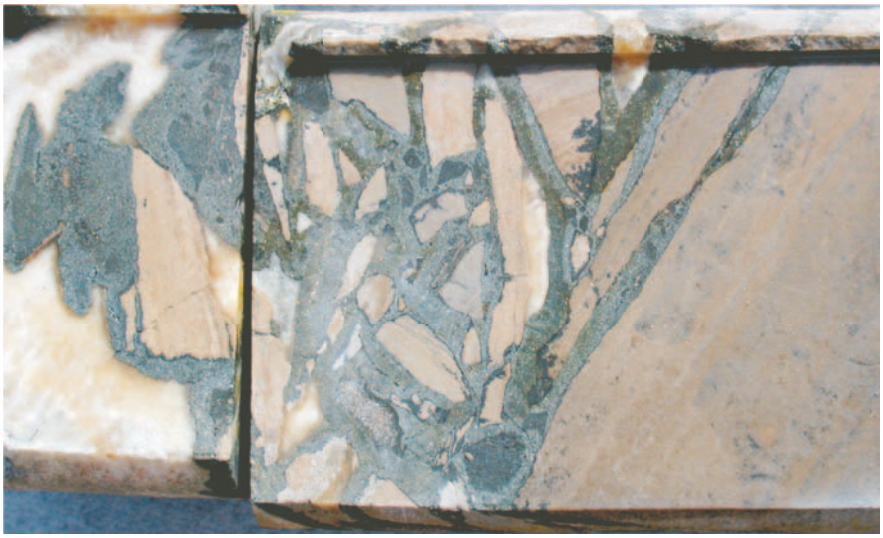
EUB/AGS Geo-Note 2003-02

Carbonate-Hosted Pb-Zn (MVT) in Northeastern Alberta - 2002 Core Program: A Contribution to the Carbonate-Hosted Pb-Zn (MVT) Targeted Geoscience Initiative



Alberta Energy and Utilities Board

Alberta Geological Survey

AGS

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R.J. Rice and [1]T.A. Zerbe

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December 2003

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Cover photo: Fault brecciated dolostone with sulphides (Py) and contemporaneous coarse calcite; Upper Devonian Jean Marie Member, Redknife Formation; Calstan Senex 04-03-100-07W5 at 257.8 m TVD. Core length 18 cm, top to left

Contents

Acknowledgments ..... **iv**
Abstract ..... **v**
1 Introduction **1**
2 Methodology **1**
3 Geochemical Analyses of Core Samples **1**
4 Discussion **6**
5 Conclusions **6**
6 References **6**
Appendix A – Core Logs **7**
Appendix B – Geochemical Analyses of Core Samples **116**
Appendix C – Compilation of Geochemical Data for Carbonates in Northern Alberta **120**
Appendix D - Selected Photographs of Core From Well Calstan Senex Creek 04-03-100-07W5 ... **122**

Tables

Table 1 Conventional hydrocarbon and oil sand wells examined for the 2002 core program 3
Table B1 Core samples acquired during the 2002 core program 117
Table B2 Trace element data for core samples from the 2002 core program 118
Table C1 Compilation of selected trace element analyses for carbonates and associated non-clastic lithologies in northern Alberta 121

Figures

Figure 1 Location of cored wells examined (triangle) in the Fort Vermilion-Harper Creek and Fort McMurray study areas in northern Alberta 2
Figure 2 Core log legend for wells examined during the 2002 core program 7
Figure 3 Reefal facies model scheme for Middle to Late Devonian shallow marine carbonates from Machel and Hunter, 1994 8

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Abstract

For the 2002 MVT core program, 113 core from Middle and Upper Devonian carbonates in the subsurface of northern Alberta were examined. Core was selected from a large area incorporating the Fort McMurray and Fort Vermilion-Harper Creek study areas. A short, faulted and brecciated, intersection was encountered in one well, but no thicker intervals displaying classic MVT features, such as collapse breccia with hydrothermal dolomite, were found. Small amounts of pyrite were common, almost entirely as small fracture fills, nodules and stratification parallel accumulations that often are associated with fossil detritus. No visible galena or sphalerite were encountered. Trace element analyses returned a maximum lead (Pb) concentration of 246 parts per million (ppm) from pyrite-bearing Keg River Formation dolostone at 780 m in well GPD Noel et al Jean D'Or (15-27-109-07W5). The best zinc (Zn) concentration of 75 ppm came from pyrite-bearing Waterways Formation limestone at 110 m in well Esso 90-12 Oslo OV (07-10-095-09W4). The only sulphide mineral associated with fault-controlled breccia is pyrite with contemporaneous coarse calcite occurring at 257 m in Jean Marie Member, Redknife Formation dolostone in well Calstan Senex 4-3-100-7 (04-03-100-07W5). This pyritiferous zone is not associated with anomalous Pb or Zn values, but is associated with concentrations of arsenic (As) up to 383.4 ppm, tellurium (Tl) up to 3.4 ppm and molybdenum (Mo) up to 56.8 ppm; the concentration of these elements is an order of magnitude greater than those in most surrounding tabulated data for other core samples.

1 Introduction

The 2002 core program was conducted by the Alberta Geological Survey (AGS) during the months of June, July and August 2002 at the Alberta Energy and Utilities Board Core Research Centre (CRC), Calgary and in the months of September and October 2002 at the AGS Mineral Core Research Facility (MCRF), Edmonton. The 2002 core program was designed to complement a 2001 field program conducted in northern Alberta by the AGS (*see* Waters and Rice, 2003, for a GIS summary of the 2001 field data). The 2001 and 2002 work programs represent the AGS contribution to the federally sponsored Mississippi Valley-Type (MVT) Targeted Geoscience Initiative (TGI) project 232-110-010009. This was a co-operative project with the Geological Survey of Canada, Calgary, and the C.S. Lord Northern Geoscience Centre, Yellowknife, Northwest Territories, designed to acquire new data in northern Alberta and the southern Northwest Territories relevant to Mississippi Valley-type (MVT) Pb-Zn deposits and occurrences, and to thereby promote mineral industry exploration programs in this region.

The stratigraphic target for the 2002 core-logging program was Middle and Upper Devonian carbonates in northern Alberta. For this purpose, two study areas were defined: the Fort Vermilion-Harper Creek study area and the Fort McMurray study area (Figure 1). The reason for the delineation of these two areas in northern Alberta is given in Rice (2003). Both conventional hydrocarbon exploration wells and a smaller number of oil sand exploration wells (Fort McMurray study area) that bottom in underlying Middle Devonian carbonates were examined. Figure 1 shows the distribution of the selected wells within the two study areas and Table 1 provides a list of the wells examined during the 2002 core-logging program.

2 Methodology

Cores were examined and sampled during the 2002 core program at the CRC and the MCRF. Core logging was done using an application developed by Z. Amer, T.A. Zerbe and B.E. Buschkuehle at the Alberta Geological Survey that integrated a Microsoft Access® database (MVT Core) with RockWare® Logplot™ to produce the core logs presented in Appendix A, with Figure 2 providing an explanatory legend for the geological features identified. Although carbonate lithofacies and depositional setting were recorded during core logging using Machel and Hunters' (1994) reefal facies scheme for Middle to Late Devonian shallow marine carbonates (Figure 3), this was not the primary focus of the core program. Rather, the program's main purpose was to identify if any MVT-like features are present in the core and the sampling of sulphide minerals. All downhole locations given in this report are true vertical depths.

All sulphide samples were sent to Acme Analytical Laboratories, Vancouver, for Inductively Coupled Plasma (ICP-ES Aqua Regia) trace element analyses. The trace element data are presented in Table B2, Appendix B and discussed in Section 3. Selected samples of diagenetic products were submitted for stable (C, O) and radiogenic (Sr) isotope analysis to the Isotope Science Laboratory, Department of Physics and Astronomy, University of Calgary, and to the isotope laboratory under the direction of Dr. R. Creaser, University of Alberta, respectively. N. Wilson of the Geological Survey of Canada did fluid inclusion work on these samples. The isotope and fluid inclusion work was done to permit a comparison with the MVT Pb-Zn deposits at Pine Point, N.W.T. and Robb Lake, B.C. These data and associated interpretations are presented elsewhere as separate publications.

3 Geochemical Analyses of Core Samples

Only core samples containing sulphides were analyzed for their trace element content. In all cases, visual inspection suggested the sulphides were pyrite. No galena or sphalerite were visually identified in core, and this was confirmed with ICP analyses. A total of 26 core samples (Table B1) from four formations (Keg River, Slave Point, Waterways and Redknife), and a depth range between 99 to 847 m, were submitted for trace element analysis.

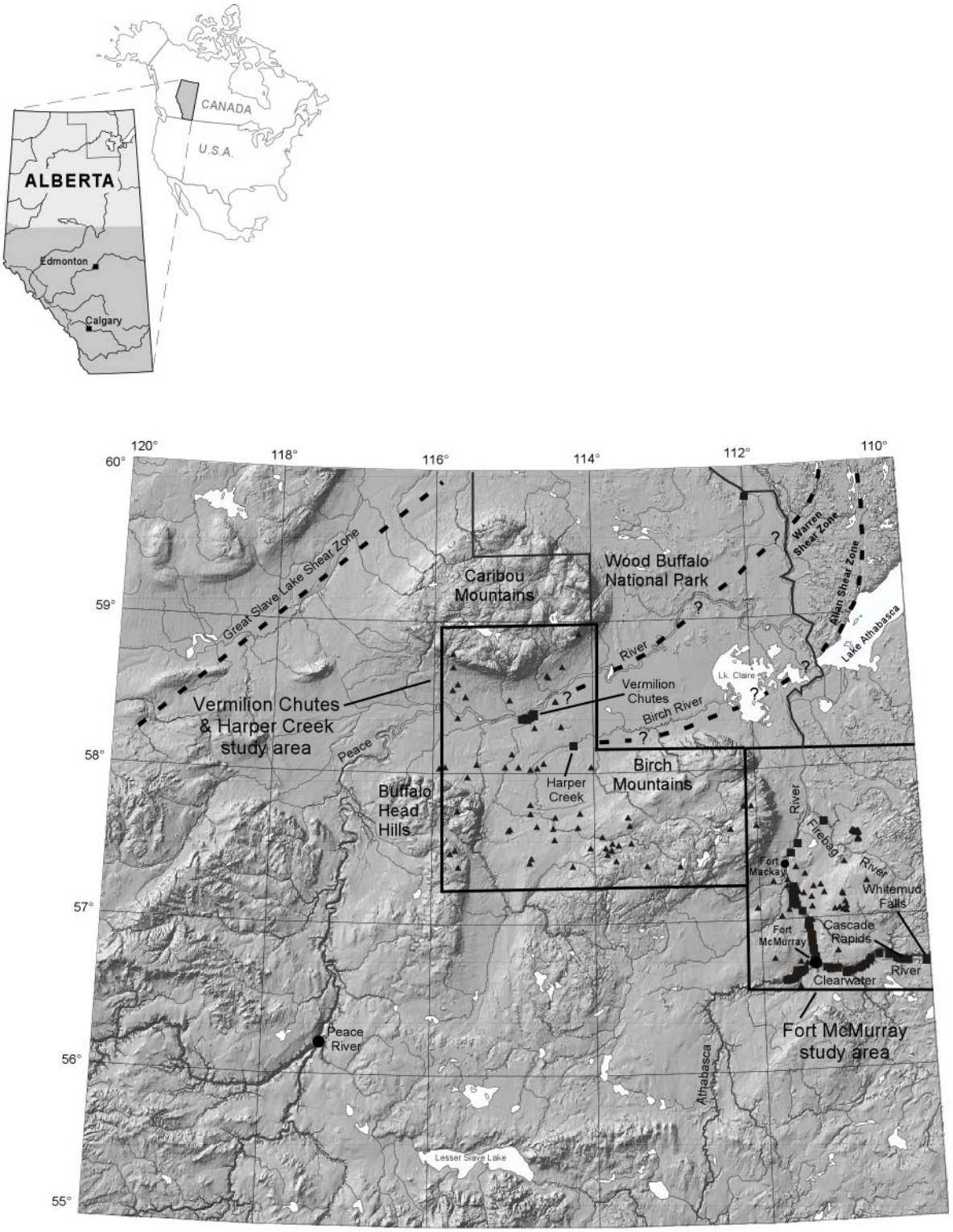


Figure 1. Location of cored wells examined (triangle) in the Fort Vermilion-Harper Creek and Fort McMurray study areas in northern Alberta. Field stations from the 2001 field program are indicated by squares.

Table 1. Conventional hydrocarbon and oil sand wells examined for the 2002 core program.

UWI	WellName	Total Depth	Formation/Gp	UTM (NAD27)		Zone	NAD83		Analysis
		(m)		Easting	Northing		Latitude	Longitude	Performed
00/01-11-101-02W5/0	Pan Am Sun B-1 Mikkwa	1084	Keg River	666753.75	6403749.78	11	57.746716	-114.198265	
00/01-28-107-05W5/0	Mutex IOE Mikkwa	927	Keg River	631451.30	6465697.30	11	58.314423	-114.756256	
00/02-05-110-10W5/0	Placid et al Beaver 2-5-110-10	1128	Wabamun	580063.91	6486926.23	11	58.517406	-115.625603	
00/02-32-089-12W4/2	Suncore Clarke	717	Keg River	446653.86	6290612.90	12	56.758340	-111.872490	
00/03-07-101-05W5/0	FPC Noel et al. Harper	1147	Muskeg	630294.37	6402360.69	11	57.746309	-114.811013	
00/03-22-111-04W5/0	IOD IOE CEGO Rennie	904	Keg River	640360.56	6503128.16	11	58.647545	-114.581352	
00/03-26-104-12W5/0	Amoco ICG Tall Creek	1225	Keg River	566663.02	6434982.34	11	58.053220	-115.870540	
00/04-03-100-07W5/0	Calstan Senex Creek 4-3-100-7	1223	Keg River	615595.28	6390605.17	11	57.644802	-115.063431	ICP-ES
00/04-07-096-09W4/0	Alsands 18 Hangst OV	119.8	Waterways	471910.42	6351913.55	12	57.311210	-111.466280	ICP-ES
00/04-08-097-02W5/0	Shell et al Senex	1273	Keg River	662649.57	6364731.76	11	57.398136	-114.293259	
00/04-14-093-07W4/0	Steepbank 1-75 OV 4-14	235	Waterways	498734.88	6324143.30	12	57.062610	-111.020860	ICP-ES
00/04-15-101-11W5/0	Amoco Wadlin Lake	1430	Slave Point	576331.31	6402668.34	11	57.761490	-115.717160	
00/04-26-104-01W5/0	Mutex IOE Edra	856	Keg River	673880.20	6438046.23	11	58.051662	-114.053619	ICP-ES
00/04-28-093-09W4/0	Esso 82 Oslo OV BSL-29	138.1	Waterways	475983.44	6327451.09	12	57.091700	-111.396310	
00/04-30-109-03W5/0	IOD IOE T2 Fox Lake	669	Keg River	645978.63	6485664.49	11	58.488998	-114.495865	
00/04-32-093-10W4/0	Bear Vampire #2	269	Slave Point	464609.43	6329226.03	12	57.106910	-111.584240	
00/05-08-100-22W4/0	Norcen POR Birch	1285	Winnipegosis	345684.86	6393705.51	12	57.661034	-113.586563	
00/05-12-099-04W5/0	Amoco Owl Creek	1236	Keg River	648662.39	6383815.40	11	57.574181	-114.514153	
00/06-02-097-19W4/0	Dome Home Liege	1232	Slave Point	381127.39	6361774.43	12	57.385130	-112.977380	ICP-ES
00/06-05-098-24W4/0	Canterra Jean	565	Grosmont	328016.54	6373417.61	12	57.472630	-113.867950	
00/06-10-100-05W5/0	Shell Swamp	1145.4	Wabamun	635340.72	6393179.31	11	57.662411	-114.731468	
00/06-15-098-24W4/0	Esso Jean River	573	Grosmont	331305.72	6376477.80	12	57.501320	-113.815290	
00/06-22-098-01W5/0	Pan Am A-1Mikkwa River	1195	Keg River	675382.26	6378496.43	11	57.516891	-114.071808	
00/06-23-094-07W4/0	Chevron Steepbank	438	Keg River	499071.66	6335720.39	12	57.166610	-111.015350	
00/06-24-097-24W4/0	Pan Am A-1 Sputina	1344	Keg River	334312.06	6368386.54	12	57.429832	-113.759705	
00/06-26-105-07W5/0	PEX Mikkwa EV	170	Grosmont	615381.42	6445897.59	11	58.141210	-115.040180	
00/06-29-104-06W5/0	PEX Mikkwa EV	318	Grosmont	620444.42	6436342.15	11	58.054090	-114.959150	
00/06-29-104-07W5/0	PEX Mikkwa EV	290	Grosmont	610657.52	6436057.13	11	58.054080	-115.125010	
00/06-31-098-22W4/0	Pan Am B-1 Jean	1213	Keg River	346001.04	6380721.10	12	57.544628	-113.573021	
00/06-31-101-05W5/0	Signal 72 Mikkwa	1119	Keg River	629977.22	6409124.87	11	57.807114	-114.812668	
00/06-31-104-09W5/0	Shell et al. Tall Cree	1090	Keg River	589654.35	6437460.25	11	58.071419	-115.480194	
00/06-33-099-07W5/2	Calstan Senex Creek 6-33-99-7	1224	Wabamun	614400.12	6389359.39	11	57.633923	-115.084030	
00/07-02-100-04W5/0	Shell Owl River Strat Test 1	1148	Wabamun	647384.73	6392025.73	11	57.648280	-114.530500	
00/07-10-095-09W4/0	Esso 90-12 Oslo OV	119.7	Waterways	477712.27	6342316.28	12	57.225320	-111.369110	ICP-ES
00/07-18-099-24W4/0	Canterra Jean	349	Grosmont	325040.81	6386588.80	12	57.589650	-113.926960	
00/07-19-098-24W4/0	CNRL et al Harper 7-19-98-24	475	Grd Rapids/Grosmont	327112.73	6378325.33	12	57.516420	-113.887586	
00/07-19-104-05W5/0	Chevron Pan Am Harper	1020	Keg River	629411.48	6435018.32	11	58.039684	-114.808060	
00/07-26-094-09W4/0	Gulf Hartley C.H. #9	69.2	Waterways	470354.34	6337605.81	12	57.182590	-111.490400	
00/07-28-087-12W4/0	Bear Vampire #1	702	Slave Point	464336.63	6269626.61	12	56.571500	-111.580400	
00/07-30-098-23W4/0	CanOxy Jean Lake	451	Grosmont	336651.02	6379789.33	12	57.532990	-113.728420	
00/07-34-098-24W4/0	Texex Jean River	457	Grosmont	332092.62	6381331.65	12	57.545160	-113.805520	
00/07-36-100-04W5/0	FPC Noel et al Harper	1062	Keg River	648647.06	6400260.16	11	57.721760	-114.504295	
00/08-17-098-11W5/0	Dome Home Talbot Lake	1724	Keg River	575548.45	6373756.95	11	57.501991	-115.739342	
00/08-20-110-11W5/0	Gulf-AEC-Beaver-Ranch	1190	Zama	570569.29	6491804.68	11	58.562851	-115.787033	
00/10-09-112-11W5/0	Arco CS Carl	1318	Keg River	570449.73	6508612.45	11	58.713787	-115.783852	
00/10-09-113-11W5/0	Pan Am A-1 Carl Creek	1184	Slave Point	570174.50	6518241.59	11	58.800290	-115.785590	
00/10-12-093-07W4/0	Steepbank 2-75 OV 10-12	267.3	Waterways	501165.28	6323313.95	12	57.055160	-110.980790	ICP-ES
00/10-13-097-06W5/0	Chevron CDN-SUP Circle	1279	Grosmont	630835.15	6366084.69	11	57.420540	-114.821490	

Table 1. Conventional hydrocarbon and oil sand wells examined for the 2002 core program, continued.

UWI	WellName	Total Depth	Formation/Gp	UTM (NAD27)		Zone	NAD83		Analysis
		(m)		Easting	Northing		Latitude	Longitude	Performed
00/10-20-104-12W5/0	Pan Am B-1 Cree	1215.8	Keg River	562342.83	6433931.38	11	58.044410	-115.944000	
00/10-24-093-07W4/0	Steepbank 2-75 OV 10-24	262.7	Waterways	501164.98	6326552.20	12	57.084250	-110.980780	ICP-ES
00/10-28-107-03W5/0	GPD Noel et al Jean D'Or	860	Keg River	650669.12	6467151.06	11	58.321297	-114.427635	
00/11-03-097-11W5/0	Placid Rossbear	1755	Muskeg	578169.62	6361504.18	11	57.391512	-115.699527	
00/11-07-090-07W4/0	Mobil 90 Clarke Creek OV	203.5	Waterways	493227.33	6294162.37	12	56.793230	-111.110870	
00/11-14-108-11W5/0	Arco et al. Beaver	1084	Keg River	574785.79	6471461.55	11	58.379486	-115.721230	
00/11-18-093-07W4/0	Texex Steepbank 2-75 OV	226.8	Waterways	492628.44	6324952.28	12	57.069820	-111.121570	
00/11-26-099-15W4/0	Texaco Namur 2-81 OV	487.5	Waterways	419436.53	6387191.45	12	57.621770	-112.348770	
00/11-30-097-05W5/0	SC ICGR PANNY 11-30-97-5	1303	Wabamun	631941.99	6369411.38	11	57.450081	-114.801285	
00/12-25-114-02W5/0	IOE Gardenr	1130	Slave Point	661682.66	6535572.59	11	58.931150	-114.190980	
00/12-33-103-10W5/0	Amoco Mikkwa	1159	Keg River	583061.00	6427926.61	11	57.987099	-115.595284	
00/12-36-093-07W4/0	Steepbank 2-75	256.3	Waterways	500417.73	6329786.19	12	57.113410	-110.994000	
00/13-23-094-07W4/0	Chevron WDW Steepbank	398	Keg River	498562.16	6336681.23	12	57.175240	-111.023780	
00/13-31-096-06W4/0	Shell Eatha EV	267	Beaverhill Lake	501282.59	6359380.85	12	57.379150	-110.978670	
00/14-05-097-21W4/0	Mutex IOE Seaforth	1274	Keg River	356810.98	6363442.58	12	57.393105	-113.382477	
00/14-19-109-03W5/0	IOD IOE T1 Fox Lake	716	Beaverhill Lake	646071.41	6485350.55	11	58.486150	-114.494476	
00/14-35-110-11W5/0	Shell Union FtVer	1187	Keg River	574228.01	6495971.45	11	58.599655	-115.722801	
00/15-01-098-12W5/0	CDN Roxy et al Talbot Lake	1707	Keg River	571943.63	6371175.01	11	57.479390	-115.800240	
00/15-10-112-03W5/0	Texaco IOE Wentzel	876	Keg River	650285.41	6511169.70	11	58.716366	-114.405167	
00/15-27-109-07W5/0	GPD Noel et al Jean D'Or	978	Keg River	612423.13	6485517.47	11	58.497616	-115.071121	ICP-ES
00/15-31-104-04W5/0	Chevron Amoco Harper	975	Keg River	638913.95	6439702.95	11	58.078854	-114.644493	ICP-ES
00/16-03-100-02W5/0	Champlin Mikkwa	1160	Keg River	665541.39	6393372.74	11	57.654064	-114.225739	
00/16-21-111-04W5/0	Husky IOE Rennie	925	Keg River	639373.79	6504208.59	11	58.657558	-114.597672	
00/16-22-104-05W5/0	Chevron Amoco Harper	1006	Keg River	634296.93	6436043.72	11	58.047436	-114.724800	
02/03-31-100-22W4/0	GPD et al. Bergerson A3-31-100-22	1267	Keg River	344722.04	6399914.29	12	57.716415	-113.606682	
1A/02-19-098-05W4/0	Synenco 01-02 FB 02-19-98-5*	111.3	collapse breccia	511782.80	6374580.78	12	57.515535	-110.803317	
1A/05-20-098-05W4/0	Synenco 01-01 FB 05-20-98-5*	86.92	Waterways	512584.66	6374991.30	12	57.519201	-110.789911	
1A/11-20-098-05W4/0	Synenco 01-04 FB 11-20-98-5*	54.9	Waterways	512911.28	6375283.11	12	57.521813	-110.784443	
1A/16-19-098-05W4/0	Synenco 01-03 FB 16-19-98-5*	78.66	Waterways	512195.23	6375794.57	12	57.526427	-110.796372	
1AA/05-05-099-05W4/0	Synenco 01-80 NLP 05-05-99-5	74.87	Waterways	512395.30	6379737.49	12	57.561944	-110.793694	
1AB/13-06-099-05W4/0	Synenco 01-86 NLP 16-01-99-6	85.04	Waterways	510268.56	6380754.05	12	57.571128	-110.829197	
AA/01-12-099-06W4/0	Synenco 01-67 NLP 01-12-99-6*	102.78	Waterways	510197.15	6381242.33	12	57.575411	-110.829506	
AA/01-22-093-11W4/0	Syn Atha #27-42-0-0 OV 1-22	125.1	Beaverhill Lake	459125.78	6325980.25	12	57.077300	-111.674230	ICP-ES
AA/01-27-095-12W4/0	Suptst 2-73-3C Atha OV 1-27-95-12	102.1	Waterways	448702.32	6347141.15	12	57.266327	-111.850502	
AA/02-21-093-07W4/0	Steepbank 2-75 OV 2-21	253.6	Waterways	496324.41	6325663.04	12	57.076355	-111.061531	
AA/03-05-099-05W4/0	Synenco 01-16 NLP 03-05-99-5*	155.55	Methy	512691.77	6379516.43	12	57.559845	-110.787887	
AA/03-08-099-05W4/0	Synenco 01-93 NLP 03-08-99-5*	142.82	collapse breccia	512704.96	6380999.02	12	57.573162	-110.787589	
AA/03-12-099-06W4/0	Synenco 20-50 firebag 03-12-99-6*	92.96	collapse breccia	509266.42	6380968.79	12	57.572974	-110.845078	
AA/03-33-094-10W4/0	Syncrude 1 Hartley OV	35.7	Waterways	466690.23	6338757.96	12	57.192688	-111.551163	
AA/04-06-099-05W4/0	Synenco 20-67 firebag 04-06-99-5*	141	collapse breccia	510495.04	6379492.24	12	57.559684	-110.824601	
AA/04-14-095-11W4/0	Amoco Ings	68.9	Waterwars	458763.57	6343596.83	12	57.235620	-111.684050	
AA/05-28-096-10W4/0	Koch UTS Ft-Hills	0	Beaverhill Lake	465554.76	6357090.91	12	57.357280	-111.572500	
AA/06-06-093-11W4/0	Syn Atha 49-33-0-0 OV 6-6	89	Waterways	453521.70	6321489.87	12	57.036434	-111.765831	
AA/06-12-099-06W4/0	Synenco 01-69 NLP 06-12-99-6*	91.5	collapse breccia	509439.55	6381261.87	12	57.575603	-110.842172	
AA/06-20-089-10W4/0	Esso BSL 40-1 Oslo OV 6-20-89-10	166.1	Waterways	465526.34	6287458.12	12	56.731777	-111.563423	
AA/07-29-093-13W4/0	Aostra utf Dover A077 OV 6-29	108	Waterways	436110.67	6328197.86	12	57.094601	-112.054375	ICP-ES
AA/08-11-099-06W4/0	Synenco 20-34 firebag 08-11-99-6*	109.8	collapse breccia	508410.24	6381518.67	12	57.577930	-110.859373	
AA/08-29-094-08W4/0	Esso 1-86 Oslo BSL 31 OV 8-29	114	Waterways	485325.71	6337442.93	12	57.181850	-111.242737	ICP-ES

Table 1. Conventional hydrocarbon and oil sand wells examined for the 2002 core program, continued.

UWI	WellName	Total Depth	Formation/Gp	UTM (NAD27)		Zone	NAD83		Analysis
		(m)		Easting	Northing		Latitude	Longitude	Performed
AA/09-08-095-10W4/0	Shell 98-216 Muskeg OV	94.6	Waterways	465005.61	6342907.82	12	57.229839	-111.579620	
AA/09-11-099-06W4/0	Synenco 20-33 firebag 09-11-99-6*	100.65	collapse breccia	508447.22	6381999.12	12	57.582245	-110.858738	
AA/10-05-099-05W4/0	Synenco 01-107 NLP 10-05-99-5*	45.75	collapse breccia	512937.86	6380309.41	12	57.566961	-110.783732	
AA/10-15-095-05W4/0	Suncor Firebag 10-15-95-5	319	Waterways	516930.00	6344422.91	12	57.244473	-110.719475	
AA/12-14-089-10W4/0	Esso BSL 40-41 Oslo OV 12-14	189.8	Waterways	469995.81	6286216.97	12	56.720936	-111.490234	
AA/12-16-094-09W4/0	Home CH- 23 Atha OV	66.5	Waterways	475996.71	6334651.32	12	57.156380	-111.396782	
AA/12-26-095-11W4/0	Suptst 2-72-1C Atha OV	94.2	Waterways	458936.35	6347830.46	12	57.273552	-111.680954	
AA/13-05-099-05W4/0	Synenco 01-105 NLP 13-05-99-5*	73.81	collapse breccia	512361.62	6380629.13	12	57.569849	-110.793348	
AA/14-14-101-14W4/0	Texex Eaglenest 4-75OV	506.9	Beaverhill Lake	429708.41	6403777.14	12	57.772434	-112.181686	
AA/15-06-099-05W4/0	Synenco 20-79 firebag 15-06-99-5*	99.68	collapse breccia	511438.47	6380511.87	12	57.568820	-110.808786	
AA/16-07-095-08W4/0	Esso 4-86 Oslo Bsl 31 OV 16-7-95-8	128	Waterways	482997.21	6343196.32	12	57.233452	-111.281647	
AA/16-17-101-13W4/0	Texex Eaglenest 4-75OV 16-17-101-13	543.2	Waterways	435337.10	6403583.53	12	57.771542	-112.087029	
AA/16-34-099-13W4/0	Texex Eaglenest O.V.	561.4	Beaverhill Lake	438483.72	6388899.59	12	57.640110	-112.030390	ICP-ES
AB/01-07-099-05W4/0	Synenco 01-91 NLP 01-07-99-5*	112.85	collapse breccia	511946.98	6381005.07	12	57.573237	-110.800261	
AB/14-01-099-06W4/0	Synenco 20-51 firebag 14-01-99-6	109.19	Methy Formation	509460.08	6380614.44	12	57.569787	-110.841854	
AC/04-12-099-06W4/0	Synenco 01-74 NLP 04-12-99-6	70.15	Waterways	509031.79	6380849.70	12	57.571909	-110.849005	
AE/01-29-092-09W4/0	Test Hole #115	69.2	Waterways	475475.28	6317662.09	12	57.003738	-111.403740	
Note:									
▭ oil sands wells									
* - oil sands wells examined for Pb/Zn mineralization; core not logged									

Trace element analyses returned a maximum Pb concentration of 246 ppm from pyrite-bearing Keg River Formation dolostone at 780 m in well GPD Noel et al Jean D'Or (15-27-109-07W5). The best Zn concentration is 75 ppm and came from pyrite-bearing Waterways Formation limestone at 110 m in well Esso 90-12 Oslo OV (07-10-095-09W4).

The only example of fault controlled breccia with subsequent infilling by sulphides (Py) and synchronous coarse calcite, is in well Calstan Senex 04-03-100-07W5 at approximately 257 m in dolostone of the Upper Devonian Jean Marie Member, Redknife Formation (Appendix D). Four samples were collected across approximately 1 m of brecciated and infilled dolostone; these four samples returned maximum Pb and Zn concentrations of only 3.6 and 58 ppm, respectively. However, the As (up to 383.4 ppm), Tl (up to 3.4 ppm) and Mo (up to 56.8 ppm) concentrations for these samples are an order of magnitude greater than most of the other sulphide core samples that were analyzed.

Tables B1 and B2, Appendix B, provide a list of core samples and their analytical data, respectively. However, Table B1 does not represent all core samples that were collected from the 2002 core program; other samples were submitted for isotopic analyses as mentioned above.

A comparison of trace element data for the core samples obtained during the 2002 core-logging program, with trace element data compiled from various sources for carbonates and associated non-clastic lithologies in northern Alberta, can be made by inspection of Table B2 in Appendix B, and Table C1 in Appendix C, respectively. A comparison of the Zn and Pb results in Tables B2 and C1 shows that, in the case of Zn, the core samples from the 2002 core program fall within the lower range of zinc concentrations reported for carbonates in northern Alberta. In contrast, the Pb results for the core samples reported on in this publication are more similar to the characteristic Pb concentrations reported for carbonates in northern Alberta.

4 Discussion

None of the wells examined during the 2002 core program contains classic MVT features, such as significant thicknesses of collapse breccia with hydrothermal dolomite, that characterize the deposits at the closed Pine Point mine on the southern shore of Great Slave Lake in the southern Northwest Territories.

The sulphides seen in core, with one exception, comprise small amounts of pyrite filling small fractures, and as nodules and stratification-parallel pyrite accumulations, often associated with fossil detritus.

The only significant amount of pyrite found is associated with fault-controlled breccia and synchronous coarse calcite infilling across approximately 1 m, at 256 to 257 m depth, in Jean Marie Member, Redknife Formation dolostone in well Calstan Senex 4-3-100-7 (04-03-100-07W5). This pyritiferous zone is not associated with anomalous Pb or Zn concentrations, but is associated with elevated amounts of As (up to 383.4 ppm), Tl (up to 3.4 ppm) and Mo (up to 56.8 ppm) that are an order of magnitude greater than most surrounding tabulated data for other core samples.

Appendix D contains selected core photos of the brecciated interval in well Calstan Senex 04-03-100-07W5.

5 Conclusions

The wells examined during the 2002 core-logging program found no features that would support or indicate the possibility for an important MVT Pb-Zn deposit in Devonian carbonates in northeastern Alberta. The most interesting feature was the narrow pyritiferous breccia found in well Calstan Senex 04-03-100-07W5.

These results could indicate the probability for an important MVT deposit to be low, but it must be remembered that any attempt to evaluate the MVT Pb-Zn potential of northeastern Alberta is plagued by the problem of very poor exposure. As well, the large area of carbonates that underlie Wood Buffalo National Park, with their favourable structural and basin margin position, are nonetheless excluded from meaningful investigation due to being within a national park. Finally, the amount of rock available for examination and sampling from existing well core is extremely small.

Therefore, although the 2002 core program looked at a large number of wells, the relative areal sparseness of the data gathered indicate it cannot be considered as representative of the large area involved. Further, even though the results in this report are not particularly supportive of an important MVT deposit being present in the carbonates in northeastern Alberta, the regions carbonate-hosted base metal potential remains poorly evaluated and, thus, a blind MVT deposit may well exist.

6 References

Machel, H.G. and Hunter, I.G. (1994): Facies models for Middle to Late Devonian shallow-marine carbonates, with comparisons to modern reefs: a guide for facies analysis; Facies, v. 30, p. 155-176.

Rice, R.J. (2003): The carbonate-hosted Pb-Zn (MVT) project for northern Alberta - background and year one summary: a contribution to the carbonate-hosted Pb-Zn (MVT) Targeted Geoscience Initiative; Alberta Energy and Utilities Board, EUB/AGS Geo-Note 2002-19, 13 p.

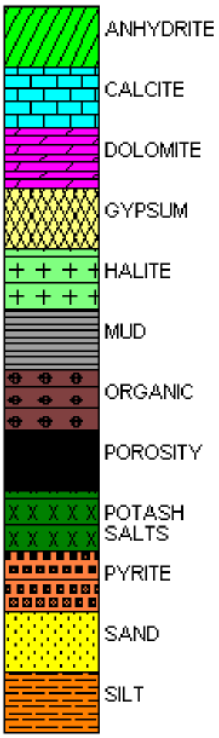
Waters, E. J. and Rice, R. J. (2003): A GIS summary of field data gathered during year one (2001) of the carbonate-hosted Pb-Zn (MVT) project for northern Alberta: a contribution to the carbonate-hosted Pb-Zn (MVT) Targeted Geoscience Initiative; Alberta Energy and Utilities Board, EUB/AGS Geo-Note 2002-22.

Appendix A – Core Logs

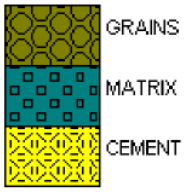
Core logs produced during the 2002 core program are presented in this section. The legend for these core logs is presented as Figure 2. The reefal facies scheme for Middle to Late Devonian shallow-marine carbonates of Machel and Hunter (1994) that was used for carbonate facies identification is presented as Figure 3.

Abbreviations

Lithology



Rock Composition



Diagenesis/Tectonic Feature

Af –	Acicular fringe
Anhy –	Anhydrite nodules
B-e –	Bird's eyes
Bit –	Bituminous/bitumen
Brec –	Brecciation
BX –	Breccia
Cc –	Calcite cement
Dol –	Dolomite
Doln –	Dolomitization
Dolsp –	Dolospar
Dol lyr –	Thin dolomite layers
Ds –	Dissolution seams
Fr –	Fractures
Fr-anhy –	Fracture filling anhydrite
Lch –	Leaching
Lm nod –	Limestone nodules/irregular horizon
Msh –	Mesh of needles
Py -	Pyrite
Rs –	Rust stain
Rxtyl –	Recrystallization
SHR –	Shear
SL –	Slickenlines
Sp cc –	Sparry calcite
Styl –	Stylolites

Nature of Contact

B –	Gradational Interbedded
BU –	Burrowed
D -	Disconformity
FLT -	Faulted
G –	Gradational
NC –	Nonconformity
NO –	Not Observed
S –	Sharp
SC –	Sharp Conformable
SD –	Sharp Disconformable
SI –	Sharp Irregular
ST –	Stylolite
U –	Unconformity
VS –	Visibly Scoured

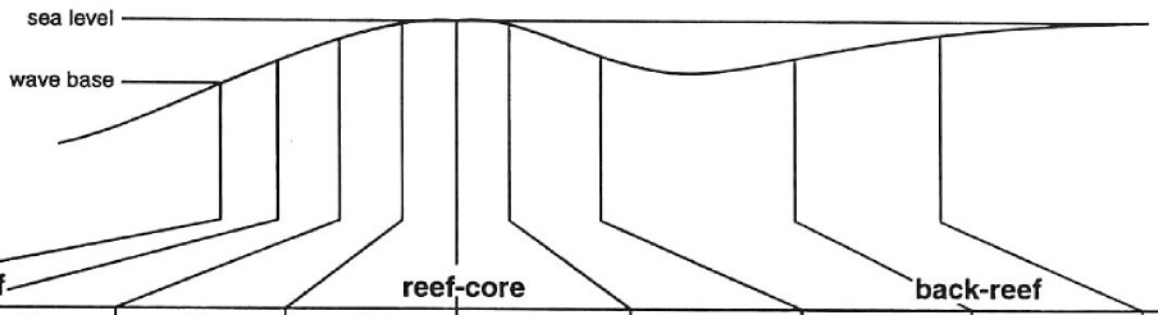
Cement Type

A – Anhydrite
B – Bitumen
C – Calcite
D – Dolomite
G – Gypsum
H – Halite
S – Silica

Colour

B -	Brown
LB –	Light Brown
MB –	Medium Brown
DB –	Dark Brown
Bk -	Black
G –	Grey
LG –	Light Grey
MG –	Medium Grey
DG –	Dark Grey
Gn -	Green
LGn –	Light Green
MGn –	Medium Green
DGn –	Dark Green
O -	Orange
LO –	Light Orange
MO –	Medium Orange
DO –	Dark Orange
Prpl -	Purple
R -	Red
LR –	Light Red
MR –	Medium Red
DR –	Dark Red
T -	Translucent
Tr -	Transparent
W -	White
Y –	Yellow
LY –	Light Yellow
MY –	Medium Yellow
DY -	Dark Yellow

Figure 2. Core log legend for wells examined during the 2002 core program.



FACIES ZONE	If	IIf	IIIf	IVf	IV/V	V	IVb	IIIb	IIb	Ib
WATER ENERGY	quiet water below wave base negligible turbulence	intermittently agitated water episodic turbulence	slightly agitated water moderate turbulence	moderately agitated water strong turbulence	strongly agitated water strong turbulence		moderately agitated water strong turbulence	slightly agitated water moderate turbulence	intermittently agitated water episodic turbulence	intermittently agitated water episodic turbulence
ROUNDING	mostly original fossil shapes	poor to good	moderate to good	good to moderate	very good to moderate		good to moderate	moderate to good	poor to good	mostly original fossil shapes
SORTING	angular fragments if broken	matrix: good fossils:poor to good	matrix: moderate fossils: moderate to good	good to moderate	matrix: moderate fossils: poor		good to moderate	matrix: moderate fossils: moderate to good	matrix: good fossils:poor to good	angular fragments if broken
TEXTURE	packstone grainstone wackestone	packstone grainstone rare floatstone	floatstone grainstone rare rudstone	rudstone bafflestone	rudstone bindstone rare grainstone	bindstone framestone rudstone	rudstone bafflestone	floatstone grainstone rare rudstone	packstone grainstone	mudstone wackestone
AMOUNT OF MICRITE	primary micrite increasing ◀◀◀				fibrous calcite, sparite, micrite		▶▶▶ primary micrite increasing			
POROSITY TYPES	intraparticle	intraparticle interparticle	interparticle shelter voids intraparticle	shelter voids growth framework interparticle	shelter voids interparticle	shelter voids growth framework interparticle	shelter voids growth framework interparticle	shelter voids intraparticle interparticle	intraparticle interparticle fenestral	intraparticle fenestral
SIZE OF PORES		small	medium to small	medium to small	large to medium	medium to small	medium to small	medium to small	small	
AMOUNT OF POROSITY	below 10%	up to 10% but mostly below 5%	up to 15%	up to 10%	up to 25%	up to 10%	up to 40%	up to 10%	up to 20%	up to 30%
FOSSIL ASSEMBLAGE	calcipheres foraminifers	small crinoids	large crinoids	tabulate corals *Stachyodes* brachiopods crinoids	crinoids tabular stromatoporoids	bulbous & massive stromatoporoids	*Stachyodes* *Girvanella* *Renalcis*	*Amphipora* *Parathurammina* ostracods	algae (fenestral pores = "birdseyes")	algae (fenestral laminites)
INDICATOR FOSSILS	crinoids / goniatites / brachiopods				crinoids *Solenopora* *Keega*		*Amphipora* / calcispheres / *Parathurammina* / *Vermiporella* / encrusting *Sphaerocodium*			
CARBONATE FACIES TYPE	fossil-poor wackestone and mudstone	crinoid-stromatoporoid floatstone, grainstone, packstone	crinoid-stromatoporoid floatstone and rudstone	*Stachyodes*-coral-stromatoporoid baffle- and rudstone	stromatoporoid-coral bindstone and rudstone	stromatoporoid framestone and bindstone	*Stachyodes* rudstone, bafflestone and floatstone	*Amphipora* floatstone, grainstone, rare rudstone	fossil poor packstone and wackestone	fenestral laminite mudstone and wackestone

Figure 3. Reefal facies model scheme for Middle to Late Devonian Shallow marine carbonates from Machel and Hunter, 1994.

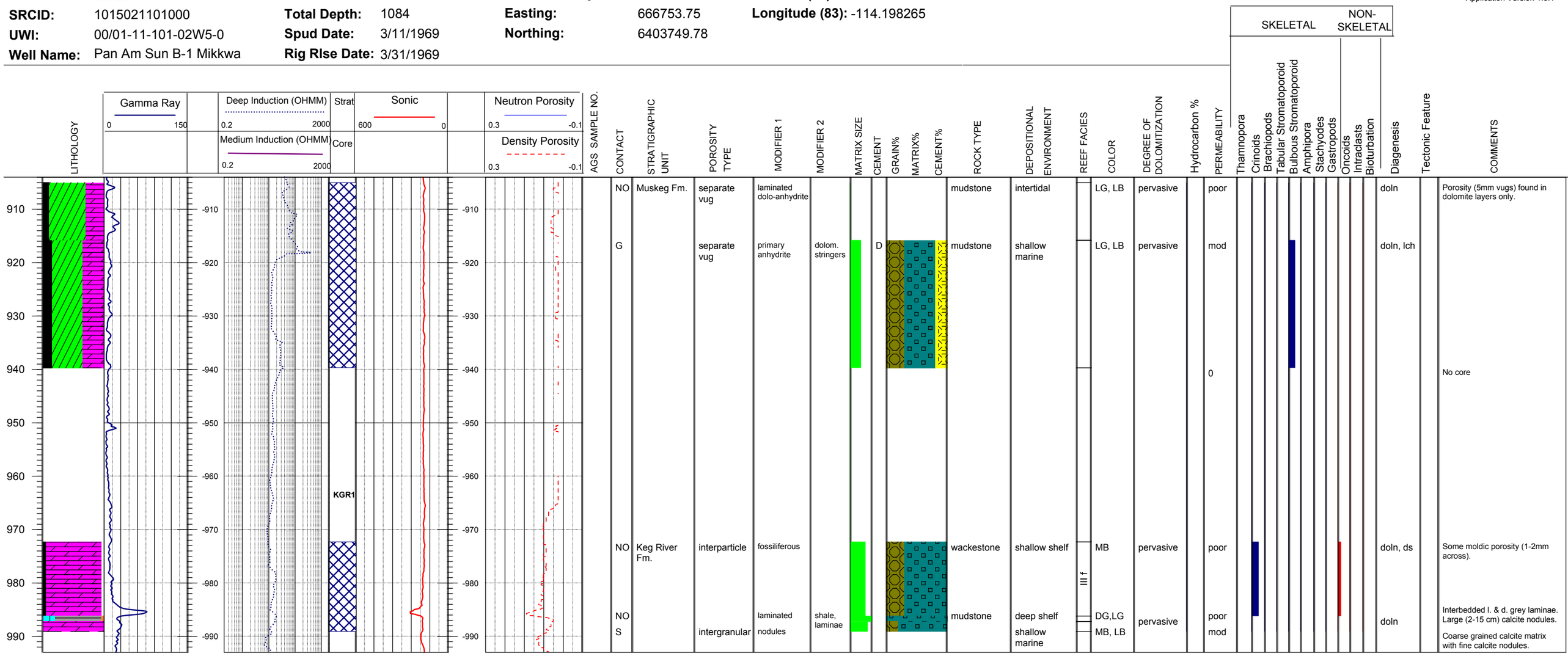
SITID: 126251
SRCID: 1015021101000
UWI: 00/01-11-101-02W5-0
Well Name: Pan Am Sun B-1 Mikkwa

KB Elevation: 421.8
Total Depth: 1084
Spud Date: 3/11/1969
Rig Rlse Date: 3/31/1969

Coordinate System: UTM NAD 27
Easting: 666753.75
Northing: 6403749.78

Latitude (83): 57.746716
Longitude (83): -114.198265

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	separate vug	laminated dolo-anhydrite							mudstone	intertidal		LG, LB	pervasive		poor												doln		Porosity (5mm vugs) found in dolomite layers only.
		G		separate vug	primary anhydrite	dolom. stringers		D				mudstone	shallow marine		LG, LB	pervasive		mod												doln, lch		
																		0														No core
		NO	Keg River Fm.	interparticle	fossiliferous							wackestone	shallow shelf	III f	MB	pervasive		poor												doln, ds		Some moldic porosity (1-2mm across).
		NO			laminated	shale, laminae						mudstone	deep shelf		DG,LG	pervasive		poor												doln		Interbedded l. & d. grey laminae. Large (2-15 cm) calcite nodules.
		S		intergranular	nodules								shallow marine		MB, LB			mod														Coarse grained calcite matrix with fine calcite nodules.

