

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CORE POROSITY, PERMEABILITY, AND VITRINITE REFLECTANCE DATA FROM
THE LOWER CRETACEOUS J SANDSTONE IN 141 DENVER BASIN COREHOLES

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INTRODUCTION

THIS DATA RELEASE CONTAINS 143 DATA FILES IN IBM PC COMPATIBLE FORMAT; THIS INCLUDES A STATISTICAL CONDENSATION FILE AND INDIVIDUAL DATA FILES OF J SANDSTONE CORE POROSITY AND PERMEABILITY FOR 141 WIDELY DISTRIBUTED COREHOLES IN THE DENVER BASIN OF COLORADO AND WYOMING. THESE DATA HAVE BEEN USED TO RESEARCH THE RELATIONSHIPS AMONG SANDSTONE POROSITY AND PERMEABILITY, AND THE DEGREE OF THERMAL MATURATION OF THE J SANDSTONE OF THE LOWER CRETACEOUS DAKOTA GROUP AND ASSOCIATED HYDROCARBON SOURCE ROCKS. PUBLISHED MAPS AND PAPERS PRODUCED FROM THESE DATA ARE LISTED IN THE SELECTED REFERENCES SECTION OF THIS INTRODUCTION AND IN THE PORDATA.LIS FLOPPY FILE.

THE THREE TYPES OF FILES LOCATED ON THE FLOPPY DISKS ARE AS FOLLOWS;

1) PORDATA.LIS IS A COPY OF THIS INTRODUCTION. ALSO INCLUDED IN THIS FILE IS A LISTING OF ASSIGNED COREHOLE ID NUMBER, WELL AND OPERATOR NAME, LOCATION, REPORTED J SANDSTONE INTERVAL, AND ASSIGNED FLOPPY FILE NAME FOR EACH OF THE 141 DATA FILES.

2) JSANDSTO.DAT IS A LISTING OF COREHOLE LOCATIONS, AND OF STATISTICS DERIVED FROM 135 OF THE 141 INDIVIDUAL CORE REPORT FILES. VITRINITE REFLECTANCE VALUES FOR THE J SANDSTONE IN 37 COREHOLES AND FOR 14 OUTCROP LOCATIONS ARE ALSO INCLUDED. A COMPLETE LISTING OF THE VARIABLES AND FILE FORMAT IS SHOWN BELOW.

3) EACH OF THE 141 INDIVIDUAL COREHOLE FILES CONTAINS CORE REPORT DATA. THIS POROSITY INFORMATION WAS SUPPLIED BY MORE THAN 35 OIL COMPANIES. INFORMATION CONSISTS OF CORE DEPTH, AND SANDSTONE HORIZONTAL PERMEABILITY AND POROSITY. VERTICAL PERMEABILITY AND FRACTURED ROCK SECTIONS MAY ALSO BE INDICATED IN THE DATA FILES. A LISTING OF THE FILE FORMATS AND NAMES IS INCLUDED IN THIS INTRODUCTION.

FILE FORMATS

JSANDSTO.DAT

THE STATISTICAL FILE, NAMED JSANDSTO.DAT, LISTS THE ASSIGNED COREHOLE ID NUMBER (BLANK FOR OUTCROP VITRINITE REFLECTANCE SAMPLES), LOCATION BY LONGITUDE AND LATITUDE, CORE TOP DEPTH AND ELEVATION, MINIMUM, MAXIMUM, MEDIAN, AND HINGE POROSITY AND PERMEABILITY VALUES FOR 135 OF THE COREHOLES, AND VITRINITE REFLECTANCE VALUES FOR SAMPLED COREHOLES. HINGE VALUES ARE MEDIAN POROSITIES AND PERMEABILITIES LOCATED BETWEEN THE MEDIAN AND THE MINIMUM AND BETWEEN THE MEDIAN AND THE MAXIMUM. BECAUSE MINIMUM PERMEABILITY VALUES IN MOST COREHOLES ARE AT OR BELOW THE ANALYTICAL DETECTION LIMIT, NO MINIMUM PERMEABILITY LISTING IS GIVEN. ALL DECIMAL POINTS IN THE JSANDSTO.DAT FILE ARE IMPLIED, AND INCLUDED IN THE JSANDSTO.XLS AND JSANDSTO.CSV FILES.

