



TRA - 00

DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544



November 4, 2004

CERTIFIED/RETURN RECEIPT

Mr. John Young
Hazardous Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502



Mr. Christopher F. Vick
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Subject: Amendment To The Notice Of Intent To Discharge, Ground Water Protection Program Wells

Dear Mr. Young and Mr. Vick:

The purpose of this letter is to amend the existing Notice of Intent to Discharge (NOI) for water produced during drilling of groundwater wells at the Los Alamos National Laboratory (LANL). This amendment serves to add to the NOI the wells planned for construction in the near future (listed in the enclosed Table 1.0, with planned locations shown on the enclosed map). Water produced from the drilling, development, and sampling of past wells constructed since 2002 has been discharged under an NOI approved by the New Mexico Environment Department (NMED) on August 7, 2002. On August 16, 2003, the NNSA/LASO submitted an amendment to this NOI that proposed the inclusion of three additional wells not included in the original NOI. This letter further amends the existing NOI to include wells and boreholes planned for the near future.

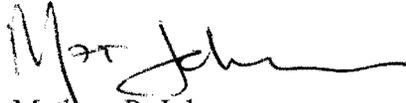
All conditions of the existing NOI will be applied to the planned wells. Water that is purged during the drilling and development of the Table 1.0 boreholes and wells will be containerized, sampled, and evaluated for compliance with NM WQCC Regulation 3103 ground water standards and applicable RCRA regulatory limits before any discharge occurs. Decisions regarding the discharge of drilling and development water will be made in accordance with the "Workplan NOI Decision Tree" (Revised-7/15/02) and in coordination with NMED. And finally, drilling and development water approved for discharged will be applied to the land surface or used for dust suppression on access roads or the drill site in accordance with the terms and conditions of the original NOI.



For your convenience, enclosed are copies of the following: (1) the original August 2, 2001, Hydrogeologic Workplan NOI; (2) the July 16, 2002, revision; (3) NMED's August 7, 2002, response, and (4) the August 16, 2003, amendment.

Please call me at (505) 665-5046 if additional information is needed.

Sincerely,



Mathew P. Johansen
Groundwater Program
Compliance Manager

EM:3MJ-002

Enclosures (6)

cc w/enclosure:

T. Whitacre, OPM, LASO

cc w/o enclosure:

