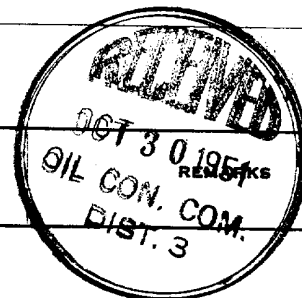


CORE LABORATOIRES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

Company MURPHY CORPORATION Date Report 9/6/51 Page 1 of 5  
 Well FORREST # 1 Cores DIAMOND File FNML - 18  
 Field WILDCAT Formation PICTURED CLIFFS Analysts LMV  
 County SAN JUAN State NEW MEXICO Elevation 5864.3' GL Coregraph YES  
 Location SEC. 35-30N-11W Remarks SERVICE # 5 & 8

CORE ANALYSIS AND INTERPRETATION

(Figures in parentheses refer to footnote remarks)



SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION
				OIL	TOTAL WATER	
1	2207.5	0.0	12.7	0.0	52.7	
2	08.5	0.0	16.9	0.0	64.5	
3	09.5	0.0	12.8	0.0	61.0	
4	10.5	0.0	7.7	0.0	90.8	
5	2215.0	0.4	18.9	5.3	38.0	GAS
6	16.0	2.0	21.0	11.4	29.0	GAS
7	17.0	1.0	22.5	2.7	41.3	GAS
8	18.0	0.8	17.2	2.3	39.5	GAS
9	19.0	0.1	13.7	2.9	67.8	GAS
10	20.0	2.6	21.6	12.5	26.3	GAS
11	21.0	3.0	22.1	9.9	29.4	GAS
12	22.0	1.5	25.4	8.3	28.7	GAS
13	23.0	1.4	22.1	5.0	39.3	GAS
14	24.0	1.5	24.7	7.7	37.6	GAS
15	25.0	1.3	22.5	6.7	32.9	GAS
16	26.0	1.7	24.0	8.4	30.9	GAS
17	27.0	1.3	21.9	5.9	38.3	GAS
18	28.0	1.1	21.6	2.3	40.7	GAS
19	29.0	0.6	22.9	1.7	39.7	GAS
20	30.0	0.8	20.6	1.9	47.1	GAS
21	31.0	0.9	21.3	0.0	49.7	GAS
22	32.0	0.9	20.0	0.0	42.4	GAS
23	33.0	0.6	24.6	0.0	48.4	GAS
24	34.0	0.5	19.7	0.0	47.7	GAS
25	2235.0	0.1	17.2	0.0	62.8	*

NOTE:

(\*) REFER TO ATTACHED LETTER.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Location: WELL - 111      Date Report: 10/11/54      Company: AMERICAN OIL COMPANY  
 Well: WELL - 111      Core: DIAMOND  
 Field: WILLIAM      Formation: REDFORD CLIFF      Analysts: L.M.  
 County: DAN TIAN      Elevation: 800' ±      Geographic: TEX  
 Location: WELL - 111      Remarks: REDFORD A. & B.

**CORE ANALYSIS AND INTERPRETATION**  
(Footnote in parentheses refer to footnote numbers)



SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION
				OIL	TOTAL WATER	
1	200.5	0.0	12.7	0.0	22.7	
2	08.5	0.0	12.9	0.0	21.2	
3	02.5	0.0	12.8	0.0	21.0	
4	10.5	0.0	11.7	0.0	20.8	
5	2215.0	0.1	12.9	2.3	26.0	GAS
6	12.0	2.0	21.0	11.1	22.0	GAS
7	17.0	1.0	22.2	2.7	21.3	GAS
8	18.0	0.8	17.2	2.3	23.2	GAS
9	19.0	0.1	13.7	2.9	27.8	GAS
10	20.0	2.6	21.2	12.2	26.3	GAS
11	21.0	3.0	22.1	9.9	22.1	GAS
12	22.0	1.2	24.1	8.2	28.7	GAS
13	23.0	1.1	22.1	2.0	22.2	GAS
14	24.0	1.2	21.7	7.7	27.6	GAS
15	25.0	1.3	22.2	6.7	22.9	GAS
16	26.0	1.7	21.0	6.1	20.9	GAS
17	27.0	1.3	21.9	2.9	28.3	GAS
18	28.0	1.1	21.2	10.7	10.7	GAS
19	28.0	0.6	22.9	1.7	22.7	GAS
20	30.0	0.2	20.6	1.9	17.1	GAS
21	31.0	0.9	21.3	0.0	19.7	GAS
22	32.0	0.9	20.0	0.0	12.1	GAS
23	33.0	0.6	21.6	0.0	18.1	GAS
24	34.0	0.2	12.7	0.0	17.7	GAS
25	2225.0	0.1	12.2	0.0	22.8	*