SitID: 123516 **KB Elevation:** 318.6 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.0773

SRCID: 0934112201AA0 **Total Depth:** 125.1 **Easting:** 459183.58 **Longitude(83):** -111.67423

UWI: AA/01-22-093-11W4/0 **Spud Date:** 2/28/1985 **Northing:** 6325966.72

Well Name: Syn Atha #27-42-0-0 OV 1-22 **Rig RIse Date:** 2/28/1985

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
114																																																	
115																																																	
116																																																	
117																																																	
118			McMurray Fm.																0																														Non-calcareous siltst/mdst unit at base of McMurray.
119																																																	
120	3792	D			laminated	trace pyrite						mudstone	shallow shelf		LG				0																												py		1. Mildred Mbr, Waterways Fm. 2. Sample 3792 from Py horiz 2.5 cm thick at top Mildred at disconformity with McMurray. 3. Non-calcarerous unit not present in Mildred here. 4. Other Py horiz in Mildred.
121																																																	
122																																																	
123		G	Waterways Fm.		nodules							wackestone	reef		LG				0																												py		1. Slightly nodular Moberly Mbr lmst.
124														IV f																																			
125																																																	

SitID: 123516
SRCID: 0954122701AA0
UWI: AA/01-27-095-12W4/0
Well Name: SUPTST 2-73-3c Atha OV 1-27-95-12

KB Elevation: 331
Total Depth: 102.1
Spud Date: 1/21/1973
Rig RIse Date: 1/22/1973

Coordinate System: UTM NAD 27
Easting: 448702.32
Northing: 6347141.15

Latitude (83): 57.266327
Longitude(83): -111.850502

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														
		D	Waterways Fm.		limestone nodules	trace pyrite						wackestone	reef	II f	LG				0																														fr, py		1. Py in some lmst nodules. 2. Oil stained horiz in carb to 98.23 m. 3. Decalcified top to 98.87 m. 4. Moberly Mbr. 5. Fe precip at disconformity.

96
97
98
99
100
101
102

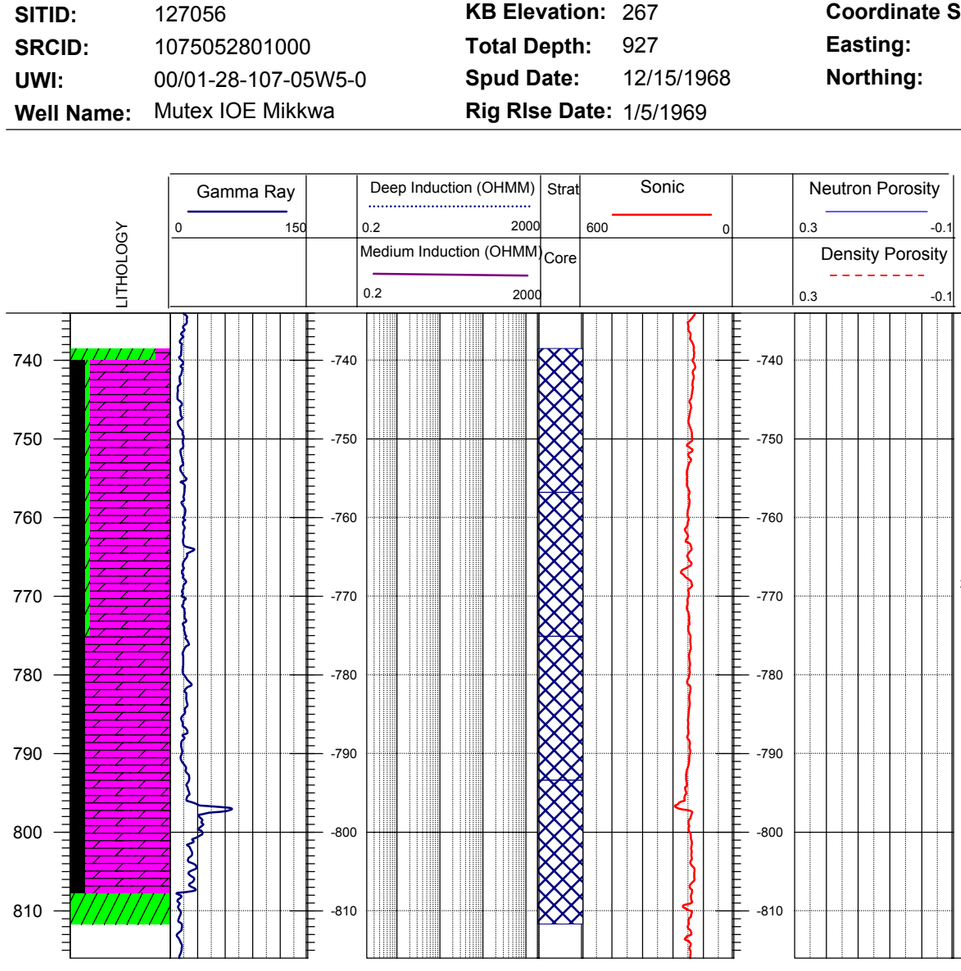
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SRCID: 1075052801000
UWI: 00/01-28-107-05W5-0
Well Name: Mutex IOE Mikkwa

KB Elevation: 267
Total Depth: 927
Spud Date: 12/15/1968
Rig RIse Date: 1/5/1969

Coordinate System: UTM NAD 27
Easting: 631451.30
Northing: 6465697.30

Latitude (83): 58.314423
Longitude (83): -114.756256

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Muskeg Fm.	none identified									shallow marine	II f	LG			0												fr, py		Minor laminated dolostone; secondary anhydrite replacing dolostone increases downward.
		G	Keg River Fm.	intergranular	fossiliferous	petroleum staining						wackestone	reef		LB	partially		0														Secondary dolomite; local anhydrite; crinoids & other fossils.
	3762			interparticle	petroleum staining							wackestone	reef	III f	LB	partially		0														2nd dolomite; crinoids & other fossils; petrol stain to 795 m.
		G	Chinchaga Fm.	none identified	laminated								intertidal		B			0														Primary anhydrite.

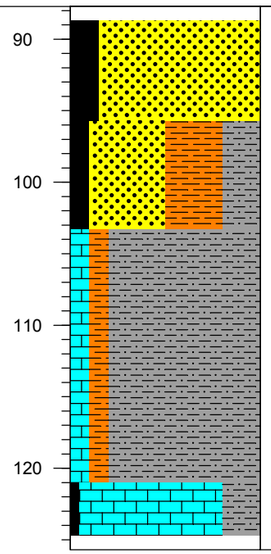
SitID: 119058 **KB Elevation:** 333.8 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.003738

SRCID: 0924092901AE0 **Total Depth:** 69.2 **Easting:** 475475.28 **Longitude(83):** -111.40374

UWI: AE/01-29-092-09W4/0 **Spud Date:** 8/21/1945 **Northing:** 6317662.09

Well Name: Test Hole #115 **Rig RIse Date:** 8/22/1945

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	McMurray Fm.	intergranular													shiny bitumen		0																															Cretaceous McMurray oilsands.
		G		intercrystal	siliceous										LB				mod																															Deeply weathered, rubbly marl.
		G	Waterways Fm.	none identified	siliceous								deep shelf		LGn-G				poor																													fr	SL	1. The slightly calc mdst at the top of the Waterways represents either a shoreline mdst or alteration of the carbonate associated with the unconformity. 2. The mdst is faulted, slightly calcareous & without strat.
		G		fracture								mudstone	basin		LG				poor																												fr		Rubbly calcareous mudstone.

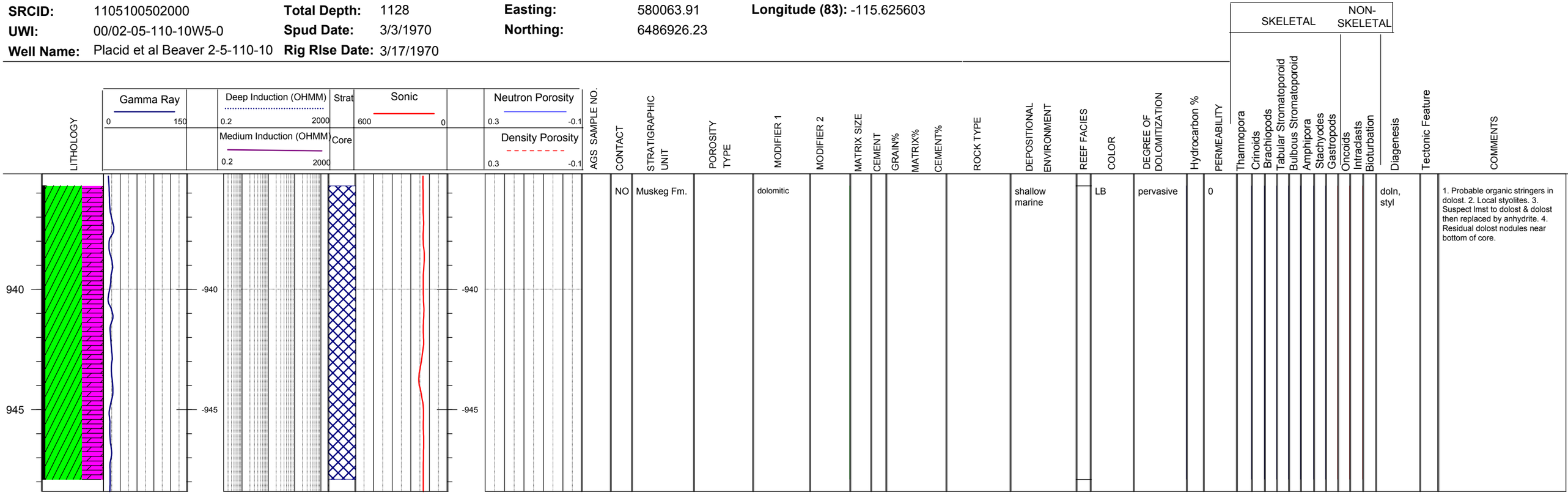
SITID: 127656
SRCID: 1105100502000
UWI: 00/02-05-110-10W5-0
Well Name: Placid et al Beaver 2-5-110-10

KB Elevation: 319.4
Total Depth: 1128
Spud Date: 3/3/1970
Rig Rlse Date: 3/17/1970

Coordinate System: UTM NAD 27
Easting: 580063.91
Northing: 6486926.23

Latitude (83): 58.517406
Longitude (83): -115.625603

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.		dolomitic								shallow marine		LB	pervasive		0												doln, styl		1. Probable organic stringers in dolost. 2. Local styolites. 3. Suspect lmst to dolost & dolost then replaced by anhydrite. 4. Residual dolost nodules near bottom of core.

SitID: 120439
SRCID: 0934072102AA0
UWI: AA/02-21-093-07W4/0
Well Name: Steepbank 2-75 OV 2-21

KB Elevation: 508.1
Total Depth: 253.6
Spud Date: 3/18/1975
Rig RIse Date: 3/19/1975

Coordinate System: UTM NAD 27
Easting: 496324.41
Northing: 6325663.04

Latitude (83): 57.076355
Longitude(83): -111.061531

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
240			McMurray Fm.																0																													McMurray Fm silty shale to siltst with coaly shale and roots; shale/siltst near unconformity showing slickenlines.
245		D	Waterways Fm.										wackestone	reef	IV f	LG			0																																Slightly nodular limestone; no sulfides.

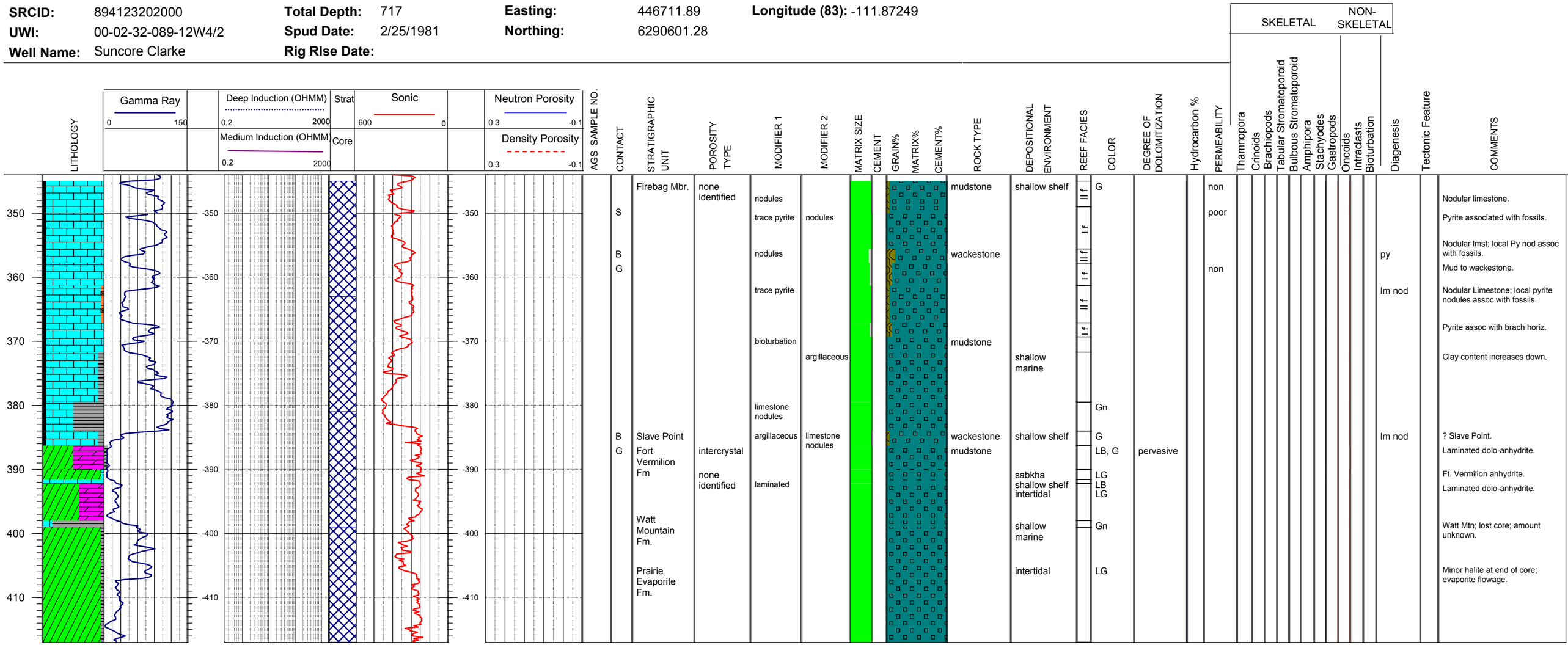
SITID: 117821
SRCID: 894123202000
UWI: 00-02-32-089-12W4/2
Well Name: Suncore Clarke

KB Elevation: 528.9
Total Depth: 717
Spud Date: 2/25/1981
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 446711.89
Northing: 6290601.28

Latitude (83): 56.75834
Longitude (83): -111.87249

Application Version 1.6.1



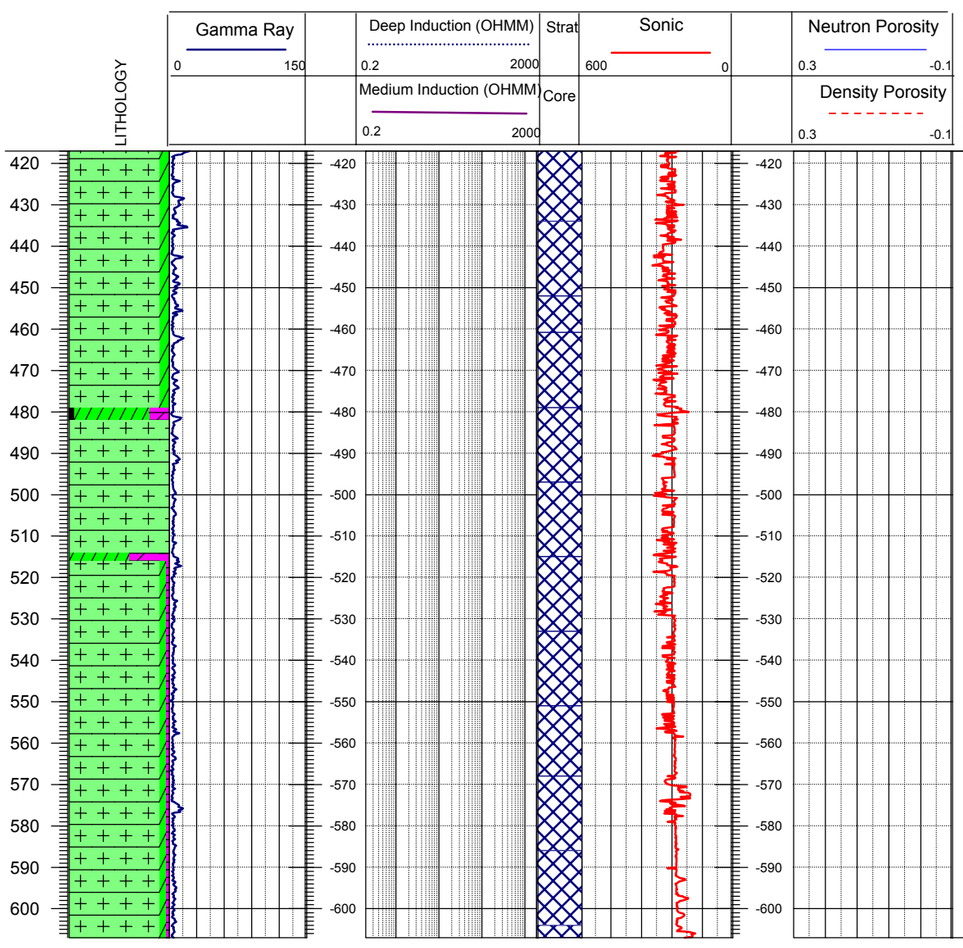
SITID: 117821
SRCID: 894123202000
UWI: 00-02-32-089-12W4/2
Well Name: Suncore Clarke

KB Elevation: 528.9
Total Depth: 717
Spud Date: 2/25/1981
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 446711.89
Northing: 6290601.28

Latitude (83): 56.75834
Longitude (83): -111.87249

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
					laminated dolo-anhydrite										LO-T	pervasive		non												ds		Massive crystalline halite. Rare laminated dolomite/anhydrite beds.
				interparticle											LO-Tr, LB	pervasive		poor														Burrow traces.
		S		none identified	anhydritic							mudstone	intertidal		MB-O, T			non														Massive crystalline halite. Rare laminated anhydrite.
					laminated dolo-anhydrite										LB, MG	pervasive																Primary laminated anhydrite and dolostone.
		G													LB, T	pervasive																Massively bedded halite, some anhydrite & dolostone beds.

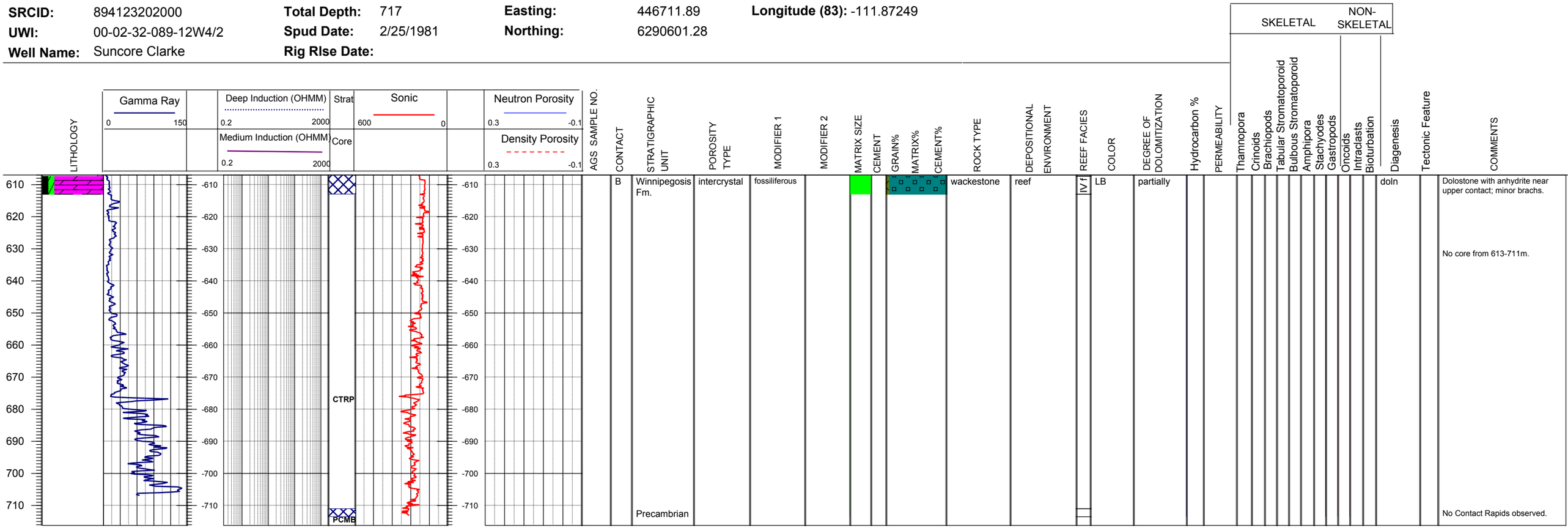
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SRCID: 894123202000
UWI: 00-02-32-089-12W4/2
Well Name: Suncore Clarke

KB Elevation: 528.9
Total Depth: 717
Spud Date: 2/25/1981
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 446711.89
Northing: 6290601.28

Latitude (83): 56.75834
Longitude (83): -111.87249

Application Version 1.6.1



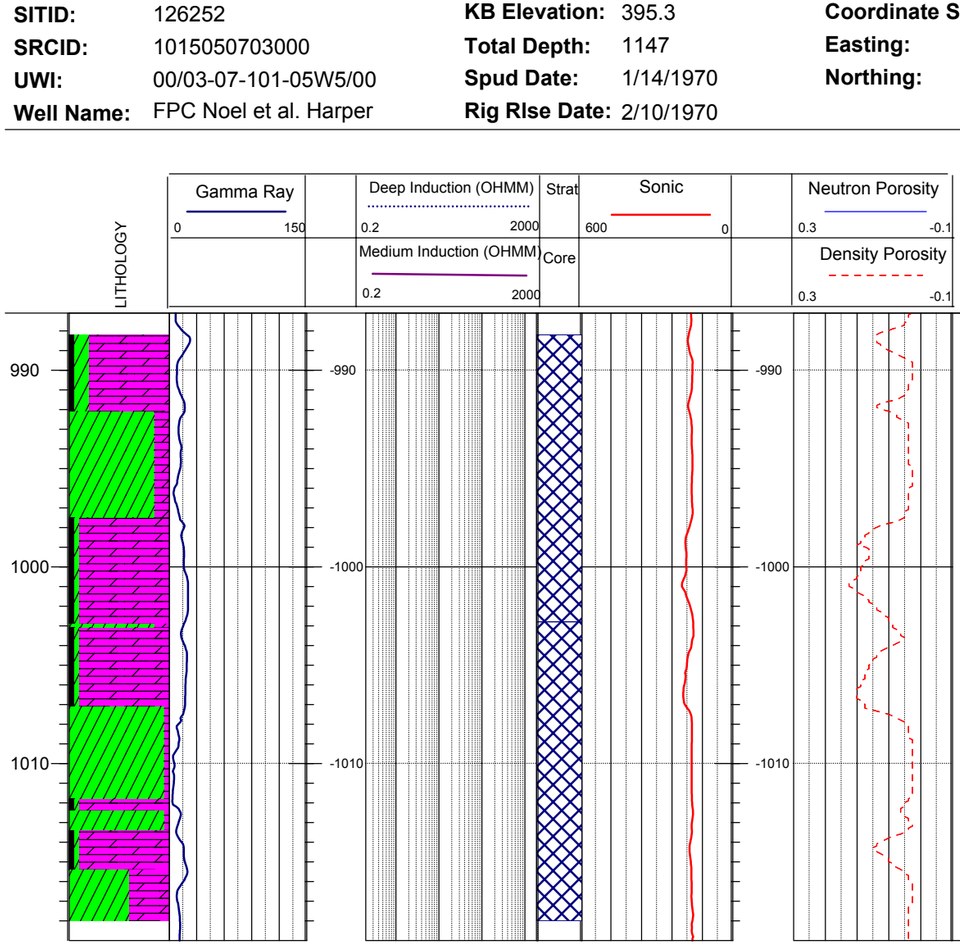
SITID: 126252
SRCID: 1015050703000
UWI: 00/03-07-101-05W5/00
Well Name: FPC Noel et al. Harper

KB Elevation: 395.3
Total Depth: 1147
Spud Date: 1/14/1970
Rig Rlse Date: 2/10/1970

Coordinate System: UTM NAD 27
Easting: 630294.37
Northing: 6402360.69

Latitude (83): 57.7463090022162
Longitude (83): -114.811012999798

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	intercrystal	mottled	anhydritic						mudstone	intertidal		LB	pervasive		mod												doln, anhy		Oil staining along bedding planes.
		S													LG, LB			poor														Anhydrite nodules replacing most dolomite matrix.
		NO		intercrystal	mottled	anhydritic									LB			mod														Oil staining along bedding planes.
		S		intercrystal	mottled	anhydritic									LG, LB			poor												anhy, doln		Anhydrite nodules replacing most dolomite matrix.
		NO													LB			mod														Oil staining along bedding planes.
		S													LG, LB			poor												anhy, doln		Anhydrite nodules replacing most dolomite matrix.
		NO		intercrystal	mottled	anhydritic																										
		S										mudstone	intertidal		LG, LB	pervasive		poor												anhy, doln		Anhydrite nodules replacing most dolomite matrix.

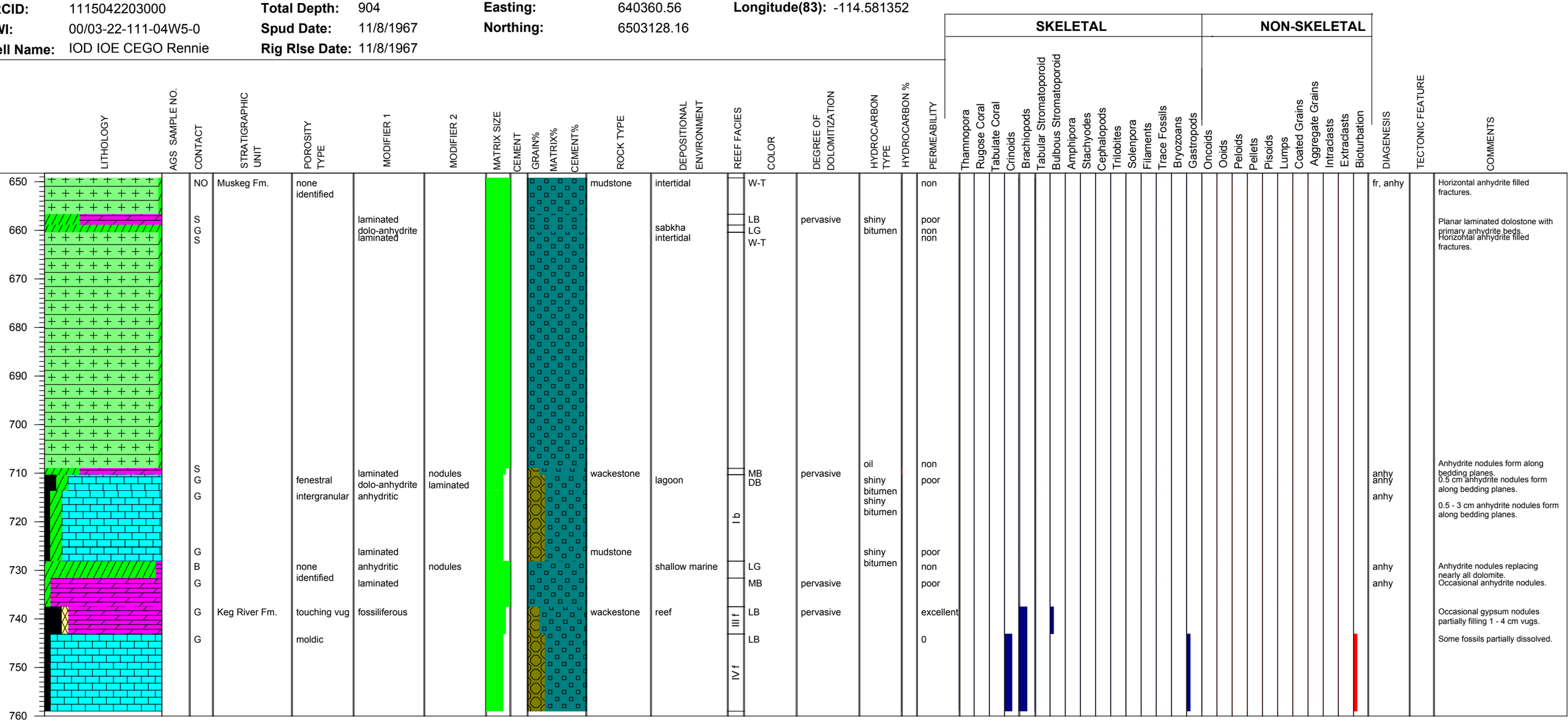
SitID: 127909 **KB Elevation:** 324.6 **Coordinate System:** UTM NAD 27 **Latitude (83):** 58.647545

SRCID: 1115042203000 **Total Depth:** 904 **Easting:** 640360.56 **Longitude(83):** -114.581352

UWI: 00/03-22-111-04W5-0 **Spud Date:** 11/8/1967 **Northing:** 6503128.16

Well Name: IOD IOE CEGO Rennie **Rig RIse Date:** 11/8/1967

Application Version 1.6.1



SitID: 126636
SRCID: 1045122603000
UWI: 00/03-26-104-12W5/0
Well Name: Amoco ICG Tall Creek

KB Elevation: 321
Total Depth: 1225
Spud Date:
Rig RIse Date: 1/24/1985

Coordinate System: UTM NAD 27
Easting: 566663.02
Northing: 6434982.34

Latitude (83): 58.05322
Longitude(83): -115.87054

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
1100			NO	Keg River Fm.	intercrystal	fossiliferous							mudstone	reef	II f	LB, W	pervasive			poor																														Light Brown dolostone with scattered grains. Some organic material collected along dissolution seams.
1110			NO	Keg River Fm.	separate vug	fossiliferous	coarse dolom. nodules						mudstone	reef	II f	MB	pervasive			poor																														Light Brown dolostone with scattered grains. Some organic material collected along dissolution seams. Few 5 mm isolated vugs.

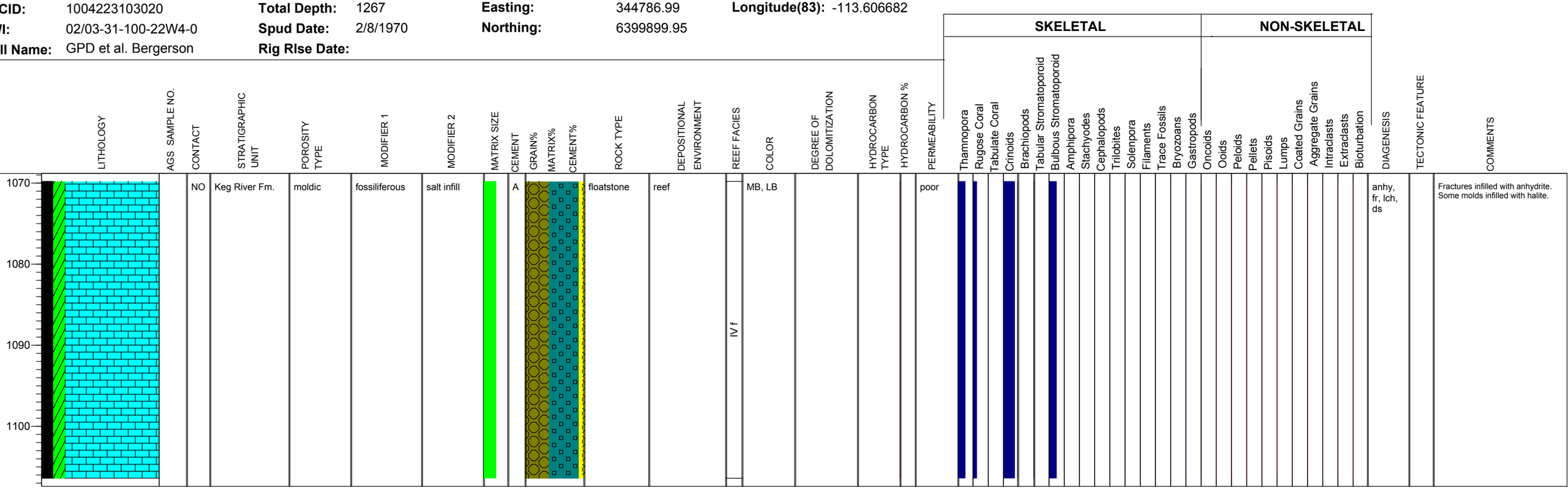
SitID: 126168
SRCID: 1004223103020
UWI: 02/03-31-100-22W4-0
Well Name: GPD et al. Bergerson

KB Elevation: 716.6
Total Depth: 1267
Spud Date: 2/8/1970
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 344786.99
Northing: 6399899.95

Latitude (83): 57.716415
Longitude(83): -113.606682

Application Version 1.6.1



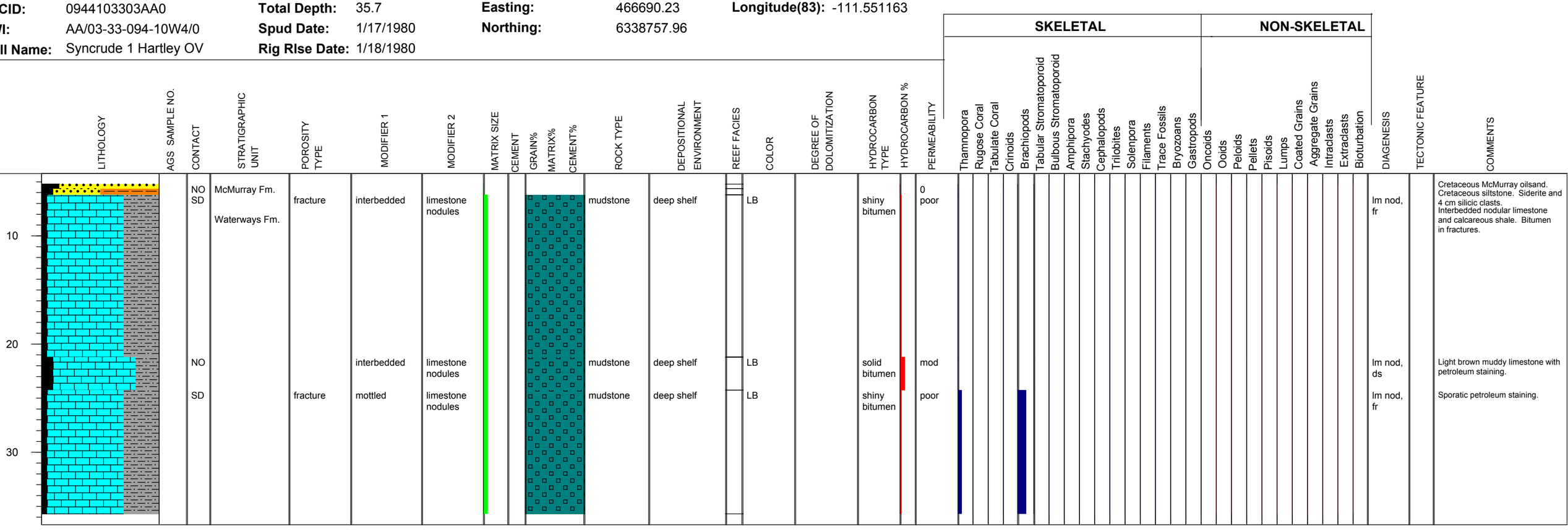
SitID: 122091 **KB Elevation:** 281.5 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.192688

SRCID: 0944103303AA0 **Total Depth:** 35.7 **Easting:** 466690.23 **Longitude(83):** -111.551163

UWI: AA/03-33-094-10W4/0 **Spud Date:** 1/17/1980 **Northing:** 6338757.96

Well Name: Syncrude 1 Hartley OV **Rig RIse Date:** 1/18/1980

Application Version 1.6.1



SitID: 126175
SRCID: 1005070304000
UWI: 00/04-03-100-07W5-0
Well Name: Calstan Senex Creek 4-3-100-7

KB Elevation: 405.4
Total Depth: 1223
Spud Date: 2/5/1965
Rig RIse Date: 3/6/1965

Coordinate System: UTM NAD 27
Easting: 615595.28
Northing: 6390605.17

Latitude (83): 57.644802
Longitude(83): -115.063431

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Jean Marie		argillaceous	petroleum staining						wackestone	shallow marine		LB	partially																														dol, anhy, styl	SL	1. Jean Marie fltd above (248.9, 256 m), in (257.8 m) & below (260.1 m) mx int. (256.9-257.9 m). 2. Trace Py incr dwn; grn sh partings; dol incr dwn; one thin amphipora horiz - back reef.
	3774	G			other sulfides	sphalerite									MB	partially																													sp cc	SL,BX	1. Sulfides 1st & coarse calcite 2nd in core 3, box 2. 2. Sulfides & calcite along fault at 257.8 m. 3. Photos 103-108, 97-102 top to bottom of minx interval..
	3775 3776 3777	FLT			trace pyrite	minor anhydrite						mudstone			LB	partially																													anhy	SL	Limestone to dolomitic limestone; faulted at 260.1 m & 260.9 m.
																																															No core from 271.3 to 1105.2.

250
260
270

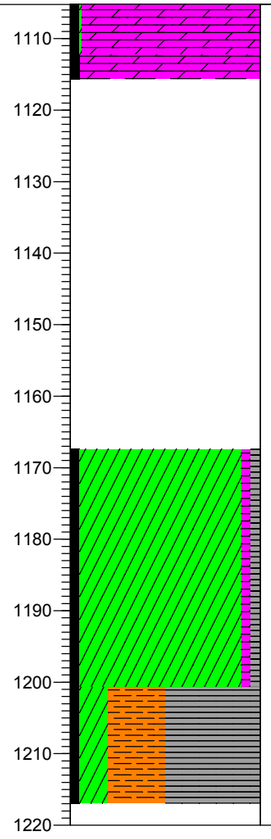
SitID: 126175 **KB Elevation:** 405.4 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.644802

SRCID: 1005070304000 **Total Depth:** 1223 **Easting:** 615595.28 **Longitude(83):** -115.063431

UWI: 00/04-03-100-07W5-0 **Spud Date:** 2/5/1965 **Northing:** 6390605.17

Well Name: Calstan Senex Creek 4-3-100-7 **Rig RIse Date:** 3/6/1965

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Keg River Fm.		petroleum staining	anhydritic						wackestone	reef	IV b	LB	pervasive	solid bitumen																																	Sporadic amphipora; probable petroleum stain along fractures.
		G			petroleum staining									IV/V	LB	pervasive	solid bitumen																															doln, bit		Also some shell debris. No core from 1115.6 to 1167.4.
		NO	Chinchaga Fm.		laminated dolo-anhydrite	argillaceous							intertidal		LG																																dol lyr, fr		Minor remobilization of anhydrite.
		G	Basal Red Beds		anhydritic										LR																																		Red beds with some interstrat anhydrite; some caliche developed.
		NC	Precambrian																																												Thin (1-2 cm) paleosol on PC

SitID: 124109
SRCID: 0964090704AA0
UWI: 00/04-07-096-09W4/0
Well Name: Alsands 18 Hangst OV

KB Elevation: 296.4
Total Depth: 119.8
Spud Date: 2/25/1981
Rig RIse Date: 2/26/1981

Coordinate System: UTM NAD 27
Easting: 471910.42
Northing: 6351913.55

Latitude (83): 57.31121
Longitude(83): -111.46628

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	McMurray Fm.	intergranular															0																													Cretaceous McMurray sandstone.
																																															No core.
110																																																
		NO	Beaverhill Lake Fm.	fracture	nodules	trace pyrite						mudstone	shallow marine		LG-Prpl				poor																														Purple stained shale.
	3785																		0																													No core.
	3786	NO		fracture	nodules	trace pyrite						mudstone	shallow marine		LG				poor																												lm nd		
																			0																													No core.
		NO	McMurray Fm.	intergranular											MB				0																													Cretaceous McMurray sandstone.
		SD	Waterways Fm.	fracture	nodules	trace pyrite						mudstone	shallow marine		LG				poor																												py, fr		Limestone with pyrite nodules
120																																															

SitID: 125586
SRCID: 975020804000
UWI: 00/04-08-097-02W5-0
Well Name: Shell et al Senex

KB Elevation: 591.6
Total Depth: 1273
Spud Date: 1/28/1973
Rig RIse Date: 2/20/1973

Coordinate System: UTM NAD 27
Easting: 662649.57
Northing: 6364731.76

Latitude (83): 57.398136
Longitude(83): -114.293259

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
1200			NOG	Keg River Fm.	intercrystal								wackestone	reef	III f	LB	matrix dolomite			mod																												doln, ds doln, ds, fr		Light brown dolostone. Light brown dolostone with scattered 10 - 15 mm vugs.
															II f																																				
			G		intercrystal	dolom. stringers	mottled						mudstone		III f	LB-G	pervasive			mod																													doln, ds		Dolomititzed early diagenetic limestone nodules and coarser dolomite stringers.
1210																																																	

SitID: 324218
SRCID: 0994061204AC0
UWI: AC/04-12-099-06W4/0
Well Name: Synenco 01-74 NLP 04-12-99-6

KB Elevation:
Total Depth: 70.15
Spud Date:
Rig RIse Date: 2/3/2001

Coordinate System: UTM NAD 27
Easting: 509031.79
Northing: 6380849.7

Latitude (83): 57.5719092056802
Longitude(83): -110.849004926777

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
30			U	McMurray Fm.																0																												
40			NC	Firebag Mbr.		calcareous	rootlets						mudstone	shallow marine		LG																																			Paleosol at top Firebag Mbr., Waterways Fm.
50																				0																												Paleosol cont'd; 2-3 boxes missing core; assume 2 missing (3m).
						calcareous	rootlets						mudstone	shallow marine		LG																																	Paleosol at top Firebag cont'd; possible rootlets.
			G			argillaceous	laminated						wackestone	reef	IV f	LG				0																											bit, brec	Locally laminated to bedded; locally brecciated.
						argillaceous	wavy laminations						mudstone	shallow shelf		LG				0																											bit, brec	1 box missing core. Possible algal laminations.
60			U	collapse breccia		argillaceous	bitumen stained						wackestone	shallow marine		LG				0																											bit, brec	Missing core; assume 1 box (1.5 m); assume at base Firebag rather than top collapse bx. Brachs locally in some clasts.
						argillaceous	wavy laminations						mudstone	shallow marine		LG				0																											bit, brec	1 box missing core. Possible algal lam in some clasts.
70						argillaceous	laminated						mudstone	shallow marine		LG				0																											bit, brec	1 box missing core. 1. Some clasts with lam to wavy lam or brachs. 2. Non-bx wackestone interval with brachs at base of collapse bx.

SitID: 120437
SRCID: 0934071404AA0
UWI: 00/04-14-093-07W4/0
Well Name: Steepbank 1-75 OV 4-14

KB Elevation: 509.6
Total Depth: 235
Spud Date: 7/3/1975
Rig RIse Date: 8/3/1975

Coordinate System: UTM NAD 27
Easting: 498734.88
Northing: 6324143.30

Latitude (83): 57.06261
Longitude(83): -111.02086

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
224			McMurray Fm.					0											0																													
225		D	Waterways Fm.		limestone nodules			0				wackestone	reef		LG				0																												fr, py		1. 3790 - Purplish, non-calc sh/mdst in flt'd contact with underlying Waterways lmst; Py in lmst rimmed below flt.; again purplish unit is top unit in Waterways. 2. 3791 - Py along fract in Waterways lmst. 3. More Py along fract below 3791.
226																																																
227	3790																																															
228	3791													IV f																																			
229																																																
230																																																

SitID: 276723
SRCID: 0954111404AA0
UWI: AA/04-14-095-11W4/0
Well Name: Amoco Ings

KB Elevation: 297.9
Total Depth: 68.9
Spud Date: 2/13/1999
Rig RIse Date: 2/14/1999

Coordinate System: UTM NAD 27
Easting: 458763.57
Northing: 6343596.83

Latitude (83): 57.23562
Longitude(83): -111.68405

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	DIAGENESIS	TECTONIC FEATURE	COMMENTS
61			NO	McMurray Fm.		rootlets														0			Basal McMurray shale.
62			NO		intergranular	fossiliferous							floatstone	reef	IV b	LB, DB		oil		mod			Amphipora floatstone.
63																							
64			NO	Moberly Mbr.		limestone nodules							packstone	reef	II b	LB				poor	lm nod, fr		
65																							
66			SD		intergranular	fossiliferous							floatstone	reef	IV b	LB, DB		oil		mod	fr		Amphipora floatstone.
67																							
68																							
69																							

SKELETAL: Thamnopora, Rugose Coral, Tabulate Coral, Crinoids, Brachiopods, Tabular Stromatoporoid, Bulbous Stromatoporoid, Amphipora, Stachyodes, Cephalopods, Trilobites, Solenpora, Filaments, Trace Fossils, Bryozoans, Gastropods

NON-SKELETAL: Oncoids, Ooids, Peloids, Pellets, Pisoids, Lumps, Coated Grains, Aggregate Grains, Intraclasts, Extraclasts, Bioturbation

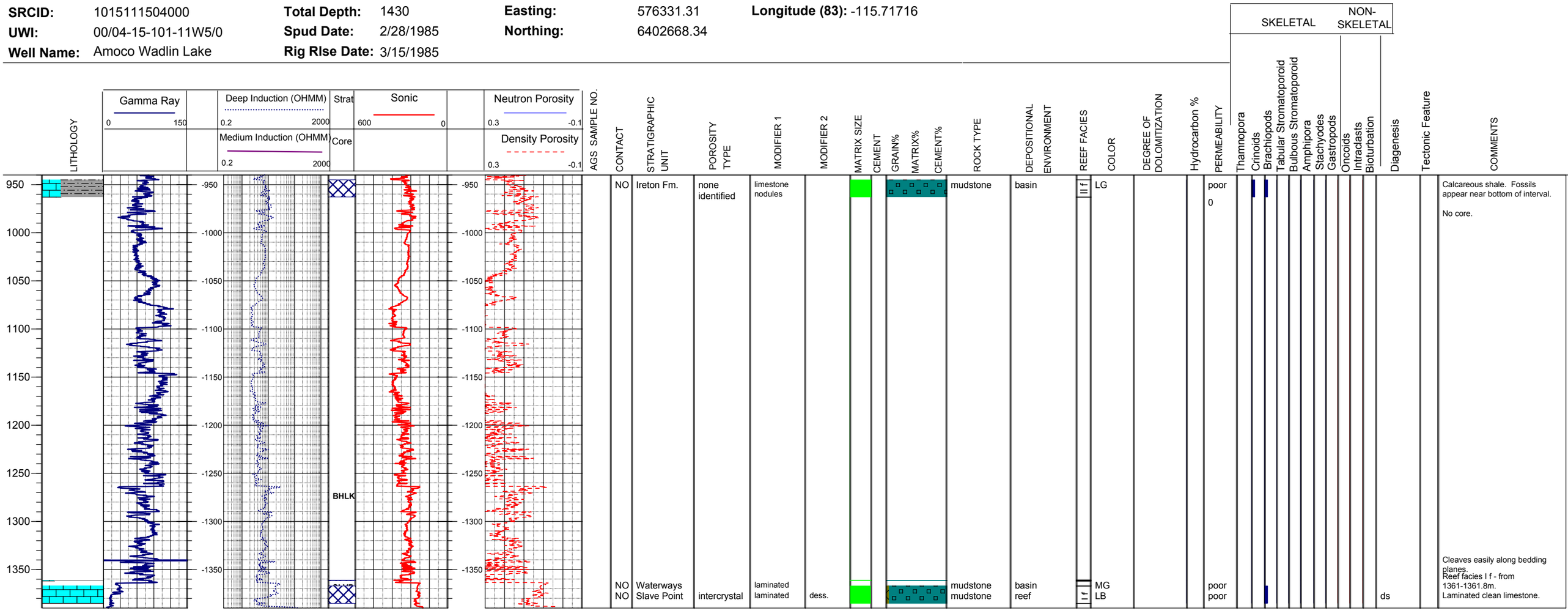
SITID: 126258
SRCID: 1015111504000
UWI: 00/04-15-101-11W5/0
Well Name: Amoco Wadlin Lake

KB Elevation: 824.2
Total Depth: 1430
Spud Date: 2/28/1985
Rig Rlse Date: 3/15/1985

Coordinate System: UTM NAD 27
Easting: 576331.31
Northing: 6402668.34

Latitude (83): 57.76149
Longitude (83): -115.71716

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Ireton Fm.	none identified	limestone nodules							mudstone	basin	II f	LG			poor 0														Calcareous shale. Fossils appear near bottom of interval. No core.
		NO	Waterways	intercrystal	laminated	dess.						mudstone	basin		MG			poor												ds		Cleaves easily along bedding planes.
		NO	Slave Point		laminated							mudstone	reef	I f	LB			poor														Reef facies I f - from 1361-1361.8m. Laminated clean limestone.

