMP:
Manufacturer's Name
Type: H. P.
Depth to pump or bowles 244 feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name [illegible] (Person, firm, or corporation) (Type or print)
Address [illegible]
(Signed) [illegible] (Well Driller)
License No. [illegible] Date Feb 12 1975

USE OTHER SIDE FOR ADDITIONAL REMARKS

Form III-[illegible]-60 WW # 2 - Dog Valley Mine

Examined
Recorded: B. C. T. B.
Inspection Sheet
Copied

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. 50619 (95-1728)
Claim No.
Coordinate No.

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion or abandonment of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name Western States Minerals Corp.
Address 7475 West 5th Ave, Lakewood, Colo 80226

(2) LOCATION OF WELL:
County Emery Ground Water Basin (leave blank)
~~North~~ South 1695' feet, East ~~West~~ 1345' feet from NW Corner of Section 32, T 23 ~~N~~ S, R 6 E SLBM ~~W~~ ~~Utah~~ (strike out words not needed)

(3) NATURE OF WORK (check): New Well ☑
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

(4) NATURE OF USE (check):
Domestic ☑ Industrial ☐ Municipal ☐ Stockwater ☐
Irrigation ☐ Mining ☑ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):
Rotary ☑ Dug ☐ Jetted ☐
Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☑
4 " Diam. from 0 feet to 240 feet Gage
10 " Diam. from 0 feet to 20 feet Gage
" Diam. from feet to feet Gage
New ☑ PVC Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☑ No ☐
Type of perforator used Drill
Size of perforations 9/16 inches by inches
600 perforations from 200 feet to 240 feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet

(8) SCREENS: Well screen installed? Yes ☑ No ☐
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to
Diam. Slot size Set from ft. to

(9) CONSTRUCTION:
Was well gravel packed? Yes ☑ No ☐ Size of gravel: 1/2"
Gravel placed from 180 feet to 240 feet
Was a surface seal provided? Yes ☑ No ☐
To what depth? 20 feet
Material used in seal: Cement
Did any strata contain unusable water? Yes ☐ No ☑
Type of water: Depth of strata
Method of sealing strata off:

Was surface casing used? Yes ☑ No ☐
Was it cemented in place? Yes ☑ No ☐

(10) WATER LEVELS:
Static level 141.1 feet below land surface Date 5/78
Artesian pressure feet above land surface Date

LOG RECEIVED:

JUN 2 [illegible]

(11) FLOWING WELL:
Controlled by (check) Valve ☐
Cap ☐ Plug ☐ No Control ☐
Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes ☑ No ☐ If so, by whom? Driller
Yield: 14.5 gal./min. with 70 feet drawdown after 3 1/2 hours
" " " "
" " " "
Bailer test gal./min. with feet drawdown after hours
Artesian flow g.p.m. Date 6/78
Temperature of water Was a chemical analysis made? No ☑ Yes ☐

(13) WELL LOG: Diameter of well 8" inches
Depth drilled 250 feet. Depth of completed well 240 feet.

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc., of material encountered in each depth interval. Use additional sheet if needed.

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
0	5										X	Shale Lt Brwn
5	25										X	" gray
25	30										X	Coal
30	47			X								gray SS
47	55										X	Shale Coal
55	65			X								Lt gray SS
65	70										X	gray shale
70	105			X								Lt SS
105	110										X	Lt gray shale
110	117										X	Coal
117	137			X								Lt Brwn SS
137	191			X								Lt gray SS
191	193										X	Shale Coal
193	200										X	Shale (Lt gray)
200	250			X								gray Brwn Sand

Work started 8/29/77 19 77 Completed 9/1/77 19 77

(14) PUMP:
Manufacturer's Name Red Jacket
Type: Sub H. P. 3
Depth to pump or bowles 235 feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.
Name Richard L. Johnston (Person, firm, or corporation) (Type or print)
Address 2970 So. Desert Rd.
(Signed) Richard L. Johnston (Well Driller)
License No. 340 Date 6/19/78, 19 78

USE OTHER SIDE FOR ADDITIONAL REMARKS

Form 113—9M—12-60

DOG VALLEY WW #6

Examined
Recorded: B. C. T. B.
Inspection Sheet
Copied

REPORT OF WELL DRILLER
STATE OF UTAH

Application No. a-10264 (95-1723)
Claim No.
Coordinate No.

GENERAL STATEMENT: Report of well driller is hereby made and filed with the State Engineer, in accordance with the laws of Utah. (This report shall be filed with the State Engineer within 30 days after the completion of the well. Failure to file such reports constitutes a misdemeanor.)

(1) WELL OWNER:
Name Western States Minerals Corp.
Address 7475 W. 5th Ave., Lakewood, Colo.

(2) LOCATION OF WELL:
County Emery Ground Water Basin (leave blank)
South 1109 feet, East 709 feet from NW Corner
of Section 32, T. 23 S, R. 6 E SLBM (strike out words in ( ) if needed)

(3) NATURE OF WORK (check): New Well ☑
Replacement Well ☐ Deepening ☐ Repair ☐ Abandon ☐
If abandonment, describe material and procedure:

(4) NATURE OF USE (check):
Domestic ☑ Industrial ☐ Municipal ☐ Stockwater ☐
Irrigation ☐ Mining ☑ Other ☐ Test Well ☐

(5) TYPE OF CONSTRUCTION (check):
Rotary ☑ Dug ☐ Jetted ☐
Cable ☐ Driven ☐ Bored ☐

(6) CASING SCHEDULE: Threaded ☐ Welded ☑
6 " Diam. from 0 ~~150~~ feet to 210 feet Gage .250
" Diam. from feet to feet Gage
" Diam. from feet to feet Gage
New ☑ Reject ☐ Used ☐

(7) PERFORATIONS: Perforated? Yes ☑ No ☐
Type of perforator used
Size of perforations 1/8 inches by 2 inches
23 1/ft. perforations from 150 feet to 210 feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet
perforations from feet to feet

(8) SCREENS: Well screen installed? Yes ☐ No ☑
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to
Diam. Slot size Set from ft. to

(9) CONSTRUCTION:
Was well gravel packed? Yes ☑ No ☐ Size of gravel: 1/2"-
Gravel placed from 100 feet to 210 feet
Was a surface seal provided? Yes ☑ No ☐
To what depth? 20' feet
Material used in seal: Cement
Did any strata contain unusable water? Yes ☐ No ☐
Type of water: Depth of strata
Method of sealing strata off:

Was surface casing used? Yes ☐ No ☑
Was it cemented in place? Yes ☐ No ☐

(10) WATER LEVELS:
Static level 185 feet below land surface Date 8/12/78
Artesian pressure feet above land surface Date

LOG RECEIVED:
RECEIVED
SEP 27 1978
WATER RIGHTS

(11) FLOWING WELL:
Controlled by (check) Valve ☐
Cap ☐ Plug ☐ No Control ☐
Does well leak around casing? Yes ☐ No ☐

(12) WELL TESTS: Drawdown is the distance in feet the water level is lowered below static level.
Was a pump test made? Yes ☐ No ☑ If so, by whom?
Yield: gal./min. with feet drawdown after hours
" " " "
" " " "
Bailer test gal./min. with feet drawdown after hours
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? No ☐ Yes ☐

(13) WELL LOG: Diameter of well 6 inches
Depth drilled 220 feet. Depth of completed well 210 feet

NOTE: Place an "X" in the space or combination of spaces needed to designate the material or combination of materials encountered in each depth interval. Under REMARKS make any desirable notes as to occurrence of water and the color, size, nature, etc. of material encountered in each depth interval. Use additional sheet if needed.

DEPTH From	DEPTH To	Clay	Silt	Sand	Gravel	Cobbles	Boulders	Hardpan	Conglomerate	Bedrock	Other	REMARKS
0	3½	X	X	X	X							Alluvium
3½	23			X								light brown S.S.
23	28	X								X		grey-Shale-Carb.
28	65	X								X		" " -Coal
65	75	X								X		" "
75	81	X								X		" " Carb
81	83									X		Coal
83	90	X										grey-Shale
90	92									X		Coal
92	105			X								grey S.S.
105	112	X										grey Shale
112	120	X										" " Carb
120	142	X								X		" " Coal
142	210			X								grey S.S.
210	220			X								dark grey S.S.

Work started 8/6, 19 78 Completed 8/14, 19 78

(14) PUMP:
Manufacturer's Name
Type: H. P.
Depth to pump or bowles feet

Well Driller's Statement:
This well was drilled under my supervision, and this report is true to the best of my knowledge and belief.

Name Richard L. Johnston (Person, firm, or corporation) (Type or print)
Address 2970 So. Desert Rd., Moab, Utah
(Signed) Richard L. Johnston (Well Driller)
License No. 340 Date 9/8/78, 19 78

USE OTHER SIDE FOR ADDITIONAL REMARKS

WELL Z-Z
CONSOL COAL CO.
EMERY, UT

LOG OF BOREHOLE

BOREHOLE NO ZZ
PAGE 1 of 1

LOC. or COORDS. SWNE 33-T22S-D06E	DRILLING CONTRACTOR James D	START / FINISH
GROUND ELEV. 6050 ±	RIG 55-16	DATE 9/8/79 / 9/[illegible]
ORIG. GROUND SURFACE	BIT 12¾ Surface / 6¼ Rock	TIME
TOTAL DEPTH DRILLED 390	CASING 6⅝ Surface / 4" PVC	GEOPHYS. LOG YES ✓
SAMPLING METHOD	FLUID Air / Foam	HOW LEFT Completed in lower Ferron SS

DEPTH	RECOVERY	LOSS	PENETRATE	ROCK TYPE	SYMBOL	DESCRIPTION (COMBINATION OF CUTTINGS & GEOPHYS. LOGS)
0				SD & GR		Qal - Sand & Gravel
	8/9			SH		BLUEGATE SHALE
						FERRON SS
				SS		lt brn, m-f gr. SS
	30			SS		dk brn-rust m-f gr. SS
	37					
				SS		yel-gry, m gr., well sorted friable SS
	47					
50				SS & SH		gry ss f.gr. ss & dk. gry. sh & carbon. sh.
	58			SS		brn, well indurated SS
	61½			SS		gry qtzose SS w/minor dark minerals
				SS & SUB. SH.		gry m-gr. SS w/ dark sh streaks
	91					
100				dirty SS & sh		gry m gr dirty SS w/ dark sh streaks
	105			Coal		"I-J" Coal Seam; small sh partings at 129-130, 135-36, 137-38
150	152					Gry sltst & v.f.g. SS grading down to brn v.f.g. SS w/ [illegible]
	157½					dk gry carbon. sh.
	167					lt. gry sh.
	173					gry, f.g. SS, well indurated.
	177					gry sh, slitely carbon., w/ ~1 ft thick well ind. SS. interbeds @ 183-185, 187-189
	191					As above, with 2' SS. interbds @ 191.5 & 197
200	199					"G" Coal; parting @ 203.5-204.5
	205					shale
	208.5					dk gry hard sltst
	210					coal, vitreous
	215					dk gry dirty SS
	218					dk gry f.g. SS w/ thin dk carbon. sh. interbds @ top
	231					blk carb. shale
	234					"C-D" Coal; platy to massive, vitreous; sh partings @ [illegible]
250	247.5					gry-grn v.f.g. micaceous SS; apparent sh interbed @ top
	254					lt. gry., f-m g. micaceous SS.
	272					sh.
	274					lt. gry, f-m g. micaceous SS.
	278					dk. gry indurated slty SS; shale @ base
	280.5					"A" Coal; sh partings @ 281.5-283, 284-284.5
	285.5					dk gry-grn sltst w/ small pyrite
	290.5					lt gry slty SS w/ ~~sltst~~ thin shly sltst @ base
300	301					m.g. qtz. SS. well sorted & indurated
	304					dk gry-blk v.f.g. SS & sltst; shly
	303					dk gry-blk v.f.g. SS; gry qtz SS @ base
	321					blk sh & sltst
	333	335				m.g. qtz. SS; well indurated
	341					dk gry-blk v.f.g. & shly sltst & SS
	352					gry, f-m gr SS
	354					blk carbon. sh
						lt gry-gry, shly, f-m g qtz. SS.; glauconitic(?); fining downwards
TD	390					
400						

LOCATION
LOGGED BY AHP
CLIENT Consol
JOB NO. 4012-A

LOG OF BOREHOLE

BOREHOLE NO. H
PAGE 1 of 3

LOC. or COORDS. NENW SEC. 20 T22S R6E
GROUND ELEV. 6260 ± 10
ORIG. GROUND SURFACE
TOTAL DEPTH DRILLED 1140'
SAMPLING METHOD SIEVE / BUCKET

DRILLING CONTRACTOR JAMES DRILLING
RIG SPEEDSTAR SS-16
BIT 12 3/4 - surface / 6 1/8, 6 1/4, 6 1/2
CASING 8 5/8 to 19.75'
FLUID Air to 810' ; MUD to TD

	START	FINISH
DATE	9/12/79	9/27/79
TIME	1400	[illegible]

GEOPHYS. LOG X YES
HOW LEFT Completed in 4 ZONES

LOCATION THG-865, MG-865-1140
LOGGED BY
CONSOL / 4012-A
CLIENT
JOB NO.

COMBINATION OF CUTTINGS LOG AND GEOPHYSICAL LOGS.

