



Location Eddy County, NM
Field (Federal) Sand Dunes Delaware, West
Facility Federal 29 Pad

OXY Permian

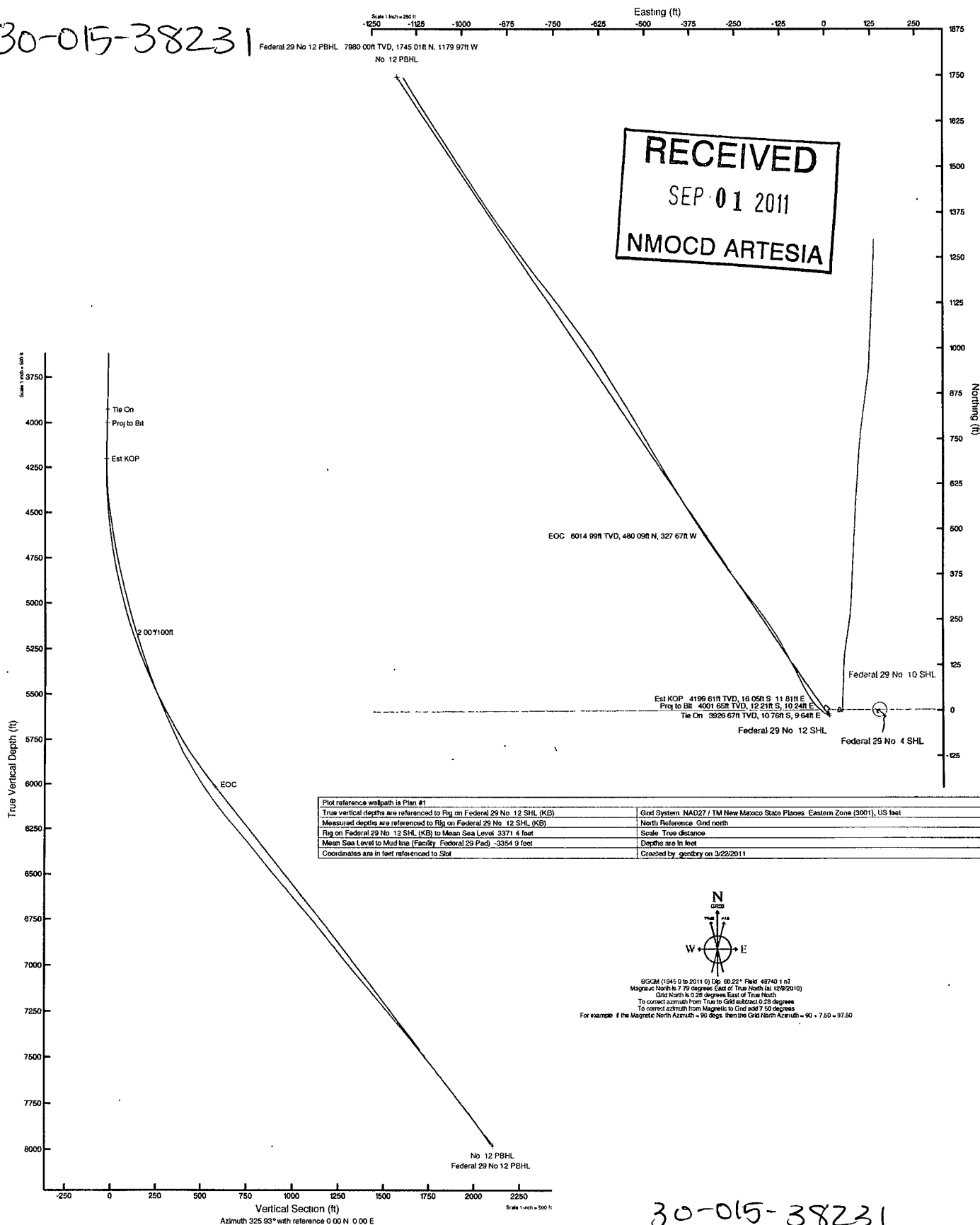
Slot Federal 29 No 12 SHL
Well 29 Fed No 12
Wellbore No 12 PWB