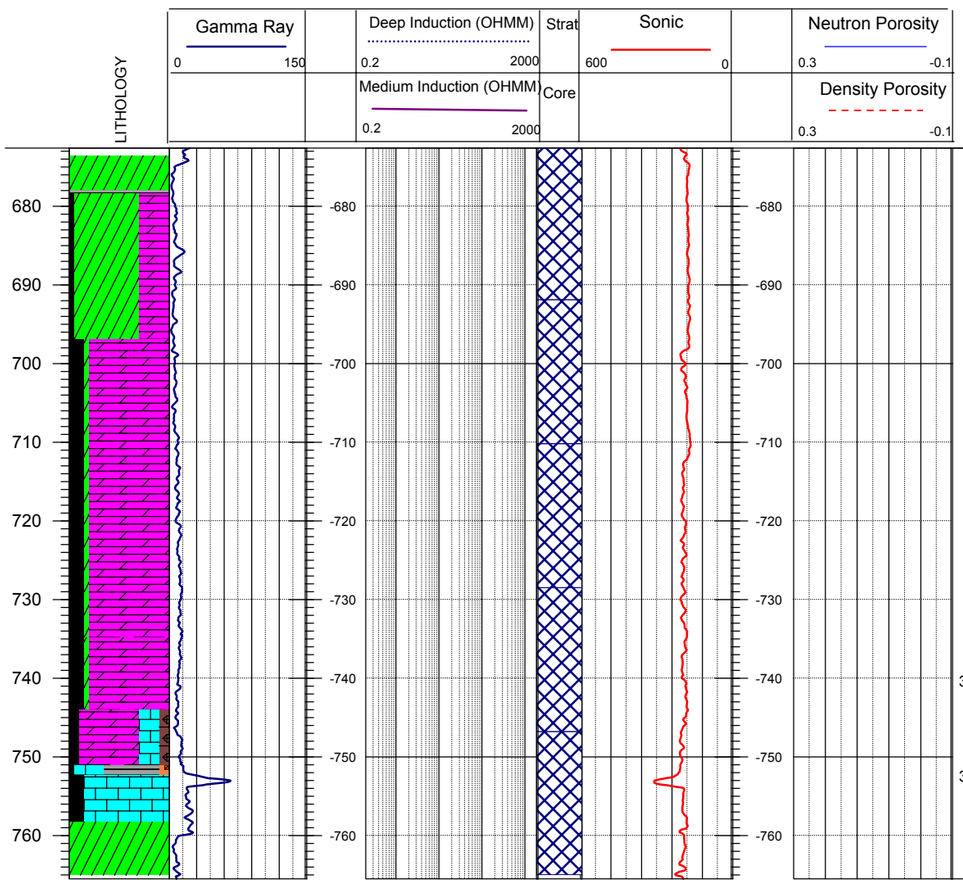
SITID: 126624
SRCID: 1045012604000
UWI: 00/04-26-104-01W5-0
Well Name: Mutex IOE Edra

KB Elevation: 291.1
Total Depth: 856
Spud Date: 12/26/1968
Rig Rlse Date: 1/11/1969

Coordinate System: UTM NAD 27
Easting: 673880.20
Northing: 6438046.23

Latitude (83): 58.051662
Longitude (83): -114.053619

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Muskeg Fm.		dolom. stringers	primary anhydrite						mudstone	basin		Bk			poor												doln		Black laminated fissile shale.
		S		interparticle	dolom. stringers	primary anhydrite							intertidal		LG, LB	pervasive		poor												doln		Rare stromatolites.
		G	Keg River Fm.	touching vug	bituminous	anhydritic						wackestone	shallow marine		LB	pervasive		poor												doln, fr, anhy		5 - 10 mm vugs, extensive bitumen staining.
		G		separate vug	trace pyrite	anhydritic		D					shallow marine	III f	LB	pervasive		poor												doln, anhy, dolsp		5mm vugs. Interval Image from depth 739.2m. Sample of dolomite cement and pyrite.
	3765	G	Lower Keg River Fm.	interparticle	trace pyrite								reef	IV f	DB	fabric selective		poor												doln, ds		Calcite fossils with dolomite matrix.
	3768	S		intergranular intraparticle	laminated trace pyrite	fossiliferous						wackestone	deep shelf reef	IV f	DG MB			poor poor												py ds, lm nod		
		G	Chinchaga Fm.	none identified	laminated	primary anhydrite						mudstone	sabkha		LG			non														Laminated primary anhydrite.

SitID: 120511
SRCID: 0934092804AA0
UWI: 00/04-28-093-09W4/0
Well Name: Esso 82 Oslo OV BSL-29

KB Elevation: 336.3
Total Depth: 138.1
Spud Date: 2/3/1982
Rig RIse Date: 3/3/1982

Coordinate System: UTM NAD 27
Easting: 475983.44
Northing: 6327451.09

Latitude (83): 57.0917
Longitude(83): -111.39631

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														Matrix supported polymict cgl. in basal McMurray.
		D	Waterways Fm.									mudstone	shallow marine		LG				0																														1. Interstratified limestone & marl; nodular to laminated. 2. Minor rusty weathering at contact; probably Fe from oil sands; no

30
40
50
60
70
80
90
100
110
120
130

SitID: 127405
SRCID: 1095033004000
UWI: 00/04-30-109-03W5/0
Well Name: IOD IOE T2 Fox Lake

KB Elevation: 256.9
Total Depth: 669
Spud Date: 1/14/1968
Rig RIse Date: 3/22/1968

Coordinate System: UTM NAD 27
Easting: 645978.63
Northing: 6485664.49

Latitude (83): 58.488998
Longitude(83): -114.495865

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
610		NO	Muskeg Fm.	none identified	mottled								basin		LG				non																										anhy		Replacive secondary anhydrite.
		G		intercrystal	mottled								basin		LG			oil	non																										doln, anhy, lch		Replacive secondary anhydrite with dolomite matrix. Oil staining throughout, concentrated in dolomite pores.
		G		none identified	laminated								basin		LG				non																										anhy		Replacive secondary anhydrite.
620		S		intercrystal	laminated	trace pyrite							basin		LG			oil	non																										doln, anhy, lch		Dolomite with oil staining throughout, concentrated in dolomite pores.
		G		none identified	mottled	trace pyrite							basin		LG			oil	non																										doln, anhy		Replacive secondary anhydrite.
630		G		intercrystal	mottled								basin		LG			oil	non																										anhy		Replacive secondary anhydrite.
		G	Keg River Fm.	intercrystal	fossiliferous							wackestone	reef	III f	LB, Bk	pervasive		oil	fair																										doln		Recrystallized dolomite, heavily oil stained.
640																																																
		G		intercrystal	fossiliferous			D					reef		LB	pervasive		oil	fair																										doln, anhy		Recrystallized dolomite, heavily oil stained.
650		G		intercrystal	fossiliferous								reef		LB, Bk	pervasive		oil	fair																										doln		Recrystallized dolomite, partially oil stained.

SitID: 120758
SRCID: 934103204000
UWI: 00/04-32-093-10W4/0
Well Name: Bear Vampire #2

KB Elevation: 241.7
Total Depth: 269
Spud Date: 2/21/1949
Rig RIse Date: 3/22/1968

Coordinate System: UTM NAD 27
Easting: 464666.78
Northing: 6329212.65

Latitude (83): 57.10691
Longitude(83): -111.58424

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Moberly Mbr.	intercrystal	limestone nodules							mudstone	shallow marine reef	I f	LG-B		shiny bitumen		poor																												fr		Rubbly.
		S	Christina Mbr.	fracture	laminated	fissile							shelf		LG-B				poor																												fr, ds		Highly fractured along bedding planes.
50		S	Calumet Mbr.	none identified	limestone nodules	fissile							reef	II f					non																												ds		Ranges from extremely fissile to massive.
		S	Firebag Mbr.		fissile	trace pyrite							basin		LG-Gn				non																												fr		Calcite and green clay in fissile shale. Occasional pyrite infills brachiopod molds.
100																																																
		S	Slave Point Fm.	intercrystal	bituminous fissile							grainstone	reef	II b	LB		shiny bitumen		poor																													ds, fr		At 130.7: Rip up clasts create syn-depositional brecciation. Not tectonic. Porosity present in matrix component. Bitumen present along stylolites.
		S	Prairie Evaporite Fm.												LB, LG-Gn																																fr		Rip up clasts create syn-depositional brecciation. Not tectonic. Porosity present in matrix component. Massive to fissile. Anhydrite present in fractures.
150		G		none identified	laminated dolo-anhydrite							mudstone	intertidal		LG, LB	matrix dolomite			poor																													doln		Laminated primary anhydrite with some dolomite beds.
		S	Keg River Fm.	separate vug	fossiliferous							wackestone	reef	III b	MB, LB	pervasive			poor																													doln		1 - 2 mm vugs in both matrix and intrafossil.
200		G		touching vug	fossiliferous								reef	IV/V	LB	pervasive			poor																													doln		Common 1 - 10 mm vugs. Extensively recrystallized.
250		S		none identified	laminated	fissile						mudstone	lagoon		LG-Gn				poor																													fr		Fissile anhydrite.
		S		fracture	fissile	laminated							basin						poor																												fr,		Fissile dolostone with anhydrite veins.
		S	Basal Red Beds	interparticle	iron staining								fluviatile		LR, LG				mod																													fr-anhy		Clastic sandstone.

SitID: 324048
SRCID: 0994050505AA0
UWI: 1AA/05-05-099-05W4/0
Well Name: Synenco 01-80 NLP 05-05-99-5

KB Elevation:
Total Depth: 74.87
Spud Date:
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 512395.3
Northing: 6379737.49

Latitude (83): 57.56194401
Longitude(83): -110.7936938

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		U	McMurray Fm.																0																													
		NC	Firebag Mbr.		calcareous							mudstone	shallow marine		LG				0																															Paleosol deveolped at top Firebag Mbr.
		G			argillaceous	laminated						mudstone	shallow shelf		LG				0																													Local laminations. Muddy non-fossiliferous interval.
		G			argillaceous	limestone nodules						wackestone	reef	IV f	LG				0																													Local limestone nodules & dissolution seams.
		G			argillaceous	laminated						mudstone	shallow shelf		LG				0																													Calcareous shale to shaley mudstone (Co3 sense); local laminations.
		G			argillaceous	limestone nodules						wackestone	reef	IV f	LG				0																													Local limestone nodules & dissolution seams.

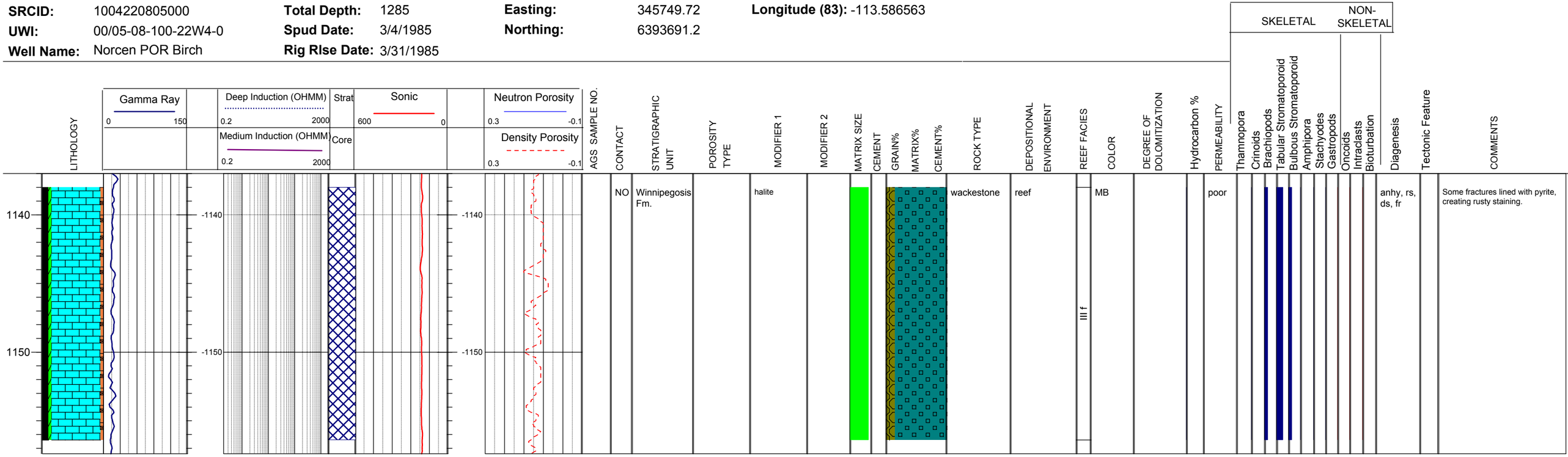
SITID: 126165
SRCID: 1004220805000
UWI: 00/05-08-100-22W4-0
Well Name: Norcen POR Birch

KB Elevation: 734.8
Total Depth: 1285
Spud Date: 3/4/1985
Rig RIse Date: 3/31/1985

Coordinate System: UTM NAD 27
Easting: 345749.72
Northing: 6393691.2

Latitude (83): 57.661034
Longitude (83): -113.586563

Application Version 1.6.1



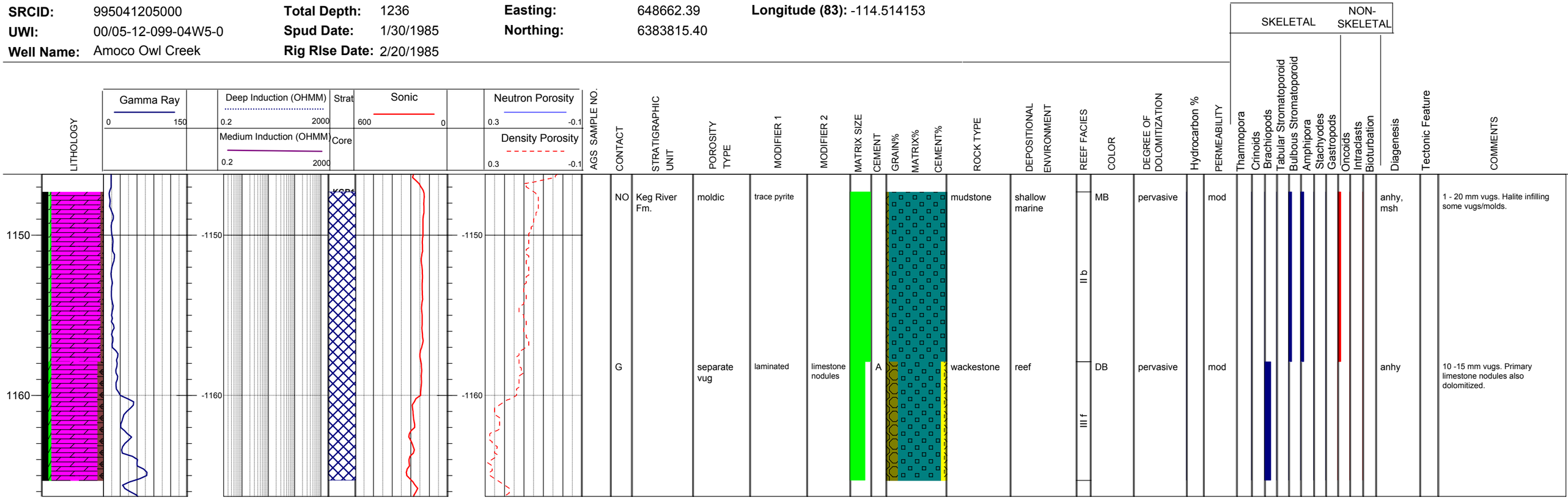
SITID: 126082
SRCID: 995041205000
UWI: 00/05-12-099-04W5-0
Well Name: Amoco Owl Creek

KB Elevation: 513.2
Total Depth: 1236
Spud Date: 1/30/1985
Rig Rlse Date: 2/20/1985

Coordinate System: UTM NAD 27
Easting: 648662.39
Northing: 6383815.40

Latitude (83): 57.574181
Longitude (83): -114.514153

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Keg River Fm.	moldic	trace pyrite							mudstone	shallow marine	II b	MB	pervasive		mod												anhy, msh		1 - 20 mm vugs. Halite infilling some vugs/molds.
		G		separate vug	laminated	limestone nodules		A				wackestone	reef	III f	DB	pervasive		mod												anhy		10 -15 mm vugs. Primary limestone nodules also dolomitized.

SitID: 276801
SRCID: 0964102805AA0
UWI: AA/05-28-096-10W4/0
Well Name: Koch UTS Ft-Hills

KB Elevation: 329.2
Total Depth: 109.7
Spud Date: 1/21/2000
Rig RIse Date: 1/22/2000

Coordinate System: UTM NAD 27
Easting: 465609.99
Northing: 6357078.13

Latitude (83): 57.35728
Longitude(83): -111.5725

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	McMurray Fm.														shiny bitumen																																Cretaceous McMurray formation.
100		SD	Waterways Fm.	fracture	fissile	laminated						mudstone	basin		LG				mod																												fr		Fissile calcareous shale.
		G		none identified	fossiliferous							floatstone	reef	III f	LG				poor																														
		G		fracture	fissile	laminated						mudstone	basin		LG				mod																												fr		Fissile calcareous shale.
110																																															

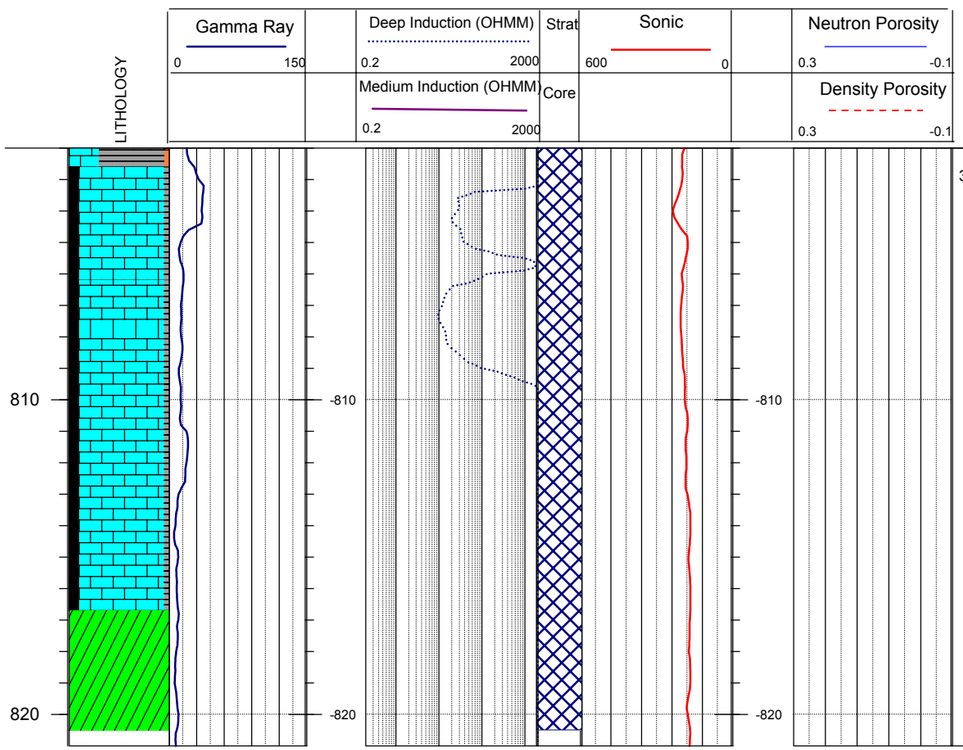
SITID: 145096
SRCID: 974190206000
UWI: 00/06-02-097-19W4/0
Well Name: Dome Home Liege

KB Elevation: 809.1
Total Depth: 1232
Spud Date: 2/2/1986
Rig Rlse Date: 3/11/1986

Coordinate System: UTM NAD 27
Easting: 381189.19
Northing: 6361760.24

Latitude (83): 57.38513
Longitude (83): -112.97738

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
	3772	NOS	Waterways Fm.	none identified vuggy	silty limestone nodules	fissile fossiliferous						mudstone	deep shelf	III f	DG			non														Fissile calcareous shale.
												floatstone	reef		MG			poor												ds		1 - 3 cm vugs
		G	Slave Point Fm.	vuggy	limestone nodules							floatstone		IV f	MB			poor												ds, anhy		few 1 cm vugs
		G		vuggy	limestone nodules	laminated						wackestone		III f	LB			poor												ds		numerous 1 mm vugs
		S	Fort Vermilion Fm	none identified	primary anhydrite	anhydrite, stringers						mudstone	intertidal		LG			0												fr		Anhydrite veins in anhydrite matrix.
																																No core: from 820.5 to 1067

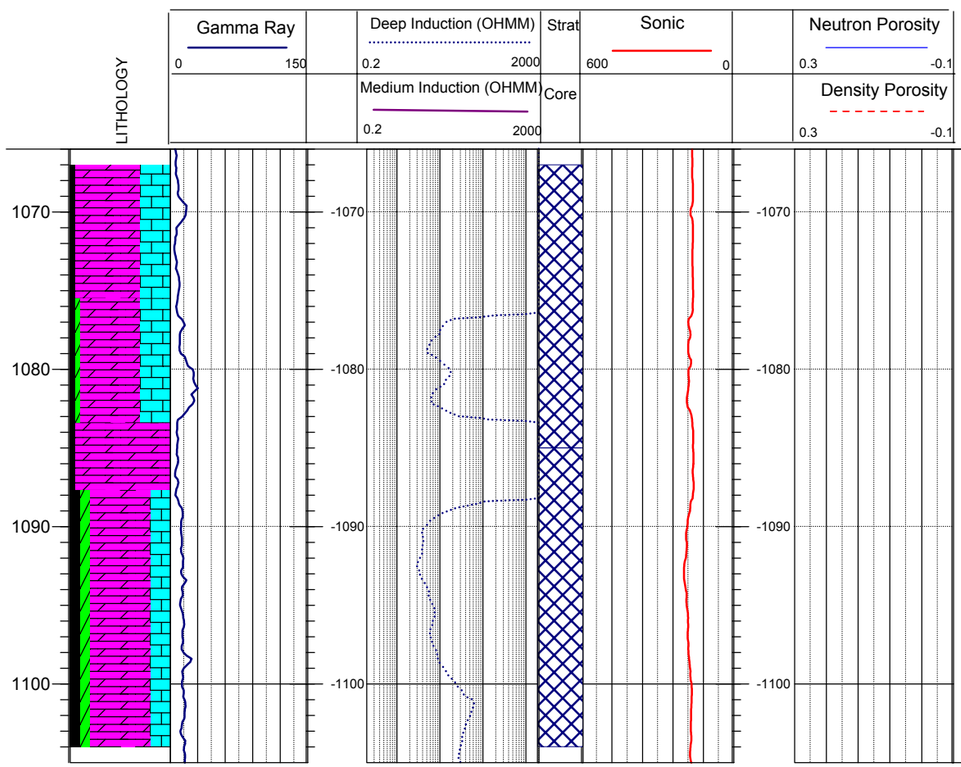
SITID: 145096
SRCID: 974190206000
UWI: 00/06-02-097-19W4/0
Well Name: Dome Home Liege

KB Elevation: 809.1
Total Depth: 1232
Spud Date: 2/2/1986
Rig Rlse Date: 3/11/1986

Coordinate System: UTM NAD 27
Easting: 381189.19
Northing: 6361760.24

Latitude (83): 57.38513
Longitude (83): -112.97738

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Prairie Evaporite Fm.	intercrystal	laminated	primary anhydrite						mudstone	lagoon		LG, LB			poor												doln		oil staining along dolomite bedding planes.
		S		separate vug	calcareous dolostone	laminated									LB	partially		mod												ds, anhy		1 - 2 mm vugs
		NO		intercrystal	laminated	primary anhydrite						mudstone	lagoon		LG, LB			poor														
		S		separate vug	calcareous dolostone	laminated						mudstone		II b	LB	partially		mod												anhy		Some stromatolites. 2 mm vugs. Vugs increase in size toward bottom of core.

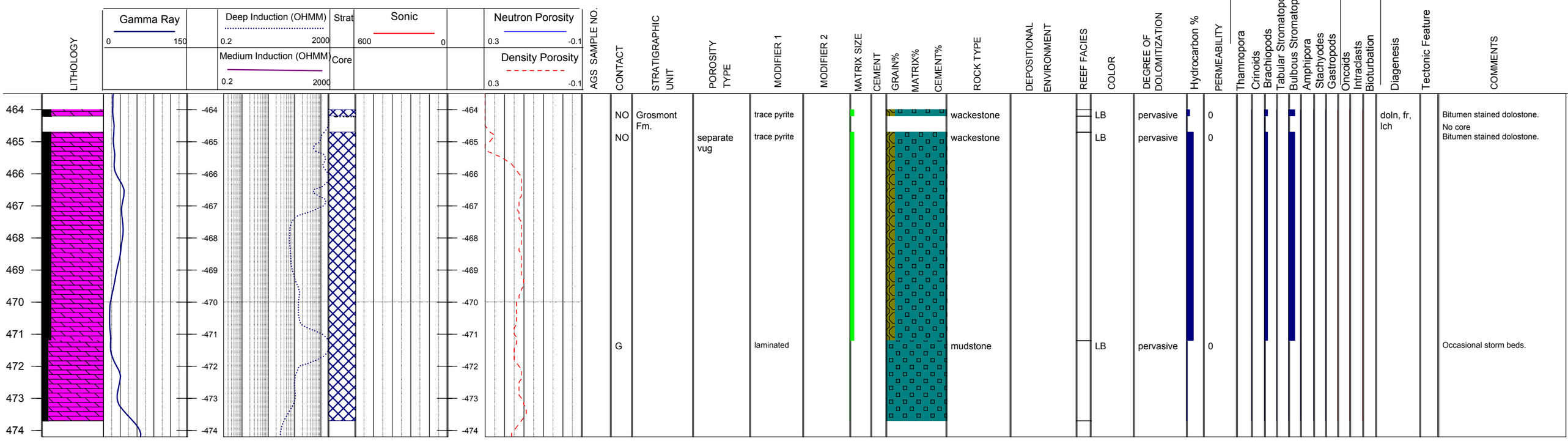
SITID: 125932
SRCID: 984240506000
UWI: 00/06-05-098-24W4/0
Well Name: Canterra Jean

KB Elevation: 715.6
Total Depth: 565
Spud Date: 2/6/1983
Rig Rlse Date: 2/12/1983

Coordinate System: UTM NAD 27
Easting: 328016.54
Northing: 6373417.61

Latitude (83): 57.47263
Longitude (83): -113.86795

Application Version 1.6.1



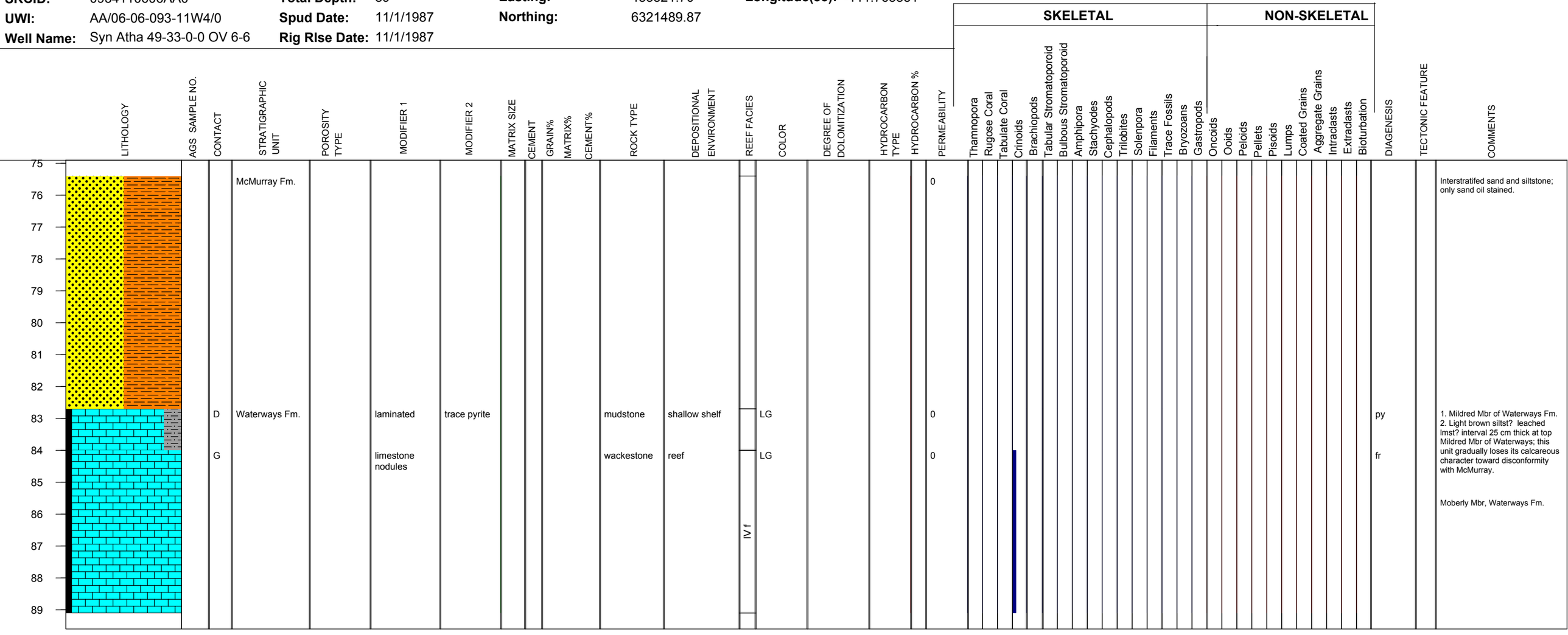
SitID: 144707 **KB Elevation:** 347.4 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.036434

SRCID: 0934110606AA0 **Total Depth:** 89 **Easting:** 453521.70 **Longitude(83):** -111.765831

UWI: AA/06-06-093-11W4/0 **Spud Date:** 11/1/1987 **Northing:** 6321489.87

Well Name: Syn Atha 49-33-0-0 OV 6-6 **Rig RIse Date:** 11/1/1987

Application Version 1.6.1



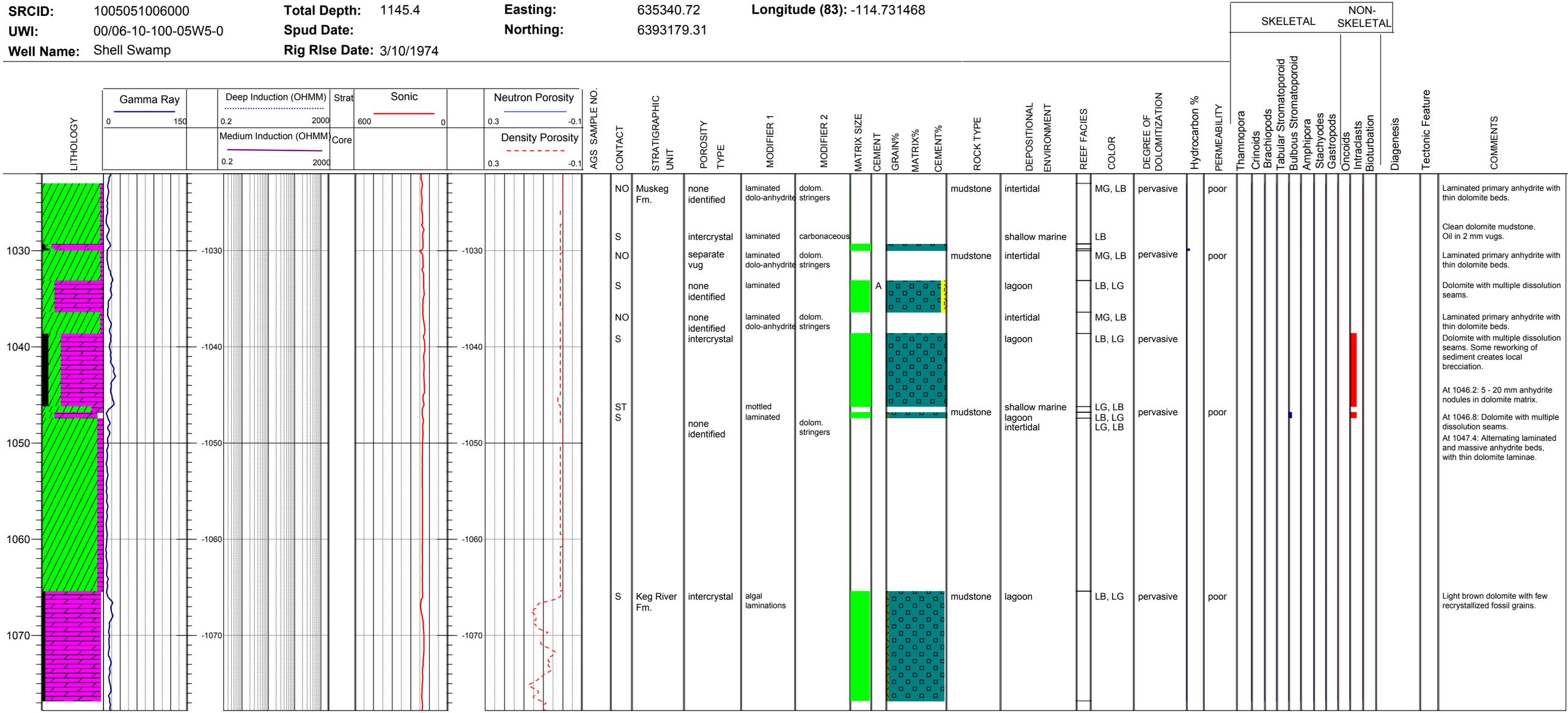
SITID: 126174
SRCID: 1005051006000
UWI: 00/06-10-100-05W5-0
Well Name: Shell Swamp

KB Elevation: 433.1
Total Depth: 1145.4
Spud Date:
Rig RIse Date: 3/10/1974

Coordinate System: UTM NAD 27
Easting: 635340.72
Northing: 6393179.31

Latitude (83): 57.662411
Longitude (83): -114.731468

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified	laminated dolo-anhydrite	dolom. stringers						mudstone	intertidal		MG, LB	pervasive		poor														Laminated primary anhydrite with thin dolomite beds.
		S		intercrystal	laminated	carbonaceous							shallow marine		LB																	Clean dolomite mudstone. Oil in 2 mm vugs.
		NO		separate vug	laminated dolo-anhydrite	dolom. stringers						mudstone	intertidal		MG, LB	pervasive		poor														Laminated primary anhydrite with thin dolomite beds.
		S		none identified	laminated			A					lagoon		LB, LG																	Dolomite with multiple dissolution seams.
		NO		none identified	laminated dolo-anhydrite	dolom. stringers							intertidal		MG, LB																	Laminated primary anhydrite with thin dolomite beds.
		S		intercrystal									lagoon		LB, LG	pervasive																Dolomite with multiple dissolution seams. Some reworking of sediment creates local brecciation.
		ST			mottled								shallow marine		LG, LB																	At 1046.2: 5 - 20 mm anhydrite nodules in dolomite matrix.
		S		none identified	laminated	dolom. stringers						mudstone	lagoon intertidal		LB, LG LG, LB	pervasive		poor														At 1046.8: Dolomite with multiple dissolution seams. At 1047.4: Alternating laminated and massive anhydrite beds, with thin dolomite laminae.
		S	Keg River Fm.	intercrystal	algal laminations							mudstone	lagoon		LB, LG	pervasive		poor														Light brown dolomite with few recrystallized fossil grains.

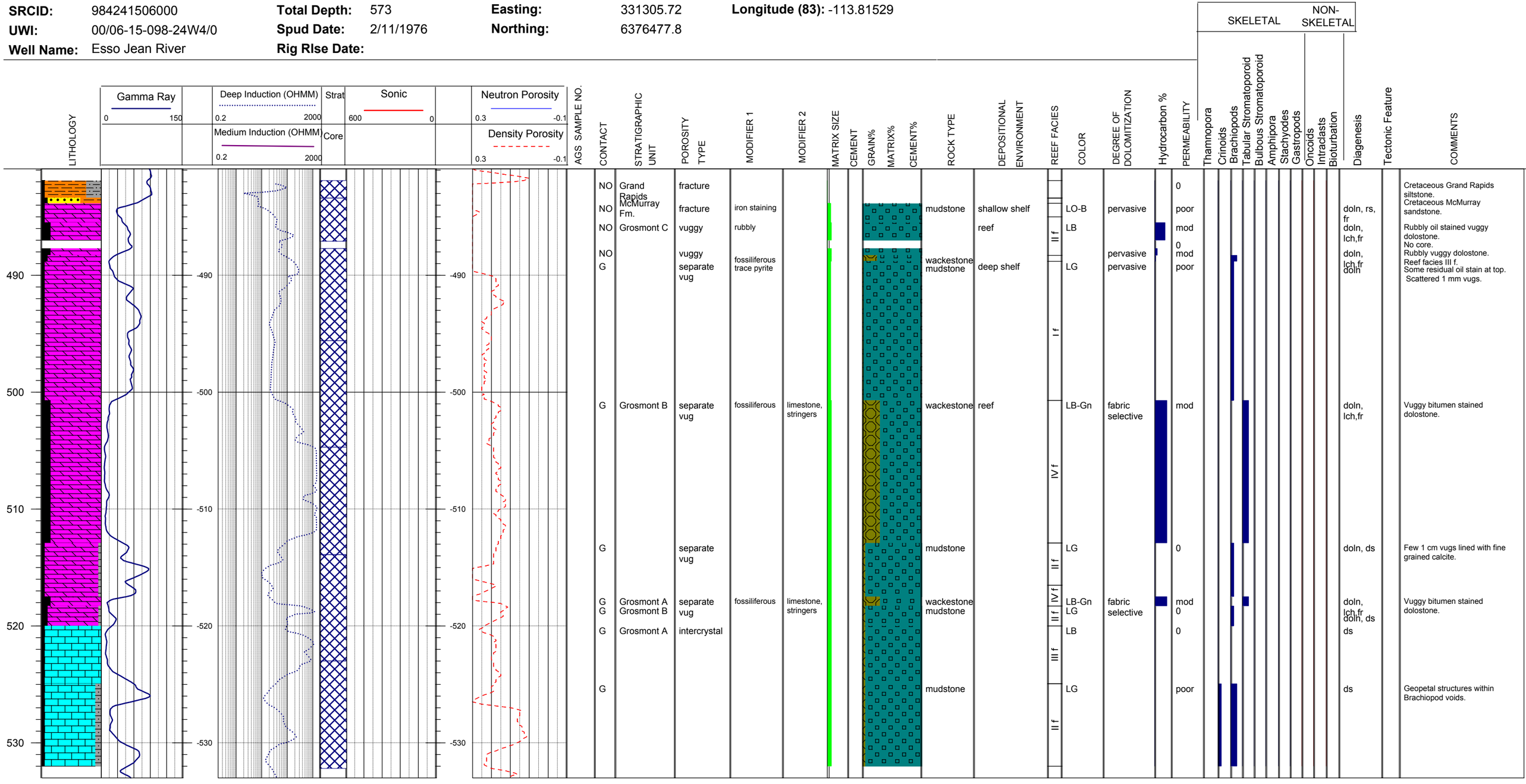
SITID: 125933
SRCID: 984241506000
UWI: 00/06-15-098-24W4/0
Well Name: Esso Jean River

KB Elevation: 744.3
Total Depth: 573
Spud Date: 2/11/1976
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 331305.72
Northing: 6376477.8

Latitude (83): 57.50132
Longitude (83): -113.81529

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Grand Rapids	fracture														0														Cretaceous Grand Rapids siltstone.
		NO	McMurray Fm.	fracture	iron staining							mudstone	shallow shelf		LO-B	pervasive		poor												doln, rs, fr		Cretaceous McMurray sandstone.
		NO	Grosmont C	vuggy	rubbly								reef	II f	LB			mod											doln, lch,fr		Rubbly oil stained vuggy dolostone.
		NO		vuggy	fossiliferous											pervasive		0													No core.
		G		separate vug	trace pyrite							wackestone mudstone	deep shelf		LG	pervasive		mod poor											doln, lch,fr doln		Rubbly vuggy dolostone. Reef facies III f. Some residual oil stain at top. Scattered 1 mm vugs.
		G	Grosmont B	separate vug	fossiliferous	limestone, stringers						wackestone	reef	IV f	LB-Gn	fabric selective		mod											doln, lch,fr		Vuggy bitumen stained dolostone.
		G		separate vug								mudstone		II f	LG			0											doln, ds		Few 1 cm vugs lined with fine grained calcite.
		G	Grosmont A	separate vug	fossiliferous	limestone, stringers						wackestone		IV f	LB-Gn	fabric selective		mod											doln, lch,fr		Vuggy bitumen stained dolostone.
		G	Grosmont B									mudstone		II f	LG			0											doln, ds		
		G	Grosmont A	intercrystal										III f	LB			0											ds		
		G										mudstone		II f	LG			poor											ds		Geopetal structures within Brachiopod voids.

SitID: 117804
SRCID: 0894102006AA0
UWI: AA/06-20-089-10W4/0
Well Name: Esso BSL 40-1 Oslo OV 6-20-89-10

KB Elevation: 397.3
Total Depth: 166.1
Spud Date: 2/26/1984
Rig RIse Date: 2/28/1984

Coordinate System: UTM NAD 27
Easting: 465526.34
Northing: 6287458.12

Latitude (83): 56.731777
Longitude(83): -111.563423

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														Siltstone with roots.
150		D	Waterways Fm.		limestone nodules	petroleum staining						wackestone	reef	IV f	LG				0																														py		1. Moberly ? 2. Nodular character increases downward as percent marl increases. 3. Minor pyrite.
155		G			laminated	trace pyrite						mudstone	reef	II f	LG				0																												py		1. Nodular at top becoming more marly downward. 2. Rare crinoids at top to rare brachs in marlst. 3. Tr Py in marlst. 4. Mildred?
160		SI			trace pyrite							wackestone	reef	IV/V	LG				0																												py		1. Moberly ? 2. Nodular at top becoming more massive lmst downward.
165																																																

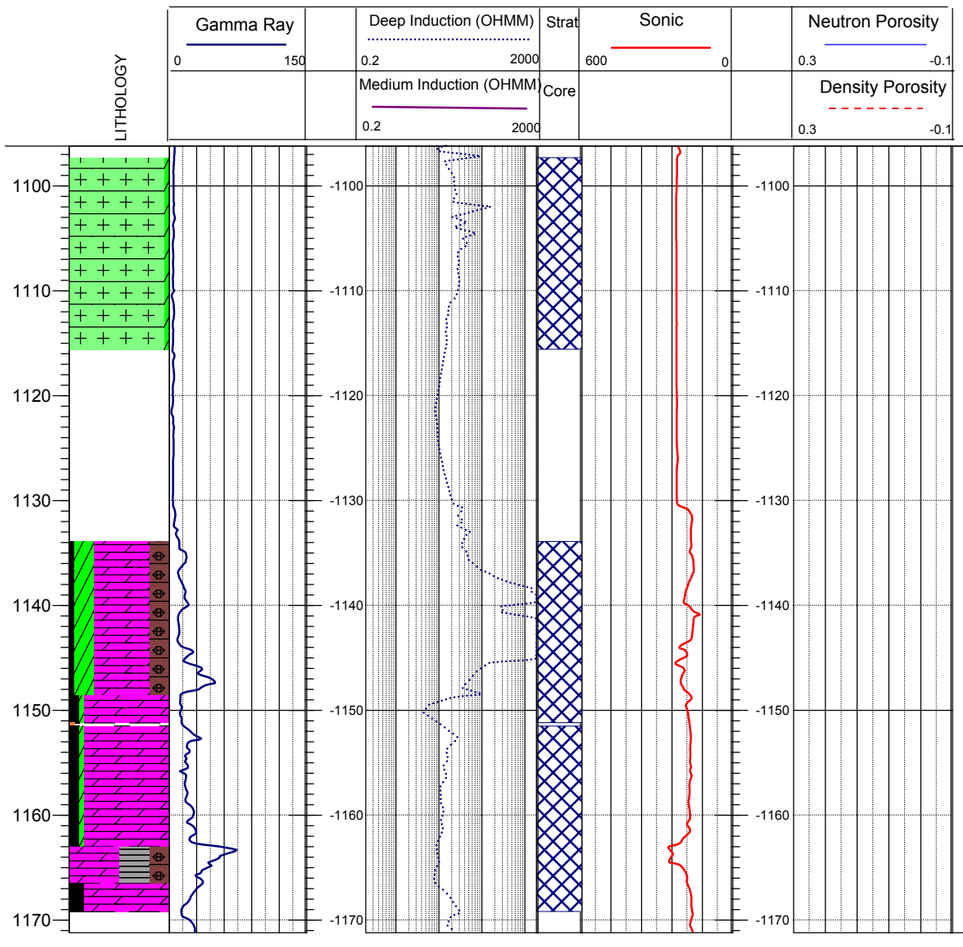
SITID: 125939
SRCID: 985012206000
UWI: 00/06-22-098-01W5-0
Well Name: Pan Am A-1Mikkwa River

KB Elevation: 595
Total Depth: 1195
Spud Date: 2/10/1967
Rig RIse Date: 3/8/1967

Coordinate System: UTM NAD 27
Easting: 675382.26
Northing: 6378496.43

Latitude (83): 57.516891
Longitude (83): -114.071808

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.		anhydrite, stringers								intertidal		W, Tr			non														Salt with thin anhydrite beds/horizontal veins apprx every 20 cm.
																		0														No core.
		NO		fenestral	laminated	interbedded						mudstone	intertidal		LB, DB	pervasive		poor													doln		Laminated organic dolostone.
		G	Keg River Fm.		coarse dolom. nodules							wackestone	reef	III f	LB			mod													anhy, ds		Acicular anhydrite nodules. At 1151.2: No core.
		G										wackestone	reef	III f	LB			mod													anhy, ds		Acicular anhydrite nodules.
		G		interparticle	coarse dolom. nodules	interbedded						mudstone	deep shelf	I f	DB, MB	pervasive		poor													doln		Large dolomite nodules due to early cementation.
		G		intrafossil	fish remains							wackestone	reef	II f	LB	pervasive		mod													doln, ds		1- 2 cm dolomitized limestone nodules.