DEPTH	DRILL RATE	ROCK TYPE	SYMBOL	DESCRIPTION
0	3	Soil		Soil
	27	M. Stone		Yellow mudstone (weathered Kmbg)
50		Sh & Claystone gyp		Black carbonaceous shale with interbedded gray clay brown claystone; occassional white banded fibrous gypsum stringers.
100				
150				
200	190	Silty shale & claystone gyp.		Black carbonaceous, silty shale, some gray clay & brown claystone and gypsum/calcite
250				
300				
350				
400				

BLUEGATE SHALE

LOG OF BOREHOLE

BOREHOLE NO. H
PAGE 2 of 3

LOC. or COORDS.	DRILLING CONTRACTOR	START / FINISH
GROUND ELEV.	RIG	DATE
ORIG. GROUND SURFACE	BIT	TIME
TOTAL DEPTH DRILLED	CASING	GEOPHYS. LOG ___ YES ___
SAMPLING METHOD	FLUID	HOW LEFT

DEPTH	U	D	FENCE RATE	ROCK TYPE	SYMBOL	DESCRIPTION
400						
450						
500						
550						
	570			SILTY S.S		BLACK, SILTY V.F. SANDSTONE
600	590			SILTY, CLAYEY SS.		DK GRAY to BLACK SILTY to CLAYEY V.F. SANDSTONE INTERBEDDED WITH MINOR CARBONACEOUS SHALE
650	640		BLUEGATE SHALE	GYP/CALCITE		GYPSUM / CALCITE
	660					DK. GRAY to BLACK SILTSTONE AND BLACK CARBONACEOUS SHALE.
700	700					DK GRAY To BLACK CARBONACEOUS Shale, GRAY CLAY, BRN CLAYSTONE, SOME BLACK F.g. SANDY SILTSTONE, GYP. + CALCITE.
750	740					749-754 BLACK SILTY shale DRK GRAY – BLACK SILTY CARBONACEOUS SILTY shale with INTERBEDDED BRN CLAYSTONE AND DK. GRN Shale
800	800					

LOCATION
LOGGED BY
CLIENT
JOB NO

LOG OF BOREHOLE

BOREHOLE NO. H
PAGE 3 of 3

LOC. or COORDS.	DRILLING CONTRACTOR	START / FINISH
GROUND ELEV.	RIG	DATE
ORIG. GROUND SURFACE	BIT	TIME
TOTAL DEPTH DRILLED	CASING	GEOPHYS. LOG ___ YES ___
SAMPLING METHOD	FLUID	HOW LEFT

DEPTH	PEN.	LOSS	PENE RATE	ROCK TYPE	SYMBOL	DESCRIPTION
800	800		DRILLING MUD @ 810'	SS/Sh		gry-DK gray silty F.g. sandstone
	815			820		White F-M quartz sandstone interbedded with green shale and brn claystone, some pyrite
			UPPER FERRON S.S.	825		
850	848			Coal (848)		Vitreous coal with BLK shale/siltstone parting
			I J	Sh (852)		
				Coal (853)		LT gry to white, well rounded, well sorted, qtz. sandstone
				863		
				SS/Sh 865		LT gry to white qtz SS interbedded with carbonaceous shale, green & tan claystone. gypsum
				877		
				879		
				885		
				889		
900				898		
				910		
				SS		LT. gry to white, VF-F, qtz SS.
				Coal 932		Carbonaceous shale
				936		Interbedded vitreous coal, VF.F. LT gr SS, tan to brn claystone and carbonaceous shale
			G	945		
950				950		gry VF-F qtz SS, brwn platy claystone, gray to gry-blue shale and claystone. micaceous
				975		
			C-D	Coal (?) 981		Brown to black carbonaceous shale to coal, minor VF-F SS.
				SLTST. 990		Well indurated, gray-green to green, sandy (VF) siltstone
				Lost circ. 993		
1000				1005		
				Coal 1022		Vitreous coal
			A	1024		
				1025		Vitreous coal, minor partings at 1027 & 1029
				1031		
						LT. gray, micaceous qtz SS. with interbedded tan to brn claystone and possibly carbonaceous shale and/or coal.
1050						
			LOWER FERRON	1087		shale or claystone (?)
1100				1101		
1150				TD 1140		
1200						

LOCATION
LOGGED BY TG/MG
CLIENT
JOB NO.

LOG OF BOREHOLE

BOREHOLE NO. I
PAGE 1 of 2

LOC. or COORDS. SESW Sec. 21 T22S Robe	DRILLING CONTRACTOR JAMES DRILLING	START / FINISH
GROUND ELEV. 6110 ± 10	RIG SPEEDSTAR SS-16	DATE 9/28/79
ORIG. GROUND SURFACE	BIT 6 3/4 - 650', 6 1/2" - TD	TIME
TOTAL DEPTH DRILLED 730'	CASING SURFACE - 8 5/8" to 45' - SEE WELL COMPLETION	GEOPHYS. LOG X YES
SAMPLING METHOD SIEVE	FLUID MUD to 45', AIR-MIST to TD	HOW LEFT Completed in 4 ZONES

DEPTH	RET.	LOSS	PENE RATE	ROCK TYPE	SYMBOL	COMBINATION OF CUTTINGS LOG AND GEOPHYSICAL LOG DESCRIPTION
0				Soil, clay		Soil, very clayey
				30' 35'		Soft, gray-blue shale/claystone
50						Moderately to highly fissile, gry blue to black, carbonaceous (?) shale, interbedded with tan to yellow claystone. Shale becomes darker, more carbonaceous (?) with depth.
100						
150						
				181		Black, fissile, sandy (vf) shale, becomes less sandy towards bottom
200						Thin light tan to pink siltstone interbeds - 212'
250						
				280		Black, carbonaceous, fissile shale
300						
350						
400						

LOCATION
LOGGED BY MG

CLIENT CONSOL
JOB NO. 4012-A

LOG OF BOREHOLE

BOREHOLE NO. I
PAGE 2 of 2

LOC. or COORDS.	DRILLING CONTRACTOR	START / FINISH
GROUND ELEV.	RIG	DATE
ORIG. GROUND SURFACE	BIT	TIME
TOTAL DEPTH DRILLED	CASING	GEOPHYS. LOG ___ YES ___
SAMPLING METHOD	FLUID	HOW LEFT

DEPTH	PENE RATE	ROCK TYPE	SYMBOL	DESCRIPTION
400		sh, ss, sh; 414, 415, 419		gray to white VF-F, WELL sorted, well rounded, qtz SANDSTONE; BLK, CARBONACEOUS shale
		ss		gray to white VF-F qtz sandstone with TAN to yellow claystone interbeds. possible thin BLK shale interbeds
		sh; 437, 438		BLK, CARBONACEOUS shale
450		ss; 465		white to gray VF qtz SANDSTONE, minor claystone/shale interbeds.
		sh/COAL; 471, 476		BLK, CARBONACEOUS shale and or COAL (?)
		I-J COAL; 485		COAL
		ss		gray to white VF SANDSTONE, CLAYSTONE/SHALE interbeds
500		496; 'G' COAL; 505		COAL
		ss		gray to white VF qtz SANDSTONE with BLACK shale and BRN to TAN claystone interbeds.
550		562; 'C-D' COAL; 568		COAL
		ss		gray to white VF qtz SANDSTONE with BLACK shale and BRN to TAN CLAYSTONE interbeds, 94P
600		601, 603, 615, 625, 631; 'A' COAL		COAL; COAL with shale and sandstone partings at 618', 620', & 623'; COAL
		ss; 638		white to gray F qtz SANDSTONE with shale and claystone interbeds.
650		ss; 654		white to gray, F, qtz SANDSTONE
		ss; 675		white to gray F qtz SANDSTONE with MINOR shale & clay interbeds
700		ss		white to gray, F, qtz. SANDSTONE with shale and CLAY interbeds.
		TD 728'		
750				

LOCATION
LOGGED BY
CLIENT
JOB NO.

LOG OF BOREHOLE

BOREHOLE NO. R
PAGE 1 of 3

LOC. or COORDS. T22S R06E SEC. 30 NE NE	DRILLING CONTRACTOR JAMES DRILLING	START / FINISH (DRILLING only)
GROUND ELEV. 6020 ± 10	RIG 55-15	DATE 10/11/79 / 10/14
ORIG. GROUND SURFACE	BIT 6 1/8 to 630' 6" to 884	TIME 1112 / 1745
TOTAL DEPTH DRILLED 884'	CASING 8 5/8" to 14.5'	GEOPHYS. LOG X YES
SAMPLING METHOD SIEVE	FLUID AIR-MIST	HOW LEFT completed in 4 ZONES

DEPTH			PENE RATE	ROCK TYPE	SYMBOL	Combination of Lith Log And geophysical Logs. DESCRIPTION
0				5.5'		SOFT WEATHERED SHALE
				sh		BLUE-gray shale, Dry, Hard
50						
				70 / 82		SANDY SHALE
100				110-112		SLIGHTLY SANDY
150						
				sh		
200						
250						
				285		SLIGHTLY SANDY
300						
				sh		
350						
				365 / 370		GRAY, WELL INDURATED, SANDY shale (Low to no Fissility)
						gray to BLACK, Mod. Fissile shale
400						

LOCATION
LOGGED BY EHP/MG

CLIENT
JOB NO. 4012A

LOG OF BOREHOLE

BOREHOLE NO. ____
PAGE 2 of 3

LOC. or COORDS. ____	DRILLING CONTRACTOR ____	START / FINISH
GROUND ELEV ____	RIG ____	DATE ____ ____
ORIG. GROUND SURFACE ____	BIT ____	TIME ____ ____
TOTAL DEPTH DRILLED ____	CASING ____	GEOPHYS. LOG ____ YES ____
SAMPLING METHOD ____	FLUID ____	HOW LEFT ____

DEPTH			PENETRATE	ROCK TYPE	SYMBOL	DESCRIPTION
400				Sh		
				430		
450				Sandy Sh		gray to black, mod. Fissile Sandy (vf) Shale. Becomes very well indurated towards bottom
				470		Calcite veining
500				495		
				Sh		BLK, mod. to highly Fissile, Carbonaceous shale.
550						
				581		Interbedded rounded qtz, qtz SS, shale, + Feldspar pebbles, VF-M, silty sandstone, and Black Fissile shale.
600				SS/Conglomerate		
				Coal 590		Hard, vitreous coal, interbedded with VF-F qtz SS, Brn to BLK
				597.5		Claystone/shale — DK gry VF-F silty sandstone, BLK shale interbedded
				614		BLK carbonaceous shale
				616		DK gray VF-F silty SS interbedded with soft BLK shale or mudstone
				632		LT. gry to white fine, qtz SS.
650				651'		
				662'		Coal, shale partings at 651.5', 656'.
						INTERBEDDED DK. gray F-M qtz SS and BLK Carbonaceous shale. Minor brn shale and mudstone
				679		LT. gray to white VF qtz. SS.
				684		
700				718		Interbedded LT gray to white qtz SS and BLK and Brn shale/mudstone.
						LT. gray to white VF. SS
750				752		LT. gray to white VF. SS, minor Black shale/mudstone
				779		Vitreous Coal, shale parting at 785.5'
				782		interbedded SS. and shale
800						

LOCATION ____ LOGGED BY ____

CLIENT ____ JOB NO. ____

LOG OF BOREHOLE

BOREHOLE NO. ____
PAGE ____ of ____

LOC. or COORDS. ____	DRILLING CONTRACTOR ____	START / FINISH
GROUND ELEV. ____	RIG ____	DATE ____ ____
ORIG. GROUND SURFACE ____	BIT ____	TIME ____ ____
TOTAL DEPTH DRILLED ____	CASING ____	GEOPHYS. LOG ____ YES ____
SAMPLING METHOD ____	FLUID ____	HOW LEFT ____

DEPTH	[illegible]	[illegible]	PENE. RATE	ROCK TYPE	SYMBOL	DESCRIPTION
800				SS 812 Coal 824		LT. gray VF qtz Sandstone COAL, Shale partings 816-818, 821 LT. gray to white VF SS, Minor gray to ben claystone
850				868 871 873		Extremely Hard LT. gray F-M qtz SS. — Water production increased.
884 TD				TD- 884'		
900						

LOCATION ____
LOGGED BY ____
CLIENT ____
JOB NO. ____

APPENDIX II

AQUIFER TEST DATA FOR:

EMRIA #3 WELLS

EMRIA #2 WELLS

MUDDY #3 WELL

BRYANT WELL

EMERY TOWN WELL

DOG VALLEY MINE WELLS

Well: EMRIA 3 — no data except from pumped well (Recovery)
Plot doubtful [illegible] 11/9/79
PUMPED WELL

Time (minutes)	Held	Wet	Waterlevel	Discharge	Temp. °C	Spec. Conductance
0907			no SWL	18" = 3gal	12.5	
0920				17" = 3gal	13.0	~~[illegible]~~
0945				20" = 3gal	12.0	7,900
952				18" = 3gal	13.0	7,400
1005				18" = 3gal	13.0	7,500
1023				20" = 3gal		
1042				19" = 3gal	13.0	8,900
1105				19 - 3gal	13.0	9,500
1135				19 - 3gal	13.0	10,000
1238				19 - 3gal	13.0	10,750
1320				19 - 3gal	13.0	10,600
1515				19 - 3gal	13.0	10,250
1730 DJM off				18.5 - 3gal	13.0	10,250
1910				19.0 3gal	13.0	9600
2025				18.5 3gal	13.0	9100
2225				18.0 3gal	13.0	8200
2400 off				17.5 3gal	13.0	8200
0510				18.0 = 3gal	12.5	6600
0700				18.0 = 3gal	13.0	6400
1000			sample taken	18.0 = 3gal	13.0	6100