INTEQ

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	3927 00	1 200	157 700	3926 67	-10 76	9 64	0 00	-14 31
Proj to Bit	4002 00	1 200	157 700	4001 65	-12 21	10 24	0 00	-15 85
Est KOP	4200 00	1 200	157 700	4199 61	-16 05	11 61	0 00	-19 91
EOC	6149 74	37 619	326 028	6014 99	480 09	-327 67	2 00	581 25
Federal 29 No 12 PBHL	8637 25	37 619	326 028	7980 00	1745 01	-1179 97	0 00	2106 51

30-015-38231



30-015-38231



Actual Wellpath Report

No.12 AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Federal 29 No. 12 SHL
Area	Eddy County, NM	Well	29 Fed No. 12
Field	(Federal) Sand Dunes Delaware, West	Wellbore	No.12 AWB
Facility	Federal 29 Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Calhphik
Scale	0.99994	Report Generated	3/28/2011 at 8:33:28 AM
Convergence at slot	0.28° East	Database/Source file	WA Midland/No.12_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	-0.30	-50.00	664243.30	461972.50	32°16'08.261"N	103°48'07.033"W
Facility Reference Pt			664293.30	461972.80	32°16'08.262"N	103°48'06.450"W
Field Reference Pt			664293.30	461972.80	32°16'08.262"N	103°48'06.450"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on Federal 29 No. 12 SHL (KB) to Facility Vertical Datum	16.50ft
Horizontal Reference Pt	Slot	Rig on Federal 29 No. 12 SHL (KB) to Mean Sea Level	3371.40ft
Vertical Reference Pt	Rig on Federal 29 No. 12 SHL (KB)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on Federal 29 No. 12 SHL (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	326.33°



Actual Wellpath Report

No.12 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Federal 29 No. 12 SHL
Area	Eddy County, NM	Well	29 Fed No. 12
Field	(Federal) Sand Dunes Delaware, West	Wellbore	No.12 AWP
Facility	Federal 29 Pad		