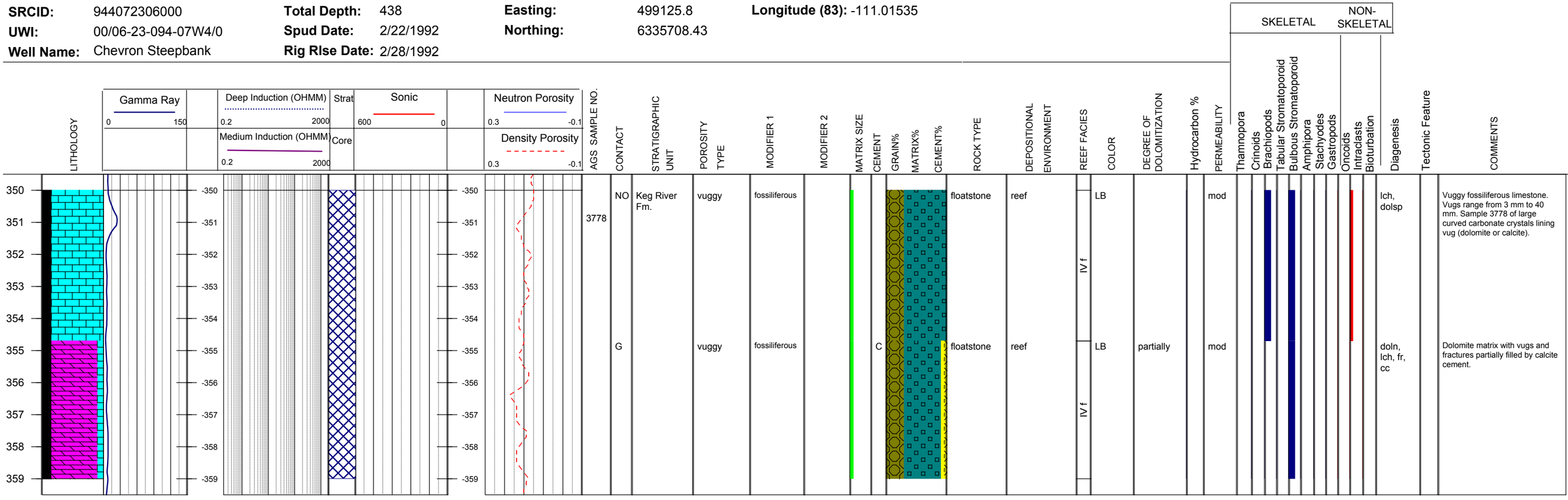
SITID: 189154
SRCID: 944072306000
UWI: 00/06-23-094-07W4/0
Well Name: Chevron Steepbank

KB Elevation: 534.4
Total Depth: 438
Spud Date: 2/22/1992
Rig RIse Date: 2/28/1992

Coordinate System: UTM NAD 27
Easting: 499125.8
Northing: 6335708.43

Latitude (83): 57.16661
Longitude (83): -111.01535

Application Version 1.6.1



AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
3778	NO	Keg River Fm.	vuggy	fossiliferous							floatstone	reef	IV f	LB			mod												lch, dolsp		Vuggy fossiliferous limestone. Vugs range from 3 mm to 40 mm. Sample 3778 of large curved carbonate crystals lining vug (dolomite or calcite).
	G		vuggy	fossiliferous			C				floatstone	reef	IV f	LB	partially		mod												doln, lch, fr, cc		Dolomite matrix with vugs and fractures partially filled by calcite cement.

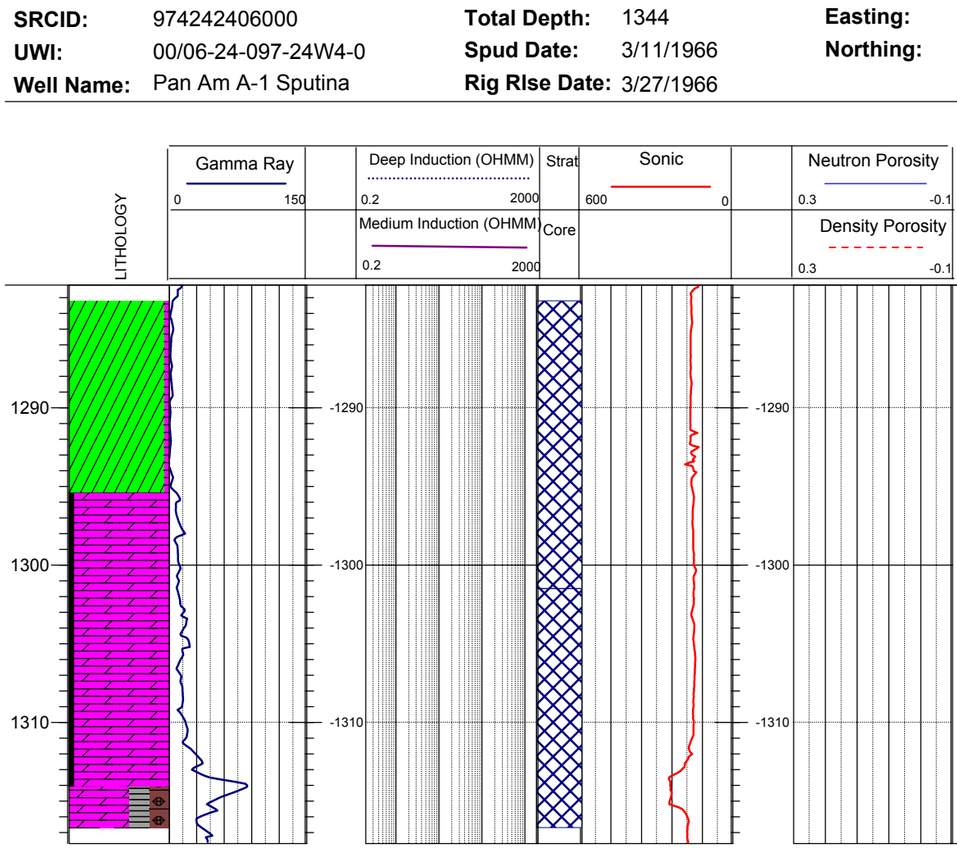
SITID: 125583
SRCID: 974242406000
UWI: 00/06-24-097-24W4-0
Well Name: Pan Am A-1 Sputina

KB Elevation: 790.7
Total Depth: 1344
Spud Date: 3/11/1966
Rig RIse Date: 3/27/1966

Coordinate System: UTM NAD 27
Easting: 334377.27
Northing: 6368372.07

Latitude (83): 57.429832
Longitude (83): -113.759705

Application Version 1.6.1



LITHOLOGY	SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	intercrystal								mudstone	intertidal		LG	pervasive		non												doln, anhy		5 - 10 mm white anhydrite nodules in LG anhydrite matrix.
		B	Keg River Fm.	intercrystal	limestone nodules							mudstone	reef	IV f	MB	pervasive		poor												doln, ds, anhy		Some 5 mm vugs. Limestone nodules have been dolomitized.
		S		intercrystal	coarse dolom. nodules							mudstone	deep shelf		DB, LB	pervasive		poor												doln		Dolomite nodules formed due to early cementation.

SitID: 126799 **KB Elevation:** 307.3 **Coordinate System:** UTM NAD 27 **Latitude (83):** 58.14121

SRCID: 1055072606000 **Total Depth:** 170 **Easting:** 615381.42 **Longitude(83):** -115.04018

UWI: 00/06-26-105-07W5/0 **Spud Date:** 1/6/1982 **Northing:** 6445897.59

Well Name: PEX Mikkwa EV 6-26-105-7 **Rig RIse Date:** 1/12/1982

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Clearwater Fm.																0			Clearwater siltstone/shale.
		D	Grosmont Fm.																			Ca 40 leached and Fe altered unit on top of Grosmont.
100																						No core.
		NO			laminated	mottled						mudstone	shallow shelf		LB					bit		Probably shallow water & quiet.
		G			algal laminated								reef	I b	LG	pervasive				doln		At 105.5: Possible hardground at top surface, reef facies III b.
		G			algal laminated	laminated						wackestone	reef		MB					ds,styl		Very finely crystalline limestone.
														II b	LB							
110																						
		G			mottled							mudstone	shallow shelf		LG					ds		
		G			mottled							wackestone	reef shallow shelf	II b	MB MG							Weakly mottled; probably quiet water.
		G			laminated							mudstone	reef	IV b	LG	partially						Coarse fossils possibly washed over during storms.
120																						
		G			mottled								shallow shelf		MB							1. Locally mottled 2. Very permeable unit 20 cm thick near base.
		G			algal laminated	laminated							reef	II b	LB	partially				ds,styl, b-e		
		G			laminated								shallow shelf		MB				good	doln		Intervals of good to excellent permeability.
		G			laminated										GB	partially				doln		Probable erosion surface with intraclasts. 2. Probably quiet water back reef with storm

SitID: 126629
SRCID: 1045062906000
UWI: 00/06-29-104-06W5/0
Well Name: PEX Mikkwa EV 6-29-104-6

KB Elevation: 313.9
Total Depth: 318
Spud Date: 1/21/1982
Rig RIse Date: 1/26/1982

Coordinate System: UTM NAD 27
Easting: 620444.42
Northing: 6436342.15

Latitude (83): 58.05409
Longitude(83): -114.95915

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Mikkwa Fm.		petroleum staining	laminated						wackestone	shallow shelf		LB	partially			0																											doln		1. May be upper Mikkwa. 2. Both limestone & dolostone intervals. 3. Finely xlline, laminated to mottled to non strat & petroleum stained. 4. Fossils poorly preserved.
		G			mottled								reef	IV b	LB																													styl, ds		1. Finely xlline, slightly mottled limestone. 2. Hematite altered upper Mikkwa. 3. Reef core to back reef.
		G			algal laminated	mottled						mudstone	reef	I b	LB																													ds		Minor hematite alteration.
		G			petroleum staining							wackestone	shallow shelf reef	IV b	MG	partially																													ds		No fossils seen. Local hematite alteration.
		G			mottled								reef	IV f	MG																													ds		Spotty hematite alteration.
		G			argillaceous	mottled						mudstone	shallow shelf		LB																													lm nd, ds		1. Local storm horizons - brachs. 2. Local spotty hematite alteration.
		G			laminated								reef	III b	LB	partially																													ds		1. Isolated stroms, crinoids, storm units. 2. Maybe weak algal lam locally. 3. Laminated to non-strat. 4. Back reef with patches or blow overs.

90
100
110
120

SitID: 126630 **KB Elevation:** 316.4 **Coordinate System:** UTM NAD 27 **Latitude (83):** 58.05408

SRCID: 1045072906000 **Total Depth:** 290 **Easting:** 610657.52 **Longitude(83):** -115.12501

UWI: 00/06-29-104-07W5/0 **Spud Date:** 1/14/1982 **Northing:** 6436057.13

Well Name: PEX Mikkwa EV 6-29-104-7 **Rig RIse Date:** 1/19/1982

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
110			NO	Grosmont Fm.		algal laminated	laminated						mudstone	reef	I b	LB	partially			0																												bit, doln		1. Interstrat dolost & lmst intervals in same facies. 2. Several horiz to 40 cm thick with vuggy porosity containing coarse spar.
120			G	Mikkwa Fm.		dolomitic	mottled						wackestone	shelf	III f	LG	partially			0																												ds, styl, doln		1. Isolated bulbous strom; maybe other fossils. 2. Hematite alteration at the top.
			G			laminated	mottled						mudstone	shallow shelf		LG	pervasive			0																												doln		1. Locally laminated & mottled. 2. Maybe algal laminations locally.

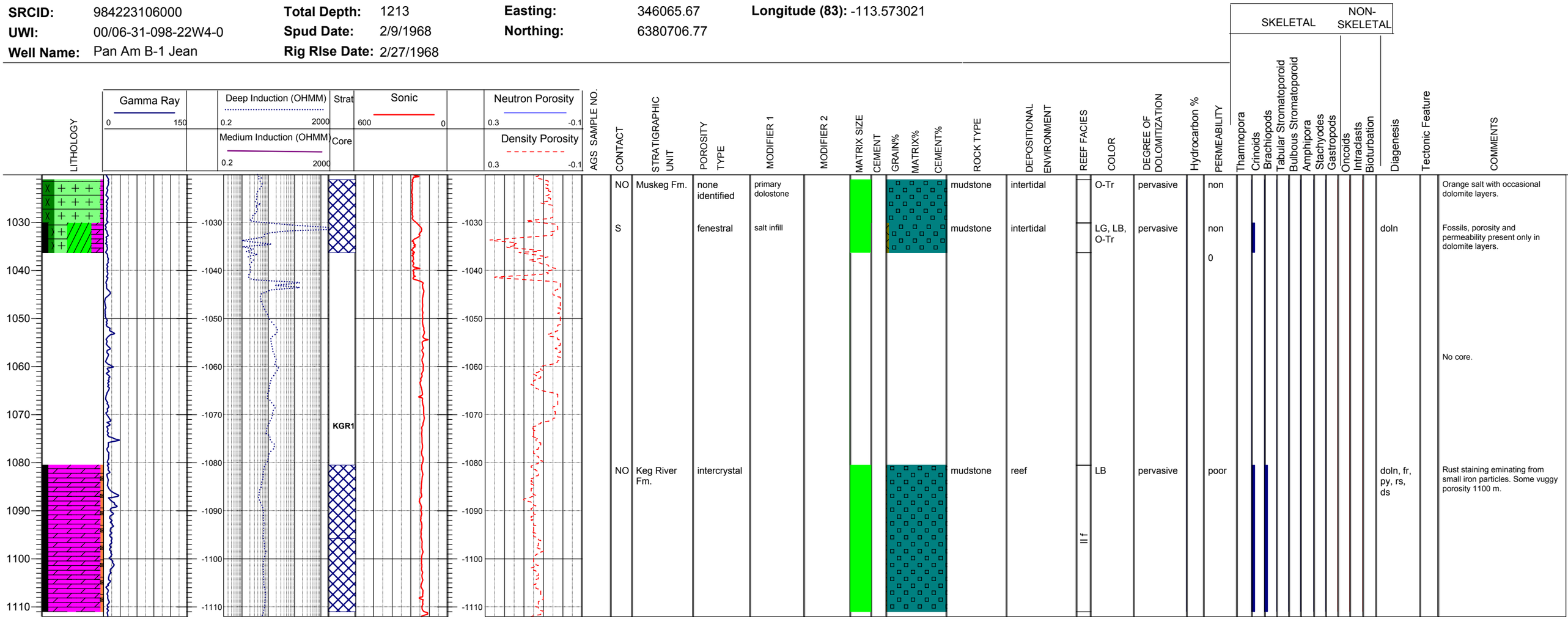
SITID: 125928
SRCID: 984223106000
UWI: 00/06-31-098-22W4-0
Well Name: Pan Am B-1 Jean

KB Elevation: 667.2
Total Depth: 1213
Spud Date: 2/9/1968
Rig Rlse Date: 2/27/1968

Coordinate System: UTM NAD 27
Easting: 346065.67
Northing: 6380706.77

Latitude (83): 57.544628
Longitude (83): -113.573021

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified	primary dolostone							mudstone	intertidal		O-Tr	pervasive		non														Orange salt with occasional dolomite layers.
		S		fenestral	salt infill							mudstone	intertidal		LG, LB, O-Tr	pervasive		non 0												doln		Fossils, porosity and permeability present only in dolomite layers.
																																No core.
		NO	Keg River Fm.	intercrystal								mudstone	reef	II f	LB	pervasive		poor												doln, fr, py, rs, ds		Rust staining eminating from small iron particles. Some vuggy porosity 1100 m.

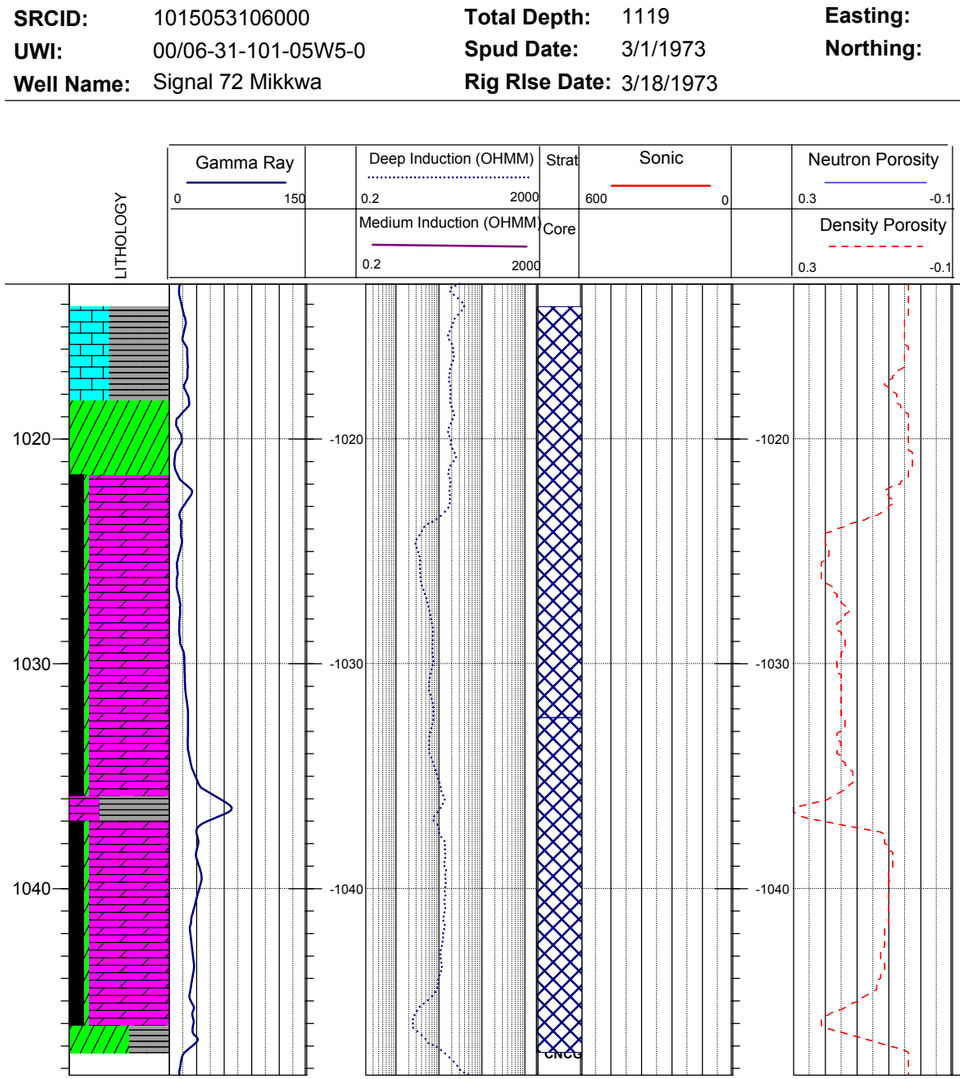
SITID: 126254
SRCID: 1015053106000
UWI: 00/06-31-101-05W5-0
Well Name: Signal 72 Mikkwa

KB Elevation: 371.6
Total Depth: 1119
Spud Date: 3/1/1973
Rig RIse Date: 3/18/1973

Coordinate System: UTM NAD 27
Easting: 629977.22
Northing: 6409124.87

Latitude (83): 57.807114
Longitude (83): -114.812668

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified	laminated	shale, laminae						mudstone	deep shelf		DG, LG			poor														Interbedded light and dark grey laminae.
		S		none identified	primary anhydrite	laminated						mudstone	deep shelf		LG			non														
		S	Keg River Fm.	separate vug	laminated							wackestone	shallow marine	II f	LB	pervasive		poor														1 - 2 cm vugs, mottled dolostone.
		S		none identified	interbedded	trace pyrite						mudstone	deep shelf		DG, LB	pervasive		0														Carbonate laminae pervasivly dolomitized. Pyrite along fractures.
		S		separate vug	laminated							wackestone	shallow marine	II f	LB	pervasive		poor														1 - 2 cm vugs, mottled dolostone.
		G	Chinchaga Fm.	none identified	laminated	primary anhydrite						mudstone	basin		LG			0														Light grey shale and laminated anhydrite.

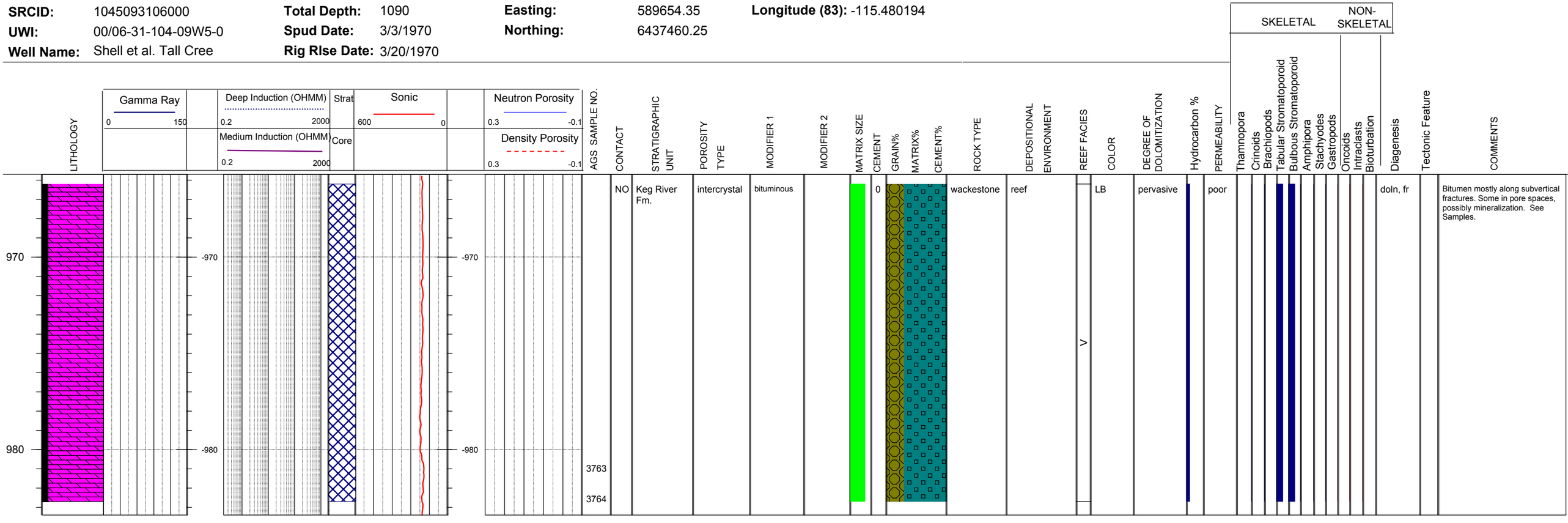
SITID: 126633
SRCID: 1045093106000
UWI: 00/06-31-104-09W5-0
Well Name: Shell et al. Tall Cree

KB Elevation: 306.3
Total Depth: 1090
Spud Date: 3/3/1970
Rig RIse Date: 3/20/1970

Coordinate System: UTM NAD 27
Easting: 589654.35
Northing: 6437460.25

Latitude (83): 58.071419
Longitude (83): -115.480194

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Keg River Fm.	intercrystal	bituminous			0				wackestone	reef		LB	pervasive		poor												doln, fr		Bitumen mostly along subvertical fractures. Some in pore spaces, possibly mineralization. See Samples.

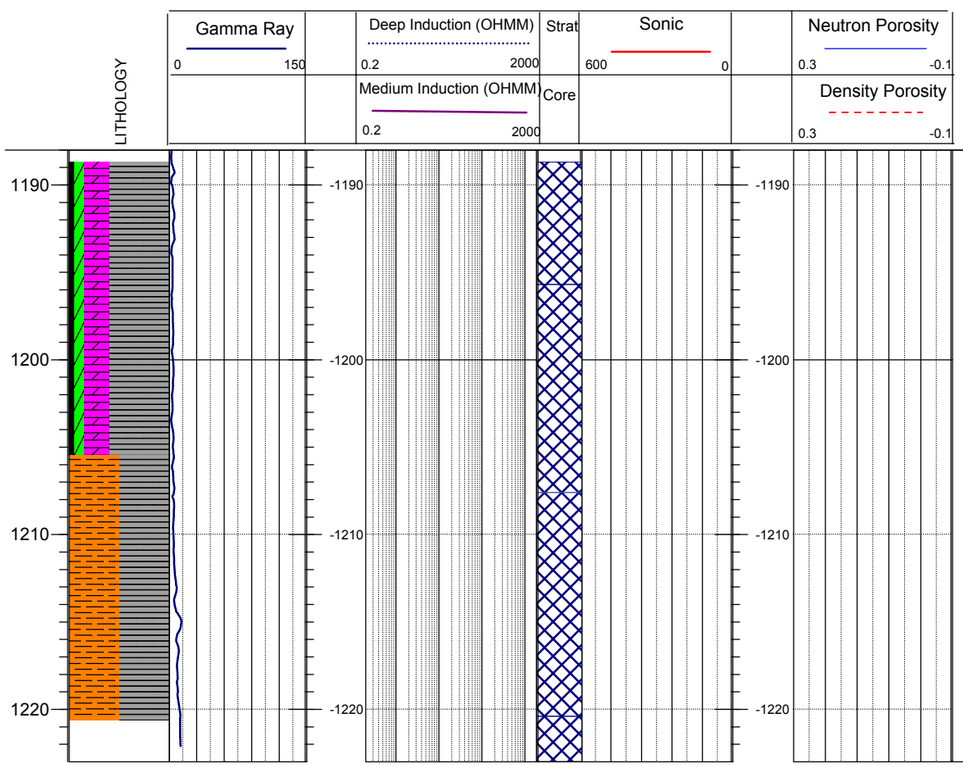
SITID: 126087 **KB Elevation:** 407.5 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.633923

SRCID: 995073306002 **Total Depth:** 1224 **Easting:** 614400.12 **Longitude (83):** -115.08403

UWI: 00/06-33-099-07W5-2 **Spud Date:** 3/26/1965 **Northing:** 6389359.39

Well Name: Calstan Senex Creek 6-33-99-7 **Rig RIse Date:** 4/12/1965

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Ernestina Fm.		anhydritic	laminated							intertidal		MG; LB	partially		0												anhy, dol lyr		Keg River? Dolomitic shale to minor shaley dolostone with anhydrite horiz & nodules; goes grad into Red Beds underlain by PCMB; likely ERNESTINA LAKE FM; 2nd anhydrite horiz to 30 cm.
		G	Basal Red Beds										intertidal					0													BASAL RED BEDS under Ernestina Lake Fm.; contact looks gradational !?; goes into PCMB below.
		SD	Precambrian															0													PCMB; several cm thick weathered unit on top.

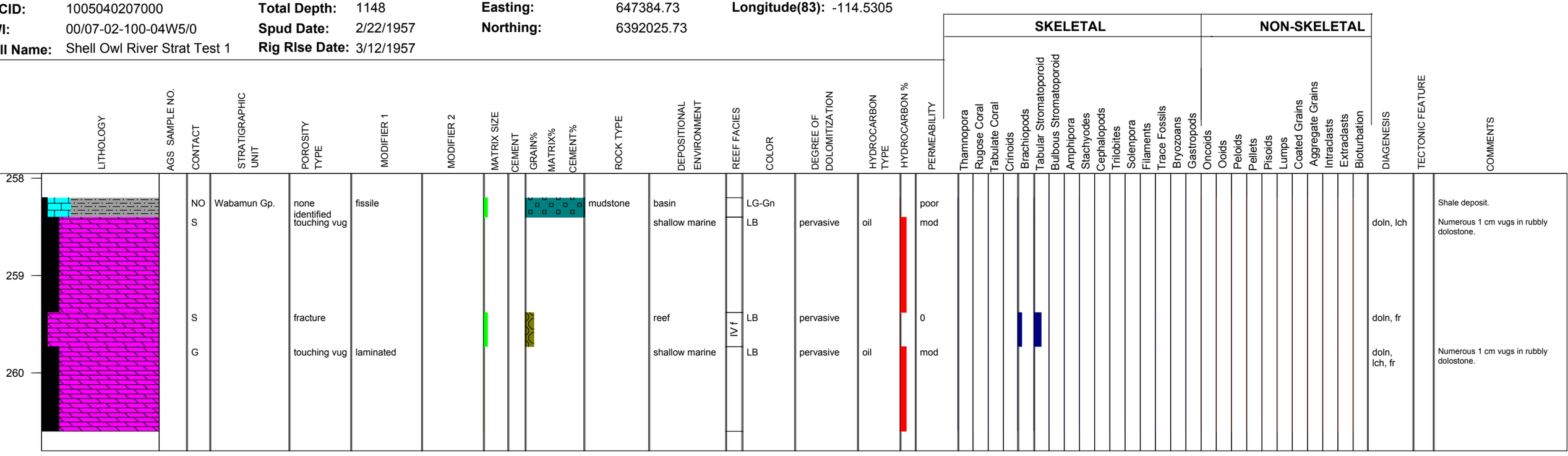
SitID: 126172
SRCID: 1005040207000
UWI: 00/07-02-100-04W5/0
Well Name: Shell Owl River Strat Test 1

KB Elevation: 456
Total Depth: 1148
Spud Date: 2/22/1957
Rig RIse Date: 3/12/1957

Coordinate System: UTM NAD 27
Easting: 647384.73
Northing: 6392025.73

Latitude (83): 57.64828
Longitude(83): -114.5305

Application Version 1.6.1



SitID: 179343 **KB Elevation:** 317.2 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.226227

SRCID: 0954091007AA0 **Total Depth:** 119.7 **Easting:** 477683.35 **Longitude(83):** -111.369598

UWI: AA/07-10-095-09W4/0 **Spud Date:** 4/2/1990 **Northing:** 6342417.41

Well Name: Esso 90-12 Oslo OV 7-10-95-9 **Rig RIse Date:** 4/2/1990

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
100			McMurray Fm.																0																													No oil stain.
110	3799	D	Waterways Fm.			limestone nodules						wackestone	reef	IV f	LG				0																														fr, py		1. Decalcified to 110.09 m. 2. Some mudstone horiz near base. 3. Moberly member. 4. 3799 - Py along fracture.
		G				trace pyrite	laminated					mudstone	shallow shelf		LG				0																															1. Thin lmst (sev cm) units with brachs. 2. Maybe marlst with thin lmst units. 3. Christina ?
120																																																

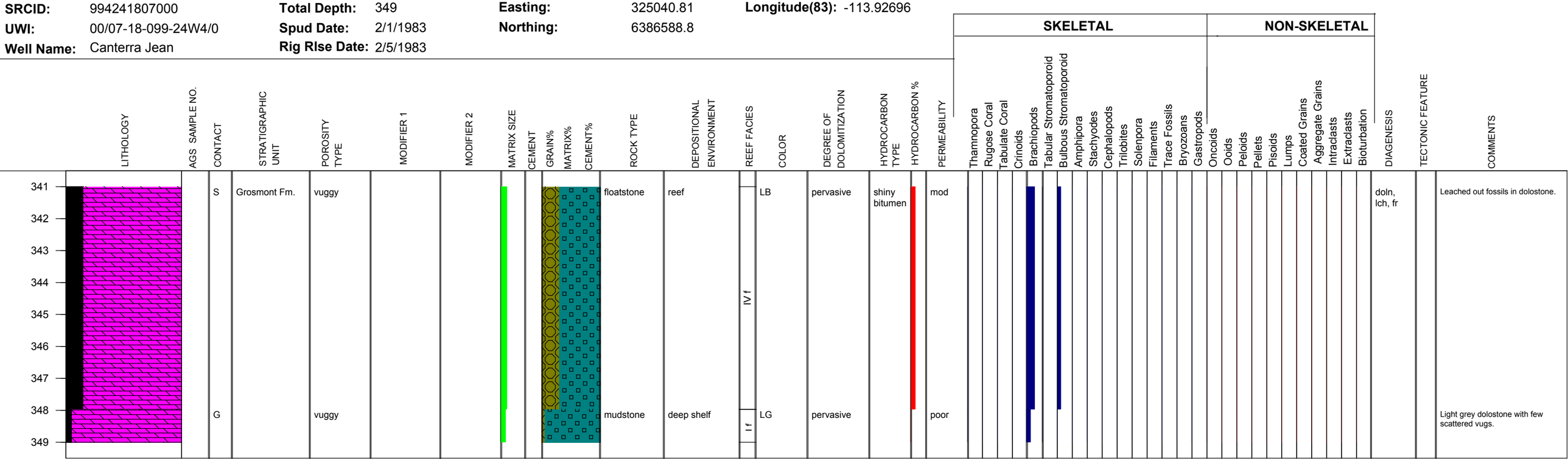
SitID: 126081
SRCID: 994241807000
UWI: 00/07-18-099-24W4/0
Well Name: Canterra Jean

KB Elevation: 593.6
Total Depth: 349
Spud Date: 2/1/1983
Rig RIse Date: 2/5/1983

Coordinate System: UTM NAD 27
Easting: 325040.81
Northing: 6386588.8

Latitude (83): 57.58965
Longitude(83): -113.92696

Application Version 1.6.1



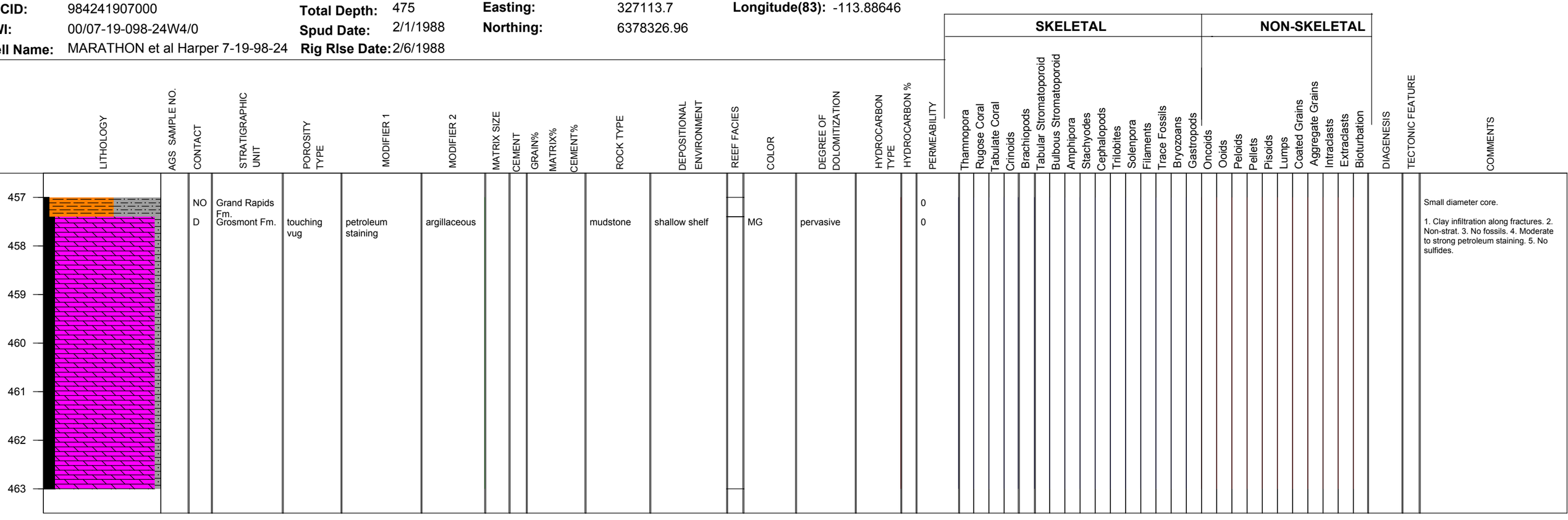
SitID: 155319
SRCID: 984241907000
UWI: 00/07-19-098-24W4/0
Well Name: MARATHON et al Harper 7-19-98-24

KB Elevation: 710.7
Total Depth: 475
Spud Date: 2/1/1988
Rig RIse Date: 2/6/1988

Coordinate System: UTM NAD 27
Easting: 327113.7
Northing: 6378326.96

Latitude (83): 57.51633
Longitude(83): -113.88646

Application Version 1.6.1



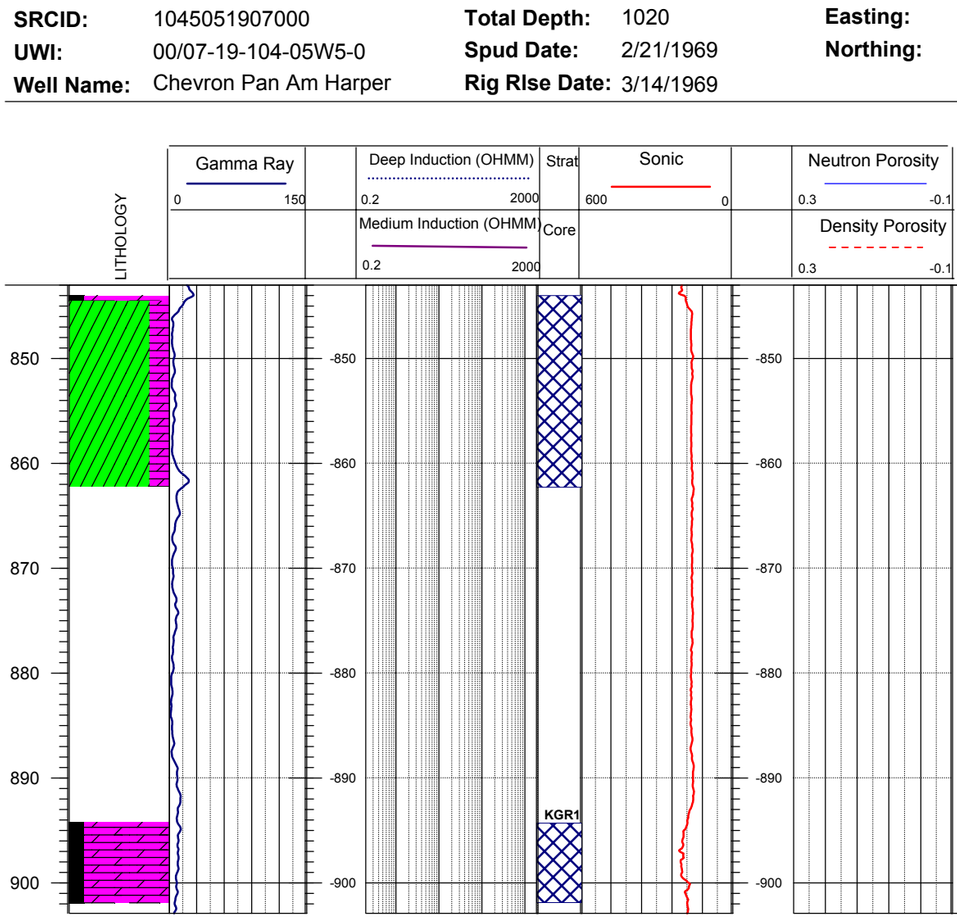
SITID: 126627
SRCID: 1045051907000
UWI: 00/07-19-104-05W5-0
Well Name: Chevron Pan Am Harper

KB Elevation: 316.7
Total Depth: 1020
Spud Date: 2/21/1969
Rig Rlse Date: 3/14/1969

Coordinate System: UTM NAD 27
Easting: 629411.48
Northing: 6435018.32

Latitude (83): 58.039684
Longitude (83): -114.80806

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	NON-SKELETAL: Amphipora	NON-SKELETAL: Stachyodes	NON-SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO G	Muskeg Fm.	touching vug	dolom. stringers							mudstone	shallow marine intertidal		LB LG	pervasive		poor												fr doln, anhy		2 mm vugs. At 844.5: Anhydrite nodules replacing nearly all dolomite.
																		0													No core.
		NO	Keg River Fm.	touching vug								wackestone	shallow marine		LB	pervasive		poor												doln, ds		5 mm vugs, some moldic porosity. Little fabric visible.

SitID:
SRCID:
UWI: 00/07-26-094-09W4/0
Well Name: Gulf Hartley C.H. #9

KB Elevation: 308.4
Total Depth: 69.2
Spud Date: 1/3/1980
Rig RIse Date: 1/22/1980

Coordinate System: UTM NAD 27
Easting: 470354.34
Northing: 6337605.81

Latitude (83): 57.18259
Longitude(83): -111.4904

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	McMurray Fm.														shiny bitumen	0																																	Cretaceous McMurray oilsands.
		SD G	Waterways Fm.	fracture intercrystal	limestone nodules	fissile						mudstone	deep shelf		LG		oil		poor																														lm nod, fr		At 54.2: Fissile limestone with oil staining at some horizons.
																																														fr		Reworked fractured limestone with oil staining.
																																														ds, fr		Small pyrite nodules at 64m.
		G		fracture	limestone nodules	fissile						mudstone	deep shelf		LG		oil		poor																													lm nod, fr		Interbedded light and dark grey limestone.

SitID: 116457 **KB Elevation:** 470.9 **Coordinate System:** UTM NAD 27 **Latitude (83):** 56.5715

SRCID: 874122807000 **Total Depth:** 702 **Easting:** 464394.77 **Longitude(83):** -111.5804

UWI: 00/07-28-087-12W4/0 **Spud Date:** 4/16/1949 **Northing:** 6269615.21

Well Name: Bear Vampire #1 **Rig RIse Date:** 5/29/1949

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Waterways Fm.	none identified	mottled	shale, laminae		C				mudstone	reef	II f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G		none identified	mottled	fissile		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						IV f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						III f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured along bedding planes.
		G			mottled	limestone nodules		C				grainstone		III f	LG				poor																														Fossilferous limestone.

SitID: 116457 **KB Elevation:** 470.9 **Coordinate System:** UTM NAD 27 **Latitude (83):** 56.5715

SRCID: 874122807000 **Total Depth:** 702 **Easting:** 464394.77 **Longitude(83):** -111.5804

UWI: 00/07-28-087-12W4/0 **Spud Date:** 4/16/1949 **Northing:** 6269615.21

Well Name: Bear Vampire #1 **Rig RIse Date:** 5/29/1949

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Waterways Fm.	none identified	mottled	shale, laminae		C				mudstone	reef	II f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G		none identified	mottled	fissile		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						IV f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						III f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured along bedding planes.
		G			mottled	limestone nodules		C				grainstone		III f	LG				poor																														Fossilferous limestone.

SitID: 116457 **KB Elevation:** 470.9 **Coordinate System:** UTM NAD 27 **Latitude (83):** 56.5715

SRCID: 874122807000 **Total Depth:** 702 **Easting:** 464394.77 **Longitude(83):** -111.5804

UWI: 00/07-28-087-12W4/0 **Spud Date:** 4/16/1949 **Northing:** 6269615.21

Well Name: Bear Vampire #1 **Rig RIse Date:** 5/29/1949

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Waterways Fm.	none identified	mottled	shale, laminae		C				mudstone	reef	II f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G		none identified	mottled	fissile		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						IV f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured.
		G			mottled	shale, laminae		C						III f	LG				poor																												fr		Fractures infilled with silty calcite cement.
		G			mottled	laminated		C						I f	LG				poor																												fr		Very fissile limestone, highly fractured along bedding planes.
		G			mottled	limestone nodules		C				grainstone		III f	LG				poor																														Fossilferous limestone.

SitID: 116457
SRCID: 874122807000
UWI: 00/07-28-087-12W4/0
Well Name: Bear Vampire #1

KB Elevation: 470.9
Total Depth: 702
Spud Date: 4/16/1949
Rig RIse Date: 5/29/1949

Coordinate System: UTM NAD 27
Easting: 464394.77
Northing: 6269615.21

Latitude (83): 56.5715
Longitude(83): -111.5804

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
550			S		none identified	laminated	dolom. stringers							intertidal		LG	pervasive			poor																											doln, anhy		Dolostone nearly completely replaced by anhydrite.
			G		vuggy	laminated								shallow marine		LB	pervasive			poor 0																											fr, lch		Leaching along fractures creates 2 mm vugs. No core.
560			NO		intercrystal	anhydritic	fissile							lagoon		LB-Tr, LG				poor																											lch		Salt with occasional anhydrite laminae. Porosity occurs in leached anhydrite beds.
570																																																
580			G		none identified	laminated dolo-anhydrite								intertidal		LG, LB	pervasive			poor																											rs		Laminated dolostone-anhydrite
			G	Keg River Fm.	vuggy	laminated								shallow marine		LB	pervasive			poor																											doln, fr, lch		Leaching along fractures creates 2 mm vugs.
590			G		vuggy	laminated										LB																																		More highly fractured than last interval.
			G		intercrystal	laminated	nodules									LG	pervasive			poor																											doln, ds		Light grey dolostone with dolomite nodules.
600			G		vuggy	laminated	nodules									LG	pervasive			poor																											fr		Light grey dolostone with dolomite nodules. Vugs 3 - 20 mm. Anhydrite infilling fractures.
610			G		intercrystal	laminated			D				floatstone			LB	pervasive			poor																											ds, rxtyl		Rounded dolomite recrystallized fossils.

