

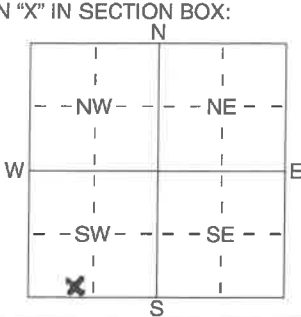
1 LOCATION OF WATER WELL: Fraction **SE 1/4 SW 1/4 SW 1/4** Section Number **20** Township Number **T 13 S** Range Number **R 22 EW**
 County: **Jackson**

Distance and direction from nearest town or city street address of well if located within city?

sunflower Army Ammunition Plant southwest of De Soto

2 WATER WELL OWNER: **Koch Sulfur Products**
 RR#, St. Address, Box # : **4111 E. 37th Street North**
 City, State, ZIP Code : **Wichita KS 67220**
 Board of Agriculture, Division of Water Resources
 Application Number:

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:
 4 DEPTH OF COMPLETED WELL **32.0** ft. ELEVATION:



Depth(s) Groundwater Encountered 1 ft. 2 ft. 3 ft.
 WELL'S STATIC WATER LEVEL **27.86** ft. below land surface measured on mo/day/yr **5-11-04**
 Pump test data: Well water was ft. after hours pumping gpm
 Est. Yield gpm: Well water was ft. after hours pumping gpm
 WELL WATER TO BE USED AS:
 5 Public water supply 8 Air conditioning 11 Injection well
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)
 2 Irrigation 4 Industrial 7 Domestic (lawn & garden) Monitoring well

Was a chemical/bacteriological sample submitted to Department? Yes No ; If yes, mo/day/yrs sample was submitted
 Water Well Disinfected? Yes No

5 TYPE OF BLANK CASING USED: 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued Clamped
 1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below) Welded

Blank casing diameter **2** in. to **22** ft., Dia in. to ft., Dia in. to ft.
 Casing height above land surface **32** in., weight lbs./ft. Wall thickness or gauge No. **Sch. 40**
 TYPE OF SCREEN OR PERFORATION MATERIAL:
 1 Steel 3 Stainless Steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-Cement
 2 PVC 4 ABS 6 Concrete tile 9 ABS 11 Other (Specify)

SCREEN OR PERFORATION OPENINGS ARE:
 1 Continuous slot 3 Mill slot, **010** 5 Gauzed wrapped 8 Saw cut 11 None (open hole)
 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes

SCREEN-PERFORATED INTERVALS: From **22** ft. to **32** ft., From ft. to ft.
 GRAVEL PACK INTERVALS: From **20** ft. to **32** ft., From ft. to ft.