R. Beers, ENV-WQH, LANL, MS-K497

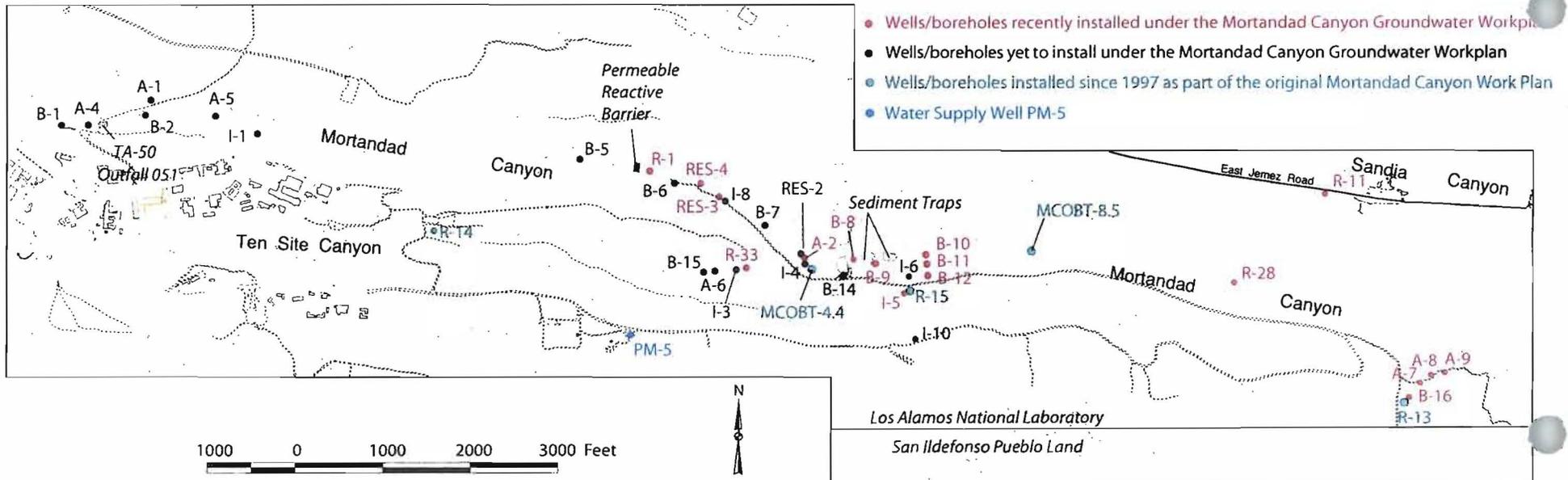
C. Nylander, ENV-GP, LANL, MS-M992

S. Pearson, ENV-WQH, LANL, MS-M992

Table 1.0. FY05 Planned Wells and Boreholes.

Well/Borehole Name	Estimated Depth (ft)	Location	Completion Type
R-6	1255	DP Canyon	Regional aquifer
R-18	1400	Pajarito Canyon	Regional aquifer
R-33	1300	Mortandad Canyon	Regional aquifer
R-34	1015	Mortandad Canyon	Regional aquifer
RES-2	200	Mortandad Canyon	Vector Probe
RES-3	200	Mortandad Canyon	
RES-4	225	Mortandad Canyon	Water Content/Matric Potential
A-1	12	Mortandad Canyon	Alluvial aquifer
A-2	60	Mortandad Canyon	Alluvial aquifer
A-3(a-f)	60	Mortandad Canyon	Alluvial aquifer
A-4	<5	Mortandad Canyon	Alluvial aquifer
A-5	10	Mortandad Canyon	Alluvial aquifer
A-6	40	Ten Site Canyon	Alluvial aquifer
A-7	90	Mortandad Canyon	Alluvial aquifer
A-8	90	Mortandad Canyon	Alluvial aquifer
A-9	90	Mortandad Canyon	Alluvial aquifer
B-1	100	Mortandad Canyon	
B-2	100	Mortandad Canyon	Water Content/Matric Potential
B-5	100	Mortandad Canyon	Vector Probe
B-6	100	Mortandad Canyon	
B-7	100	Mortandad Canyon	Water Content/Matric Potential
B-8	100	Mortandad Canyon	Vector Probe
B-9	100	Mortandad Canyon	Water Content/Matric Potential
B-10	100	Mortandad Canyon	Vector Probe
B-11	100	Mortandad Canyon	Water Content/Matric Potential
B-12	100	Mortandad Canyon	Vector Probe
B-14	350	Mortandad Canyon	Vector Probe
B-15	100	Ten Site Canyon	
B-16	100	Mortandad Canyon	Vector Probe, Water Content/Matric Potential
I-1	800	Mortandad Canyon	Intermediate aquifer(s)
I-3	770	Ten Site Canyon	Intermediate aquifer(s)
I-4	517	Mortandad Canyon	Intermediate aquifer(s)
I-5	760	Mortandad Canyon	Intermediate aquifer(s)
I-6	760	Mortandad Canyon	Intermediate aquifer(s)
I-8	750	Mortandad Canyon	Intermediate aquifer(s)
I-10	1000	Mortandad Canyon	Intermediate aquifer(s)

Groundwater Investigations in Mortandad Canyon



DRAFT



Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

AUG 15 2003

Mr. John Young
Hazardous Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Mr. Curt Frischkorn
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Dear Mr. Young and Mr. Frischkorn:

Subject: Amendment to the Notice of Intent to Discharge, Hydrogeologic Workplan Wells

The National Nuclear Security Administration/Los Alamos Site Office (NNSA/LASO), will be managing the next round of drilling under Los Alamos National Laboratory's Groundwater Protection Program. Prior to 2002, all of the Groundwater Protection Program's Hydrogeologic Workplan Wells were installed under the direction of Los Alamos National Laboratory (LANL). In 2003, NNSA/LASO entered into an agreement with the US Army Corps of Engineers to provide subcontracted drilling services to drill, construct, and complete six regional aquifer wells and three intermediate depth wells (See Table 1.0). CY2003 drilling activities are scheduled to begin in August 2003 and conclude by the end of the calendar year.

Table 1.0. CY2003 Hydrogeologic Workplan Wells.

