Geologic log and measured air-dry gas content desorption data from coals of the AK-94 CBM-1 coal-bed methane well.

Created 1 March 2000.

Total of 48 pages in report.

Alaska Geologic Materials Center Data Report No. 291

AK 94-CBM-1 AS-BUILT OF CONDUCTOR

LOCATED WITHIN:

SE1/4 SE1/4

Sec. 31

T. 18 N., R. 1 W.,

SEWARD MERIDIAN AK.

Latitude 61°35'52" N

Longitude 149°31'02" W

(NAD 1927)

Y = 2,776,281

X = 584,064

ZONE = 4

Top of Conductor 7/8/94 = 406'

N

VICINITY MAP

PRIVATE
DONALD
OWNERLAND
CHURCH
7/8/94

SILVERLEAF ESTATES

Y = 277746.0403
X = 585540.4301Recovered bent iron pipe
with brass cap.

T 18 N

T 17 N

- Found 3" Aluminum monument no marks
- Found 5/8" rebar with Aluminum cap marked DB 100' R.P. 1/4 Cor. 4118-S 77. (typical)

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA, THAT THIS AS-BUILT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AS DESCRIBED, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT.

DATE 7/27/94 REGISTRATION NO. 6885

PREPARED BY:	DATE OF SURVEY:	PREPARED FOR:	LEGAL DESCRIPTION:
MEP	July 8, 1994	State of Alaska Department of Natural Resources Division of Oil and Gas P.O. Box 107034 Anchorage, AK 99510-7034	SE1/4 SE1/4 SEC. 31 TOWNSHIP: 18N RANGE: 1W SEWARD MERIDIAN
SHEET:	NUMBER	SCALE: 1" = 100'	
1	1

Figure 9. Coal analyses for AK-94CBM-1.

