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FLETCHER CHALLENGE
ENERGY
CANADA

Mr. Erik Johnson
Jason Geosystems
700, 250 – 6th Ave S.W.
Calgary, Alberta T2P 3H7

March 10, 1997

Dear Erik:

Prior to contracting with Jason for any project services work, we wanted a demonstration of the effectiveness of the Jason Geoscience Workbench technology on one of our existing glauconite fields. While it is well known that it is very difficult to distinguish channel fill material using P-Wave seismic data or traditional post-stack inversion, we were hopeful that the Jason Constrained Sparse Spike Deconvolution, with it's sophisticated geologic controls, could improve our understanding of the geometry of the channel. We felt that if the geophysicist could provide better thickness maps, the geologist would be in a much better position to predict where reservoir quality sands might be deposited.

As a test, we provided Jason with four wells, along with seismic data and regional markers from our Landmark interpretation system, and asked for predictions of pay thickness on the other nine wells in the field. To properly estimate sand thickness above the water contact requires correct structural as well as stratigraphic predictions. As the attached spreadsheet shows, using the Geoscience Workbench to combine the geology and geophysics reduced the standard (rms) error in predictions of glauconite pay thickness by almost 50%. This makes the Jason method a very useful tool in both reducing risk and in integrating geology and geophysics, enabling us to make more accurate and timely technical decisions.

Like most resource companies, our geoscience staff is limited in the amount of time they can spend adding additional technology to their work. We were extremely pleased in how easy it was to outsource this work to Jason, and with the turnaround time we received. To be able to simply provide a tar backup of the Landmark project, and receive ready to use Landmark 3dv files back, means our staff can spend less time dealing with data issues and more time developing quality drilling locations.

Sincerely,

Brian McBeath
Vice-President Exploration

How much difference does Inversion make to our well results?

All units are meters; all predictions are of pay thickness

	Well	Pre-Well Predictions				Post-well Differentials			Cumulative Squared Error			Standard (RMS) Error			Best
	Name	Geology	Geoph	Inversion	Actual	Geology	Geoph	Inversion	Geology	Geoph	Inversion	Geology	Geoph	Inversion	Technique
1	A	6	6	18	10	-4	-4	8	16	16	64	4.00	4.00	8.00	Tie (G&G)
2	B	12	12	2.5	0	12	12	2.5	160	160	70	8.94	8.94	5.93	Inversion
3	C	4	9	2	0	4	9	2	176	241	74	7.66	8.96	4.97	Inversion
4	D	11	11	7	6	5	5	1	201	266	75	7.09	8.15	4.34	Inversion
5	E	4	4	14	14	-10	-10	0	301	366	75	7.76	8.56	3.88	Inversion
6	F	4	4	6	5	-1	-1	1	302	367	76	7.09	7.82	3.56	3-way Tie
7	G	3	3	5	1	2	2	4	306	371	92	6.61	7.28	3.63	Geology
8	H	3	4	6	10	-7	-6	-4	355	407	108	6.66	7.13	3.68	Inversion
9	I	4	4	5	11	-7	-7	-6	404	456	144	6.70	7.12	4.00	Inversion
10	J	3	4	7	7	-4	-3	0	420	465	144	6.48	6.82	3.80	Inversion
11	K	2	4	4	3	-1	1	1	421	466	145	6.19	6.51	3.63	3-way Tie
12	L	5	5	6	11	-6	-6	-5	457	502	170	6.17	6.47	3.77	Inversion
13	M	4	5	5	6	-2	-1	-1	461	503	171	**5.95**	**6.22**	**3.63**	Tie(Gp&In)