211: EMRFA 3 Recovery from pumped well

Time since pump stopped (minutes)		Water level ~~Water level~~ (electric tape) Recovery	t/t'
0	1015 4/19/79	169.76	0
½		6.54	3000.2
1		12.78	1501
1½		17.80	1001
2		21.75	751
2½		25.42	601
3		28.30	501
4		33.92	376
5		39.22	301
6		44.10	251
8		53.02	188
10		60.75	151
12		66.92	126
15		80.67	101
20		91.20	76
25		96.58	61
30		99.41	51
40	steel tape 75.00 - 7.96 = 67.04	102.72	38.5
50	75.00 - 10.22 = 64.78	104.98	31
60 (1hr)	" 12.16 = 72.84	106.92	26
~~70~~ 71	" 13.86 = 61.14	108.62	22.1
80	" 14.66 = 60.34	109.42	19.8
90	" 14.97 = 60.03	109.73	17.7
100	15.09 = 59.91	109.85	16
120 (2hrs)	15.21 = 59.79	109.97	13.5
150	15.31 = 59.69	110.07	11
200	15.44 = 59.56	110.20	8.5
250	15.55 = 59.45	110.31	7

recovery	Time since pump stopped (minutes)		Water level t/t'
110.39	300 (5 hrs)	1515 6	15.63 59
110.50	400 4:55	1655 4.75	15.74 59
110.58	~~500~~ 506	1835 3.96	15.82 59
110.63	600 (10 hrs)	2015 3.5	15.87 59
110.68	700	2155 3.14	15.92 59
110.73	803 ~~800~~ 11:35	2335 2.88	15.97 59
110.77	900 (15 hrs)	0115 2.6	16.01 5
110.80	1000	0255 2.5	16.04
110.82	1200 (24 hrs) ~~1440 (1 day)~~	0515 2.25	16.06 59
110.86	14:5 ~~1500~~ 9:40	~~1875~~ 2.06	16.10 5

3 hrs - 25

DRAWDOWN

Well 3A Same depth & completion as EMRIA #3

r = ~~400~~ 375 ft Q = 10 gpm

Time (minutes)	Held	Wet	Water Level	Drawdown/Recovery
0898	75.00	27.40	47.60	
0 pump on 0900 4/19/79				Electric Tape
1/2				0
1				0
1 1/2				0
2				0
2 1/2				0
3				0
4				0
5				0
6				0
7				0
8				0
10				0
12	50.00	2.40		0
13.5	50.00	2.40		0
15	50.00	2.39		0
17	50.00	2.38		0.01
20	50.00	12.36		.02
25	60.00	12.34+		.04
30	60.00	12.34		.05+
40	60.00	12.34		.06
50	6.00	12.34		.06
60 (1hr) 1000		12.34-		.06
70		12.34-		.06+
80		12.335		.06+
90		12.33+		.065
100		12.328		.07-
120 (2hrs) 1100		12.31+		.07+
150 1130		12.30		.08+
~~180~~ 1220		~~12.45~~		.10
209 1229		12.235		.165

Time		Held	Wet	Waterlevel	Drawdown/Recovery
50	1310	60.00	12.20 +		0.20
300 (5hrs)	1400	"	12.16		.24
400	1540	"	12.08		.32
500	1720	"	12.00		.40
600 (10hrs)	1900	"	11.91		.49
700	2040	"	11.82		.58
800	2220	"	11.73		.67
900 (15hrs)	Midnight	"	11.69		.71
1000	0140	"	11.54		.86
1200 (20hrs)	0500		11.35		1.05
1440 (1day)					
1500 (25hrs	0100		11.12		1.28

11/11 3B
r = ±200 ft

DRAWDOWN
Shallow Blue Gate well
near EMRIA #3

Time (minutes)	Held	Wet	Water Level	Drawdown/Recovery
0951	30.00 12.83 17.17	12.83	17.17	0.00 12.83
0	20.00	2.82	17.18	
1/2	20.00	2.82	17.18	
1	"	2.82	}	
1 1/2	"	2.82	}	
2	"	2.81	17.19	
2 1/2	"	2.81	}	
3	"	2.81	}	
5	"	2.82	17.18	
7	"	2.82	}	
10	"	2.82	}	
12	"	2.82	}	
15	"	2.82	}	
20	"	2.80	17.20	
25	"	2.815	17.185	
30	"	2.825	}	
40	"	2.82	17.18	
50	"	2.82	}	
60 (1hr)	"	2.83	17.19	
70	"	2.82	17.18	
80	"	2.82	}	
90	"	2.83	}	
100	"	2.82	}	
120 (2hrs)	"	2.82	}	
150 (11:30)	"	2.82	}	
~~200~~ 204	"	2.83		

me	Held	Wet	Waterlevel	Drawdown/Recovery
~~150~~ 255	20.00	2.84		
~~300~~ (5 hrs) 394 14:00	"	2.84		
~~400~~ 484 3:40 15:40	"	2.85		
~~500~~ 504 5:40 16:20	"	2.84		
600 (10 hrs) 7:00 19:00	"	2.83		
~~700~~ 3040	"	2.80		
800 3220		2.80		
900 3400		2.79		
1000		2.78		
1200 (20 hrs)		2.77		
1440 (1 day)		2.75		
1500				

Dear Jerry,
I left at about 5:30. I emptied the gas into the trailer, it only took about 9 gallons. Your first measurement will be at 7:00 pm. The coffee stuff is on the trailer

Dan

RECOVERY

Well 3A
r = ~~±400~~ 375 ft

Time (minutes)	Held	Wet	Water Level SWL=47.60		Drawdown/Recovery
1000 4/19/78	60.00	11.12	48.88		s' 1.28
0	"	11.12			
1/2	"	11.13	1.27	[illegible]	
1	"	11.13			
1 1/2	"	11.~~04~~.11	48.89	100'	1.29
2	"	11.~~04~~.11	48.90	75'	1.29
2 1/2	"	11.~~05~~.10	1.3	60'	
3	"	11.~~06~~.10	1.3	50'	
5	"	11.08	1.32	30'	
7	"	11.09	1.31	21.5	
10	"	11.09		15'	
12	"	11.09		12.6	
15	"	11.09	48.91		
20	"	11.09			
25	"	11.09	1.31	6'	
30	"	11.08	48.92		
40	"	11.08			
50	"	11.07	48.93		
60 (1hr)	"	11.065			
70	"	11.07	48.93		
80	"	11.07	48.93	t/t'	s'
90	"	11.06	48.94	17.7	1.34
100 @ 11 55 hr	"	11.07	48.93	16.0	1.33
120 (2hrs) 1215	"	11.07	48.93	13.5	1.33
150 1245	"	11.09	48.91	11.0	1.31
200 1335	"	11.11	48.89	8.5	1.29

Can't use

E. H. PHILLIPS

60.00
11.08
26.02

me		Hekt	Wet	Waterlevel	t/t'	Drawdown/Recovery
150	1425 hr	60.00	11.13	48.87	7.0	1.27
300 (5 hrs)	1515	"	11.14	48.86	6.0	1.26
400	1655	"	11.16	48.84	4.75	1.24
500	635 1835	"	11.175	48.83	4.0	1.23
605 600 (10 hrs)	615 2015	"	11.185	48.82	3.5	1.22
704	155 2155	"	11.20	48.80	3.1	1.20
800	1135 2335	"	11.22	48.78	2.9	1.18
900		"	11.25	48.75	2.7	1.15
1000			11.26	48.74	2.5	1.14
1200 (20 hrs)			11.28	48.72	2.25	1.12
1440 (Day)						

Q=3.3 gal/min USGS Well 1-2 (Muddy #3 Test
r= 206' (D-22-6) 27cbb-6

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
8/22/79 0755	+5	45.00	- 1.54 -	1.20 = 47.26	
0800 pump on	0	45.00	1.54		
	1	45.00	1.54		
	3	48.00	4.54		
	5		4.54		
	7		4.54		
0810	10		4.54	2½ gal/71 sec; K=	0.00
	15		4.53+		.01-
	20		4.52+		.01-
	25		4.52-	2½ gal/74 sec K=	.01-
	30		4.53	2½ gal/80 sec	0.01
	40		4.52+	K=22,000 @ 12.0°C	.01-
	50		4.53	2½ gal/62 sec.	.01
	60		4.52	2½ gal/38 sec. (increased discharge)	.02
	70		4.51	K=22,000 @ 11.5°C	.03
	80		4.50	2½ gal/44 sec	.04
	90	48.00	4.48+	gal/45 sec.	.05
	100	48.50	4.97+	gal/46 sec; K=22,000 @ 11.5°C	.06
	120		4.91+		.07
1030	150		4.94	gal/45 sec; K=22,000 @ 11.5°C	0.10
	200		4.92		.12
	250		4.89+	gal/44 sec; K=22,000 @ 12.0°C	.14+
1200	300		4.89+		.14+
	400		4.89+	gal/44 sec.	.14+
	500		4.90		.14
1800	600		4.92	gal/46 sec; K=22,000 @ 11.5°C	.12
1940	700		4.93		.11
2120	800		4.91	gal/47 sec.	.13
2300	900		4.86		.18
8/23 0040	1000		4.85		.19
0400	1200		4.85		.19
0900	1500		4.83		.21
			5:30 am	gal / 50 secs	
			0:45 am	gal / 50 secs	K = 23,000 T=1
			8:10 am	gal / 50 secs	
			8:50 am	gal / 50 secs	K = 24,000 T=1

Q = 8 gal/min

EMRIA #2 PUMP TEST

r = 17 feet

OBSERVATION WELL # 1 (Same depth & construction as EMRIA #2)

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
0	8:00	50.00	15.68	34.32	0
1	8.01	"	15.67	34.33	.01
1.5	8:015	"			
2	8.02	"	15.665	34.335	.015
3	8 03	"	15.66	34.34	.02
4	8:04	"	15.67	34.33	.01
5	8:05	"	15.66	34.34	.02
6	8:06	"	15.67	34.33	.01
7	8:07	"			
8	8:08	"	15.665	34.335	.015
9	8:09	"			
10	8:10	"	15.670	34.33	.01
12	8:12	"	15.65 -	34.35 -	[illegible]
14	8:14	"	15.645	34.355	[illegible]
16	8:16	"	15.64 +	34.36 -	[illegible]
20	8:20	"	15.63 +	34.37 -	[illegible]
25	8:25	"	15.62 +	34.38 -	[illegible]
30	8:30	"	15.61	34.39	[illegible]
35	8:35	"	15.59 +	34.41 -	[illegible]
40	8:40	"	15.57 +	34.43 -	[illegible]
50	8:50	"	15.52	34.48	[illegible]
60	9 00	"	15.46 +	34.54 -	.22
70	9:10	"	15.41	34.59	[illegible]
80	9:20	"	15.34	34.66	[illegible]
90	9:30	"	15.28	34.72	.40
100	9.40	"	15.21 +	34.79 -	.47
120	10:00	"	15.11	34.89	.57
140	10:20	"	14.995	35.005	.685
170	10:50	"	14.85	35.15	.83
200	11.20	"	14.72	35.28	.96
DM 250	~~2~~ 12:10	"	14.56	35.44	1.12
300	1:00	"	14.44	35.56	1.24
350	1:50	"	14.35	35.65	1.33
400	2:40	"	14.25	35.75	[illegible]
500	4:20	52	16.10	35.90	1.58
WK 600	6.00	50	14.00	36.00	1.68
700	7:40	50	13.89	36.11	1.79
800	9:20	50	13.75	36.25	1.93
900	11:00	50	13.65	36.35	2.03
GP 1000	12:40	50	13.55	36.45	2.13
1100	2:20	50	13.46 r	36.54 -	2.22
1200	4:00	5.	13.39	[illegible]	[illegible]
1300	5 40	51	13.30	36.70	2.38
1400	7:20	50	13.22	36.78	2.46
DM 1500	8:00	50	13.18	36.82	2.50

Q ≐ 8 gal min⁻¹

EMRIA #2 PUMP TEST

OBSERVATION WELL # 1 (Same depth & construction as EMRIA #2) r = ±200 ft

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
0	8:00	50.00	15.68	34.32	0
1	8.01	"	15.67	34.33	.01
1.5	8:015	"			
2	8.02	"	15.665	34.335	.015
3	8 03	"	15.66	34.34	.02
4	8:04	"	15.67	34.33	.01
5	8:05	"	15.66	34.34	.02
6	8:06	"	15.67	34.33	.01
7	8:07	"			
8	8:08	"	15.665	34.335	.015
9	8:09	"			
10	8:10	"	15.670	34.33	.01
12	8:12	"	15.65 +	34.35 −	.03
14	8:14	"	15.645	34.355	[illegible]
16	8:16	"	15.64 +	34.36 −	[illegible]
20	8:20	"	15.63 +	34.37 −	.05
25	8:25	"	15.62 +	34.38 −	[illegible]
30	8:30	"	15.61	34.39	.07
35	8:35	"	15.59 +	34.41 −	.09
40	8:40	"	15.57 +	34.43 −	.11
50	8:50	"	15.52	34.48	[illegible]
60	9 00	"	15.46 +	34.54 −	.22
70	9:10	"	15.41	34.59	.27
80	9:20	"	15.34	34.66	.34
90	9:30	"	15.28	34.72	.40
100	9:40	"	15.21 +	34.79 −	.47
120	10:00	"	15.11	34.89	.57
140	10:20	"	14.995	35.005	.675
170	10:50	"	14.85	35.15	.83
200	11.20	"	14.72	35.28	.96
DM 250	12:10	"	14.56	35.44	1.12
300	1:00	"	14.44	35.56	1.24
350	1:50	"	14.35	35.65	1.33
400	2:40	"	14.25	35.75	1.43
500	4:20	52	16.10	35.90	1.58
WK 600	6:00	50	14.00	36.00	1.68
700	7:40	50	13.89	36.11	1.79
800	9:20	50	13.75	36.25	1.93
900	11:00	50	13.65	36.35	2.03
GP 1000	12:40	50	13.55	36.45	2.13
1100	2:20	50	13.46 +	36.54 −	2.22
1200	4:00	5[illegible]	13.39	36.61	2.29
1300	5:40	51	13.30	36.70	2.38
1400	7:20	50	13.22	36.78	2.46
DM 1500	8:00	50	13.18	36.82	2.50