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.  
 (2) REFER TO ATTACHED FILTER.  
 (3) OFF LOCATION ANALYSIS—NO INTERPRETATION OF RESULTS.  
 These analyses, opinions or interpretations are based on observations and material supplied by the client to whom and for whose exclusive and confidential use they are made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted).  
 Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the accuracy, truth or completeness of the analyses, opinions or interpretations.

## CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION	REMARKS
				OIL	TOTAL WATER		
26	2236.0	0.1	13.7	0.0	67.1	*	
27	37.0	0.4	17.9	0.0	58.6	*	
28	38.0	0.6	16.2	0.0	66.0	*	
29	39.0	0.0	9.9	0.0	68.7		
30	40.0	0.0	12.2	0.0	72.2		
31	41.0	0.0	15.1	0.0	61.6		
32-	42.0	0.0	14.0	0.0	75.0		
33	43.0	0.0	14.9	0.0	67.8		
34	44.0	0.0	15.7	0.0	66.3		
35	45.0	0.0	11.8	0.0	78.8		
36	46.0	0.0	11.9	0.0	66.4		
37	47.0	0.0	11.1	0.0	83.0		
38	48.0	0.0	12.4	0.0	71.0		
39	49.0	0.0	12.2	0.0	82.0		
40	50.0	0.0	15.3	0.0	56.1		
41	51.0	0.0	12.5	0.0	76.0		
42	52.0	0.0	11.7	0.0	75.2		
43	53.0	0.0	11.4	0.0	82.5		
44-	54.0	0.0	11.9	0.0	79.0		
45	55.0	0.0	8.0	0.0	66.3		
46	56.0	0.0	5.6	0.0	53.5		
47	57.0	0.0	7.9	0.0	49.4		
48	58.0	0.0	9.1	0.0	79.1		
49	59.0	0.0	6.9	0.0	44.9		
50	60.0	0.0	4.5	0.0	55.6		



## NOTE:

(\*) REFER TO ATTACHED LETTER.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

These analyses opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.



## CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION	REMARKS
				OIL	TOTAL WATER		
51	2261.0	0.0	5.4	0.0	61.1		
52	62.0	0.0	12.6	0.0	70.6		
53	63.0	0.0	18.9	0.0	55.1		
54	64.0	0.0	22.1	0.0	49.3		
55	65.0	0.0	12.9	0.0	77.6		
56	66.0	0.0	15.2	0.0	71.8		
57	67.0	0.0	13.1	0.0	72.5		
58	68.0	0.0	11.3	0.0	75.2		
59	68.5	0.0	12.5	0.0	73.6		
60	70.0	0.0	12.1	0.0	61.9		
61	71.0	0.0	11.3	0.0	68.1		
62	72.0	0.0	12.1	0.0	76.1		
63	2271.5	0.0	12.4	0.0	83.2		
64	72.5	0.2	14.1	0.0	65.9	*	
65	73.5	0.2	14.8	0.0	65.5	*	
66	74.5	0.0	10.9	0.0	69.8		
67	2276.5	0.0	11.8	0.0	65.3		
68	77.5	0.0	11.2	0.0	67.8		
69	78.5	0.0	10.4	0.0	64.4		
70	79.5	0.0	10.2	0.0	87.2		
71	80.5	0.0	11.3	0.0	85.9		
72	81.5	0.0	10.9	0.0	69.7		
73	82.5	0.0	7.7	0.0	81.8		
74	83.5	0.0	10.5	0.0	65.7		
75	84.5	0.0	13.7	0.0	61.3		



TWO FOOT CORRECTION

## NOTE:

(\*) REFER TO ATTACHED LETTER.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

These analyses opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.