WELLPATH DATA (69 stations) * = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	319.640	0.00	0.00	0.00	0.00	664243.30	461972.50	32°16'08.261"N	103°48'07.033"W	0.00	
16.50	0.000	319.640	16.50	0.00	0.00	0.00	664243.30	461972.50	32°16'08.261"N	103°48'07.033"W	0.00	
109.70	0.190	319.640	109.70	0.15	0.12	-0.10	664243.20	461972.62	32°16'08.262"N	103°48'07.034"W	0.20	
169.90	0.310	330.420	169.90	0.42	0.34	-0.25	664243.05	461972.84	32°16'08.264"N	103°48'07.035"W	0.21	
262.30	0.570	339.300	262.30	1.11	0.98	-0.53	664242.77	461973.48	32°16'08.271"N	103°48'07.039"W	0.29	
354.20	0.740	342.690	354.19	2.13	1.98	-0.87	664242.43	461974.48	32°16'08.281"N	103°48'07.043"W	0.19	
444.10	0.740	336.310	444.08	3.26	3.06	-1.28	664242.02	461975.56	32°16'08.291"N	103°48'07.047"W	0.09	
513.00	0.500	10.300	512.98	3.91	3.77	-1.40	664241.90	461976.27	32°16'08.298"N	103°48'07.049"W	0.62	
634.00	0.600	20.300	633.97	4.66	4.88	-1.09	664242.21	461977.38	32°16'08.309"N	103°48'07.045"W	0.11	
753.00	0.700	11.900	752.97	5.54	6.18	-0.72	664242.58	461978.67	32°16'08.322"N	103°48'07.041"W	0.12	
888.00	0.700	8.000	887.96	6.73	7.80	-0.44	664242.86	461980.30	32°16'08.338"N	103°48'07.037"W	0.04	
1024.00	1.000	17.000	1023.94	8.10	9.76	0.03	664243.33	461982.26	32°16'08.358"N	103°48'07.032"W	0.24	
1159.00	1.000	18.900	1158.92	9.57	12.00	0.75	664244.05	461984.50	32°16'08.380"N	103°48'07.023"W	0.02	
1294.00	0.300	90.000	1293.91	10.09	13.11	1.49	664244.79	461985.61	32°16'08.391"N	103°48'07.014"W	0.70	
1429.00	0.300	135.900	1428.91	9.54	12.86	2.09	664245.39	461985.36	32°16'08.388"N	103°48'07.007"W	0.17	
1564.00	0.600	134.900	1563.91	8.50	12.11	2.83	664246.13	461984.60	32°16'08.381"N	103°48'06.999"W	0.22	
1700.00	0.600	115.500	1699.90	7.19	11.30	3.98	664247.28	461983.80	32°16'08.373"N	103°48'06.986"W	0.15	
1835.00	0.600	132.200	1834.89	5.90	10.52	5.14	664248.44	461983.02	32°16'08.365"N	103°48'06.972"W	0.13	
1970.00	0.800	133.100	1969.88	4.30	9.40	6.36	664249.65	461981.90	32°16'08.354"N	103°48'06.958"W	0.15	
2105.00	0.700	129.000	2104.87	2.59	8.24	7.68	664250.98	461980.74	32°16'08.342"N	103°48'06.943"W	0.08	
2240.00	0.900	139.200	2239.86	0.75	6.91	9.02	664252.32	461979.41	32°16'08.329"N	103°48'06.927"W	0.18	
2376.00	0.900	138.400	2375.84	-1.36	5.31	10.42	664253.72	461977.81	32°16'08.313"N	103°48'06.911"W	0.01	
2511.00	0.800	130.200	2510.82	-3.32	3.91	11.85	664255.15	461976.41	32°16'08.299"N	103°48'06.894"W	0.12	