EMRIA #2 PUMP TEST
OBSERVATION WELL #2
(open hole drilled to ±10' below ID)
r = ±25 ft

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
0	8:00	40.00	13.65	26.35	
1	8:01	40.00	13.68	26.32	+.03
1.5	8:015				
2	8:02	40.00	13.66	26.34	+.01
3	8:03	40.00	13.67	26.33	+.02
4	8:04	40.00	13.67	26.33	
5	8:05	40.00	13.66	26.34	
6	8:06	40.00	13.66	26.34	
7	8:07	40.00	13.66	26.34	
8	8:08	40.00	13.66	26.34	
9	8:09	40.00	13.66	26.34	
10	8:10	40.00	13.66	26.34	
12	8:12	40.00	13.67	26.33	
14	8:14	40.00	13.67	26.33	
16	8:16	40.00	13.66	26.34	
20	8:20	40.00	13.67	26.33	
25	8:25	40.00	13.66	26.34	
30	8:30	40.00	13.67	26.33	
35	8:35	40.00	13.67	26.33	
40	8:40	40.00	13.66	26.34	
50	8:50	40.00	13.66	26.34	
60	9:00	40.00	13.66	26.34	
70	9:10	40.00	13.66	26.34	
80	9:20	40.00	13.66	26.34	
90	9:30	40.00	13.66	26.34	
100	9:40	40.00	13.67	26.33	
120	10:00	40.00	13.66	26.34	
140	10:20	40.00	13.67	26.33	
170	10:50	40.00	13.67	26.33	
200	11:20	40.00	13.66	26.34	
All 250	12:10	40.00	13.67	26.33	
300	1:00 3	40.00	13.67	26.33	
350	1:50 2	40.00	13.67	26.33	
400	2:40 2	40.00	13.70	26.30	
500	4:20 2	40.00	13.73	26.27	
WK 600	6:00 2	40.00	13.74	26.26	
700	7:40	40.00	13.73	26.27	
800	9:20	40.00	13.73	26.27	
900	11:00	40.00	13.68	26.32	
GR 1000	12:40	40.00	13.66	26.34	
1100	2:20 3	40.00	13.66	26.34	+.01
1200	4:00 3	40.00	13.63	26.37	.02
1300	5:40 3	40.00	13.61	26.39	.04
1400	7.20	40.00	13.59	26.41	.06
PM 1500	9:00	40.00	13.59	26.41	.06

DOG VALLEY PUMP TEST
WW # 3

TOTAL DEPTH 300'
PERF 160-180' + 242-282'
WATER LEVEL ≈93'

9/20/78

#3

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
9:10 (9:22±)	0	97.0	3.51	93.49	0.00
	1	"	"		"
	2	"	"		"
	3	—	—		—
	4	—	—		—
	5	"	3.51		0.00
	6	—	—		—
	7	"	3.51		0.00
	8	—	—		—
	9	"	3.50	93.50	0.01
	~~10~~ 11	"	3.505	93.495	0.005
	~~12~~ 13	"	3.50	93.50	0.01
	~~14~~ 15	"	3.50	"	"
	~~16~~ 17	"	3.50	"	"
	~~18~~ 19	"	3.49	93.51	0.02
	~~20~~ 21	"	3.49	"	"
	22	"	3.49	"	"
	24	"	3.49	"	"
5 sec	26	"	3.49	"	"
slow	28	"	3.49	"	"
	30	"	3.485	93.515	0.025
	35	"	3.475	93.525	0.035
	40	99.0	3.473	93.527	0.037
10 sec	45	97.0	3.462	93.538	0.048
slow	50	"	3.462	"	0.048
	55	"	3.46	93.54	0.05
	60 (1)	"	3.46	"	0.05
SW	70	"	3.442	93.558	0.068
15 sec slow	80	"	3.432	93.568	0.078
W 20 sec	90	"	3.423	93.577	0.087
fast	~~100~~ 101	"	3.418	93.582	0.092
at 90 m	110	"	3.41	93.59	0.10
35 sec	120 (2)	"	3.402	93.598	0.108
between them	130	"	3.40	93.60	0.11
(was 10-15 ?	140	"	3.395	93.605	0.115
at start A	160	"	3.37	93.63	0.14
test)	180 (3)	"	3.366	93.634	0.144
	200	"	3.343	93.657	0.167
	220	"	3.338	93.662	0.172
	~~240~~ 241 (4)	"	3.322	93.678	0.188
	270	"	3.303	93.697	0.207
2:10 PM	300 (5)	"	3.293	93.707	0.217
2:40	330	"	3.28	93.72	0.23
3:10	360 (6)	"	3.245	93.755	0.265
	~~390~~ 400	"	3.231	93.769	0.279
4:10	~~420~~ 425 (7)	"	3.218	93.782	0.292
	~~450~~ 455	97.10	3.210	93.790	0.300
5:10	~~480~~ 485 (8)	97.10	3.205	93.795	0.305
6:10	~~540~~ 545 (9)	97.0	3.170	93.830	[illegible]
7:10	600 (10)	97.0	3.145	93.855	[illegible]
8	660 (11)	97.0	3.115	93.885	[illegible]
9	720 (12)	"	3.080	93.920	[illegible]
10	~~780~~ 787 (13)	"	3.040	93.960	0.470
11	840 (14)	"	3.010	93.99	0.50
12:10 AM	900 (15)	"	2.985	94.015	[illegible]

7/20/70

#3

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
1:10 AM	1:28 960 978 (16)	97.0	2.94	94.06	.57
2:10 2:12	1020 1022 (17)	97.0	2.91	94.09	.60
3 3:13	1080 1083 (18)	"	2.89	94.11	.62
4 4:13	1140 1143 (19)	"	2.865	94.135	.645
5 5:10	1200 — (20)	"	2.86	94.14	.65
6 6:13	1260 1263 (21)	"	2.84	94.16	.67
7:10	1320 — (22)	"	2.83	94.17	.68
8:11	1380 (23)	"	2.81	94.19	.70
9:11 AM	1440 (24)	"	2.80	94.20	.71
10:44	1560 1534 (26)	"	2.775	94.225	.735
~~10:53~~	~~1680 1543 (28)~~	~~"~~	~~2.77~~	~~94.23~~	~~.74~~
	1800 (30)				
	1920 (32)				
	2040 (34)				
	2160 (36)				

Recovery Well #3

#3 RECOVERY ~~DRAWDOWN~~

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.
0-6	-6	97.0	2.775	94.225
0-3	-3	97.0	2.775	94.225
11:03	3	97.0	2.77	94.23
" 11:06	6	"	2.78	94.22
" 11:09	9	"	2.775	94.225
~~11:00~~ 0-1'				
~~11:02~~	~~2~~ 12.5	97.0	2.78	94.22
~~11:04½~~	4.5 15	"	2.78	94.22
~~11:06~~	~~6.5~~ 16.5	"	2.785	94.215
~~11:08~~	~~8.0~~ 18.5	"	2.79	94.21
11:20.5 ~~11:10~~	~~10.0~~ 20.5	"	2.782	94.218
~~11:12~~	~~12~~ 22.5	"	2.788	94.212
~~11:17~~	~~17~~ 27.5	"	2.785	94.215
~~11:21~~	21 31.5	"	2.79	94.21
~~11:25~~	~~25~~ 35.5	"	2.80	94.20
~~11:30~~	~~30~~ 40.5	"	2.80 good	94.20
~~11:35~~	~~35~~ 45.5	"	2.80 "	94.20
~~11:40~~	~~40~~	~~99.0~~	~~4.82 ?~~	
~~11:43~~	43 53.5	97.0	2.81	94.19
~~11:50~~	~~50~~ 60.5	"	2.816	94.184
~~12:00~~	~~60~~ 70.5	"	2.821	94.177
2:33.5 ~~12:23~~	~~83~~ 93.5	"	2.828	94.172
12:54	114	"	2.84	94.16
1:15	135	"	2.86	94.14
1:30	150	"	2.868	94.132
1:40	160	"	2.865	94.135
1:50	170	"	2.875	94.125
2:00	180	"	2.878	94.122
2:20	200	"	2.887	94.113
2:46	226	"	2.90	94.10
DJM on 3:10	250	99.0	4.92	94.08
3:35	275	99.0	4.95	94.05
5:15	315	97.0	2.95	94.05
	383	102	7.[illegible] + ?	
8:23	563	97.0	2.98	94.02
		98	3.98	94.02
6:30	1170			
8:35	1295	98	3.98	94.02
1058	1438	98	4.00	94.00

DOG VALLEY PUMP TEST

WW # 5

TOTAL DEPTH 540
PERF ≈ 205 - 245
WATER LEVEL ≈ 100'

7/20/10

#5

08:45 TIME	ELAPSED TIME		102 TAPE	3.15 CUT	97.85 S. W. L.	DRAWDOWN
09:10	0		101	1.15	99.85	DANIO REPORTS
09:11	1		101	1.15	99.85	VIDEO FROM
	2					THIS WELL DID
	3		101	1.15	99.85	A FLOW TEST
	4		101	1.19	99.81	
	5		101	1.16	99.84	
	6		101	1.15	99.85	
	7		101	1.15	99.85	
	8		101	1.14	99.86	
	9		101	1.16	99.84	
	10		101	1.13	99.87	
	12		101	1.14	99.86	
	14		101	1.15	99.85	
	16		101	1.15	99.85	
	18		101	1.15	99.85	
	20		101	1.15	99.85	
	22		101	1.19	99.81	
	24		101	1.16	99.84	
	26		101	1.15	99.85	
	28		101	1.15	99.85	
	30		101	1.15	99.85	
	35		101	1.15	99.85	
	40		101	1.15	99.85	
	45		101	1.16	99.84	
	50		101	1.15	99.85	
	55		101	1.16	99.84	
10:10	60	(1)	101	1.14	99.86	
	70		101	1.15	99.85	
	80		101	1.15	99.85	
	90		101	1.15	99.85	
	100		101	1.15	99.85	
	110		101	1.15	99.85	
11:10	120	(2)	101	1.13	99.87	
	130		101	1.14	99.86	0.01
11:30	140		101	1.14	99.86	
11:50	160		101	1.14	99.86	
12:10	180	(3)	101	1.14	99.86	
12:30	200		101	1.13	99.87	0.02
12:50	220		101	1.13	99.87	
13:10	240	(4)	101	1.12	99.88	0.03
13:40	270		101	1.10	99.90	0.05
14:10	300	(5)	102	2.10	99.90	
14:40	330		101	1.09	99.91	0.06
15:10	360	(6)	101	1.08	99.92	0.07
15:40	390		101	1.08	99.92	
16:10	420	(7)	101	1.07	99.93	0.08
16:40	450		101	1.07	99.93	
17:10	480	(8)	102	2.02	99.98	0.13
18:10	540	(9)	101	1.02	99.98	
19:10	600	(10)	101	1.00	100.00	0.15
20:10	660	(11)	102	1.98	100.02	0.17
21:10	720	(12)	102	1.95	100.05	0.20
22:10	780	(13)	102	1.91	100.09	0.24
23:10	840	(14)	102	1.89	100.11	0.26
00:10	900	(15)	102	1.89	100.11	0.26

#5

TIME	ELAPSED TIME		TAPE	CUT	t=0; 99.55 S. W. L.	DRAWDOWN
78/01:20	960	(16)	102	1.83	100.17	0.32
2:02	1020	(17)		1.80		.35
3:02	1080	(18)		1.76		.39
4:05	1140	(19)		1.74		.41
5:02	1200	(20)	[illegible]	1.73		.42
6:05	1260	(21)	149.95 + TL 0.425	1.72		.43
7:04	1320	(22)		1.70		.45
8:04	1380	(23)		1.68		.47
9:00	1440	(24)		1.68	100.32	0.47
TIME NEW 12:53	~~[illegible]~~ 1543	(26)		1.68	100.32	0.47
	1680	(28)				
	1800	(30)				
	1920	(32)				
	2040	(34)				
	2160	(36)				

9-21-73 WW N25 #5

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	RECOVERY -DRAWDOWN
13:53		132	1.33	100.32	—
13:55		132	1.37	100.33	—
13:57			1.67	100.33	—
14:12			1.65	100.35	—
14:25			1.65	100.35	—
15:0[illegible]			1.65	100.35	—
15:[illegible]			1.65	100.35	—
[illegible]			1.65	100.35	—
[illegible]			1.65	100.35	—
16:[illegible]			1.65	100.35	—
17:[illegible]			1.65	100.35	—
20:29		102.0	1.65	100.35	0.0
~~0625~~		102.0	1.59	100.41	0.06
0625		102.0	1.60	100.40	0.05
0940		102.0	1.60	[illegible]	0.05
1105		102.0	1.60	[illegible]	0.05