Well Name	Location	Well Type
<i>Hydrogeologic Workplan Wells</i>		
R-1	Mortandad Canyon	Regional aquifer
R-2	Pueblo Canyon	Regional aquifer
R-4	Pueblo Canyon	Regional aquifer
R-11	Sandia Canyon	Regional aquifer
R-26	Canon de Valle	Regional aquifer
R-28	Mortandad Canyon	Regional aquifer
<i>CMS Plan Wells for PRS 16-021(c)</i>		
R-CdV-16-1(i)	Canon de Valle	Intermediate aquifer
R-CdV-16-2(i)	Canon de Valle	Intermediate aquifer
R-CdV-16-3(i)	Canon de Valle	Intermediate aquifer

It is my understanding that during a July 24, 2003, meeting at the NMED, Bob Beers and Mike Saladen, of the Laboratory's Water Quality and Hydrology Group, proposed to Mr. Frischkorn that discharges of drilling and development water from the nine wells listed in Table 1.0 be managed under the original (August 2, 2001) and subsequently revised (July 16, 2002) Notice of Intent to Discharge (NOI) for Hydrogeologic Workplan wells. For your

Mr. Young and Mr. Frischkorn

2

convenience, enclosed are copies of the following: (1) the original August 2, 2001, Hydrogeologic Workplan NOI; (2) the July 16, 2002, revision; and (3) your agency's August 7, 2002, response.

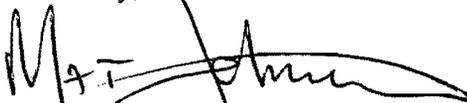
Further, it is my understanding that Mr. Frischkorn finds the existing Hydrogeologic Workplan NOI acceptable for use in this next round of drilling contingent upon the inclusion of the three intermediate wells since they were not listed in the original NOI (August 2, 2001, Figure 4-2). I concur with Mr. Frischkorn's assessment and request that intermediate wells R-CdV-16-1(i), R-CdV-16-2(i), and R-CdV-16-3(i) be added to the Hydrogeologic Workplan NOI. Additional information on these three intermediate wells is provided below.

The principal goal of the three intermediate wells cited in the "Addendum to the CMS Plan for PRS-16-021(c), Revision 1" is to determine the extent of contamination in the deep perched zone that is associated with constituent discharges from TA-16 and potentially other nearby sites. Two of the wells, R-CdV-16-2(i) and R-CdV-16-3(i), are mesa-top wells in the vicinity of Canon de Valle. The third well, R-CdV-16-1(i), is located within Canon de Valle.

All water produced during the drilling and development of the intermediate wells will be containerized, sampled, and evaluated for compliance with NM WQCC Regulation 3103 ground water standards and applicable RCRA regulatory limits before any discharge occurs. Decisions regarding the discharge of drilling and development water will be made in accordance with the "Workplan NOI Decision Tree" (Revised-7/15/02) and in coordination with your agency. And finally, drilling and development water approved for discharged will be applied to the land surface or used for dust suppression on access roads or the drill site in accordance with the terms and conditions of the original NOI (August 2, 2001).

Thank you for your consideration of this request. Please call me at (505) 665 5046 if additional information is requested.

Sincerely,



Matthew P. Johansen
Ground Water Program
Compliance Manager

OFO:8MJ-001

Enclosures:

cc w/enclosures:

M. Leavitt, NMED/SWQB
P.O. Box 26110
Santa Fe, New Mexico 87502
J. Vozella, OFO, LASO
M. Johansen, OFO, LASO
B. Enz, OFO, LASO
T. Whitacre, OPM, LASO
J. Holt, ADO, LANL, MS-A104

AUG 15 2003

Mr. Young and Mr. Frischkorn

3

C. Nylander, RRES-GP, LANL, MS-M992
S. Rae, RRES-WQH, LANL, MS-K497
M. Saladen, RRES-WQH, LANL, MS-K497
B. Beers, RRES-WQH, LANL, MS-K497
S. Pearson, RRES-WQH, LANL, MS-K497

cc w/o enclosures:

B. Ramsey, RRES-DO, LANL, MS-J591
K. Hargis, RRES-DO, LANL, MS-J591
T. George, RRES-DO, LANL, MS-J591
D. Stavert, RRES-DO, LANL, MS-J591
D. Rogers, RRES-WQH, LANL, MS-K497