THE DATA FILE FORMAT FOR THE JSANDSTO.DAT STATISTICS FILE IS AS FOLLOWS;

ID NO.	LONGITUDE (DECIMAL)	LATITUDE (DEGREES)	DEPTH (FEET)	ELEV. (FEET)	CORE MIN	POROSITY MAX	(PERCENT) MEDIAN	HINGE MIN	HINGE MAX
(I3)	(F6.3)	(F5.3)	(I4)	(F5.0)	(F4.2)	(F4.2)	(F4.2)	(F4.2)	(F4.2)
(1:3)	(4:9)	(10:15)	(17:20)	(22:26)	(28:31)	(33:36)	(38:41)	(43:46)	(48:51)

VITRINITE REFLECTANCE (PERCENT)	CORE PERMEABILITY (MILLIDARCIES)			
(F3.2)	MAX	MEDIAN	HINGE MIN	HINGE MAX
(52:54)	(F6.2)	(F6.2)	(F6.2)	(F6.2) (FORMAT)
	(56:61)	(64:69)	(72:77)	(80:85)(COL. LOCATION)

THE 141 INDIVIDUAL COREHOLE DATA FILES

THE FORMAT MAY CHANGE BETWEEN INDIVIDUAL COREHOLE DAT FILES. FILES ARE ALSO SAVED AS COMMA-DELIMITED (*.CSV) AND MICROSOFT EXCEL FORMATS (*.XLS). HOWEVER, VARIABLES IN ALL FILES ARE RIGHT-JUSTIFIED, INCLUDE DECIMAL POINTS, AND ARE IN THE FOLLOWING ORDER; DEPTH (I4 OR F6.1), HORIZONTAL CORE PERMEABILITY (F7.2 OR F6.1), CORE POROSITY (F5.2), CORE FRACTURES (A1)(F=FRACTURED SAMPLE). VERTICAL PERMEABILITY, WHEN LISTED, IS LOCATED BETWEEN THE HORIZONTAL PERMEABILITY AND THE POROSITY DATA. SHOWN BELOW IS AN EXAMPLE OF A POROSITY DATA SET. DEPTH IS RECORDED AT THE TOP OF THE CORED INTERVAL. RECORDED HPERM AND VPERM VALUES THAT ARE <0.01 MD ARE LISTED AS "-1".

DEPTH	HPERM	VPERM	POROSITY	FRACTURES	(VARIABLES)
(1:4)	(8:13)	(17:22)	(27:30)	(35)	(COLUMN LOCATIONS)
4818	142.0	11.0	19.8	F	
4819	252.0	162.0	20.3	F	
4820	63.0	4.6	18.9		
4821	251.0	231.0	19.3		

LISTING OF INDIVIDUAL COREHOLE DATA FILES

THE FOLLOWING IS A LISTING OF THE WELL NAMES, POROSITY DATA FILE IDENTIFICATION NUMBERS, AND COREHOLE DATA FILE NAMES. COREHOLE DATA FILES GENERALLY, BUT NOT IN ALL CASES, ARE NAMED FOR THE FIRST TWO TO FOUR ALPHANUMERIC CHARACTERS IN THE WELL NAME AND THE TOWNSHIP NUMBER AND LOCATION (N OR S), AND ALL DAT FILES ARE TERMINATED IN ".DAT". SOME COREHOLES DO NOT CORRESPOND TO THIS NAMING FORMAT.