WW # 6 (CASING PERF. [illegible])
WATER LEVEL ≈ 137.9

#6

t, TIME	ELAPSED TIME		TAPE	CUT	S. W. L.	DRAWDOWN, S
856 ±0858	t=0@0910		140.	2.02	137.98	0.00
0901	1		140.	2.01		.01
	2					
	3		140.	2.00-		.02+
	4					
	5		140.	1.97		.05
	6					
	7		140.	1.95-		.07+
	8					
	9		140.	1.92-		.10+
0920	10					
	12		140	1.90-		.12+
	14					
	~~16~~ 15		140.	1.87		.15
	18-		140	1.83-		.19+
0930	20					
	~~22~~ 21-		142.	3.78		.24
	24-			3.75		.27
	26					
	~~28~~ 27-			3.72-		.30+
0940	30-			3.69		.33
	35			3.65		.37
	40			3.61		.41
	45			3.56		.46
	50			3.53		.49
	55			3.50		.52
1010	60	(1)	Pumped well 16 gpm T=13.5°C K=2500	3.47-		.55+
	70			3.41		.61
	80		Water level in pump well 150.-13.58=136.02 VTC	3.34		.68
1040	90			3.29		.73
1050	100			3.24		.78
1100	110			3.20-		.82+
1110	120	(2)		3.14		.88
1120	130			3.10		.92
1130	140			3.06		.96
1150	160		T=14.0°C ; K=2000	3.00	139.00	~~.98~~ 1.02
1210	180	(3)	142	2.92		1.10
1230	200			2.86		1.16
1250	220			2.80		1.22
1310	240	(4)		2.74		1.28
1340	270			2.66		1.36
1410	300	(5)	Q=16 gpm T=14.0°C K=1800	2.60		1.42
1440	330		142.	2.52		1.50
1510	360	(6)		2.48		1.54
1540	390		[illegible]	2.39		1.63
1610	420	(7)		2.35		1.67
1640	450			2.32		1.70
1710	480	(8)		2.25		1.77
1810	540	(9)		2.14		1.88
1910	600	(10)		2.05		[illegible]
2010	660	(11)		1.97		[illegible]
2110	720	(12)		1.92		[illegible]
2210	780	(13)		1.82		2.20
2310	840	(14)		1.75		2.27
9/2 0010 (Midnight)	900	(15)		[illegible]		[illegible]

#6

TIME	ELAPSED TIME		TAPE	CUT	S. W. L.	DRAWDOWN
0110	960	(16)	[illegible]	1.62		2.40
0210	1020	(17)		1.56		2.46
0304	1080	(18)	Q=15.6gpm; T=13.0°C K=1675	1.50		2.52
0410	1140	(19)	@0425 WL in pump well	1.47		2.55
0510	~~1200~~	(20)	was 170-20.05=	1.43		2.59
0610	1260	(21)	149.95 ↓TC	1.39		2.63
0710	1320	(22)		1.34		2.69
0810	1380	(23)		1.29		2.73
0910	1440	(24)	T=13.5°C; K=1650	1.27		2.75
1010	~~1560~~ 1500	(26)	@0930 WL in			
	~~1680~~	(28)	pumped well 170, -			
	~~1800~~	(30)	19.07=150.93			
	~~1920~~	(32)				
	~~2040~~	(34)	Q=16gpm @1015			
[illegible]	~~2160~~	(36)				
10158	1538 old time			1.19		2.83

WW #6 RECOVERY

2-21-78 ≈ 1530 min since pumping began 137.98 2.9 #6 Calculated

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	RECOVERY DRAWDOWN	Resid SS
[illegible]		+1/+1	[illegible]	140.81		
[illegible]	[illegible]	1550	[illegible]	140.81	-.03	2.83
[illegible]	2	775	[illegible]	140.79	-.01	2.81
[illegible]	4	388	[illegible]	140.80		
[illegible]	6	258	[illegible]	140.80		
[illegible]	8	194	[illegible]	140.78	-.03	2.80
[illegible]	10	155	[illegible]	140.71	-.04	2.79
	12	129	[illegible]	140.70	-.05	2.78
	14	111	[illegible]	[illegible]	.05	2.78
	16	97	[illegible]	[illegible]	.07	2.76
	18	86	[illegible]	[illegible]	.10	2.73
	20	78	[illegible]	[illegible]	.11	2.72
	22	70	[illegible]	[illegible]	.12	2.71
	24	65	[illegible]	[illegible]	.13	2.70
	26	60	[illegible]	[illegible]	.15	2.68
	28	55	[illegible]	[illegible]	.16	2.67
[illegible]	30	52	[illegible]	[illegible]	.17	2.66
	35	44	[illegible]	[illegible]	.18	2.65
	40	39	[illegible]	[illegible]	.23	2.60
	45	34	[illegible]	[illegible]	.26	2.57
	50	31	[illegible]	[illegible]	.29	2.54
	55	28	[illegible]	[illegible]	.31	2.52
[illegible]	60	26	[illegible]	140.78	-.33	2.50
[illegible]	70	22	[illegible]	140.43	.38	2.45
[illegible]	80	19	[illegible]	[illegible]	.43	2.40
[illegible]	90	17	[illegible]	[illegible]	.47	2.36
[illegible]	100	16	[illegible]	[illegible]	.51	2.32
[illegible]	110	14	[illegible]	[illegible]	.55	2.28
1 [illegible]	120	13	[illegible]	[illegible]	.58	2.25
[illegible]	130	12	[illegible]	[illegible]	.61	2.22
[illegible]	140	11	[illegible]	[illegible]	.65	2.18
[illegible]	160	10	[illegible]	[illegible]	.70	2.13
2 [illegible]	180	9	[illegible]	140.05	.76	2.07
[illegible]	200	8	[illegible]	139.99	.82	2.01
[illegible]	220	7.05	[illegible]	139.95	.85	1.98
3 [illegible]	240	6.5	[illegible]	[illegible]	.89	1.94
[illegible]	270	5.7	[illegible]	[illegible]	.95	1.88
4 [illegible]	300	5.2	[illegible]	[illegible]	1.00	1.83
[illegible]	330	4.7	[illegible]	[illegible]	1.05	1.78
5 17:00	360	4.3	[illegible]	[illegible]	1.09	1.74
20:37	577	3.7 142.0	2.50	139.50		
20:39	579	"	2.52	Roller [illegible]		
20:42	582	3.7 "	2.50	mnt [illegible]		1.31 1.52
~~[illegible]~~ 620	1160	1.34 142.0	2.91	139.09		1.72 1.11
0843	1303	1.2 142.00	2.94	139.06 JTC		1.75 1.08
				-1.80		
				137.26		
1104	1443	1.07 142.00	2.95	139.05		1.76 1.07

WW # 9 WATER LEVEL 101.1

#9

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
9:10	0	105.0	3.76	101.24	.00
	1				
	2	105.0	5.10 [illegible]	—	—
	3				
	4				
	5	105.0	3.78	—	—
	6				
	7	105.0	3.76	101.24	.00
	8				
	9				
	10	105.0	3.76	101.24	.00
	12				
	14	105.0	3.76	101.24	.00
	16				
	18	105.0	3.76	101.24	.00
	20				
	~~22~~ 23	106.0	4.76	101.24	.00
	~~24~~				
	26	106.0	4.72	101.20	.04
	~~28~~ 29	105.0	3.70	101.30	.06
	30				
	~~35~~ 38' 30"	105.0	3.68	101.32	.08
	40				
	45	105.0	3.68	101.32	.08
	50' 10"	105.0	3.66	101.34	.10
	55				
	60 (1)	105.0 good cut	3.59	101.41	.17
	70	105.0	3.57	101.43	.19
	80	105.0	3.57	"	
	90	105.0	3.57	101.43	.19
	~~100~~ 103' 35"	105.0	3.51	101.49	.25
	110	105.0	3.48	101.52	.28
	120 (2)	105.0	3.45	101.55	.31
	130	105.0	3.41	101.59	.35
	140	105.0	3.38	101.62	.38
	160	105.0	3.30	101.70	.46
	180 (3)	105.0	3.22	101.78	.54
	200	105.0	3.14	101.86	.62
	220 - 20"	105.0	3.06	101.94	[illegible]
	240 (4)	105.0	[illegible]	102.03	[illegible]
	270	107.0	[illegible]	102.16	.92
	300 (5)	[illegible]	3.72	102.28	1.04
	330	107.0	4.61	102.39	1.15
	360 (6)	107.0	4.48	102.52	1.28
	~~390~~ 410	107.0	4.33	102.67	[illegible]
W	420 (7)	[illegible]	[illegible]	102.74	[illegible]
[illegible]	450	107.0	2.05	102.95	1.71
465 107	→ 480 (8)	107.0	3.17	[illegible]	[illegible]
6:10	540 (9)	107.0	3.75	103.25	[illegible]
7:10	600 (10)	"	3.51	103.49	2.25
8:15	660 665 (11)	107.0	3.25	103.75	2.5[illegible]
9:10	~~720~~ 725 (12)	"	[illegible]	103.86	2.[illegible]
[illegible]	780 783 (13)	107.0	[illegible]	104.09	[illegible]
11	840 (14)	[illegible]	[illegible]	[illegible]	2
12	~~900~~ 910 (15)	107.0	[illegible]	[illegible]	3.19

#9

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
1:46 1:46	960 [illegible] (16)	107.0	2.29	104.71	3.47
2:23	~~1020~~ 1035 (17)	107.0	2.165	104.835	[illegible]
3:24	~~1080~~ 1094 (18)	"	2.02	104.98	3.74
4:23	~~1140~~ 1154 (19)	108.0	2.88	105.12	3.88
5:30	1200 1220 (20)	"	2.73	105.27	4.03
6:23	~~1260~~ 1283 (21)	"	2.60	105.40	4.16
7:23	~~1320~~ 1333 (22)	"	2.475	105.525	4.285
8:24	1380 94 (23)	"	2.35	105.65	4.41
9:[illegible]	1440 (24)	"	2.[illegible]	105.[illegible]	4.535
10:[illegible]	1530 ~~1560~~ (26)	[illegible]	2.080	105.92	4.68
	1680 (28)				
	1800 (30)				
	1920 (32)				
	2040 (34)				
	2160 (36)				

DOG VALLEY [illegible] TEST

9/20/78

10:50

RECOVERY WW # 9

#9

TIME	ELAPSED TIME	TAPE	CUT	S. W. L.	DRAWDOWN
11:00	0	108.0	2.05	105.95	
	1				
	2				
[illegible]	3	108.0	2.05	[illegible]	
	4				
	5				
	6	108.0	2.05	[illegible]	
	7				
	8				
	9	108.0	2.05	[illegible]	
	10				
	12	108.0	2.048	[illegible]	
	14				
	~~16~~ 15	108.0	2.041	[illegible]	
	18	108.0	2.04	[illegible]	
	~~20~~ 21	108.0	2.03	[illegible]	
	22				
	24	108.0	2.04	[illegible]	
	26				
	~~28~~ 27	108.0	2.04	[illegible]	
	30	108.0	2.05	[illegible]	
	35	108.0	2.04	[illegible]	
	40				
	45	108.0	2.03	[illegible]	
	50	108.0	2.02	[illegible]	
	55	108.0	2.04	[illegible]	
12:00	60 (1)	110.0	4.05	[illegible]	.00
	70	108.0	2.06	[illegible]	.01
	80				
12:[illegible]	90	108.0	2.08	[illegible]	.03
	100	108.0	2.09	[illegible]	.04
	110	108.0	2.71	[illegible]	.06
[illegible]	120 (2)	110.0	4.12	[illegible]	.07
	130	108.0	2.[illegible]	[illegible].855	.095
	140	108.0	2.[illegible]	[illegible]	.12
	160	108.0	2.220	[illegible].780	.17
[illegible]	180 (3)	108.0	2.275	[illegible]	.225
	200	108.0	2.380	105.670	.280
	~~220~~ 226	108.0	2.425	105.575	.375
3:00	~~240~~ 245 (4)	108.0	2.450	105.52	.4[illegible]
	270	108.0	2.55	105.45	.5[illegible]
[illegible]	~~300~~ 305 (5)	108.0	2.68	105.[illegible]	.6[illegible]
	330	108.0	2.[illegible]	105.25	.70
5:00	~~360~~ 370 (6)	108.0	~~2.98~~ 2.85	105.15	.80
	~~390~~				
~~[illegible]~~ 9:02 PM	~~420~~ 602 (7)	108.0	3.49	10[illegible].51	1.44
	~~450~~				
7:00	~~480~~ (8)				
~~[illegible]~~ [illegible]	~~540~~ 1160 (9)	108.0	4.44	103.56	2.5[illegible]
~~[illegible]~~	~~600~~ (10)				
~~[illegible]~~ [illegible]	~~660~~ 1305 (11)	108.0	4.[illegible]	[illegible]	2.59
~~[illegible]~~	~~720~~ (12)				
~~[illegible]~~ 1050	~~780~~ 1430 (13)	109.0	4.81	103.19	2.76
~~[illegible]~~	~~840~~ (14)				
~~[illegible]~~	~~900~~ (15)				