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2918 phone
(505) 827-2965 fax



PETER MAGGIORE
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 7, 2002

Steven Rae, Group Leader
Water Quality & Hydrology Group
Los Alamos National Laboratory
P.O. Box 1663, MS K497
RRES-WQH: 02-273
Los Alamos, New Mexico 87545

RE: Response to Notice of Intent to Discharge for Los Alamos National Laboratory's Hydrogeologic Workplan Wells

Dear Mr. Rae:

The New Mexico Environment Department (NMED), Ground Water Quality Bureau (GWQB) has reviewed your notices of intent, dated July 16, 2002, and August 2, 2001, for the discharge of up to 96,000 gallons per day (gpd) of drilling and development water, and 1,500 gpd of sampling purge water from 23 regional aquifer wells described under Los Alamos National Laboratory's Hydrogeologic Workplan. The wells will be drilled at various locations throughout T18N, T19N, R5E, R6E, and R7E, Los Alamos County. The notices of intent satisfy the requirements of Section 20.6.2.1201 NMAC of the Water Quality Control Commission (WQCC) Regulations.

Based on the presently available information in your notices of intent, a discharge plan is not being required for this discharge as long as the discharge is as described in the notices of intent. The decision to discharge must follow the guidelines specified in the Workplan NOI Decision Tree (Figure 1, Revised 07/15/02). The Ground Water Quality Bureau has concluded that if the guidelines specified in the NOI are met, then the proposed discharge will not adversely impact ground water, and a discharge plan will not be required. However, if the results of the analysis of drilling water, development water, or sampling purge water exceed the Section 20.6.2.3103 NMAC WQCC ground water standards or applicable RCRA regulatory limits, then disposal must be coordinated with NMED on a site specific basis.

The exempt discharge is briefly described as follows: A maximum of 96,000 gpd of drilling water and development water, and a maximum of 1,500 gpd of sampling purge water from 23 regional aquifer wells will be land applied with a portable sprinkler system, or applied to the access roads and

Steven Rae
August 7, 2002
Page 2

well site for dust suppression. Prior to discharge, the drilling water and development water will be sampled and analyzed to determine compliance with Section 20.6.2.3103 NMAC WQCC ground water standards and applicable RCRA regulatory limits.

Although a discharge plan is not being required for this discharge at this time, you are not relieved of liability should your operation result in actual pollution of surface or ground waters. Further, this decision by the NMED does not relieve you of your responsibility to comply with any other applicable federal, state, and/or local laws and regulations, such as zoning requirements, plumbing codes and nuisance ordinances.

If at some time in the future you intend to change the amount, the character, the screening process, or the location of your discharge so that it will not be as described, or if observation or monitoring shows that the discharge is not as described, you must file a new notice of intent with the Ground Water Pollution Prevention Section (GWPPS).

If you have any questions, please contact either Curt Frischkorn of the GWPPS staff at 827-0078 or Maura Hanning, Program Manager of the GWPPS at 827-2945.

Sincerely,



Marcy Leavitt, Chief
Ground Water Quality Bureau

ML:CSF/csf

xc: ~~Bob Beers~~, Water Quality and Hydrology Group, Los Alamos National Laboratory, P.O.
Box 1663, MS K497, RRES-WQH: 02-273, Los Alamos, New Mexico 87545
Courte Voorhees, District Manager, NMED District II
John Young, Hazardous Waste Bureau, NMED, P.O. Box 26110, Santa Fe, NM 87502
NOI File



Risk Reduction & Environmental Stewardship Division
Water Quality & Hydrology Group (RRES-WQH)
PO Box 1663, MS K497
Los Alamos, New Mexico 87545
(505) 667-7969/Fax: (505) 665-9344

Date: July 16, 2002
Refer to: RRES-WQH: 02-273

Mr. Curt Frischkorn
Pollution Prevention Section
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

SUBJECT: NOTICE OF INTENT TO DISCHARGE, HYDROGEOLOGIC WORKPLAN WELLS

Dear Mr. Frischkorn:

At our July 11, 2002, meeting at your Santa Fe office (Attendees: Mike Saladen (RRES-WQH), Roy Bohn (RRES-R), Bob Beers (RRES-WQH), John Young (NMED-HWB), and Curt Frischkorn (NMED-GWQB)), we reviewed the Notice of Intent to Discharge (NOI) submitted by Los Alamos National Laboratory to your agency on August 2, 2001, for the Hydrogeologic Workplan Wells. In addition to our general review of the NOI, we discussed the Laboratory's immediate need to discharge approximately 50,000 gallons of containerized drilling fluid from Hydrogeologic Workplan Well R-14. I have addressed both of these topics below.