SitID: 116457
SRCID: 874122807000
UWI: 00/07-28-087-12W4/0
Well Name: Bear Vampire #1

KB Elevation: 470.9
Total Depth: 702
Spud Date: 4/16/1949
Rig RIse Date: 5/29/1949

Coordinate System: UTM NAD 27
Easting: 464394.77
Northing: 6269615.21

Latitude (83): 56.5715
Longitude(83): -111.5804

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
620		G		touching vug	wavy laminations			D				wackestone	reef	V	LB	pervasive			poor																											doln, lch		Rounded dolomite intraclasts.
630																																																	
640		ST		none identified	laminated									III f	DG	pervasive			poor																											doln		Fore reef section in reef core.
		G		none identified	laminated							mudstone	lagoon	I b	LG-B	pervasive			0																											ds		Shallow lagoon. No grains.
650		S	Chinchaga Fm.	none identified	primary anhydrite	iron staining							intertidal		MG, LR				non																											fr		Some iron staining.
660																																																
				none	laminated	primary									MG				non																													Some fractures infilled with potash.
		G	Basal Red Beds	identified	iron staining	anhydrite							fluviatile		LR, LG				non																											rs		
670		S																																													Iron stained mudstone.
680																																															
		G		interparticle															0																											fr		Metamorphic talc.
690		G		interparticle	iron staining							mudstone			LR																														fr		Red siltstone.
		S			primary anhydrite	laminated																																										Laminated primary anhydrite.
		G		intercrystal																																									doln		Clean granular dol. layer in Red Beds.
			Granite Wash		iron staining										MR-O																																	Red iron stained sandstone.
700																																															

SitID: 144744 **KB Elevation:** 372.7 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.094601

SRCID: 0934132907AA0 **Total Depth:** 108 **Easting:** 436110.67 **Longitude(83):** -112.054375

UWI: AA/07-29-093-13W4/0 **Spud Date:** 11/12/1985 **Northing:** 6328197.86

Well Name: Aostra utf Dover A077 OV 6-29 **Rig RIse Date:** 12/13/1985

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
97																																																
98			McMurray Fm.																0																														Some oil stain in sandy horizons.
99																																																
100																																																
101																																																
102																																																
103	3793	D	Waterways Fm.		petroleum staining							packstone	reef	IV/V	LB				0																												py		1. Moberly Mbr Waterways Fm. 2. Sample 3793 of Py from reef core facies.
104		SI			limestone nodules							wackestone	reef	II f	LB				0																											fr		Moberly Mbr nodular limestone.
105																																																
106																																																
107																																																

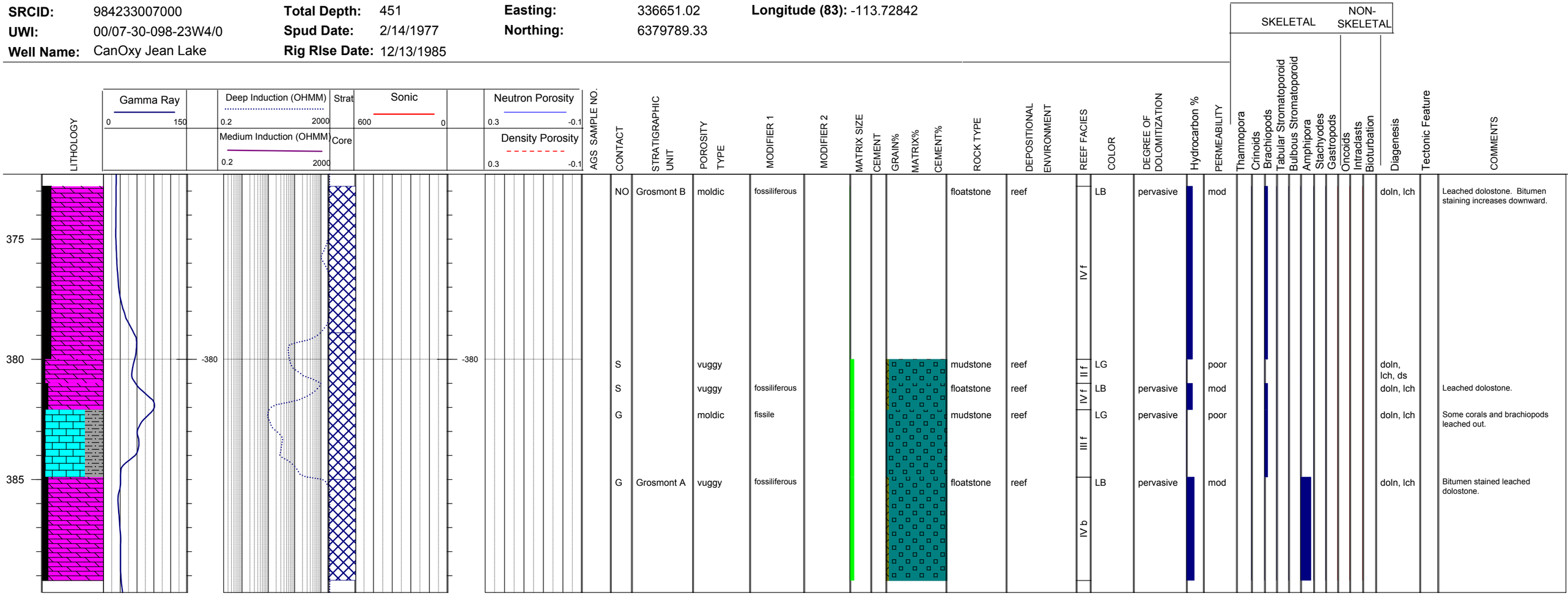
SITID: 125930
SRCID: 984233007000
UWI: 00/07-30-098-23W4/0
Well Name: CanOxy Jean Lake

KB Elevation: 635.2
Total Depth: 451
Spud Date: 2/14/1977
Rig Rlse Date: 12/13/1985

Coordinate System: UTM NAD 27
Easting: 336651.02
Northing: 6379789.33

Latitude (83): 57.53299
Longitude (83): -113.72842

Application Version 1.6.1



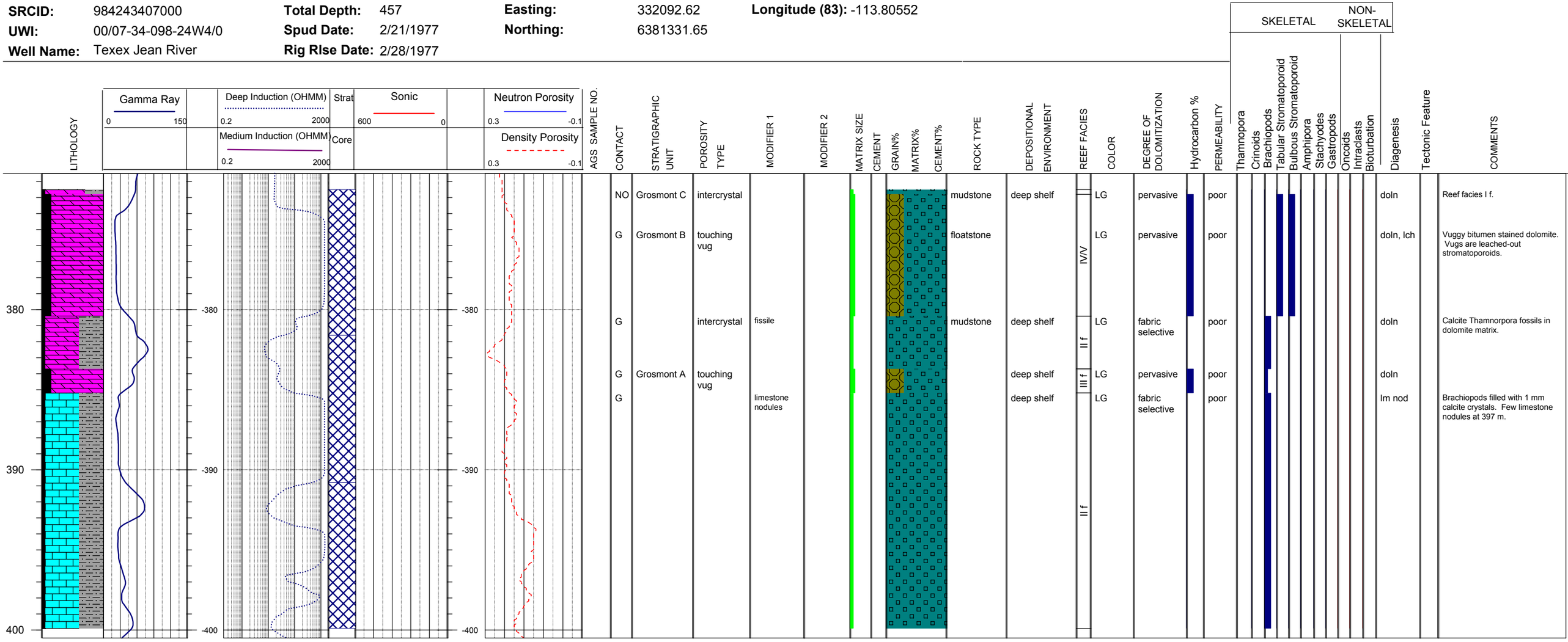
SITID: 125935
SRCID: 984243407000
UWI: 00/07-34-098-24W4/0
Well Name: Texex Jean River

KB Elevation: 623.6
Total Depth: 457
Spud Date: 2/21/1977
Rig Rlse Date: 2/28/1977

Coordinate System: UTM NAD 27
Easting: 332092.62
Northing: 6381331.65

Latitude (83): 57.54516
Longitude (83): -113.80552

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Grosmont C	intercrystal								mudstone	deep shelf		LG	pervasive		poor												doln		Reef facies I f.
		G	Grosmont B	touching vug								floatstone		IV/V	LG	pervasive		poor												doln, lch		Vuggy bitumen stained dolomite. Vugs are leached-out stromatoporoids.
		G		intercrystal	fissile							mudstone	deep shelf	II f	LG	fabric selective		poor												doln		Calcite Thamnorpora fossils in dolomite matrix.
		G	Grosmont A	touching vug									deep shelf	III f	LG	pervasive		poor												doln		
		G			limestone nodules								deep shelf	II f	LG	fabric selective		poor												lm nod		Brachiopods filled with 1 mm calcite crystals. Few limestone nodules at 397 m.

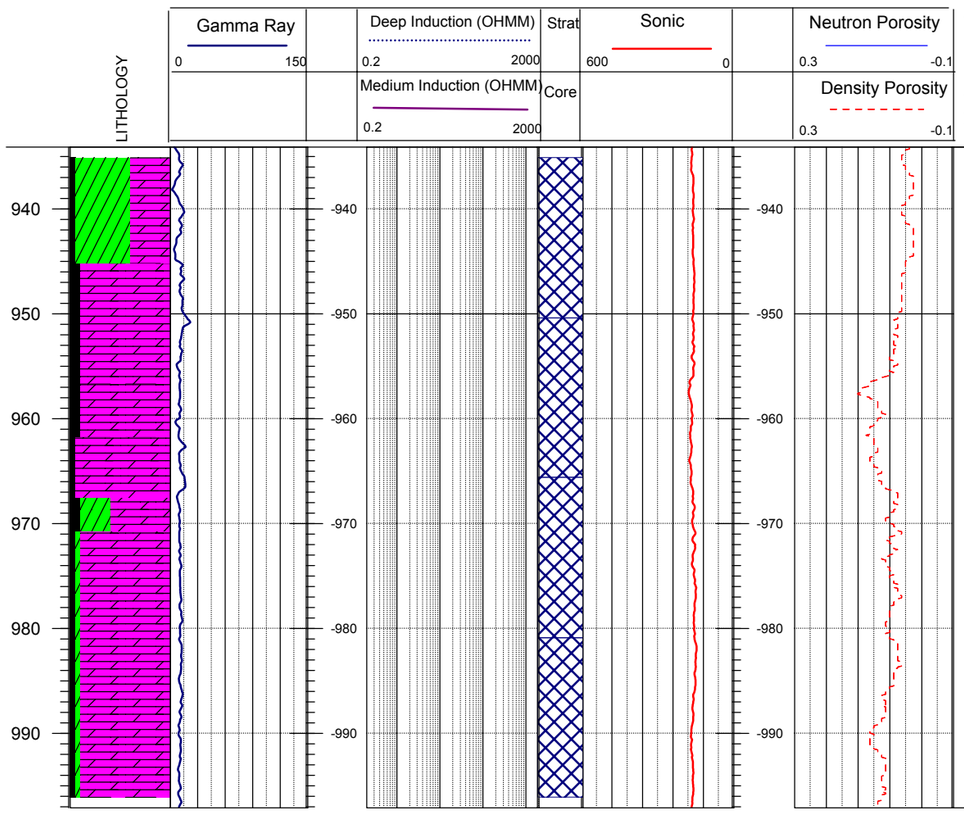
SITID: 126173
SRCID: 1005043607000
UWI: 00/07-36-100-04W5-0
Well Name: FPC Noel et al Harper

KB Elevation: 409.3
Total Depth: 1062
Spud Date: 2/14/1970
Rig RIse Date: 3/11/1970

Coordinate System: UTM NAD 27
Easting: 648647.06
Northing: 6400260.16

Latitude (83): 57.72176
Longitude (83): -114.504295

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	intercrystal	primary anhydrite							mudstone	intertidal		LG, LB	pervasive		poor												doln		
		G	Keg River Fm.	touching vug	laminated							wackestone	reef	IV b	LB	pervasive		poor												doln		2 mm vugs.
		G		separate vug	laminated			D				wackestone	reef		LB	pervasive		poor												doln		2 - 5 mm vugs, much oil staining.
		G		separate vug	laminated							wackestone	shallow marine		LB	pervasive		poor												doln		2 - 5 mm vugs.
		G		touching vug	laminated	dessication cracks		D				wackestone	shallow marine	IV	LB	pervasive		poor												doln, anhy, af		2 - 5 mm vugs, some oil staining, dessication cracks filled with anhydrite.
		G		interparticle	laminated							wackestone	shallow marine		LB	pervasive		poor												doln, ds		2 - 20 mm vugs.

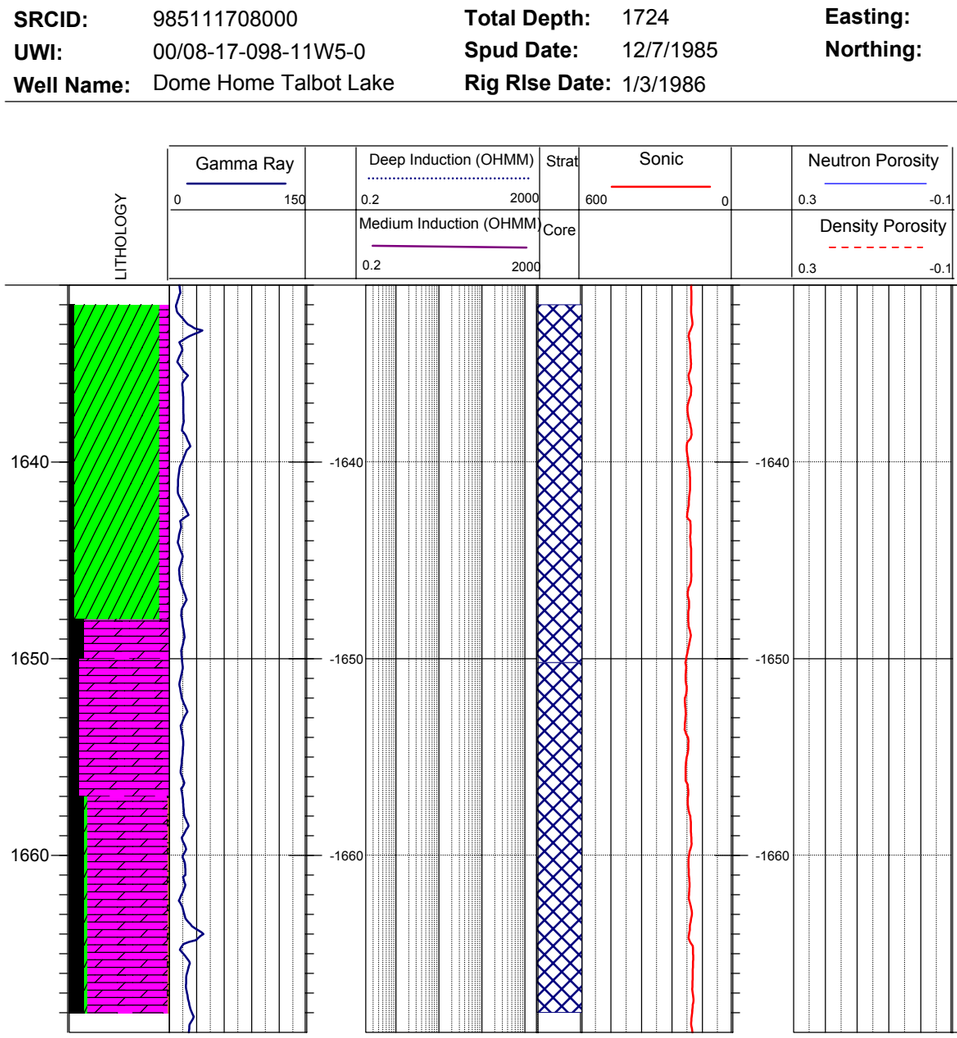
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SRCID: 985111708000
UWI: 00/08-17-098-11W5-0
Well Name: Dome Home Talbot Lake

KB Elevation: 803.8
Total Depth: 1724
Spud Date: 12/7/1985
Rig RIse Date: 1/3/1986

Coordinate System: UTM NAD 27
Easting: 575548.45
Northing: 6373756.95

Latitude (83): 57.501991
Longitude (83): -115.739342

Application Version 1.6.1



LITHOLOGY	SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Keg River Fm.	fenestral	laminated dolo-anhydrite							mudstone	sabkha	I b	G,LB	pervasive		poor												b-e		Typical sabkha sequence.
		SC		intercrystal	pyrite			C				wackestone	lagoon	III b	LB	matrix dolomite		mod												doln		Amphipora-stachyodes float- to rudstone.
		SC		intergranular				D				wackestone	lagoon		LB	pervasive		mod												doln		Amphipora wackestone.
		G		moldic	pyrite	anhydritic		C				wackestone	lagoon	IV b	LB	pervasive		fair												doln, anhy, ds		Rusty stain. Anhydrite nodules at bottom.

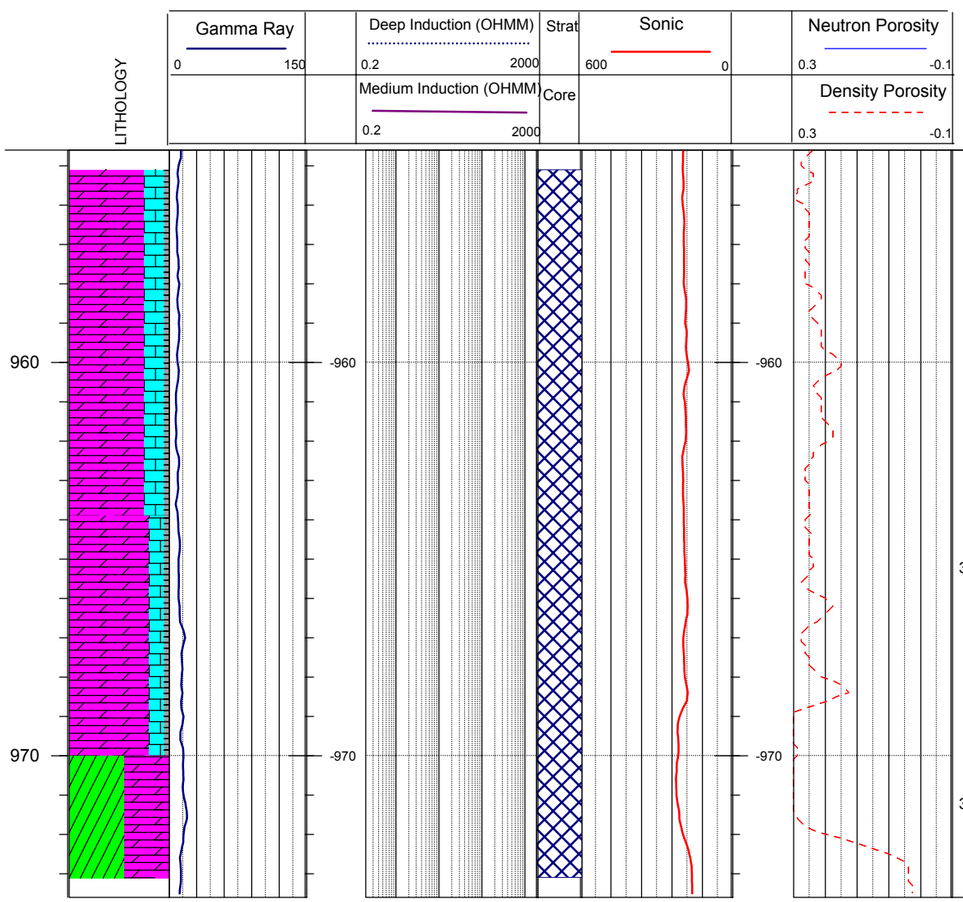
SITID: 127660
SRCID: 1105112008000
UWI: 00/08-20-110-11W5/0
Well Name: Gulf-AEC-Beaver-Ranch

KB Elevation: 335.6
Total Depth: 1190
Spud Date: 2/28/1982
Rig Rlse Date: 3/14/1982

Coordinate System: UTM NAD 27
Easting: 570569.29
Northing: 6491804.68

Latitude (83): 58.562851
Longitude (83): -115.787033

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Zama Fm.	none identified	shale, laminae			C				mudstone	shallow shelf		LB	partially		poor												doln		Occasional scour surfaces, occasional dissolution surfaces.
		3760 SC		none identified	shale, laminae			D				mudstone	subtidal		LB	partially		poor												doln		Oolitic horizons 10-30 cm; occasional fenestral horizons.
		3762 G		intraparticle				A				mudstone	intertidal		LB, G	pervasive		mod												b-e, anhy, sp cc	BX, SHR	Brecciated at top allowing replacement anhydrite.

SitID: 144818 **KB Elevation:** 361.1 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.18185

SRCID: 0944082908AA0 **Total Depth:** 114 **Easting:** 485325.71 **Longitude(83):** -111.242737

UWI: AA/08-29-094-08W4/0 **Spud Date:** 1/14/1986 **Northing:** 6337442.93

Well Name: Esso 1-86 Oslo BSL 31 OV 8-29 **Rig RIse Date:** 1/15/1986

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0			Oil stained to disconformity with Waterways.
100	3794	D	Waterways Fm.		limestone nodules							wackestone	reef	IV f	LG				0	fr, py	SHR	1. Py along fractures/faults. 2. Also non-mineralized fract/faults. 3. 3794 just below fault zone 3 cm thick. 4. 3795 along fracture sev m's below disconformity.
	3795																					
110		G			trace pyrite	laminated						mudstone	shallow shelf		LG				0	fr, py		1. Possibly Christina Mbr of Waterways. 2. Laminated to bedded.

SKELETAL: Thamnopora, Rugose Coral, Tabulate Coral, Crinoids, Brachiopods, Tabular Stromatoporoid, Bulbous Stromatoporoid, Amphipora, Stachyodes, Cephalopods, Trilobites, Solenpora, Filaments, Trace Fossils, Bryozoans, Gastropods

NON-SKELETAL: Oncoids, Ooids, Peloids, Pellets, Pisoids, Lumps, Coated Grains, Aggregate Grains, Intraclasts, Extraclasts, Bioturbation

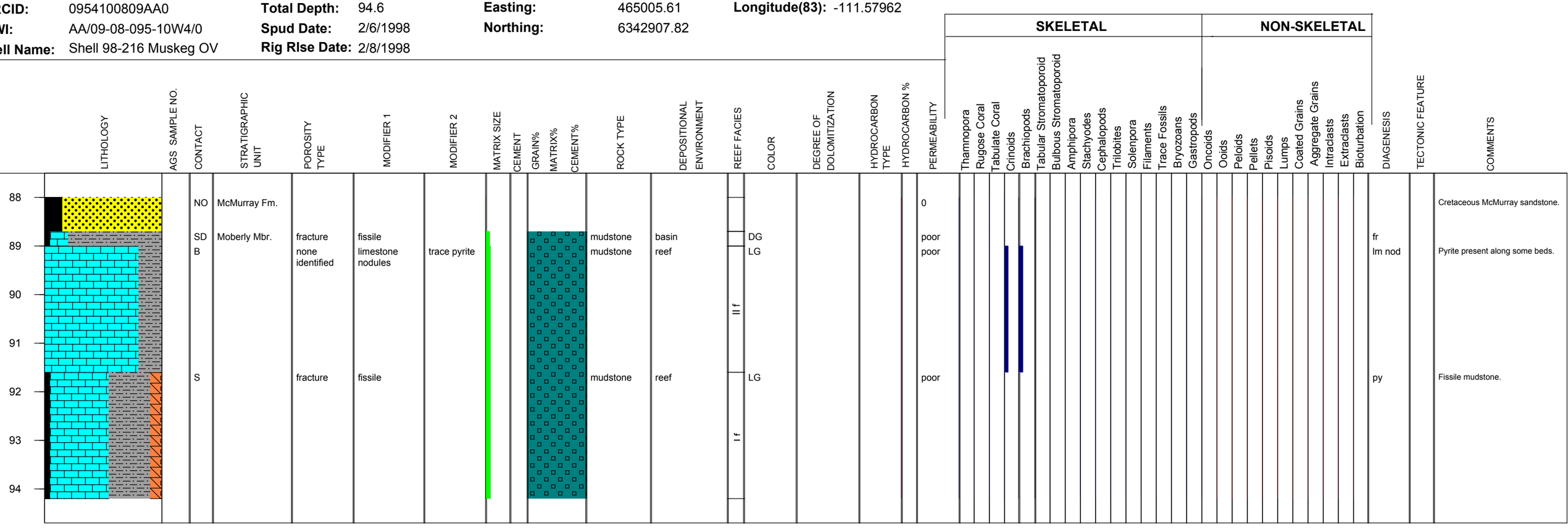
SitID: 253871
SRCID: 0954100809AA0
UWI: AA/09-08-095-10W4/0
Well Name: Shell 98-216 Muskeg OV

KB Elevation: 290
Total Depth: 94.6
Spud Date: 2/6/1998
Rig RIse Date: 2/8/1998

Coordinate System: UTM NAD 27
Easting: 465005.61
Northing: 6342907.82

Latitude (83): 57.229839
Longitude(83): -111.57962

Application Version 1.6.1



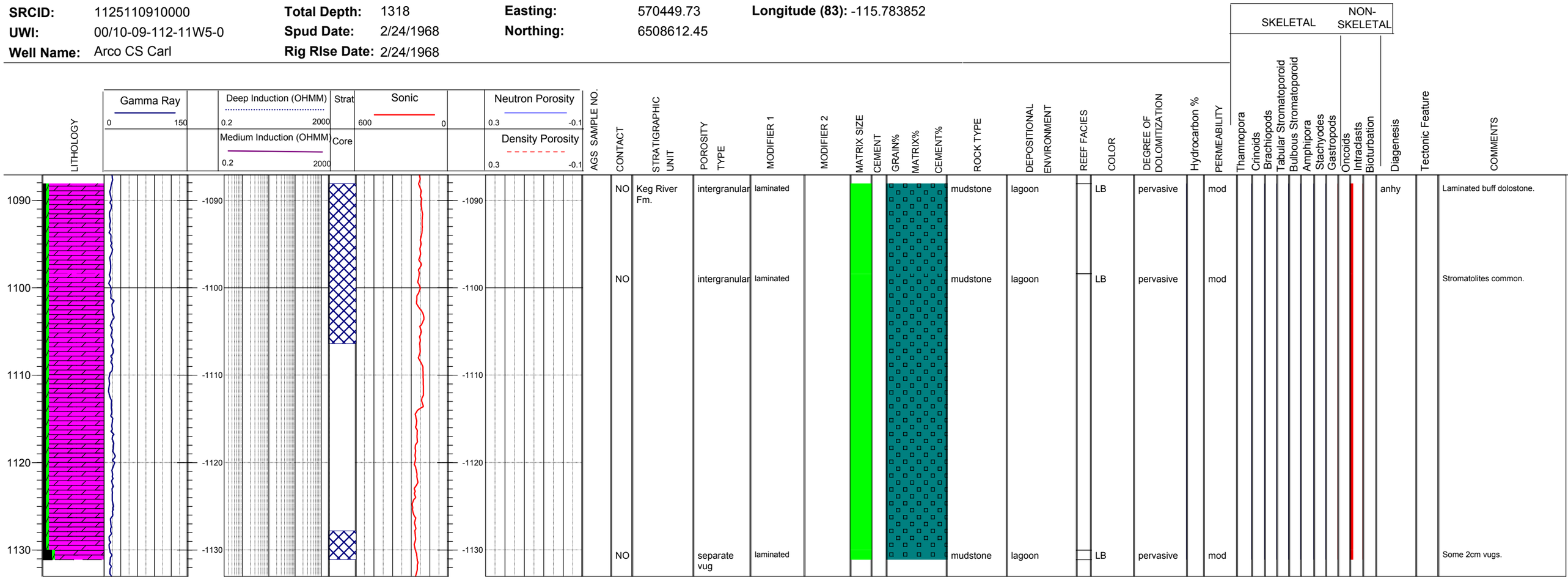
SITID: 128066
SRCID: 1125110910000
UWI: 00/10-09-112-11W5-0
Well Name: Arco CS Carl

KB Elevation: 492.6
Total Depth: 1318
Spud Date: 2/24/1968
Rig RIse Date: 2/24/1968

Coordinate System: UTM NAD 27
Easting: 570449.73
Northing: 6508612.45

Latitude (83): 58.713787
Longitude (83): -115.783852

Application Version 1.6.1



SitID: 128156
SRCID: 1135110910000
UWI: 00/10-09-113-11W5/0
Well Name: Pan Am A-1 Carl Creek

KB Elevation: 779.4
Total Depth: 1184
Spud Date: 1/6/1961
Rig RIse Date: 1/19/1961

Coordinate System: UTM NAD 27
Easting: 570174.50
Northing: 6518241.59

Latitude (83): 58.80029
Longitude(83): -115.78559

Application Version 1.6.1

DEPTH	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
1110			NO	Slave Point Fm.	none identified	shale, laminae	fossiliferous						wackestone	reef	III f	LB		oil		0																												ds		Some fenestral porosity.
1120																																																	
1130			G	Fort Vermilion Fm	none identified	laminated								lagoon	III b	LG, LB				0																																Interbedded anhydrite and dolomite.
1140																																																	

SitID: 120436
SRCID: 0934071210AA0
UWI: 00/10-12-093-07W4/0
Well Name: Steepbank 2-75 OV 10-12

KB Elevation: 521.5
Total Depth: 267.3
Spud Date: 2/3/1975
Rig RIse Date: 3/3/1975

Coordinate System: UTM NAD 27
Easting: 501165.28
Northing: 6323313.95

Latitude (83): 57.05516
Longitude(83): -110.98079

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
253			McMurray Fm.																0																													1. Only basal oil sands & Waterways looked at. 2. Basal shale & tight sand not oil stained.
254																																																
255																																																
256																																																
257																																																
258																																																
259	3784	D	Waterways Fm.									wackestone	reef	IV f	LG				0																														1. Slightly nodular bedding. 2. 3784 pyrite along fractures in Waterways.
260																																																
261																																																

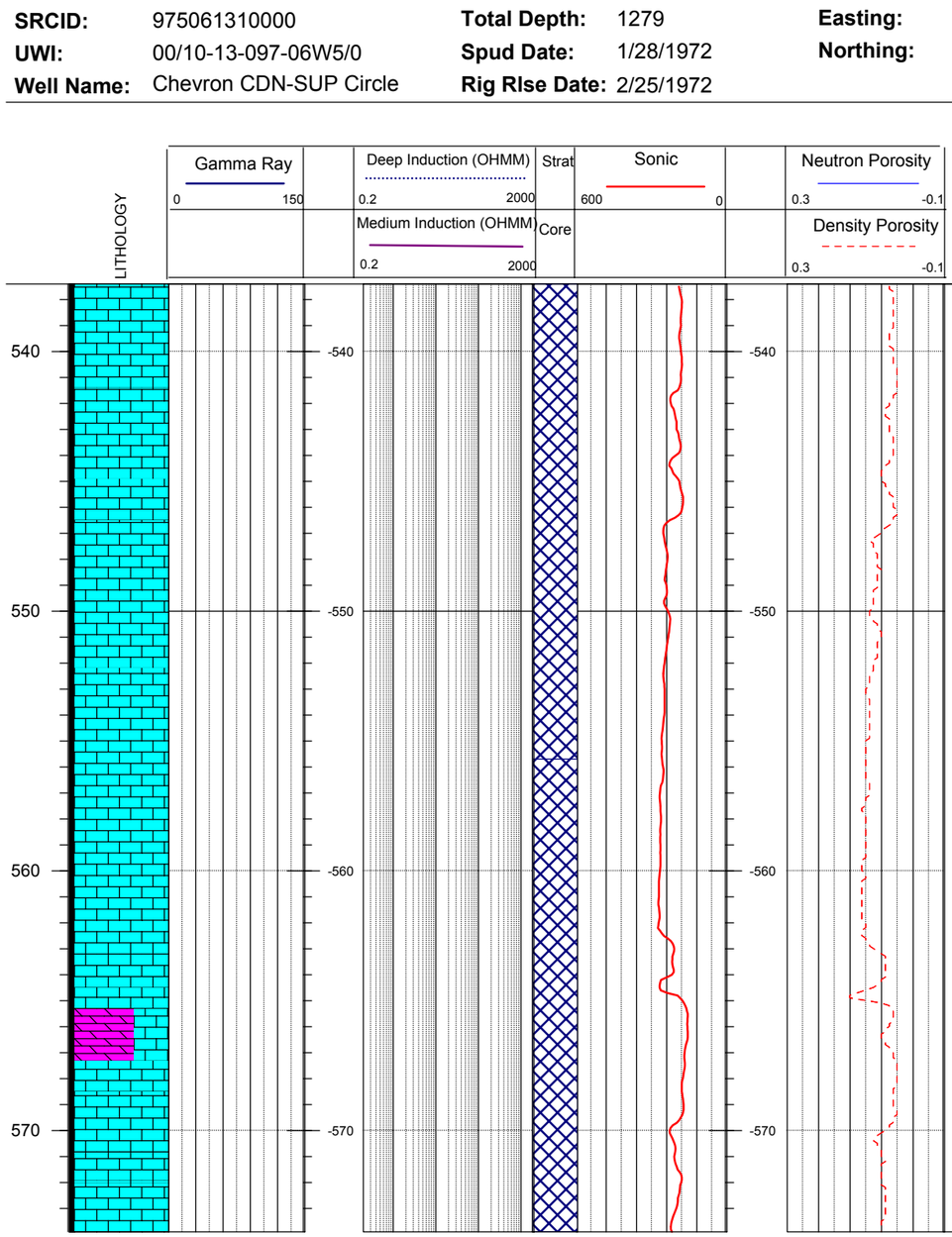
SITID: 125587 **KB Elevation:** 531.9 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.42054

SRCID: 975061310000 **Total Depth:** 1279 **Easting:** 630835.15 **Longitude (83):** -114.82149

UWI: 00/10-13-097-06W5/0 **Spud Date:** 1/28/1972 **Northing:** 6366084.69

Well Name: Chevron CDN-SUP Circle **Rig Rlse Date:** 2/25/1972

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		G			trace pyrite	limestone nodules						wackestone	reef	IV/V	LG			0												lm nod, ds, py, fr		Deeper.
		G		none identified	fossiliferous	trace pyrite						rudstone	reef	III f	LB			0												py, ds, fr		Shallowing.
		G			limestone nodules	trace pyrite						wackestone	shallow shelf	II f	MG			0												py, lm nod		Storm layers; deepening.
		G	Grosmont B		trace pyrite	limestone nodules						mudstone	deep shelf		MG			0												fr, py, lm nod		1. Limestone nodules/horiz decrease quickly below top. 2. Occasional calcite replaced fossils at top; no id.
		G			limestone nodules	limestone, stringers						wackestone	reef	II f	MG			0												py,lm nod		
		G		none identified	fossiliferous	trace pyrite						packstone	reef		MG			poor												lm nod	SHR	24 cm thick fault zone.
		SI	Grosmont A		algal laminations							mudstone	shallow marine		LB	pervasive		0												ds, doln		% dolostone increases downward. Contains 1 m thick pervasively dolomitized interval.
		G			mottled								shallow shelf		LB, LG			poor												ds, styl, fr		Few primary features.
		G		none identified	fossiliferous							wackestone	reef	IV b	LB			0												ds, fr		
		G		none identified								wackestone	reef	IV b	DB, LB			0												ds, lm nod, b-e		Calcite spar locally replacing stroms.
		G			mottled							wackestone	reef	III f	DB			0												lm nod, ds		No core from 573.9 to 1214.9.

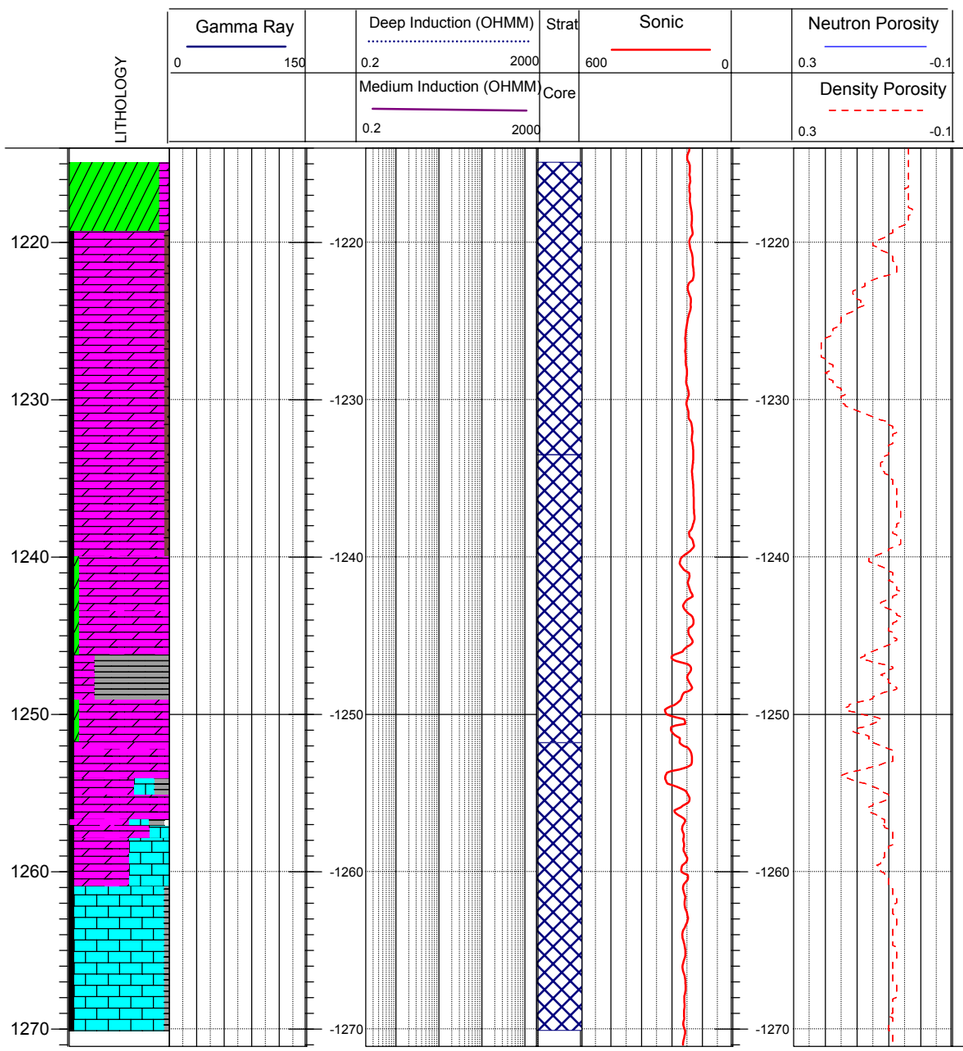
SITID: 125587
SRCID: 975061310000
UWI: 00/10-13-097-06W5/0
Well Name: Chevron CDN-SUP Circle

KB Elevation: 531.9
Total Depth: 1279
Spud Date: 1/28/1972
Rig Rlse Date: 2/25/1972

Coordinate System: UTM NAD 27
Easting: 630835.15
Northing: 6366084.69

Latitude (83): 57.42054
Longitude (83): -114.82149

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	NON-SKELETAL: Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified	dolom. stringers							mudstone	shallow marine		LG, LB	pervasive		0												anhy		Anhydrite largely replacing dolostone.
		SI	Keg River Fm.	none identified	laminated								intertidal		LB	pervasive		0												ds		From 1233 to 1239, only locally laminated.
		G		separate vug									reef	II f	MG	pervasive		poor												anhy, ds, lch, fr-anhy		
		G			mottled	limestone nodules							reef	III f	MG	pervasive		poor												anhy, ds, lch, fr-anhy		Crinoid abundance increase downward.
		G		none identified	fissile								basin	I f	DGn-G			0												doln		
		G		separate vug	mottled	nodules							reef	III f	MG	pervasive		poor												ds, anhy, fr		Contains 32 cm shale unit similar to above interval. 2 cm vugs.
		NO		none identified	algal laminations							wackestone	intertidal	II f	LB MG-B	pervasive		0												ds, doln		Shell debris in algal mat.
		G			nodules								reef	III f	MG MB	partially pervasive		0												doln, ds		Muddy fore-reef. Weakly nodular.
						shale, laminae									MG	partially																At 1257.06: Reef facies III f. Nodular at top. Crinoid debris mats.
		G		none identified	nodules									II f																ds		Nodular character decrease downward. Crinoid abundance decrease downward.

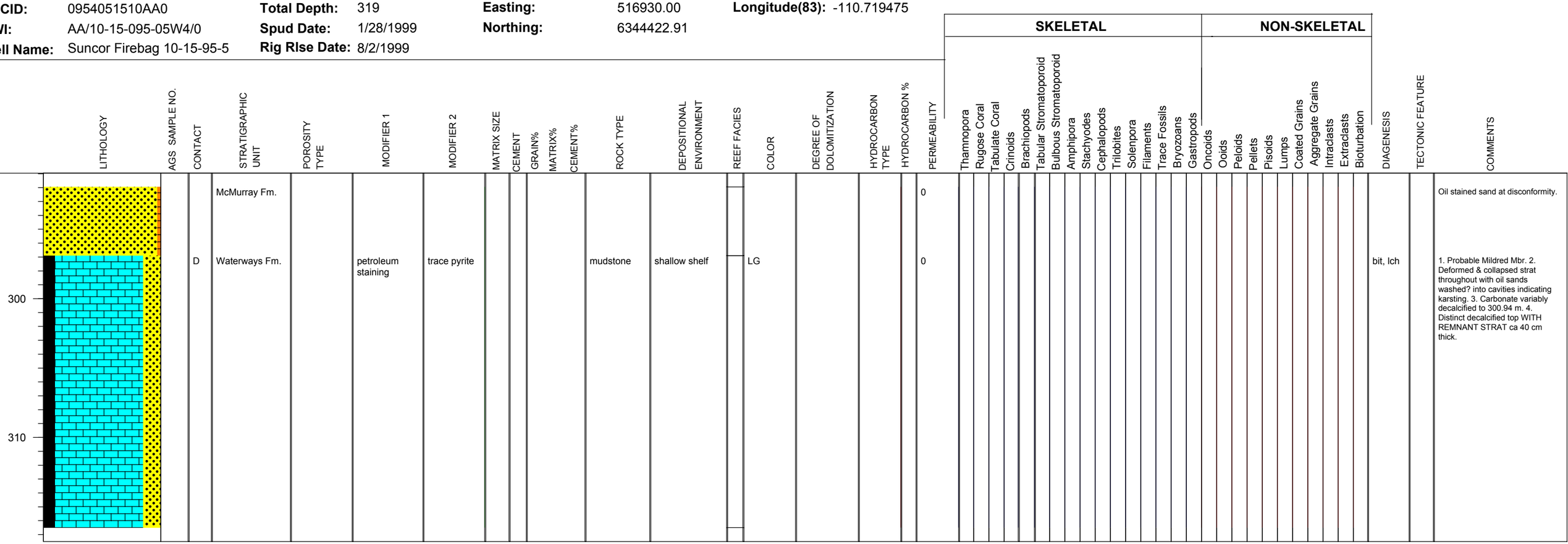
SitID: 265296
SRCID: 0954051510AA0
UWI: AA/10-15-095-05W4/0
Well Name: Suncor Firebag 10-15-95-5

KB Elevation: 579
Total Depth: 319
Spud Date: 1/28/1999
Rig RIse Date: 8/2/1999

Coordinate System: UTM NAD 27
Easting: 516930.00
Northing: 6344422.91

Latitude (83): 57.244473
Longitude(83): -110.719475

Application Version 1.6.1



SitID: 126635
SRCID: 1045122010000
UWI: 00/10-20-104-12W5/0
Well Name: Pan Am B-1 Cree

KB Elevation: 327.4
Total Depth: 1215.8
Spud Date:
Rig RIse Date: 2/7/1967

Coordinate System: UTM NAD 27
Easting: 562342.82
Northing: 6433931.38

Latitude (83): 58.04441
Longitude(83): -115.944

Application Version 1.6.1

	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			S	Muskeg Fm.	none identified	mottled			A							LB, LG	pervasive			poor																												doln, anhy		Mottled dolostone partially replaced by anhydrite nodules.
1110			NO		intercrystal	algal laminations							mudstone			LB	pervasive			poor																												doln		Light brown dolostone.
			S		none identified	wavy laminations	mottled									LB	pervasive			poor																												doln, ds		Mottled dolostone.
						dolom. stringers							mudstone	lagoon		LG, LB	pervasive			poor																												doln, anhy		Dolostone largely replaced by anhydrite.
			S		none identified	wavy laminations	mottled							shallow shelf		LB	pervasive			poor																												doln, ds		Mottled dolostone.
			G			algal laminations							mudstone			LB	pervasive			poor																														Light brown dolostone.
					intercrystal																																										doln, fr, anhy, af		
1120			S		intercrystal	wavy laminations	mottled									LB	pervasive	oil		poor																												doln, fr		Oil stained reworked tabular strom layer.
			G		none identified	wavy laminations	mottled						mudstone	reef		LB	pervasive			poor																														
															IV b																																	doln, anhy, fr		Dolostone replaced by anhydrite. Anhydrite content increases with depth.
			S		none identified	mottled			A					shallow shelf		LB, LG	pervasive			poor																												doln, anhy, b-e		Mottled dolostone partially replaced by anhydrite nodules.
					none identified	dolom. stringers							mudstone	lagoon		LG, LB	pervasive			poor																												doln, lch, anhy		Dolostone largely replaced by anhydrite.
						mottled	laminated		A					shallow shelf		LB, LG	pervasive			poor																												doln, anhy		Mottled dolostone partially replaced by anhydrite nodules.

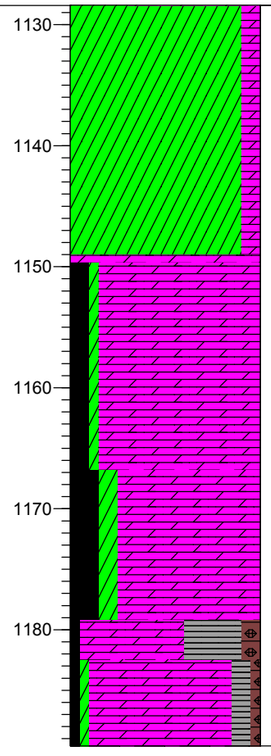
SitID: 126635
SRCID: 1045122010000
UWI: 00/10-20-104-12W5/0
Well Name: Pan Am B-1 Cree

KB Elevation: 327.4
Total Depth: 1215.8
Spud Date:
Rig RIse Date: 2/7/1967

Coordinate System: UTM NAD 27
Easting: 562342.82
Northing: 6433931.38

Latitude (83): 58.04441
Longitude(83): -115.944

Application Version 1.6.1



AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
	S		none identified	dolom. stringers								lagoon		LG, LB	pervasive			poor																												doln, anhy		Dolostone largely replaced by anhydrite.
	G	Keg River Fm.	none identified	algal laminations			A				mudstone	shallow shelf		LB, LG	pervasive			poor																												doln, anhy		Laminated dolostone. Some reworking of laminations indicates high water energy.
			intercrystal											LB	pervasive			mod																											doln, lch, ds, anhy		Clean dolostone. Some 1 mm vugs. Scattered 2 cm anhydrite nodules.
											mudstone																																				
	G		touching vug									shallow marine		LB, W	partially			mod																												doln, lch, anhy, msh, ds		3-5 cm vugs, partially infilled with accicular anhydrite.
	G		intrafossil	carbonaceous	wavy laminations						floatstone	reef	III f	DB	pervasive			poor																											doln, lch		Dark brown high TOC fossiliferous dolostone.
	G		intercrystal	carbonaceous	wavy laminations						wackestone	reef	II f	MB	pervasive			poor																											doln, ds		

SitID: 120440
SRCID: 0934072410AA0
UWI: 00/10-24-093-07W4/0
Well Name: Steepbank 2-75 OV 10-24

KB Elevation: 534
Total Depth: 262.7
Spud Date: 3/13/1975
Rig RIse Date: 3/14/1975

Coordinate System: UTM NAD 27
Easting: 501164.98
Northing: 6326552.20

Latitude (83): 57.08425
Longitude(83): -110.98078

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														
	3787	D			argillaceous	limestone nodules						wackestone	reef	IV f	LG				0																													lm nod		Sample of pyrite nodule from purpleish non-calcareous siltstone/shale unit at top Waterways; Mildred Mbr.?