23-6-32 (NWqtr)

DOG VALLEY PUMP TEST

Q = 16 gpm

WW # 3 - 710' from pumping well

WW # 5 - 895' from " "

WW # 6 - 475' " " "

WW # 9 - 480' " " "

Location

22-6-31 D

Q = ±12 gpm
No elapsed time of pumping
Drawdown data not available

8/30/78 Bryant Well Recovery Test

Avg 30 Time	Time elapsed t / t'	Head		corrected		
10:00 am						
10:01	1	3.03	+ .04" H_2O	3.17		
10:02	2		(removed air bubbles from manometer)			
10:03	3	3.32	+ .14" H_2O	3.46		Δh
10:04	4	3.39	"	3.53		.07
10:05	5	3.43	"	3.57		.11
10:06	6	3.46	"	3.60		.14
10:07	7	3.49	"	3.63		.17
10:08	8	3.51	"	3.65		.19
10:09	9	3.55	"	3.69		.23
10:10	10	3.58	"	3.72		.26
10:12	12	3.62	"	3.76		.30
10:14	14	3.64	"	3.78		.32
10:16	16	3.67	"	3.81	3.84	.35
10:18	18	3.70	"	3.84	3.87	.38
10:20	20	3.74	"	3.85	3.88	.39
10:25	25	3.75	"	3.89	3.93	.43
10:30	30	3.80	"	3.94	3.97	.48
10:35	35	3.83	"	3.97	4.00	.51
10:40	40	3.85	"	3.99	4.02	.52
~~10:45~~	~~45~~	~~3.91~~				
10:50	50	3.90	"	4.04		.57
~~10:55~~	~~55~~					
11:00	60	3.95	"	4.09		.63
11:10	70	4.00	"	4.14		.68
11:20	80	4.04	"	4.18		.72

Time	Time elapsed (min)	Head		corrected	Δh
			+1.4" H_2O		
11:30	90	4.08	"	4.22	.76
11:45	105	4.14	"	4.28	.80
12:00	120	4.20	"	4.34	.86
~~12:15~~	~~135~~				
~~12:30~~ 12:30	150	4.32	"	4.46	.98
1:00	180	4.42	"	4.56	1.08
~~1:30~~	~~210~~				
2:00	240	4.60	"	4.74	1.28
3:00	300	4.79	"	4.93	1.47
4:00	360	4.95	"	5.09	1.63
6:00 p.m.	480	5.21	"	5.35	1.89
Aug 31 ~~Sept 1~~ 9:00 a.m	1380	6.12	"	6.26	2.80
~~6:00 pm~~ 3:45	1785	6.46 + 0.4 ft H_2O		6.60	3.14
Sept 1 8:45	2805	6.88	"	7.02	3.56
1:05	3065	6.91		7.05	3.59

4 hrs. + 20 min

Recovery Test
Emery Town Well

water 13.56" H_2O = 1" Hg

22-6-4 — Location
Emery Town Well

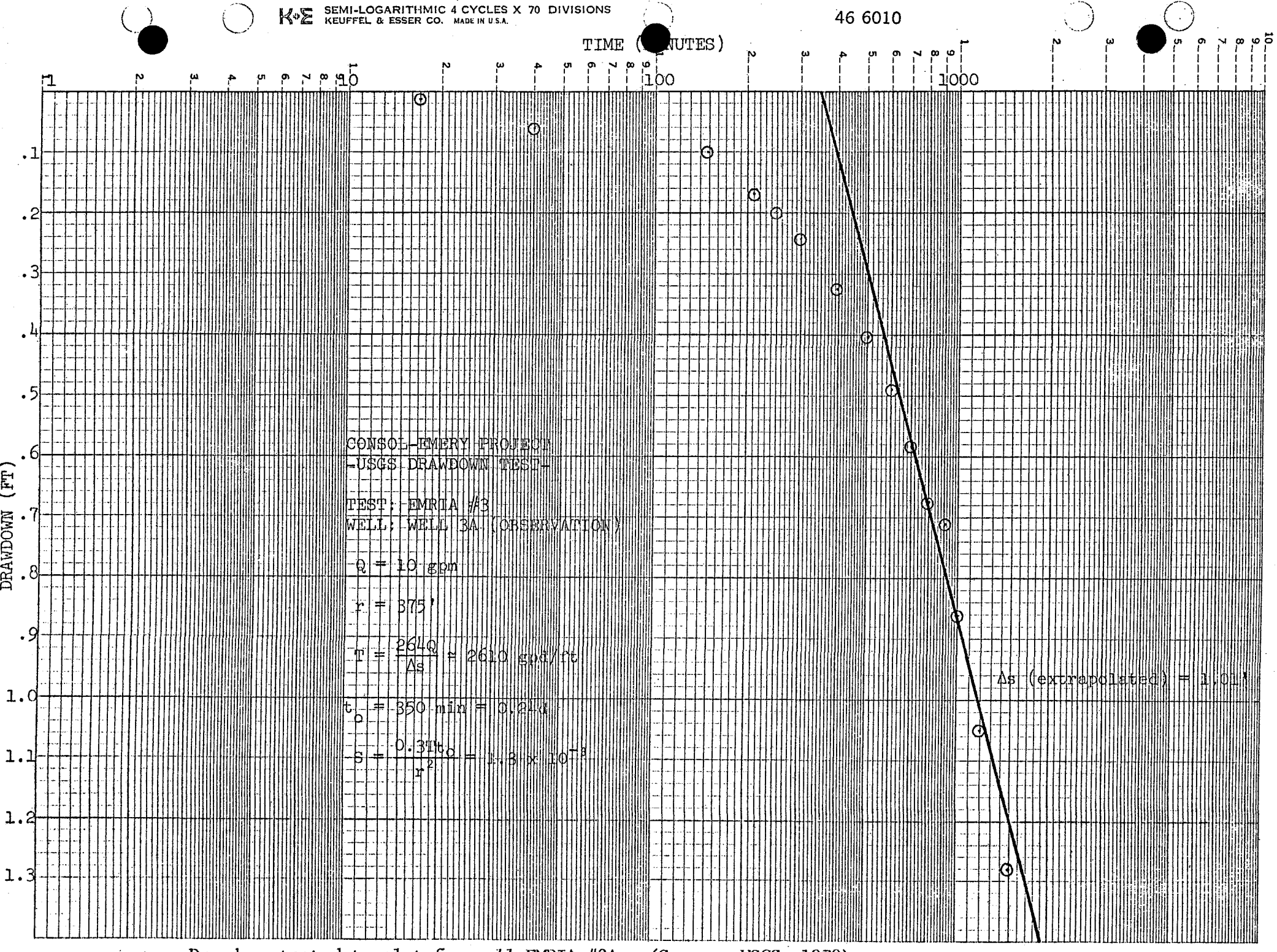
Clock time	Shut in time	~~Pressure (inches Hg)~~ ft (above discharge pt)	~~Pressure (ft H_2O)~~	Recovery (ft)	Remarks
0830 on 6/14/78	0	19.95			100 gal; 2 min 25 sec
	.1				Q = 41.3 gpm
	.2				
	.5	21.65	1.70	Δh	
0831	1	22.12	2.17	.47	
	1.5	22.42	2.47	.77	
	2	22.70	2.75	1.05	
	2.5	22.89	2.94	1.24	
	3	23.11	3.16	1.46	
	4	23.48	3.53	1.83	
0835	5	23.78	3.83	2.13	
	6	24.00	4.05	2.35	
	7	24.21	4.26	2.56	
	8	24.41	4.46	2.76	
	9	24.58	4.63	2.93	
0840	10	24.72	4.77	3.07	
0842	12	24.98	5.03	3.33	
0845	15	25.25	5.30	3.60	
0850	20	25.58	5.63	3.93	
0855	25	25.80	5.85	4.15	
0900	30	25.97	6.02	4.32	
0910	40	26.19	6.24	4.54	
0920	50	26.36	6.41	4.71	
0930	60	26.48	6.53	4.83	

Clock time	Shut in time	~~Pressure (in Hg)~~ ft. (H_2O)	Pressure (ft H_2O) ft (above discharge pt.)	Recovery (ft) Δh	Remarks
0940	70	26.60	6.65	4.75	
0950	80	26.68	6.73	5.03	
1000	90	26.75	6.80	5.1	
1010	100	26.81	6.86	5.16	
1030	120	26.96	7.01	5.31	
1100	150	27.10	7.15	5.45	
1150	200	27.29	7.34	5.64	
1240	250	27.48	7.53	5.83	
1330	300				