Page 3 of 3

File # 101-18 70

Well # 101-18 70

CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL LIQUID SATURATION OF CORE SPACE	PROBABLE PRODUCTION	REMARKS
75	81.5	0.0	13.7	0.0	0.0	
76	82.5	0.0	10.5	0.0	0.0	
77	83.5	0.0	11.3	0.0	0.0	
78	84.5	0.0	10.9	0.0	0.0	
79	85.5	0.0	11.3	0.0	0.0	
80	86.5	0.0	11.8	0.0	0.0	
81	87.5	0.0	11.8	0.0	0.0	
82	88.5	0.0	11.8	0.0	0.0	
83	89.5	0.0	11.8	0.0	0.0	
84	90.5	0.0	11.8	0.0	0.0	
85	91.5	0.0	11.8	0.0	0.0	
86	92.5	0.0	11.8	0.0	0.0	
87	93.5	0.0	11.8	0.0	0.0	
88	94.5	0.0	11.8	0.0	0.0	
89	95.5	0.0	11.8	0.0	0.0	
90	96.5	0.0	11.8	0.0	0.0	
91	97.5	0.0	11.8	0.0	0.0	
92	98.5	0.0	11.8	0.0	0.0	
93	99.5	0.0	11.8	0.0	0.0	
94	100.5	0.0	11.8	0.0	0.0	
95	101.5	0.0	11.8	0.0	0.0	
96	102.5	0.0	11.8	0.0	0.0	
97	103.5	0.0	11.8	0.0	0.0	
98	104.5	0.0	11.8	0.0	0.0	
99	105.5	0.0	11.8	0.0	0.0	
100	106.5	0.0	11.8	0.0	0.0	
101	107.5	0.0	11.8	0.0	0.0	
102	108.5	0.0	11.8	0.0	0.0	
103	109.5	0.0	11.8	0.0	0.0	
104	110.5	0.0	11.8	0.0	0.0	
105	111.5	0.0	11.8	0.0	0.0	
106	112.5	0.0	11.8	0.0	0.0	
107	113.5	0.0	11.8	0.0	0.0	
108	114.5	0.0	11.8	0.0	0.0	
109	115.5	0.0	11.8	0.0	0.0	
110	116.5	0.0	11.8	0.0	0.0	
111	117.5	0.0	11.8	0.0	0.0	
112	118.5	0.0	11.8	0.0	0.0	
113	119.5	0.0	11.8	0.0	0.0	
114	120.5	0.0	11.8	0.0	0.0	
115	121.5	0.0	11.8	0.0	0.0	
116	122.5	0.0	11.8	0.0	0.0	
117	123.5	0.0	11.8	0.0	0.0	
118	124.5	0.0	11.8	0.0	0.0	
119	125.5	0.0	11.8	0.0	0.0	
120	126.5	0.0	11.8	0.0	0.0	
121	127.5	0.0	11.8	0.0	0.0	
122	128.5	0.0	11.8	0.0	0.0	
123	129.5	0.0	11.8	0.0	0.0	
124	130.5	0.0	11.8	0.0	0.0	
125	131.5	0.0	11.8	0.0	0.0	
126	132.5	0.0	11.8	0.0	0.0	
127	133.5	0.0	11.8	0.0	0.0	
128	134.5	0.0	11.8	0.0	0.0	
129	135.5	0.0	11.8	0.0	0.0	
130	136.5	0.0	11.8	0.0	0.0	
131	137.5	0.0	11.8	0.0	0.0	
132	138.5	0.0	11.8	0.0	0.0	
133	139.5	0.0	11.8	0.0	0.0	
134	140.5	0.0	11.8	0.0	0.0	
135	141.5	0.0	11.8	0.0	0.0	