THE FOLLOWING COREHOLE NAMES, LOCATIONS, AND DATA FILE NAMES ARE LISTED

NUMERICALLY BY ASSIGNED ID NUMBER; THIS USUALLY CORRESPONDS TO INCREASING TOWNSHIP AND RANGE NUMBER. ALL INDIVIDUAL COREHOLE DATA FILES END IN .DAT. FOR EXAMPLE, THE HOUG1N ENTRY FOR ID NUMBER ONE IS LISTED ON THE FLOPPY AND THE DAT FOLDER AS HOUG1N.DAT. HOUG1N.CSV AND HOUG1N.XLS ARE IN THE CSV AND XLS FOLDERS, RESPECTIVELY.

ID NUMBER	WELL NUMBER AND NAME, COMPANY	LOCATION SEC,TWN, RNG, 1/4	APPROX. TOP, BASE CORE (FT)	FILE NAME
1	#1 HOUGH, BRITISH AM. OIL CO. (GULF OIL)	S31,T1N,R56W CSWNW	5,382-5,414	HOUG1N
2	#1 FRIES, PLAINS PETROL.	S17,T3N,R55W SWNW	5,135-5,138	FRIE3N
3	DOLL UNIT #1-35, BASS	S35,T1N,R58W NWSE	5,851-5,933	DOLL
4	ROGGEN #1, ENERGY MINS.	S4,T1N,R62W, NENE	7,063-7,109	ROGG1N
5	JUNE #1, ENERGY MINS.	S18,T1N,R62W	7,077-7,132	JUNE1N
6	#1 G. W. STEIBER UNIT, AMOCO	S24,T1N,R67W NESWSW	8,032-8,086	ASTEIB
7	STATE #42-31, ENERGY MINS	S31,T2N,R61W SENE	6,795-6,845	STAT2N
8	#34 UPRR #1, AMOCO	S17,T2N,R63W NWSW	7,325-7,360	EUPRR
9	#1 GAS CORP. 14-15, AMOCO	S14,T2N,R67W 990	7,997-8,043	GAS2N
10	#1 E MAX SERAFINI, AMOCO	S16,T2N,R68W	7,845-7,903	ESERAFI
11	NICK SEKICH #2, AMOCO	S17,T3N,R67W	7,592-7,649	NICK3N
12	#1 GEO. MATUSHIMA, AMOCO	S35,T3N,R67W	7,795-7,842	GEO3N
13	SCHOOLEY #1, BRITISH AM.	S9,T4N,R55W CSWNE	5,020-5,034	SCHO4N
14	#34-1 PLATTE VALLEY FARMS, FOREST OIL CORP.	S34,T4N,R58W CSWSE	5,750-5,782	PLAT4N
15	BENDER #2, BRITISH AM.	S12,T4N,R60W CSESW	6,268-6,309	BEND4N
16	HELEN #1, ENERGY MINS.	S21,T4N,R61W SENE	6,395-6,438	HELE4N
17	YOCAM #1, ENERGY MINS.	S21,T4N,R61W NWSW	6,451-6,510	BYOCAM
18	PRICE #1, ENERGY MINS.	S34,T4N,R61W SENW	6,511-6,570	PRIC4N
19	LITTLER #1, ENERGY MINS.	S35,T4N,R61W SESW	6,614-6,653	LITT4N
20	DUEL #1, TOM VESSELS	S8,T4N,R63W NENE	7,100-7,180	DUEL4N
21	JOHN CROISSANT #1, AMOCO	S11,T4N,R64W	7,186-7,256	JOHN4N
22	DAN OSTER #1, AMOCO	S10,T4N,R65W NESWNE	7,545-7,580	DAN4N
23	HANSEN #1, BRITISH AM.	S24,T5N,R49W CNENE	4,031-4,077	HANSEN
24	FAGG, HANK ALLEN	S6,T5N,R56W NWNE	5,781-5,807	EFAGG
25	SEGEIKE #1, J. H. CHAIN	S30,T6N,R54W NWSW	4,973-4,993	ASEGIK
26	CHAMPLIN 310 AMOCO 'A', AMOCO	S19,T6N,R62W NWNW	7,230-7,291	CHAM6N
27	CHAMPLIN 309 AMOCO 'A' #1, AMOCO	S5,T6N,R63W NWSW	7,303-7,359	CHA6N
28	CHAMPLIN 308 AMOCO 'A' #1, AMOCO	S23,T6N,R64W SESW	7,303-7,358	CHAA6N
29	#1 ROBERT A. REID, AMOCO	S13,T6N,R68W NWSWNE	7,441-7,491	AREID
30	STATE #16-1, JAKE HAMON	S16,T7N,R58W SWNE	6,331-6,406	STATE
31	#1 LUFT B, PLAINS PETROL.	S20,T7N,R51W NWNE	4,615-4,630	LUFT7N
32	HORST #1, BRITISH AM.	S26,T7N,R60W CSESE	6,781-6,885	HORS7N
33	CHAMPLIN 307 AMOCO 'A' #1, AMOCO	S9,T7N,R64W NWNW	7,574-7,644	CHAM7N
34	CHAMPLIN 343 AMOCO 'A' #1, AMOCO	S15,T8N,R64W NWSW	7,856-7,914	CHAM343
35	FLOYD D. WEDLEIGH #34-21, TIGER OIL CO.	S21,T8N,R68W SWSW	6,385-6,407	FLOY8N
36	(D SST) MITTLESTADT D-1, BRITISH AM. OIL	S13,T9N,R54W CNENE	4,987-5,008	MITTLE
37	BASHER #1, FLARE OIL	S8,T10N,R61W CSESE	7,445-7,505	BASHER
38	BEAM #1, BRITISH AM.	S31,T11N,R50W CSENE	4,475-4,514	BEA11N
39	ROUSSEL #1, BRITISH AM.	S20,T11N,R54W CNWNE	5,342-5,388	ROU11N