D.T. SEAMOUNT
NOV 13 1997

Seam1, Canister1

D. T. SEAMOUNT

REV 13 1997

Seam 1, Canister 2

D. J. SLOAN

REV 15 1997

Seam 2, Canister 3

D. T. SEAMOUNT

NOV 13 1997

Seam2, Cannister 4

D. T. SEAMOUNT

NOV 13 1997

Seam 3, Canister 5

D. T. SEAMOUNT

1997 13

Seam 3, Canister 6

D. T. SEAMOUNT

NOV 13 1997

Seam 4, Cannister7

D. T. SEAMOUNT

NOV 13 1997

Seam 4, Cannister 8

D. T. SEAMOUNT

NOV 15 1997

Seam 5, Canister 9

D. T. SEAMCOWI

SEP 13 1997

Seam 5, Canister 10

D. T. SEAMOUNT

NOV 15 1997

Seam 6 Cannister11

D. T. SEAMOUNT
NOV 15 1997

Seam 6, Cannister 12

D. T. SEAMOUNT

NOV 13 1997

Seam 6, Cannister13

D. T. SEAMOUNT

NOV 15 1997

Seam 6, Cannister 14

D. T. SEAMOUNT

REV 13 1997

Seam 7, Canister15

D. T. SEAMOUNT

NOV 15 1997

Seam 7, Cannister16

D. T. SEAMOUNT

NOV 15 1997

Seam 7 Cannister 17

D. T. SEAMOUNT
NOV 15 1997

Scam 7, Canister18

D. T. SEAMOUNT

NOV 13 1997

Seam 8 Cannister 19

D. T. SEAMOUNT

10/13/1997

Seam 9, Canister 20

D. T. SEAMOUNT

NOV 13 1997

Seam 9, Cannister 21

D. T. SEAMOUNT
REV 15 1997

Seam 9, Canister22

D. T. SEAMOUNT

NOV 13 1997

Seam 10 Cannister23

Seam 11, Canister24

D. T. SEAMOUNT

REV 13 1997

Seam 11, Canister25

D. T. SEAMOUNT
JUN 15 1997

Seam 11, Canister26

D. T. SEAMOUNT

REV 15 1997

Seam 12, Cannister27

D. T. SEAMOUNT

1997 13 1997

Seam 12, Cannister 28

D. T. SEAMOUNT

REV 13 1997

Seam 12, Cannister29

D. R. BENTON
10/13/97

Seam12, Cannister30

LA 1 SEP 1997
104 15 1997

Seam 12, Canister 31

D. T. SHAWCRAFT
JUN 15 1997

Seam 12, Cannister32

O.T. SEAMOUNT
JAN 15 1997

Seam 12, Canister 33

O. T. SEAMOUNT
NOV 13 1997

Seam 13, Cannister 35

D. T. SEAMOUNT

NOV 15 1997

Seam 13, Cannister36

D. T. SEAMOUNT

NOV 13 1997

Seam 13, Cannister37

D. T. SEAMOUNT

NOV 15 1997

Seam 13, Cannister 38

	PLANAR, NONPARALLEL
	CURVED, PARALLEL
	CURVED, NONPARALLEL
BED TYPE IDENTIFICATION	
	FESTOON OR TROUGH CROSS BEDS
	PLANAR CROSS BEDS
	CURRENT RIPPLES
	CLIMBING RIPPLES
	IN-PHASE CURRENT RIPPLES
	HUMMOCKY CROSS BEDS
	WAVE OSCILLATION RIPPLES
	PLANAR BED
	FLASER BED
	HOMOGENEOUS BED
SEDIMENTARY STRUCTURES	
	ROOTS
	CHANNELING
	BURROWS
SEDIMENTARY STRUCTURES	
	SWIRLED FLOW
	CONFORMITY
	MICROFAULT
	FLUME CAST
	LOAD CAST
	GROOVE CAST
	FLUTE CAST
	STYLOLITE
	MUDCRACK
	SCOUR
	SYMMETRICAL RIPPLE MARKS
	ASYMMETRICAL RIPPLE MARKS
	FOSSIL
	FORAM
	GLAUCOPHANE
SEDIMENTARY STRUCTURES	
	CONCRETION
	ORGANIC MATERIAL
	SHALE CLAST
	PYRITE

[illegible]

- PLANAR, NONPARALLEL
- CURVED, PARALLEL
- CURVED, NONPARALLEL
- WAVY, PARALLEL
- WAVY, NONPARALLEL
- BED TYPE INTERPRETATION
- FESTOON OR TROUGH CROSS BEDS
- PLANAR CROSS BEDS
- CURRENT RIPPLES
- CLIMBING RIPPLES
- MUDCRACK
- HERRINGBONE
- WAVE OSCILLATION
- PLANAR BED
- FLASER BED
- HOMOGENEOUS BED
- SECONDARY STRUCTURES
- ROOTS
- CHANNEL
- BURROWED
- SWIRLED, FLOW
- CONTORTED
- MICROFALLY
- FLAME CAST
- LOAM CAST
- GROOVE CAST
- RILL CAST
- STYLOLITE
- MUDCRACK
- SCOUR
- SYMMETRICAL RIPPLE MARK
- ASYMMETRICAL RIPPLE MARK
- PORE
- FOSSIL
- GLAUCONITE
- CONCRETION
- ORGANIC MATERIAL
- SHALE CAST
- PYRITE