136	142.5	0.0	11.8	0.0	0.0	
137	143.5	0.0	11.8	0.0	0.0	
138	144.5	0.0	11.8	0.0	0.0	
139	145.5	0.0	11.8	0.0	0.0	
140	146.5	0.0	11.8	0.0	0.0	
141	147.5	0.0	11.8	0.0	0.0	
142	148.5	0.0	11.8	0.0	0.0	
143	149.5	0.0	11.8	0.0	0.0	
144	150.5	0.0	11.8	0.0	0.0	
145	151.5	0.0	11.8	0.0	0.0	
146	152.5	0.0	11.8	0.0	0.0	
147	153.5	0.0	11.8	0.0	0.0	
148	154.5	0.0	11.8	0.0	0.0	
149	155.5	0.0	11.8	0.0	0.0	
150	156.5	0.0	11.8	0.0	0.0	
151	157.5	0.0	11.8	0.0	0.0	
152	158.5	0.0	11.8	0.0	0.0	
153	159.5	0.0	11.8	0.0	0.0	
154	160.5	0.0	11.8	0.0	0.0	
155	161.5	0.0	11.8	0.0	0.0	
156	162.5	0.0	11.8	0.0	0.0	
157	163.5	0.0	11.8	0.0	0.0	
158	164.5	0.0	11.8	0.0	0.0	
159	165.5	0.0	11.8	0.0	0.0	
160	166.5	0.0	11.8	0.0	0.0	
161	167.5	0.0	11.8	0.0	0.0	
162	168.5	0.0	11.8	0.0	0.0	
163	169.5	0.0	11.8	0.0	0.0	
164	170.5	0.0	11.8	0.0	0.0	
165	171.5	0.0	11.8	0.0	0.0	
166	172.5	0.0	11.8	0.0	0.0	
167	173.5	0.0	11.8	0.0	0.0	
168	174.5	0.0	11.8	0.0	0.0	
169	175.5	0.0	11.8	0.0	0.0	
170	176.5	0.0	11.8	0.0	0.0	
171	177.5	0.0	11.8	0.0	0.0	
172	178.5	0.0	11.8	0.0	0.0	
173	179.5	0.0	11.8	0.0	0.0	
174	180.5	0.0	11.8	0.0	0.0	
175	181.5	0.0	11.8	0.0	0.0	
176	182.5	0.0	11.8	0.0	0.0	
177	183.5	0.0	11.8	0.0	0.0	
178	184.5	0.0	11.8	0.0	0.0	
179	185.5	0.0	11.8	0.0	0.0	
180	186.5	0.0	11.8	0.0	0.0	
181	187.5	0.0	11.8	0.0	0.0	
182	188.5	0.0	11.8	0.0	0.0	
183	189.5	0.0	11.8	0.0	0.0	
184	190.5	0.0	11.8	0.0	0.0	
185	191.5	0.0	11.8	0.0	0.0	
186	192.5	0.0	11.8	0.0	0.0	
187	193.5	0.0	11.8	0.0	0.0	
188	194.5	0.0	11.8	0.0	0.0	
189	195.5	0.0	11.8	0.0	0.0	
190	196.5	0.0	11.8	0.0	0.0	
191	197.5	0.0	11.8	0.0	0.0	
192	198.5	0.0	11.8	0.0	0.0	
193	199.5	0.0	11.8	0.0	0.0	
194	200.5	0.0	11.8	0.0	0.0	
195	201.5	0.0	11.8	0.0	0.0	
196	202.5	0.0	11.8	0.0	0.0	
197	203.5	0.0	11.8	0.0	0.0	
198	204.5	0.0	11.8	0.0	0.0	
199	205.5	0.0	11.8	0.0	0.0	
200	206.5	0.0	11.8	0.0	0.0	