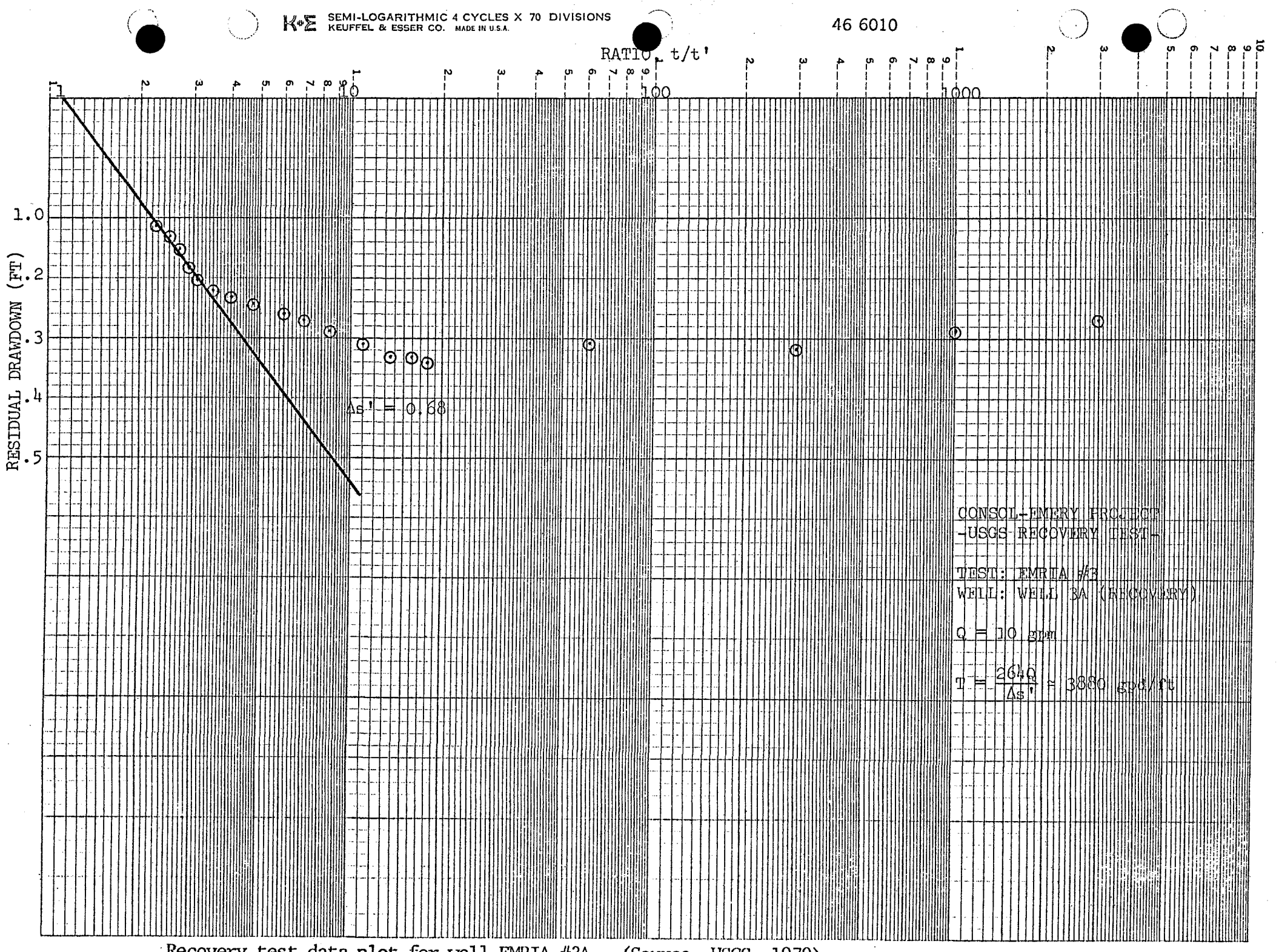
APPENDIX III

PLOTS OF AQUIFER TEST DATA

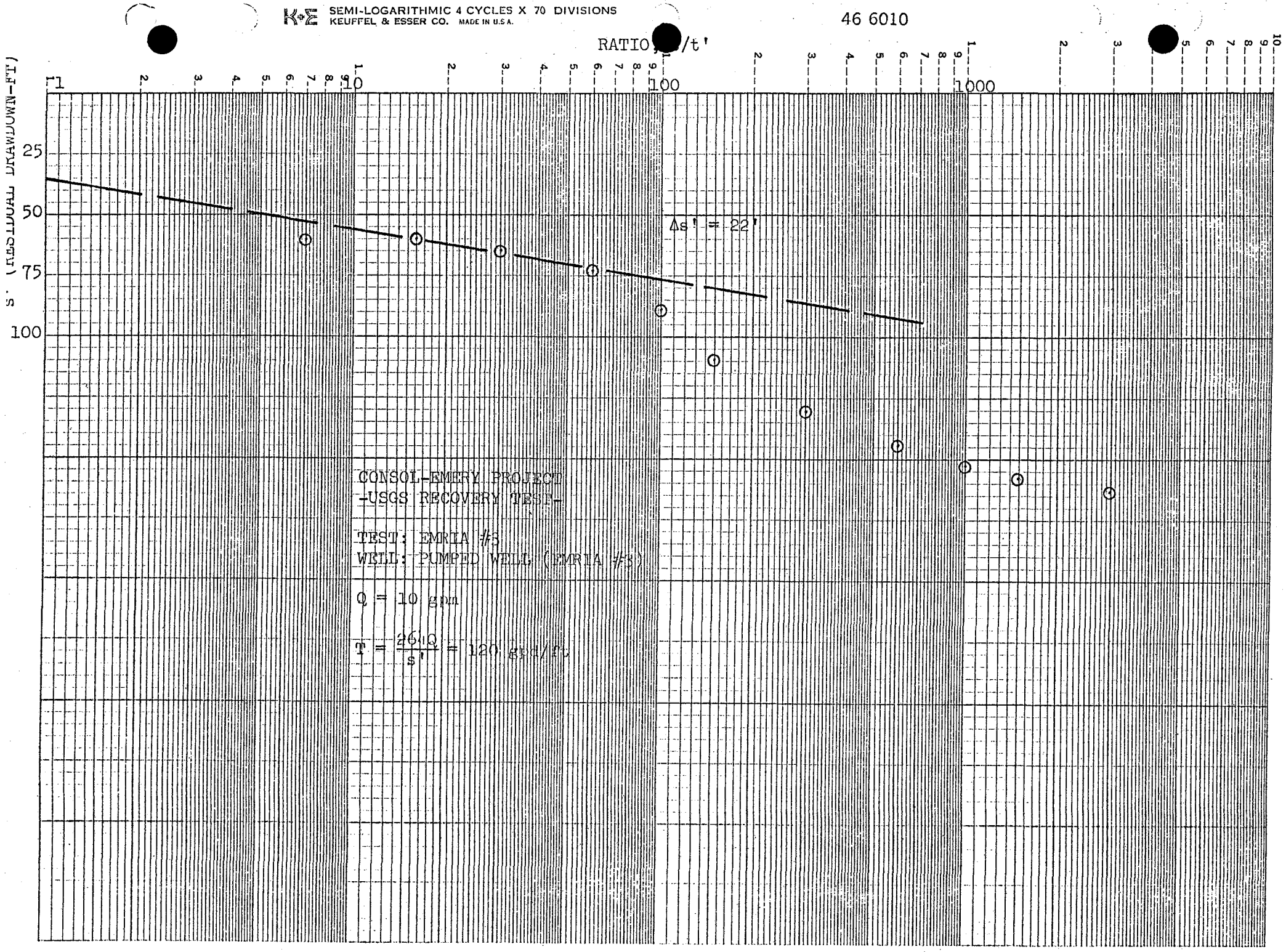
RECEIVED
JAN 11 1980
STATE OF UTAH
Division of Oil, Gas
& Mining



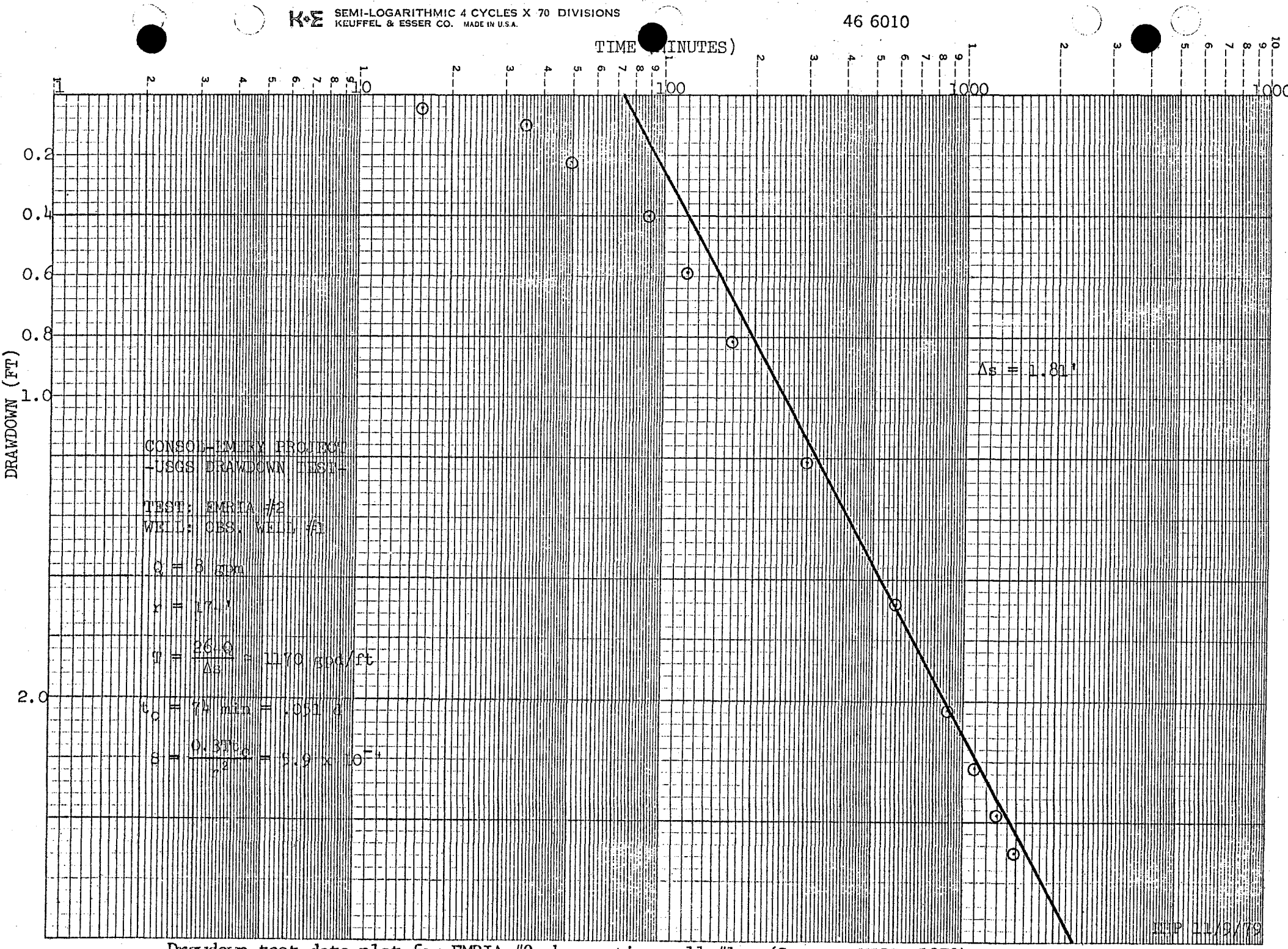
Drawdown test data plot for well EMRIA #3A. (Source: USGS, 1979)



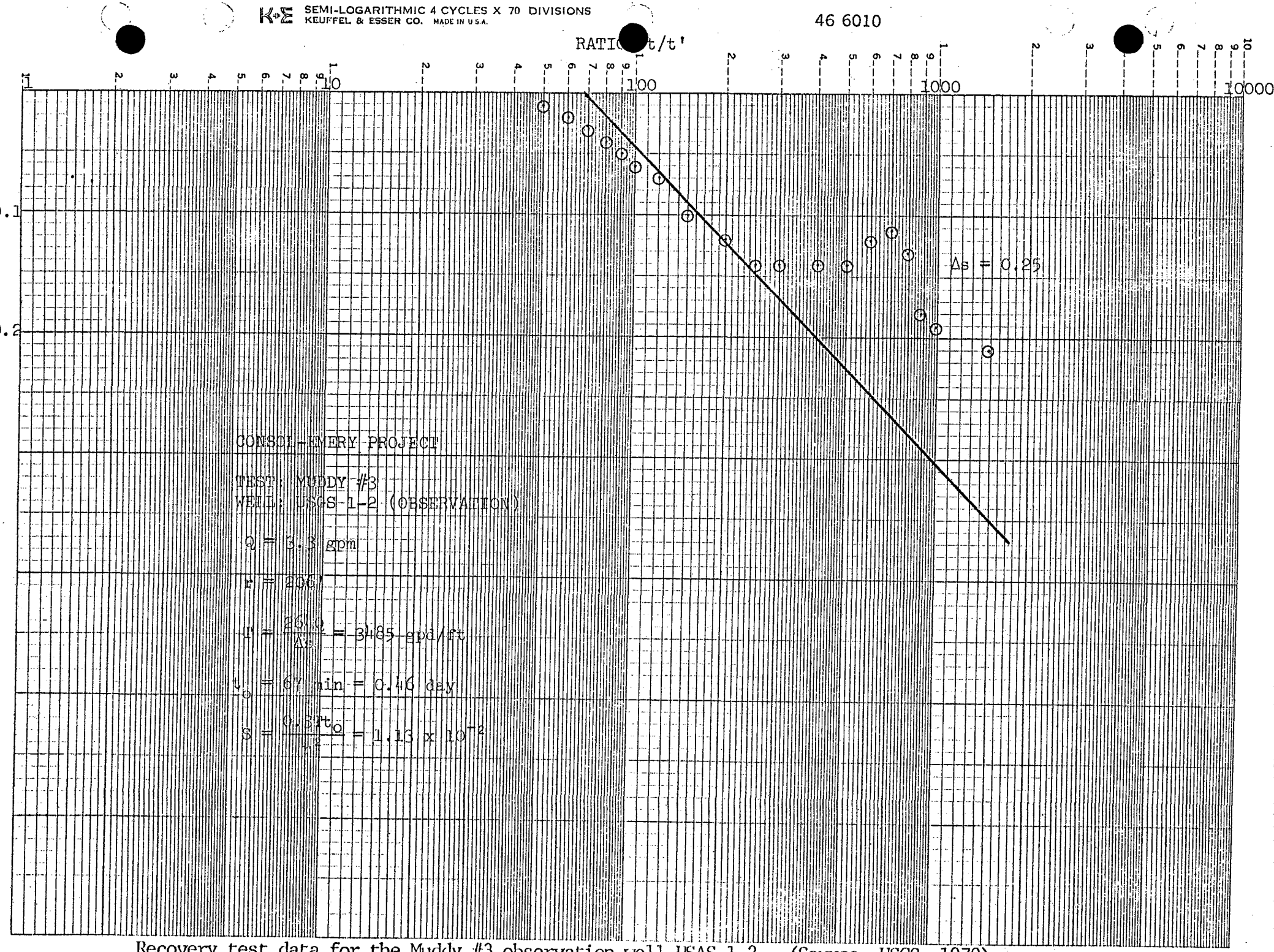
Recovery test data plot for well EMRIA #3A. (Source: USGS, 1979)



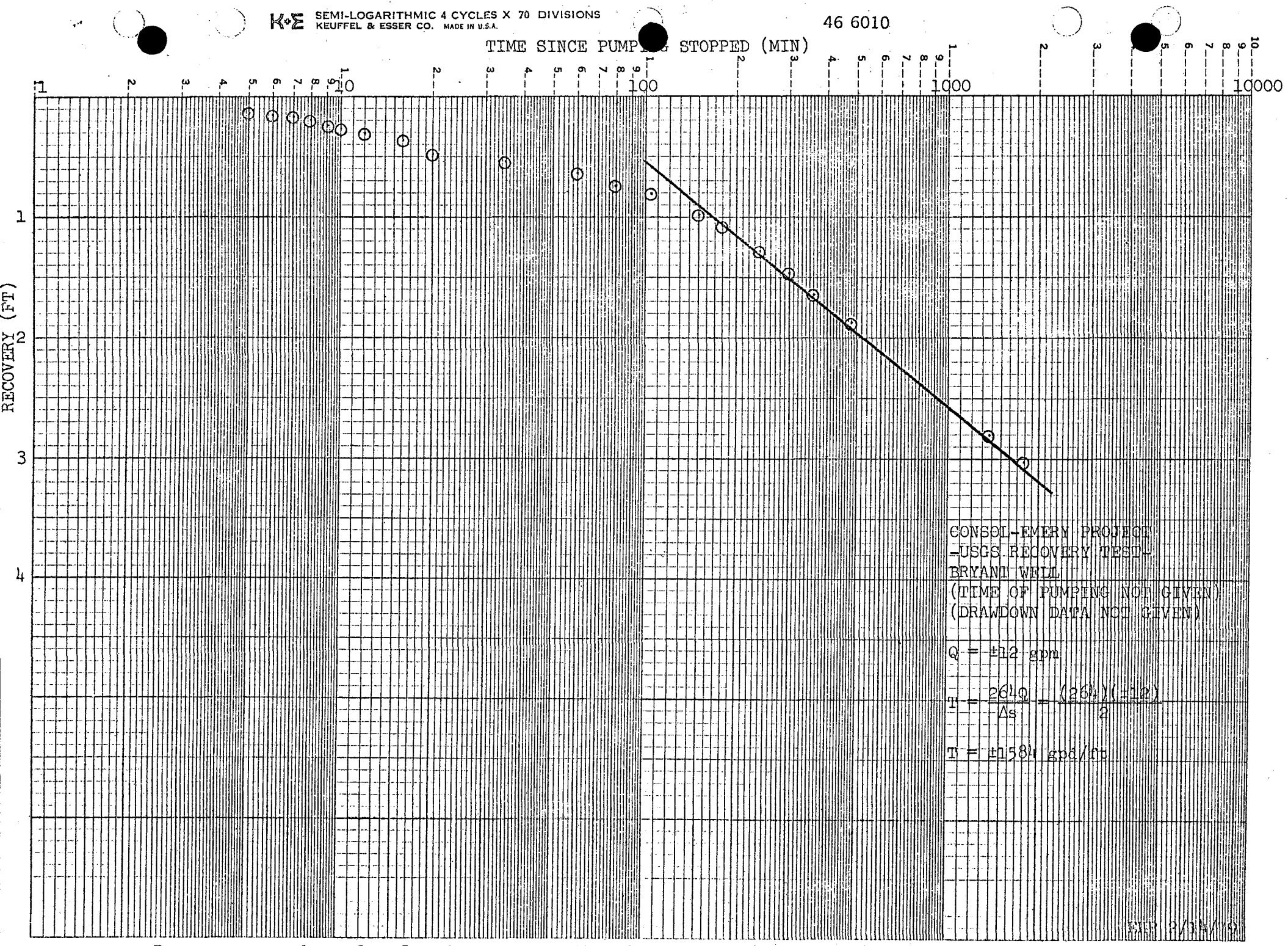
Recovery test data plot for well EMRIA #3. (Source: USGS, 1979)