40	FOSTER #1, C.C. GROSS, JR.	S6,T11N,R60W	NESE	7,543-7,588	FOS11N
41	FORSLING #3, WORLDWIDE E.	S7,T14N,R56W	SWSW	6,753-6,812	FOR14N
42	BERKEY PILE #1, WORLDWIDE	S18,T14N,R56W	CNWNW	6,759-6,820	BER14N
43	FORSLING-VAVRA #4, WORLDWIDE ENERGY CORP.	S12,T14N,R57W	SESE	6,774-6,824	FORSLI
44	#1 SIMKINS, TOLTEK	S26,T14N,R59W	SESE	7,505-7,529	SIM14N
45	BIRT #1-22, GENERAL AM. OIL	S22,T14N,R60W	NWNW	7,545-7,570	BIR14N
46	HIGDAY 1-26, HRUBETZ OIL	S25,T14N,R60W	SWSW	7,538-7,583	HIG14N
47	GATHMAN #5, JORDAN OIL	S3,T16N,R50W		4,793-4,829	GATHMA
48	PENCE RANCH #1, AMOCO	S16,T16N,R62W	NENE	7,858-8,046	PEN16N
49	CHAMPLIN 301 AMOCO 'A' #2, AMOCO	S17,T16N,R62W	SESW	7,993-8,044	CHA16N
50	LELA YOUTZ #1, AMOCO	S19,T16N,R62W	SENE	7,998-8,046	LEL16N
51	#1 KING CATTLE CO. 'A', AMOCO	S35,T16N,R62W	SENW	7,847-7,970	CATTLE
52	BASTIAN #1, AMOCO ,	S20,T16N,R62W	NWNE	7,936-8,022	BAS16N
53	CHAMPLIN 284 AMOCO A-1, AMOCO	S15,T16N,R63W	SESE	8,195-8,232	CH16N
54	UPRR "H" #1, BRITISH AM	S27,T1S,R59W	CSWSW	6,243-6,322	UPR1S
55	#1 MURPHY, SAMEDAN	S8,T1S,R60W	NESE	6,472-6,510	MUR1S
56	STATE 1-16, SAMEDAN	S9,T1S,R64W	NESW	6,426-6,466	BSTATE
57	UPRR 60 PAN AM 'B' #1, AMOCO	S9,T1S,R64W	SWSW	7,765-7,796	UPRR1S
58	#1 ABBOTT LAND CO., TOM VESSELS	S12,T1S,R64W	NENE	7,551-7,596	ABBO1S
59	#2 CHAMPLIN #117 AMOCO "G", AMOCO	S35,T1S,R66W	SWSE	8,243-8,279	CHAM1S
60	SWAN "B" #1, BRITISH AM.	S21,T2S,R56W	CNWSE	5,134-5,168	SWAN2S
61	JOHNSON "M" #1, BRITISH AM.	S22,T2S,R56W	CNWNW	5,095-5,144	JOHN2S
62	SWAN "G" #1, BRITISH AM.	S27,T2S,R56W	CSENE	4,987-5,040	SWA2S
63	HOFFERBER "A" #1, SUMMIT	S4,T2S,R58W	SWSE	6,149-6,195	HOFF2S