6 GROUT MATERIAL: 1 Neat cement 2 Cement grout Bentonite 4 Other

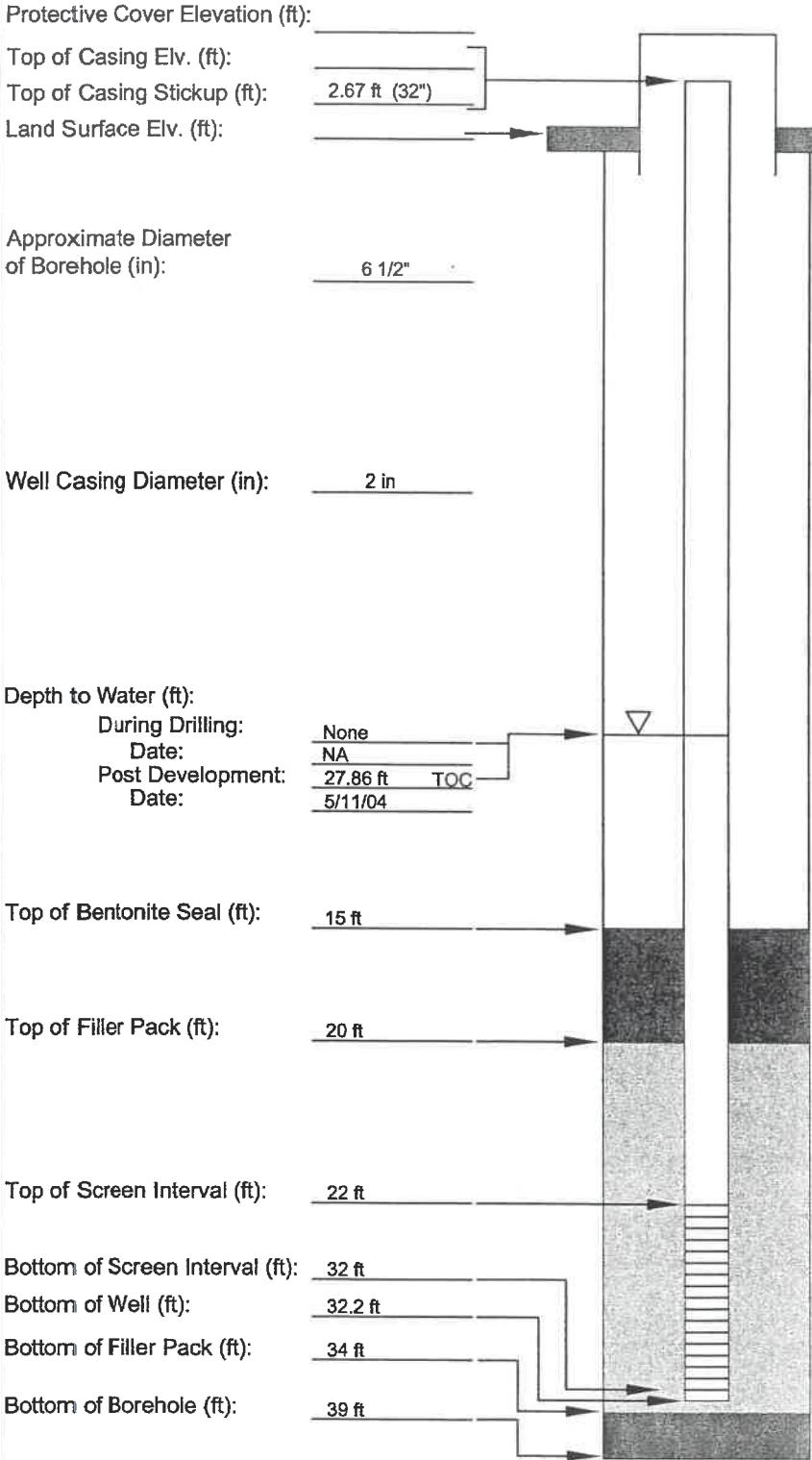
Grout Intervals: From ~~0~~ ft. to ~~30~~ ft., From **0** ft. to **20** ft., From ft. to ft.
 What is the nearest source of possible contamination:
 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well
 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)
 Direction from well? **999** How many feet? **999** **Runwater**

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
			0	15	Cement pad
			15	20	Bentonite chips
			20	32	10/20 Sand

7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) **4/21/04** and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's Licence No **065** This Water Well Record was completed on (mo/day/yr) **5/13/04** under the business name of **Pratt Well Environmental** by (signature) **John Ezell**

MONITORING WELL CONSTRUCTION

Project:	Koch - DeSoto, Kansas	Well Number:	UG-1
Location:	Sunflower Army Ammunition Plant, South Acid Area	Site Location:	South Side of South Acid Area
Client:	Koch Industries	Installation Date:	4/21/04
Subcontractor:	Pratt Well Drilling	Northing:	
Driller:	Mac McCaskey	Easting:	
Shaw Field Representative:	Rick Ellis	NAD:	NGVD:



Protective Cover Elevation (ft):

Top of Casing Elv. (ft):
 Top of Casing Stickup (ft): 2.67 ft (32")
 Land Surface Elv. (ft):

Approximate Diameter of Borehole (in): 6 1/2"

Well Casing Diameter (in): 2 in

Depth to Water (ft):
 During Drilling: None
 Date: NA
 Post Development: 27.86 ft TOC
 Date: 5/11/04