NO DATA FOR CORRELATION

\* \*

NOTE: (1) INCOMPLETE CORE RECOVERY-INTERPRETATION RESERVED. (2) REFER TO ATTACHED LETTER. (3) OFF LOCATION ANALYSIS-NO INTERPRETATION OF RESULTS.

This analysis of interpretations are based on observations and records supplied by the client to whom and to whose exclusive and confidential use and control is made. The interpretations or opinions expressed herein represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted) but the Laboratory, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the propriety, proper operation, or performance of any well or other mineral well or sand in connection with which such report is made or relied upon.

## CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL LIQUID SATURATION % PORE SPACE		PROBABLE PRODUCTION	REMARKS
				OIL	TOTAL WATER		
76	2285.5	0.0	7.1	0.0	92.8		
77	86.5	0.0	9.0	0.0	90.0		
78	87.5	0.0	5.2	0.0	76.8		
79	88.5	0.0	10.4	0.0	86.4		
80	89.5	0.0	11.8	0.0	71.2		
81	90.5	0.0	9.6	0.0	79.1		
82	91.5	0.0	12.6	0.0	73.0		
83	92.5	0.0	8.4	0.0	60.7		
84	93.5	0.0	13.8	0.0	74.6		
85	94.5	0.0	10.7	0.0	65.4		
86	95.5	0.0	9.6	0.0	90.6		
87	96.5	0.0	9.3	0.0	63.4		
88	97.5	0.0	12.3	0.0	74.8		
89	98.5	0.0	8.3	0.0	66.2		
90	99.5	0.0	11.0	0.0	67.3		
91	2300.5	0.0	11.3	0.0	56.6		
92	01.5	0.0	10.2	0.0	74.4		
93	02.5	0.0	8.6	0.0	74.4		
94	03.5	0.0	12.4	3.2	68.5		
95	04.5	0.0	10.7	0.0	65.4		
96	05.5	0.0	7.8	5.1	79.4		
97	06.5	0.0	8.0	0.0	75.0		
98	07.5	0.0	5.8	0.0	56.9		
99	08.5	0.0	10.3	0.0	61.1		
100	09.5	0.0	7.0	0.0	80.0		

## NOTE:

(\*) REFER TO ATTACHED LETTER.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

These analyses opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

These analyses opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Approved:  
K. L. F. R.

### CORE ANALYSIS AND INTERPRETATION

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PERCENT	RESIDUAL LIQUID SATURATION TO PORE SPACE		PROBABLE PRODUCTION	REMARKS
				OIL	WATER		
101	2300.5	0.0	7.1	1.1	79.7		
102	11.5	0.0	5.2	1.0	69.6		
103	12.5	0.0	5.6	0.0	61.6		
104	13.5	0.0	5.2	0.0	61.1		
105	11.5	0.0	5.8	1.1	80.6		
106	2307.5	0.0	5.4	1.8	76.2		
107	2322.5	0.0	5.2	1.2	73.0		
108	2327.5	0.0	5.2	0.0	71.7		
109	2330.0	0.0	10.4	0.0	90.3		
110	31.0	0.0	11.7	0.0	79.7		
111	32.0	0.0	10.7	0.0	68.7		
112	33.0	0.0	13.4	0.0	74.0		
113	34.0	0.0	13.8	0.0	60.1		
114	35.0	0.0	13.1	0.0	74.7		
115	36.0	0.0	16.2	0.0	76.2		
116	37.0	0.0	11.2	0.0	73.2		
117	38.0	0.0	12.1	0.0	81.8		
118	39.0	0.0	11.0	0.0	83.8		
119	40.0	0.0	15.0	0.0	71.2		
120	41.0	0.0	12.6	0.0	72.4		
121	42.0	0.0	6.2	0.0	61.2		
122	43.0	0.0	11.6	3.1	72.2		
123	44.0	0.0	12.1	0.0	72.6		
124	45.0	0.0	12.2	0.0	72.7		
125	46.0	0.0	11.8	2.4	72.4		
126	47.0	0.0	11.3	0.0	60.2		
127	48.0	0.0	2.0	0.0	69.8		
128	49.0	0.0	13.7	0.0	61.2		
129	2321.0	0.0	10.7	0.0	67.3		
130	2323.0	0.0	13.0	0.0	67.7		
131	23.0	0.0	10.8	0.0	62.3		
132	22.0	0.0	10.6	0.0	67.4		
133	26.0	0.0	12.0	0.0	70.2		



100-100-100  
 (b) - 100-100-100  
 100-100-100

(\*) REFER TO ATTACHED LISTING.  
 (1) INCOMPLETE CORE RECOVERY-INTERPRETATION RESERVED.  
 (2) OFF LOCATION ANALYSES-NO INTERPRETATION OR RES.

This report is prepared by Core Laboratories, Inc. and is based on data furnished by the client. Core Laboratories, Inc. and its employees assume no responsibility and make no warranty or representation as to the production of this report. The information on this report is for informational purposes only and should not be used for any other purpose without the express written consent of Core Laboratories, Inc. and its employees.