It was my understanding from our July 11th meeting that both you and Mr. Young were satisfied with the Laboratory's NOI for the Hydrogeologic Workplan Wells with the exception of the NOI Decision Tree (Figure 1.0). Per your request, attached is a revised NOI Decision Tree that incorporates a reference to applicable RCRA regulatory limits' into the decision process. In addition, it was also my understanding that your agency would not require a ground water discharge plan for the discharge of drilling fluid, development water, and purge water from Hydrogeologic Workplan Wells as long as all discharges were compliant with the terms and conditions of the NOI.

In addition to our general discussions about the Hydrogeologic Workplan NOI, we discussed the discharge of approximately 50,000 gallons of containerized drilling fluid produced during the drilling of Hydrogeologic Workplan Well R-14. Per your request, please find the following enclosed water quality data and Material Safety Data Sheets (MSDSs) for the drilling fluid produced from R-14.

Water Quality Data. Attachment 1.0 contains water quality data (metals, general chemistry, SVOA, VOA, perchlorate, nitrate, and tritium) for the approximately 50,000 gallons of containerized drilling fluid produced during the drilling of R-14. It should be noted that the data table titled, "ER Water Samples" contains analytical results from two samples, GW14-02-46382 and GW14-02-46383, submitted for metals analysis. These samples were collected from the upper and lower portion of the storage tanks, respectively. Both samples were filtered prior to analysis.

The approximately 50,000 gallons of containerized drilling fluid from R-14 is compliant with New Mexico Water Quality Control Commission (NM WQCC) Regulation 3103 ground water standards with the exception of the following three contaminants:

Contaminant	Max. Result (mg/L)	Min. Result (mg/L)	WQCC ground water standard (mg/L)
Al	42.0	7.69	5.0
Fe	9.25	1.51	1.0
Mn	0.36	0.13	0.2

With the exception of acetone, no VOA or SVOA compounds were detected in R-14 drilling fluids. Acetone, detected at 1.6 mg/L, is present as a byproduct of the drilling additives. No perchlorate or tritium were detected in the R-14 drilling fluid at concentrations greater than analytical laboratory's Method Detection Limits (MDLs). Nitrate/nitrite (as N) was detected at 0.56 mg/L.

MSDS Information. Attachment 2.0 contains Material Safety Data Sheets (MSDSs) for the drilling fluid additives used in the top 1068 feet of the R-14 borehole including the formulation quantities for each product.

The Laboratory requests your agency's permission to discharge the approximately 50,000 gallons of drilling fluid from R-14 in accordance with the August 2, 2001, NOI. Please call me at (505) 667-6969 or Roy Bohn of the Laboratory's Environmental Restoration Project (RRES-R) at (505) 665-5138 if additional information is required.

Sincerely,



Bob Beers
Water Quality & Hydrology Group

BB/am

Attachments: a/s

Cy: M. Leavitt, NMED/GWQB, Santa Fe, New Mexico, w/att.
J. Davis, NMED/SWQB, Santa Fe, New Mexico, w/att.
J. Bearzi, NMED/HWB, Santa Fe, New Mexico, w/att.
J. Young, NMED/HWB, Santa Fe, New Mexico, w/att.
J. Vozella, DOE/OLASO, w/att., MS A316
G. Turner, DOE/OLASO, w/att., MS A316
B. Stine, ADO, w/att., MS A104
B. Ramsey, RRES-DO, w/o att., MS J591
K. Hargis, RRES-DO, w/o att., MS J591
D. Stavert, RRES-EP, w/att., MS J978
S. Rae, RRES-WQH, w/att., MS K497
C. Nylander, RRES-DO, w/att., MS K497
D. Rogers, RRES-WQH, w/o att., MS K497
M. Saladen, RRES-WQH, w/att., MS K497
R. Bohn, RRES-R, w/att., MS M992
D. McInroy, RRES-R, w/o att., MS M992
RRES-WQH File, w/att., MS K497
IM-5, w/att., MS A150