256
257
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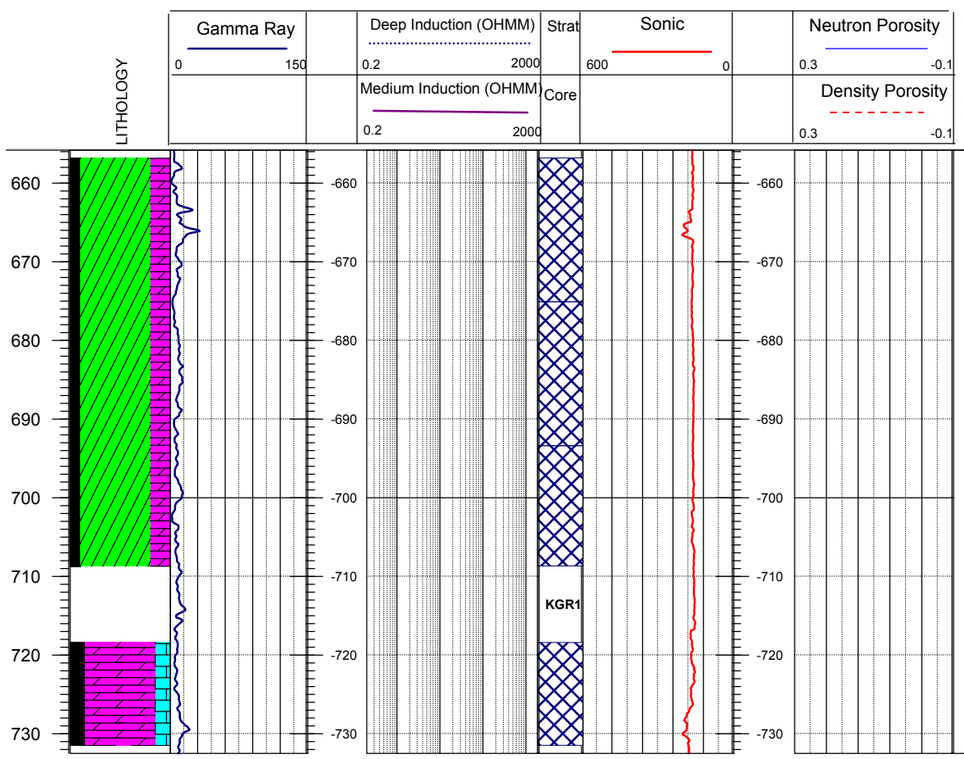
SITID: 127055
SRCID: 1075032810000
UWI: 00/10-28-107-03W5-0
Well Name: GPD Noel et al Jean D'Or

KB Elevation: 271.3
Total Depth: 860
Spud Date: 1/31/1970
Rig RIse Date: 2/15/1970

Coordinate System: UTM NAD 27
Easting: 650669.12
Northing: 6467151.06

Latitude (83): 58.321297
Longitude (83): -114.427635

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Muskeg Fm.	intercrystal	primary dolostone	petroleum staining		0				mudstone	shallow marine		LB	pervasive														anhy		Medium to high porosity in dolostone; dolostone locally laminated; dolostone increases toward contact with Keg River.
								0																							Not cored.
		NO	Keg River Fm.	interparticle	petroleum staining			0				wackestone	reef	II f	LB	pervasive		mod												doln		Local birds eye?; crinoids? Local limestone.

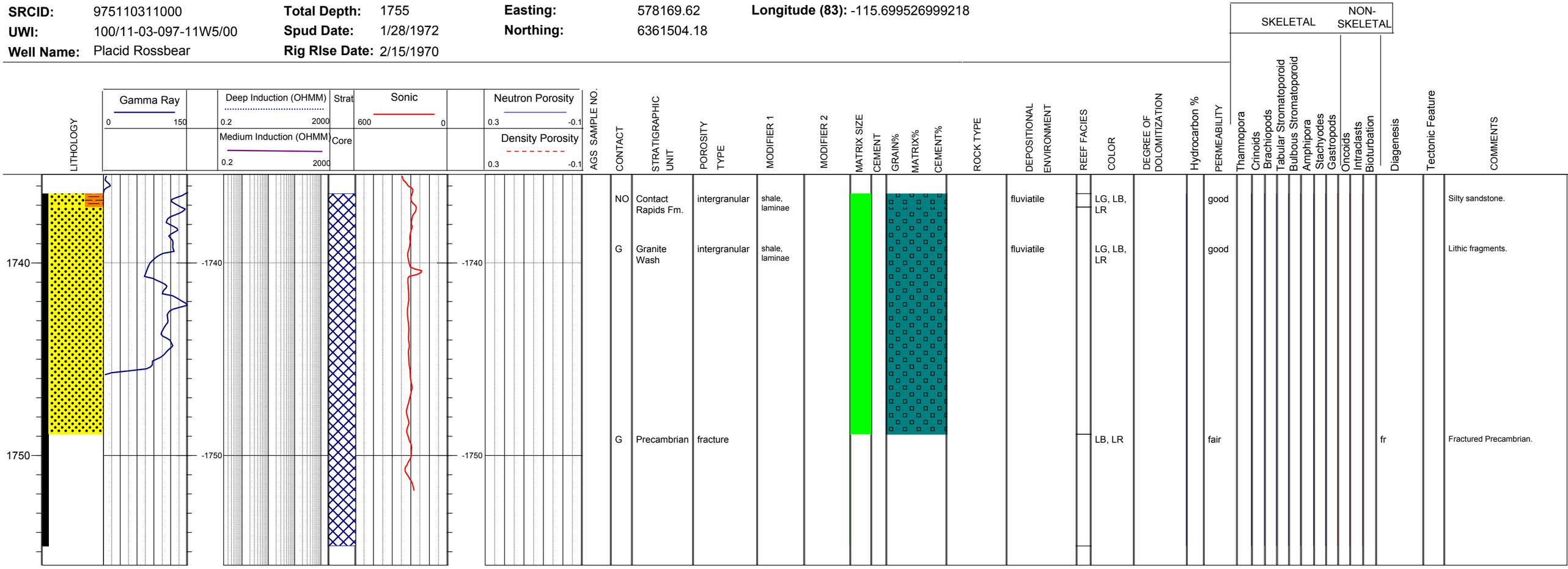
SITID: 125592
SRCID: 975110311000
UWI: 100/11-03-097-11W5/00
Well Name: Placid Rossbear

KB Elevation: 803.8
Total Depth: 1755
Spud Date: 1/28/1972
Rig Rlse Date: 2/15/1970

Coordinate System: UTM NAD 27
Easting: 578169.62
Northing: 6361504.18

Latitude (83): 57.3915119983619
Longitude (83): -115.699526999218

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Contact Rapids Fm.	intergranular	shale, laminae								fluviatile		LG, LB, LR			good														Silty sandstone.
		G	Granite Wash	intergranular	shale, laminae								fluviatile		LG, LB, LR			good														Lithic fragments.
		G	Precambrian	fracture											LB, LR			fair												fr		Fractured Precambrian.

SitID: 171474 **KB Elevation:** 453.2 **Coordinate System:** UTM NAD 27 **Latitude (83):** 56.79323

SRCID: 0904070711AA0 **Total Depth:** 203.5 **Easting:** 493227.33 **Longitude(83):** -111.11087

UWI: 00/11-07-090-07W4/0 **Spud Date:** 6/2/1990 **Northing:** 6294162.37

Well Name: Mobil 90 Clarke Creek OV 11-7 **Rig RIse Date:** 8/2/1990

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														
		D	Waterways Fm.		laminated	trace pyrite						mudstone	shallow marine		LG				0																														fr, py		Calcareous shale (marlstone); probably Mildred Mbr.
		SI			limestone nodules	trace pyrite						wackestone	reef	IV f	LG				0																												fr		Moberly Mbr nodular limestone.

190

200

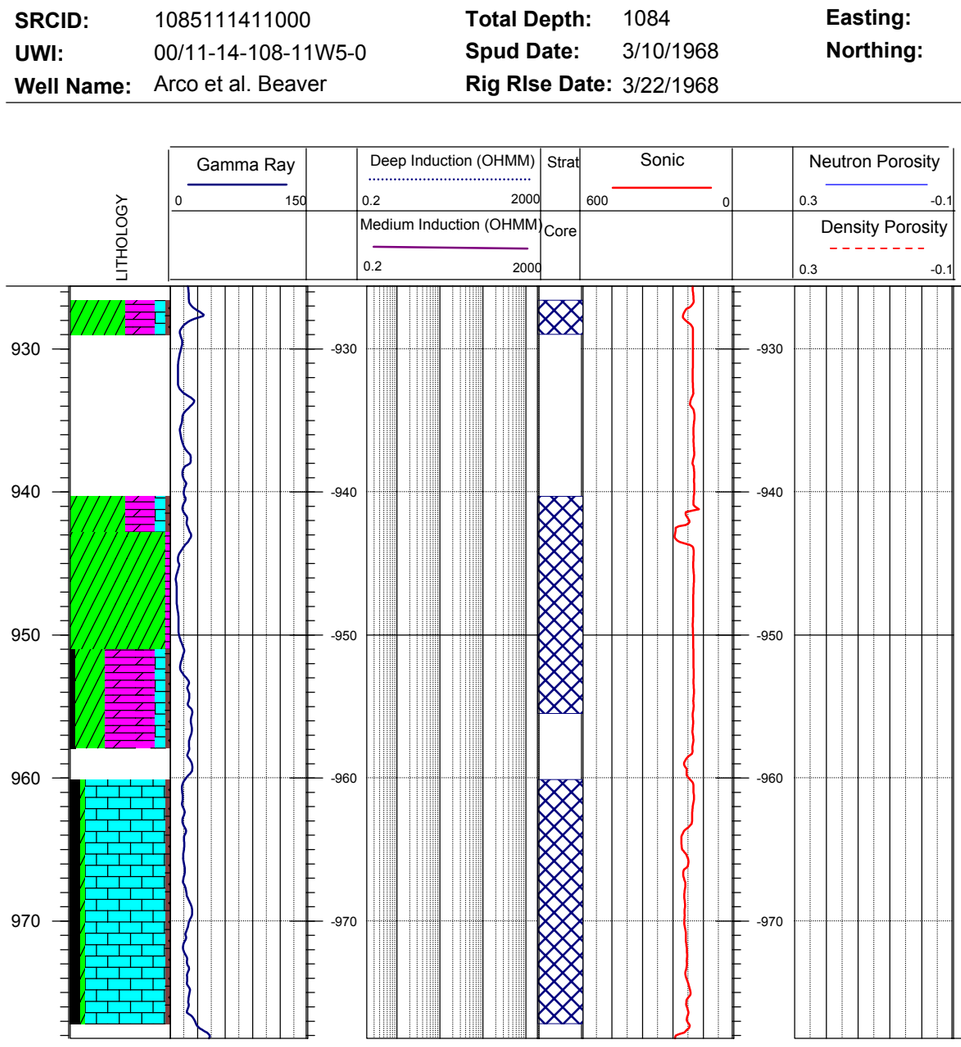
SITID: 127223
SRCID: 1085111411000
UWI: 00/11-14-108-11W5-0
Well Name: Arco et al. Beaver

KB Elevation: 264.6
Total Depth: 1084
Spud Date: 3/10/1968
Rig RIse Date: 3/22/1968

Coordinate System: UTM NAD 27
Easting: 574785.79
Northing: 6471461.55

Latitude (83): 58.379486
Longitude (83): -115.72123

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified	laminated dolo-anhydrite							mudstone	sabkha		LB, LG	pervasive		poor												anhy		Bitumen present.
																		0														No core.
		NO		none identified	laminated dolo-anhydrite							mudstone	sabkha		LB, LG	pervasive		poor												anhy		Bitumen present.
		B		none identified	laminated dolo-anhydrite								sabkha		LG	pervasive		0												anhy		Bedded and nodular anhydrite.
		NO		intercrystal	laminated dolo-anhydrite							mudstone	sabkha		LB, LG	pervasive		poor												anhy		Bitumen present.
																		0														No core.
		NO	Keg River Fm.	moldic	fossiliferous	shale, laminae						wackestone		IV f	MB			0												ds		Fossiliferous dirty limestone.

SitID: 120438
SRCID: 0934071811AA0
UWI: 00/11-18-093-07W4/0
Well Name: Texex Steepbank 2-75 OV

KB Elevation: 487.4
Total Depth: 226.8
Spud Date: 3/14/1975
Rig RIse Date: 3/15/1975

Coordinate System: UTM NAD 27
Easting: 492628.44
Northing: 6324952.28

Latitude (83): 57.06982
Longitude(83): -111.12157

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
216																			0																														Cretaceous McMurray oilsands.
217																																																
218																																																
219																																																
220		SD	Moberly Mbr.	intergranular	iron staining							mudstone			L to MO				poor																													fr, rs		Non-calcareous siltstone. Possibly Moberly.
221																																																
222																																																

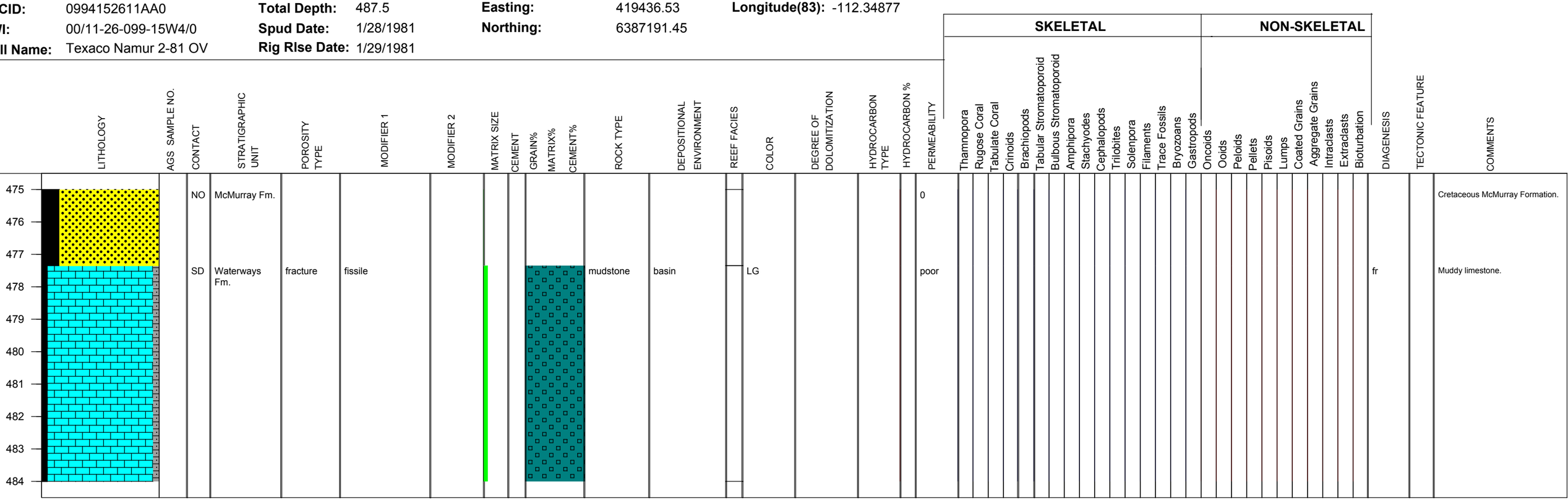
SitID: 126076
SRCID: 0994152611AA0
UWI: 00/11-26-099-15W4/0
Well Name: Texaco Namur 2-81 OV

KB Elevation: 727.9
Total Depth: 487.5
Spud Date: 1/28/1981
Rig RIse Date: 1/29/1981

Coordinate System: UTM NAD 27
Easting: 419436.53
Northing: 6387191.45

Latitude (83): 57.62177
Longitude(83): -112.34877

Application Version 1.6.1



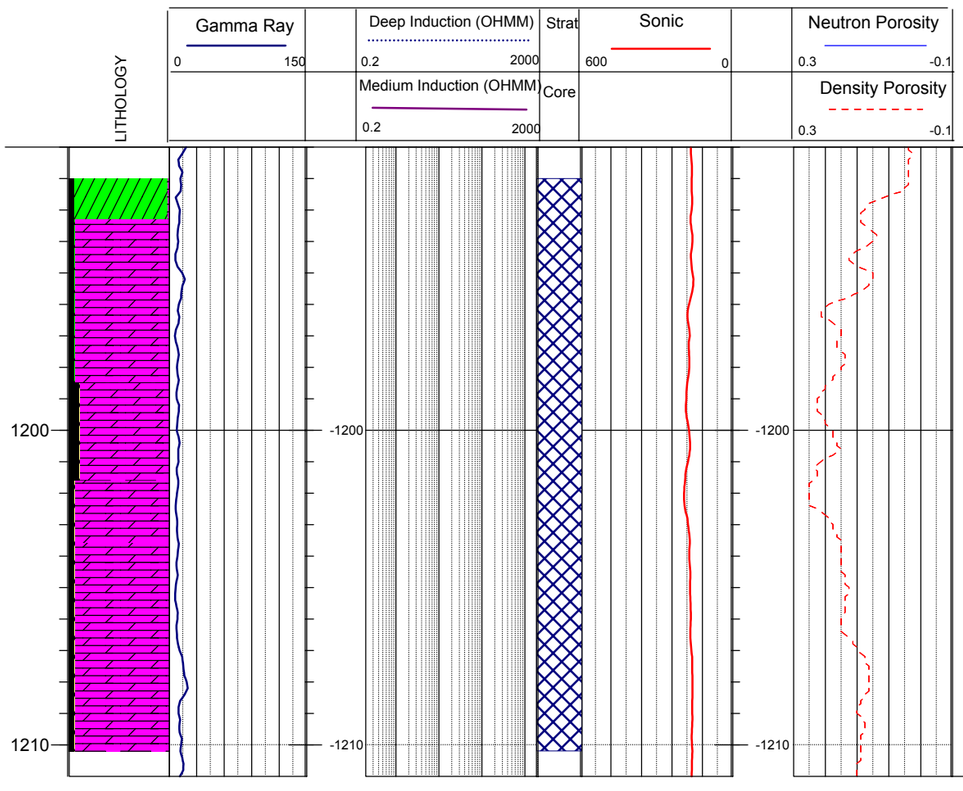
SITID: 145098
SRCID: 975053011000
UWI: 11-30-97-05W5
Well Name: SC ICGR PANNY

KB Elevation: 520.6
Total Depth: 1303
Spud Date: 3/1/1987
Rig Rlse Date: 3/22/1987

Coordinate System: UTM NAD 27
Easting: 631941.99
Northing: 6369411.38

Latitude (83): 57.450081
Longitude (83): -114.801285

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Muskeg Fm.		dolomitic								intertidal		LG			0														Dolostone interval ca 10 cm thick in anhydrite.
		G	Keg River Fm.		anhydritic							mudstone	shallow marine		LB	pervasive		0														Stylolites; maybe minor shale laminae; highly rexlized (sugary).
		G			gypsiferous							mudstone	reef	III b	LB	pervasive		0														Gypsum along fractures; amphipora decreasing downward (landward?).
		G			gypsiferous							mudstone	shallow shelf		LB	pervasive		0														Minor gypsum as small nodules & along fractures.
		G			gypsum, stringers							mudstone	reef	III b	LB	pervasive		0														Gypsum along fractures & as small nodules.
		G			gypsiferous									V	LB	pervasive		0														Sugary rexlized dolostone;local preserved bulbous & tabular stroms; gypsum as nodules & along fractures.

SitID: 117803 **KB Elevation:** 368 **Coordinate System:** UTM NAD 27 **Latitude (83):** 56.720936

SRCID: 0894101412AA0 **Total Depth:** 189.8 **Easting:** 469995.81 **Longitude(83):** -111.490234

UWI: AA/12-14-089-10W4/0 **Spud Date:** 2/25/1984 **Northing:** 6286216.97

Well Name: Esso BSL 40-41 Oslo OV 12-14 **Rig RIse Date:** 2/28/1984

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																													Coal debris & thin coal horiz in basal McMurray.
		D	Waterways Fm.		laminated	trace pyrite						mudstone	deep shelf		LG				0																															1. Mildred Mbr., Waterways Fm. - lam calc mudstone (marl); no fossils seen. 2. Trace py in basal Mildred.
		SI			limestone nodules							wackestone	reef	IV f	LG				0																												fr, py		Moberly Mbr nodular limestone; tr py at top in fract & spots.

150 160 170 180 190

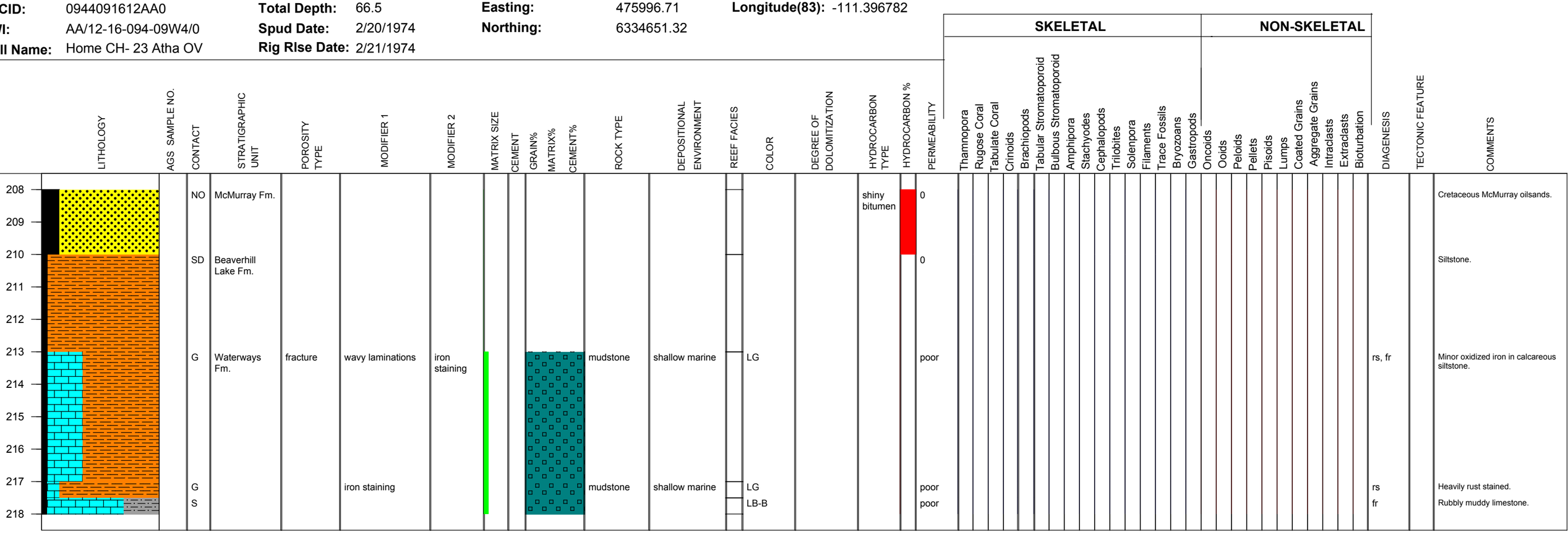
SitID: 121744
SRCID: 0944091612AA0
UWI: AA/12-16-094-09W4/0
Well Name: Home CH- 23 Atha OV

KB Elevation: 326.1
Total Depth: 66.5
Spud Date: 2/20/1974
Rig RIse Date: 2/21/1974

Coordinate System: UTM NAD 27
Easting: 475996.71
Northing: 6334651.32

Latitude (83): 57.15638
Longitude(83): -111.396782

Application Version 1.6.1



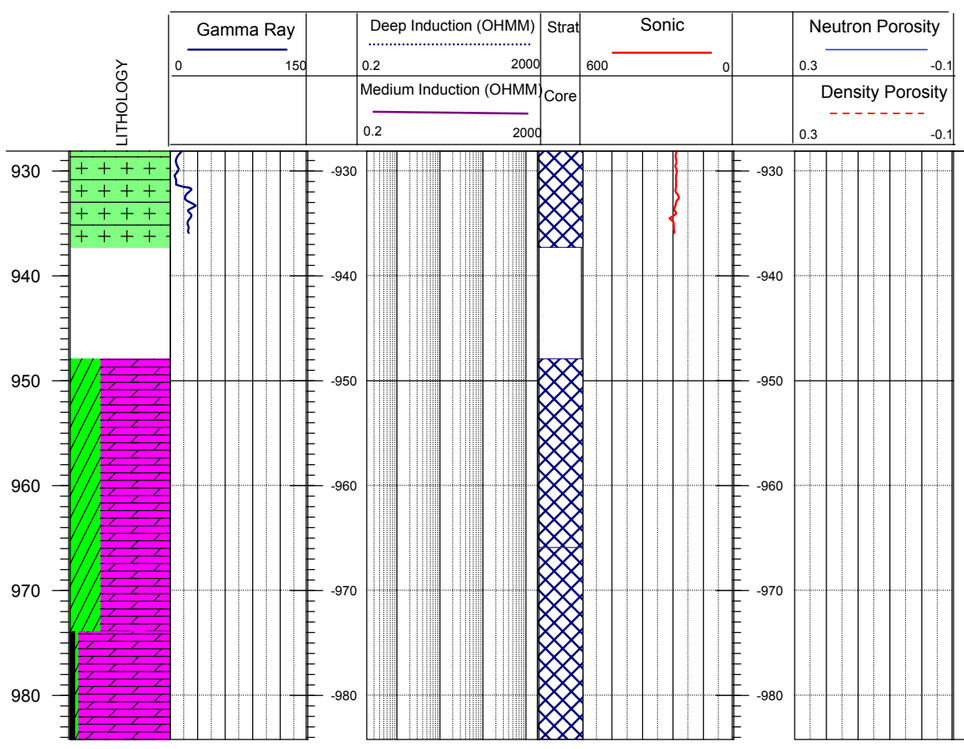
SITID: 128233
SRCID: 1145022512000
UWI: 00/12-25-114-02W5/0
Well Name: IOE Gardenr

KB Elevation: 694.3
Total Depth: 1130
Spud Date: 1/16/1966
Rig Rlse Date: 2/11/1966

Coordinate System: UTM NAD 27
Easting: 661682.66
Northing: 6535572.59

Latitude (83): 58.93115
Longitude (83): -114.19098

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	NON-SKELETAL: Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified								mudstone	intertidal		W-T			0														Some horizontal fractures infilled with calcite.
																		0														Not Cored.
		NO		none identified	laminated dolo-anhydrite	petroleum staining						wackestone	intertidal		LB, LG			fair												anhy		0.1- 0.5 cm anhydrite nodules along laminae boundaries. Few small secondary anhydrite needles.
		S	Keg River Fm.	separate vug	nodules								shallow marine					0												fan		Large anhydrite nodules, few vugs.

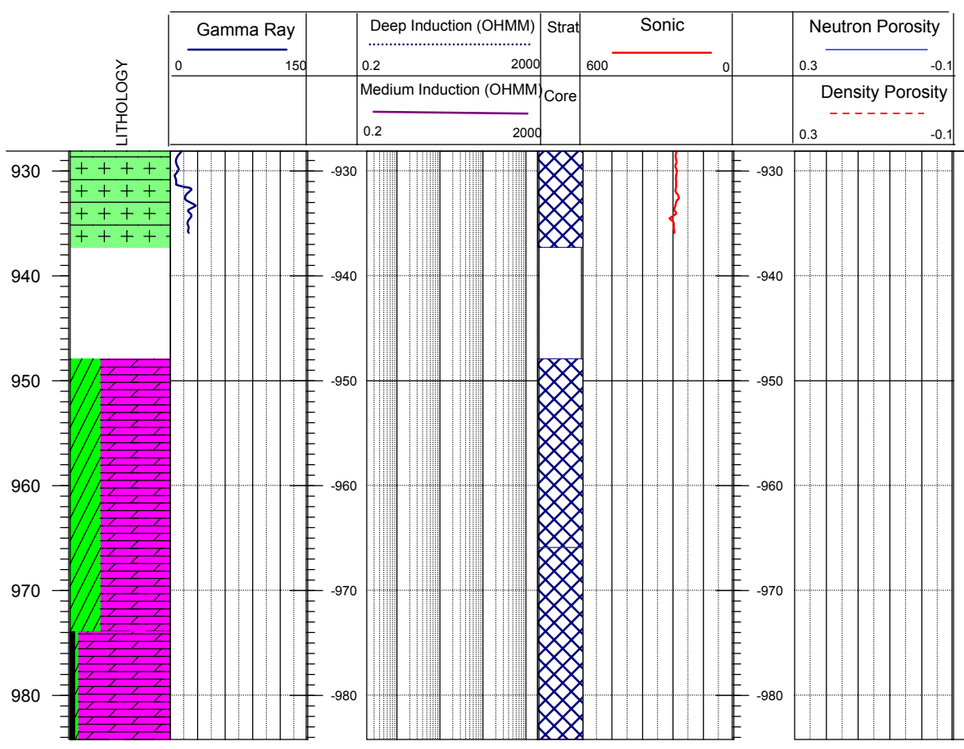
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SRCID: 1145022512000
UWI: 00/12-25-114-02W5/0
Well Name: IOE Gardenr

KB Elevation: 694.3
Total Depth: 1130
Spud Date: 1/16/1966
Rig Rlse Date: 2/11/1966

Coordinate System: UTM NAD 27
Easting: 661682.66
Northing: 6535572.59

Latitude (83): 58.93115
Longitude (83): -114.19098

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	NON-SKELETAL: Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	none identified								mudstone	intertidal		W-T			0														Some horizontal fractures infilled with calcite.
																		0														Not Cored.
		NO		none identified	laminated dolo-anhydrite	petroleum staining						wackestone	intertidal		LB, LG			fair												anhy		0.1- 0.5 cm anhydrite nodules along laminae boundaries. Few small secondary anhydrite needles.
		S	Keg River Fm.	separate vug	nodules								shallow marine					0												fan		Large anhydrite nodules, few vugs.

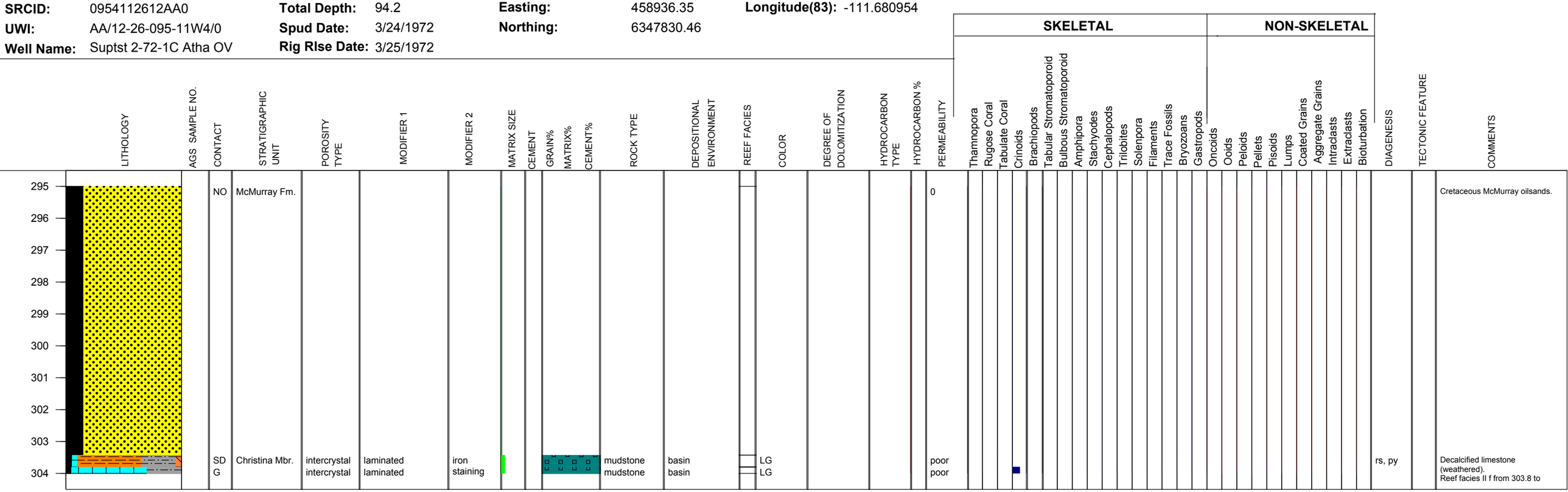
SitID: 123436
SRCID: 0954112612AA0
UWI: AA/12-26-095-11W4/0
Well Name: Suptst 2-72-1C Atha OV

KB Elevation: 289.9
Total Depth: 94.2
Spud Date: 3/24/1972
Rig RIse Date: 3/25/1972

Coordinate System: UTM NAD 27
Easting: 458936.35
Northing: 6347830.46

Latitude (83): 57.273552
Longitude(83): -111.680954

Application Version 1.6.1



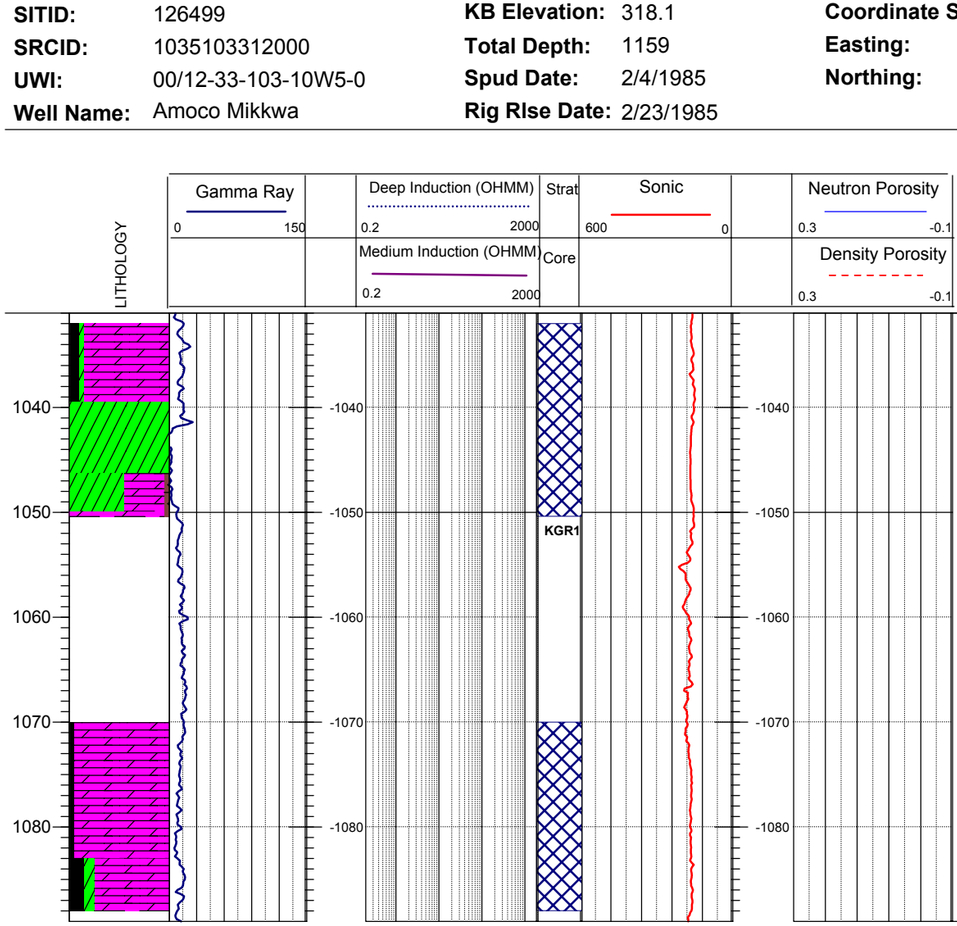
SITID: 126499
SRCID: 1035103312000
UWI: 00/12-33-103-10W5-0
Well Name: Amoco Mikkwa

KB Elevation: 318.1
Total Depth: 1159
Spud Date: 2/4/1985
Rig RIse Date: 2/23/1985

Coordinate System: UTM NAD 27
Easting: 583061.00
Northing: 6427926.61

Latitude (83): 57.987099
Longitude (83): -115.595284

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.	intercrystal	bioturbation	anhydritic							shallow marine		LB	pervasive		poor												anhy, fr		Sub-vertical and horizontal fractures, irregular orientations, 1 cm-5cm anhydrite nodules forming along fractures.
		S		none identified									intertidal		LG			non														
		B		none identified	laminated dolo-anhydrite							mudstone	intertidal		LG			non												doln		Bedded anhydrite and dolomite with organic material along some laminae.
		S		fenestral	laminated								shallow marine		LB	pervasive		poor												anhy, doln		1- 2 cm anhydrite nodules.
		NO	Keg River Fm.	interparticle	shale, laminae							wackestone	reef	IV b		pervasive		0												doln		Back reef environment with some washover from reef crest (Thamnopora).
		G		touching vug	trace pyrite							wackestone	reef		LB-G			0												anhy, fan		Some 0.5 - 2 cm vugs partially infilled with anhydrite and pyrite.

SitID: 120445
SRCID: 0934073612AA
UWI: 00/12-36-093-07W4/0
Well Name: Steepbank 2-75

KB Elevation: 536.8
Total Depth: 256.3
Spud Date: 3/14/1975
Rig RIse Date: 3/15/1975

Coordinate System: UTM NAD 27
Easting: 500417.73
Northing: 6329786.19

Latitude (83): 57.11341
Longitude(83): -110.994

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			McMurray Fm.																0																														Only McMurray - Waterways contact examined.
		D	Waterways Fm.									wackestone	reef	IV f	LG				0																															

210
220
230
240
250

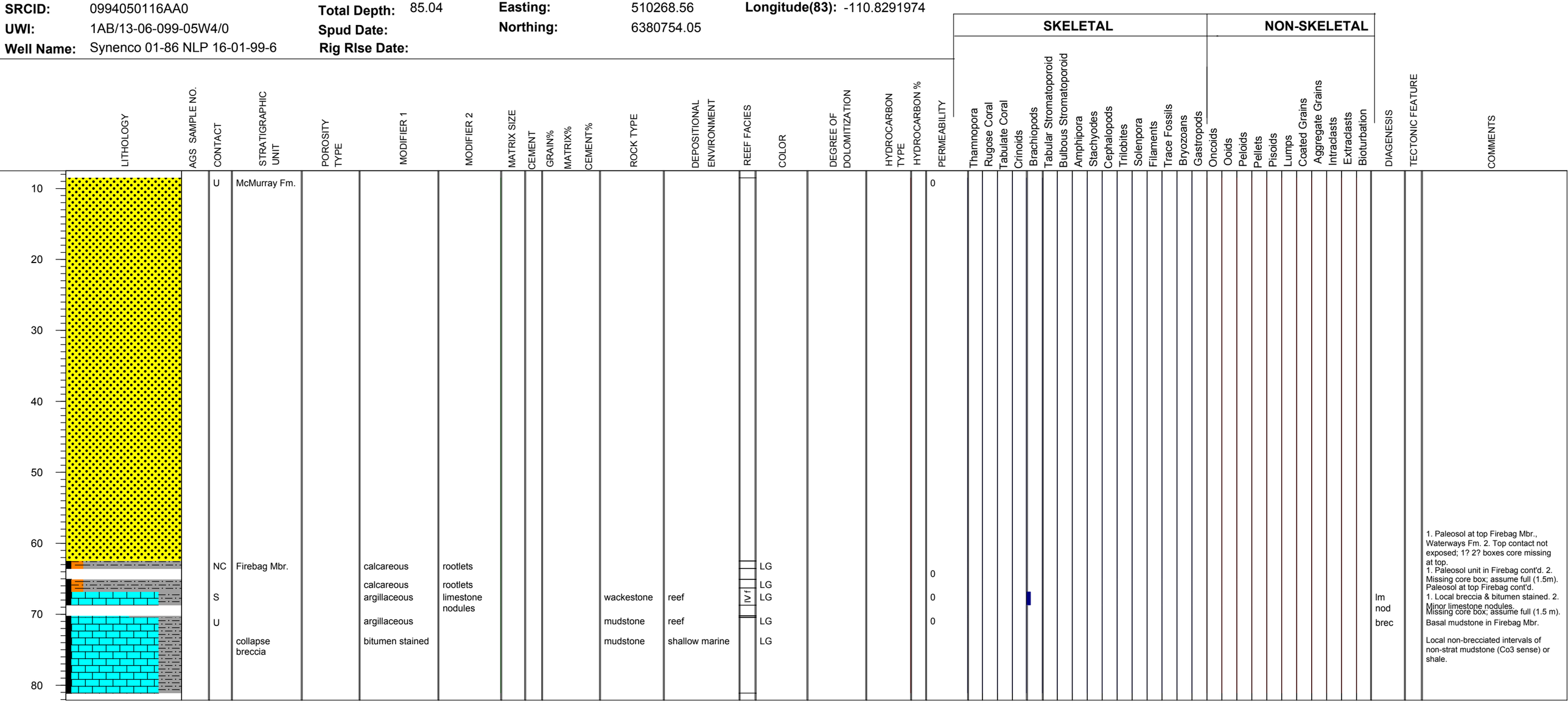
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SRCID: 0994050116AA0
UWI: 1AB/13-06-099-05W4/0
Well Name: Synenco 01-86 NLP 16-01-99-6

KB Elevation:
Total Depth: 85.04
Spud Date:
Rig RIse Date:

Coordinate System: UTM NAD 27
Easting: 510268.56
Northing: 6380754.05

Latitude (83): 57.57112826
Longitude(83): -110.8291974

Application Version 1.6.1



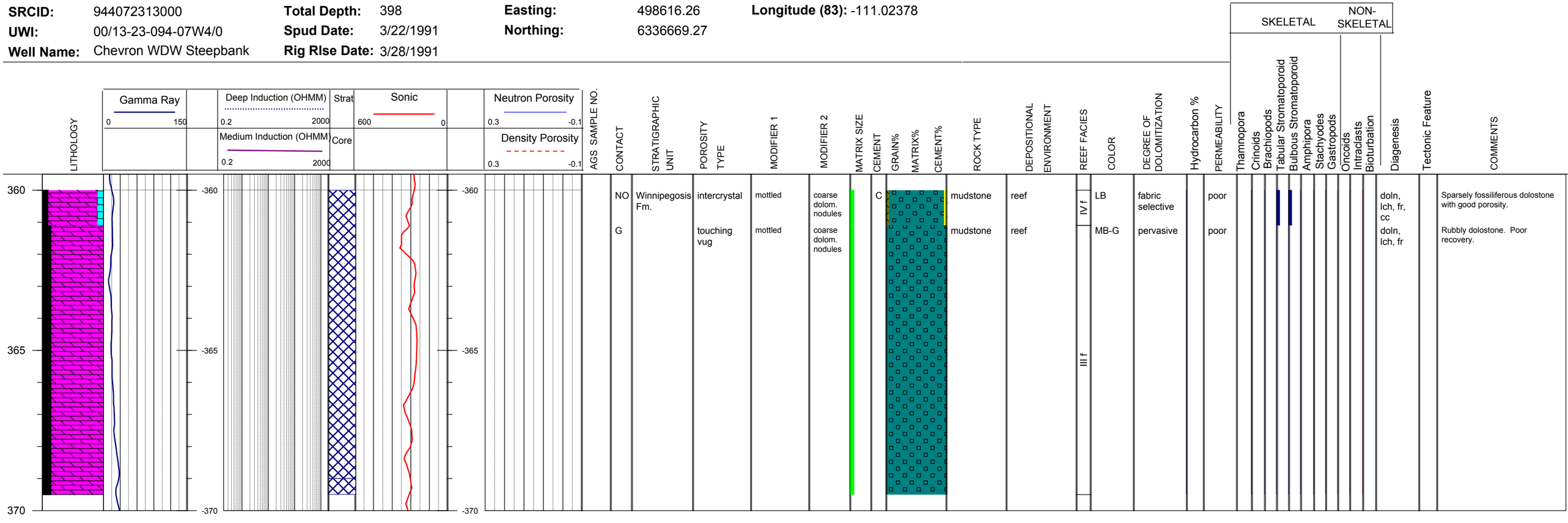
SITID: 184108 **KB Elevation:** 535 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.17524

SRCID: 944072313000 **Total Depth:** 398 **Easting:** 498616.26 **Longitude (83):** -111.02378

UWI: 00/13-23-094-07W4/0 **Spud Date:** 3/22/1991 **Northing:** 6336669.27

Well Name: Chevron WDW Steepbank **Rig Rlse Date:** 3/28/1991

Application Version 1.6.1



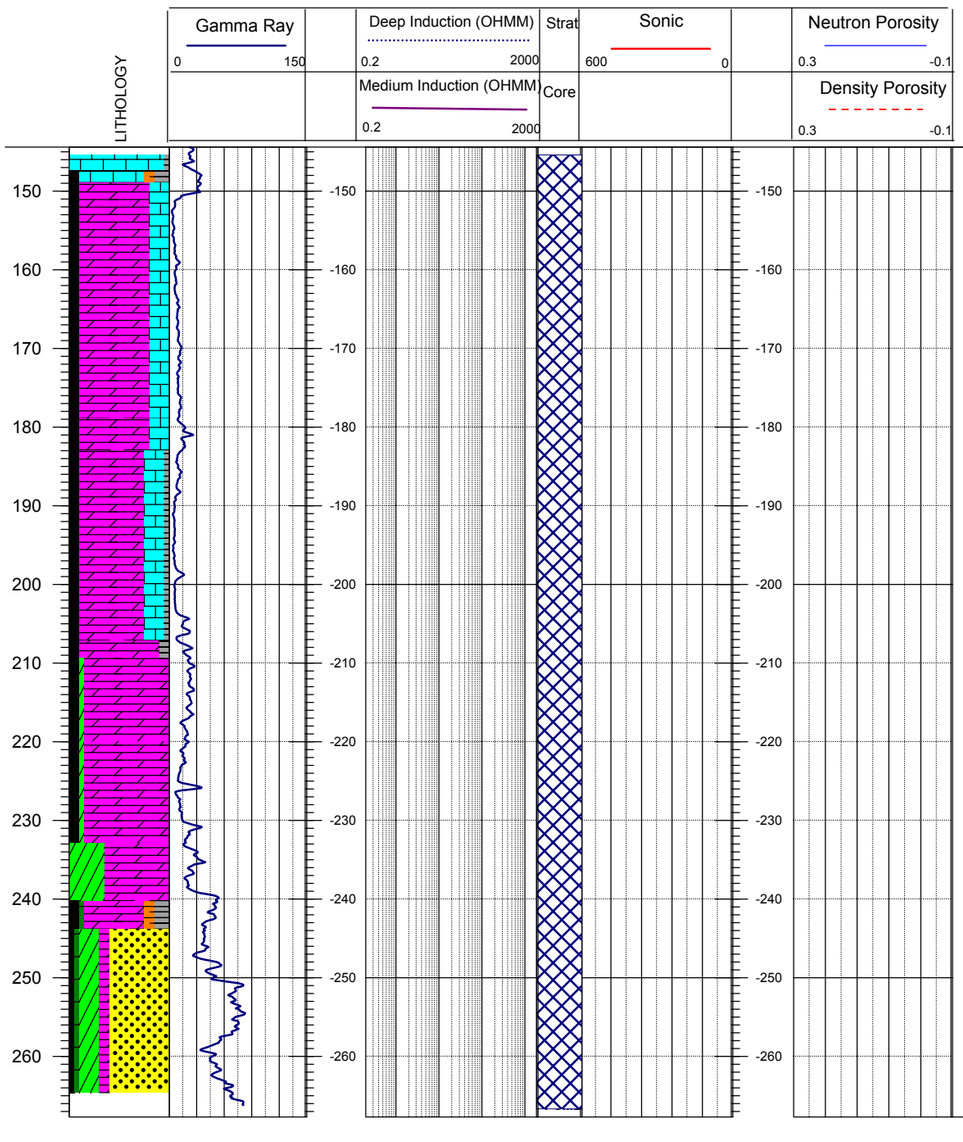
SITID: 123770
SRCID: 964063113000
UWI: 00/13-31-096-06W4/0
Well Name: Shell Eatha EV

KB Elevation: 380.7
Total Depth: 267
Spud Date: 2/11/1974
Rig Rlse Date: 2/25/1974

Coordinate System: UTM NAD 27
Easting: 501335.15
Northing: 6359368.91

Latitude (83): 57.37915
Longitude (83): -110.97867

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO S		fenestral	mottled siltstone, stringers laminated	limestone nodules						mudstone	deep shelf deep shelf		LB LB	pervasive matrix dolomite		poor poor												doln, lch, fr	BX	Mottled light brown limestone. Sparse 1 cm vugs infilled with porous calcite. Few subvertical fractures.
		S		fenestral	laminated							mudstone	deep shelf		LB	matrix dolomite		poor												doln, lch, fr		Sparse 1 cm vugs infilled with porous calcite. Bitumen lining few subvertical fractures and infilling fossil intrapores.
		S	Waterways Fm.	fenestral	laminated							mudstone	deep shelf		LB	matrix dolomite		poor												doln, lch, fr		Sparse 1 cm vugs infilled with porous calcite. Bitumen lining few subvertical fractures.
		S		fenestral	limestone nodules	shale, laminae						mudstone	deep shelf		LB	pervasive		poor												doln, lch doln		Mottled dolostone with shale laminae. Mottled dolostone with shale laminae. Bitumen lining few subvertical fractures and infilling fossil intrapores.
		S		fenestral	laminated	anhydrite, stringers						mudstone	deep shelf		LB	pervasive		poor												doln, fr		Mottled dolostone with shale laminae. Anhydrite lining few subvertical fractures.
		S		none identified	laminated	anhydrite, stringers						mudstone	deep shelf		LB	pervasive		poor														Mottled dolostone with shale laminae. Anhydrite lining few subvertical fractures.
		S			siltstone, stringers	limestone nodules						mudstone	deep shelf		LB	pervasive		poor												doln, fr		Dolomite with red anhydrite nodules.
		B	Basal Red Beds	intergranular	anhydrite, stringers								fluviatile		LR	pervasive		poor												doln		Red sandstone.
		S	Precambrian															0														Precambrian.