2646.00	1.100	130.300	2645.81	-5.47	2.46	13.56	664256.86	461974.96	32°16'08.285"N	103°48'06.875"W	0.22	
2781.00	0.100	247.400	2780.80	-6.69	1.58	14.44	664257.74	461974.08	32°16'08.276"N	103°48'06.864"W	0.85	
2917.00	0.600	245.600	2916.80	-6.55	1.24	13.68	664256.98	461973.74	32°16'08.273"N	103°48'06.873"W	0.37	
3052.00	0.700	247.800	3051.79	-6.28	0.63	12.27	664255.57	461973.13	32°16'08.267"N	103°48'06.890"W	0.08	
3187.00	0.900	257.000	3186.77	-5.74	0.08	10.47	664253.77	461972.58	32°16'08.261"N	103°48'06.911"W	0.18	
3322.00	0.800	225.800	3321.76	-5.54	-0.81	8.77	664252.07	461971.69	32°16'08.253"N	103°48'06.931"W	0.35	
3458.00	0.900	189.400	3457.75	-6.49	-2.53	7.91	664251.21	461969.97	32°16'08.236"N	103°48'06.941"W	0.40	
3593.00	1.200	171.500	3592.72	-8.54	-4.97	7.95	664251.25	461967.53	32°16'08.212"N	103°48'06.940"W	0.33	
3728.00	0.800	164.800	3727.70	-10.72	-7.28	8.40	664251.70	461965.22	32°16'08.189"N	103°48'06.935"W	0.31	
3863.00	1.200	159.300	3862.68	-12.99	-9.51	9.15	664252.45	461962.99	32°16'08.167"N	103°48'06.927"W	0.30	
3927.00	1.200	157.700	3926.67	-14.30	-10.76	9.64	664252.94	461961.74	32°16'08.154"N	103°48'06.921"W	0.05	
4079.00	1.300	159.000	4078.63	-17.54	-13.84	10.86	664254.16	461958.66	32°16'08.124"N	103°48'06.907"W	0.07	
4215.00	0.600	265.500	4214.62	-18.70	-15.34	10.71	664254.00	461957.16	32°16'08.109"N	103°48'06.909"W	1.16	
4350.00	3.700	296.100	4349.51	-14.59	-13.48	6.09	664249.39	461959.02	32°16'08.127"N	103°48'06.962"W	2.37	
4486.00	7.700	309.600	4484.81	-2.07	-5.74	-4.88	664238.42	461966.77	32°16'08.205"N	103°48'07.090"W	3.08	
4621.00	9.600	314.200	4618.27	17.60	7.88	-19.92	664223.38	461980.38	32°16'08.340"N	103°48'07.264"W	1.50	
4756.00	11.800	326.200	4750.94	42.42	27.20	-35.67	664207.63	461999.70	32°16'08.532"N	103°48'07.446"W	2.31	
4891.00	13.500	331.700	4882.66	71.91	52.55	-50.82	664192.48	462025.05	32°16'08.784"N	103°48'07.621"W	1.54	
5026.00	14.800	334.300	5013.56	104.68	81.96	-65.77	664177.53	462054.46	32°16'09.075"N	103°48'07.794"W	1.07	
5161.00	17.500	331.600	5143.22	141.97	115.36	-82.91	664160.40	462087.85	32°16'09.407"N	103°48'07.991"W	2.08	
5297.00	17.600	332.500	5272.89	182.78	151.59	-102.13	664141.18	462124.08	32°16'09.766"N	103°48'08.213"W	0.21	
5432.00	20.200	330.200	5400.61	226.33	189.92	-123.14	664120.17	462162.41	32°16'10.146"N	103°48'08.456"W	2.00	