Top of Bentonite Seal (ft): 15 ft

Top of Filler Pack (ft): 20 ft

Top of Screen Interval (ft): 22 ft

Bottom of Screen Interval (ft): 32 ft

Bottom of Well (ft): 32.2 ft

Bottom of Filler Pack (ft): 34 ft

Bottom of Borehole (ft): 39 ft

Protective Casing:
 Type: Steel
 Dimensions (in): 4" x 4"
 Length (ft): 5 ft
 Guard Post: NA

Ground Seal (Surface Pad):
 Dimensions: 2' x 2'
 Type: Concrete

Annular Space Seal:
 Type: Bentonite Holeplug
 Installation: Gravity Tremie Pumped

Bentonite Seal:
 Manufacturer: Baroid / 3/8" Dia.
 Type: Pellets Holeplug Slurry
 Installation: Gravity Tremie Pumped
 Hydration time (hrs):

Filler Pack Material:
 Manufacturer: Oglebay-Norton
 Product Name: Colorado Silica Sand
 Size: 10/20
 Volume Added (ft³): ~3 (6 Bags)
 Installation: Gravity Tremie

Well Casing:
 Manufacturer: Aurora Tile/ Horizon Envir.
 Type: Sch. 40 PVC
 Diameter (in): 2"

Well Screening Casing:
 Manufacturer: Aurora Tile/ Horizon Envir.
 Type: Sch. 40 PVC
 Slot Size (in): 0.010 | % Open
 Slot Type: Continuous wrap Factory slot

Sump/ End Cap: ~3"
 Backfill Material: Hole Plug 3/8"



Hole Plug

NOT TO SCALE



SHAW Environmental, Inc.

BORING LOGS

PROJECT NUMBER:	103353	PROJECT NAME:	KOCH INDUSTRIES DeSoto, Kansas	
BORING NUMBER:	UG-1	COORDINATES:	DATE:	4/21/04
ELEVATION:		GWL: Depth	27.86 ft BTOC	Date 5/11/04
ENGINEER/GEOLOGIST:	Rick Ellis	Depth	Date	DATE COMPLETED: 4/21/04
DRILLING METHODS:	Air Rotary w/ 6 1/2" Bit			PAGE: 1 OF 2

DEPTH (FT)	LITHOLOGIC DESCRIPTION	REMARKS
0 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10 — 11 — 12 — 13 — 14 — 15 — 16 — 17 — 18 — 19 — 20 — 21 — 22 — 23 — 24 — 25 —	<p>Top soil w/ grass, dry (no recovery)</p> <p>Limestone, gray, unweathered, dry</p> <p>Clayey silt w/ some very fine grained sand, derived from limestone, unweathered, yellow, dry</p> <p>Dark grayish brown silty shale w/ yellow mottles, some black discoloration (coal?), slightly moist</p> <p>Limestone, gray to light gray, micritic, unweathered, dry</p>	<p>Cutting described every 5 ft Began drilling @ 15:15</p> <p>15 ft @ 15:20</p> <p>20 ft @ 15:23</p>

Drilling Contractor: Pratt Well Service
 Drilling Equipment: Failing SD300 w/ air
 Driller: Mac McCaskey



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ENGINEER/GEOLOGIST:	Rick Ellis	Depth	Date	DATE COMPLETED: 4/21/04
DRILLING METHODS:	Air Hammer w/ 6 1/2" Bit			PAGE: 2 OF 2

DEPTH (FT)	LITHOLOGIC DESCRIPTION	REMARKS
25 26— 27— 28— 29— 30 31— 32— 33— 34— 35 36— 37—	Limestone, gray to light gray, micritic, unweathered, dry Limestone, gray to light gray, micritic, unweathered, dry Limestone & shale, gray to dark gray, dry TD = 37ft	Cuttings much finer @ approx. 30 ft Cuttings much finer w/ few chips

Drilling Contractor: Pratt Well Service
Drilling Equipment: Failing SD300 w/air
Driller: Mac McCaskey