DEPTH	LITH	GRAIN SIZE	BED SURFACE	LAM. GEOM.	SED. STRUC.	NOTES	BED INTERP.	ENVIRON- MENT
	SS SH SAND MUDST	1/16 1/8 1/4 1/2 3/4 1 2 4 8 16 32 64 128 256 512 1024 2048 4096 8192 16384 32768 65536 131072 262144 524288 1048576 2097152 4194304 8388608 16777216 33554432 67108864 134217728 268435456 536870912 1073741824 2147483648 4294967296 8589934592 17179869184 34359738368 68719476736 137438953472 274877906944 549755813888 1099511627776 2199023255552 4398046511104 8796093022208 17592186044416 35184372088832 70368744177664 140737488355328 281474976710656 562949953421312 1125899906842624 2251799813685248 4503599627370496 9007199254740992 18014398509481984 36028797018963968 72057594037927936 144115188075855872 288230376151711744 576460752303423488 1152921504606846976 2305843009213693952 4611686018427387904 9223372036854775808 18446744073709551616 36893488147419103232 73786976294838206464 147573952589676412928 295147905179352825856 590295810358705651712 1180591620717411303424 2361183241434822606848 4722366482869645213696 9444732965739290427392 18889465931478580854784 37778931862957161709568 75557863725914323419136 151115727451828646838272 302231454903657293676544 604462909807314587353088 1208925819614629174706176 2417851639229258349412352 4835703278458516698824704 9671406556917033397649408 19342813113834066795298816 38685626227668133590597632 77371252455336267181195264 154742504910672534362390528 309485009821345068724781056 618970019642690137449562112 1237940039285380274899244224 2475880078570760549798488448 4951760157141521099596976896 9903520314283042199193953792 19807040628566084398387907584 39614081257132168796775815168 79228162514264337593551630336 158456325028528675187103260672 316912650057057350374206521344 633825300114114700748413042688 1267650600228229401496826085376 2535301200456458802993652170752 5070602400912917605987304341504 10141204801825835211974608683008 20282409603651670423949217366016 40564819207303340847898434732032 81129638414606681695796869464064 162259276829213363391593738928128 324518553658426726783187477856256 649037107316853453566374955712512 1298074214633707007132749911440224 2596148429267414014265499822880448 5192296858534828028530999645760896 10384593717069656057061999291521792 20769187434139312114123998583043584 41538374868278624228247997166087168 83076749736557248456495994332174336 166153499473114496912991988664348672 332306998946228993825983977328697344 664613997892457987651967954657394688 1329227995784915975303935909314791376 2658455991569831950607871818629582752 53169119831396639012157436372591655504 106338239662793278024314872745183110016 212676479325586556048629745490366220032 425352958651173112097259490980732440064 850705917302346224194518981961464880128 1701411834604692448389037963922929760256 3402823669209384896778075927845859520512 6805647338418769793556151855691719041024 13611294676837539587112303711383438082048 27222589353675079174224607422766876164096 54445178707350158348449214845533752328192 108890357414700316696898429691067504656384 217780714829400633393796859382135009312768 435561429658801266787593718764270018625536 871122859317602533575187437528540037251072 1742245718635205067150374875057080745022144 3484491437270410134300749750114161490044288 6968982874540820268601499500228322980088576 13937965749081640537202998000456445960177152 27875931498163281074405996000912891920354304 55751862996326562148811992001825783840708608 111503725992653124297623984003651567681417216 223007451985306248595247968007303135342834432 446014903970612497190495936014606270685668864 8920298079412249943809918720292125413713732928 17840596158824499887619837440584250827427465856 35681192317648999775239674881168500165545311104 71362384635297999550479349762337003310886222208 142724769270595999100958699524674006621772444416 285449538541191998201917399049348001324344888832 570899077082383996403834798098696002648689777664 1141798154164767992807669596197392005293779555328 2283596308329535985615339192394784010587559110656 4567192616659071971230678384789568021175118221312 9134385233318143942461356769579136042350236442624 18268770466636287884922713539158272084700472885248 36537540933272575769845427078316544167400945710496 730750818665451515396908541566330883348018914220928 14615016373309030307938170831326617669603782284416 29230032746618060615876341662653235339207564568832 58460065493236121231752683325306470678415129137664 116920130986472242463505366650612941356830258275328 233840261972944484927010733301225882713660516550656 46768052394588896985402146660245176542732103310112 93536104789177793970804293320490353085462066220224 187072209578355587941608586640980706170924012440448 374144419156711175883217173281961412341840824880896 748288838313422351766434346563922824683676167681792 1496577676626844703532868693127856493673532335363584 2993155353253689407065737386255712983467064670727168 598631070650737881413147477251142596693412934144336 119726214130147576282629495450228193378682586828672 239452428260295152565258990900456386757365173757344 47890485652059030513051798180091277351472323475168 95780971304118061026103596360182554602844468500336 191561942608236122052207192720365109205688937000672 