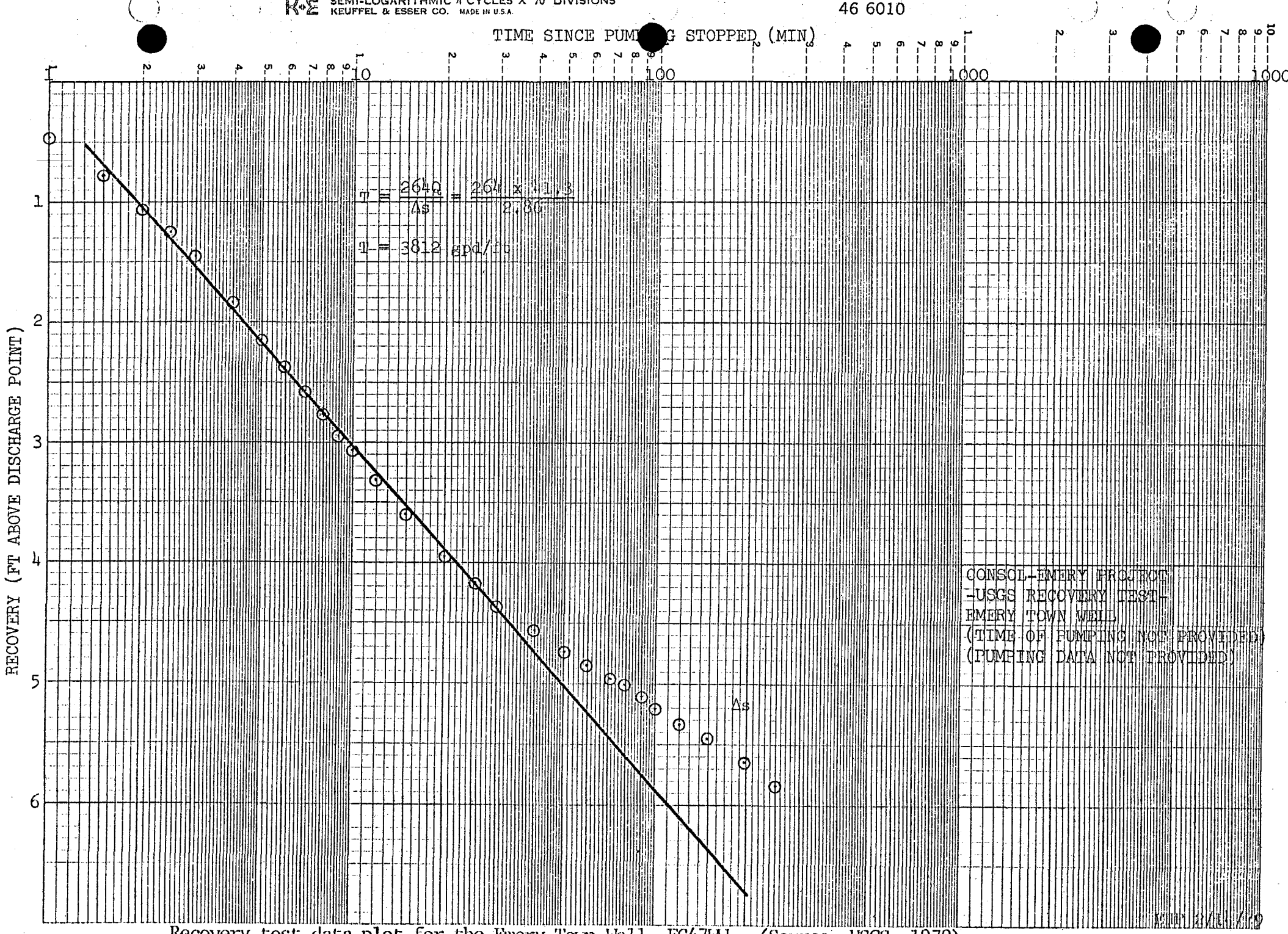
Drawdown test data plot for EMRIA #2 observation well #1. (Source: USGS, 1979)



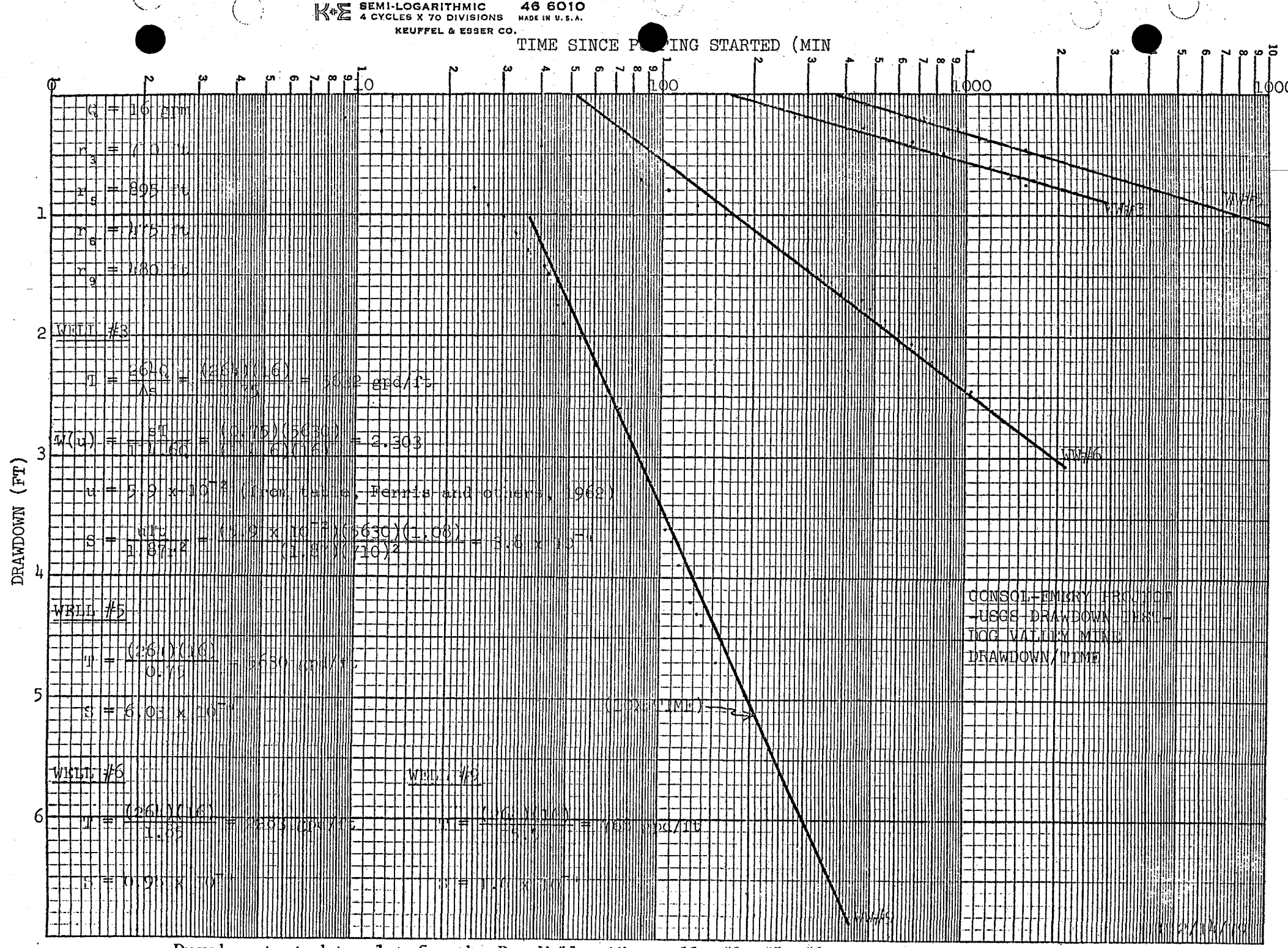
Recovery test data for the Muddy #3 observation well USAS 1-2. (Source: USGS, 1979)



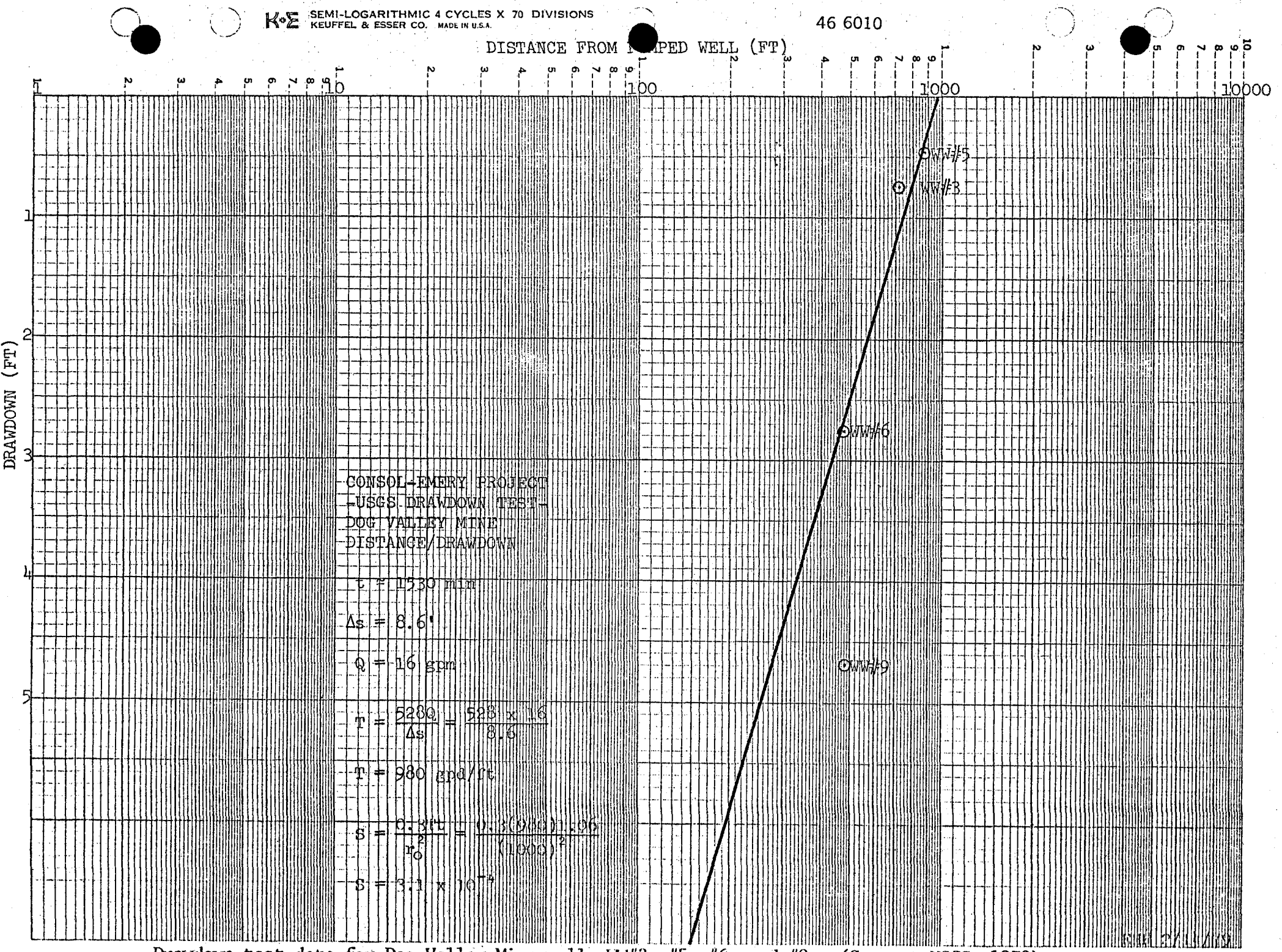
Recovery test data plot for the Bryant well. (Source: USGS, 1979)



Recovery test data plot for the Emery Town Well, FC47WW. (Source: USGS, 1979)



Drawdown test data plot for the Dog Valley Mine wells #3, #5, #6, and #9. (Source: USGS, 1979)



Drawdown test data for Dog Valley Mine wells WW#3, #5, #6, and #9. (Source: USGS, 1979)

APPENDIX IV

SURFACE AND GROUND WATER RIGHTS