64	FLADER-STATE "A" #1, SUMMIT	S22,T2S,R59W	SWSE	6,225-6,242	FLAD2S
65	#1 EBERT "A", SUMMIT	S15,T2S,R60W	NWSW	6,416-6,438	EBER2S
66	#1 POPE, AMOCO	S31,T2S,R62W	NENW	7,340-7,398	POPE2S
67	KALLSEN #2, KOCH EXPL.	S18,T2S,R65W		8,260-8,309	KALLS2S
68	EVERETTE J. DAHLINGER #1, AMOCO	S4,T2S,R66W	SWSW	8,315-8,380	ADAHLI
69	SHEETZ #B-1, J.W. GIBSON	S14,T3S,R52W	SESW	4,265-4,290	SCHE3S
70	RAYMOND THOMAS #1, GIBSON	S22,T3S,R52W	NENE	4,296-4,329	RAYM3S
71	SHEETZ #6, J.W. GIBSON	S23,T3S,R52W	SWSW	4,277-4,304	CSHEET
72	JOHNSON #1, COCKRELL CO.	S6,T3S,R53W	SENE	4,682-4,696	JOHN3S
73	BLOMENKAMP #13-17, TIGER	S17,T3S,R56W	CNWSW	5,145-5,196	BLOM3S
74	#12-7 CHAMPLIN-DANFORD, TIGER OIL CO.	S7,T3S,R57W	SWNW	5,592-5,636	CHA3S
75	B STATE 42-36, TIGER OIL	S36,T3S,R59W	SENE	6,079-6,087	STB3S
76	STATE 32-36, TIGER OIL	S36,T3S,R59W	SWNE	6,069-6,086	STAB3S
77	STATE 41-36, TIGER OIL	S36,T3S,R59W		6,095-6,106	STAC3S
78	#1 PRICE, SAMEDAN OIL	S10,T3S,R61W	NENW	6,733-6,784	PRIC3S
79	#1 CARLSON, SAMEDAN OIL	S22,T3S,R61W	NWNW	6,782-6,799	CARL3S
80	CALLAHAN #1, VESSELS	S2,T3S,R63W	NENE	7,540-7,552	DCALAH
81	#15 UPRR #1 AMOCO 'B', AMOCO	S3,T3S,R63W	SESE	7,544-7,569	UPRR3S
82	STATE TRUPP #16-6, SAMUEL GARY OIL	S16,T3S,R63W	SENW	7,671-7,732	TRUP3S
83	RHODES "A" #1, SUMMIT	S26,T4S,R58W	NENE	5,624-5,666	DRHODES
84	PEORIA UNIT #62, AMOCO	S29,T4S,R60W		6,515-6,568	PEOR4S
85	#1 GOSS, KOCH EXPL.	S15,T4S,R63W	SESE	7,766-7,792	GOSS4S
86	TOM WALL #1, AMOCO	S34,T5S,R59W	NENW	6,128-6,184	TOM5S
87	#1 AZA BARTLETT, VESSELS	S26,T5S,R60W	SWSW	6,354-6,394	AZA5S