Actual Wellpath Report

No.12 AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Federal 29 No. 12 SHL
Area	Eddy County, NM	Well	29 Fed No. 12
Field	(Federal) Sand Dunes Delaware, West	Wellbore	No.12 AWB
Facility	Federal 29 Pad		

WELLPATH DATA (69 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5567.00	22.000	325.100	5526.56	274.87	230.89	-149.19	664094.12	462203.38	32°16'10.553"N	103°48'08.757"W	1.90	
5703.00	24.300	323.100	5651.60	328.29	274.17	-180.57	664062.74	462246.65	32°16'10.983"N	103°48'09.120"W	1.79	
5838.00	25.600	322.700	5774.00	385.13	319.58	-214.93	664028.39	462292.06	32°16'11.434"N	103°48'09.517"W	0.97	
5973.00	29.600	323.400	5893.61	447.56	369.57	-252.49	663990.82	462342.05	32°16'11.930"N	103°48'09.952"W	2.97	
6108.00	32.900	324.900	6009.01	517.53	426.35	-293.47	663949.85	462398.83	32°16'12.494"N	103°48'10.426"W	2.51	
6244.00	36.500	326.600	6120.81	594.93	490.36	-336.99	663906.33	462462.83	32°16'13.130"N	103°48'10.929"W	2.74	
6379.00	39.900	328.000	6226.89	678.39	560.62	-382.05	663861.28	462533.09	32°16'13.827"N	103°48'11.450"W	2.60	
6515.00	39.700	328.900	6331.37	765.38	634.81	-427.60	663815.73	462607.27	32°16'14.564"N	103°48'11.976"W	0.45	
6650.00	38.100	329.800	6436.43	850.03	707.73	-470.82	663772.51	462680.18	32°16'15.287"N	103°48'12.475"W	1.26	
6786.00	39.800	330.000	6542.20	935.36	781.69	-513.70	663729.64	462754.15	32°16'16.021"N	103°48'12.970"W	1.25	
6921.00	40.200	327.700	6645.62	1022.04	855.94	-558.58	663684.75	462828.39	32°16'16.758"N	103°48'13.489"W	1.13	
7056.00	38.700	328.800	6749.86	1107.77	928.88	-603.73	663639.61	462901.32	32°16'17.482"N	103°48'14.010"W	1.23	
7192.00	39.000	325.600	6855.79	1193.04	1000.56	-649.94	663593.40	462973.00	32°16'18.194"N	103°48'14.544"W	1.49	
7327.00	39.200	323.700	6960.56	1278.14	1069.99	-699.19	663544.15	463042.43	32°16'18.883"N	103°48'15.114"W	0.90	
7462.00	40.800	322.800	7063.97	1364.78	1139.51	-751.12	663492.23	463111.94	32°16'19.574"N	103°48'15.715"W	1.26	
7597.00	40.700	323.400	7166.24	1452.76	1209.98	-804.03	663439.32	463182.41	32°16'20.274"N	103°48'16.327"W	0.30	
7732.00	40.600	324.400	7268.67	1540.63	1281.04	-855.85	663387.51	463253.46	32°16'20.979"N	103°48'16.926"W	0.49	
7868.00	40.100	325.100	7372.31	1628.65	1352.94	-906.67	663336.69	463325.36	32°16'21.693"N	103°48'17.514"W	0.50	
8003.00	38.900	326.400	7476.48	1714.51	1423.91	-955.00	663288.36	463396.32	32°16'22.398"N	103°48'18.073"W	1.08	
8138.00	38.700	327.200	7581.70	1799.09	1494.69	-1001.32	663242.04	463467.10	32°16'23.100"N	103°48'18.608"W	0.40	
8274.00	38.700	326.400	7687.83	1884.12	1565.84	-1047.88	663195.48	463538.25	32°16'23.807"N	103°48'19.146"W	0.37	
8409.00	37.400	327.400	7794.14	1967.32	1635.54	-1093.33	663150.04	463607.94	32°16'24.499"N	103°48'19.672"W	1.07	
8570.00	34.500	328.000	7924.46	2061.80	1715.41	-1143.85	663099.53	463687.81	32°16'25.291"N	103°48'20.256"W	1.81	
8630.00	34.500	328.000	7973.91	2095.77	1744.24	-1161.85	663081.52	463716.63	32°16'25.578"N	103°48'20.464"W	0.00	Proj to Bit

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 12 PBHL		7980.00	1745.01	-1179.97	663063.40	463717.40	32°16'25.586"N	103°48'20.675"W	point

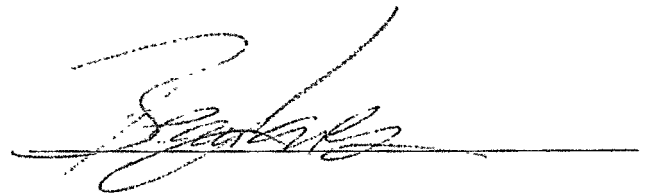
WELLPATH COMPOSITION					Ref Wellbore: No.12 AWB	Ref Wellpath: No.12 AWP
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
16.50	444.10	Generic gyro - northseeking (Standard)		Gyro		No.12 AWB
444.10	8630.00	NaviTrak (Standard)		MWD		No.12 AWB

2105 MARKET STREET
MIDLAND, TX 79703
24 HR (432) 694-9517

STATE OF NEW MEXICO

COUNTY OF Eddy

I, Dominic Tenney, Directional Driller certify that I am employed by Baker Hughes INTEQ; did conduct or supervise on the day(s) of 3/18/2011 through 3/26/2011 the taking of MWD surveys from a depth of 444.1 to a depth of 8,630 that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes INTEQ; that I am authorized and qualified to make this report; that this survey was conducted at the request of Oxy for the Federal 29 #12 in Eddy County, NM; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by INTEQ.



Field Service Engineer: Dominic Tenney