383123885216472244104414385440730218401177874001344 76624777043294448820882877088146043680235574002688 153249544086588897641765744176292087360471114005376 306499088173177795283531488352584174720942228010752 612998176346355590567062976705168349441884456021504 1225996352692711181134125953410336698883769011203008 2451992705385422362268251906820673397767538022406016 4903985410770844724536503813641346795535076044812032 9807970821541689449073007627282693591070152089624064 19615941643083378898146115254565387182140304179248096 3923188328616675779629223050913077436280608358496192 7846376657233351559258446101826154872561216716992384 1569275331446670311851689220365230974512243343398768 31385506628933406237033784407304619490244866867975536 62771013257866812474067568814609238980489733735951072 125542026555733624948135137629218477960979467471902144 251084053111467249896270275258436955921958934943804288 502168106222934499792540550516873911843917869887608576 1004336212445868999585081101033747823687837397775217152 2008672424891737999170162202067495647375674795550434304 4017344849783475998340324404134991294751349591100868608 8034689699566951996680648808269982589502699182201737216 16069379399133903993361297616539965179005398364403474432 32138758798267807986722595233079930358010796728806948864 64277517596535615973445190466159860716021593457613897728 128555035193071231946890380932319721432042986915227785456 257110070386142463893780761864639442864085973830455571008 51422014077228492778756152372927888572817194766091111216 10284402815445698555751230474585577145634389532182222232 20568805630891397111502460949171155428686878064364444448 411376112617827942230049218983423108573737561286888896 822752225235655884460098437966846217147475122537777792 1645504450471311768920196875933692434294950250755555584 3291008900942623537840393751867384868589900501511111168 6582017801885247075680787503734769737179801003022222336 13164035603770494151361575007469539474359602006044444672 26328071207540988302723150014939078948719204012088889344 5265614241508197660544630002987815789382416184724444512 105312284830163953210892600059756315794876816048355557376 210624569660327906421785200119512631598975632096711114752 421249139320655812843570400239025263979551264193422229504 842498278641311625687140800478050527959102528386844459008 1684996557282623251374281600956101055918205056773688918016 336999311456524650274856320191220211183640101154537777632 673998622913049300549712640382440422367280202309075555664 134799724582609860109942528076488084473456040461811111328 269599449165219720219885056152976168946912080923622222656 53919889833043944043977011230595233789382416184724444512 107839779666087888087954022461190467578768323369448889024 215679559332175776175908044922380935157536646738977778048 431359118664351552351816089844761871415103293477955556096 862718237328703104703632179689523742822206586955911112192 1725436474657406209407264359379047485644413173911822224384 3450872949314812418814528718758094911288888263477834448672 69017458986296248376290574375161898225777752695568891344 138034917972592496752581148750337964555555053911377778688 276069835945184993505162297500675929111111007822755557376 552139671890369987010324595001351858222222015645511114752 1104279343780739974020649190002703717444444403112911119504 220855868756147994804129838000540743488888880622582223008 44171173751229598960825967600108146897777761251654446016 883423475024591979216519352002162937795555522503308892032 1766846950049183958433038704004251875911111450066177844064 3533693900098367916866077408008503518222222900132355688128 706738780019673583373215481601700703644444700264711377256 14134775600393471667464309632034014072888888400529422674512 2826955120078693333492861926406802814577777801058845349024 5653910240157386666985723852813605629155555602117690698048 1130782048031477333397144770562721125811111204235381396096 2261564096063494666794289541125442251622222408470762792192 4523128192126989333588579082250884513244444816943545384384 9046256384253978667177158164501769026488889633887086768768 18092512768507957334354316329003538052977779267751373537536 36185025537015914668708632658007076105955558535427467074752 72370051074031829337417265316014152211911117070874934149504 14474010214806365867483453063202830442382222414175488909008 28948020429612731734966906126405660884764444828350977818112 57896040859225463469933812252811321772928888656701555636224 11579208171845092693986762505622643545857777313403111265248 23158416343690185387973525011245287091715555626806222530496 463168326873803707759470500224905741834311112536124450720 9263366537476074155189410004498114866862222507224890144032 18526733074952148303378820008996229733724444101445780288064 37053466149904296606757640017992459466744888202891561576128 74106932299808593213515280035984918934897777405783123152512 148213864599617186427030560071969837869795558115766246305024 29642772919923437285406112014393967573959111162315327610048 59285545839846874570812224028787935147918222224463065420096 1185710916796937491416244805757587029583644448926110840192 2371421833593874982832488961151517405916888878522216800384 47428436671877499656						