88	#1 ANDERSON-BYRNE, BWAB	S23,T5S,R65W	NENE	8,745-8,800	AANDER
89	CROSS #1, NORSEK-HYDRO	S30,T6S,R52W	SWSW	4,148-4,193	CCROSS
90	#1 LOWELL, TOM VESSELS	S10,T6S,R60W	SWSW	6,421-6,483	LOWE6S
91	#1 SMITH ET AL, THE ANSCHUTZ CORP.	S28,T6S,R60W	SWSW	6,590-6,615	SMIT6S
92	FARMON L. MOCK #1 (OR FERMON), AMOCO	S8,T6S,R61W	SESE	6,957-7,002	FARM6S
93	#1 STORY, BWAB	S32,T6S,R64W	NWNW	8,707-8,724	STORY6S
94	SHELL 44-8, SHELL OIL	S8,T7S,R59W		6,240-6,274	BBSHELL
95	SHELL 23-28, SHELL OIL	S28,T8S,R57W		5,376-5,425	SHEL8S
96	PACKARD-STATE #1, NORSEK-HYDRO PETROLEUM	S14,T8S,R58W	SENE	5,766-5,784	PACK8S
97	PACKARD-STATE #4, NORSEK- HYDRO PETROLEUM	S14,T8S,R58W		5,665-5,719	PAC8S
98	SHELL 34-17, SHELL OIL	S17,T8S,R59W		6,058-6,116	SHEA8S
99	SHELL 31-22, SHELL OIL	S22,T8S,R61W		7,083-7,134	SHE8S
100	TIGER OIL 14-23 RAMSEY HEIRS	S23,T8S,R61W		7,013-7,072	TIGE8S
101	RAMSEY HEIRS, TIGER OIL	S23,T8S,R61W	NWSW	6,969-7,020	RAMA8S
102	BRANARD #1, PLAINS PETROL.	S29,T8N,R53W		4,952-4,958	BRAN8N
103	BRITTINGHAM #24-35, TIGER	S35,T8S,R61W	SESW	7,072-7,080	BRITT8S
104	SHELL 43-6, SHELL OIL	S6,T9S,R58W		5,723-5,782	SHEL9S
105	SHELL 41-1, SHELL OIL	S1,T9S,R60W		6,262-6,302	SHE9S
106	SHELL 11-23, SHELL OIL	S23,T9S,R60W		6,402-6,426	SHEA9S
107	SHELL 31X-8, SHELL OIL	S8,T10S,R59W		6,070-6,124	SHE10S
108	SHELL 11-2, SHELL OIL	S2,T10S,R60W		6,488-6,555	SH10S
109	SHELL 43-23, SHELL OIL	S23,T10S,R60W	NESE	6,246-6,302	SHA10S
110	SHELL 44-8, SHELL OIL	S8,T11S,R59W		6,160-6,250	BSHELL
111	E-1, PLAINS PETROLEUM CORP.	S22,T8N,R54W		5,252-5,264	E8N
112	MORRISON #1, PLAINS PETROL.	S24,T8N,R54W		5,068-5,096	MORR8N
113	#1 JOST, PLAINS	S24,T1N,R54W	NWNW	4,975-4,983	JOS1N
114	#2 JOST, PLAINS	S24,T1N,R54W	SWNW	4,943-4,978	JOST1N
115	GOVERNMENT-HOFFMAN #1, PLAINS PETROLEUM CORP.	S2,T9N,R57W	CNENE	6,076-6,078	GOV9N
116	HOUGH "B" #2, PLAINS	S18,T1N,R56W		5,302-5,330	HOU1N