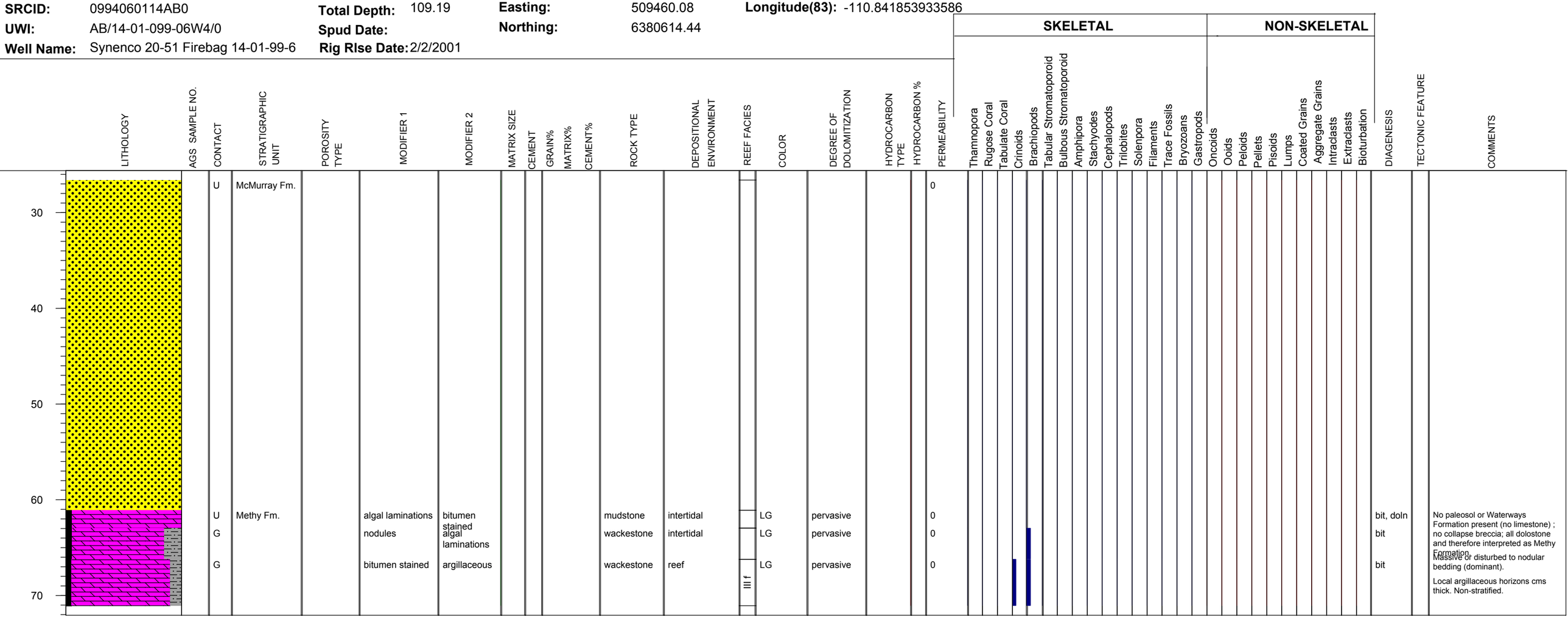
SitID: 324169
SRCID: 0994060114AB0
UWI: AB/14-01-099-06W4/0
Well Name: Synenco 20-51 Firebag 14-01-99-6

KB Elevation:
Total Depth: 109.19
Spud Date:
Rig RIse Date: 2/2/2001

Coordinate System: UTM NAD 27
Easting: 509460.08
Northing: 6380614.44

Latitude (83): 57.5697865913598
Longitude(83): -110.841853933586

Application Version 1.6.1



SitID: 126241
SRCID: 1014141414AA0
UWI: AA/14-14-101-14W4/0
Well Name: Texex Eaglenest

KB Elevation: 730.3
Total Depth: 506.9
Spud Date: 2/23/1976
Rig RIse Date: 2/24/1976

Coordinate System: UTM NAD 27
Easting: 429766.65
Northing: 6403763.25

Latitude (83): 57.772434
Longitude(83): -112.181686

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO																	0																														Cretaceous sandstone.
		VS	Waterways Fm.	fracture	fissile							mudstone	deep shelf	l f	LG				poor																													fr		Fissile carbonate shale.

450
460
470
480
490
500

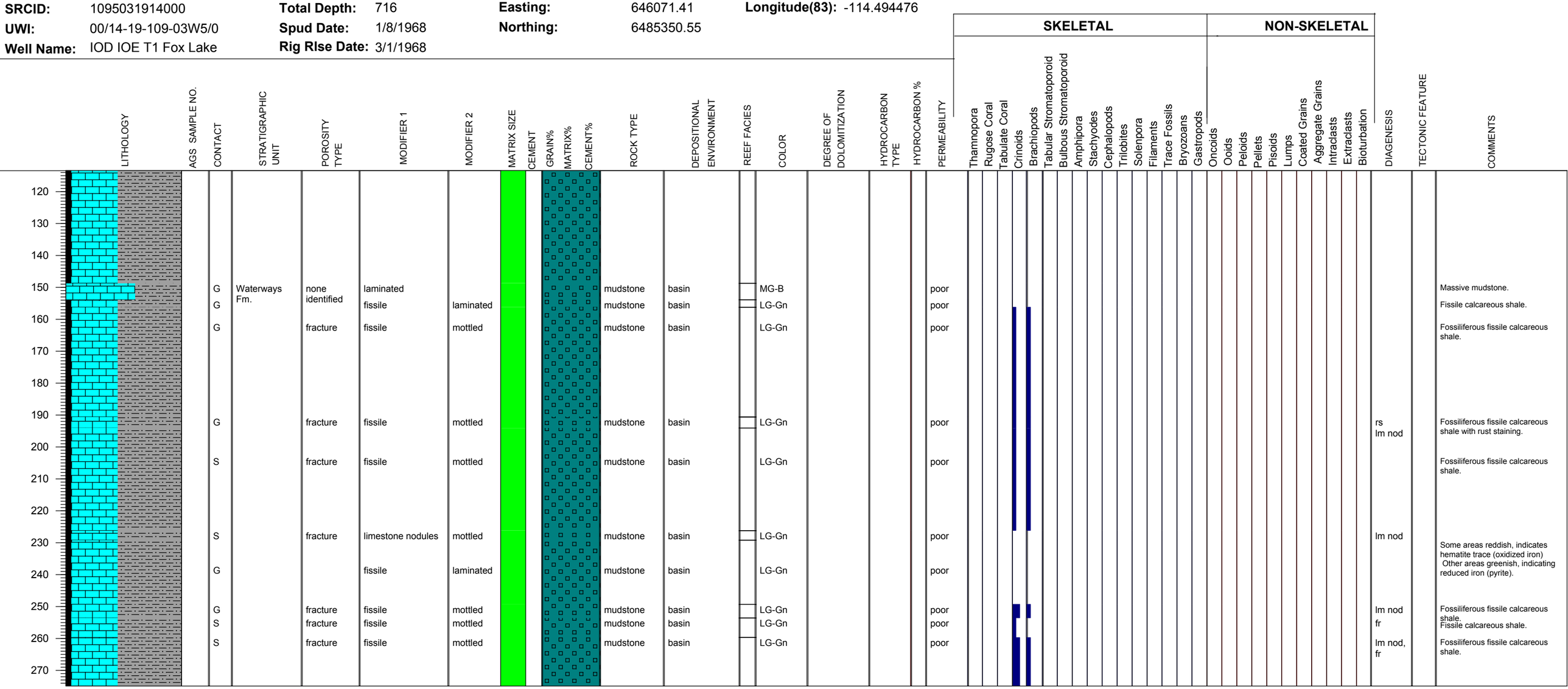
SitID: 127403
SRCID: 1095031914000
UWI: 00/14-19-109-03W5/0
Well Name: IOD IOE T1 Fox Lake

KB Elevation: 256
Total Depth: 716
Spud Date: 1/8/1968
Rig RIse Date: 3/1/1968

Coordinate System: UTM NAD 27
Easting: 646071.41
Northing: 6485350.55

Latitude (83): 58.48615
Longitude(83): -114.494476

Application Version 1.6.1



	LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
150			G	Waterways Fm.	none identified	laminated							mudstone	basin		MG-B				poor																														Massive mudstone.
			G			fissile	laminated						mudstone	basin		LG-Gn				poor																														Fissile calcareous shale.
160			G		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																														Fossiliferous fissile calcareous shale.
170																																																	
180																																																	
190			G		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																												rs lm nod		Fossiliferous fissile calcareous shale with rust staining.
200			S		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																														Fossiliferous fissile calcareous shale.
210																																																	
220																																																	
230			S		fracture	limestone nodules	mottled						mudstone	basin		LG-Gn				poor																													lm nod		Some areas reddish, indicates hematite trace (oxidized iron) Other areas greenish, indicating reduced iron (pyrite).
240			G			fissile	laminated						mudstone	basin		LG-Gn				poor																														
250			G		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																												lm nod		Fossiliferous fissile calcareous shale.
			S		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																												fr		Fissile calcareous shale.
260			S		fracture	fissile	mottled						mudstone	basin		LG-Gn				poor																												lm nod, fr		Fossiliferous fissile calcareous shale.
270																																																

SitID: 127403 **KB Elevation:** 256 **Coordinate System:** UTM NAD 27 **Latitude (83):** 58.48615

SRCID: 1095031914000 **Total Depth:** 716 **Easting:** 646071.41 **Longitude(83):** -114.494476

UWI: 00/14-19-109-03W5/0 **Spud Date:** 1/8/1968 **Northing:** 6485350.55

Well Name: IOD IOE T1 Fox Lake **Rig Rlse Date:** 3/1/1968

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Muskeg Fm.	intercrystal	mottled	dolom.						mudstone	lagoon		LG, LB	pervasive			poor																											doln,		Dolost. nearly competely repl. by anhy.
		G			laminated	stringers							shallow marine		LB, MB	pervasive			poor																											anhy		Lam. dolost. with some organic matter.
		S										mudstone	lagoon		W-Tr				non																									fr		Massively crystalline halite. Some anhydrite beds near bottom of interval.
		S			mottled	dolom.						mudstone	lagoon		LG, LB				poor																									doln,		Dolost. nearly completely repl. by anhy.
		B		intercrystal	laminated	stringers						mudstone	lagoon		LB, DB		oil		mod																									anhy		Oil stained dolostone.
		S			mottled	dolom.						mudstone	lagoon		LG, LB	pervasive			poor																									doln,		Dolostone nearly completely replaced by anhydrite.
						stringers																																							anhy		
		G		intercrystal	algal laminations							mudstone	shallow marine		LB, MB	pervasive			poor																											doln,		Dolostone with large anhydrite nodules. Some reworking of sediment.
																																												anhy		
		G		intercrystal	mottled	dolom.						mudstone	lagoon		LG, LB	pervasive	oil		poor																											anhy		Dolostone nearly completely replaced by anhydrite. Some oil staining near bottom of interval.
						stringers																																									
		G	Keg River Fm.	intercrystal	laminated							mudstone	basin		LB, DB	pervasive			mod																											doln		Organic laminations with turbidite sequences between.
		NO		intercrystal	fossiliferous							floatstone	reef	III f	MB	fabric selective			poor																											doln		Massive fossiliferous dolostone matrix with calcite grains.
		G		intercrystal	laminated							mudstone	reef		DG, LG	partially			poor																											doln		Dark grey, high TOC mudstone. Reef facies I f.
		NO		intercrystal	fossiliferous							floatstone	reef		MB	fabric selective			poor																											doln, ds		
		S		intercrystal	laminated							mudstone	reef	III f	DG, LG	partially			poor																											lm nod,		Massive fossiliferous dolostone matrix with calcite grains.
		NO		intercrystal	mottled	limestone						floatstone	reef		MB				poor																											ds		
						nodules																																									Calcite and organic matter mudstone. Reef facies I f (705.1-705.4).
		G		none identified	laminated							mudstone	lagoon		MG, LB, LO-Tr	pervasive			non																											doln		Interbedded, laminated anhy and dolost with occasional 5cm salt beds.

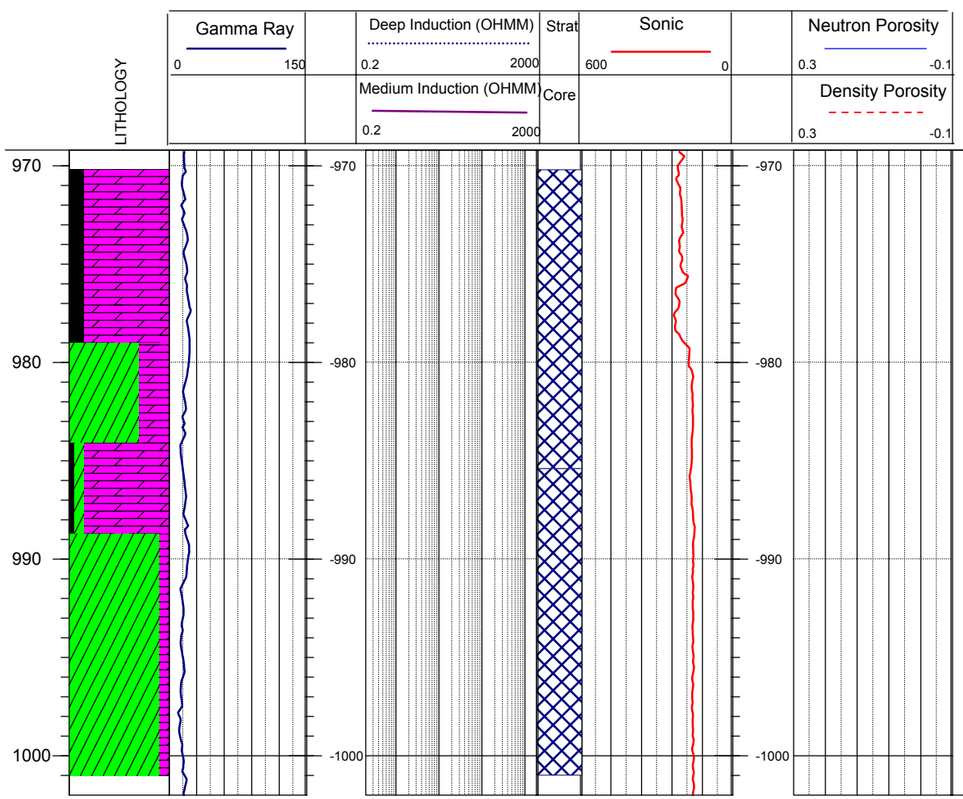
SITID: 127661
SRCID: 1105113514000
UWI: 00/14-35-110-11W5-0
Well Name: Shell Union FtVer

KB Elevation: 363.9
Total Depth: 1187
Spud Date: 1/12/1970
Rig RIse Date: 2/1/1970

Coordinate System: UTM NAD 27
Easting: 574228.01
Northing: 6495971.45

Latitude (83): 58.599655
Longitude (83): -115.722801

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	NON-SKELETAL: Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Keg River Fm.	intercrystal	laminated							mudstone	shallow marine		LB	pervasive		good														Clean laminated dolostone.
		G		none identified	nodules							mudstone	shallow marine		LG, LB	pervasive		0												anhy		Dolostone largely replaced by anhydrite.
		NO		intercrystal	laminated	nodules						mudstone	shallow marine		LB	pervasive		good												anhy		2 cm anhydrite nodules along bedding planes.
		G		none identified	nodules							mudstone	shallow marine		LG	pervasive		0												anhy		Dolostone largely replaced by anhydrite.

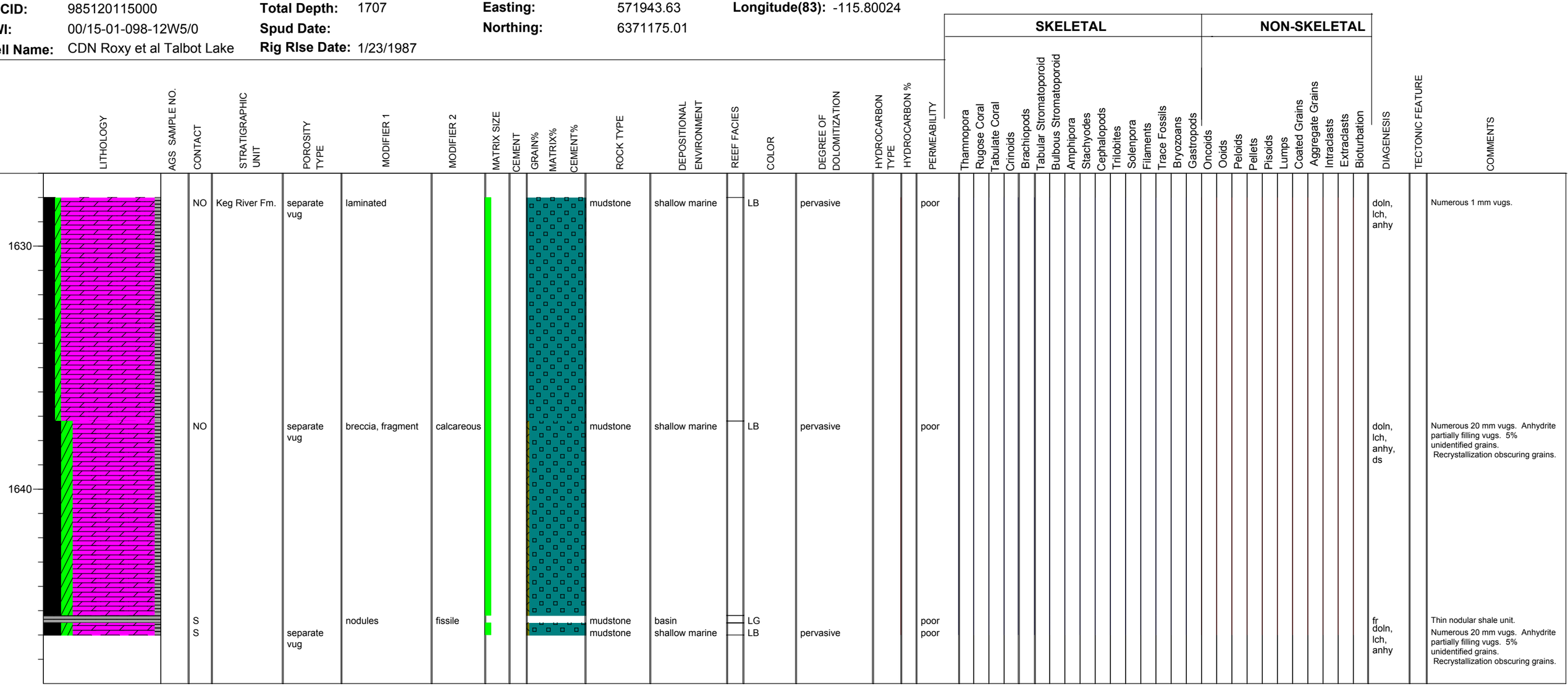
SitID: 145126 **KB Elevation:** 759.2 **Coordinate System:** UTM NAD 27 **Latitude (83):** 57.47939

SRCID: 985120115000 **Total Depth:** 1707 **Easting:** 571943.63 **Longitude(83):** -115.80024

UWI: 00/15-01-098-12W5/0 **Spud Date:** **Northing:** 6371175.01

Well Name: CDN Roxy et al Talbot Lake **Rig RIse Date:** 1/23/1987

Application Version 1.6.1



SitID: 128064
SRCID: 1125031015000
UWI: 00/15-10-112-03W5-0
Well Name: Texaco IOE Wentzel

KB Elevation: 330.7
Total Depth: 876
Spud Date: 2/13/1970
Rig RIse Date: 2/13/1970

Coordinate System: UTM NAD 27
Easting: 650285.41
Northing: 6511169.70

Latitude (83): 58.716366
Longitude(83): -114.405167

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
		NO	Keg River Fm.	interparticle								wackestone	reef	IV f	LB	fabric selective			good																												doln		Local pervasive dolomitization.
																			0																													No core.
				interparticle	petroleum staining							wackestone	reef	III f	LB	pervasive	shaley bitumen		0																															doln		Local petroleum stain; fabric preserved.
																																																No core from 709.6 to 709.9m.
				interparticle	petroleum staining							wackestone	reef	III f	LB	pervasive	shaley bitumen																													doln		Local petroleum stain; fabric preserved.
				none identified	laminated							wackestone	shallow shelf		LB	pervasive			0																											anhy		Anhydrite replacing dolomite as contact with Chinchaga approached.
		B	Chinchaga Fm.	none identified	laminated								intertidal		LG	pervasive			0																													Locally laminated; soft sed def locally.

670
680
690
700
710
720
730
740

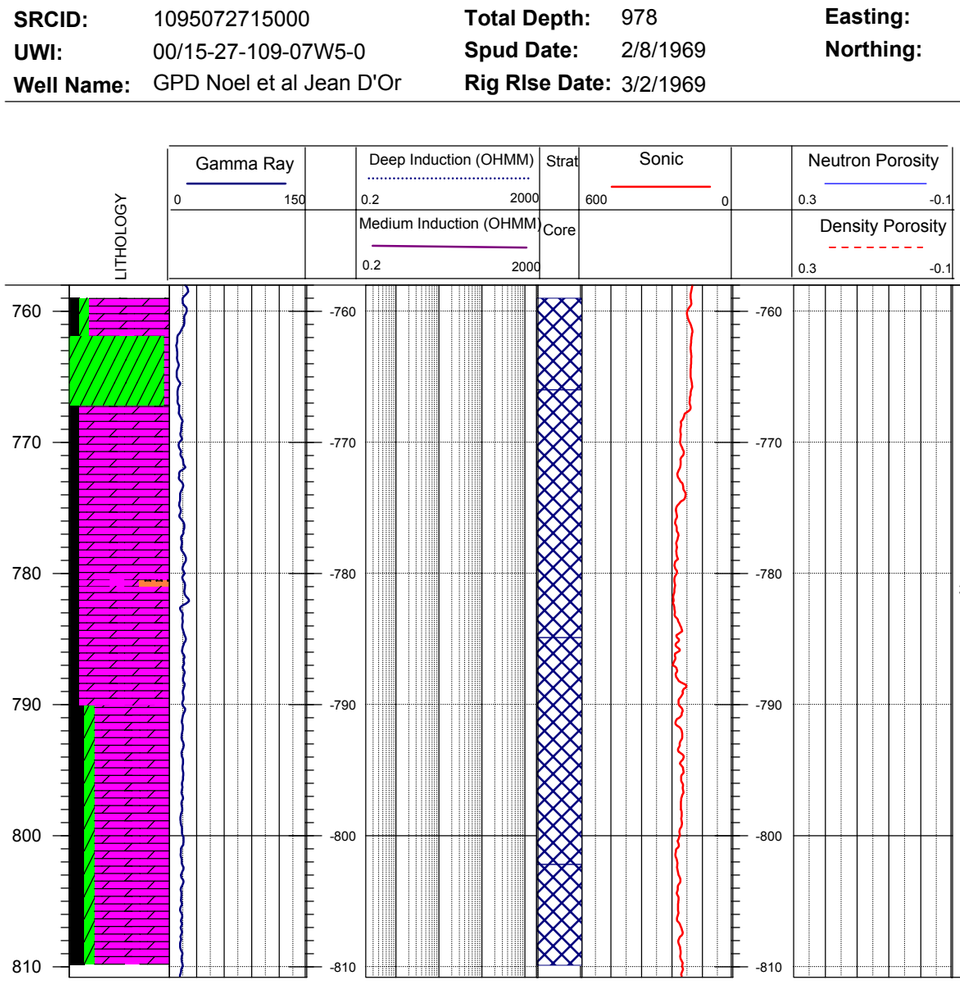
SITID: 127406
SRCID: 1095072715000
UWI: 00/15-27-109-07W5-0
Well Name: GPD Noel et al Jean D'Or

KB Elevation: 275.8
Total Depth: 978
Spud Date: 2/8/1969
Rig RIse Date: 3/2/1969

Coordinate System: UTM NAD 27
Easting: 612423.13
Northing: 6485517.47

Latitude (83): 58.497616
Longitude (83): -115.071121

Application Version 1.6.1



AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	Thamnopora	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Gastropods	Oncoids	Intraclasts	Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
	NO	Muskeg Fm.	intercrystal	laminated							wackestone	reef	IV/V	LB, LG	pervasive		0											doln, ds, anhy		Recrystallized dolomite with 3 cm anhydrite nodules.
	G		none identified	dolom. stringers							mudstone	lagoon		LG, LB	pervasive		poor											anhy		Dolomite matrix almost completely replaced by anhydrite.
	G	Keg River Fm.	intercrystal	laminated							mudstone	reef		LB	pervasive		poor											doln, lch, ds		Some anhydrite cement at 773.4m.
3773	G		intercrystal	laminated							mudstone	reef	III b	LB	pervasive		poor											doln, lch		Sample 3773: Pyrite, possible chalcopyrite on northeast trending faultline.
	G		intercrystal	laminated							mudstone	reef		LB	pervasive		poor											doln, lch, ds		Highly permeable dolomite.
	G		touching vug	laminated	anhydritic						mudstone	reef		LB	pervasive		poor											doln, lch, ds, fr-anhy		Highly permeable dolomite. 5 - 20 mm vugs. Intensely recrystallized dolomite.

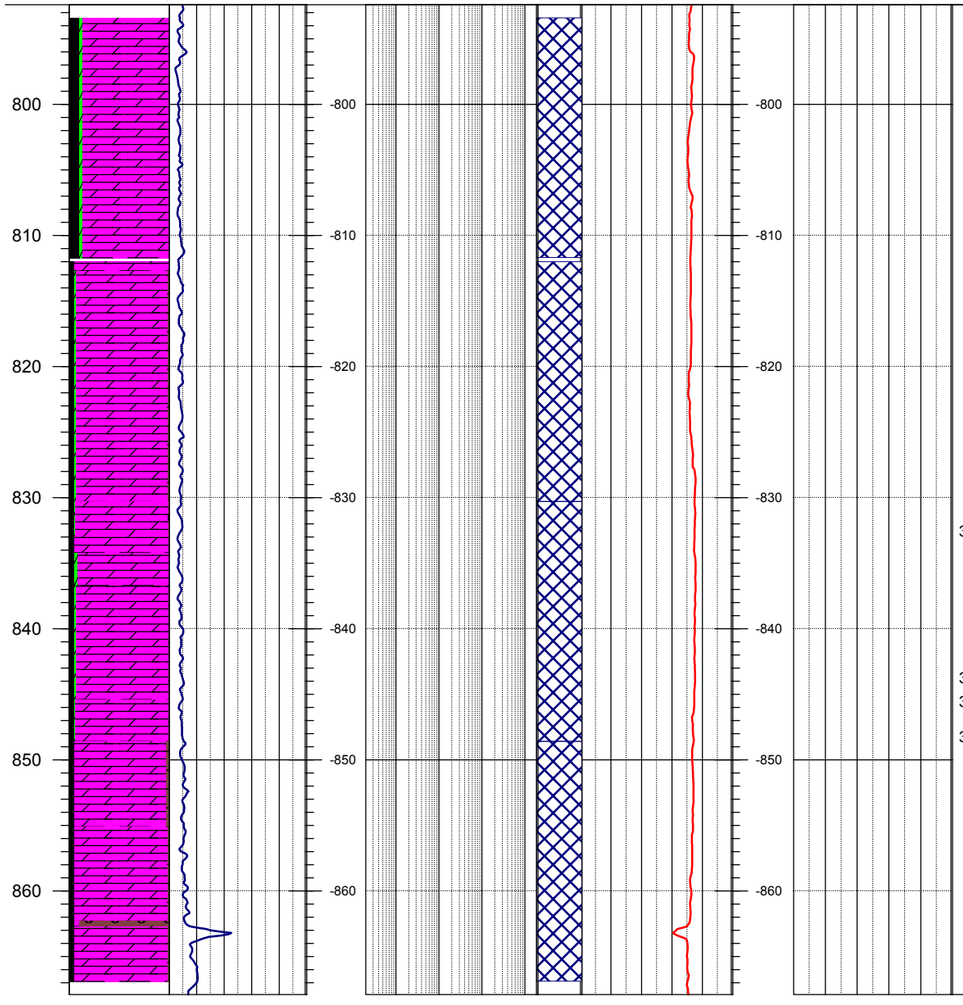
SITID: 126626
SRCID: 1045043115000
UWI: 00/15-31-104-04W5-0
Well Name: Chevron Amoco Harper

KB Elevation: 306.3
Total Depth: 975
Spud Date: 2/24/1970
Rig RIse Date: 3/11/1970

Coordinate System: UTM NAD 27
Easting: 638913.95
Northing: 6439702.95

Latitude (83): 58.078854
Longitude (83): -114.644493

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
			Keg River Fm.	intrafossil	petroleum staining							packstone	reef	V	LB	pervasive		0												anhy		Petroleum staining from top to 801.3 m.
																																No core at 811.7m.
		NO		intercrystal	fossiliferous	petroleum staining						wackestone	reef		LB	pervasive		0												doln		Thin back reef interval. Reef facies III b from 812-812.7m.
		G										wackestone	reef	III f	LB	pervasive														dol, fr		Source beds - organic matter as laminae; local anhydrite along fractures.
		G		interparticle	trace pyrite							wackestone	reef	IV/V	LB	pervasive		0												doln, fr, fr-anhy		Sulfides locally along fractures seemingly associated with sulfides.
	3766	G										wackestone	reef		LB	pervasive		0												doln		
		G			anhydritic							wackestone	reef	V	LB	pervasive		0												fr-anhy		Possibly minor sulfides assoc. with anhydrite. Reef facies III b from 833-834.2m.
		G			trace pyrite							wackestone	reef	III b	LB	pervasive		0												doln, fr-anhy		Sulfides along fractures sometimes assoc. with anhydrite.
	3767																															
	3769	G			trace pyrite							wackestone	reef		LB	pervasive		0												doln, fr-anhy, py		Sulfides assoc. with anhydrite along fractures; possibly back reef.
	3770	G										wackestone	reef	II f	LB	pervasive		0												doln		Organic matter laminae.
		G										wackestone	reef	IV/V	DB	pervasive		0												doln		
		B										wackestone	basin	III f	Bk			0												doln		Minor dolostone laminae / layers in organic unit source bed.
		S		intercrystal									reef		DB	pervasive														doln		Reef facies IV/V to IIf downward.

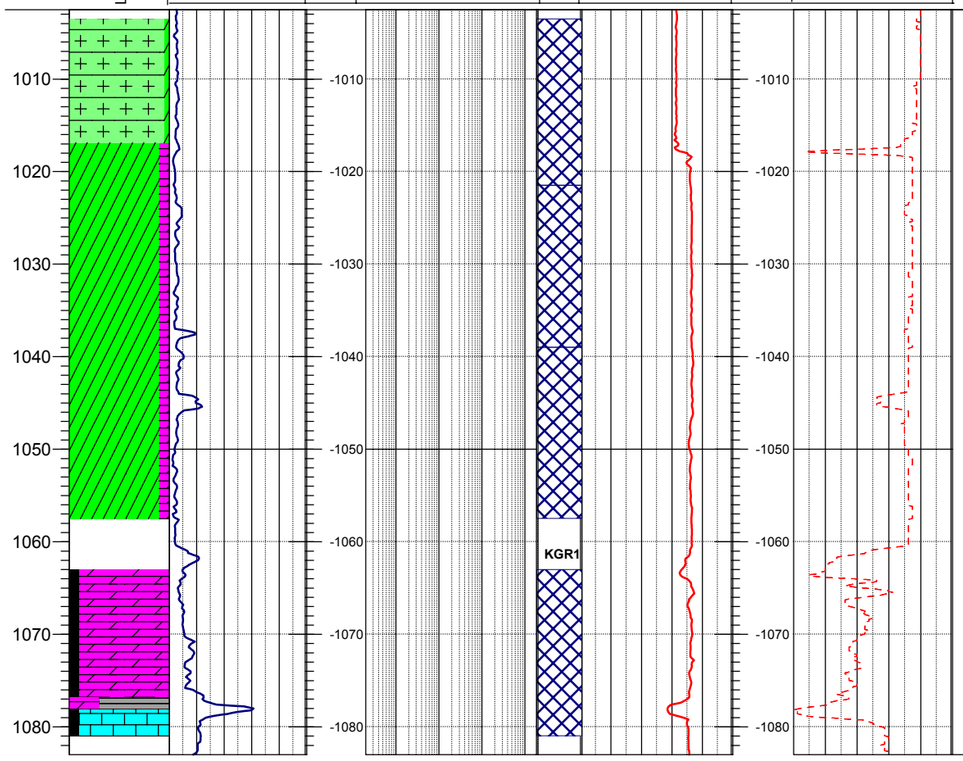
SITID: 145152
SRCID: 1005020316000
UWI: 00/16-03-100-02W5-0
Well Name: Champlin Mikkwa

KB Elevation: 483.8
Total Depth: 1160
Spud Date: 1/8/1986
Rig RIse Date: 1/29/1986

Coordinate System: UTM NAD 27
Easting: 665541.39
Northing: 6393372.74

Latitude (83): 57.654064
Longitude (83): -114.225739

Application Version 1.6.1



LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	Hydrocarbon %	PERMEABILITY	SKELETAL: Thamnopora	SKELETAL: Crinoids	SKELETAL: Brachiopods	SKELETAL: Tabular Stromatoporoid	SKELETAL: Bulbous Stromatoporoid	SKELETAL: Amphipora	SKELETAL: Stachyodes	SKELETAL: Gastropods	NON-SKELETAL: Oncoids	NON-SKELETAL: Intraclasts	NON-SKELETAL: Bioturbation	Diagenesis	Tectonic Feature	COMMENTS
		NO	Muskeg Fm.		anhydrite, stringers								intertidal		W-Tr			non														Halite with occasional thin (0.5cm) anhydrite beds.
		S		intercrystal	laminated dolo-anhydrite	dolom. stringers						mudstone	intertidal		MG, MB	pervasive		poor												doln		Anhydrite with dolomite stringers.
																		0														No core.
		S	Keg River Fm.	separate vug	trace pyrite	laminated						mudstone	reef	II f	LB	pervasive		poor												doln		2 mm pyrite nodules lining 1-2 cm vugs in laminated dolostone.
		G			laminated	nodules		D				mudstone	basin	II f	DG	pervasive		poor												doln		Dolomite nodules due to early cementation.
		S		separate vug	trace pyrite	laminated		C				mudstone	reef		LB	pervasive		poor														1-2 cm vugs in laminated limestone.

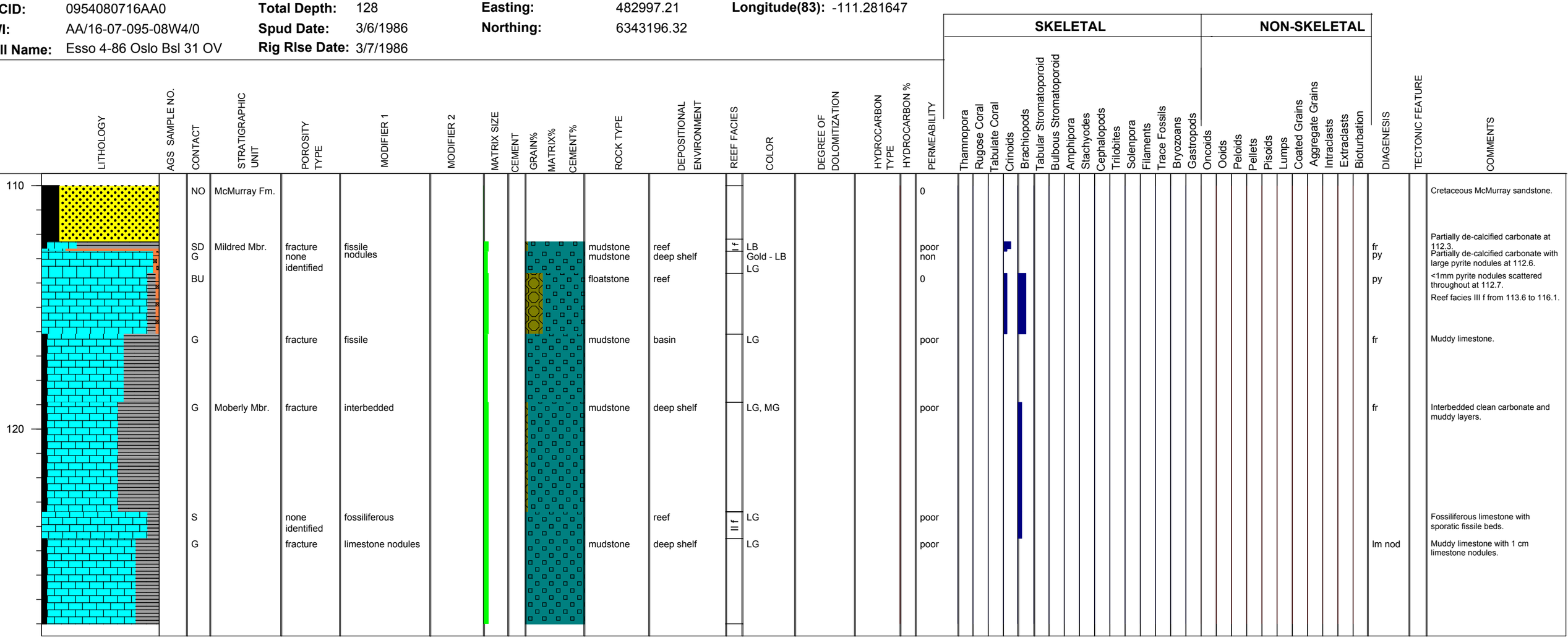
SitID: 144880
SRCID: 0954080716AA0
UWI: AA/16-07-095-08W4/0
Well Name: Esso 4-86 Oslo Bsl 31 OV

KB Elevation: 330.2
Total Depth: 128
Spud Date: 3/6/1986
Rig RIse Date: 3/7/1986

Coordinate System: UTM NAD 27
Easting: 482997.21
Northing: 6343196.32

Latitude (83): 57.233452
Longitude(83): -111.281647

Application Version 1.6.1



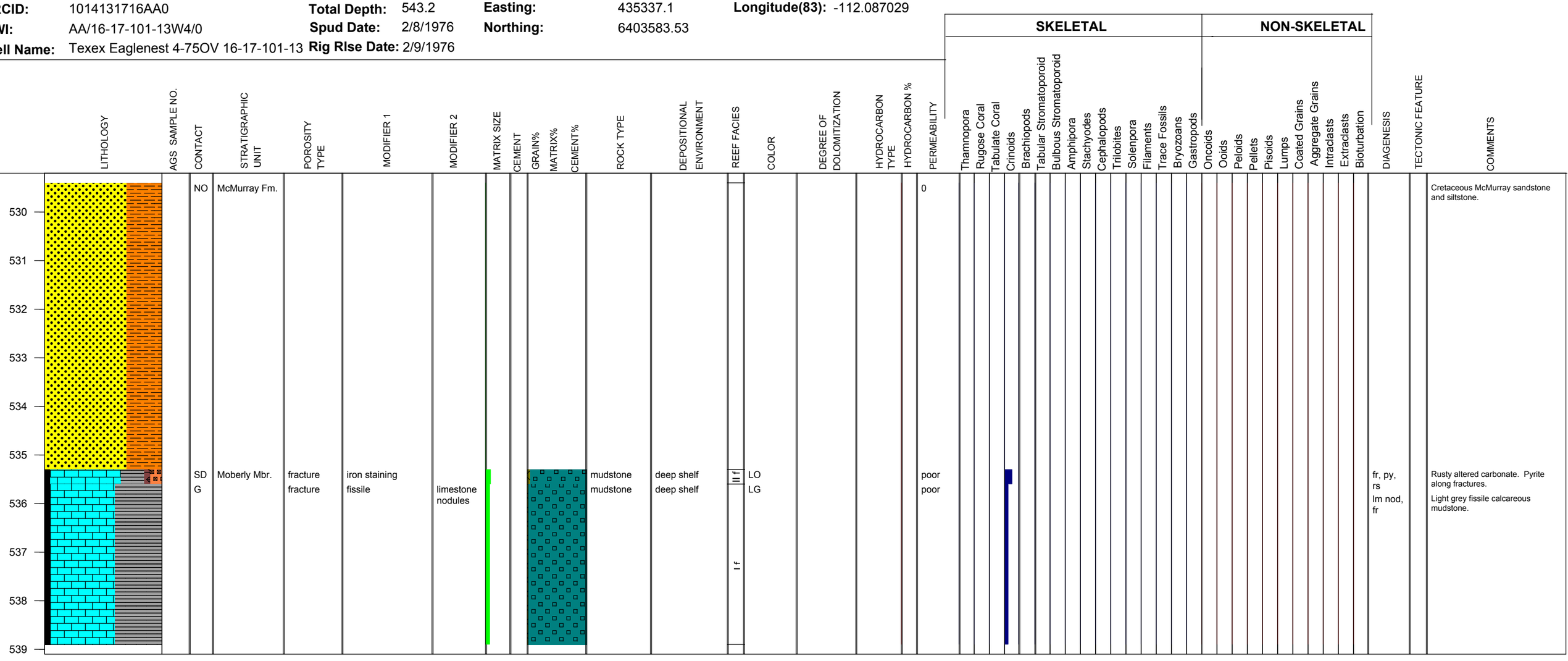
SitID: 126237
SRCID: 1014131716AA0
UWI: AA/16-17-101-13W4/0
Well Name: Texex Eaglenest 4-75OV 16-17-101-13

KB Elevation: 759.3
Total Depth: 543.2
Spud Date: 2/8/1976
Rig RIse Date: 2/9/1976

Coordinate System: UTM NAD 27
Easting: 435337.1
Northing: 6403583.53

Latitude (83): 57.771542
Longitude(83): -112.087029

Application Version 1.6.1



SitID: 127908
SRCID: 1115042116000
UWI: 00/16-21-111-04W5-0
Well Name: Husky IOE Rennie

KB Elevation: 338.9
Total Depth: 925
Spud Date: 3/12/1969
Rig RIse Date: 3/12/1969

Coordinate System: UTM NAD 27
Easting: 639373.79
Northing: 6504208.59

Latitude (83): 58.657558
Longitude(83): -114.597672

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
			Muskeg Fm.	intercrystal	petroleum staining	laminated						mudstone	shallow marine		LB	pervasive			0																												doln		Local petroleum stain; minor laminae in dolostone - from limestone precursor? Very rare preserved fossils.
		G	Keg River Fm.	intercrystal	anhydritic								shallow marine		LB	pervasive			0																												anhy, doln		Fossils rarely preserved.
				interparticle	fossiliferous							wackestone	reef	IV f	LB	pervasive			0																												doln		Fossils very poorly preserved above 738; mod - good preservation below 738 m.
				interparticle	fossiliferous							wackestone	reef	V	LB	pervasive			0																												doln		Fabric preservation generally increases downward.
		SI		none identified								wackestone	reef		mLBBk	pervasive			0																												doln		Organic rich horizon; dolostone above and mainly limestone below.
		G		interparticle								wackestone	reef	IV f	LB				0																												lm nod		Anhydritic close to contact with Chinchaga.
		G	Chinchaga Fm.	none identified	laminated	primary anhydrite							intertidal		LGB				0																															

700
710
720
730
740
750
760
770
780

SitID: 126066
SRCID: 0994133416AA0
UWI: AA/16-34-099-13W4/0
Well Name: Texex Eaglenest O.V.