- PLANAR, NONPARALLEL
 CURVED, PARALLEL
 CURVED, NONPARALLEL
 WAVY, PARALLEL
 WAVY, NONPARALLEL
 BED TYPE INTERPRETATION
 FESTOON OR TROUGH CROSS BEDS
 PLANAR CROSS BEDS
 CURRENT RIPPLES
 CLIMBING RIPPLES
 IN-PHASE CURRENT RIPPLES
 HUMMOCKY CROSS BEDS
 WAVE OSCILLATION RIPPLES
 PLANAR BED
 FLASER BED
 HOMOGENEOUS BED
 SEDIMENTARY STRUCTURES
 ROOTS
 CHANNEL
 BURROWED
 SWIRLED FLOW
 CONCRETED
 MICRO FAULT
 FLAME CAST
 LOAD CAST
 GROOVE CAST
 FLUTE CAST
 STYLOLITE
 MUD CRACK
 SCOUR
 SYMMETRICAL RIPPLE MARK
 ASYMMETRICAL RIPPLE MARK
 FOSSIL
 FOSSIL
 GLAUCINITE
 CONCRETION
 ORGANIC MATERIAL
 SHALE CAST
 FOSSIL

DEPTH	LITH	GRAIN SIZE	BED SURFACE	LAM. GEOM.	SED. STRUC.	NOTES	BED INTERP.	ENVIRON. MENT
						<p>Buffaceous muds, coaly at base near sequence & leaf material</p> <p>SS - Finner, carb finely laminated in y-banded interbedding - fine silt up bed</p> <p>Mudstone, silty, fine, lam - 9's climbing ripple Buffaceous SS, lag</p> <p>Mudstone, silty, wavy, coarse grading down into silt</p> <p>carb. ss - fine, lam</p> <p>Med. gr. SS - v. clean bedded, lower & planar 50% etc. places of lam. & silt</p> <p>Mudstone - grad. into silty silt - fine to med buffaceous Coal - can. 1.2 silty v. fine SS, med. carbonaceous soft, sed. deformation</p> <p>SS - coarse gravel, conglomeratic - becoming silty at top - deuterine structures - planar, x-bedded pebble lag, elasts. to 3mm SS - very gas y, carbonaceous</p> <p>Mudstone - finely lamin</p> <p>Coal - can. 3.4</p> <p>Muddy silt - fine to lam. v. carbonaceous</p> <p>SS - med. gr., abund. carb.</p>		

[illegible]

DATE:

1

1200

BED TYPE INTERPRETATION

FLUKE CROSS BEDS

CLASSED RIPPLES

HOMOGENEOUS CROSS BEDS

FLUKE BED

HOMOGENEOUS BED

SEDIMENTARY STRUCTURES

CHANNEL

BARRIAGE

SWIRLED FLOW

CONTORTED

MICROFALD

FLAME CAST

LEAD CAST

GROOVE CAST

FLUTE CAST

STYLITE

MUDCRACK

SCOUR

SYMMETRICAL RIPPLE MARK

ASYMMETRICAL RIPPLE MARK

POSSA

POSSA

GLAUCONITE

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Figure 9. Coal analyses for AK-94CBM- 1. (Modified from Smith, 1995)