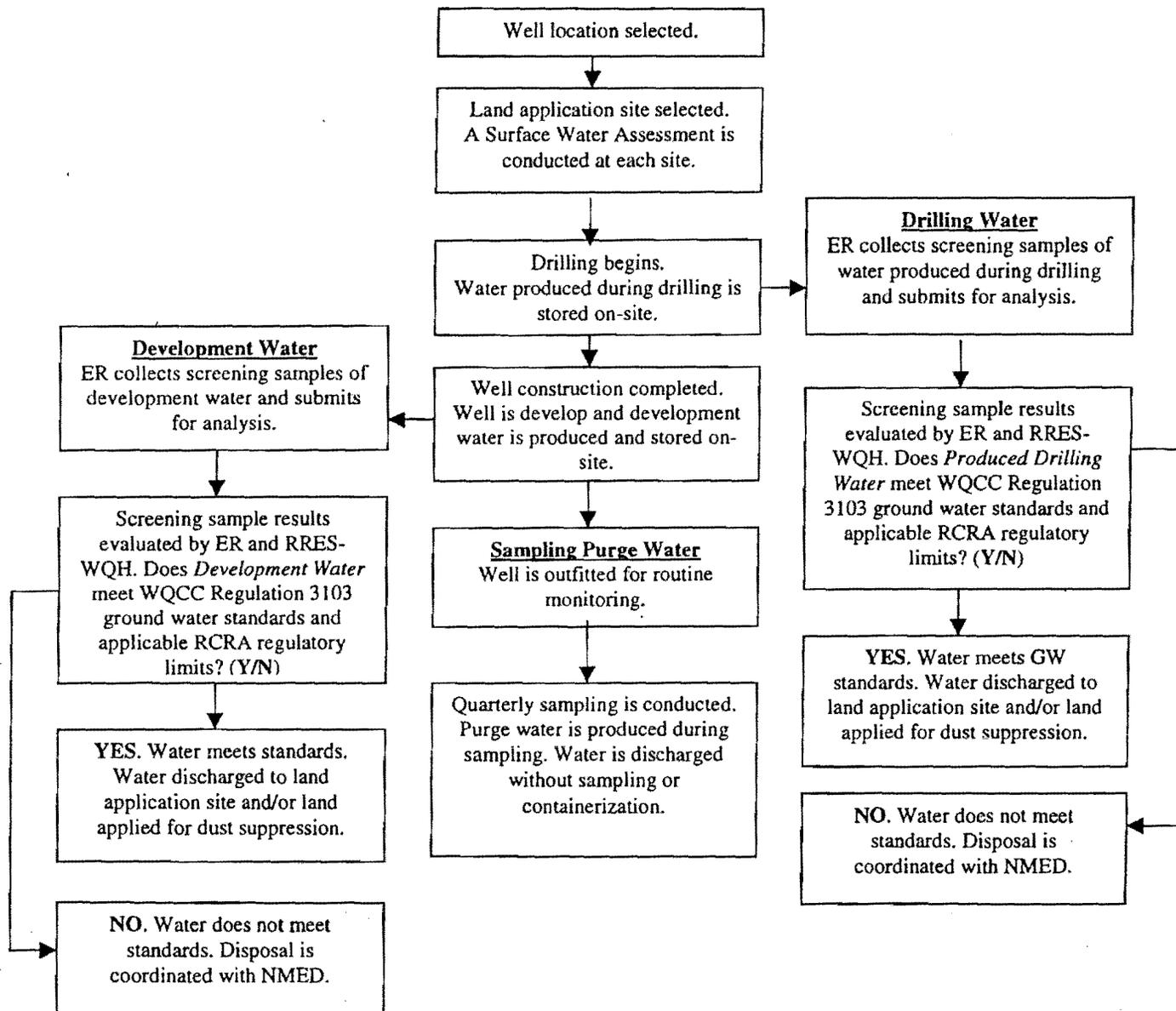


Figure 1.0. Workplan NOI Decision Tree