KB Elevation: 805.3
Total Depth: 561.4
Spud Date:
Rig RIse Date: 2/4/1976

Coordinate System: UTM NAD 27
Easting: 438541.24
Northing: 6388886.16

Latitude (83): 57.64011
Longitude(83): -112.03039

Application Version 1.6.1

LITHOLOGY	AGS SAMPLE NO.	CONTACT	STRATIGRAPHIC UNIT	POROSITY TYPE	MODIFIER 1	MODIFIER 2	MATRIX SIZE	CEMENT	GRAIN%	MATRIX%	CEMENT%	ROCK TYPE	DEPOSITIONAL ENVIRONMENT	REEF FACIES	COLOR	DEGREE OF DOLOMITIZATION	HYDROCARBON TYPE	HYDROCARBON %	PERMEABILITY	SKELETAL: Thamnopora	Rugose Coral	Tabulate Coral	Crinoids	Brachiopods	Tabular Stromatoporoid	Bulbous Stromatoporoid	Amphipora	Stachyodes	Cephalopods	Trilobites	Solenpora	Filaments	Trace Fossils	Bryozoans	Gastropods	NON-SKELETAL: Oncoids	Ooids	Peloids	Pellets	Pisoids	Lumps	Coated Grains	Aggregate Grains	Intraclasts	Extraclasts	Bioturbation	DIAGENESIS	TECTONIC FEATURE	COMMENTS
550																																																	
551																																																		
552																																																	
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555																																																	
556		NO	McMurray Fm.																0																														Cretaceous McMurray oilsands.
	3783	S	Waterways Fm.	fracture	pebbles > 2mm							mudstone	deep shelf		DY-Gn				0																											py, fr		Pyrite bed with quartz pebbles and mud along sub-K unconformity.
557		SD		fracture											LG				poor																											fr		Massive limestone.
		G		fracture	fissile							mudstone	deep shelf		LG				poor																											fr		Fissile muddy limestone.
558																																																

Appendix B – Geochemical Analyses of Core Samples

Table B1 presents the core samples collected for trace element analysis during the 2002 core program along with their associated well name, location, formation, lithology and depth at which they were collected. Table B2 contains the trace element data for each sample.

Table B1. Core samples acquired during the 2002 core program.

AGS ID	GSC C-number	UWI	Well Name	UTM (NAD27)		Zone	NAD83		Depth (m)	Formation	Lithology
				Easting	Northing		Longitude	Latitude			
3765	C-421181	04-26-104-01W5	Mutex IOE Edra	673880.20	6438046.22	11	-114.0547682	58.0517665	739.30	Keg River	dolostone
3766	C-421182	15-31-104-04W5	Chevron Amoco Harper	638913.95	6439702.95	11	-114.6456906	58.0789577	831.90	Keg River	dolostone
3767	C-421183	15-31-104-04W5	Chevron Amoco Harper	638913.95	6439702.95	11	-114.6456906	58.0789577	843.10	Keg River	dolostone
3768	C-421184	04-26-104-01W5	Mutex IOE Edra	673880.20	6438046.22	11	-114.0547682	58.0517665	751.40	Keg River	mudstone
3769	C-421185	15-31-104-04W5	Chevron Amoco Harper	638913.95	6439702.95	11	-114.6456906	58.0789577	844.90	Keg River	dolostone
3770	C-421186	15-31-104-04W5	Chevron Amoco Harper	638913.95	6439702.95	11	-114.6456906	58.0789577	847.60	Keg River	dolostone
3772	C-421188	06-02-097-19W4	Dome Home Liege	381127.39	6361774.43	12	-112.9784143	57.3852413	802.60	Slave Point	limestone
3773	C-421189	15-27-109-07W5	GPD Noel et al Jean D'Or	612423.13	6485517.47	11	-115.0723583	58.4977245	780.60	Keg River	dolostone
3774	C-421190	04-03-100-07W5	Calstan Senex Creek 4-3-100-7	615595.28	6390605.17	11	-115.0646459	57.6449006	257.42	Jean Marie	dolostone
3775	C-421191	04-03-100-07W5	Calstan Senex Creek 4-3-100-7	615595.28	6390605.17	11	-115.0646459	57.6449006	257.44	Jean Marie	dolostone
3776	C-421192	04-03-100-07W5	Calstan Senex Creek 4-3-100-7	615595.28	6390605.17	11	-115.0646459	57.6449006	257.52	Jean Marie	dolostone
3777	C-421193	04-03-100-07W5	Calstan Senex Creek 4-3-100-7	615595.28	6390605.17	11	-115.0646459	57.6449006	257.71	Jean Marie	dolostone
3783	C-433003	16-34-099-13W4	Texex Eaglenest O.V.	438483.72	6388899.59	12	-112.0313567	57.6402227	556.10	Waterways	mudstone
3784	C-433004	10-12-093-07W4	Steepbank 2-75 OV 10-12	501150.56	6323240.14	12	-110.9819319	57.0546036	259.65	Waterways	limestone
3785	C-433005	04-07-096-09W4	Alsands 18 Hangst OV	472032.23	6351762.42	12	-111.4651536	57.3099701	112.50	Waterways	mudstone
3786	C-433006	04-07-096-09W4	Alsands 18 Hangst OV	472032.23	6351762.42	12	-111.4651536	57.3099701	114.10	Waterways	mudstone
3787	C-433007	10-24-093-07W4	Steepbank 2-75 OV 10-24	501164.98	6326552.20	12	-110.9816780	57.0843571	257.46	Waterways	siltstone
3788	C-433008	07-10-095-09W4	Esso 90-12 Oslo OV	477712.27	6342316.28	12	-111.3700218	57.2254294	111.00	Waterways	lm nod in mdst.
3789	C-433009	07-10-095-09W4	Esso 90-12 Oslo OV	477712.27	6342316.28	12	-111.3700218	57.2254294	117.20	Waterways	lm nod in mdst.
3790	C-433010	04-14-093-7W4	Steepbank 1-75 OV 4-14	498719.21	6324064.83	12	-111.0220193	57.0620110	226.70	Waterways	limestone
3791	C-433011	04-14-093-7W4	Steepbank 1-75 OV 4-14	498719.21	6324064.83	12	-111.0220193	57.0620110	227.60	Waterways	limestone
3792	C-433012	01-22-093-11W4	Syn Atha #27-42-0-0 OV 1-22	459125.78	6325980.25	12	-111.6751855	57.0774164	120.26	Waterways	limestone
3793	C-433013	07-29-093-13W4	Aostra utf Dover A077 OV 6-29	436110.67	6328197.86	12	-112.0553585	57.0947102	102.69	Waterways	limestone
3794	C-433014	08-29-094-08W4	Esso 1-86 Oslo BSL 31 OV 8-29	485325.71	6337442.93	12	-111.2436430	57.1819563	99.15	Waterways	limestone
3795	C-433015	08-29-094-08W4	Esso 1-86 Oslo BSL 31 OV 8-29	485325.71	6337442.93	12	-111.2436430	57.1819563	105.40	Waterways	limestone
3799	C-433021	07-10-095-09W4	Esso 90-12 Oslo OV	477712.27	6342316.28	12	-111.3700218	57.2254294	110.65	Waterways	lm nod in mdst.
RE 3788											
Carb std.											

Note: RE = reruns

Table B2. Trace element data for core samples from the 2002 core program

Analyzed by: ICP-ES Aqua Regia																					
AGS ID	GSC C-number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %
3765	C-421181	3	15.2	78.5	31	0.3	6.5	1.8	115	5.89	4.1	0.7	< .5	0.1	98	0.2	1.8	< .1	9	14.29	0.009
3766	C-421182	0.3	2.9	8.1	4	< .1	2.2	0.4	60	0.24	1.6	1.6	< .5	< .1	120	< .1	0.2	< .1	2	20.39	0.001
3767	C-421183	1.1	85.5	116.3	30	0.1	26.9	1.7	45	11.87	21.7	1.4	1.8	< .1	87	0.2	1.2	< .1	< 1	9.26	0.001
3768	C-421184	82.5	51.6	10.8	8	0.1	54.3	5.3	38	0.79	3.8	4.9	< .5	0.7	462	< .1	0.7	0.1	53	21.64	0.04
3769	C-421185	0.7	14.1	15.4	7	< .1	8.1	0.7	69	1.94	5.3	2.3	0.5	< .1	132	0.1	0.6	< .1	4	21.46	0.003
3770	C-421186	2.5	10.4	7.5	4	< .1	6.6	1.2	51	1.96	2.1	1.2	2.2	< .1	136	< .1	0.3	< .1	2	20.65	0.003
3772	C-421188	16.9	9.1	36.9	7	< .1	9.8	1.6	299	13.1	13.2	1.4	< .5	0.4	133	0.1	0.6	< .1	2	15.82	0.083
3773	C-421189	1.7	1.4	246.1	11	< .1	4.2	0.2	24	26.74	18.2	55.7	< .5	< .1	15	0.2	0.6	< .1	< 1	3.3	< .001
3774	C-421190	46.8	0.7	2	4	< .1	58.5	1.6	157	14.87	265	1.7	< .5	0.2	94	< .1	1.2	< .1	1	11.52	0.004
3775	C-421191	41.6	0.4	2.4	17	< .1	79.2	2.3	171	13.84	285.3	0.2	0.5	< .1	272	< .1	1.5	< .1	< 1	13.88	0.002
3776	C-421192	56.8	0.4	1.5	58	< .1	73.9	2.3	85	21.33	383.4	0.3	< .5	0.1	65	< .1	1.3	< .1	< 1	7.26	0.001
3777	C-421193	28.8	1.7	3.6	18	< .1	61.9	2.3	94	16.96	227.6	0.9	< .5	0.1	93	< .1	1	< .1	1	10.33	0.002
3783	C-433003	1.3	8.3	9.5	44	< .1	134.9	27.1	1292	20.08	13.1	0.2	< .5	1.6	6	0.1	0.2	< .1	1	0.11	0.008
3784	C-433004	1	4.3	3.5	10	< .1	23.2	10.5	446	14.17	2	0.3	< .5	0.7	121	< .1	< .1	< .1	1	11.04	0.033
3785	C-433005	0.5	10.3	9.8	19	< .1	50.6	16.4	127	9.58	11.3	1.6	< .5	4.3	96	< .1	0.2	0.2	20	1.86	0.701
3786	C-433006	0.2	3.7	2	28	0.1	14.2	5.3	895	1.88	0.7	0.3	< .5	2	255	< .1	< .1	0.1	7	20.71	0.036
3787	C-433007	2.8	7.3	12.3	56	< .1	137.1	23	110	25.53	4.3	0.2	0.7	1.1	7	0.9	0.1	0.1	< 1	0.04	0.001
3788	C-433008	0.2	8	3.7	12	< .1	10.9	4.3	1735	5.47	1.3	0.4	< .5	2.3	152	< .1	0.1	0.1	9	15.12	0.097
3789	C-433009	0.8	6.6	5.5	45	< .1	44.5	19	1052	4.43	4.6	1	< .5	2	222	< .1	0.1	0.7	8	21.03	0.032
3790	C-433010	0.8	5.9	27.1	36	< .1	115.6	48.4	885	10.46	21.7	0.5	< .5	1.6	142	0.3	0.5	< .1	6	12.84	0.021
3791	C-433011	0.5	3.6	6.6	6	< .1	37.1	10.7	745	4.92	1.6	0.2	< .5	0.5	251	< .1	0.1	< .1	2	23.56	0.022
3792	C-433012	1	4.2	8.1	26	0.5	80.4	12.3	91	32.04	3.6	0.1	< .5	0.8	20	0.5	0.1	0.1	2	0.83	0.005
3793	C-433013	0.3	1	1.1	1	< .1	< .1	0.2	297	5.04	2.5	0.3	< .5	0.1	224	< .1	< .1	< .1	< 1	28.12	0.015
3794	C-433014	0.8	4.2	3.4	40	< .1	46.7	13	135	29.9	6.7	0.2	< .5	0.5	58	< .1	< .1	0.1	1	2.92	0.022
3795	C-433015	0.3	3.5	2.3	37	< .1	13.2	2.7	523	3.79	0.7	0.2	< .5	0.9	245	< .1	0.1	< .1	5	24.39	0.027
3799	C-433021	0.3	7.5	4	75	< .1	10.9	4.8	2186	11.45	1.1	0.3	< .5	1.7	121	< .1	0.1	0.1	7	12.92	0.081
RE 3788		0.2	7.6	3.6	11	< .1	10.5	4.6	1752	5.48	0.7	0.4	< .5	2.2	154	< .1	< .1	0.1	8	14.76	0.101
Carb std.		0.8	12.9	9.6	39	< .1	8.3	3.9	492	1.05	1.7	0.4	< .5	2.3	128	0.1	0.1	0.1	17	14.96	0.046
Note: RE = reruns																					

Table B2. Trace element data for core samples from the 2002 core program, continued

Analyzed by: ICP-ES Aqua Regia																
AGS ID	GSC C-number	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm
3765	C-421181	1	13.8	8.03	46	0.002	5	0.24	0.171	0.09	1.3	0.05	1	0.1	6.12	1
3766	C-421182	< 1	< 1.0	12.38	22	< .001	4	0.02	0.052	0.01	0.1	0.07	0.1	< .1	1.13	< 1
3767	C-421183	< 1	2.9	6.88	12	< .001	2	0.01	0.043	0.01	1.2	0.06	0.1	0.2	11.59	< 1
3768	C-421184	2	5.2	1.74	14	0.002	43	0.15	0.033	0.11	0.2	0.12	1.1	0.2	1.05	1
3769	C-421185	< 1	1.8	11.38	9	0.001	5	0.06	0.113	0.03	0.1	0.05	0.3	< .1	3.31	< 1
3770	C-421186	< 1	3.2	9.79	7	0.001	408	0.07	0.096	0.05	0.5	0.01	1.1	< .1	3.33	< 1
3772	C-421188	4	4.3	0.51	7	0.001	6	0.14	0.041	0.06	0.2	0.02	1.8	0.2	9.2	1
3773	C-421189	< 1	3.6	4.05	2	< .001	12	0.01	0.08	< .01	1.8	0.13	< .1	0.1	23.56	< 1
3774	C-421190	1	1.7	2.47	9	< .001	2	0.03	0.014	0.02	0.1	0.11	0.7	2.8	10.34	< 1
3775	C-421191	< 1	3.4	0.54	9	< .001	< 1	0.01	0.014	0.01	1.6	0.04	0.2	3.1	7.58	< 1
3776	C-421192	< 1	1.9	1.46	8	< .001	2	0.02	0.01	0.01	0.2	0.03	0.4	3	15.6	< 1
3777	C-421193	1	5.6	3.63	7	< .001	3	0.03	0.027	0.02	1.7	0.08	0.4	3.4	13.48	< 1
3783	C-433003	3	6.5	0.02	9	0.003	< 1	0.14	0.015	0.02	1.1	0.14	0.4	2	19.43	1
3784	C-433004	3	7.3	0.19	23	0.001	7	0.16	0.025	0.07	1	0.04	0.9	0.1	11.26	1
3785	C-433005	18	24.3	0.13	24	0.004	32	0.82	0.061	0.37	0.2	0.08	7.2	0.1	9.98	4
3786	C-433006	5	10.1	0.93	77	0.001	9	0.23	0.029	0.13	< .1	< .01	1.9	< .1	1.36	1
3787	C-433007	3	15.2	0.02	7	0.001	4	0.13	0.023	0.05	6.6	0.09	0.4	0.3	27	1
3788	C-433008	6	12.5	2.28	23	0.001	9	0.3	0.026	0.17	< .1	0.01	2	< .1	2.84	2
3789	C-433009	8	13.4	0.94	17	0.001	10	0.39	0.038	0.17	0.6	0.02	2	0.1	2.7	2
3790	C-433010	8	6.1	0.2	21	< .001	8	0.18	0.039	0.08	0.1	0.19	2.1	0.2	7.13	1
3791	C-433011	5	4.9	0.23	18	0.001	5	0.09	0.024	0.05	0.5	0.03	0.8	0.1	3.67	< 1
3792	C-433012	1	6.3	0.12	8	0.002	2	0.19	0.03	0.06	0.5	0.05	0.6	0.7	34.13	1
3793	C-433013	1	1.1	0.24	58	< .001	< 1	0.03	0.014	0.01	< .1	0.02	0.2	0.1	4.25	< 1
3794	C-433014	1	5.2	0.12	8	0.001	2	0.11	0.012	0.06	0.4	0.07	1	0.1	29.13	1
3795	C-433015	4	7.6	2.09	23	0.001	16	0.22	0.043	0.12	0.3	0.02	1.1	< .1	3.18	1
3799	C-433021	4	10.3	1.82	33	0.001	8	0.24	0.023	0.14	< .1	0.01	1.4	< .1	7.7	1
RE 3788		6	12	2.22	23	0.001	11	0.29	0.026	0.16	< .1	0.01	1.9	< .1	2.82	1
Carb std.		10	12.1	4.51	39	0.025	4	0.56	0.02	0.16	0.2	0.01	2.4	< .1	< .05	2

Appendix C – Compilation of Geochemical Data for Carbonates in Northern Alberta

Table C1 presents a compilation of trace element data for carbonates and associated non-clastic lithologies in northern Alberta. As indicated in the table, some of the data are taken from metallic exploration diamond-drill holes and other from petroleum exploration wells. Sources for the data include provincial and federal government reports, company reports, assessment reports to government and press releases. The purpose of including the table in this report is so the reader can compare the trace element data for the core samples collected during the 2002 core program (Table B2, Appendix B) to the compiled data for northern Alberta, thereby providing a sense of whether the core sample data are representative or anomalous.

Table C1 - Compilation of selected trace element analyses for carbonates and associated non-clastic lithologies in northern Alberta

Sample ID	Sample Number	10TM Easting	10TM Northing	UWI	Source/Well/Company	Well Number	Depth (m) From	Depth (m) To	Formation	Lithology	Metallic Mineral(s)	Analysis Performed	Ag ppm	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	CaO %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe wt%	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Pd ppm	Pr ppm	Rh ppm	Sb ppm	Sr ppm	Sn ppm	Th ppm	Ti %	U ppm	V ppm	W ppm	Y ppm	Zn ppm
		707430	6332949		Kenneth Richardson	86-2R	241.00		Methy	Argillaceous Dolomite	Chalcopyrite, Malachite					2.16 g/t									215	5.64												8									
		707430	6332949		Kenneth Richardson	86-1R	318.20		Methy	Carbonate						30 ppb																														
		707430	6332949		Athabasca Oils Ltd.	No. 1	276.50	284.50	Methy	Carbonate	Gold					21.6 g/t																														
	6-88-R1	707430	6332949		Kenneth Richardson	86-1R	25.97		Moberly Mbr.	Limestone			nil			6																														
	4868	707430	6332949		Kenneth Richardson	86-1R	65.56	66.03	Calumet Mbr.	Limestone						15																														
	4869	707430	6332949		Kenneth Richardson	86-1R	77.00	78.00	Calumet Mbr.	Limestone						18																														
	18-259-R1	707430	6332949		Kenneth Richardson	86-1R	78.88	79.05	Calumet Mbr.	Limestone			nil			18																														
	38-538	707430	6332949		Kenneth Richardson	86-1R	164.36		Prairie Evaporite	Gypsum,anhydrite, dolomite, brecciated			nil			38																														
	42-587-R1	707430	6332949		Kenneth Richardson	86-1R	179.98		Prairie Evaporite	Breccia of shale, limestone, gypsum and anhydrite			nil			42																														
	86-1R-618	707430	6332949		Kenneth Richardson	86-1R	188.41		Prairie Evaporite	Anhydrite, shale, dolomite						44																														
	53-746-R1	707430	6332949		Kenneth Richardson	86-1R	227.48		Unit 3	Dolomite			nil			53																														
	56-789-R1	707430	6332949		Kenneth Richardson	86-1R	240.50		Unit 2	Dolomite			nil			56																														
	63-888-R1	707430	6332949		Kenneth Richardson	86-1R	270.60		McLean River	Shale and Dolomite			0.1			63																														
	5752	667491	6331163		Kenneth Richardson	86-2R	110.70		Firebag Mbr.	Limestone						<1																														
	30-402-R2	667491	6331163		Kenneth Richardson	86-2R	122.50		Firebag Mbr.	Limestone			nil			5																														
	20-420-R2	667491	6331163		Kenneth Richardson	86-2R	128.00		Firebag Mbr.	Limestone			nil			5																														
	36-502-R2	667491	6331163		Kenneth Richardson	86-2R	153.00		Firebag Mbr.	Limestone			nil			15																														
	44-R2	667491	6331163		Kenneth Richardson	86-2R	187.00		Prairie Evaporite	Anhydrite partly altered to gypsum						20																														
	622-R2	667491	6331163		Kenneth Richardson	86-2R	189.60		Prairie Evaporite	Dolomite, buff with minor gypsum						5																														
	46-639	667491	6331163		Kenneth Richardson	86-2R	194.80		Prairie Evaporite	Anhydrite, blue-grey with gypsum veins			nil			5																														
	710-R2	667491	6331163		Kenneth Richardson	86-2R	216.40		Unit 3	Dolomite			0.1			15																														
	B.O.T.-1	667491	6331163		Kenneth Richardson	86-2R	238.40		Unit 2	Argillaceous Dolomite						20																														
	5753	667491	6331163		Kenneth Richardson	86-2R	238.35	239.31	Unit 2	Dolomite						2																														
	5754	667491	6331163		Kenneth Richardson	86-2R	239.31	240.06	Unit 2	Dolomite						<1																														
	5755	667491	6331163		Kenneth Richardson	86-2R	240.41	241.36	Unit 2	Dolomite						3																														
	792-R2	667491	6331163		Kenneth Richardson	86-2R	241.40		Unit 2	Dolomite						.63 oz																														
	5756	667491	6331163		Kenneth Richardson	86-2R	241.36	242.31	Unit 2	Dolomite						<1																														
	94-01-31-02	451688	6284683	4-23-89-12W5	A. Turner and D. McPhee		1602.20		Muskeg	Carbonate	Sphalerite	ICP	0.1	0.14	13	<2	7	72	2	36.6		0.2	12	5	4	1.46	0.05	2	0.62	481	1	0.02	19	0.034	21						<2	325		8	<0.01	<5	2	<1		118
	93-10-18-01	719084	6146045	3-30-74-10W4	A. Turner and D. McPhee		585.78		Beaverhill Lake	Carbonate		ICP	0.1	0.02	5	<2	7	6	<2	39.49		<0.2	<1	5	2	0.08	0.01	<2	0.26	34	2	0.02	14	<0.001	55						<2	151		11	<0.01	<5	<2	<1		<1
	93-10-18-03	719084	6146045	3-30-74-10W4	A. Turner and D. McPhee		582.81		Beaverhill Lake	Carbonate		ICP	0.2	0.02	9	<2	4	7	<2	40.41		<0.2	<1	2	3	0.1	0.02	<2	0.31	25	1	0.02	4	<0.001	52						10	144		<2	<0.01	<5	<2	<1		1
	93-10-21-19	706709	6331857	4-32-93-10W4	A. Turner and D. McPhee		193.56		Keg River	Fossiliferrous Dolostone		ICP	0.2	0.01	<2	<2	8	<2	<2	18.97		<0.2	1	11	2	0.02	<0.01	<2	17.87	42	<1	0.03	3	0.001	<2						<2	39		<2	<0.01	<5	<2	1		2
	93-10-22-07	706709	6331857	4-32-93-10W4	A. Turner and D. McPhee		259.35		La Loche			ICP	<0.1	1.59	4	<2	85	16	<2	10.81		<0.2	14	37	119	1.43	0.41	58	10.82	483	1	0.39	43	0.024	3						<2	125		2	0.02	<5	17	<1		23
	93-10-26-12	720665	6290808	8-20-89-9W4	A. Turner and D. McPhee		121.05		Beaverhill Lake	Carbonate		ICP	0.1	0.32	3	<2	13	2	<2	27.58		<0.2	4	6	3	0.73	0.11	2	1.23	210	<1	0.04	11	0.006	4						<2	281		<2	<0.01	<5	3	<1		10
	RE 93-10-26-12	720665	6290808	8-20-89-9W4	A. Turner and D. McPhee		121.05		Beaverhill Lake	Carbonate		ICP	<0.1	0.32	2	<2	13	3	2	27.79		<0.2	4	6	4	0.73	0.11	2	1.24	211	<1	0.03	13	0.006	6						2	283		<2	<0.01	<5	3	<1		9
	93-10-27-14	720665	6290808	8-20-89-9W4	A. Turner and D. McPhee		222.00		Prairie Evaporite			ICP	<0.1	0.04	4	<2	25	<2	<2			8.7	<1	5	3	0.05	0.02	<2	0.97	7	2	2.1	13	<0.001	11						<2	571		<2	<0.01	<5	<2	<1		2816
	93-10-28-06	720665	6290808	8-20-89-9W4	A. Turner and D. McPhee		273.81		Keg River			ICP	0.2	0.22	9	<2	29	4	<2	22.36		<0.2	2	11	50	0.31	0.08	<2	11.32	119	1	0.12	83	0.014	9						2	82		<2	<0.01	<5	6	<1		11
	93-10-28-19	720665	6290808	8-20-89-9W4	A. Turner and D. McPhee		330.90		Ernestina			ICP	0.5	0.21	9	<2	28	5	<2	21.88		<0.2	82	17	328	0.33	0.09	8	12.16	906	3	0.14	53	0.006	13						2	294		<2	0.01	<5	17	<1		33
	93-11-02-01	712996	6112122	7-8-71-11W4	A. Turner and D. McPhee		572.70		Beaverhill Lake	Carbonate		ICP	<0.1	0.04	<2	<2	4	3	<2	30.64		<0.2	<1	3	3	0.28	0.02	<2	0.25	48	<1	0.02	5	<0.001	10						<2	96		<2	<0.01	<5	<2	<1		16
	93-11-02-13	712996	6112122	7-8-71-11W4	A. Turner and D. McPhee		575.40		Beaverhill Lake	Carbonate		ICP	<0.1	0.01	<2	<2	<2	2	<2	34.27		0.2	<1	5	2	0.22	<0.01	<2	0.17	48	<1	0.01	1	<0.001	4						2	91		<2	<0.01	<5	<2	<1		254
	93-11-02-08	712996	6112122	7-8-71-11W4	A. Turner and D. McPhee		579.53		Beaverhill Lake	Carbonate		ICP	0.2	<0.01	<2	<2	<2	<2	<2	34.82		2.4	<1	7	2	0.04	<0.01	<2	0.09	50	<1	<0.01	3	<0.001	3						4	63		<2	<0.01	<5	<2	<1		1690
	93-11-03-03	252316	6530977	15-29-79-5W4	A. Turner and D. McPhee		313.80		Beaverhill Lake	Carbonate		ICP	0.2	0.41	20	<2	23	65	5	8.37		<0.2	33	12	7	21.59	0.11	13	0.84	4124	<1	0.14	115	0.062	7						<2	168		6	<0.01	<5	11	<1		16
	93-11-09-03	575470	6165908	6-10-77-25W4	A. Turner and D. McPhee		1038.78		Grosmont			ICP	0.1	0.15	3	<2	25	4	<2	13.47		0.5	16	19	5	4.28	0.07	<2	10.02	102	1	0.05	123	0.002	98						<2	36		<2	<0.01	<5	2	<1		310
	93-11-09-04	575470	6165908	6-10-77-25W4	A. Turner and D. McPhee		1038.78		Grosmont			ICP	0.2	0.2	3	<2	28	4	<2	15.56		1	11	17	8	2.84	0.1	<2	11.23	130	1	0.1	120	0.033	68						<2	76		<2	<0.01	<5	2	<1		1620
	93-11-10-08	605320	6160451	10-22-76-1W4	A. Turner and D. McPhee		556.35		Keg River			ICP	0.2	0.03	4	<2	2	2	2	42.32		<0.2	1	4	3	0.08	0.02	<2	0.65	51	<1	0.02	6	0.1	4						4	50		<2	<0.01	10	<2	4		125
	93-11-17-02	631927	6305304	10-16-91-18W4	A. Turner and D. McPhee		307.50		Keg River			ICP	<0.1	2.91	<2	<2	116	374	<2	0.34		0.2	11	133	5	3.24	1.61	20	2.57	202	<1	0.39	14	0.068	<2						<2	19		<2	0.33	<5	74	<1		74
	93-11-17-07	631927	6305304	10-16-91-18W4	A. Turner and D. McPhee		277.60		Contact Rapids			ICP	0.3	1.72	7	<2	98	12	<2	12.9		<0.2	20	22	100	1.03	0.49	9	8.16	320	1	0.2	31	0.024	12						3	168		5	0.02	<5	20	<1		34
	93-11-17-11	631927	6305304	10-16-91-18W4	A. Turner and D. McPhee		261.75		Keg River			ICP	0.2	0.31	6	<2	45	10	<2	12.68		0.3	9	23	87	0.59	0.14	2	10.53	106	40	0.13	106	0.027	14						<2	112		<1	0.07	<5	106	70		70
	93-11-22-07	741634	6364168	13-31-96-6W4	A. Turner and D. McPhee		232.20		Contact Rapids			ICP	<0.1	0.75	4	<2	59	16	<2	17.88		<0.2	10	18	59	0.49	0.14	8	11.33	401	3	0.12	12	0.015	2						<2	507		<2	0.01	<5	8	<1		58
	93-11-22-11	741634	6364168	13-31-96-6W4	A. Turner and D. McPhee		216.15		Keg River			ICP	<0.1	0.21	4	<2	41	38	<2	14.02		<0.2	2	48	50	0.54	0.07	<2	10.67	64	2	0.03	51	0.021	11						<2	50		<2	<0.01	<5	4	<1		12
	93-11-26-02	647933	6264929	7-11-87-17W4	A. Turner and D. McPhee		853.41		La Loche			ICP	0.1	0.34	<2	<2	15	21	<2	7.33		<0.2	5	207	2	0.76	0.21	18	4.77	232	1	0.08	9	0.006	2						3	137		4	0.03	<5	13	<1		5
	93-11-30-03	647933	6264929	7-11-87-17W4	A. Turner and D. McPhee		504.24		Slave Point			ICP	0.1	0.03	3	3	3	37	2	31.3		0.4	<1	3	1	0.52	0.01	<2	0.42	1.54	243	1	0.04	3	0.001	<2						4	4486		<2	<0.01	<5	<2	<1		73
	93-11-30-05	647933	6264929	7-11-87-17W4	A. Turner and D. McPhee		488.85		Beaverhill Lake	Carbonate		ICP	0.2	0.54	10	<2	14	54	<2	23.16		0.2	15	18	32	3.89	0.15	2	1.25	306	1	0.2	42	0.013	120						<2	229		<2	<0.01	<5	4	<1		22
	93-12-03-03	647933	6264929	7-11-87-17W4	A. Turner and D. McPhee		212.85		Ireton			ICP	<0.1	0.22	3	<2	13	28	<2	27.49		0.4	4	14	5	3.56	0.09	<2	0.36	128	<1	0.05	16	0.003	50						<2	321		<2	<0.01	<5	2	1		6
	93-12-03-05	647933	6264929	7-11-87-17W4	A. Turner and D. McPhee		200.82		Ireton			ICP	<0.1	0.12	23	<2	10	4	<2	29.8		0.4	34	9	18	3.12	0.05	2	0.36	231	5	0.04	111	0.007	63						<2	299		<2	<0.01	<5	<2	1		6
	93-12-06-01	632590	6094352	5-25-69-20W4	A. Turner and D. McPhee		718.80		Leduc			ICP	<0.1	0.16	9	<2	13	10	<2	29.7		0.3	59	10	9	3.41	0.07	3	1.93	385	<1	0.04	199	0.006	10						<2	289		2	<0.01	<5	3	<1		247
	93-12-06-02	632590	6094352	5-25-69-20W4	A. Turner and D. McPhee		718.80		Leduc			ICP	0.1	0.12	4	<2	12	27	<2	27.11		0.3	65	11	4	1.11	0.05	3	5.27	217	<1	0.04	130	0.006	2						<2	551		2	<0.01	<5	2	1		5
	93-12-06-16	647568	6363328	3-16-97-16W4	A. Turner and D. McPhee		411.60		Beaverhill Lake	Carbonate		ICP	<0.1	0.29	<2	<2	18	2	6	7.55		<0.2	38	32	8	14.89	0.16	4	0.31	535	<1	0.07	127	0.021	<2						<2	100		8	<0.01	<5	6	<1		31
	93-12-09-11	782681	6423642	16-27-102-2W4	A. Turner and D. McPhee		796.86		Muskeg			ICP	0.2	0.02	3	<2	126	4	<2	47.68		1.2	<1	9	2	0.02	0.05	<2	0.9	6	1	0.05	6	0.001	2						4	593		<2	<0.01	<5	<2	1		62
	94-01-20-10	252247	6531187	9-5-114-8W6	A. Turner and D. McPhee		1697.70		Keg River	Dolomite	Sphalerite	ICP	0.1	0.01	3	<2	4	2	<2	18.13		4	<1	3	2	0.17	0.01	<2	17.82	132	1	0.03	17	0.003	19						<2	36		4	<0.01	<5	<2	<1		1435
	94-01-31-05	238395	6468398	13-20-107-9W6	A. Turner and D. McPhee		499.57		Keg River	Dolomite	Sphalerite	ICP	0.2	5	6	<2	5	70	<2	43.05		1.3	<1	3	2	0.41	0.01	2	0.37	71	1	0.02	7	0.001	151						<2	296		9	<0.01	<5	3	<1		151
	94-01-20-01	358808	6572179	16-34-118-21W5	A. Turner and D. McPhee		1279.62		Keg River	Dolomite	Sphalerite	ICP	0.3	0.04	12	<2	15	4	<2	7.57		2.8	<1	22	2	9.71	0.02	<2	10.65	105	<1	0.03	5	0.003	1064						<2	28		4	<0.01	<5	<2	<1		1122
	94-01-20-02	358808	6572179	16-34-118-21W5	A. Turner and D. McPhee		1271.70		Keg River	Dolomite	Sphalerite	ICP	<0.1	0.08	5	<2	11	4	2	14.15		36.5	2	11	6	0.44	0.04	<2	13.63	136	4	0.04	0.3	0.004	30						<2	62		4	<0.01	<5	2	<1		15601
	94-01-20-03	358808	6572179	16-34-118-21W5	A. Turner and D. McPhee		1263.69		Keg River	Dolomite	Sphalerite	ICP	0.1	0.03	4	<2	11	4	<2	14.45		64.8	<1	15	<1	4.98	0.01	<2	14.21	180	2	0.03	17	0.001	675						2	24		5	<0.01	<5	<2	2		37633
	94-01-20-04	358808	6572179	16-34-118-21W5	A. Turner and D. McPhee		1261.11		Keg River	Dolomite	Sphalerite	ICP	<0.1	0.16	25	<2	24	5	5	9.97		<0.2	4	17	17	1.55	0.1	<2	10.31	106	6	0.05	48	0.006	246						<2	23		5	<0.01	8	4	1		99999
	94-01-20-05	358808	6572179	16-34-118-21W5	A. Turner and D. McPhee		1259.19		Keg River	Dolomite	Sphalerite	ICP	<0.1	0.04	3	<2	12	2	<2	14.88		3.2	<1	23	<1	7.11	0.02	<2	15.51	135	2	0.03	18	0.002	732						4	33		4	<0.01	<5	<2	<1		1246
	AB-7001	376972	6599279	7-27-121-19W5	Gulfman Anita		75.00	76.20	Nisku	Limestone															19									32													14
	AB-7004	376972	6599279	7-27-121-19W5	Gulfman Anita		84.00	84.00	Nisku	Limestone															15									46													42
	AB-7017	376972	6599279	7-27-121-19W5	Gulfman Anita		129.00	126.00	Nisku	Limestone															13									35													32
	Average	376972	6599279	7-27-121-19W5	Gulfman Anita		75.00	138.00	Nisku	Limestone	Average over drilled section														13.7									35.6													23.2
		376526	6592537	3-3-121-19W5	Gulfman Anita		220.07		Winterburn Gp.	Limestone	Pyrite, Galena														40									70													39
		365015	6572275	10-32-118-20W5	Gulfman Anita		140.21			Carbonate															29									57													220
		365015	6572275	10-32-118-20W5	Gulfman Anita		122.50		Winterburn Gp. & Wabamun Gp.	Limestone	Pyrite														16									57													17
		365015	6572275	10-32-118-20W5	Gulfman Anita		215.70		Winterburn Gp. & Wabamun Gp.	Limestone	Pyrite														24									47													19
		365015	6572275	10-32-118-20W5	Gulfman Anita		255.00		Winterburn Gp. & Wabamun Gp.	Limestone	Pyrite														22									37													27
	7107	357143	6564266	1-4-118-21W5	Gulfman Anita		180.00	183.00	Winterburn Gp. & Wabamun Gp.	Carbonate															310							140		57													38
	7130	357143	6564266	1-4-118-21W5	Gulfman Anita		249.00	252.00	Winterburn Gp. & Wabamun Gp.																50									32													50
	7146	357143	6564266	1-4-118-21W5	Gulfman Anita		303.60	306.00	Nisku																12									50													23
	Average	357143	6564266	1-4-118-21W5	Gulfman Anita		135.60	310.80			Average over drilled section														8									39.2													19.9
	93-12-20-05	326030	6590138	10-22-120-1W6	A. Turner and D. McPhee		1233.46		?Slave Point	Carbonate	Sphalerite	ICP	0.3	0.02	3	<2	<2	58	<2	20.01		17.4	1	83	6	0.37	<0.01	<2	1.05	83	2	0.03	4	0.001	2						3	150		<2	<0.01	<5	<2	<1		4704
	93-12-20-06	326030	6590138	10-22-120-1W6	A. Turner and D. McPhee		1236.54		?Slave Point	Carbonate	Galena	ICP	0.2	0.03	18	<2	<2	79	<2	35.44		0.2	1	15	3	0.2	0.01	<2	0.85	55	1	0.02	11	0.001	5187						9	207		<2	<0.01	<5	3	1		24
	93-12-20-06	326030	6590138	10-22-120-1W6	A. Turner and D. McPhee		1236.54		?Slave Point	Carbonate		ICP	0.2	0.01	4	<2	<2	24	<2	42.86		0.2	1	2	1	0.13	<0.01	<2	1.94	60	<1	0.01	1	0.001	8						3	163		<2	<0.01	<5	2	1		5
	93-10-28-19	720673	6290595	8-20-89-9W4	A. Turner and D. McPhee		336.19		?Ernestina			ICP	0.5	0.21	9	37	28	5	<2	21.88		<0.2	82	17	328	0.33	0.09	8	12.16	906	3	0.14	53	0.006	13						2	294		<2	0.01	<5	17	<1		33
	93-10-27-14	720673	6290595	8-20-89-9W4	A. Turner and D. McPhee		226.47		?altered Prairie Evaporite			ICP	<0.1	0.04	4	<2	25	<2	<2	15.32		8.7	<1	5	3	0.05	0.02	<2	0.97	7	2	2.1	13	<0.001	11						<2	571		<2	<0.01	<5	<2	<1		2816
	93-10-21-19	706717	6331645	4-32-93-10W4	A. Turner and D. McPhee		194.16		Keg River		Gold	ICP	0.2	0.01	<2	57 ppb	8	<2	<2	18.97		<0.2	1	11	2	0.02	<0.01	<2	17.87	42	<1	0.03	3	0.001	<2						<2	59		<2	<0.01	<5	<2	1		2
	93-11-02-08	713003	6111907	7-8-71-11W4	A. Turner and D. McPhee		588.80		Beaverhill Lake		Pyrite, Sphalerite	ICP	0.2	<0.01	<2	<2	<2	<2	<2	32.82		2.4	<1	7	2	0.04	<0.01	<2	0.09	50	<1	<0.01	3	<0.001	3						4	63		<2	<0.01	<5	<2	<1		1690
		704915	6341978		Focal Resources Ltd.		Surface		Waterways	Limestone						68.6																									40.8	44.6							
		704915	6341978		Focal Resources Ltd.		At depth		Waterways	Limestone						13.7																									78.5	18.5							
WK15		706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways			ICP-MS (Soln)				0.001 g/t																																
WK15	1	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				0.13					53.4																			0.4	0	0.01							
WK15	2	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				0.05					53.4																			0.01	0	0.01							
WK15	3	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				0.11					53.4																			0.05	0	0							
WK15	4	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				2.17					53.4																			0.02	0	0.01							
WK15	Vein	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				0.09					53.4																			0.06	0	0.01							
WK15	Avg.	706233.5	6337842.8		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (laser)				0.16					53.4																			0.03	0	0.01							
RR41		706873.8	6339052.6		Abercrombie and Feng		Surface		Waterways	Limestone		ICP-MS (Soln)				0																																
RR09		704655.7	6340314.8		Abercrombie and Feng		Sur

Appendix D - Selected Photographs of Core From Well Calstan Senex Creek 04-03-100-07W5

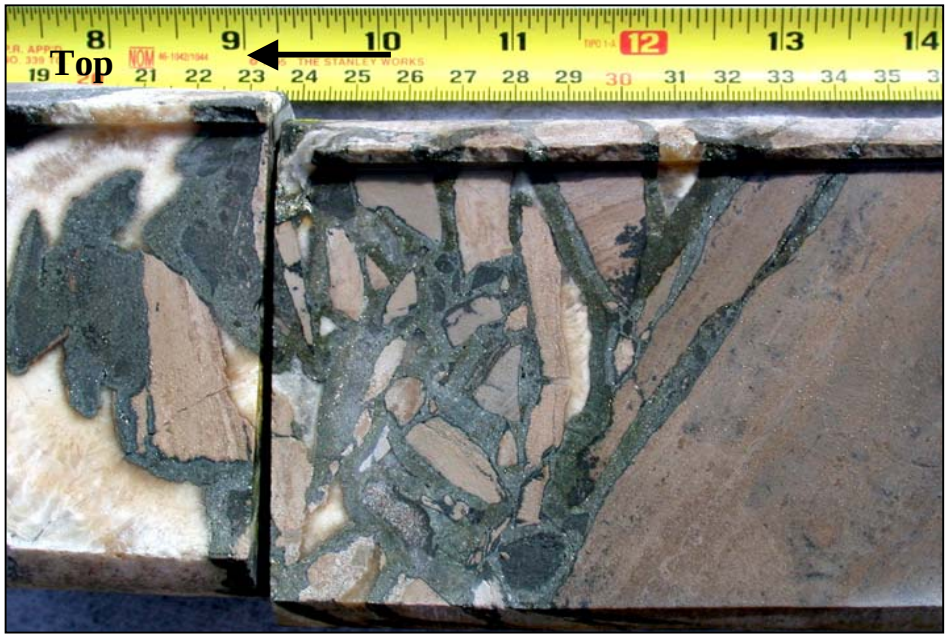
Selected photographs of core from well Calstan Senex Creek 04-03-100-07W5 (615595.28 E, 6390605.17 N, NAD27) are contained in this appendix. This well contained the only example of breccia and later infilling with sulphides (Py) and coarse calcite seen during the 2002 core program. Overlap points between core photos are indicated by black stars. The core is from the dolomitized Upper Devonian Jean Marie Member (Nisku Formation equivalent) of the Redknife Formation at approximately 257 m depth. Jean Marie dolostone was faulted immediately above and below and within the brecciated interval. Coarse calcite is contemporaneous with the sulphides in the breccia.


Top

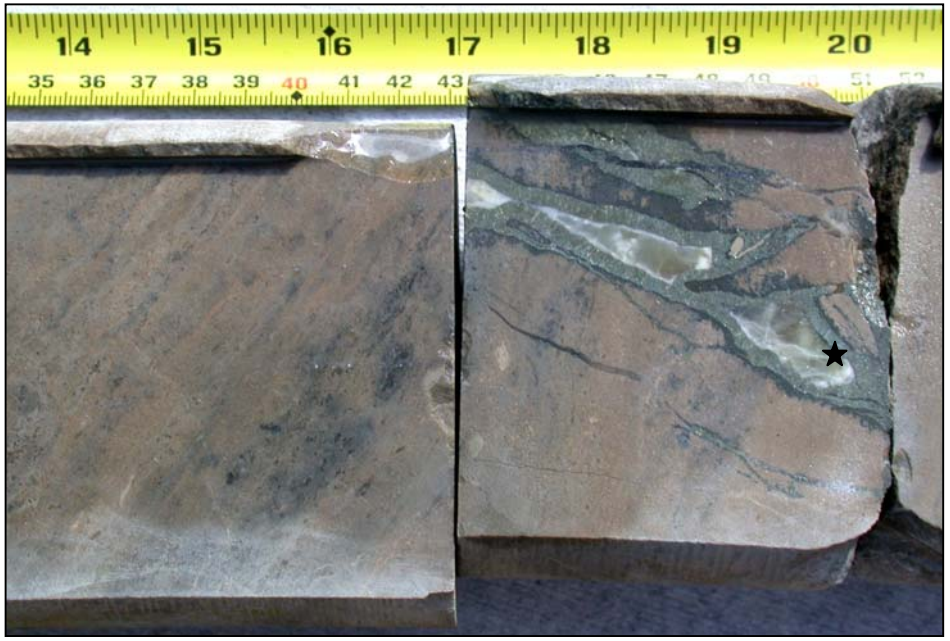




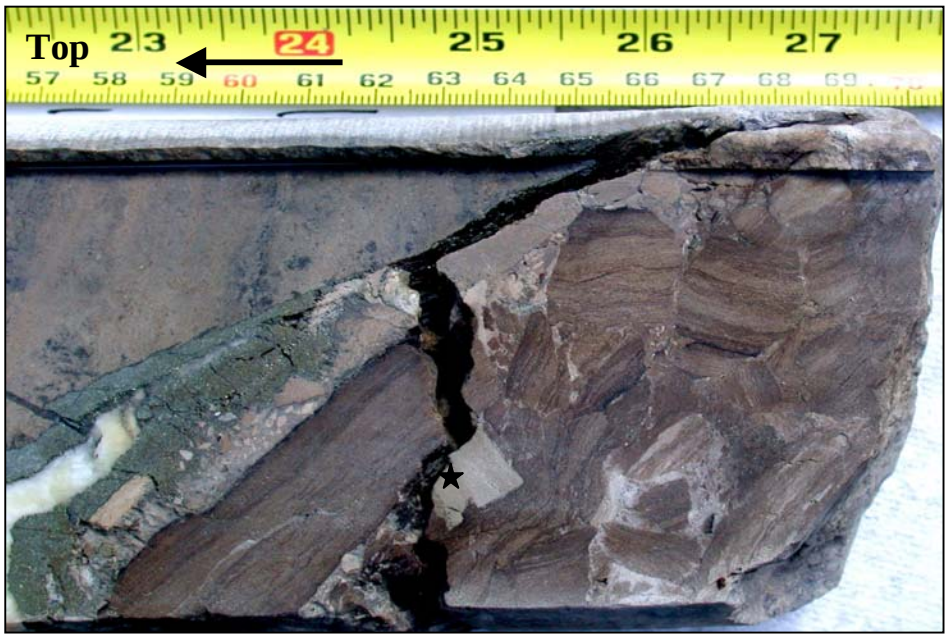

Calstan Senex
4-03-100-07W5
2569 - 2579 m.
Nisku Fm.


Top


TOP
Calstan Senex
4-03-100-07W5
2569 - 2579 m.
Nisku Fm.






Top
23
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