117	MITCHELL LAND AND CATTLE CO. #1, PLAINS	S17,T2N,R54W	SENE	4,859-4,876	MITC2N
118	PANKONIN "A" #1, PLAINS	S19,T3N,R51W	SWNW	4,512-4,529	PANK3N
119	STATE "P" #1, PLAINS	S14,T8N,R54W	CSENE	5,096-5,118	STAT8N
120	#1 YENTER "A", PLAINS	S15,T5S,R52W		4,215-4,234	YENT5S
121	SHARP #1, PLAINS	S6,T1N,R53W	SWSW	4,850-4,880	SHAR1N
122	SIMONSON #2, PLAINS	S6,T2N,R53W	CSENE	4,805-4,853	SIMO2N
123	DARBY #1, PLAINS	S1,T2N,R54W	CNWNW	4,787-4,819	DARB2N
124	STATE K-2, PLAINS	S16,T2N,R55W	CSESE	5,015-5,023	STE2N
125	#4 BONDHUS, PLAINS	S19,T3N,R51W	NENE	4,468-4,481	BOND4N
126	#1 ROWLAND-THOMPSON, PLAINS	S26,T3N,R54W	SENE	4,799-4,817	ROW3N
127	CHAPMAN #1, PLAINS PETROL.	S12,T4N,R55W	SESESE	4,984-4,989	CHAP4N
128	#1 QUIRK, PLAINS PETROLEUM	S20,T5N,R61W	NESW	6,700-6,712	QUIR5N
129	KNIGHT "B" #2, PLAINS	S23,T2S,R55W	SESW	4,835-4,935	KNIG2S
130	HOOD #1, PLAINS PETROLEUM	S26,T2S,R55W	NWNW	4,836-4,940	HOO2S
131	HOOD #2, PLAINS PETROLEUM	S26,T2S,R55W	SWNW	4,837-4,947	HOOD2S
132	HOOD #3, PLAINS PETROLEUM	S26,T2S,R55W	NENW	4,898-4,942	HO2S
133	OTTO YENTER "A" #2, PLAINS	S15,T4S,R52W	SWSW	4,183-4,211	YENT4S
134	SHELL #22-5, SHELL OIL	S5,T7S,R61W		7,125-7,184	SHELL7S
135	STATE "O" #1, PLAINS	S16,T1N,R53W	NWNE	4,931-4,971	ST1N
136*	HELGET #1, BRITISH AM. OIL	S18,T1N,R58W	CSWNW	5,996-6,022	HELG1N
137*	STATE 16-2, JAKE L. HAMON	S16,T7N,R58W	NE	6,394-6,403	STAT7N
138*	RAMSEY HEIRS 32-26, TIGER	S26,T8S,R61W	SWNE	7,052-7,064	RAM8S

139*	SAFRANEK-STATE #1, NORSE- HYDRO PETROLEUM	S30,T19S,R56W NESW	4,790-4,812	SAF19S
140*	CHALLIS FARMS #1, PLAINS	S31,T1N,R53W NENW	4,946-4,965	CHAL1N
141*	#2 STATE-U, PLAINS	S36,T1N,R54W SWSW	4,948-4,962	STAT1N

* IDENTIFICATION NUMBERS WERE NOT ASSIGNED BECAUSE STATISTICAL DATA FOR THESE COREHOLES ARE NOT INCLUDED IN THE JSANDSTO.DAT FILE.

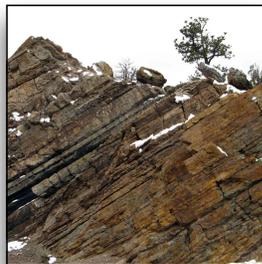
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